Nicole Apelian, Ph.D.

The Forager's Guide to Wild Foods

Edible Plants, Lichens, Mushrooms, and Seaweeds








The North American Edition

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(North American Edition)

Edited by Nicole Apelian, Ph.D. and copyrighted by Global Brother SRL

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Dedication

For my children: Quinn, Colton & Beau

Acknowledgements:

First and foremost I want to thank my family. Thank you to my sons for the joy and love they bring to my life and to my partner, for his love, support, and good cooking while I was writing this book. Deep gratitude to my parents, who taught me to follow my passions, to give back, and to lead a purposeful life.

Thanks to Diana for her editing and behind-the-scenes work putting this book together, and to the rest of my incredible publishing team – I am blessed to have each and every one of them.

A huge shout out to my readers (you!) for your desire to learn more about wild and medicinal plants and perhaps even to reframe your landscape as your grocery store and pharmacy.

Thank you to the storytellers, who keep oral traditions and plant knowledge alive. I hope that this book will help more people realize all that nature connection and wild foods have to offer us, and that every reader of this book will form a deeper connection to the natural world, tending the wild to make it better for all beings.

Finally, my deepest gratitude is to the plants, seaweeds, lichens, and mushrooms in this book. May our relationship continue to grow.

Please note: *Part of the proceeds of this book will go to The Origins Project, a non-profit we co-created with a community of San Bushmen to help create a legacy of ancestral connection for future generations.*

Disclaimer Page

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Introduction – About the Author

We hope that this book will become a favorite reference for you and serve as a starting place on your journey to identify edible plants.



Nicole Apelian, Ph.D.

Dr. Nicole Apelian is an herbalist, a biologist, a survival skills instructor, and an anthropologist. She graduated with a degree in Biology from McGill University in Canada and has her Master's degree in Ecology from the University of Oregon. She earned her Doctorate through Prescott College while working as an anthropologist and ethno-botanist in Botswana. She is also the co-author of "A Reference Guide to Surviving Nature: Outdoor Preparation and Remedies" and "The Lost Book of Herbal Remedies; The Healing Power of Plant Medicine".

For more about Nicole, her herbal apothecary, wild foods, and her blog, please visit www.nicoleapelian.com.

An unexpected diagnosis of multiple sclerosis in 2000 led Nicole to apply her research skills towards her own personal wellness. She focuses on a healthy living strategy, including deep nature connection and gratitude practices. Through changes in her diet and lifestyle, recognizing profound mind-body linkages, and making use of her own herbal remedies, Nicole went from bedridden to being fully alive and from surviving to thriving.

In 2015 she was among the first women ever selected for the History Channel's hit TV show "Alone". Despite having MS, she went on to survive solo for 57 days straight in a remote area of Vancouver Island with little more than her hunting knife and the wild foods and medicines she found there.

Nicole has spent years living in nature with the San Bushmen of the Kalahari Desert, one of the last Indigenous peoples who still live as hunter-gatherers. Developing strong relationships within the tribe helped Nicole learn many of the skills she practices and teaches today. A portion of the sales of this book go to their co-founded non-profit, The Origins Project.
Wild foods are a part of a holistic philosophy of being self-reliant - of connecting your mind with your body and your body with nature. May this book help you on your journey, and help provide healthy wild foods for you and your family.

A Message from Nicole

You've taken an amazing first step in learning about foraging by purchasing this book. The next step is using your new knowledge!
I want to help you by inviting you to join my Survive & Thrive community. To join my private email list, please visit my website and become part of the Survive & Thrive Crew. Use this link www.nicoleapelian.com to join now. You can also find me on Instagram at www.instagram.com/nicole_apelian/ and on Facebook at www.facebook.com/nicoleapeliansurvival.

Here's to thriving!

Nicole Apelian

Wild Foods Introduction

Weeds, trees and leaves. Bulbs, berries and bark. Every day we are constantly surrounded by wild edibles – wild edibles that can be harvested ethically and sustainably with some extra knowledge on hand.

The purpose of this book is to assist foragers to identify wild, edible foods and to help you develop the skills to ethically harvest, store, and use the abundance of edible plants, seaweeds, lichens, and mushrooms that surround you. Every species described in this book is edible (though please heed the warnings!). Each has a general introduction, a range map, a list of its general medicinal uses, a brief description of poisonous look-alikes, a description of its flowers and leaves, information on how to harvest and eat it, as well as a simple recipe.

There is also information on how to harvest from the wild ethically, how to preserve foraged food, and some general guidance on the nutritional values of wild edibles.

The knowledge gained from this book allows the reader to forage while out walking or hiking, or while spending the day foraging with friends and family, sharing new skills and knowledge while supplementing your diet with wild plants. The information in this book can even help equip you in a survival situation.

Ethical Harvesting and Tending the Wild

Ethical harvesting both reduces your impact on the environment while foraging and assists the species you harvest so that they continue to grow successfully. It ensures future harvests are abundant for foragers, including other animals that rely on these resources.

Ethical harvesting requires a basic understanding of how plants reproduce; via seed annually, spreading from underground rhizomes, re-sprouting every season from a tuber or bulb, via spores spread on the wind, and/or sending out suckers from the parent plant. There are a variety of ways that plants cope with disturbance, and knowing their method of reproduction can help foragers ensure that they are harvesting ethically.

When you find a plant that you want to harvest, take a look around the vicinity to determine if that particular species is abundant. If the patch is sparse, or there are only a few scattered plants, then you should refrain from harvesting there. Even if the patch is large and dense, it's recommended to harvest less than 10% of the crop, so that it has a chance to regenerate and so that wildlife and other foragers can also reap the benefits. When re-visiting the same site each year for foraging, take a mental note or even set up an annual photo point of the patches. This way you can monitor the site every year by simply comparing the photos to make sure the patch isn't becoming depleted over time. There are plenty of citizen science websites and apps to help set this up easily.

Another aspect to consider is what kind of medicinal or nutritional benefits you are targeting. For example, if you are harvesting a plant for its vitamin C content, then it should be consumed immediately, or at the very least, within 1 – 2 days, since vitamin C breaks down quickly. Taking only what you need is an important part of ethical harvesting from the wild. In most cases, dried herbs lose their potency over time, and should be replaced annually.

Targeting exotic weed species is guaranteed ethical harvesting. This helps to control exotic populations so that native species can thrive. Kudzu and Japanese Knotweed are both highly invasive exotic species whose young shoots can be foraged for their fiber content and trace minerals.

Picking leaves is one of the most sustainable ways to forage from the wild, since it doesn't disturb the roots and preserves the flowers and therefore the seeds. This is especially important for annuals, since they grow from seed every year. Picking only the tips or new growth from both annuals and perennials can promote bushier growth (as well as a tastier harvest).

When collecting mushrooms, carry them in an open basket gills down, so that the spores are dispersed through the forest. Harvest mushrooms once the gills have developed and clean mushrooms where you find them.

When harvesting tubers or taproots, try to cut off what you need and leave half of the root undisturbed. This will likely reshoot next year, especially if the hole has been re-filled but not compacted, and the foliage cut back in proportion to the remaining roots to reduce water stress.

When harvesting bulbs, try not to disturb the root crown. If you do happen to pull up the entire bulb, cut off the root crown and re-plant it.

Husking seed from native plants is best done on site, so that any stray seeds can fall to the ground to germinate. Husking exotic seed should be done in a controlled space and the waste can either be thrown on a

hot compost or burnt on a fire to destroy any left-over seed.

Tread carefully when foraging. Minimize trampling on plants and habitat by keeping to paths or animals tracks where possible. Ideally, you should leave little trace of your foraging activities, except where you are tending the wild and spreading the species you are harvesting.

Wild Nutrition from Plants

The percentages below are calculated from the recommended daily allowance (RDA) based on 100 grams of uncooked plant material, bearing in mind that collecting 100 grams of nuts or berries doesn't require as much effort as collecting 100 grams of tiny seeds or digging up roots. Also keep in mind volume; eating 100 grams of nuts, berries, bulbs and roots can equate to around ¾ of a cup. Compare this with eating 100 grams of flowers or leaves, which can equate to up to 2 cups.

Below is a general overview of the nutrient characteristics in some commonly foraged wild plants. It can be used as a basic guide to assist foragers by listing some of the top performers with respect to vitamin, mineral, and nutrient content. All plants have some nutritional value associated with them; however, some of the high achievers are broadly discussed below.

Many native and exotic wild plants contain vital nutrients and minerals, but if you're searching specifically for calories, protein, carbohydrates, fats, and starches, then target seeds, nuts, fruits, bulbs, and tubers. In most plant species, the roots and tubers are higher in carbohydrates and sugars than their leaves.

Boiling or roasting seeds and nuts can often increase their mineral and protein content while decreasing their concentration of anti-nutrients (compounds that block the absorption of essential minerals). On the other hand, heating some compounds can actually cause them to deteriorate, and can therefore decrease the amount of anti-oxidants, vitamin C, and B vitamins. Vitamin C and B are both water soluble, which means a large portion of these two vitamins will dissolve into water when boiled. For this reason, it's recommended to either consume the boiled water as well, or eat the foraged food raw if you are targeting either vitamin C or B.

Many edible seeds from the carrot family (Apiaceae), leaves, stems and seeds from primrose-willow species (*Ludwigia* spp.), and the roots of some species of mallow can provide almost an entire RDA for iron.

100 grams of poppy seeds or fennel seeds can supply you with the RDA for calcium, whereas amaranth species, nettles, and some chenopod species such as lamb's quarter (*Chenopodium album*) and Mexican tea (*Chenopodium ambrosioides*) can all provide up to 30% of your RDA for calcium.

Most nuts and seeds have enough phosphorous, magnesium, and zinc to provide between 40 – 120% of the RDA. Seeds and nuts can also provide between 15 – 35% of the RDA for potassium, but arrowhead (*Sagittaria* spp.) can also provide similar amounts. Nuts, seeds, bulbs, tubers, and roots are all high in fiber as well.

Maintaining vitamin A levels from wild foraged plants is easy. A handful of leaves from most edible species within the mint, mustard, or goosefoot family can achieve this. In addition to these three families, dandelion, dock, peppergrass, pokeweed, storksbill, and violets are all sustainable sources for vitamin A.

Sunflower seeds are one of the best, natural sources of vitamin B, and 100 grams of sunflower seeds can yield almost 50% of the RDA for protein. Other seeds generally contribute to approximately 30% of the RDA for protein.

Alfalfa, dock, pokeweed, rosehips, wild mustard, and violets all contain enough vitamin C to fulfill the RDA, while mugwort and amaranth provide around 70%.

100 grams of wild hazelnuts or purslane contains over 100% of the RDA for vitamin E. Purslane is also a rare source of plant-based omega-3s and omega-6.

Some plants, such as chickweed, may not have a particularly high concentration of nutrients and minerals, but it does have a high concentration of saponins instead, which help minerals and vitamins be absorbed by the body at the cellular level. Other plants that tend to be high in saponins include legumes and some Allium species such as wild garlic and onions.

Methods for Preserving and Storing Wild Edibles

Correctly preserving and storing your hard-earned edibles in sterilized containers extends the shelf-life by inhibiting the growth of mold and bacteria and by slowing down the enzyme activity that leads to the natural breakdown of plant material. It's important to preserve freshly harvested species.

For short-term storage, wash and pat dry your fresh, leafy greens and loosely wrap them in a towel. Place the towel in a sealed food container to keep them fresh for a week.

Making sauce or pesto is a great option for preserving a wide range of foraged food. Fresh sauce and pesto

usually keep for about 5 days in the fridge, otherwise you can freeze and store the sauce for up to 6 months, especially if the sauce has a high acidity.

Plant material preserved via vinegar or salt pickling is easy and this method can preserve food for 3 - 6 months in the fridge. For most food, it requires at least a week of anaerobic fermentation where the food is completely submerged in a brine or vinegar solution.

Fermentation can preserve food for at least 3 months, and storing fermented food in a cool location will often extend this to 6 months, since the lower temperatures will decrease the rate of fermentation, which will keep the food from turning too sour. Wild edibles that are low in acid don't tend to preserve as well, so fermenting can be a good option for these types of food.

Some root vegetables and bulbs can be hung in string bags or covered in sand and stored in a cellar or basement for a few months, similar to potatoes. This is an easy option for storing larger quantities as long as the temperature is between 40–50°F (4.5-10°C) and there is sufficient ventilation. When using this method, don't wash the roots or bulbs; brush them instead to remove the dirt, and only wash as you use them.

Blanching leafy greens, vegetables, and roots before freezing can decrease the concentration of water-soluble nutrients, however, blanching and freezing will help to preserve non-soluble nutrients for 6–9 months. Berries are easily frozen without blanching or drying. Just pop into an airtight container and into your freezer.

Dehydrating fruit, vegetables, bulbs and roots will retain most nutrients and minerals except for volatile ones like vitamin C and beta-carotene. A pre-treatment of lemon juice, ascorbic acid, or blanching can increase the shelf life. Once the food has been dehydrated, it must be stored in an airtight container to prevent the food reabsorbing moisture and spoiling. In general, fruit should be dehydrated slowly and end up with a moisture content of around 20%. Dried fruit can last for up to a year. Vegetables, roots, and bulbs on the other hand, should be cut into smaller pieces to dry, and end with a 10% moisture content. They tend to last about 6 months.

Many herbs and flowers can be tied into small bunches and hung upside down in a dark, cool room to dry. Once the bunches are completely dry, they are best stored in airtight containers and will keep for approximately a year. It is essential to completely dry the plant material before storing away in a jar to prevent mold from growing.

Jams and jellies tend to have a long shelf life due to their high sugar content, and they are very adaptable for a large range of wild edibles. The shelf life of most jams and jellies is at least a year.

Canning preserves food for at least a year, as long as the seal remains intact. The easiest method for canning food that is highly acidic involves completely submersing the canned food in boiling water for at least 10 minutes. For produce that has a low acidity, pressure canning is recommended instead.

Airtight storage containers are essential to prevent moisture, bacteria and oxidization, which is why vacuum-sealed bags are a great storage option, especially for dried, blanched, or frozen food.

Always check stored food regularly and remove any rotting or moldy produce immediately.

Family List – PLANTS

ACORACEAE:
- Sweet Flag, *Acorus calamus*

ADOXACEAE:
- Black Haw, *Viburnum prunifolium*
- Cranberry (Highbush), *Viburnum trilobum*
- Elderberry, *Sambucus nigra* ssp. *caerulea* (Blue) and *Sambucus nigra* ssp. *canadensis* (American/Black)
- Hobblebush, *Viburnum lantanoides*
- Nannyberry, *Viburnum lentago*
- Smooth Witherod, *Viburnum nudum*
- Squashberry, *Viburnum edule*

AIZOACEAE:
- Desert Horse-Purslane, *Trianthema portulacastrum*

ALISMATACEAE:
- Arrowhead/Wapato, *Sagittaria* spp.
- Northern Water Plantain, *Alisma triviale*

AMARANTHACEAE:
- Amaranth, *Amaranthus* spp.
- Epazote, *Dysphania ambrosioides*
- Glasswort, *Salicornia* spp.
- Lamb's Quarter, *Chenopodium album*
- Strawberry Blite, *Blitum capitatum*

AMARILLIDACEAE:
- Wild Garlic, *Allium ursinum*
- Wild Leek/Ramps, *Allium tricoccum*
- Wild Onion, *Allium stellatum*

ANACARDIACEAE:
- Sumac, *Rhus* spp.

ANNONACEAE:
- Pawpaw, *Asimina triloba*

APIACEAE:
- Angelica, *Angelica atropurpurea*
- Biscuitroot, *Lomatium triternatum*
- Caraway, *Carum carvi*
- Cow Parsnip, *Heracleum maximum*
- Fennel, *Foeniculum vulgare*
- Seacoast Angelica/Wild Celery, *Angelica lucida*
- Water Parsnip, *Sium suave*
- Wild Carrot, *Daucus pusillus*
- Yampah, *Perideridia* spp.

APOCYNACEAE:
- Milkweed (Common), *Asclepias syriaca*

AQUIFOLIACEAE:
- Yaupon Holly, *Ilex vomitoria*

ARACEAE:
- Duckweed, *Wolffia globosa*
- Skunk Cabbage, *Symplocarpus foetidus* (Eastern) and *Lysichiton americanus* (Western)

ARALIACEAE:
- Devil's Club, *Oplopanax horridus*
- American Spikenard, *Aralia racemosa*
- Dwarf Ginseng, *Panax trifolius*

ARECACEAE:
- Saw Palmetto, *Serenoa repens*

ARISTOLOCHIACEAE:
- Wild Ginger, *Asarum canadense* and *Asarum caudatum*

ASPARAGACEAE:
- Sacahuista, *Nolina microcarpa*
- Sotol, *Dasylirion wheeleri*
- Yucca (Banana/Blue), *Yucca baccata*
- Agave, *Agave* spp.
- Asparagus, *Asparagus officinalis*
- Camas, *Camassia* spp.
- False Solomon's Seal, *Maianthemum racemosum*
- Largeflower Triteleia/Wild Hyacinth, *Triteleia grandiflora*

ASPHODELACAEA:
- Daylily, *Hemerocallis* spp.

ASTERACEAE:
- Arrow-Leaved Balsamroot, *Balsamorhiza sagittata*
- Burdock, *Arctium* spp.
- Butterbur, *Petasites* spp.
- Canadian Horseweed, *Conyza canadensis*
- Cat's Ear, *Hypochaeris radicata*
- Chamomile, *Matricaria chamomilla*
- Chicory, *Cichorium intybus*
- Coast Tarweed, *Madia sativa*
- Cocklebur, *Xanthium strumarium*
- Coltsfoot, *Tussilago farfara*
- Coneflower (Cut-Leaf), *Rudbeckia laciniata*
- Coneflower (Prairie), *Ratibida columnifera*
- Cornflower/Bachelor's Buttons, *Centaurea cyanus*
- Dandelion, *Taraxacum officinale*
- False Dandelion, *Agoseris* spp.
- Fleabane, *Erigeron* spp.
- Goldenrod, *Solidago* spp.
- Greenthread, *Thelesperma megapotamicum*
- Jerusalem Artichoke, *Helianthus tuberosus*
- Milk Thistle, *Silybum marianum*

- Nipplewort, *Lapsana communis*
- Oxeye Daisy, *Leucanthemum vulgare*
- Pearly Everlasting, *Anaphalis margaritacea*
- Pineapple Weed, *Matricaria discoidea*
- Quickweed/Potato Weed, *Galinsoga parviflora*
- Salsify, *Tragopogon* spp.
- Sowthistle (Common), *Sonchus oleraceus*
- Thistle (Plume), *Cirsium* spp.
- Wild Lettuce, *Lactuca canadensis, L. virosa* and *L. serriola*
- Yarrow, *Achillea millefolium*

ATHRYIACEAE:
- Lady Fern, *Athyrium filix-femina*

BALSAMINACEAE:
- Jewelweed, *Impatiens capensis*

BERBERIDACEAE:
- Oregon Grape, *Mahonia aquifolium*
- Hackberry (Spiny/Desert), *Celtis ehrenbergiana*
- Mayapple/Wild Mandrake, *Podophyllum peltatum*

BETULACEAE:
- Birch (Black), *Betula lenta*
- Birch (Yellow), *Betula alleghaniensis*
- Hazelnut, *Corylus* spp.

BORAGINACEAE:
- Oysterleaf, *Mertensia maritima*
- Waterleaf, *Hydrophyllum* spp.

BRASSICACEAE:
- Asian Mustard, *Brassica tournefortii*
- Bittercress, *Cardamine* spp.
- Cut-Leaf Toothwort, *Cardamine concatenata*
- Field Pennycress, *Thlaspi arvense*
- Land Cress, *Barbarea verna*
- London Rocket, *Sisymbrium irio*
- Peppergrass, *Lepidium virginicum*
- Sea Rocket, *Cakile edentula*
- Shepherd's Purse, *Capsella bursa-pastoris*
- Sweet Alyssum, *Lobularia maritima*
- Watercress, *Nasturtium officinale*
- Wild Radish, *Raphanus raphanistrum*
- Yellow Rocket, *Barbarea vulgaris*
- Yellowcress, *Rorippa palustris*

CACTACEAE:
- Barrel Cactus, *Ferocactus wislizeni*
- Cholla, *Cylindropuntia* spp.
- Prickly Pear Cactus, *Opuntia ficus-indica*
- Saguaro, *Carnegiea gigantea*

CAMPANULACEAE:
- Creeping Bellflower, *Campanula rapunculoides*

CANNABACEAE:
- Hops, *Humulus lupulus*
- Hackberry, *Celtis occidentalis*

CAPRIFOLIACEAE:
- Honeysuckle (Mountain Fly)/Waterberry, *Lonicera villosa*

CARYOPHYLLACEAE:
- Bladder Campion, *Silene vulgaris*
- Chickweed, *Stellaria media*
- Greater Stitchwort, *Rabelera holostea*
- Seabeach Sandwort, *Honckenya peploides*

CHENOPODIACEAE:
- Saltbush/Orache, *Atriplex* spp.

COMMELINACEAE:
- Ohio Spiderwort/Blue Jacket, *Tradescantia ohiensis*

CORNACEAE (DOGWOOD FAMILY):
- Bunchberry, *Cornus canadensis*

CRASSULACEAE:
- Rose Root/Golden Root, *Rhodiola rosea*
- Stonecrop, *Sedum* spp.

CUCURBITACEAE:
- Missouri Gourd, *Cucurbita foetidissima*

CUPRESSACEAE:
- Juniper (Common/Dwarf), *Juniperus communis*
- Juniper (Alligator), *Juniperus deppeana*
- Juniper (Utah), *Juniperus osteosperma*

CYPERACEAE:
- Bulrush, *Schoenoplectus* spp.
- Chufa Sedge, *Cyperus esculentus*

DENNSTAEDTIACEAE:
- Bracken Fern, *Pteridium aquilinum*

DRYOPTERIDACEAE:
- Spiny Wood Fern, *Dryopteris expansa*
- Western Sword Fern, *Polystichum munitum*

EBENACEAE:
- Persimmon (Wild), *Diospyros virginiana*

ELAEAGNACEAE:
- Soapberry, *Shepherdia canadensis*

EPHEDRACEAE:
- Mormon Tea, *Ephedra viridis*

EQUISETACEAE:
- Horsetail, *Equisetum arvense*

ERICACEAE:
- Pipsissewa/Prince's Pine, *Chimaphila umbellata*
- Bearberry, *Arctostaphylos uva-ursi*

- Blueberry (Bog/Alpine), *Vaccinium uliginosum*
- Blueberry (Highbush), *Vaccinium corymbosum*
- Cranberry, *Vaccinium* spp.
- Crowberry, *Empetrum nigrum*
- Huckleberry (Black), *Gaylussacia baccata*
- Huckleberry (Bog), *Gaylussacia bigeloviana*
- Huckleberry (Evergreen), *Vaccinium ovatum*
- Huckleberry (Red), *Vaccinium parvifolium*
- Labrador Tea/Trapper's Tea, *Rhododendron (Ledum) groenlandicum* and *R. neoglandulosum*
- Lingonberry, *Vaccinium vitis-idaea*
- Manzanita (Hairy), *Arctostaphylos columbiana*
- Manzanita (Pointleaf), *Arctostaphylos pungens*
- Salal, *Gaultheria shallon*
- Trailing Arbutus, *Epigaea repens*
- Wintergreen, *Gaultheria procumbens*

FABACEAE:
- Black Locust, *Robinia pseudoacacia*
- Honey Locust, *Gleditsia triacanthos*
- Kentucky Coffeetree, *Gymnocladus dioicus*
- Mesquite, *Prosopis* spp.
- Redbud, *Cercis canadensis*
- Alfalfa, *Medicago sativa*
- American Hog-Peanut, *Amphicarpaea bracteata*
- Black Medick, *Medicago lupulina*
- Groundnut/Hopniss, *Apios americana*
- Kudzu, *Pueraria* spp.
- Prairie Turnip, *Psoralea esculenta*
- Sweet Clover (Yellow), *Melilotus officinalis*
- Wild Licorice, *Glycyrrhiza lepidota*

FAGACEAE:
- Beech, *Fagus grandifolia*
- Chestnut (American), *Castanea dentata*
- Chinquapin (American), *Castanea pumila*
- Oak (Gambel), *Quercus gambelii*
- Oak (White), *Quercus alba*

GERANIACEAE:
- Stork's-Bill, *Erodium cicutarium*

GROSSULARIACEAE:
- Black Currant, *Ribes americanum*
- Golden Currant, *Ribes aureum*
- Gooseberry, *Ribes* spp.
- Northern Redcurrant, *Ribes triste*
- Prickly Currant, *Ribes lacustre*
- Stink Currant, *Ribes bracteosum*

JUGLANDACEAE:
- Pecan, *Carya illinoinensis*
- Pignut Hickory, *Carya glabra*
- Shagbark Hickory, *Carya ovata*
- Walnut (Arizona), *Juglans major*
- Walnut (Black), *Juglans nigra*
- Walnut (White), *Juglans cinerea*

JUNCAGINACEAE:
- Seaside Arrowgrass, *Triglochin maritima*

LAMIACEAE:
- Beautyberry, *Callicarpa americana*
- Desert Lavender, *Hyptis emoryi*
- Bee Balm, *Monarda fistulosa*
- Bugleweed, *Lycopus* spp.
- Catnip, *Nepeta cataria*
- Chia Sage, *Salvia columbariae*
- Creeping Charlie, *Glechoma hederacea*
- Deadnettle (Henbit), *Lamium amplexicaule*
- Deadnettle (Purple/Red), *Lamium purpureum*
- Hedgenettle (Common), *Betonica/Stachys officinalis*
- Horehound, *Marrubium vulgare*
- Marsh Woundwort/Swamp Hedgenettle, *Stachys palustris*
- Mountain Mint, *Pycnanthemum* spp.
- Self Heal/Heal-all, *Prunella vulgaris*
- Wild Mint, *Mentha arvensis*
- Yerba Buena, *Clinopodium douglasii*

LAURACEAE:
- California Bay Laurel, *Umbellularia californica*
- Sassafras, *Sassafras albidum*

LILIACEAE:
- Fairy Bell, *Prosartes* spp.
- Glacier-Lily, *Erythronium grandiflorum*
- Indian Cucumber, *Medeola virginiana*
- Mariposa Lily, *Calochortus* spp.
- Queen's Cup, *Clintonia uniflora*
- Tiger Lily, *Lilium columbianum* and *L. lancifolium*
- Twisted Stalk/Watermelon Berry, *Streptopus amplexifolius*
- Wood Lily, *Lilium philadelphicum*

MAGNOLIA:
- Magnolia (Southern), *Magnolia grandiflora*

MALVACEAE:
- Basswood, *Tilia americana*
- Mallow, *Malva* spp.
- Purple Poppy-Mallow, *Callirhoe involucrata*

MARTYNIACEAE:
- Ram's Horn, *Proboscidea louisianica*

MELANTHIACEAE:
- Bear Grass, *Xerophyllum tenax*

MELASTOMATACEAE:
- Meadow Beauty, *Rhexia virginica*

MONTIACEAE:
- Bitterroot, *Lewisia rediviva*
- Fringed Redmaids, *Calandrinia ciliata* (formerly **PORTULACACEAE**)

MORACEAE:
- Mulberry, *Morus* spp.
- Miner's Lettuce/Spring Beauty, *Claytonia (Montia)* spp.

MYRICACEAE:
- Sweet Fern, *Comptonia peregrina*
- Wax Myrtle, *Morella cerifera*
- Sweet Gale, *Myrica gale*

NELUMBONACEAE:
- American/Yellow Lotus, *Nelumbo lutea*

NYMPHAEACEAE:
- Pond Lily/ Cow-Lily, *Nuphar lutea*
- Water-Lily (Fragrant)/Beaver Root, *Nymphaea odorata*

OLEACEAE:
- Lilac (Common), *Syringa vulgaris*

ONAGRACEAE:
- Evening Primrose, *Oenothera biennis*
- Fireweed, Chamerion *(Epilobium) angustifolium*

ONOCLEACEAE:
- Ostrich Fern, *Matteuccia struthiopteris*

OROBANCHACEAE:
- Elephanthead Lousewort, *Pedicularis groenlandica*
- Groundcone, *Boschniakia* spp.

OXALIDACEAE:
- Wood Sorrel, *Oxalis* spp.

PASSIFLORACEAE:
- Passion-flower, *Passiflora incarnata*

PHRYMACEAE:
- Monkeyflower, *Mimulus ringens*

PHYTOLACCACEAE:
- Pokeweed (American), *Phytolacca americana*

PINACEAE:
- Douglas Fir, *Pseudotsuga menziesii*
- Pine (White), *Pinus strobus*
- Pinyon Pine, *Pinus edulis*
- Sitka Spruce, *Picea sitchensis*

PLANTAGINACEAE:
- Plantain, *Plantago* spp.
- Speedwell, *Veronica* spp.

POACEAE:
- Giant Reed, *Arundo donax*
- Bamboo, *Bambusoideae* spp.
- Common Reed, *Phragmites australis*
- Wild Rice, *Zizania* spp.

POLYGONACEAE:
- Sea Grape, *Coccoloba uvifera*
- American Bistort, *Polygonum bistortoides*
- Dock, *Rumex* spp.
- Japanese Knotweed, *Polygonum cuspidatum*
- Mountain Sorrel, *Oxyria digyna*
- Sheep Sorrel/Sour Dock, *Rumex acetosella*
- Wild Rhubarb, *Rumex hymenosepalus*

POLYPODIACEAE:
- Licorice Fern, *Polypodium glycyrrhiza*

PORTULACACEAE:
- Purslane, *Portulaca oleracea*

PRIMULACEAE:
- Sea Milkwort, *Lysimachia (Glaux) maritima*

RANUNCULACEAE:
- Marsh Marigold, *Caltha palustris*

RHAMNACEAE:
- Fendler's Ceanothus, *Ceanothus fendleri*
- Red Root/New Jersey Tea, *Ceanothus americanus*

SCROPHULARIACEAE:
- Mullein, *Verbascum thapsus*

ROSACEAE:
- Hawthorn, *Crataegus* spp.
- Pacific Crabapple, *Malus fusca*
- Pin Cherry, *Prunus pensylvanica*
- Plum (American), *Prunus americana*
- Rowan, *Sorbus americana*
- Arctic Raspberry, *Rubus arcticus*
- Blackberry, *Rubus* spp.
- Chokeberry (Black), *Aronia melanocarpa*
- Chokecherry, *Prunus virginiana*
- Cloudberry, *Rubus chamaemorus*
- Dewberry, *Rubus* spp.
- Osoberry, *Oemleria cerasiformis*
- Raspberry, *Rubus* spp.
- Rose (Wild), *Rosa* spp.
- Salmonberry, Rubus spectabilis
- Saskatoon Berry, *Amelanchier alnifolia*
- Thimbleberry, *Rubus parviflorus*
- Agrimony, *Agrimonia* spp.
- Mock/Indian Strawberry, *Potentilla indica*
- Silverweed/Cinquefoil, *Argentina (Potentilla) anserina*
- Water Avens, *Geum rivale*
- Wild Strawberry, *Fragaria vesca*

RUBIACEAE:
- Bedstraw, *Galium* spp.
- Partridgeberry/Twin-flower, *Mitchella repens*

RUTACEAE:
- Common Prickly-Ash, *Zanthoxylum Americanum*

SALICACEAE:
- Black Cottonwood, *Populus trichocarpa*
- Cottonwood (Eastern), *Populus deltoides*
- Fremont Cottonwood, *Populus fremontii*
- Quaking Aspen, *Populus tremuloides*

SAPINDACEAE:
- Box Elder, *Acer negundo*
- Maple (Bigleaf), *Acer macrophyllum*
- Maple (Sugar), *Acer saccharum*

SAURURACEAE:
- Yerba Mansa, *Anemopsis californica*

SMILACACEAE:
- Carrion Flower, *Smilax herbacea*

SOLANACEAE:
- Pale Desert-thorn, *Lycium pallidum*
- Fendler's Horsenettle, *Solanum fendleri*

TYPHACEAE:
- Cattail, *Typha* spp.

ULMACEAE:
- Siberian Elm, *Ulmus pumila*
- Slippery Elm, *Ulmus rubra*

URTICACEAE:
- Stinging Nettle, *Urtica dioica*
- Wood/Canada Nettle, *Laportea canadensis*

VIOLACEAE:
- Violet (Wild), *Viola* spp.

VITACEAE:
- Grape (Wild/Muscadine), *Vitis rotundifolia*
- Canyon Grape, *Vitis arizonica*

ZOSTERACEAE:
- Eelgrass, *Zostera marina*
- Surfgrass, *Phyllospadix* spp.

ZYGOPYHYLLACEAE:
- Puncture Vine, *Tribulus terrestris*

Family List – LICHENS

CLADONIACEAE:
- Reindeer Lichen, *Cladonia rangiferina*

LOBARIACEAE:
- Lungwort Lichen, *Lobaria pulmonaria*

PARMELIACEAE:
- Iceland Moss, *Cetraria islandica*
- Oak Moss, *Evernia prunastri*
- Usnea Lichen, *Usnea* spp.
- Wila/Edible Horsehair Lichen, *Bryoria fremontii*

UMBILICARIACEAE:
- Rock Tripe, *Umbilicaria* spp.

Family List – MUSHROOMS

AGARICACEAE:
- Gem-Studded Puffball, *Lycoperdon perlatum*
- Meadow Mushroom, *Agaricus campestris*
- Parasol Mushroom, *Macrolepiota procera*
- Shaggy Mane, *Coprinus comatus*

AGARICOMYCETES:
- Salt-loving Mushroom, *Agaricus bernardii*

BANKERACEAE:
- Scaly Hedgehog, *Sarcodon imbricatus*

BOLETACEAE:
- Bragger's Bolete, *Aureoboletus mirabilis*
- Fib King Bolete, *Boletus fibrillosus*
- King Bolete, *Boletus edulis*
- Queen Bolete, *Boletus regineus*
- Shaggy Stalked Bolete, *Aureoboletus Betula*
- Spring King Bolete, *Boletus rex-veris*
- Suede Bolete, *Xerocomus subtomentosus*
- White King Bolete, *Boletus barrowsii*

CANTHARELLACEAE:
- Black Chanterelle, *Craterellus cinereus*
- Golden Chanterelle, *Cantharellus cibarius*
- Horn of Plenty, *Cantharellus cornucopioides*
- Oak Chanterelle, *Cantharellus californicus*
- Red Chanterelle, *Cantharellus cinnabarinus*
- White Chanterelle, *Cantharellus subalbidus*
- Winter Chanterelle, *Craterellus tubaeformis*

EXIDIACEAE:
- Toothed Jelly Fungus, *Pseudohydnum gelatinosum*

FOMITOPSIDACEAE:
- Chicken of the Woods, *Laetiporus sulphureus*
- Conifer Chicken of the Woods, *Laetiporus conifericola*
- Western Hardwood Sulphur Shelf, *Laetiporus gilbertsonii*

GOMPHACEAE:
- Club Coral, *Clavariadelphus truncatus*
- Pig's Ear, *Gomphus clavatus*
- Rosy Gomphidius, *Gomphidius subroseus*

GOMPHIDIACEAE:
- Insidious Gomphidius, *Gomphidius oregonensis*
- Slimy Spike Cap, *Gomphidius glutinosus*

HERICIACEAE:
- Bear's Head, *Hericium abietis*
- Coral Tooth Fungus, *Hericium coralloides*
- Lion's Mane, *Hericium erinaceus*

HYDNACEAE:
- Hedgehog Mushroom, *Hydnum repandum*
- White Hedgehog, *Hydnum albidum*

HYDNANGIACEAE:
- Amethyst Deceiver, *Laccaria amethysteo-occidentalis*
- Deceiver, *Laccaria laccata*

HYMENOCHAETACEAE:
- Chaga, *Inonotus obliquus*

HYPOCREACEAE:
- Lobster Mushroom, *Hypomyces lactifluorum*

LYCOPERDACEAE:
- Stump Puffball, *Lycoperdon pyriforme*

MARASMIACEAE:
- Fairy Ring Mushroom, *Marasmius oreades*

MORCHELLACEAE:
- Black Morel group, *Morchella elata*
- Blushing Morel, *Morchella rufobrunnea*
- Common Morel, *Morchella esculenta*
- Thick-stemmed Morel, *Morchella snyderi*

PLEUROTACEAE:
- Oyster Mushroom, *Pleurotus ostreatus*

PLUTEACEAE:
- Deer Mushroom, *Pluteus cervinus*

PSATHYRELLACEAE:
- Glistening Ink Cap, *Coprinellus micaceus*
- Inky Cap, *Coprinopsis atramentaria*

PYRONEMATACEAE:
- Orange Peel Fungus, *Aleuria aurantia*

RUSSULACEAE:
- Orange Milkcap, *Lactarius deliciosus*
- Shrimp Mushroom, *Russula xerampelina*

SPARASSIDACEAE
Cauliflower Mushroom, *Sparassis radicata*

SUILLACEAE:
- Fat Jack, *Suillus caerulescens*
- Short-stemmed Slippery Jack, *Suillus brevipes*
- Slippery Jack, *Suillus luteus*
- Western Painted Suillus, *Suillus lakei*

THELEPHORACEAE:
- Blue Chanterelle, *Polyozellus multiplex*

TREMELLACEAE:
- Witches' Butter, *Tremella mesenterica*

TRICHOLOMATACEAE:
- Matsutake, *Tricholoma murrillianum*

TUBERACEAE:
- Oregon White Truffle, *Tuber oregonense* and *Tuber gibbosum*

Family List – SEAWEEDS

ALARIACEAE:
- Wakame, *Undaria pinnatifida* and *Alaria marginata*

BANGIACEAE:
- Nori, Porphyra and *Pyropia* spp.

FUCACEAE:
- Bladderwrack/Rockweed, *Fucus vesiculosus*
- Dwarf Rockweed, *Pelvetiopsis limitata*
- Spiral wrack, *Fucus spiralis*

IGARTINACEAE:
- Irish Moss, *Chondrus crispus*

LAMINARIACEAE:
- Bull Kelp, *Nereocystis luetkeana*
- Giant Kelp, *Macrocystis* spp.
- Kombu, *Saccharina japonica*
- Oarweed/Kombu, *Laminaria digitata*
- Sugar Kelp, *Saccharina latissima*
- Sweet Kombu/Sea Cabbage, *Saccharina sessilis (Hedophyllum sessile)*

LESSINIACEAE:
- Feather Boa Kelp, *Egregia menziesii*

PALMARIACEAE:
- Dulse, *Palmaria palmata* and *Palmaria mollis*

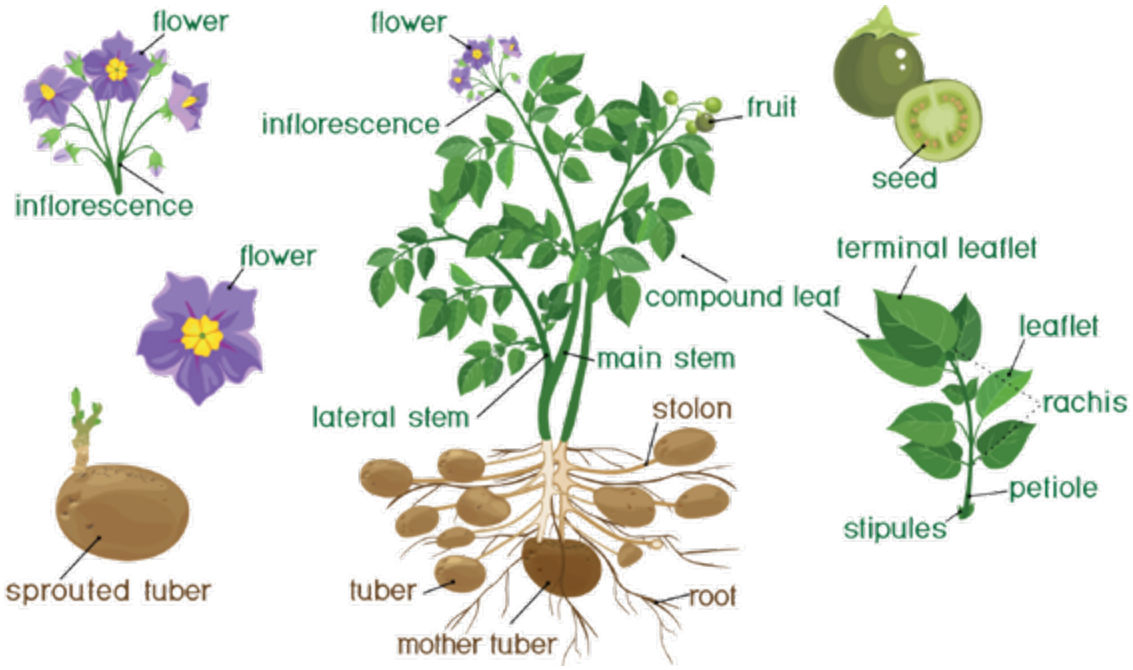
PHYLLOPHORACEAE:
- Cat's Tongue, *Mastocarpus papillatus*

SARGASSACEAE:
- Hijiki, *Sargassum* spp.

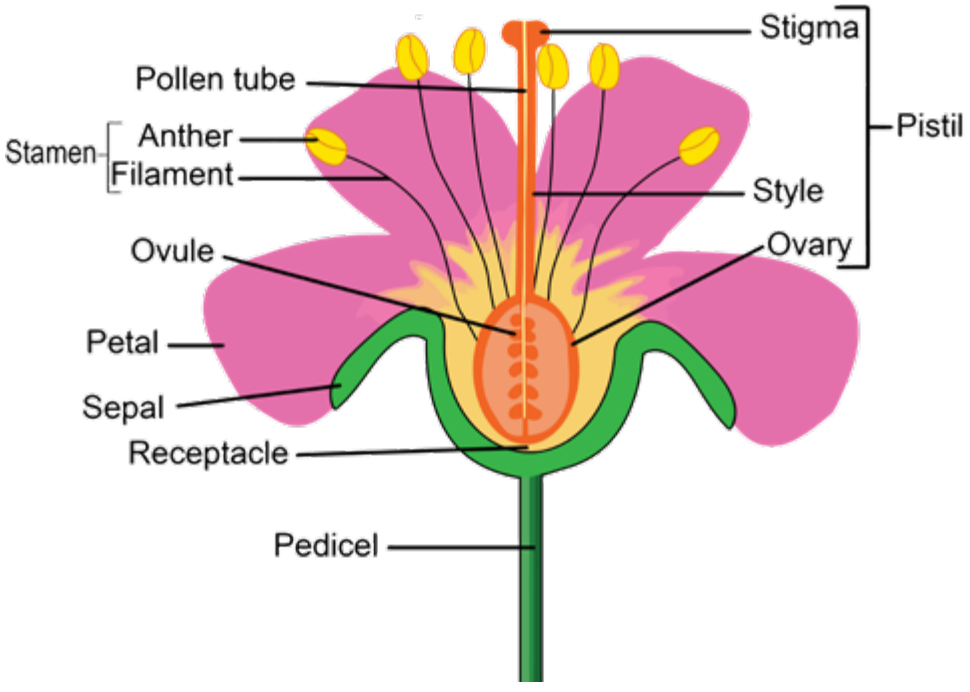
ULVACEAE:
- Gutweed, *Ulva intestinalis*
- Sea Lettuce, *Ulva lactuca, Ulva rigida, Ulva obscura* and *Monostroma grevillei*

Herbs and Greens

Parts of a plant



Parts of a flower



Terminology List

Achene - A type of fruit that has a seed-like appearance due the hard case that tightly encloses the single seed inside. The seeds do not open at maturity. For example, the seeds on strawberries are actually an aggregate of achenes. Note that a samara (below) is a winged achene.

Acuminate - The tip of the leaf elongates and tapers inwards to a very long, fine point. For example, white willow and some eucalyptus leaves.

Acute - A general term for any leaf tip or base that is less than a 90° angle.

Adventitious roots - Roots that sprout from elsewhere on the plant, not from the root system. Adventitious roots may sprout from stem nodes that are touching the ground. For example, strawberries, ivy, and strangler figs.

Aggregate fruit – A fruit that develops from a single flower with more than one ovary, where the ovaries join together. Examples are strawberries and raspberries, which are actually a collection of small fruits.

Alternate leaves - The leaves are staggered along the stem or rachis, alternating from the left to right side of the branch. For example, red alder, beech and sage leaves.

Anther - The enlarged tip or sack at the end of the stamen that produces the pollen. It forms part of the male reproductive organ of the flower.

Axil - The point where the leaf, stalk or stem meets the branch, on the upper side.

Axillary - A general term used to describe any buds, stalks, leaves and thorns that grow in the axil of a branch.

Basal (leaf) - Leaves that grow from a single point radiating from the base, at ground level, usually arranged in a rosette. For example, dandelion and thistle leaves.

Biannual - A plant that flowers and fruits twice a year (not common).

Biennial - A plant that takes 2 years to flower, set seed and die. For example, parsley and common mullein.

Bracts - Modified leaves that sit below the flower or inflorescence. They may be a different color, size or even texture to its regular leaves and flowers. Bougainvillea and poinsettia have enlarged, colorful bracts to attract pollinators instead of showy flowers.

Bulbils - Small bulbs that form in the axil of a branch that eventually fall to the ground to product a new plant. These bulbils are a clone of the parent plant. For example, lilies and some agave species.

Bulblets - Smaller, secondary bulbs that form near the underground parent bulb. This is often the primary mode for vegetative reproduction for many bulb species.

Calyx - A collective term for all of the sepals around the base of each flower. Sometimes the sepals are fused into a calyx. The calyx is often green but may be a variety of colors.

Carpel - The female reproductive organ that contains the ovary, style, and stigma. Otherwise referred to as a pistil.

Catkins - Flowers that have an inflorescence either without petals or with inconspicuous ones. Catkins are made up of unisexual flowers. For example, alder, willow, beech, and birch tree flowers.

Cladodes - Leaf-like structures that are modified, flattened branches that photosynthesize. The shape varies greatly; thick and broad, thin blades or small scales. For example, prickly pear, butchers' broom, and asparagus shoots.

Clasping (leaf attachment) - The leaf attaches directly to the stem and wraps around it slightly to clasp it. For example, sow thistle stem leaves.

Compound flower - Multiple flowers or florets are arranged into an inflorescence. The structure of the compound flower may be in a spike, a raceme, a cyme, an umbel, a panicle or a catkin.

Compound leaf - The leaf is divided into smaller leaflets that are attached via a modified stem called a rachis. For example, clover, Oregon grape, ferns, acacia and ash tree leaves.

Cordate base - The base of the leaf is heart shaped. For example, violet and cottonwood leaves.

Corolla - The collective term for all of the petals on a single flower. The corolla is usually the showy, colorful part of the flower.

Creeping habit - A plant that spreads horizontally along the ground and hangs down over features. For example, strawberry plants and creeping thyme.

Crenate (leaf) - The leaf margin is softly rounded into numerous lobes. For example, ground ivy, stevia and ragwort leaves.

Cuspidate (leaf) - The leaf tip suddenly tapers to a short, obvious point. For example, holly and cherry leaves.

Cyme - A multibranched inflorescence that has the oldest flower growing from the end of the stem or middle of the inflorescence. The multiple branches are arranged alternately along the stem. For example, red maids, onions, tomatoes, elderberry and yarrow flowers.

Deciduous - Any tree, shrub or vine that loses its leaves every autumn and re-shoots in spring in temperate areas. For example, oak, birch, temperate fruit trees, and blackberry.

Dicot - All plants that emerge from their seed as a pair of leaves. All trees, shrubs, and herbs are dicots.

Drupe - A thin skinned fruit with a single, hard stone, nut or pit inside. For example, stone fruit such as peaches, cherries, olives, and mangos.

Drupelets - A cluster of small drupes, each with a single seed inside that forms a berry. For example, blackberry, mulberry, and raspberry fruit.

Elliptic (leaf) - The leaf is shaped like a stretched football, being pointed at both ends with the broadest point is in the middle. For example, beech and rhododendron leaves.

Emarginate (leaf) - The leaf tip is rounded on both sides of the central vein, forming an "m" shape or a notch at the leaf tip. For example, European alder have slightly emarginated leaves, whereas gingko have heavily emarginated leaves.

Entire (leaf) - The leaf margin is completely smooth and featureless. For example, basil and lilac leaves.

Epiphyte - A plant that grows on another larger plant but is not attached to it. It gathers nutrients from the air, water and the debris that accumulates around it. For example, bromeliads, mosses, and orchids.

Filament - The long, thin stalks in the middle of the flower that are part of the male reproductive organs. At the tip of the filament is the anther and pollen.

Indusium - The thin membrane that covers the spore producing sporangia on the underside of fern leaves. These covers will be absent on older leaves.

Inflorescence - A general, collective term for all of the flowering parts, including the flowers, bracts, stalks and stem. It may be multi-branched and include multiple flowers or florets clustered together. For example, lilac, lavender, and dill flowers.

Lacerate (leaf) - The leaf looks heavily lacerated or even ripped. For example, monstera and thistle leaves.

Lanceolate (leaf) - The leaf is shaped like a lance or spear point. It's narrow and pointed at the tip, but broader towards the base. For example, willow and eucalyptus leaves.

Lance-shaped - A general term to describe the shape of petals, leaves and other vegetative features that have a pointed tip but are broader towards the base, like a spear point.

Leaflet and terminal leaflet - Multiple, smaller leaflets make up a compound or pinnate leaf that are arranged on a single stem or rachis. A terminal leaflet is at the growing tip when there is an odd number of leaflets arranged along the stem. For example, elderberry and pin oak leaves have a terminal leaflet.

Lenticels - Pores found in the bark and roots of some trees and shrubs which allow for gas exchange. For example, wild cherry, alder, and birch bark as well as potato skins.

Linear (leaf) - The shape of the leaf is long and narrow, and doesn't broaden in the middle. For example, Easter lily, grasses, flax, and yucca leaves.

Lithophyte - A plant that grows directly on or into the surface of bare rock or stone and gathers nutrients from the air and water. For example, lichens and *Paphiopedilum* orchids.

Lobe - A term to describe various plant parts (leaves, petals, sepals etc.) that have rounded tips or softly pro-

truding features.

Marginal teeth - Any vegetative part that has teeth along its outer margin. For example, birch leaves as well as chicory and dandelion petals.

Minute (leaf) - A tiny leaf. For example, baby tears, woolly thyme and Scottish moss.

Monocarpic - Plants that die soon after flowering and setting seed. They can live for a number of years but will only flower and set seed once in their lifetime. For example, century plants, some yuccas, and bamboo species.

Monocot - All plants that emerge from their seed as a single leaf blade. For example, grasses, sedges and reeds.

Mucronate - The tip of the leaf forms a small point, which is smaller than on a cuspidate leaf. For example, hazel and crabapple leaves.

Nodding flowers - Flowers that hang downwards on long pedicels, towards the ground instead of being held erect. For example, nodding onion, lily, and bluebell flowers.

Obcordate (leaf) - The tip of the leaf is a rounded heart shape. For example, wood sorrel and clover leaves.

Oblanceolate - The reverse of a lanceolate leaf, where the tip of the leaf is rounded and slightly broader but narrows to a point at the base, where it connects to the petiole. For example, red chokeberry and some *Euphorbia* species.

Oblong leaf - The shape of the leaf is roughly oblong shaped, having parallel margins with rounded tips. For example, lily of the valley, dwarf umbrella trees, and banana leaves.

Obovate leaf - The reverse of an ovate leaf, where the broadest point is towards the top of the leaf. Obovate leaves are broader and shorter than lanceolate leaves. For example, white clover and horse chestnut leaves.

Obtuse (leaf) - Either the base or the tip is completely rounded. For example, kidney weed and many succulent leaves like the jade tree.

Opposite leaves - The leaves are arranged into pairs along the stem and sit directly opposite each other. For example, basil and ash leaves.

Orbicular (leaf) - The leaf is almost completely round and forms a disk. For example, nasturtiums, water lilies, and some geranium leaves.

Ovary - Bulb-like structures that contains the ovules inside. The ovary sits deep within the flower and receives pollen for fertilization to eventually produces the seed. It sits on top of the receptacle, usually surrounded by the calyx.

Ovate (leaf) - The widest point of the leaf is towards the base. For example, common lilac and honeysuckle tree leaves.

Ovule - Part of the female reproductive organ that contains the egg cells. The ovules are inside the ovary of the flower.

Palmate (leaves) - The leaf is deeply divided into multiple fronds that extend all the way to the midrib or stalk. For example, a palm or maple leaf.

Palmatifid - The leaf is shaped like a palm with fingers, being divided into a few fronds, but not as deeply as palmate leaves. For example, coriander and castor leaves.

Panicle - A loose forming cluster of florets where each flower hangs from its own stalk (pedicel) that is arranged along a raceme (single stem). For example, grasses, oats, and crabgrass flowers.

Pappus - The feathery hairs or bristles that are attached to some seeds. The pappus is technically a modified calyx and is usually used for wind dispersal of seeds. For example, grass, dandelion, thistle, and oleander seeds.

Pedicel - The individual flowers in an inflorescence are attached via a pedicel (flower stalk). When the flower is fertilized, the pedicel becomes the stem of the fruit in some plants.

Peltate (leaf attachment) - The petiole (leaf stalk) is centrally attached to the underside of the leaf. For example, water lilies and nasturtium leaves.

Perennial - Any plant that lives longer than 2 years. For example, trees, shrubs, and many herbs and grasses.

Petiolate (leaf attachment) - The leaves are attached to the stem via a petiole (leaf stalk).

Perianth - The collective term for all of the petals (corolla) and sepals (calyx) of a flower. For example, an opening rose bud only has its perianth on display.

Perulate (buds) - New buds that are protected by scales or modified leaves along the stem or branch.

Petal - Usually the showy, colorful part of the flower. The petals help to attract pollinators. All of the individual petals make up the corolla.

Petiole - Another name for the leaf stalk. The petiole attaches the leaf to the stem and allows the leaf to twist towards the sun.

Pinnate leaves - A type of compound leaf. Smaller leaves or leaflets are closely arranged along a central leaf stalk called a rachis. For example, locusts, acacia, and fern leaves.

Pinnatifid - A leaf that is heavily divided, but not all the way down to the leaf midrib or central vein. For example, netted chain fern and resurrection fern.

Pistil - Otherwise referred to as the carpel or fused carpels, the pistil contains all of the female reproductive organs, including the ovary, style, and stigma.

Pistillate (flowers) - Flowers that only contain the female reproductive organs (the opposite of staminate flowers). For example, ginkgo, willow, holly, oak, cottonwood, and wild grape flowers.

Pollen tube - When male pollen lands on the female stigma, a tube is formed inside the style to transport the pollen down to the ovaries for fertilization.

Raceme - Multiple flowers or florets are arranged along a single stem, but unlike a flower spike, each individual flower on a raceme has its own pedicel (flower stalk). The oldest flowers are at the bottom of the raceme. For example, mustard, radish, snapdragon, indigo, hydrangeas, and foxglove flowers.

Rachis - On pinnate leaves, the rachis is the central stalk that the leaflets are attached to.

Receptacle (part of flower) - The upper part of the pedicel that holds the calyx and petals. The female pistil usually sits on top of the receptacle.

Reniform leaf - The leaf is rounded at the top and heart shaped at the base where the petiole or stalk attaches. It's roughly kidney shaped. For example, kidney weed and violet leaves.

Rhizome - A type of spreading, underground root system that sends out roots horizontally. They can produce new plants as a means of asexual reproduction. The new plants grow their own roots and foliage from the buds along the rhizome and the plant is able to spread. Rhizomes tend to be shallow rooted. For example, ginger, bamboo, cattail, Bermuda grass, and mint.

Rosette - Basal leaves that grow horizontally from a single point and tend to lay completely flat. For example, dandelion and flatweed.

Sagittate - The base of the leaf extends downwards to form an arrowhead or wedge shape. For example, elephant ears or taro leaves.

Samaras - A winged version of an achene fruit; a single seed held tightly within a hard case. For example, maple and tree of heaven seeds.

Saponins - The chemical compounds found in certain plants that can create a soapy foam when mixed with water. They are both water and fat soluble, so they have a wide number of uses; from soap making to stunning fish. For example, soapwort and soapbark tree are high in saponins.

Scorpioid cymes - An inflorescence that is shaped like a scorpion tail and unfolds as it matures. The oldest flower is at the base of the inflorescence where it joins the top of the stem and the flowers are arranged in a zig-zag or alternating pattern. For example, many species in the borage family.

Sepal - The individual sepals form a protective ring around the base of each petal to protect the reproductive organs and seeds. When a flower is budding, the sepals are closed tight to protect the developing flower.

Serrate (leaf) - The leaf margin is like a saw blade, with each saw tip pointing towards the tip of the leaf. For example, apple, poplar, and stinging nettle leaves.

Sessile (leaf) - The leaf attaches directly onto the stem without a petiole (stalk). For example, trillium species, basket grass, and many succulents.

Sheathed (leaf attachment) - The leaf attaches via a tubular sheath that wraps around the stem. For example, grasses and bamboo.

Sorus (plural; Sori) - A cluster of tiny spore-producing sporangia that grow on the underside of fern leaves.

Spadix (plural; Spadices) - An inflorescence that is held vertically on a modified, fleshy spike and densely packed with minute flowers. The spadix is surrounded by the spathe. For example, calla lily and *Anthurium* species flowers.

Spathe - A modified, enlarged bract that resembles a sheath-like leaf or giant petal to attract pollinators to the spadix. For example, the white fleshy part of calla lily flowers is the spathe. Other arum species have different colored spathes.

Spatulate (leaf) - The leaf is shaped like a spatula, spoon or inverted teardrop, being broad and rounded at the tip and curving inwards towards the base. For example, water oak and spinach leaves.

Spike (flower arrangement) - Multiple flowers or florets are arranged vertically along the stem. The flowers don't have pedicels (flower stalks), so are attached directly to the stem. For example, calla lily, sedges, and grasses such as barley and wheat.

Sporangia - The reproductive organs of a fern. Sporangia are small brown sacks that produce the spores.

Spore - Asexual reproduction in ferns is primarily through microscopic, wind dispersed spores that don't require input from other reproductive cells or organs.

Stamen - The filament, anther and pollen all form the stamen, which is the entire male reproductive organ of the flower.

Staminate (flowers) - Flowers that only contain the male reproductive organs (the opposite of pistillate flowers). For example, ginkgo, willow, holly, oak, cottonwood, and wild grape flowers.

Stem (main stem vs lateral stem) - The main stem is the thickest and often the tallest stem on the plant. The stems that branch off the main stem are called lateral stems.

Stigma - Part of the female reproductive organ that catches the pollen. The stigma is usually found in the center of the flower, at the top of a prominent style. It can be sticky, hairy or cup shaped to catch the male pollen. The pollen is sent down the pollen tube to the ovaries.

Stipe - An elongated, modified petiole (leaf stalk) that supports flowers, fruits or other structures in certain plants such as orchids and ferns.

Stipulate - Leaves that have stipules are called stipulate. Stipules can also grow into tendrils, spikes, thorns, scales, sheaths or leaves.

Stipule - A small pair of modified leaves that form at the base of the petiole, on the opposite side of the axil. For example, the base of hibiscus, gardenia, and rose's compound leaves as well as the thorns of mesquite trees have stipules.

Stolon - A type of tendril that spreads horizontally along the surface of the ground and can produce new plants as a means of asexual reproduction. For example, strawberry and spider plants spread via stolons.

Style - The long, prominent female reproductive organ that is usually found in the middle of the flower. It connects the stigma to the ovaries when the pollen tube develops inside the style.

Tepal - When it is not possible to tell the difference between the sepals and the petals, the term tepal is used, especially when the sepals and petals are fused together. For example, magnolia, lily, and hellebore flowers.

Toothed leaf - The leaf margins have teeth that project outwards instead of towards the tip of the leaf. For example, thimbleberry, birch, chestnut, and elm leaves.

Truncate - The leaf or petal is squared at the tip or base. For example, the base of common green briar, mile-a-minute vine, and tulip tree leaves.

Tuber vs mother tuber - A tuber is an annual, underground energy storage system for the roots, rhizomes or stolons. It uses the stored energy to reshoot every season and is also a means of asexual reproduction. A mother tuber is the original tuber that subsequent, younger ones have grown from. The mother tuber is usually darker in color. For example, potatoes, yams, cassava, daylily, and dahlia root systems.

Umbel - Multiple flowers are arranged into an umbrella shaped structure. Numerous pedicels grow from a single point at the top of the stem and each pedicel produces a single flower. Umbels can be simple or compound. For example, queen Anne's lace, carrot, onion, and wax flowers.

Undulate (leaf) - The leaf margins are broadly wavy. For example, some species of oak trees, bay tree, and taro have undulated leaves.

Winnow - The act of separating the grain or seed from the bracts and pedicels (also known as chaff) after threshing using a light breeze.

Medical Terminology List

Analgesic - To have pain-relieving properties.

Astringent - To cause the cells and tissues to tighten and contract.

Cholagogue - To cause an increase in the amount of bile being released by the liver and gall bladder.

Demulcent - Usually high in mucilage, a demulcent creates a protective barrier over the mucus membranes along the gastrointestinal tract.

Diaphoretic - To cause sweating.

Diuretic - To cause an increase in urine production, which subsequently reduces the amount of water and salts in the body.

Dysentery - A bacterial infection of the lower intestines and colon which causes diarrhea and stomach cramps.

Emetic - To cause vomiting.

Emollient - To have moisturizing and lubricating properties.

Expectorant - To soften phlegm and sputum to make it easier to cough up and expel.

Febrifuge - To reduce fever and high temperatures.

Pectoral - To treat discomfort, pain and illness around the chest and lungs.

Purgative - To have a laxative effect by loosening stools as well as lubricating bowel movements.

Rheumatism - A type of disease that causes pain, swelling, inflammation and loss of movement in the joints, tendons, ligaments, muscles and bones. Arthritis causes the same symptoms in joints.

Stomachic - To increase appetite and promote healthy digestion.

Vasodilator - To dilate or open the arteries, veins and other blood vessels, which increases blood circulation.

Vermifuge - To expel or kill intestinal worms and parasites.

Agave, *Agave* spp. (ASPARAGACEAE)







AGAVE is a slow growing plant that forms rosettes of large, green-grey, fleshy, succulent leaves. It grows in hot, arid areas with 200⁺ species native to the south-western USA.

FLOWER: The up to 40-ft. tall (12 m) stem produces large tubular flowers. It takes years to bloom and the mother plant dies immediately after flowering. Flowers turn into bulbils or plantlets which will produce new, genetically identical plants.

LEAF: It has sharp marginal teeth, an extremely sharp terminal spine, and is very fibrous.

EDIBLE PARTS: heart, leaves, flower stalk, flowers, and seed heads (in certain varieties only)

KEY MEDICINAL USES: Agave sap is antiseptic and may help digestion.

HOW TO HARVEST AND EAT: Leaves may be collected in winter and spring and can be roasted, baked, or boiled. Edible flowers are produced during the plant's final season. Stalks are harvested during summer, before blooming. The seed heads, flowers, and stalks can be eaten roasted, boiled, battered, or fried. Seed heads can be made into flour or an edible paste. The sap (honey water) is found at the base of the center of rosette. 6 to 8 years old plants can produce ½ gallon (2L) of sap per week. Caution should be taken when eating any part of the agave raw.

ROASTED AGAVE LEAVES: Roast salted basal leaf pieces. Chew the rich salted caramel flavor leaves as a snack and discard the fibrous material.

WARNING: Some species are toxic and are best avoided. Identify the species to help determine its edibility. The most edible varieties are *A. americana, A. atrovirens, A. cantala, A. deserti, A. chrysanthemum, A. palmeri, A. salmiana, A. scabra, A. sisalana, A. tequilana.*

Agrimony, *Agrimonia* spp. (ROSACEAE)







AGRIMONY, also known as Church Steeples, Cocklebur, and Sticklewort, is found in parts of Europe and North America. This flowering herbaceous perennial starts with a basal rosette of pinnate leaves with erect cylindrical stems covered in fine hairs. There are about 15 species of Agrimony, the most notable edible being Common Agrimony, *Agrimonia eupatoria*.

FLOWER: Numerous small yellow flowers of about ½ inch (1 cm), arranged closely on slender terminal spikes, blooming throughout the summer, June-August. They turn into small seed pods.

LEAF: The leaves are toothed, oblong to oval, and are largest at the base of the plant, at about 7-8 inches (20 cm) long, getting smaller as they grow higher on the plant stems.

EDIBLE PARTS: flowers, leaves, seeds, stems

KEY MEDICINAL USES: Agrimony shows anti-inflammatory, antioxidant, and analgesic activity.

HOW TO HARVEST AND EAT: Harvesting flowers, stems, and leaves is best done when the plant first starts to flower. Flowers, leaves, and stems are used fresh or dried in tea. Seeds can be dried and ground into a meal.

AGRIMONY AND PEPPERMINT TEA: Ingredients: 1 tsp. dried agrimony leaves, stems, and flowers, 1 tsp. dried peppermint leaves, 1-2 cups boiling water. In a tea ball, steep dried agrimony and peppermint in boiling water for 10 min. Add honey to taste. Enjoy the soothing and refreshing combination in a hot or cold cup of herbal tea.

Alfalfa, *Medicago sativa* (FABACEAE)







ALFALFA or Lucerne is a highly nutritious perennial found throughout the world. It is an important feed crop for livestock in North America. It grows 12 to 30 inches (30-70 cm) tall, on slender winding stems with a deep tap root.

FLOWER: Usually purple or pink in color, though may be blue or even yellow or white. They flower June-July. Dense ½-2 inch (1-4 cm) long flower clusters appear at the ends of stems or at the leaf axils. Each flower is pea-like with fused petals and sepals about ¼ to ½ inch (0.5-1.3 cm) in size. Pods are similar in size and spirally coiled.

LEAF: Leaves are alternate, oblong, finely saw toothed, and have pointed tips. Each leaf has 3 leaflets that are egg shaped, broader towards the tips, and are sometimes a little hairy. Leaflets and are 1 to 1½ inches (2-4 cm) long.

EDIBLE PARTS: leaves, shoots, sprouts

KEY MEDICINAL USES: It has a high nutritional content, being used as a dietary supplement and to help lower cholesterol.

HOW TO HARVEST AND EAT: Tender young leaves and shoots, in addition to sprouts, are the most widely eaten part. Gather young leaves and shoots any time during the growing season early in the morning. Leaves can be used for tea. Young leaves can be dried and used as a nutritional additive. Once flowers have gone to seed, gather the dry seed directly off the plants into paper bags and sift off any debris. Seeds can be ground into flour to add nutritional value to baked goods.

ALFALFA SPROUTS: You'll need: 2 tbsp. alfalfa seeds, a quart jar with sprouting screen, water. Rinse seeds well, removing any debris and soak them for 8 hrs. or overnight. Drain well. Invert jar over sprouting screen so seeds have air flow and don't sit in water. Rinse seeds every 8 hrs. or 2-3 times daily. After about 3 days, small tail-like sprouts begin to form. Avoid direct sunlight so sprouts will form leaves. Continue rinsing 2-3 times a day until sprouts are about 3 inches (7 cm), usually another 2-3 days. Rinse and drain well. Will last in the fridge for a few days.

WARNING: Leaves contain saponin-like compounds and eating large quantities can breakdown red blood cells. Cooking may help reduce saponins. Caution should be taken when consuming alfalfa sprouts due to potential bacterial contamination. The seeds may contain substances harmful to some individuals.

Amaranth, *Amaranthus* spp. (AMARANTHACEAE)







AMARANTH is a tall, upright, annual plant that loves hot and humid summers. It takes 40-50 days to mature. There are over 60 varieties, found in many parts of the world.

FLOWER: Amaranth flowers are spikes of tiny red, purple, or yellow flowers, depending on the cultivar. These tiny flowers often have prickly petals and bracts that form dense, showy, clusters at the ends of stems, which can be anything from huge tassels, upright branches, or tiny globes, depending on the species. The tiny bunches of flowers result in tiny bunches of seeds.

LEAF: : Leaves are broad and oval in shape, have pointed tips, and can be green, red, or a mixture of colors. They can be smooth or covered in tiny hairs and are approximately 2 ½ to 6 inches (6.5-15 cm) long, alternate or opposite, depending on the species.

EDIBLE PARTS: leaves, seeds, stems, roots

KEY MEDICINAL USES: Can reduce cholesterol levels if eaten daily.

HOW TO HARVEST AND EAT: Amaranth greens and seeds are best eaten cooked. Young leaves can be picked in early spring and used raw in salads. Mature leaves taste like spinach but have a rougher texture. They are best harvested early in the day and plunged into cold salted water for 15 min. The seeds are very tiny, the size of sesame seeds, with a sweet, nutty flavor. Harvest by shaking them off the plant into a bowl.

AMARANTH PILAF: Ingredients: 2 cups amaranth leaves (trimmed and washed), 1 cup amaranth seeds plus 2 tbsp. seeds, 1 onion and 1 clove garlic, finely diced, cooking oil, desired seasoning. Warm one small pot (for pilaf), one small skillet (for toasted amaranth), one medium skillet (for seared amaranth leaves) and heat cooking oil. Distribute onion and garlic to each and sauté for 5 min. Turn off small and medium skillet. In small pot, add 1 cup amaranth seeds and toast in cooking oil, onion, and garlic for 3-5 min. Add 3 cups water, stir, place well-fitting lid, and reduce heat to low for 25 min. Let stand with lid on an addition 15 min. Re-heat medium skillet. Sear amaranth leaves in onion and garlic. Re-heat small skillet. Toast remaining amaranth seeds with onion and garlic. Serve pilaf with seared leaves and toasted seeds. Enjoy as a side dish or as a main meal.

American Bistort, *Polygonum bistortoides* (POLYGONACEAE)




David Monniaux, CC-BY-SA-3.0


Glen mittelhauser

AMERICAN BISTORT, also known as Knotweed, Smartweed, or Snakeweed, is found from western Canada to New Mexico on moist, open slopes in montane, subalpine, and alpine areas, with Alpine Bistort, *P. viviparum* found farther north. American knotweed is known as both *Polygonum bistortoides* and *Bistorta bistortoides*. This herbaceous perennial grows 8-28 inches (20-70 cm), with the alpine variety being shorter (10 inches). It is an erect herb with thick rootstocks. There are over 200 species, some are more edible than others. The sap is acidic, so best to be avoided by people with sensitive skin.

FLOWER: The white or pink flowers have no petals with 5 oblong sepals, which form dense clusters on single spikes from May to September. American smartweed is quite showy with shiny brown achenes and no bulblets. Alpine bistort has pretty, white to pink flower spikes with dull brown achenes at the top and vegetative bulblets near the base.

LEAF: Lance-shaped leaves are 6 inches (15 cm) long, sheathed and mostly basal, on 6-inch (15 cm) red-green stems, with heart-shaped bases. Leathery leaves are bluish to dark green in color. Leaves are smaller on flower stalks.

EDIBLE PARTS: starchy rootstocks, seeds, leaves, and shoots are edible (Alpine bistort produces small bulblets that can be eaten raw)

KEY MEDICINAL USES: Roots are astringent and may help dental and skin issues.

HOW TO HARVEST AND EAT: Seeds, harvested in fall, can be roasted and ground into flour or meal to add to baked goods, or used as a thickener. Bulblets can be eaten raw. Leaves and shoots, best harvested in spring, can be pleasantly tart but can become tough with age. Shoots can be used like rhubarb or as a potherb. Roots are best harvested in spring before the plant begins to flower. They are starchy and can be eaten raw or boiled in soups and stews or roasted. They can also be dried and ground into flour for bread.

SEARED BISTORT LEAVES ON PEARL BARLEY PILAF: With 2 cups young, trimmed, washed bistort leaves and 1 cup pearl barley, finely dice 1 onion, and 1 clove garlic. Boil 3 cups high-quality water or stock and cook pearl barley with half the onion and garlic for 45 min. Sear bistort leaves in remaining onion and garlic. Serve pilaf with seared leaves.

American Hog-Peanut, *Amphicarpaea bracteata* (FABACEAE)









AMERICAN HOG PEANUT is a summer annual, 2 to 8 ft. (0.5-2.5 m) long, that twines up other vegetation. Found in Eastern North America in moist, forested areas, it can be easily recognized by the slender stems, which are light green to red.

FLOWER: This plant has two flower types, producing two seed types. On the upper plant are pea-like flowers, up to 2 inches (5 cm) long with light pink, or light lavender petals. They grow into seedpods of 1 to 1 ½ inches (3 cm) long, with 1-4 seeds. On the lower plant, a second flower forms and grows into a single fruit, which grows right on the surface or into the ground.

LEAF: Leaves are oval with pointed tips. And have terminal leaflets of 2 ½ to 4 inches (6-10 cm) long. Lateral leaflets that are shorter.

EDIBLE PARTS: seeds (from the upper plant), the second fruit (found on the low parts of the plant)

KEY MEDICINAL USES: An infusion of the roots is said to aid diarrhea. A poultice made of the roots may help rattlesnake bite.

HOW TO HARVEST AND EAT: The ground fruit may be eaten raw or cooked, and is harvested in fall/winter. The pretty speckled ground seed is inside the pods. Top seeds are harvested in fall once the pods are plump. These should be shucked and cooked. Some sources say they are inedible, so take caution by trying a small cooked amount first.

HOG PEANUT QUICK SAUTÉ: Ingredients: a small amount of the ground fruit and fresh seeds (If seeds are dried, soak up to 24 hrs.), butter, salt and pepper. Melt butter, sauté washed ground fruit and seeds until fully cooked. Add salt and pepper.

American Spikenard, *Aralia racemosa* (ARALIACEAE)









AMERICAN SPIKENARD is a woodland perennial herb, native to Mideastern Canada and USA, that grows 3 to 5 ft. (1-1.5 m) tall in moist rich soil. It has dark soft stems and grows from large rhizomatous, aromatic roots, into shrub-like thickets.

FLOWER: White flowers bloom form June through August. They are small, numerous umbels on tall terminal spikes up to 18 inches (45 cm) tall.

LEAF: Large 2 ½ ft. (o.75 m) compound leaves are made up of 3 sections, which are divided into 9 to 21 leaflets arranged sparsely and alternately along the stems. The leaflets are egg-shaped, stalked and sharply toothed. Leaflets are 2 to 6 inches (5-12 cm) long.

EDIBLE PARTS: roots, young shoots, berries

KEY MEDICINAL USES: A poultice made from the roots may help inflammation and infections.

HOW TO HARVEST AND EAT: Young shoots, picked soon after they emerge and when they're less than 4 inches (10 cm) tall, can be cooked as a spring green. The aromatic leaves can be used as a potherb to flavor soups, or salad dressings. Fruits can be picked in late summer when they are purple/brown and used to make jelly and wine. Roots, dug in the fall after the fruit has finished, have a spicy, licorice flavor and are a nice addition to sweet potato dishes or soups.

SPIKENARD TEA: Harvest thick roots, clean, and peel them. Chop into fine pieces, dry, and store in an airtight container in a dark, dry place for future use. Add 1 tsp. dried spikenard root and 1/4 tsp. cinnamon to 1 cup boiled water. Steep for at least 10 min. Sieve tea to remove roots.

WARNING: Some say the berries are almost inedible, and there are reports of people becoming ill after eating berries from *Aralia* spp.

American/Yellow Lotus, *Nelumbo lutea* (NELUMBONACEAE)







AMERICAN or **YELLOW LOTUS** is a flowering water plant that grows in lakes, swamps, and areas prone to flooding. Leaves and flowers emerge above the water. Roots are anchored to the muddy bottom.

FLOWER: Yellow flowers bloom in late spring, sometimes continuing through the summer, with the large blossoms reaching up to 1 ft. (30 cm). The unique seed pods look like a shower head.

LEAF: The large lily pads can be up to 1 ½ ft. in size (45 cm).

EDIBLE PARTS: rhizomatous tuberous roots, large seeds, young leaves and shoots

KEY MEDICINAL USES: Roots can be made into a poultice to aid inflammatory issues.

HOW TO HARVEST AND EAT: All parts are edible and can be eaten raw, but are much better cooked. Upper parts can be harvested right from shore or by boat. Unfurled young leaves, picked in spring and early summer, can be eaten as greens. The large leaves can be picked anytime and used to wrap food for cooking. In late sum mer and fall, seeds squeezed out of the shell can be eaten raw, roasted, or boiled and seasoned to eat as a snack. Roots can be dug in fall or early winter, sliced, and soaked in water to help remove bitterness. They brown easily, so best to cut just before cooking or toss with lemon.

ROASTED TERIYAKI LOTUS ROOT: Ingredients: 1 lb. (500g) sliced lotus root (soaked, and rinsed), 2 cloves garlic (minced), 1 tbsp. each of minced ginger, soy sauce or tamari, sesame oil, seasoned rice vinegar, and fancy molasses. Mix all seasoning well and toss root in seasoning mixture until well coated. Arrange on a tray and bake in the oven for about 35 min. Serve warm as a side dish with Asian-inspired dishes.

Angelica, *Angelica atropurpurea* (APIACEAE)







ANGELICA, is an aromatic perennial found in moist-to-wet shady areas. It grows up to 10 ft. (3 m) tall with a spread of 6 ft. (2 m) and can be hard to find.

FLOWER: Whitish-green flowers bloom in June-September on large compound umbels up to 10 inches (25 cm) in size, producing small seeds.

LEAF: Compound leaves are divided into segments of twos or threes with ovate, toothed individual leaflets. Stems are purple.

EDIBLE PARTS: seeds, leaves, stems, and roots

KEY MEDICINAL USES: Tea made from leaves may help digestive issues, cold and flu symptoms.

HOW TO HARVEST AND EAT: Angelica is a biennial, making leaves and roots in its first season, followed by making stems, flowers, and seeds in its final year. Leaves are best harvested in spring and early summer of its first year; they have a parsley aroma and can be eaten raw, or cooked as an aromatic green. Roots are best harvested in the fall of its first year. In the second year of growth, harvest stems in early spring while they are still tender. Seed heads can be harvested when they are dry and yellow. Stems have the most unique angelica flavor and can be used as a vegetable (peeled)

CANDIED PURPLE STEM ANGELICA: Ingredients: 1 cup each of angelica stems and raw sugar, 4 cups water. Boil stems for 30-35 min. Remove from water and drain, reserving 1 cup of water. Add sugar in reserved water, stir until dissolved, then add cooked stems in and cook until almost all water evaporates. Place candied angelica to a cooling rack. You can keep it in the fridge for up to 2 weeks. Serve with ice cream, pastries, or as a cake decoration.

POISONOUS LOOK-ALIKES: Poison Hemlock, *Conium maculatum*

Arrowhead/Wapato, *Sagittaria* spp. (POLYGONACEAE)







ARROWHEAD/WAPATO is an aquatic, herbaceous perennial, which grows in calm waters in plains and foothills in Western North America, from British Columbia and Alberta southwards to New Mexico. They also grow in many parts of the world. The prized variety in North America is *Sagittaria latifolia*.

FLOWER: Flowers appear on erect stalks rising to 4 ft. (1.2 m) tall. Two to three whorls of small, white, three-petaled flowers bloom at the end of stalks in whorls of three from July to September. Male flowers have bushy yellow centers while female flowers have mounded green centers.

LEAF: Shiny deep green leaves are shaped like arrowheads, arise from a basal rosette, and vary in size. Underwater leaves are narrower, while above-water leaves can be 4 to 14 inches (10-35 cm) long and 3 to 10 inches (8-25 cm) wide. They have smooth margins and visible veins.

EDIBLE PARTS: rootstock, tubers

KEY MEDICINAL USES: A root tea may aid indigestion. Mashed root poultice may aid wound healing.

HOW TO HARVEST AND EAT: Unpleasant raw, the tubers can be roasted fresh, or dried and stored for later use. Washed raw tubers may store up to a few months in the fridge or root cellar. Dried tubers can be boiled and used like potatoes. They taste like potatoes with a bit of chestnut and sweet corn. Once harvested and peeled, and you can treat them the same way you would treat potatoes. They can be mashed, roasted, baked, or fried.

ARROWHEAD ROASTIES: Ingredients: 1 lb. (500g) clean, peeled, and cubed arrowhead tubers, ½ lb. (500g) clean, peeled, and sliced carrots, 1 onion, chopped into chunks, 2 cloves garlic, peeled and sliced, sunflower oil or butter, salt and pepper. Toss vegetables in a roasting pan with melted butter and seasoning until coated. Bake in a preheated oven at 350°F (176°C) for 20 min. Remove from oven and toss vegetables again to recoat them. Add more oil or seasoning as needed. Cook for an additional 20 min. Serve hot as a side dish to roast poultry or baked egg dishes.

Arrow-Leaved Balsamroot, *Balsamorhiza sagittata* (ASTERACEAE)







ARROW-LEAVED BALSAMROOT is a lovely long-lived herbaceous perennial found in Western North America. Clumping in form, it can be found on drier hillsides and prairies often with sagebrush or in ponderosa pine forests. It is drought tolerant, having both a large tap root that can grow up to 4 inches (10 cm) wide and 8 ft. (2 m) deep, and lateral roots growing up to 3 ft. (1 m).

FLOWER: Its sunflower-like, 4-inch (10 cm), bright yellow blooms rise above the plant in April to July.

LEAF: The large arrow-shaped leaves range between 2-20 inches (5-50 cm) long, ½ to 6 inches (1.5-15 cm) wide, are narrower in shape farther up the stem, and grey-green in color. Leaves grow from a basal cluster with smooth edges and are coated with felt-like hairs, mostly on the undersides of the leaves.

EDIBLE PARTS: roots, stems, leaves, flowers, and seeds (all parts are edible)

KEY MEDICINAL USES: Traditionally used in wound healing, as an analgesic and as an expectorant, it has antifungal, and antibacterial properties.

HOW TO HARVEST AND EAT: Young shoots and leaves can be eaten raw, but most of the plant is better cooked. Shoots and leaves are best harvested early in the spring before the plant begins to flower. The flavor of the roots is bitter and strongly pine-scented, and is best slow cooked for hours or days to bring out the sweet-tasting sugars. Leaf stems, gathered early in the morning, can be peeled and eaten like celery.

SLOW COOKED VEGETABLE STEW WITH BALSAMROOT LEAF STEMS: Ingredients: 1-quart vegetable stock, 2 cups each of balsamroot leaf stems, carrots (cleaned, peeled, and trimmed), and crushed tomatoes, 1 can chickpeas, 1 cup young balsamroot leaves (washed and chopped), 2 onions (peeled and rough chopped), 2 cloves garlic, cooking oil, salt and pepper. Preheat slow cooker on high, adding some cooking oil. Add onion and garlic. Stir and let cook until translucent. Add balsamroot leaf stems and carrots, stir, and let cook until soft, about 25 min. Add chickpeas. Add vegetable stock, tomatoes, salt, pepper. Put on lid and turn slow cooker down to low-medium. Cook for 3 to 4 hrs. or until desired doneness. Enjoy warm with nice hearty bread.

Asian Mustard, *Brassica tournefortii* (BRASSICACEAE)









ASIAN MUSTARD or Sahara Mustard is similar to other mustards but with paler flowers. An invasive species, it adapts easily to desert conditions and grows up to 40 inches (100cm) tall. It is found in California, Nevada, Arizona, New Mexico, and Texas.

FLOWER: Flowering from January to June, the flower spike typically has 6-20 flowers. Flowers are dull yellow and about ½ an inch (1.3 cm) across. These elongate to make seed pods 1 ½ inch (3.5 cm) to 2 ½ inch (6.5 cm) long, containing a single row of 7 to 15 seeds.

LEAF: Basal leaves are dramatically lush and green. They are deeply lobed with 8-14 lobes per leaf. Leaves are also toothed and vary in length from 3 to 12 inches (7-30 cm).

EDIBLE PARTS: seeds, leaves, shoots

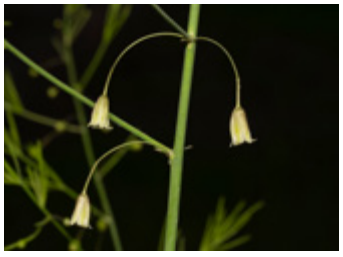
HOW TO HARVEST AND EAT: Harvest by digging up the entire plant when young. Young leaves and shoots can be trimmed and cooked to make a nice spicy green dish. Soak in a change of cold water to improve flavor. Collect seeds by trimming or pinching seed pods off the plants. Place in a paper sack or pillowcase. Let dry 2 to 3 weeks. Roll with a rolling pin or winnow by hand to remove seed pods. Place cleaned seed in an airtight container. Seeds also produce an edible oil.

ASIAN MUSTARD CONDIMENT: Gather 2 cups of seeds. Mix with yellow or brown mustard seed if you like. Place in a glass container and cover with vinegar, red wine, or beer. Let soak for 48 hrs. Place in a blender with 2 tbsp. sugar, 1 tsp. salt, ½ tsp. pepper. Add vinegar, wine, or beer for desired consistency. Blend on high until desired smoothness.

Asparagus, *Asparagus officinalis* (ASPARAGACEAE)









ASPARAGUS, grows throughout the US and Canada. It is an extremely deep-rooted herbaceous perennial, with roots up to 18 ft. (5 m) deep. Unharvested spears continue to grow into tall fern-like small "trees", up to 6 ft. (2 m) tall, which die back to the ground each winter.

FLOWER: Flowers are unnoticeable, but there are both male and female plants. Females form small bright red (toxic) berries along its ferny branches, like little Christmas ornaments.

LEAF: Fern-like leaves and branches.

EDIBLE PARTS: young spears of ½ inch (1 cm) diameter or more, cut right at ground level

KEY MEDICINAL USES: Tea made from leaves may help digestive issues, cold and flu symptoms.

HOW TO HARVEST AND EAT: Asparagus is delicious either raw, or cooked (can be steamed, sauteed, fried, or roasted). A plot of precious wild asparagus can be harvested for decades. In early spring, choose spears that are at least ½ inch (12 mm) in diameter and under 14 inches (35 cm) tall. Leave thinner spears, or spears that have begun to leaf out, to feed the root.

SAUTÉED ASPARAGUS SPEARS: Collect young spears. If the tips have started to unfurl or open up, the asparagus will be tough and less tasty. It may be better to leave these to grow into their fern-like stage. Rinse spears and remove the tough bottom end. In a large sauté pan, melt butter on medium-high heat, and toss the spears in. Move the spears around until coated in butter. They will turn deep dark green, usually in less than 7 min. Serve on their own or as a side dish.

WARNING: After the spear stage, asparagus is not edible and the red berries on the female plant are toxic to humans.

Bamboo, Subfamily *Bambusoideae* (POACEAE)







BAMBOO grows in two forms: running and clumping. There are 1500+ known bamboo species worldwide; about 110 are edible. Identifying the species you have will determine its edibility. Identifying features are branching type and spacing, nodes, hairs, and rings. The most common edible species in North America are in these genera: *Phyllostachys* spp. and *Bambusa* spp.

FLOWER: A member of the grass family, bamboo has a similar flower to grasses with many variations depending on the species.

LEAF: Each leaf is long, large, and tapers to a sharp point.

EDIBLE PARTS: young shoots first emerging from the ground (edible in many species, if boiled)

KEY MEDICINAL USES: A poultice made from the shoots may help to clean and heal wounds.

HOW TO HARVEST AND EAT: Even bamboos that have bamboo shoots classed as delicious require special attention when cooking, as they contain toxins that require at least 20 min. of boiling at high temperatures to reduce the toxin risk, and up to 2 hrs. of boiling to alleviate all potential risk of toxicity. Harvest early in the spring, remove the hard, outer green sheath and trim. In a large pot, cover bamboo shoots with water and boil for 2 hrs., adding water as needed. Remove from cooking water and soak in fresh water overnight.

MARINATED BAMBOO SHOOTS: Ingredients: ½ cup soy sauce, ¼ cup seasoned rice vinegar, 1 tbsp. toasted sesame oil, 2 tbsp. each of honey and minced ginger, 5 drops Tabasco, 2 cloves crushed garlic. Mix all ingredients together and toss in bamboo shoots. Store in the fridge overnight. Add steamed vegetable and serve over rice.

WARNING: Uncooked and under-processed bamboo can be toxic.

Barrel Cactus, *Ferocactus wislizeni* (CACTACEAE)






BARREL CACTUS, also known as Fishhook Barrel Cactus, Candy Barrel Cactus, and Arizona Barrel Cactus, is native to the Sonoran Desert in Arizona and Mexico, and is occasionally found in West Texas and Southern New Mexico. It has a round, almost spherical shape and long, sharp fishhook-shaped spines. It can grow over 2 ft. (0.7 m) in diameter and 2-10 ft. (0.7-3 m) tall and can live over 50 years. It is covered with spines that arise on symmetrical, vertical ridges. Saguaro Cactus and Cholla Cactus fruits are also edible. Cactus = edible fruits.

FLOWER: It has yellow, orange and/or red blooms in mid-summer that yield edible yellow fruits in late November to March. The flowers and fruit always grow at the top of the cactus.

EDIBLE PARTS: fruit, seeds, flower buds, inner pulp/flesh

HOW TO HARVEST AND EAT: Seeds and fruit can be eaten raw or cooked. Harvest the very ripe fruit, slice in half, and let dry out for a day or two to extract the sticky edible seeds. The fruit then needs to be sliced small and cooked for quite a while to become soft and enjoyable to eat (they are very tart). The seeds can be toasted and eaten like sesame seeds, or ground into flour and used in baking. Flowers and flower buds are best cooked. The inner pulp or flesh can be cooked, but most are protected so best to only eat the buds, fruits and seeds.

TOASTED BARREL CACTUS SEED: Open fruit, scoop the seeds out and add to a dry toasting pan, such as a cast iron fry pan. On low heat, toast as you would sesame seeds, for 10-20 min. Cool and store in a cool, dry, dark place or in the fridge.

Bear Grass, *Xerophyllum tenax* (MELANTHIACEAE)






BEAR GRASS or Basket Grass is one of the first plants to sprout after an area has been burned. It only blooms once every 3-10 years and a colony of plants will tend to all bloom at the same time. This evergreen perennial is traditionally used for basketry and weaving. It grows in subalpine meadows in western North America, from British Columbia to California, east to Wyoming.

FLOWER: The bloom is fairly fantastic as a grand club-like structure 5 ft. tall (1.5 m), above the 1-ft. (0.3 m) tall grassy plant, with tightly packed, fragrant, white blooms.

LEAF: The tough, wiry, curved, grass-looking leaves grow in a clumping, arching form to 3 ft. (1 m) tall.

EDIBLE PARTS: roots, seed pods

KEY MEDICINAL USES: A poultice from the roots may aid wound healing and stop bleeding.

HOW TO HARVEST AND EAT: Roasted roots and cooked seedpods are edible. As this can be a rare plant, reserve this for emergency survival use. Roots tend to be strong and stringy, so are best sliced thinly. Seedpods can be gathered once they are dry in the fall. Roots are best dug after the plant has finished making seeds. It is best to always leave at least twice as much as you take.

ROASTED BEAR GRASS ROOT: Ingredients: ½ lb. (250g) each of sliced grass roots, sliced carrots, potatoes cut into chunks, and turnips cut into chunks; 1 onion (chopped into chunks), 2 cloves sliced garlic, sunflower oil or butter, salt and pepper, ground thyme and rosemary. Toss vegetables in a roasting pan with oil, salt and pepper. Bake at 350°F (176°F) for 30 min. Remove from oven and toss vegetables again to recoat them with oil and salt and pepper. Cook for an additional 30 min. Serve hot.

Bedstraw, *Galium* spp. (RUBIACEAE)







BEDSTRAW, Cleavers or Goosegrass is an herbaceous perennial that grows along the ground with leaves protruding from the angular squarish stem, entirely covered in sticky barbed hairs. The stickiness gives its name of "Velcro plant". They have a nice odor when dried and were often mixed with straw in bedding, hence the name, bedstraw.

FLOWER: Tiny four-petaled, star-shaped flowers are found at the end of stems, born on 2 to 5 stalks arising from the leaf axil. They are white with a greenish center less than 1/16 of an inch (1.5 mm) in size. Seeds are tiny two-lobed capsules also covered in barbed hairs, about ¼ of an inch (6 mm) in size.

LEAF: Hairy sticky leaves are narrow, ¾ to 3 inches (2-8 cm) long, broadest towards the tips, and usually grow in whorls of 6 to 8 around the stem

EDIBLE PARTS: leaves, shoots, seed

KEY MEDICINAL USES: Can be used as a spring tonic, cleaning the lymphatic system.

HOW TO HARVEST AND EAT: Young leaves and shoots, picked in early spring, can be used as a leafy green vegetable, raw or cooked (preferably). Some say you can dry and ground the seed for a caffeine-free coffee substitute. I like to juice cleavers or add to smoothies as a lymph cleanse.

GREEN RICE: You'll need: 2 cups rice or another grain and 1 cup clean, trimmed, and chopped young gallium leaves and stems. Cook the rice. At the last stages of cooking, once the rice is fully cooked but still steaming, throw the cup of gallium leaves on top and replace lid. Let it steam for an extra 10 min. Fold steamed leaves into rice or grain. Serve warm.

WARNING: Some people have reactions to this herb, so start with small amounts and do a skin test prior to serving it.

Bee Balm, *Monarda fistulosa* (LAMIACEAE)







BEE BALM, Horsemint or Wild Bergamot, is a member of the mint family, and has the typical square, often hairy stem and a soft mint scent. It grows in a variety of conditions and thrives in open grasslands and woodlands across North America. It can grow anywhere from 2-5 ft. (0.5-1.5m) tall and is often identified by its showy, pompom-like purple flowers. Many *Monarda* have other flower colors, including the bright red of *M. didyma*, and can be used the same way.

FLOWER: It is quite different to other mints. Large flower heads only grow at the end of the stems and are made up of numerous, small flowers. Multiple flowers are held within 5 sepals that are fused into a cup almost 2 inches (5 cm) in diameter. The unsymmetrical, fluffy or feathery petals range from pink to purple and the 2 stamens are almost twice as long.

LEAF: Pairs of opposite leaves are arranged along a thick stem. Mature plants may have slightly reddish stems. Leaves are usually hairy underneath, and may be hairy on the surface as well. The leaves grow up to 3 inches (8 cm) long and the margins are coarsely toothed.

EDIBLE PARTS: leaves, stems and flowers

KEY MEDICINAL USES: Antiseptic properties make leaves ideal for coughs and throat infections.

HOW TO HARVEST AND EAT: Leaves can be harvested any time of the. Flowers can be added as a garnish, so should be picked while in full bloom from May to September.

BEE BALM CAKE ICING RECIPE: Ingredients: ¼ cup of fresh Bee Balm leaves, 5 tsp. butter, ½ cup of icing sugar. Blend the leaves until a paste has formed. Melt the butter, add the icing sugar and Bee Balm paste and then it's ready to go on cakes or muffins.

Biscuitroot, *Lomatium triternatum* (APIACEAE)




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Walter Siegmund, CC-BY-SA-3.0

BISCUITROOT is native to western North America and can be found from British Columbia, south to California and East to Colorado. It is a hardy herbaceous perennial about 3 ft. (1 m) tall and has a long taproot.

FLOWER: Flowers are large yellow umbels varying in size from 2 to 8 inches (50-20 cm) across with 4 to 20 rays of small, bright yellow flowers that arise from leafless stalks. They bloom from April to July. The seeds are small and plentiful.

LEAF: Leaves are trifoliate, parsley scented, with 9-21 leaflets, 8 inches (20 cm) long

EDIBLE PARTS: young leaves and shoots, roots, seeds

KEY MEDICINAL USES: Used for skin issues, arthritis, digestive issues and respiratory problems.

HOW TO HARVEST AND EAT: Young shoots and leaves can be eaten raw or cooked. The taproot can be dug in the spring, before the plant flowers, and cooked and used as a root vegetable, or ground into flower. Seeds can be harvested in late summer and fall and used as a spice.

SAVING THE AROMATIC SEEDS FOR CULINARY USE: As the umbels finish blooming, they go to seed, turning from green to brown as they dry. Gently trim umbels with scissors and collect in a bowl or paper bag. Let cure for several weeks in a cool, dry place. Shake the dried seeds off the umbel stems and roll with a rolling pin to relieve the seed from its hard outer shell. Sift or blow away the excess debris. Once seeds are cleaned, place in a jar and store in a cool, dark place. Use to add flavor to meat, poultry, soup, and stews.

POISONOUS LOOK-ALIKES: Poison Hemlock, *Conium maculatum* - Unlike Biscuitroot, Poison hemlock has tiny white flowers arranged in small umbrella-shaped clusters.

Bittercress, *Cardamine* spp. (BRASSICACEAE)







BITTERCRESS can be found in moist montane and subalpine meadows. A prolific seed producer, it generally germinates in the fall, and grows up to 2 ½ ft. (0.7 m) tall. *C. pensylvanica* is an annual or perennial species found from the Yukon Territory to Colorado.

FLOWER: Small, less than ¼ inch (0.5 cm), cross-shaped white flowers with 4 petals grow in clusters at the end of stems, blooming in April to July, becoming slender, cigar-shaped seedpods that can be up to 1 inch (2.5 cm) in size.

LEAF: Bright green, 4 inch (10 cm) long, oval leaves consisting of 5 to 9 leaflets along each leaf stem form a basal rosette and proceed to grow in opposite pairs on branching stems, with the terminal leaflet being larger and wider than the leaflet pairs. Leaf margins may be dull purple and leaf stems may have sparse long hairs.

EDIBLE PARTS: Leaves of all species of this plant are edible.

KEY MEDICINAL USES: May aid stomach and heart

HOW TO HARVEST AND EAT: Spicy, peppery leaves can be eaten raw in salads, cooked as a green, creamed like spinach, or added to soup, stew, or casseroles. Harvest early in spring before the tough flower stalk appears by gently trimming leaves from the basal rosette.

CREAMED BITTERCRESS: Gather 2 cups washed bittercress leaves, 1 cup yogurt, mince 1 onion and 1 clove garlic, and seasonings. Sauté onion and garlic and add seasonings. Sear bittercress leaves in mixture until wilted. Let cool. Add to 1 cup of yogurt. Mix well. Keep cool. Will last a couple of days. Serve as a dip with vegetables, bread, or crackers.

Bitterroot, *Lewisia rediviva* (MONTIACEAE)








BITTERROOT grows from British Columbia and Montana to New Mexico in dry, open foothills. It is low growing, widespread, and can be found in well-drained sagebrush habitat as well as with juniper, ponderosa pine and Douglas fir. The plant goes dormant in summer with the leaves withering, followed by the bloom.

FLOWER: Light to dark pink with yellowish/orange centers up to 2 ½ inches (6 cm) across with 12–18 lance-shaped petals bloom singly on short 1 ½ inch (3 cm) stems in April to July creating oval capsules containing dark shiny seeds.

LEAF: Fleshy, club-shaped basal leaves are ¼ inch (0.6 cm) wide and up to 2 inches (5 cm) long. They grow close to the ground in a rosette.

EDIBLE PARTS: deep fleshy taproots

KEY MEDICINAL USES: Bitterroot tea may help heart and lung problems.

HOW TO HARVEST AND EAT: Roots have always been an important food but can be bitter. Harvest right before flowering, peel the roots, then core, wash, and store for up to 2 years. They can be baked, steamed, or boiled until soft, eaten plain or mixed with other ingredients (berries, meat).

PREPARING BITTERROOT TO REMOVE BITTERNESS: Harvest right before flowering. Remove as much of the dark outer layer as possible. Remove the orange-red heart as it is extremely bitter. Soak in a couple of changes of salted water. Cut into manageable pieces. Dry over a couple of days until white and brittle. To use, reconstitute dried roots by soaking overnight in salted water and boiling. The roots will expand 4 to 5 times their size and have a gelatinous consistency. Traditionally treated as a delicacy, it is an important survival food.

Black Medick, *Medicago lupulina* (FABACEAE)







BLACK MEDICK, Hop Clover or Yellow Trefoil, grows along the ground to 2 ½ ft. (0.7 m) in size. Often found in disturbed areas, it is a nitrogen fixing plant.

FLOWER: Tight ½ inch (1.2 cm) bunches of 10-50 small pea-like yellow flowers arise from leaf axils and become clusters of single-seeded pods that turn hard and black when ripe, encasing one amber-colored seed.

LEAF: Three compound leaflets form 1¼ inch (3 cm) leaves. Teardrop-shaped, leaflets are toothed and often hairy. Each leaflet has a small point or spur at the tip.

EDIBLE PARTS: leaves, seeds, sprouts

KEY MEDICINAL USES: Black Medick is an antibacterial and a gentle laxative.

HOW TO HARVEST AND EAT: Leaves can be harvested year-round and are best cooked, as bitter when raw. Seeds are best harvested when black and dry by winnowing them off the plant into a bag or bowl; best eaten toasted or ground into flour. Sprouts can be made like alfalfa sprouts.

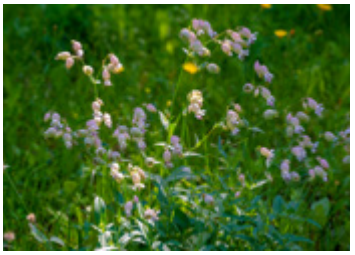
LENTIL, QUINOA, AND GREENS: Gather 1 can lentils, 1 cup each of quinoa and young black medick leaves, mince 1 onion and 1 clove garlic, and seasoning. Sauté onion and garlic. Lightly toast quinoa for 5-10 min. Add 2 cups of water, bring to a boil, reduce heat, simmer covered for 25 min. At the last cooking stage, when quinoa is still steaming, add the lentils and the black medick leaves. Replace lid and let it steam for 10 min. more. Fold steamed lentils and leaves into quinoa. Season to taste. Serve warm.

WARNING: Plants can absorb nutrients and toxins from the soil and can accumulate heavy metals. Harvest from uncontaminated sites only.

Bladder Campion, *Silene vulgaris* (CARYOPHYLLACEAE)









BLADDER CAMPION is a common wildflower across North America found in meadows, fields, and open woods. This herbaceous perennial grows up to 2 ft. (0.6 m) tall. Its swollen calyx is its most recognizable feature, hence the name "bladder" campion.

FLOWER: Upper stems terminate in large panicles of numerous, 1 inch (2.5 cm) white flowers with five, deeply clefted petals, ¾ inch (1.5 cm) across. These emerge from a swollen, oval bladder-like calyx, green to dull pink in color, that enclose the seedpod of grey, kidney-shaped seeds, 0.06 inch (1.5 mm) in size.

LEAF: Leaves are 2½ inches (6 cm) long, lanceolate, pale green to grey, and often clasp the stem.

EDIBLE PARTS: young shoots, leaves, mature leaves

KEY MEDICINAL USES: A root decoction may help in case of poisoning and against constipation.

HOW TO HARVEST AND EAT: Young shoots and leaves can be eaten raw or cooked. Mature leaves should be harvested before the plant is in flower and cooked like spinach; are a great addition to rice or pasta dishes.

BLADDER CAMPION SPRING SALAD: Clean and rinse 2 cups each of young shoots and leaves of bladder campion and young raw spring vegetables (baby carrots, radishes, sprouts), ½ cup seeds (sunflower or pumpkin seeds). For the dressing combine ¼ cup apple cider vinegar, 1 tbsp. honey, ¼ tsp. powdered mustard, ½ cup olive oil, salt and pepper. Mix dressing ingredients. Mix salad vegetables together and toss in the dressing. You can add some dried fruit, or cubed cheese.

WARNING: It contains saponins (some people are sensitive to it) but cooking breaks these down.

Bracken Fern, *Pteridium aquilinum* (DENNSTAEDTIACEAE)







BRACKEN FERN is a tall fern that grows up to 80 inches (2 m) on spreading horizontal stalks from deep spreading roots. Found often on disturbed ground and in moist montane foothills from southern Alaska to parts of northern Mexico - they can be found throughout the world.

LEAF: Large fern leaves form a triangular outline and can be 1 to 3 ft. (0.3-1 m) long, 2 to 3 times divided into firm, round toothed leaflets which turn rusty red in autumn after freezing temperatures.

EDIBLE PARTS: fiddleheads (young, unfurled leaves), starch extracted from the fibrous roots

KEY MEDICINAL USES: Roots can be made into teas or salves for digestive or skin issues.

HOW TO HARVEST AND EAT: Collect fiddleheads in spring and rub free of hairs. Soak overnight. Boil twice, in two changes of salted water and use as a hot vegetable.

FIDDLEHEAD FERN STIR FRY: Gather ½ lb. (250g) bracken fiddleheads prepared as above, ½ lb. (250g) other vegetables (cabbage, carrots). For the sauce, mince, and sauté 1 clove garlic, 1 tbsp. ginger, and 1 onion, add ½ cup soy sauce, ¼ cup honey, ¼ cup oil. Prepare all the vegetables and mix in a large bowl. Turn up the heat and add mixed vegetables, stir frying continuously until desired doneness. Serve over rice or grain of your choice.

WARNING: There are known carcinogens in bracken that are broken down by soaking in salted water and cooking. Raw opened fiddleheads may have higher quantities. Eating bracken fiddleheads, presoaked, well cooked, and in moderation, may be the safest way to enjoy.

Bugleweed, *Lycopus* spp. (LAMIACEAE)






BUGLEWEED is a medium sized perennial, with a faint minty smell, that grows 2 to 3 ft. (0.6-1 m) tall in moist places. *L. asper*, *L. uniflorus*, *L. virginicus*, and *L. americanus* are notable edible species. *L. amplectens* should be avoided (or propagated), as it is endangered in parts of the US.

FLOWER: Small, 1/8 inch (2-3 mm) long, white, tubular flowers bloom mid-summer to fall in whorls around the stem where the leaves join.

LEAF: Leaves are oval, sharply toothed, and pointed; grow in opposite, well-spaced pairs up the main stem. They are about 3 inches (7.5 cm) long, ¾ inches (2 cm) wide. Are mostly hairless, except for sparse hairs on the underside of the central vein.

EDIBLE PARTS: roots, shoots, young leaves

KEY MEDICINAL USES: May help stress and anxiety issues, and help with hyperthyroidism.

HOW TO HARVEST AND EAT: Roots and tubers are best harvested in spring and can be roasted, baked, or boiled; some say that they taste like artichoke. Leaves are bitter but may be cooked into a dish. Shoots and young leaves can be steamed, stir fried, and used as a green vegetable. Some species are endangered, so may be best reserved as survival food.

BUGLEWEED EGG BAKE: Sauté 1 cup each of young bugleweed leaves, kale, and mushrooms with 1 onion, 1 clove garlic, until soft. Beat 6 eggs, ½ cup milk, ½ cup flour, seasonings (salt, pepper, paprika, Worcestershire sauce), and grated cheddar cheese. In a baking dish, place sautéed vegetables and cover with egg mixture. Bake in a Dutch oven at 350°F (176°C) for 50 min., until egg bake is firm and does not jiggle. Serve hot with a salad or potato dish.

WARNING: May disrupt hormone levels, so caution should be taken by pregnant women and people with thyroid issues.

Bulrush, *Schoenoplectus* spp. (CYPERACEAE)




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BULRUSH grows up to 8 ft. (2.5 m) tall with slender, spongy, pale green, aquatic stalks that often lean to one side. They are native to freshwater marches.

FLOWER: Plant stalks terminate in a dense 6 by 6-inch (15 cm) cluster of brown spikelets. Each spikelet is 0.25-0.35-inch (6-8 mm) long and oval; consisting of florets of brown 0.13-inch (3 mm) scales.

LEAF: At the base, leaf sheaths are 0.35 inch (8 mm) across and wrap around the stalk.

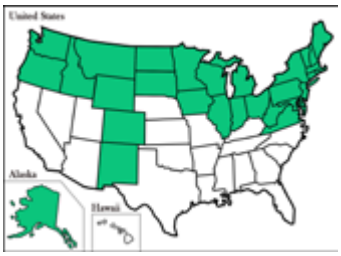
EDIBLE PARTS: shoots, lower stalks, rhizomes, pollen, seeds

KEY MEDICINAL USES: May help stop bleeding from wounds.

HOW TO HARVEST AND EAT: Young stems and shoots, harvested in early spring, can be eaten raw or cooked. Rhizomes, dug in the fall, can be eaten raw or boiled, and used as flour. A sweet syrup can be made from boiling the rhizome. Pollen, shaken from the flower-heads in spring, can be mixed with flour for baked goods. Seeds, shaken from the seed heads in fall, are edible raw or cooked. Sap can be used as a sweetener.

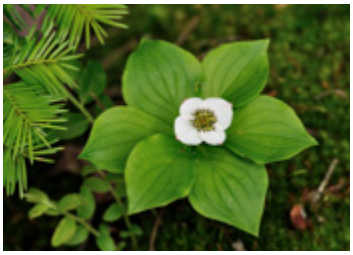
WILD GREENS SAUTÉ WITH BABY BULRUSH SHOOTS AND ASPARAGUS: Gather 2 cups each of baby bulrush shoots, young asparagus, and wild greens. Finely dice and sauté 1 small onion, 1 clove garlic, and 1 tbsp. ginger in butter or oil. If desired, toss in a mixture of 2 tbsp. apple cider vinegar, 1 tsp. honey, 1 tsp. lemon juice, and Tabasco sauce. Toss in bulrush, asparagus, and greens. Stir with onion and garlic. Put a lid on the pan and remove from heat.

Bunchberry, *Cornus canadensis* (CORNACEAE, DOGWOOD FAMILY)









BUNCHBERRY or Bunchberry Dogwood, is a small rhizomatous, herbaceous perennial forming colonies or mats on moist, cool, coniferous forest floors. It is bright green and grows only 2 to 8 inches (5-20 cm) in height.

FLOWER: The 4 white, pointed, oval, 1 inch (2.5 cm) petal-like bracts surround the tiny flowers. Bunchberry flowers have one of the fastest "plant actions", using a sling-shot mechanism to release their pollen; they become ¼ inch (0.6 cm) dark red drupes in late summer to autumn.

LEAF: The evergreen oval, pointed leaves grow 1-2 inches (2.5-5 cm) in size, in whorls of 4-6, 2 large underneath and 4 smaller above, creating the perfect frame for the bracts, flowers, and fruit. Leaves are opposite with parallel leaf veins.

EDIBLE PARTS: berries and their central seed

KEY MEDICINAL USES: Bunchberry potentially has anticancer agents and anti-inflammatory, fever-reducing, and painkilling properties.

HOW TO HARVEST AND EAT: Berries can be harvested in late summer and eaten raw as a snack, or made into jelly, syrup, or jam. Seeds are tiny and delicate, and difficult to collect in large quantity.

WILD BERRY JELLY: Sauté 1 cup each of young bugleweed leaves, kale, and mushrooms with 1 onion, 1 clove garlic, until soft. Beat 6 eggs, ½ cup milk, ½ cup flour, seasonings (salt, pepper, paprika, Worcestershire sauce), and grated cheddar cheese. In a baking dish, place sautéed vegetables and cover with egg mixture. Bake in a Dutch oven at 350°F (176°C) for 50 min., until egg bake is firm and does not jiggle. Serve hot with a salad or potato dish.

WARNING: In large quantities, raw bunchberry can cause stomach ache and has a laxative effect.

Burdock, *Arctium* spp. (ASTERACEAE)



Heather Barnes







BURDOCK is a common weed with sticky burrs. It grows up to 3-6 ft. (1-2 m) tall and thrives along riverbanks, roadsides, and fields. There are about 15 species in the *Arctium* genus. The most edible is *Arctium lappa*.

FLOWER: Purple flowers, found on tips of prickly balls of bracts, bloom between June and October. Flower heads are 0.4-1 inch (1-2 cm) across, composed of purple disc florets.

LEAF: Leaves are green on the top and whitish on the bottom, heart shaped, large, and wavy; can grow up to 19 inches (48 cm).

EDIBLE PARTS: roots, stems, immature flower stalks, petioles, leaves

KEY MEDICINAL USES: Burdock is known as a detoxifier, diuretic, antibacterial, and antifungal.

HOW TO HARVEST AND EAT: First-year roots, dug in the fall, and second-year stems, cut in summer, can be boiled for about 20 min., then season to taste. Before cooking, the stems should be peeled, and roots scrubbed, to remove the bitter rind. Leaves should be picked in the spring and eaten when young. Young first-year roots and leaves are good raw in salads.

PICKLED BURDOCK ROOTS (makes 4 pints): *(recipe credit: Mark "Merriwether" Vorderbruggen, Ph.D.)*: Ingredients: 3.5 lb. (1.6 kg) burdock root, 3 cups each of water and vinegar, ⅓ cup canning salt, 2 tsp. dill seed, 4-8 wild onion bulbs, 4-8 chili pequins. Peel roots and cut into 4.5 inches (11.5 cm) sections, slicing each section into quarters. Into 4 hot, sterilized pint jars place 1-2 wild onion bulbs, 1-2 crushed chili pequins, and the burdock root. Bring to a boil the mixture of water, salt, dill seed, and vinegar. Carefully pour it into jars, up to ¼ inch (0.6 cm) from the top. Poke the jars contents to release any air bubbles. Wipe threads dry and seal with sterilized lids. Boil bottles in water for 15 min. Let bottles sit 6-8 weeks before opening.

CRUNCHY BURDOCK WITH TOASTED SESAME DRESSING: *(recipe credit: River Corcoran)*: Ingredients: 5 burdock roots (peeled and cut into 1-inch sticks), 2 ribs celery, sliced, 2 tbsp. toasted sesame seeds, 1 tbsp. sugar or honey, 1 tbsp. Braggs aminos, ½ tbsp. rice vinegar, ½ tbsp. toasted sesame oil. Bring a pan of water to a boil over medium-high heat. Add burdock and cook 6–8 min. until crisp tender. Drain and cool. Transfer to a bowl and add celery. Grind sesame seeds and sugar until fine. Sit in Bragg's aminos, vinegar and sesame oil. Add to burdock and toss to coat.

POISONOUS LOOK-ALIKES: Rhubarb, *Rheum rhabarbarum* - Both plants have large, triangular leaves, but Rhubarb's leaves are curlier. Burdock leaf stems are grooved, while those of rhubarb are glossy, completely hairless, and smooth.

Butterbur, *Petasites* spp. (ASTERACEAE)

BUTTERBUR, sometimes also called Sweet Coltsfoot (note that *Tussilago farfara* is also called Coltsfoot), Bog Rhubarb, or Fuki, is the common name given to these *Petasites* species. It is a perennial that re-shoots every year from shallow rhizomes and it flowers before its leaves emerge. Male and female flowers are found on separate plants. Leaves found along the flower stalk are very different to leaves that develop from the rhizome after flowering. Flowers smell like vanilla and seeds produce fluffy daisy or thistle heads. It is found along watercourses, bogs, and other wet areas.

EDIBLE PARTS: cooked stems, flower buds, and flower stems

KEY MEDICINAL USES: Butterbur is primarily used for allergy and migraine relief.

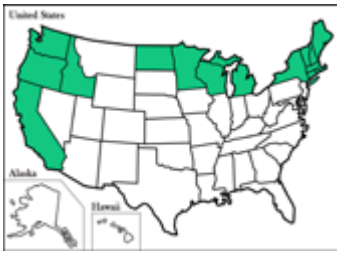


HOW TO HARVEST AND EAT: Flowers and stems are harvested from the base and can be cooked like any leafy green. Rolling them in salt prior to cooking or boiling the stalks helps remove any bitterness, as does boiling them in one change of water. I like them stir-fried, steamed, or as a tempura. Leaves are mostly used to wrap food for cooking. I use leaves for pit roasts and to wrap fish. Note that burnt butterbur ash is a good salt substitute.

ARCTIC BUTTERBUR, *P. frigidus*, prefers temperate climates.

FLOWER: Flowers are loosely clustered together in an umbrella-like inflorescence and held on a tall, erect flower stalk, about 4–8 inches (10–20cm) high. Each flower stalk contains 10-20 clusters of flowers, made up of numerous tiny florets. Florets tend to be light pink and white when developing and turn pale yellow or white as seeds develop short bristles.

LEAF: Large leaves grow in summer after flowers have opened. Each leaf grows directly from the rhizome on a thick stalk less than 3 inches (8cm) tall. Leaves can grow up to 15 inches (40cm) wide and long. The upper side of leaves have a fleshy, dark green appearance with obvious central veins, while the underside has a fuzzy, woolly texture that is pale green in color.





JAPANESE SWEET COLTSFOOT, *P. japonicus*, is native to Japan, Korea and China and introduced in Europe and North America. It is also called Fuki.

FLOWER: The flower makes it easy to identify from the other butterburs, being pale yellow to white. Flowers are arranged into an umbrella-like inflorescence at the top of a flower stalk, which holds over 30 flowers.

LEAF: The round leaf can grow larger than 18 inches (45cm) in ideal conditions. Like *P. hybridus*, leaf has a heart-shaped base where it attaches to the stalk, but the teeth along the margins are smaller and rounder. The underside of the leaf is also fuzzy and much lighter in color, but the upper side also has a slightly fuzzy texture as well.









BUTTERBUR AND WARM GREENS: Ingredients: 2 cups butterbur flowers and stalks, 1 bunch asparagus, 1 bunch sliced bok choy, ½ cup diced shallots, 3 cloves sliced garlic, 2 tbsp. soy sauce, ½ a squeezed lemon. Lightly fry asparagus and shallots for 2 min. Add the bok choy and butterbur. Fry for another 3 min. Add the remaining ingredients and fry for another min. Serve with rice.

WARNING: Do not use when pregnant or breastfeeding. Butterbur has a high alkaloid content, so eat in moderation. Do not use if you have liver problems.

POISONOUS LOOK-ALIKES: Indian Rhubarb, *Darmera peltata*

Camas, *Camassia* spp. (ASPARAGACEAE)







Walter Siegmund, CC-BY-SA-3.0

CAMAS, also known as Blue Camas, grows from an edible bulb, 12-28 inches (30-70 cm) tall in a grass-like cluster. A moisture loving plant, it grows in moist meadows, wet prairies, and streamside areas. There are 6 edible species of Camassia, all growing in North America: *C. angusta, C. cusickii, C. howellii, C. leichtinii, C. quamash,* and *C. scilloides*. The tastiest is *C. quamash* (meaning sweet,) and is found from southwestern British Columbia to California.

FLOWER: Multiple spikes of the blue to lilac colored, star-shaped, six-petaled flowers can be up to 4 inches (10 cm) each, and rise above the leaves on a single spike up to 3 ft. (0.9 m) tall in summer. They can color an entire meadow with their unique flowers.

LEAF: Grass-like, 4 to 24 inches (10-60 cm) long, slender, pale grey-green basal leaves.

EDIBLE PARTS: bulb

KEY MEDICINAL USES: It may aid in childbirth or as an ingredient in cough medicine.

HOW TO HARVEST AND EAT: To ensure you have the right plant, harvest while plant is blooming or mark the plant and come back after it has made seeds. Only harvest from large colonies of plants and only take a couple of the biggest plants from a colony. Camas are high in inulin, which can cause gas and stomach upset so cooking camas is necessary. Cooking camas for a long time helps to convert the inulin to fructose which makes them delicious. Personally, I like to pit-roast them.

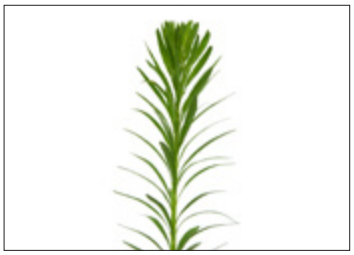
PREPARING CAMAS: In a roasting pan in the oven, or Dutch oven over a fire, place cleaned camas free of their onion-like papery skins, in about 1 inch of water and cook for 24- 48 hrs. at 200°F (93°F), checking about every 12 hrs. At home, a more energy efficient option might be to use a slow cooker or even a pressure cooker, with the main idea being low and slow. Use prepared camas like you might other root vegetables such as parsnips or sweet potatoes.

POISONOUS LOOK-ALIKES: Death Camas, *Toxicoscordion venenosum*, grows in the same areas as blue camas, leaves and bulbs look similar, but flowers are greenish-white or cream and somewhat smaller, and the leaves may have an onion smell (but more than often do not).

Canadian Horseweed, *Conyza canadensis* (ASTERACEAE)







CANADIAN HORSEWEED, also known as *Erigeron canadensis* and Canadian Fleabane, is a 1 to 7-ft. (0.3-2 m) tall annual that grows in most soil. It is an erect, unbranching plant with hairy ridged stems, arising from a small rosette. In the *Conyza* genus, there are 4 known horseweeds in North America.

FLOWER: Blooming for several weeks, the top of the plant forms a pyramid of flower-tipped branches with tiny 0.19 inch (3 mm) wide, bell-shaped, individually stalked flowers. They develop into light grey-brown seeds with 0.19-inch fluffy bristles for wind distribution.

LEAF: Lower leaves are large, 8 times as long as they are wide, toothed and alternate. Upper leaves are smaller, without teeth, but all are dense, narrow, no more than 0.5 inch (12 mm) wide, and have hairs on the margins and sometimes the veins.

EDIBLE PARTS: young leaves and seedlings

KEY MEDICINAL USES: May be valuable for use in digestion and respiratory ailments.

HOW TO HARVEST AND EAT: Young leaves and seedlings are harvested in early spring. They can be used as a flavorful boiled green. Dried leaves can be harvested any time of year. They are best harvested in the heat of the day to use as a spice, like tarragon.

DRYING HORSEWEED FOR THE SPICE CUPBOARD: Before the plant begins to flower, collect leaves, clean thoroughly, and let dry. Chop or break apart (not powdered) and put in a glass spice jar. Keep in a dark, cool, dry place and use within 1 year.

WARNING: Some people may experience dermatitis from exposure to this plant. It can be toxic or poisonous to dogs.

Canyon Grape, *Vitis arizonica* (VITACEAE)









CANYON GRAPE or Arizona Grape is a woody, perennial, deciduous vine growing in southern USA and northern Mexico. They can be found in canyons, on streambanks and often climbing into trees.

FLOWER: Born on strongly branched panicles, loose, open, 1 to 4 (2-10 cm) inches long, tiny flowers have five white petals becoming black, edible, sometimes bitter grapes.

LEAF: Up to 4 (10 cm) inches long and wide, shallowly lobed, and toothed irregularly, grape-like leaves grow opposite tendrils which attach to climbable structures.

EDIBLE PARTS: fruit and leaves

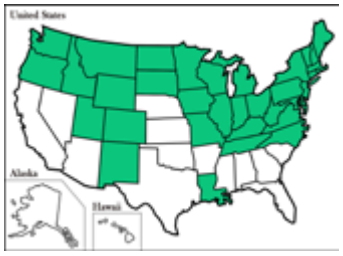
KEY MEDICINAL USES: Leaves may have anti-inflammatory and analgesic use.

HOW TO HARVEST AND EAT: Grapes are edible, but some plants produce nicer fruit than others. Grapes can be made into juice, jams, jellies, or wine. Find healthy plants in full sun with good growing conditions. Pick grapes that have had sun exposure when they are fully ripe and undamaged. During spring young leaves can be used as a nutritious green. Mature leaves can be used as a food wrapper, steamed, pickled, or fermented.

CANYON GRAPE LEAF-WRAPPED STEAMED VEGETABLES: Over the fire, on a grill or other heat source, use chopped vegetables, meat, or fish, and place in layers of mature grape leaves. Season and moisten. Wrap tightly and allow to steam for the duration of cooking.

POISONOUS LOOK-ALIKES: Common Moonseed, *Menispermum canadense*

Caraway, *Carum carvi* (APIACEAE)







CARAWAY is a biennial that grows 2 ft. (0.6 m) tall and can be found in disturbed sites, tolerating both sun and shade. It prefers moist areas.

FLOWER: Flat umbels with 3 to 10 small clusters of up to 20 each of white to pink, five-petaled flowers with white centers that bloom from June to August in the plants' second year. Fruits are slightly flattened, up to 0.25 inch (0.6 cm) long with prominent lengthwise ridges when mature.

LEAF: Where stalk joins the stem leaves are sheath-like. Basal and lower leaves have long stems with alternate, compound leaves on tall parts of the plant that are slender and thread-like, less than ¼ inch (0.6 cm) in size.

EDIBLE PARTS: all parts (seeds and leaves are most commonly used)

KEY MEDICINAL USES: Used for gastrointestinal issues including bloating and diarrhea.

HOW TO HARVEST AND EAT: First-year roots can be used like carrot or parsnip. Young leaves have a parsley-dill flavor; can be used raw in salads or to flavor soups and stews. Older leaves have a stronger, spicier flavor. Seeds can be eaten raw, cooked, or used for tea.

CARAWAY TEA: Slightly crush seeds. Steep 1 tsp. seeds and leaves in 1 cup boiling water for 10 min. Discard seeds and leaves. Sweeten if desired.

WARNING: It is poisonous to dogs, cats, and horses. Leaves are high in volatile oils, which may cause mild vomiting and diarrhea in certain individuals.

POISONOUS LOOK-ALIKES: Poison Hemlock, *Conium maculatum* - Both plants have tiny white flowers arranged in umbrella-shaped clusters. Caraway does not have a musty odor when crushed.

Carrion Flower, *Smilax herbacea* (SMILACACEAE)






CARRION FLOWER is a vining plant native to eastern USA and Canada that gets its name from its unpleasant smelling flowers. It looks like asparagus when first emerging from the ground but will grow up to 8 ft. (2.5 m) tall, with tendrils helping it climb up any neighboring structure. Other edible species of *Smilax* are: *S. ecirrata, S. hispida, S. lasioneura, S. pulverulenta, S. rotundifolia, S. glauca,* and *S. walteri.*

FLOWER: Tight greenish clusters of flowers appear in May and June,resulting in a round cluster of green berries, turning dark blue and containing 3 to 6 ¼ inch (0.6 cm) long brown/red seeds.

LEAF: Simple, heart-shaped leaves with smooth margins and parallel veins grow up to 3.5 inches (8.5 cm) long and 2.5 inches (6 cm) wide alternately along stems. They have light green, hairless stems 1 ¾ inches (4.5 cm) long.

EDIBLE PARTS: young shoots, berries, roots

KEY MEDICINAL USES: Root may be analgesic and plant parts may aid wound healing.

HOW TO HARVEST AND EAT: Young leaves and shoots, picked in early spring, can be cooked like asparagus. Berries are fully ripe in late summer; can-be eaten raw or cooked. Roots are harvested as the plant dies back to the ground in fall; can be cooked, or dried and made into a powder and used as flour.

SPRING STEAMED VEGETABLE: Gather carrion flower shoots by snapping them at their tender, breakable part. Parboil in one change of water, and steam with other spring vegetables and greens. Add salt and pepper. Enjoy as a side with rice or barley.

POISONOUS LOOK-ALIKES: Common Moonseed, *Menispermum canadense*

Cat's Ear, *Hypochaeris radicata* (ASTERACEAE)







CAT'S EAR is an introduced species of perennial, herbaceous plant, also known as False Dandelion and Flatweed. It can be found in western and eastern USA and Canada, in lawns and weedy sites.

FLOWER: Bright yellow dandelion-like flowerheads are born on solid, sometimes forked stems, which have a milky sap. Flowers are 1-1.5 inches (2.5-3.5 cm) in size and become wind-born seed with little parachutes.

LEAF: Like dandelion, its leaves form a basal rosette and a long taproot. Leaves can be up to 8 inches (20 cm) long, hairy, narrower at the base, becoming wider and deeply lobed. They are green when young and turn yellow with age or drought.

EDIBLE PARTS: all plant parts (leaves and roots are used most)

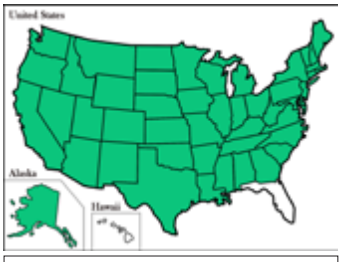
KEY MEDICINAL USES: May help digestion, blood sugar levels, and may be detoxifying.

HOW TO HARVEST AND EAT: A bit bland, leaves make a nice addition to salads and steamed spring greens. Using sharp scissors, harvest undamaged healthy plants that grow in moist condition in full sun. Plunge in cold saltwater bath to improve flavor. Leaves are not as bitter as dandelion leaves. Roots are best harvested after flowering and can be used as a coffee substitute.

CAT'S EAR COFFEE: Gather roots and wash well. Chop into small pieces and let dry in the sun for an afternoon or overnight. Roast in a dry cast iron pan over fire for 1-4 hrs. Pulverize, ground, or finely chop roasted root pieces. Steep 1 tbsp. of roasted roots in 1 to 2 cups of boiling water, sieve into drinking cup, and sweeten as desired. Enjoy as a caffeine-free morning beverage.

WARNING: Cat's ear may be toxic to horses if consumed in large quantities.

Catnip, *Nepeta cataria* (LAMIACEAE)






CATNIP is an introduced herbaceous short-lived perennial, dying back to the ground in winter. It is covered in blooms, bees, and butterflies from late spring through to autumn and grows up to 40 inches (1 m) tall and wide. Naturalized throughout the US, it can be found in forests, meadows, and fields.

FLOWER: Blooms throughout the summer with tiny, ¼ inch (0.5 cm) tubular, white to pale purple, spotted flowers in densely crowded whorls on 2 to 4-inch (5-10 cm) spikes at the branch tips.

LEAF: Leaves are simple, up to 3 inches (7.5 cm) long, opposite, coarse-toothed, triangular to oval, gray green with downy undersides and pointed tips.

EDIBLE PARTS: leaves, flowers

KEY MEDICINAL USES: Catnip helps reduce stress and anxiety.

HOW TO HARVEST AND EAT: Young leaves are harvested before clusters form and can be added to salads to add a subtle mint flavor. Older leaves and flowers are picked just as flowers begin to open. Plunge in cold salted water to wash. These can be cooked into dishes or used for tea.

CATNIP TEA: Steep 1 tsp. of fresh leaves in 1 cup of boiling water for 10 min. Enjoy.

WARNING: Large quantities may cause vomiting and headache in humans.

Cattail, *Typha* spp. (TYPHACEAE)







CATTAIL is often abundant in wetlands, mudflats, and roadside ditches. It forms 5 to 10 ft. (1.5-3 m) high colonies. All species have edible parts. In North America *Typha angustifolia* and *Typha latifolia* are the most common. Easy to identify, cattail is the ultimate survival food, providing much-needed carbohydrates.

FLOWER: Flowering from late spring through mid-summer (depending on the area), green then yellow flower spikes rise from the plant. In large species, the flower spike can be up to 12 inches (30 cm) long, and ½-2 inches (0.5-5 cm) thick. Often, you'll notice older brown spikes from previous years, which look like old-fashioned torches or corn dogs.

LEAF: Upright, sword-like, green, mostly basal leaves grow to the same height or slightly taller than the stiff flower stalk.

EDIBLE PARTS: starchy rhizomes, flowers, young shoots, inner shoot parts, hearts of young plants, pollen

KEY MEDICINAL USES: Many, including wound healing, bleeding and kidney issues.

HOW TO HARVEST AND EAT: Young shoots and plant hearts can be harvested before the plant is in flower in the spring and eaten like asparagus, or snacked on raw. Pollen can be collected and used as a flour substitute (freeze after collecting). Rhizomes can be collected year-round; are best after flowering during fall and winter. In late spring/early summer spikes can be shucked like corn, boiled or roasted, and eaten like corn on the cob.

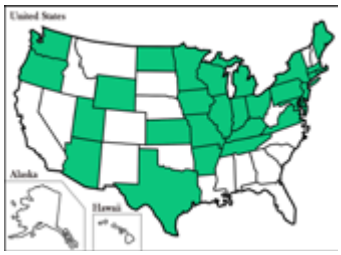
CATTAIL POLLEN FOR FLOUR SUBSTITUTE: Look for yellow spikes and you found the pollen. Put a plastic bag over the cattail and shake the pollen loose. Use ¼ cup of cattail pollen and ¾ cups flour to equal 1 cup wheat flour in recipe of your choice.

CATTAIL FLOUR: *(recipe credit: Janice Schofield)*: Cattail flour is made using underground rhizomes. Dig out rhizomes and clean well. The inner core of the lower base of the cattail just above the rhizome is also edible. You can keep the leaves to weave baskets, mats, or hats. While the rhizomes are still wet, peel away the tough outer portion. Pound it with a mallet, which will help separate the starch from the fibers. Once mashed, put in a jar and cover with water. Pour off water and discard stringy fibers. The wet flour can be used immediately in baking, or it can be dried and used or kept for later use.

WARNING: Cattails absorb toxins from surrounding waters. Be careful where you harvest from.

POISONOUS LOOK-ALIKES: Blue Flag, *Iris versicolor* - Can resemble young cattail, but once in flower both are recognizable.

Chamomile, *Matricaria chamomilla* (ASTERACEAE)







CHAMOMILE grows 6 to 24 inches (15-60 cm) tall. It is an annual with aromatic flowers blooming in late summer. It has smooth, branching stems, which grow in an upright form and arise from thin, shallow, spreading roots.

FLOWER: Daisy-like flowers with white petals and yellow centers, usually less than 1 inch (2.5 cm) across.

LEAF: Leaves are deep spring green, sparse, finely divided, and up to 3 inches (7.5 cm) long. The slightly fleshy, aromatic, fern-like foliage is bitter tasting.

EDIBLE PARTS: flowers, leaves

KEY MEDICINAL USES: Calming, soothes stomach issues, muscle spasms, and skin irritations.

HOW TO HARVEST AND EAT: Flowers and leaves are edible raw. Use in salads or as an herbal tea. Flowers are best harvested just as they open. They can continually open over several weeks, so harvest every couple of days. Leaves can be used at any time.

CHAMOMILE SLEEP AID TEA: Gather chamomile flowers and leaves. Let dry. Steep 1 tsp. of dried flowers in 1 cup of boiling water. Drink in the evening to support quality, restful sleep, and a settled stomach. You can also add rose hips or raspberry leaves.

WARNING: Chamomile can cause drowsiness and vomiting when large quantities are ingested, and some people may be allergic if sensitive to plants in the daisy family.

Chia Sage, *Salvia columbariae* (LAMIACEAE)







CHIA SAGE grows in the southern US, in California, New Mexico, Arizona, Nevada, Utah and south of the border, in Baja California and Sonora. It grows 4 to 20 inches (10-50 cm) tall with sparsely haired stems in dry, undisturbed, sunny, sage scrub sites.

FLOWER: Flowers appear in July-September, with seed production in August-September. Blue to purple ¼ to ½ inch (0.6-1.2 cm) flowers form in 1 to 4 clusters of whorls of tubular flowers from several 4 to 20-inch (10-50 cm) stems, that emerge from the base of the plant.

LEAF: Basal leaves are oblong or ovate and 1-5 inches (2.5-13 cm) long, with irregularly rounded lobes.

EDIBLE PARTS: seeds, leaves

KEY MEDICINAL USES: Seeds can be made into a disinfectant poultice.

HOW TO HARVEST AND EAT: Collect seeds by cutting flower stalks after the petals fall, but before the heads are too dry. Place in paper bags and put in a dry place for several weeks. The seed heads can then be rubbed with a flat hand or rolled with a rolling pin to free the seeds from shell. These can be winnowed or sifted to clean. Like chia seeds, can be mixed with water and form a gelatinous coating; can be added to cereals and to baked goods. They can be roasted and ground into powder to make a nutritious easily digestible drink. Seeds can also be sprouted and added to salads or sandwiches.

CHIA SAGE PORRIDGE: Using 1:2 ratio per serving, use ½ cup rolled oats to 1 cup water. Bring water to a boil and add in oats, stirring occasionally until all the liquid is absorbed (about 5 min.). Season with honey, milk, dried fruit. Add 2 tbsp. chia sage seeds and stir well. Let stand another 2 min., serve warm, and enjoy the extra added nutrition and protein.

Chickweed, *Stellaria media* (CARYOPHYLLACEAE)







CHICKWEED is a tiny mat-forming plant, found in disturbed sites, meadows, and lawns. It grows on fleshy, weak stems that creep across the ground up to 25 inches (65 cm) long. Its fine hairs found only on one side of its stem in a single band distinguish it from similar less palatable plants.

FLOWER: The tiny, ⅛-¼ inch (0.3-0.6 cm) blossoms have 5 white, deeply-clefted petals, making it look like there may be 10 petals.

LEAF: Leaves are opposite, bright green, oval shaped, and ¼-1 ¼ inches (0.6-3 cm) in size.

EDIBLE PARTS: seedpods, flowers, leaves, stems

KEY MEDICINAL USES: Externally, may treat wounds and arthritic pain. Internally, may help constipation and kidney issues.

HOW TO HARVEST AND EAT: The top few inches of the stems are tender and the most palatable. They can be eaten fresh in, steamed, added to soups and broths, or dried and used as a tea. They are best in spring and even in summer, if the weather is not too hot.

CHICKWEED SANDWICH: Gather with scissors or gently pinch the top 2 inches (5 cm) of upright growing chickweed stems. Rinse and dry. Top your favorite sandwich with this crunchy and nutritious tiny salad.

WARNING: Chickweed contains saponins and can be toxic in very large quantities.

POISONOUS LOOK-ALIKES: Scarlet Pimpernel, *Anagallis arvensis* - edible but poisonous in large quantities and not nice tasting.

Chicory, *Cichorium intybus* (ASTERACEAE)







CHICORY is an herbaceous perennial growing up to 3 ft. (1 m) tall from one long taproot. It is often found bordering roadsides and in disturbed ground. It does not tend to colonize natural areas.

FLOWER: Flower heads grow at the ends of stems in spike-like or branching form, widely spaced, alternating up along the flower stalk. They are blue to purple, about 1.5 inches (4 cm) across, in numerous ray florets. Seeds are mottled brown with angled edges.

LEAF: Leaves are alternate, 8 inches (20 cm) long and 2 inches (5 cm) wide, starting with a basal rosette, and can be lobed, but not quite symmetrical.

EDIBLE PARTS: flowers, leaves, roots

KEY MEDICINAL USES: May aid digestion, wound healing, stimulate appetite, relieve pain, and is high in inulin, a dietary fiber.

HOW TO HARVEST AND EAT: Roots can be roasted and used as a coffee substitute, or as a parsnip-like vegetable (much nicer when young). Leaves can be eaten raw or cooked and are less bitter when harvested before the plant is in flower.

SAUTÉED CHICORY GREENS: Gather young leaves and wash well. Chop 1 small onion and 1 garlic clove and sauté until soft. Add greens and stir. Season to taste with salt. Serve warm.

WARNING: Harvesting chicory from unpolluted sites and not overindulging is recommended. The milky sap may cause skin irritation.

Cholla, *Cylindropuntia* spp. (CACTACEAE)







CHOLLA is the common name of plants from the genus *Cylindropuntia*, which holds about 35 species. A desert-loving plant, Cholla has barbed spines that adhere to clothing, skin, and fur. It is the only plant from the cacti family that has papery sheaths covering its spines. Chollas can be low growing, or trees up to 10 ft. (3 m) tall. Branches tend to be similar in thickness as the main stem, knobby, and can form interesting shapes. Buckhorn Cholla, *Cylindropuntia acanthocarpa*, Staghorn Cholla, *Cylindropuntia versicolor*, and Pencil Cholla, *Cylindropuntia ramosissima*, are the most common edible species.

FLOWER: Blooming from late spring to early summer, its showy flowers are large, 1.5-3 inches (4.5-9 cm) in size, and can range from vibrant yellow to red. Fruits can also be bright in color.

LEAF: Generally, none, but may have short-lived leaves at the stem tips, right before flowering. Spines can be very sharp, able to pierce leather gloves, and up to 3 inches (7.5 cm) long.

EDIBLE PARTS: buds, fruit, seeds

HOW TO HARVEST AND EAT: Carefully! Traditionally, harvesting is done with two sticks like chopsticks, but tongs may also work. The spines and the barbed hairs on them need to be removed from buds and fruit prior to eating. Boiling, then shocking in cold water may help get the spines off. The fruit, buds, and pads can be eaten raw, cooked, or dried for later use (will be mucilaginous).

RAW CHOLLA SALAD: Collect Cholla fruits and once free of the spines, remove outside skin to reveal the mucilaginous tender inside. Rinse in a change of water and cube into pieces. Dress with salt and vinegar.

Chufa Sedge, *Cyperus esculentus* (CYPERACEAE)







CHUFA, Yellow Nutsedge, or Tigernut is a fast-growing sedge that loves moist sites and grows 6-24 inches (15-60 cm) tall. It can be confused with Purple Nutsedge, *Cyperus rotundus*, which is similar in appearance, growing conditions, and also edible but less tasty.

FLOWER: Forms 10 to 20 ¼ to 1 ⅛-inch (0.5-3 cm) spikelets positioned at 90-degree angles to each other that form a 2-3-inch (5-7.5 cm) cluster that looks like bottle brushes at the tips of the stems, which develop into swollen scales that are brown when mature.

LEAF: Leaves are flat to V-shaped, ¼-½ inches (0.3-1 cm) wide, bright yellowish-green, basal, and alternate, with 3 to 10 stem leaves at the base.

EDIBLE PARTS: nut-shaped nodules on the tubers

KEY MEDICINAL USES: May aid digestive issues and thirst.

HOW TO HARVEST AND EAT: The tuber nodules are nutty and sweet, and can be eaten raw. Just wash them well and rub the skin off. They can be cooked, dried, baked, ground into a powder to use as flour, or made into a milk substitute. They can be used as a vegetable, cooked in soups and stews, or candied to make confectionary products. Chufa Sedge plants are usually ready to harvest in late fall or early winter. If the soil is loose enough, you can just pull up the plants and the little chufa nuts will be hanging on at the bottom of the plant.

CRUNCHY CHUFA SNACKS: Collect, trim, and clean chufa nutlets and boil in salted water for 30 min. Drain and let dry. Fry in hot oil or dry roast. Add seasoning and enjoy.

Coast Tarweed, *Madia sativa* (ASTERACEAE)




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Dick Culbert, CC-BY-SA-2.0

COAST TARWEED, Coast Madia, Chile Tarplant, or Chilean Tarweed is an annual, herbaceous plant, naturalized to coastal, Pacific regions below 1000 ft. (300 m) from Washington to California. It can be found growing in undisturbed areas, along roadsides, dry open hillsides, and overgrazed lands. The entire plant is densely covered in glandular hairs which produce a sticky oil that smells like turpentine or eucalyptus.

FLOWER: Single, yellow, rounded flower heads bloom in May-October, crowded on short pedicles at top of branches. They open in midafternoon and remain open to mid-morning the following day. 8 to 11 dark yellow ray flowers surround 11-20 disc flowers and measure 0.25-0.5 inches (0.6-1.3 cm) wide. Dry, hairless achenes have no pappus.

LEAF: Simple, linear, alternate leaves with no petioles grow smaller along the length of the stem. Leaf blades grow 1.5-7 inches (4-18 cm) long.

EDIBLE PARTS: seed

HOW TO HARVEST AND EAT: Seeds can be eaten raw, roasted and ground, or pressed for oil and used as an olive oil substitute that doesn't solidify when temperature is above 12°F (-11°C).

ROASTED TARWEED SEEDS: Roast seeds in their shells using a cast iron pan on medium until aromatic. For salted seeds, soak for 24 hrs. in a brine before roasting.

Cocklebur, *Xanthium strumarium* (ASTERACEAE)







COCKLEBUR is an annual that has a long, woody taproot and grows 2-4 ft. (0.6-1.2 m) tall, with slightly ribbed stems. Rare in mountainous terrain, Cocklebur is widespread across southern Canada, Mexico, and most of the contiguous USA.

FLOWER: At the axil of each upper leaf, clusters of compound bur-like flowers develop in a spike-like fashion. The main stem terminates in a similar flower cluster. Blooming from late July to September, flowers are green, turning to brown, and 1-1 ½ inch (2.5-4 cm) in size.

LEAF: Leaves are alternating, spade shaped and gently toothed with a texture like sandpaper on the top surface. They are up to 8 inches (20 cm) long and 6 inches (15 cm) wide. The leaf stems are as long as the leaves, purplish in color and also covered in hairs.

EDIBLE PARTS: seeds, leaves

KEY MEDICINAL USES: Leaves, roots, seeds, and fruits may be analgesic and antibacterial.

HOW TO HARVEST AND EAT: Leaves gathered in spring are nutritious but can cause dermatitis; must be boiled well and then washed. Seeds can be eaten raw, cooked, or grinded into a flour substitute. Collect burs in paper bags to dry. Once dry, expel seeds by rolling with a rolling pin.

BOILED COCKLEBUR LEAVES: Harvest the sandpaper-like mature leaves and soak in cold salt water. Remove ribs with a sharp knife. Blanch for 10 min. in salted boiling water and remove. Repeat this once or twice more with fresh changes of boiling water. Use sparingly at start to ensure no adverse effects.

WARNING: Young leaves and seeds are toxic to livestock.

Coltsfoot, *Tussilago farfara* (ASTERACEAE)







COLTSFOOT gets its name from the shape of its leaves, resembling a coltsfoot. It is a rhizomatous herbaceous perennial often found in colonies, in disturbed areas and along roadsides and paths. It grows 4-12 inches (10-30 cm) tall; flowers appear first, followed by leaves, which is fairly unique and distinctive.

FLOWER: Flowers emerge in early spring, are bright yellow, 0.06 inch (0.15 cm) in size, and resemble small dandelion flowers.

LEAF: Basal bright green leaves arise from the plant as the flowers finish. They are 2-10 inches (5-25 cm) long, almost waxy on top, with fine, wooly hairs on the undersides.

EDIBLE PARTS: flowers, stems, and leaves

HOW TO HARVEST AND EAT: Young leaves and flowers make a nice addition to salads, or can be dried to make an herbal tea. Leaves may be bitter, so best to rinse them after boiling. Flowers and stems are harvested at the peak of blooming in early spring. Leaves are harvested in late spring, after the flower has died.

SPRING CELEBRATION SALAD: Gather dandelion, asparagus, chickweed, violets, and any other salad you have. Wash, trim, and toss the salad. Add some early emerging coltsfoot flowers for a unique aromatic flavor. Add a dash of herbed vinegar and enjoy.

WARNING: This plant may contain pyrrolizidine alkaloids, which have been linked to liver issues.

Common Reed, *Phragmites australis* (POACEAE)






COMMON REED is a tall perennial growing up to 20 ft. (6 m) at a fast rate. It grows stout, erect, unbranched stems in wet soil, shallow water, and colonies of this plant can even float. Reed beds can grow up to a square kilometer spreading by horizontal runners. Rhizomes can grow to 70 ft. (20 m) long.

FLOWER: Flowers bloom in July- September on 8 to 20 inches (20-50 cm) long bushy spikes, that are purple when young, and golden straw colored when mature.

LEAF: Leaves are bright green and rolled in the shoot, which can be 25 inches (60 cm) long and 2 inches (4 cm) wide.

EDIBLE PARTS: seeds, leaves, stems, and roots

KEY MEDICINAL USES: Leaves, stems, and roots have many medicinal uses: respiratory, digestive, and skin issues.

HOW TO HARVEST AND EAT: Harvest roots and young shoots early in spring before the stems and leaves appear. Roots are sweet and best when young; can be eaten raw or cooked like potato. Young shoots are delicious raw or cooked. Stems and unfurled leaves can be harvested later in spring. Seeds are shed in the winter and may be tedious to harvest, but are nutritious and can be ground into a flour substitute. The plant exudes a sweet, licorice flavored sugar that can be extracted and eaten raw or cooked. It was traditionally heated, rolled into balls for storage and used as candy.

REED CANDY: Cut stems to extract the sugary, licorice flavored gum. Roll the gum into balls to eat like candy or use as a flavoring for other ingredients.

Coneflower (Cut-Leaf), *Rudbeckia laciniata* (ASTERACEAE)




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CUT-LEAF/TALL/GREEN-HEADED CONEFLOWER or Sochan is an herbaceous perennial, native to North America. It can be found growing in wet soils in the partial shade of flood plains, thickets, along stream banks, and in rich forests. Lanky plants have smooth, light green stems with droopy leaves and can reach 10 ft. (3 m) tall. Clumping plants with multiple upright stems, dark green foliage, and yellow daisy-like flowers form colonies through underground spreading rhizomes.

FLOWER: Yellow, daisy-like flowers bloom from July to October in clusters on terminal ends of stems. Each flower measures 2-3 inches (5-7.5 cm) across with a nubby cone and 6-12 yellow, oblong, drooping ray florets. Young, green flower buds are widely spaced giving domelike discs a pincushion-like look. As disc florets bloom, the cones turn yellow. Seed heads are golden brown and mature as winter approaches.

LEAF: Large, basal leaves to 12 inches (30 cm) long and 12 inches across have narrowly winged petioles. They are odd pinnate leaves with 3-7 roughly toothed, lobed leaflets. Drooping stem leaves decrease in size along the length of the stem.

EDIBLE PARTS: leaves and young shoots (cooked)

KEY MEDICINAL USES: Cut-leaf Coneflower is used internally for indigestion and externally for burns.

HOW TO HARVEST AND EAT: Basal leaves can be harvested in the spring and fall. Spring leaves are tenderer and mildly flavored than fall leaves. If you want to harvest in the fall, it is best to cut the flowering stalks in the summer, to encourage new young shoots to grow. Cook leaves and shoots.

SAUTÉED CUT-LEAF CONEFLOWER SHOOTS: Chop shoots into bite-sized pieces and sauté in oil of your choice with chopped garlic. Top with coarsely chopped, roasted walnuts. Season to taste.

WARNING: Cut-Leaf Coneflower is toxic to cattle, sheep, and pigs.

POISONOUS LOOK-ALIKES: Tall Buttercup, *Ranunculus acris* and Cursed Buttercup, *R. sceleratus*

Coneflower (Prairie), *Ratibida columnifera* (ASTERACEAE)







UPRIGHT PRAIRIE CONEFLOWER, also known as Mexican Hat, Long-headed Coneflower, and Thimbleflower, is a perennial herb found across most of North America, especially in prairies and sunny grasslands with sandy soils. In full bloom, it can grow up to 1 ½-3 ft. (0.5-1 m) tall.

FLOWER: Each flower develops from a long, ribbed stalk that grows from the uppermost leaf. The flower is held at least ½ a foot (15 cm) above the leaves. Petals can be yellow, red, or both and droop down, giving them a thimble-like look. 4-12 petals are arranged around an upright cone that is about 1½ inches (4 cm) tall and covered in numerous tiny disc flowers. These disc flowers eventually develop into minute seeds.

LEAF: The dense, short hairs on the pale green leaves give them a slightly fuzzy texture. Each leaf is 6 inches (15 cm) long and is heavily divided into 5-13 segments that are roughly lance-shaped except for the final segment, which has 3 rounded lobes.

EDIBLE PARTS: leaves and stems (tea)

KEY MEDICINAL USES: A poultice from the leaves and stems can be made for small wounds.

HOW TO HARVEST AND EAT: For best results, pick younger, fresh leaves in spring. The leaves and stem make a pleasant tasting tea.

UPRIGHT PRAIRIE CONEFLOWER TEA RECIPE: You'll need a handful of chopped leaves and stems. Pour boiling water over the leaves and stems and brew for 5 min. Add honey or sugar to taste.

Cornflower/Bachelor's Buttons, *Centaurea cyanus* (ASTERACEAE)







CORNFLOWER is a pretty, blooming annual found naturalized in North America, also known as Bachelor's Buttons. Originally found in grain and cornfields, it is sensitive to modern agriculture techniques and herbicides, and has become endangered in parts of its native Europe. It grows 16- 35 inches (40-90 cm) tall on grey-green branched stems.

FLOWER: It blooms all summer in variations of intense blue colors. Flowers are about 1 ½ inches (3 cm) wide and ringed with sparse long ray florets They produce a scaled capsule.

LEAF: Leaves are lance-shaped, narrow, pointed at the tips, and are ½ to 2 inches (1-5 cm) long.

EDIBLE PARTS: flowers, young shoots

KEY MEDICINAL USES: Dried flowers relieve itching, suppress cough, and may be mildly diuretic and purgative.

HOW TO HARVEST AND EAT: Flowers bloom all summer long; harvest by collecting undamaged blooms. Flowers are dried and used in herbal tea mixtures. Fresh flowers can be used raw, as an edible floral decoration, or cookedas a garnish; they have a slight aromatic, clove-like flavor. Young shoots are edible cooked.

FLOWER TEA BLEND: Gather flowers of cornflower, chamomile, and lavender. Dry and blend together. Use 1 tsp. per cup of boiling water. Steep for 5-10 min. Drink this relaxing tea at the end of the day. You can also add wild raspberry leaves and leaves of lemon balm.

Cow Parsnip, *Heracleum maximum* (APIACEAE)







Walter Siegmund, CC-BY-SA-3.0

COW PARSNIP is a native to North America, being prevalent in Alaska, most of Canada and the US, but absent in the Gulf States. It grows in a variety of habitats including fields, meadows, shores of lakes and rivers, in alpine and subalpine areas, as well as disturbed sites. Cow parsnip grows up to 8 ft. (2.5 m) tall and has a distinctive smell, unpleasant to many, that reminds me of a pungent parsnip.

FLOWER: Large white umbels are 1 ft. (0.3 m) across, flat or rounded, containing 15-30 smaller umbels, each consisting of many small flowers. They usually bloom in late spring-early summer.

LEAF: Compound leaves are large, up to 2 ft. (0.6 m) across and have three leaflets, growing alternately up stems with one leaf per node. Leaf blades are lobed or toothed and lobed. Ridged hollow stems can be pinkish-purple and the base is sheathed.

EDIBLE PARTS: peeled young stems and shoots, young leaves, flower buds before they open, seeds

KEY MEDICINAL USES: May help infection and respiratory illness.

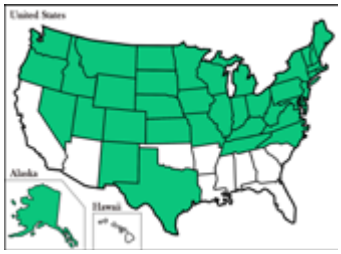
HOW TO HARVEST AND EAT: Young shoots can be eaten raw or cooked, taste like celery and are best harvested before flower stalks appear. Leaves can be harvested in spring and used as an aromatic herb; best to rinse and soak in water before eating. Seeds can be harvested in late summer through fall. Personally, my favorite parts are the flower blossoms, while they are still in their "flower sheaths". I love frying them up – a favorite snack of mine.

SAVING SEEDS: As umbels finish blooming, they go to seed, turning from green to brown as they dry, knocking easily off the plant. Gently trim umbels with scissors and collect in a bowl or paper bag. Let cure for several weeks in a cool, dry place or dry in the sun. Once cleaned, place in a spice jar and store in the freezer. The strong interesting flavor goes well in spicy dishes.

WARNING: Sap in stems and leaves can cause burn-like blisters, worse when skin is also exposed to sun. Always wear gloves when handling the plant and rinse them well in water, as the blistering compounds react with sun and sweat, which can be avoided with a few simple precautions.

POISONOUS LOOK-ALIKES: Spotted Water Hemlock, *Cicuta maculata*; Poison Hemlock, *Conium maculatum*; Giant Hogweed, *Heracleum mantegazzianum*

Creeping Bellflower, *Campanula rapunculoides* (CAMPANULACEAE)







CREEPING BELLFLOWER is an herbaceous perennial with deep taproots, found on grassy hillsides, meadows, in deciduous and pine forests, roadsides, fields, and along railways. It can be an aggressive weed, choking out other plants. It grows quickly to an average height of 12-30 inches (30-80 cm), but can be as tall as 48 inches (1.2 m) on simple, erect stems.

FLOWER: Blooming from June to August, 1 inch (2.5 cm) bell-shaped showy flowers are purple or bluish, and grow drooping off one side of each stem.

LEAF: Short and hairy upper leaves are sessile (stalkless) and lance shaped. Basal leaves are triangular, narrow, and heart shaped at the base. They can have jagged edges and are up to 4.7 inches (12 cm) long, often forming a mat.

EDIBLE PARTS: young shoots and roots, leaves, rhizomes

HOW TO HARVEST AND EAT: Young leaves and shoots make a nice spring green. Rhizomes can be eaten raw, but taste better harvested when young and eaten cooked and mashed.

MASHED BELLFLOWER ROOTS WITH STEAMED GREENS: Harvest whole young plants before flower stalk appears. Wash vigorously. Roots should be scrubbed. Peel roots as the skin can be tough. Boil in salted water for 20 min., until soft. Mash with butter and seasoning. Wash and trim young shoots and leaves and steam in butter (seared). Serve alongside mashed roots.

Creeping Charlie, *Glechoma hederacea* (LAMIACEAE)







CREEPING CHARLIE is an introduced creeping plant, widespread throughout Canada and the USA. It grows close to the ground, can form a dense ground cover, and can grow from 2 to 20 inches (5-50 cm) tall, depending on conditions. Its roots can grow over 7 ft. (2 m) in length. It can remain green through winter, can tolerate sunny and shady sites, and can outcompete native wild plants.

FLOWER: Flowers are blue to purple tiny funnels less than ½ inch (1 cm) in size. They grow in clusters of 2 to 3 on opposite sides of the stem at the leaf axils.

LEAF: Fan-shaped or kidney-shaped leaves are dark green with scalloped edges and veins arising from the same point like a fan. They are about an inch (2.5 cm) in size. Leaves grow in opposite pairs on the square stems and have small, sparse hairs.

EDIBLE PARTS: leaves

KEY MEDICINAL USES: It is an astringent, a diuretic and may aid respiratory and digestive issues.

HOW TO HARVEST AND EAT: Tangy young leaves can be used in salads or cooked like spinach. Dried leaves can be used in herbal tea blends. Creeping Charlie becomes bitter over time so harvest in the spring, avoiding hot weather.

SEARED SPRING GREENS: Collect young tender spring greens including Creeping Charlie, dandelion, and sowthistle. Gently trim and rinse. Sauté with minced onion and garlic in butter. Splash on a bit of lemon juice. Season with salt and pepper. Serve with spring vegetables such as asparagus.

Cut-Leaf Toothwort, *Cardamine concatenata* (BRASSICACEAE)




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Andrew C, CC-BY-2.0

CUT-LEAF TOOTHWORT or Pepperwort, formally known as *Dentaria laciniata*, is a perennial that grows 6-12 inches (15-30 cm) tall and wide. It is very common east of the Rockies in moist forests and closed woodlands, and rare on the western side of North America. It prefers calcareous, rich soil. Leaves appear in late autumn or early spring before the tree canopy rejuvenates.

FLOWER: Flowers are white, sometimes tinged pink, and form at the top of the stem. Each stem can produce up to 10 flowers that are ½-¾ inch (1-2 cm) long. The flower consists of 4 simple petals with 6 yellow stamens held by pale green or lavender sepals. Cut-leaf toothwort only flowers for a month in spring and then produces an elongated, erect seedpod that is up to 1 ½ inches (4 cm) long.

LEAF: Each plant has 3 basal leaves and 3 upper leaves that are arranged in a whorl halfway up the stem. Leaves have a long, obvious stalk and are divided into 3 or 5 heavily serrated or toothed blades. Mature leaves are usually 3 inches (7 cm) long. The shallow roots (rhizomes) grow parallel to the ground, are segmented, and have tooth-like growths.

EDIBLE PARTS: leaves and roots

HOW TO HARVEST AND EAT: Leaves have a peppery taste similar to watercress. The short growth season of this species means that foraging for leaves is restricted to April. The roots can be dug year-round, but it's easier to identify the plant after it has produced leaves or flowers. The roots taste similar to radish and can be eaten in the same way; raw, cooked or pickled.

PICKLED CUT-LEAF TOOTHWORT RECIPE: Ingredients: 1 ½ cups of finely sliced cut-leaf toothwort root, 1 finely sliced carrot, 1 cup of apple cider vinegar, ½ cup of water, 1 tsp. salt, 1 tsp. raw sugar. Warm and stir the water, vinegar, salt and sugar until all of the ingredients have dissolved and mixed. Place all ingredients into a large jar, screw the lid on and shake, then leave in the fridge overnight. Makes a great side dish.

Dandelion, *Taraxacum officinale* (ASTERACEAE)







DANDELION is an herbaceous perennial weed that grows from a large taproot and can be 2 to 16 inches (5-40 cm) tall, and sometimes even taller. It forms a basal rosette of leaves with stems holding single flowers. Their purple tinged stems exude a milky latex.

FLOWER: Each stem has green bracts at the base of the 2-inch (5 cm) flower, which is made up of multiple rings of 40 to 100 small yellow florets. These develop into seeds with a silky grey parachute, forming the familiar 2-inch (5 cm) blow-ball, or spherical seed head.

LEAF: Leaves are oblong, dark green with a midrib, and 2 to 18 inches (5-45 cm) long and an inch or two (2-5 cm) wide. The margins are often lobed or toothed.

EDIBLE PARTS: flowers, flower buds, leaves, and roots

KEY MEDICINAL USES: It has diuretic properties.

HOW TO HARVEST AND EAT: Leaves are great in salads, preferably picked when young before the plant flowers, and can also be steamed and used like spinach. They are slightly bitter in taste so using lemon juice can help. You can use flowers to make tea or fritters. Flower buds can be pickled like capers. Roots can be roasted and used to make tea, or as a coffee substitute.

DANDELION BREAD: You'll need a handful of dandelion flower heads, 2 cups flour, 2 tsp. baking powder, 1 egg, salt, 1 cup milk, 3 tbsp. vegetable oil, ½ cup honey. Pre-heat the oven to 400˚F. Add flour, baking powder, salt, and dandelions into a bowl. Stir lightly. Whisk the oil, egg, milk, and honey; pour the mixture into the dry ingredients. Stir until incorporated but not over-mixed. Pour batter into a pan. Bake for 15 min. Lower temperature to 350˚F and bake for 20 more min. Leave to cool before serving.

Daylily, *Hemerocallis* spp. (ASPHODELACAEA)





Mrs. Gemstone, CC-BY-SA-2.0

DAYLILY is an herbaceous, grass-like perennial that grows from a basal rosette of upright, bowing leaves and flower stalks 3 to 6 ft. (1-1.8 m) high. As the name suggests, each blossom lasts about a day. Orange daylilies, *Hemerocallis fulva*, are said to be the tastiest.

FLOWER: There is a vast assortment of daylily flowers. The *Hemerocallis fulva* flower is called Tawny daylily and has 5-inch (12 cm) tawny orange, upright facing, tubular, six petaled flowers surrounding the lighter colored center with a pale line running up the center of each petal. Each flower stalk or scape can hold 10 to 20 flowers, which open in succession.

LEAF: Leaves are grass-like, 1 to 3 ft. (0.3-0.9 m) tall, clump forming, and arching in a light green color.

EDIBLE PARTS: flowers, flower buds, young shoots, and roots

KEY MEDICINAL USES: May help fevers, pain, and infection.

HOW TO HARVEST AND EAT: Pick freshly opened flowers to decorate salads or to blanch and dry. Unopened flower buds are delicious and can be eaten raw or cooked. Young shoots and leaves can be eaten raw or cooked before they become too fibrous. Young tubers can be eaten raw or cooked and taste like small, sweet fingerling potatoes.

PAN FRIED DAYLILY BUDS: Harvest buds before they open and gently rinse. In a heated pan, melt butter and add salt. Toss buds in and fry for a couple of minutes and serve warm.

WARNING: *Hemerocallis* are toxic to cats.

POISONOUS LOOK-ALIKES: *Iris* spp. - There are over 200 species of Iris and the entire plant is toxic.

Deadnettle (Henbit), *Lamium amplexicaule* (LAMIACEAE)







HENBIT DEADNETTLE or Greater Henbit has multiple square stems growing from a taproot to 6-18 inches (15-45 cm) tall. It is purplish near the bottom and greenish at the top, spreading in all directions. It grows in waste ground, meadows, and fields throughout North America and even into the artic circle. It is odorless and does not smell minty, even though it is in the mint family.

FLOWER: For herb flowers, the flowers are relatively large and form on terminal spikes in sparse whorls at the leaf axils. Flowers are pink to purple and ½-¾ inch (1.3-2 cm) long. They form a fused tubular flower.

LEAF: Finely haired leaves are opposite and ¾-1¼ inch (2-3 cm) long. Lower leaves have stalks, while upper leaves are stalkless, fused, and clasp the stems. Leaves are kidney/fan-shaped with rounded scalloped teeth.

EDIBLE PARTS: leaves, stem, and flowers

KEY MEDICINAL USES: May aid wound healing, reduce fever and pain, and is anti-inflammatory.

HOW TO HARVEST AND EAT: Harvest young shoots, stems, and leaves in spring and use as a cooked green, or add raw to salads. In late spring-early summer when the plant is in flower, upper parts can be harvested. They have a slightly sweet peppery flavor and can be added to salads, used as a garnish, or cooked as a green vegetable.

CREAMED HENBIT: Mix ¾ cups of plain yogurt, salt, pepper, 1 tsp. onion powder, and ½ tsp. garlic powder. Set aside for at least 1 h. Harvest 3-4 cups of young shoots, stems, and leaves, rinse, and chop. Cover with water and boil for 10 min. Drain. Stir in yogurt mixture and serve warm.

Deadnettle (Purple/Red), *Lamium purpureum* (LAMIACEAE)







PURPLE DEADNETTLE or Purple Archangel is a member of the mint family, but does not smell minty. It grows 8 inches (20 cm) tall and can easily be found in meadows and roadsides in dense patches.

FLOWER: Whorled around the square stem is a cluster of small, funnel-shaped, purple flowers that are ½ inch (13 cm) long. Each flower has 4 stamens and the 2 petals look like an upper and lower lip, with the lower lip having 3 lobes.

LEAF: The leaves gradually change from green at the bottom of the plant to purple towards the top. They are roughly heart-shaped with a pointy leaf tip and about 1½ inch (4 cm) long. The stalked leaves grow in pairs opposite each other along the stem. It is described as a 'dead' nettle because the hairs that are present on the leaves and stems do not sting.

EDIBLE PARTS: leaves and stems

KEY MEDICINAL USES: It has anti-inflammatory and anti-microbial properties.

HOW TO HARVEST AND EAT: Leaves can be harvested when young and eaten like other mint species: raw in salads, brewed in a tea, cooked in meals or added to juices and smoothies.

PURPLE DEADNETTLE SMOOTHIE: Ingredients: ½ cup fresh deadnettle leaves, ¼ cup chopped pineapple, ½ cup milk, 2 scoops of vanilla ice cream. Combine all in a blender.

POISONOUS LOOK-ALIKES: European Pennyroyal, *Mentha pulegium* could be mistaken for purple dead nettle only in early stages. Deadnettle is easily distinguishable by the purple tinged leaves at the top.

Desert Horse-Purslane, *Trianthema portulacastrum* (AIZOACEAE)






Rison Thumboor, CC-BY-SA-2.0


Mike, CC-BY-SA-3.0

DESERT HORSE-PURSLANE is found in moist areas, either irrigated or after a heavy rainfall, waste places, and roadsides. As a desert plant, it is succulent, meaning its fleshy growing parts store water. It is an annual herb that grows close to the ground with stems up to 3 ft. (1 m) in length. It is an important medicinal plant in Ayurvedic medicine.

FLOWER: Small, ¼ inch (0.5 cm), single, pink to purple flowers are produced in summer at the leaf axils, which develop into seeds that are cylindrical, curved capsules.

LEAF: Leaves are small, ½-1 inch (1-2 cm) long, round to oval, growing paired and opposite along the stems. They are shiny green to red, unequal in size, and born on short stems.

EDIBLE PARTS: young leaves

KEY MEDICINAL USES: Extract of the plant has antioxidant, diuretic, analgesic, anticarcinogenic, and liver protecting components.

HOW TO HARVEST AND EAT: Significantly nutritious, young leaves, picked from the tips of plants before flowering, can be lightly cooked to add a tart flavor to stir fries.

STIR FRY WITH DESERT-HORSE PURSLANE: Gather young leaves and rinse. You'll need garlic, ginger, soy sauce, honey, cabbage, carrots, and your favorite stir fry vegetables. Dice garlic and ginger, fry in a bit of oil, and add soy sauce and honey. Add long cooking vegetables first, followed by fast cooking vegetables. At the final cooking stage, throw in the Desert-Horse Purslane.

WARNING: Mature leaves may cause diarrhea.

Dwarf Ginseng, *Panax trifolius* (ARALIACEAE)




Doug McGrady, CC-BY-SA-2.0


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DWARF GINSENG is found in Eastern North America, from southern Canada and throughout eastern US states. It is an herbaceous perennial found in spring, that grows on underground rhizomes, in moist, rich, deciduous forests. Its leaves are above ground for only two months of the year. It is 4 to 8 inches (10-20 cm) in height.

FLOWER: Flowers are white and can be seen from April to June. They are tiny, ⅛ inch (3 mm) in size, 5 petalled, and grow in small, ¾ inch (2 cm), spherical clusters, 1 to 3 inches (2.5-7.5 cm) above the leaves.

LEAF: Leaves have 3-5 leaflets, each ¾-1½ inch (2-4 cm) long, growing in whorls of 3 up the slender stems on light green, hairless ¾-2 inch (2-5 cm) leaf stalks.

EDIBLE PARTS: roots

KEY MEDICINAL USES: Root may be analgesic and can be chewed to relieve headache and shortness of breath.

HOW TO HARVEST AND EAT: Roots can be boiled and eaten. They are said to taste like nuts when cooled. Dig roots after plant has flowered to enable seed distribution. Bury or replant some roots in nearby areas, to increase the number of plants in the area.

DWARF GINSENG SNACKS: Gather 1 to 2 cups of roots. Wash thoroughly, and boil in salted water for 10 min. Drain and cool. Season to taste. Add to your favorite trail mix or eat on its own.

Dock, *Rumex* spp. (POLYGONACEAE)







RUMEX genus has 200 species of docks and sorrels, which may be perennial, biennial, and annual. All species are considered edible. Rumex are erect plants, with fleshy almost leathery leaves that form a 1 ft. (0.3 m) basal rosette from a long taproot. Naturalized in North America but introduced from Europe, **Curled Dock**, *Rumex crispus*, is the best to eat. It is a robust perennial that grows 1½-5 ft. (45-150 cm) tall. Broadleaf Dock, *Rumex obtusifolius*, is considered a good substitute.

FLOWER: Dense, hanging, 6-18-inch (15-45 cm) whorled clusters of small, ⅛-inch (3 mm) reddish green or white flowers grow at the top of long stalks, which develop into tiny smooth, dry, one-seeded, ⅙-inch (4 mm) fruit.

LEAF: Oval to arrow-shaped, dull green, hairless, 6 inch (15 cm) long and 1 inch (2.5 cm) wide, leaves are narrower at the tips and rounded. Curled Dock has curled leaf margins.

EDIBLE PARTS: seeds, leaves, stems, roots (for tea)

KEY MEDICINAL USES: May have a laxative effect and astringent qualities to help clean the liver.

HOW TO HARVEST AND EAT: Leaves are edible cooked or raw. They have a sour, tart, or bitter flavor. Removing the leaf stem and core, like you would do to kale, improves flavor and texture. Stems can be peeled and eaten. Seeds are tedious to harvest and prepare, but can be ground into a flour substitute or roasted and used as a coffee substitute.

DOCK SEED FLOUR: *(recipe credit: Heather Swift)* Harvest brown, dried seed heads in fall using the "squeegee method": use your fingers and pull the seeds off and collect in a container. Each seed has a husk. To winnow the seeds from the chaff, use a large, flat container with side edges, toss lightly to allow the chaff to separate. Crush a bit if needed. You will not be able to get all the chaff removed from the seed, but they will add extra fiber. Crush in a coffee grinder or seed grinder. Use or keep dry and store in a glass jar. Dock seeds can be used for baking. It does not contain gluten or any other binding agent.

WARNING: Leaf sap may cause dermatitis. High in soluble oxalates, which may be detrimental to livestock. Seeds may be toxic to chickens.

Duckweed, *Wolffia globosa* (ARACEAE)







DUCKWEED is a wetland species that can be found worldwide, but is mostly limited in its North American distribution to California, Florida, and Kentucky. It is the smallest flowering plant in the world, and floats on the surface of still or very slow-moving water bodies. Its vigorous reproduction means it can form delicate mats that look like meal floating on the surface of the water, hence its other common name, Asian Watermeal.

LEAF AND FLOWER: The entire plant is contained within a tiny, green, oval-shaped sack, about the size of a pinhead. It has no roots, but sometimes can have minute hairs on the margin of the sacks. Inside the sack is a single stamen and pistil (reproductive organs), which reproduce clones asexually. In temperate areas, the clones sink to the bottom of the water body and then float again the following spring.

EDIBLE PARTS: whole plant

HOW TO HARVEST AND EAT: The high amount of calcium oxalate crystals means that duckweed should always either be cooked or dried before eating. Once dried, it can be used to make bread, added to soups as a thickener, or thrown into a stir-fry. It is also being investigated as a sustainable protein substitute.

DUCKWEED GRANOLA BAR RECIPE: 2 tbsp. each of dried duckweed, honey or maple syrup, and peanut butter; ½ cup each of oats and chopped almonds. Toast the oats in the oven for 10 min. on high, then mix in the remaining ingredients. Line a tray with plastic food wrap, and spread the mixture out evenly, making sure to press it down firmly so that the granola bars don't crumble. Place it in the fridge for 20 min., flip it onto a chopping board, and slice into pieces for serving.

WARNING: Duckweed has been shown to accumulate heavy metals and chemicals, so be sure to only harvest from clean water sources.

POISONOUS LOOK-ALIKES: Toxic cyanobacteria can be mistaken for duckweed, since it too grows in still or very slow-moving water. It is commonly known as blue-green algae and can form a blue-green colored scum on the surface of the water, particularly in summer. It is impossible to see individual cyanobacteria with the naked eye, unlike duckweed, and blue-green algae produces a slimy green film.

Elephanthead Lousewort, *Pedicularis groenlandica* (OROBANCHACEAE)







ELEPHANTHEAD LOUSEWORT or Elephant's Head is native to the Pacific Northwest and can be found in moist, low-lying meadows, bogs, wetlands, and subalpine, moist riverbanks. Growing often in large colonies, it is found from Alaska, across Canada, and in the western states. The "*groenlandica*" part of its name means "of Greenland", where it's also a native plant. A perennial herb that grows parasitically on its neighbors' roots, it is erect and grows 6 to 26 inches (15-70 cm) tall. The stems are reddish purple, sometimes showing their fibrous roots at the base.

FLOWER: Flowers are ½-¾ inch (1-1.5 cm) in size, bloom from June to August, are pink to purple, and appear on spike-like clusters, that are up to 18 inches (45 cm) long. They resemble an elephant's face (big ears and trumpeting horn).

LEAF: Leaves are 2-10 inches (5-25 cm) long, lance-shaped, with more than 25 linear sharply toothed segments that are fern like.

EDIBLE PARTS: flowers and leaves

KEY MEDICINAL USES: Mildly relaxing and used for joint and muscle pain and spasms.

HOW TO HARVEST AND EAT: Harvest flowers when they are freshly opened, being sure to always leave at least twice as many as you take. Flowers can be dried for tea. Leaves are best harvested before the plant is in flower and can be cooked and eaten as a potherb.

ELEPHANTHEAD SOUP SEASONING: At the final stages of cooking any vegetable soup, add finely chopped young leaves like you would add parsley or dill.

WARNING: Plant can be poisonous if eaten in large quantity.

Epazote, *Dysphania ambrosioides* (AMARANTHACEAE)







EPAZOTE or Mexican tea is a bright green short-lived perennial or annual, resembling a plant in the mint family. It grows up to 4 ft. (1.2 m) tall and has irregular branching. Epazote is very fragrant, being described as a cross between citrus and turpentine.

FLOWER: Flowers are greenand less than ¼ inch (5 mm). They are produced at the apex of the stems. Tiny seeds are green when fresh and black when dried.

LEAF: Lance shaped and sharply toothed leaves are up to 5 inches (12 cm) long.

EDIBLE PARTS: seeds and leaves

KEY MEDICINAL USES: Used primarily to reduce flatulence.

HOW TO HARVEST AND EAT: Young leaves are harvested before the plant is in flower and can be used as a potherb or condiment, having a strong flavor. Seeds are small and fiddly; should be soaked overnight and rinsed well.

REFRIED BEANS WITH EPAZOTE: Soak overnight 2 cups black beans or pinto beans. Rinse well and add to large pot. Fill with water covering beans by 2 inches (5 cm). Add half an onion, 2 cloves of garlic, and 2 sprigs of fresh epazote. Bring to a boil and simmer for 2 hrs. Drain beans, reserving cooking liquid. In a hot skillet, heat pork fat, butter, or vegetable oil and add half an onion, diced. Cook beans, adding ¼ cup reserved cooking liquid and mash with a potato masher. Serve as a side dish with rice or as a toco topping.

WARNING: Essential oil of the seed and flower can cause dizziness, vomiting, convulsions and even death in high quantities. May cause dermatitis or other allergic issues.

Evening Primrose, *Oenothera biennis* (ONAGRACEAE)







EVENING PRIMROSE is a biennial that thrives in hot locations and grows 2-6 ft. (0.6-1.8m) tall. It is drought tolerant and can grow in infertile soil with minimal water. In its first year, only the leaves grow. The second year, the plant produces a stem that is hairy, with red or purple tinges.

FLOWER: Flowers bloom in its second year, late in the afternoon. They are up to 2 inches (5 cm) in size, showy, bright yellow, with four petals and a lemony scent.

LEAF: With wavy margins and a prominent white mid vein, leaves are elliptic, 8 inches (20 cm) long, 2 inches (5 cm) wide. They form a tight, basal rosette with red tips. In the second year, leaves grow up the stem alternating and getting smaller with height.

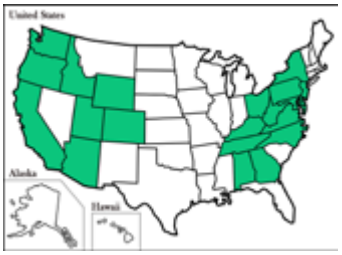
EDIBLE PARTS: seedpod, seeds, leaves, stems, flowers, and roots

KEY MEDICINAL USES: Seed oil is used for inflammatory-related disorders (arthritis).

HOW TO HARVEST AND EAT: Roots are fleshy, sweet, and nutritious; can be boiled and eaten. Before plant flowers, leaves can be eaten raw or cooked like spinach, or used for tea. Stems can be peeled and eaten. Flowers are sweet and can be used in salads. Young seedpods can be steamed when they are green (August-September) and seeds are high in essential fatty acids.

STEAMED EVENING PRIMROSE SEEDPODS: Gather seedpods before they turn brown in late summer. Steam on their own or with other late summer vegetables, such as green beans. Dress in butter, salt, and pepper, or make a buttery roux or gravy. Serve tender.

Fairy Bell, *Prosartes* spp. (LILIACEAE)









FAIRY BELL is a genus of plants that includes 6 species. They are rhizomatous perennial herbs that prefer moist forested areas and grow from 1 to 2 ½ ft. (0.3-0.8 m) tall. Western species can be found from California to the Pacific Northwest: Roughfruit Fairybells, *P. trachycarpa*; Large Flower Fairybells, *P. smithii*; Siskiyou Bells, *P. parvifolia*; and Drops-of-gold, *P. hookeri*. In the east, Yellow Mandarin, *P. lanuginosa* and *P. maculate*, are found in the Ozark and Appalachian regions.

FLOWER: Flowers are creamy-white, ½ to 1 ½ inch (1.3-4 cm) in size, and bell-shaped. Berries are orange to red, ¼ to ½ inch (0.6-1.3 cm) wide, and hold 6 to 12 seeds.

LEAF: Leaves are egg-shaped with pointed tips and rounded bases and have parallel veins. Stems have few branches, can be smooth or hairy with alternating 1½-5 inch (4-13 cm) long leaves that clasp the stems.

EDIBLE PARTS: berries

KEY MEDICINAL USES: Leaves may aid wound healing.

HOW TO HARVEST AND EAT: Fruit can be harvested in late summer-fall. Harvesting after frost may provide sweeter fruit. Fruit is ripe when orange to red, depending on the species. Berries have a slightly sweet flavor but may be mealy and bland.

WILD BERRY JELLY: Collect berries along with other available wild berries. Cook and mash together in a pot, for 5-10 min. Add water just enough to cover if mixture is too dry. Strain cooked berry juice. For each cup of juice, use equal amount of sugar and ½ ounce (14g) of dry pectin powder. Bring juice and pectin to a rolling boil. Add sugar and boil for 1 min. Pour into sterile jar and let set. Consume within 2 weeks.

POISONOUS LOOK-ALIKES: Solomon's Seal, *Polygonatum* spp.

False Dandelion, *Agoseris* spp. (ASTERACEAE)







FALSE DANDELION or Agoseris is a small perennial found in grassy areas on foothills, montane slopes, and alpine/subalpine areas. There are about 15 species; the most common edible species are *A. glauca* and *A. aurantiaca*.

FLOWER: A single flower stalk rises to a single yellow or orange flowerhead, up to 20 inches (50cm) tall. The seed head is a ball of white hairs, resembling dandelion.

LEAF: Slender basal leaf, smooth to slightly hairy, are up to 15 inches long (2.5 cm).

EDIBLE PARTS: flowers, leaves, sap

KEY MEDICINAL USES: *Agoseris* can be used topically to treat wounds and swollen arms, wrists, and ankles.

HOW TO HARVEST AND EAT: Flowers and leaves are edible raw. Flowers are best harvested soon after they open and can be used for tea. Leaves can be cooked as greens and are best harvested in early spring, before the plant starts to make flowers. If harvesting leaves later, plunge in cold salted water for 15 min. to help with bitterness. Gather sap from flower stems. Sap has rubbery, latex compounds; is traditionally dried and used as chewing gum for flavor, as well as cleaning teeth.

WILD GREENS SAUTÉ: Ingredients: 2 cups agoseris greens and other wild greens (lamb's quarters, dandelion leaves), 1 onion, 1 clove garlic, 2 tbsp. apple cider vinegar, 1 tsp. honey, 1 tsp. lemon juice, salt and pepper. Wash greens. Mix apple cider vinegar, honey, and lemon juice. In a sauté pan, lightly brown diced onion and garlic. Add greens and stir. Put a lid on and remove from heat. Let stand 5-10 min. Toss in vinegar, honey, and lemon juice. Serve warm with cooked grains, or as a side to roasted root vegetables.

False Solomon's Seal, *Maianthemum racemosum* (ASPARAGACEAE)









FALSE SOLOMON'S SEAL is found in moist, shady forests, thickets, and open areas. Young rolled up shoots unfurl to become arching lush unbranched stems in early summer, 1 to 3 ft. (0.30-1 m) tall. It is an herbaceous perennial that spreads by cylindrical rhizomes. Another notable species is *M. stellatum*, which is smaller but with flowers that are showier.

FLOWER: In late spring-early summer creamy-white, star-shaped flowers are found at the tips of the singular plant stems. Each flower is ¼ inch (5 mm) wide and has 6 petals. They develop into clusters of small round berries, which turn from green to red.

LEAF: Leaves alternate up the arching stems, oval, lush, and bright green with strong parallel veins. Leaves are 6 inches (15 cm) long with pointed tips.

EDIBLE PARTS: fruit, young leaves and shoots, roots

KEY MEDICINAL USES: Root may be analgesic and antiseptic.

HOW TO HARVEST AND EAT: Fruit is delicate and can be eaten raw or cooked. They have a bitter-sweet taste and may have a laxative effect in large quantities. Young leaves and shoots can be cooked and used as asparagus. Roots can be cooked and eaten like potatoes.

WILD BERRY DRINK: Cook together in a pot False Solomon's Seal berries and other wild berries, mashing for 5-10 min. Strain the juice. Add 2 tbsp. of juice to 1 cup cool, fresh water. Add lemon juice and honey to taste. Enjoy.

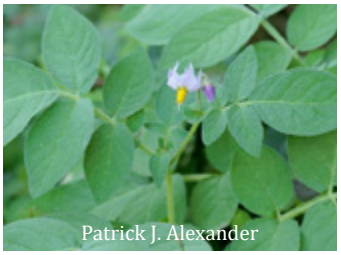
WARNING: Too many berries may have a laxative effect.

POISONOUS LOOK-ALIKES: Solomon's Seal, *Polygonatum* spp.

Fendler's Horsenettle, *Solanum fendleri* (SOLANACEAE)









FENDLER'S HORSENETTLE, also known as Wild Potato, can be found in just 6 counties of southern New Mexico, 5 counties of southeastern Arizona, and the mountains of western Texas. It grows in rich, organic soil in pine forests and can reach 20 inches (50 cm) in height.

FLOWER: Flowers are flat, round, 1 inch (2.5 cm) wide, and bloom in summer-early fall. They are like potato flowers, having 5 pointed lobes and yellow stamens protruding from the flowers' center like a beak. Fruits are less than 0.5 inch (1.5cm) and non-edible.

LEAF: Leaf undersides are tinged purple and hairy. They are 6 inches (15 cm) long, alternate, and pinnately compound with 5-7 elliptic to egg-shaped leaflets. The leaflet at the tip is the largest.

EDIBLE PARTS: tuberous roots

KEY MEDICINAL USES: Gastric upset or overacidity.

HOW TO HARVEST AND EAT: The small potato-like tubers are edible if cooked. Harvest as you would garden potatoes. Dig the tubers once the plant has completed flowering and most of the herbaceous, above-ground plant parts have turned yellow. This may provide an opportunity to plant some of the tubers for next year as well as harvesting some for eating. Raw tubers are very astringent.

ROASTED ROOTS: Gather your favorite root vegetables and some Fendler's Horsenettle tubers. Wash thoroughly, peeling when necessary, and chop to desired size. Toss lightly in melted butter and season with salt and pepper. Bake for 25-35 min. and enjoy.

WARNING: Being a potato and part of the nightshade family of plants, leaves, fruits, and seeds are toxic and may be poisonous.

Fennel, *Foeniculum vulgare* (APIACEAE)







FENNEL is an upright, branching perennial, grown in vegetable and herb gardens, that has escaped cultivation. Loved for its licorice flavor, it grows 3-ft. (1-1.5 m) tall and 1.5-3 ft. (45-90 cm) wide from a long deep taproot.

FLOWER: Blooming most often in its second year, at the end of summer, flowers are small, bright yellow, and less than ¼ inch (0.5 cm). They are produced on 2 to 6-inch (5-15 cm) umbels. Each umbel can have 20-50 flowers. Seeds are tiny, 0.15-0.4 inch (4-10 mm) long, and half as wide.

LEAF: Leaves are smooth dark green to yellow green, 16-inch (40 cm) long, and finely dissected. Their thread-like segments are even thinner than dill weed.

EDIBLE PARTS: seeds, fruit, flowers, leaves, above-ground bulb, young shoots, roots, and stems

KEY MEDICINAL USES: Fennel is antifungal, antibacterial, antioxidant, antithrombotic, and liver protecting.

HOW TO HARVEST AND EAT: Harvest fresh leaves before the plant flowers, in the spring to early summer. Leaves can add flavor to fish, egg dishes, salads, and tea; can be dried for future use. After the plant has flowered, cut down the top of plant to harvest the bulb and use as a flavorful celery substitute. Roots can be dug and roasted or boiled. Seeds are ripe and ready for harvest when they are grey brown and dry. Cut umbels and shake fennel seed loose. Keep in a cool dark place

RAW FENNEL SALAD: Trim the tops off the above-ground bulb. Dice fresh clean leaves. Core the bulb and slice as thinly as possible. Marinade in oil, lemon juice, and salt. Toss with other salad vegetables of your choice. Garnish with diced fresh leaves. Enjoy!

POISONOUS LOOK-ALIKES: Poison Hemlock, *Conium maculatum*

Field Pennycress, *Thlaspi arvense* (BRASSICACEAE)







FIELD PENNYCRESS grows throughout Canada and US, preferring disturbed areas such as pastures, roadsides, gardens, and waste places. It can grow up to 3 ft. (1 m) but is usually 1-2 ft. (0.3-0.6 m) tall.

FLOWER: Dense flower clusters grow from both the central stem and upper side stems, starting at the tips, which lengthen to 3 to 8 inches (7.5-20 cm) as the plant matures. Blooming from May to July, each flower is 0.13 inch (0.3 cm) with 4 white petals and 4 green sepals. Each flower becomes a ½ inch (1.2 cm) long, flat, round seed pod. Seedpods are found at the end of slender stalks, in whorls along the stems.

LEAF: A basal rosette of oblong, coarsely toothed or lobed leaves appear in spring. They are 3 inches (8 cm) long and 1 inch (2 cm) wide, which then grow alternately up the stems.

EDIBLE PARTS: seeds, young leaves

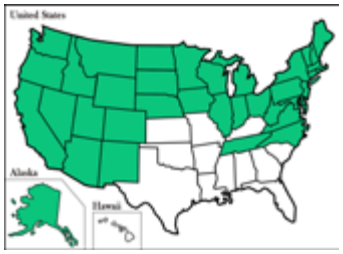
KEY MEDICINAL USES: It has antibacterial and anti-inflammatory properties.

HOW TO HARVEST AND EAT: Young leaves have a unique mustard-like flavor and can be eaten raw or cooked; can be spicy and are best used in moderation. They should be harvested before the plant is in flower. Seeds can be sprouted or ground into a powder and used as a mustard substitute.

SPRING GREENS SALAD: Collect young Pennycress leaves and mix with other young salad greens and vegetables. Toss with your favorite salad oil and vinegar.

WARNING: Field Pennycress can absorb toxins, so only harvest from uncontaminated sites.

Fireweed, *Chamerion (Epilobium) angustifolium* (ONAGRACEAE)







FIREWEED is a colonizing perennial that grows erect, 3-5 ft. (0.9-1.2m) tall, often found as one of the first plants seen after a forest fire.

FLOWER: Pink to purple flower spikes are 3 to 8 inches (7.5-20 cm) long, beautifully tapered, with up to 50 saucer-shaped, 1 inch (2.5 cm), 4-petaled, outward-facing flowers that bloom from the bottom up. Top flowers can still be in bud, while bottom flowers have turned to tiny, brown seed. Seeds have silky hairs for wind dispersal.

LEAF: Narrow, alternate, hairless leaves are willow-like, up to 6 inches (15 cm) long, and ¾ of an inch (2 cm) wide. Leaves are unique in that their veins are circular.

EDIBLE PARTS: flower buds, flowers, young leaves, stems, roots

KEY MEDICINAL USES: It has anti-inflammatory activity and may aid skin and digestive issues.

HOW TO HARVEST AND EAT: Flowers and buds can be picked when unopened or just newly opened, made into syrup or jelly or used as garnish. Flower stalks can be eaten raw or cooked. They are best harvested before flower buds form. Young leaves and shoots are best harvested before the plant is in flower; can be eaten raw or cooked. Root can be cooked or dried and ground into powder for flour; best harvested before flowering to avoid bitterness. Leaves can be harvested anytime to be used in tea, or dried for later use.

FIREWEED JELLY: Gather 8 cups blossoms and buds, lightly packed, 5 cups water, ¼ cup lemon juice, 2 oz. (57 g), powdered pectin and 5 cups sugar. Boil blossoms for 10 min. Strain juice. Add lemon juice, pectin and sugar. Hard boil for 1 min. Pour into sterilized jars, refrigerate and consume within 1 month.

WARNING: May have a laxative effect.

POISONOUS LOOK-ALIKES: Foxglove, *Digitalis purpurea*

Fleabane, *Erigeron* spp. (ASTERACEAE)







FLEABANE is a North American native daisy-like wildflower found in fields, along roadsides, and against fences. From a large genus of 35 species, several notable *Erigeron* species are *E. annuus* or Daisy fleabane, *E. philadelphicus*, Philadelphia fleabane, and *E. strigosus*, Rough fleabane. Fleabanes range in height between 1 and 3 ft. (0.3-1 m).

FLOWER: Flowers range in color from white and yellow to shades of pink and purple. They are composite, meaning there are tiny flowers on a central disk, surrounded by short, petal-like rays. The central disk ranges in size from ½ to ¾ inch (1.2-3 cm).

LEAF: Basal leaves are long, oval, and measure up to 6 inches (15 cm). Upper leaves are toothed and clasp to the stem. All leaves are hairy.

EDIBLE PARTS: young leaves and seedlings

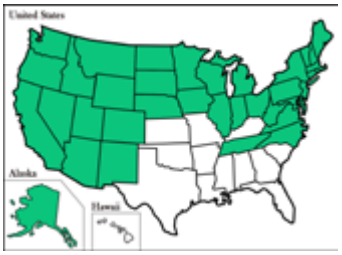
KEY MEDICINAL USES: The plant can be used as a diuretic.

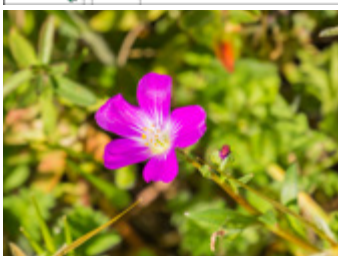
HOW TO HARVEST AND EAT: Choose healthy young plants in their basal rosette stage early in the spring before the plant begins to flower. Pinch undamaged leaves off close to the plants' center to collect. You may wish to use in moderation, pairing with leaves of smoother texture or chopping well to increase palatability. Leaves need to be cooked and are good boiled.

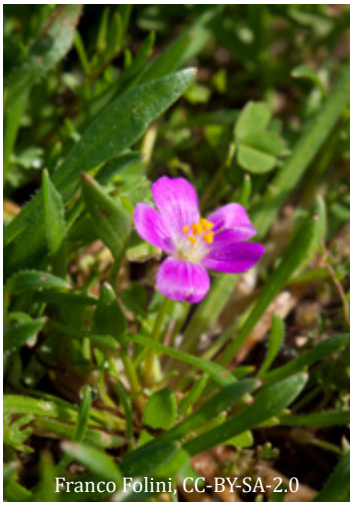
FLEABANE GREEN RICE: Collect ½ cup fresh leaves, trim, and wash well. Chop as finely as possible. Mix with other finely chopped greens and herb. Make rice. At the final stages of cooking when rice is done but still steaming, stir in finely chopped greens, place lid on, and let it stand an additional 5 min. Enjoy the green flavor and additional nutrition.

WARNING: May cause dermatitis and miscarriage; best avoided by pregnant women.

Fringed Redmaids, *Calandrinia ciliata* (MONTIACEAE, formerly PORTULACACEAE)







Franco Folini, CC-BY-SA-2.0

FRINGED REDMAIDS, Red Maids or Desert Rockpurslane is an herbaceous flowering annual that varies in size from small, low-spreading patches, a couple of inches wide, to an upright branching form over 16 inches (40 cm) tall. It is an early spring-blooming wildflower of the southern deserts, preferring dry, open grasslands.

FLOWER: Flowers bloom in early spring, are showy, rose, red, or pink. There are five bright petals on each flower. Each flower can be over ½ an inch (1.5 cm) long.

LEAF: Alternate leaves are green, fleshy, narrow, with slightly spade-shaped tips. They range from ½ to 4 inches (1-10 cm) long and are smooth and succulent.

EDIBLE PARTS: seeds and leaves

HOW TO HARVEST AND EAT: Seeds are rich in oil and can be gathered in large quantity, but can be fiddly to harvest as they ripen over an extended period of several weeks. Young leaves and shoots can be eaten cooked or raw and added to salads or used as a garnish.

COLLECT SEED: Trim and clean plant parts that have gone to seed. Shake and tap plant trimmings over a bowl. Allow to dry, removing any chaff from the seed. Store in a cool, dry place in an airtight container. Use as you would poppy or chia seeds; add to baking, smoothies, or oatmeal.

WARNING: Although safe in small amounts and when cooked, this plant contains oxalic acid and should be used in moderation and with caution by people who suffer from arthritic conditions.

Glacier-Lily, *Erythronium grandiflorum* (LILIACEAE)




Walter Siegmund, CC-BY-SA-3.0

YELLOW GLACIER LILY, also known as Avalanche Lily, gets its name from the fact that it is often found on the snow line in sub-alpine meadows of western North America. It grows from a small, deep bulb and can reach up to 10 inches (25 cm) high.

FLOWER: Yellow glacier lilies are one of the first sub-alpine plants to bloom once the snow starts to melt. Each bulb produces 1-3 stems that are about 6-16 inches (15-40 cm) tall. Each stem produces a single nodding flower that is between 1-2 inches (2.5-5 cm) in size. The flowers are 6 bright yellow petals that are fused to its sepals (called tepals). These tepals curve back from the stigma and brightly colored (mostly yellow) stamens that hang down towards the ground.

LEAF: Each bulb produces 2 basal leaves that grow between 4 and 10 inches (10-25 cm) long. The soft, fleshy green leaves are like wide blades that curve inwards.

EDIBLE PARTS: bulbs, leaves, and young seedpods

KEY MEDICINAL USES: The bulb is ground into a poultice to treat skin conditions like minor wounds.

HOW TO HARVEST AND EAT: Unlike other lilies whose bulbs are harvested once the plant has gone dormant in the winter, yellow glacier lilies are harvested before it has flowered in spring. Bulbs can be harvested as soon as the leaves begin to shoot. Their taste changes from slightly bitter and milky when raw, to starchy and sweet when cooked. Bulbs are eaten in small quantities. Larger doses can cause vomiting. Leaves (raw or cooked) and young seedpods (cooked like green beans) can also be eaten, though it reduces the potency of the bulb.

BELL PEPPER STUFFED WITH YELLOW GLACIER LILY RECIPE: Ingredients: 1 large red bell pepper, ½ a cup of chopped yellow glacier bulbs, ½ a cup of finely diced potatoes, 1 cup of chopped cauliflower, 1 garlic clove, fresh basil leaves for garnish. Cut the bell pepper in half, scoop out the seeds and set to one side. Fry the garlic, potatoes, cauliflower and bulbs in a pan and then ladle the mixture into the bell pepper halves. Bake in the oven at 370°F (190°C) for 20-30 min. Garnish with fresh basil.

POISONOUS LOOK-ALIKES: Death Camas, *Toxicoscordion venenosum* - grows in similar areas, but has longer, darker, narrower leaves. The inward curve of the leaf is much more pronounced on the yellow glacier lily.

Glasswort, *Salicornia* spp. (AMARANTHACEAE)







GLASSWORT, Sea Asparagus, Pickleweed, or Sea Bean is an annual succulent. There are 30 species of *Salicornia*. Glassworts are flowering plants with succulent light emerald-green stems that look similar to asparagus in summer, often changing to red or purple in fall. Stems may sprawl along the ground or stand erect, growing 4–20 inches (10-50 cm) tall.

FLOWER: Flowers are tiny and hidden by bracts, with 1 to 2 stigmas protruding from the bracts. They are radially symmetrical with 3 sepals fused into a cup, or tube shape. Fruits are dry, but do not split when ripe. All stems terminate in spike-like "jointed" inflorescences.

LEAF: The plant appears to be leafless, as opposite leaves are highly reduced to fleshy scales and fused together. The scales form a succulent sheath around the stem, giving the appearance of jointed segments.

EDIBLE PARTS: stems and tips

KEY MEDICINAL USES: Glasswort is known for its diuretic qualities and purifying effects.

HOW TO HARVEST AND EAT: Break off 1-2-inch lenghts of emerging tips from branching sections. Young, tender stems can be eaten raw, cooked, or pickled. They have a salty taste and are good pickled, tossed in salads, or in soups.

SAUTÉED SEA BEANS: Preheat skillet on medium high heat, melt 3 tbsp. butter and add 2 handfuls of cleaned sea beans. Finely grate 1-2 cloves garlic on top, stir rapidly, and remove from heat. Serve with fish or on their own.

Goldenrod, *Solidago* spp. (ASTERACEAE)






GOLDENROD is a large genus of about 120 edible species. Generally, Goldenrod is a native, hardy, perennial, 2 to 5 ft. (0.6-1.5 m) tall, with hairy stems. Some species smell like licorice or anise when leaves are crushed. Goldenrod hybridizes freely with other species in the genus, so it can be difficult to determine what species you have. Most species bloom in late summer to early fall. Some notable species are Canada Goldenrod, Northern Goldenrod, and Missouri Goldenrod.

FLOWER: Golden-yellow flower clusters can range in size and shape, from 1-inch (2.5 cm) clusters of tiny ⅛ inch (3 mm) flowers to giant branching sprays, 2 ½ ft. (75 cm) tall, covered in ¼-inch (6 mm) flowers.

LEAF: Leaves are narrow, single-veined, and dark green with smooth or hairy margins and pointed tips. They range in size from 1 to 4 inches (2.5-10cm) long.

EDIBLE PARTS: seeds, flowers, leaves

KEY MEDICINAL USES: May treat a wide variety of issues, from digestive problems to cancer.

HOW TO HARVEST AND EAT: All aerial parts are edible raw or cooked. Leaves are best harvested before the plant begins to flower. Choose freshly opened, young flowers for drying or to use in salads. Dried flowers and leaves can be used for tea. Harvest seeds when most of the plant has dried in late fall by shaking the seed heads over a bucket or large bowl and sifting to remove the chaff. Seeds can be powdered and used as a thickener in soups and stews.

GOLDENROD TEA: Dry leaves and flowers for several days and store in an airtight container. Use 1 tbsp. to each cup of boiled water. Steep for 10 min.

WARNING: A toxic fungus can grow on the leaves. Only use fungus-free plant parts.

Greater Stitchwort, *Rabelera holostea* (CARYOPHYLLACEAE)







GREATER STITCHWORT, Starwort, or Addersmeat is found in woods, gardens, field edges, and waste ground. It is a perennial herb that grows 8 to 12 inches (20-30 cm) tall on brittle, smooth, glossy stems. It is often hard to differentiate from grass, until it is in bloom.

FLOWER: Flowers appear in late March to the end of June and are typically 1-1.5 inch (2-3cm) in diameter. They have 5 white, deeply notched petals, that can be mistaken for 10 petals.

LEAF: The grey-green leaves are opposite, stalkless, and 8 to 12 inches (20-30 cm) long, spreading in 3 to 8 pairs, narrow and pointed.

EDIBLE PARTS: flowers, flower buds, and green shoots

KEY MEDICINAL USES: May have cooling, anti-inflammatory properties.

HOW TO HARVEST AND EAT: Choose healthy new shoots and cut at ground level, early in the spring. Tasting like a grassy lettuce, the shoots can be chopped into salads, steamed, or quickly boiled. Flowers and buds can be picked before or just as they open and added to salads.

MARINATED SPRING SALAD: Collect baby greens of lettuce, spinach, chards, and kales for the base of this spring salad. For the marinade, mix 1 tsp. each of fresh herbs of mint, thyme, and oregano with olive oil, vinegar, salt, and pepper. Use ½ cup each of frozen (thawed) corn, peas, and asparagus tips. Dress with marinade. Let stand at least 1 h. Arrange baby greens on plates. Place marinated vegetables on top. Decorate with stitchwort flowers.

Greenthread, *Thelesperma megapotamicum* (ASTERACEAE)







GREENTHREAD, also called Wild Tea, Hopi Tea, Navajo Tea, and Cota, grows 12-36 inches (0.3-1 m) tall and is recognizable by its thin but sturdy, upward growing stems, that are topped with a single flowerhead. It is a perennial herb that produces slender branches.

FLOWER: Flowerheads are about ½ inch (1.3cm) in diameter, yellow, and consist of up to 100 disc florets. Beneath the florets is a grayish-green bract, which is fused and cup-like.

LEAF: The opposite leaves are widely-spaced up to 4 inches (10cm) along the stem. They are compound and pinnate, and divided into a small number of narrow threadlike lobes that measure 1-1½ inch (2.5-3.5cm).

EDIBLE PARTS: flowers, leaves, stems

KEY MEDICINAL USES: : May treat a wide variety of issues, from digestive problems to cancer.

HOW TO HARVEST AND EAT: It is traditionally harvested in fall, once it has gone to seed, by pulling the entire plant by its stem, while keeping the roots intact. Then, shake the plant upside down so that the seeds will continue their lifecycle. Rinse and dry outside for 1-2 days. Once dried, they can be chopped and stored for later use. The aerial parts can be boiled and used as tea.

TRADITIONAL TEA: Tea can be prepared the traditional way by placing the flowers, leaves, and stems in glass containers, which are then filled with water. Let the tea steep in the sun until the water is a nice rusty red color. Enjoy this flavorful traditional tea hot or cold.

Groundcone, *Boschniakia* spp. (OROBANCHACEAE)







GROUNDCONE is a parasitic plant resembling a pinecone lying on the ground. It is completely dependent on its host plant for food and nutrients. Because it is parasitic, it has no leaves or chlorophyll of its own. They are erect, reddish brown to dark purple, and grow from 5 to 12 inches (12-30 cm) tall. There are 3 species in the genus: **Northern Groundcone**, *B. rossica*, **Vancouver Groundcone**, *B. hookeri*, and **California Groundcone**, *B. strobilacea*.

FLOWER: Most of the above ground part is the 4 to 8 inches (10-20 cm) flower spike. It is cone-shaped and surrounded by bracts or scales resembling the scales of pine or fir tree cones. Purplish-red ½ inch (1.3 cm) flowers stick out from between the bracts. These become small, round fruits bearing tiny seeds. They bloom in May through July. Dried flower spikes can stay on the forest floor long after the flowers have wilted.

LEAF: none

EDIBLE PARTS: potato-like structure at the stem base

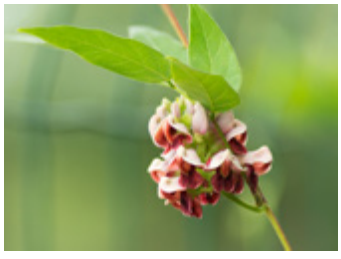
KEY MEDICINAL USES: Roots may treat coughs.

HOW TO HARVEST AND EAT: Roots will be entwined to their host plant, so loosen and cut plant off at the roots. Always leave at least twice as much as you take.

EMERGENCY GROUNDCONE SNACK: Peel the stem to reveal the potato-like portion. You can have it raw or roasted. As with any unusual or new plant, try a small amount, maybe even touch it to your skin before eating to ensure no adverse effects.

Groundnut/Hopniss, *Apios americana* (FABACEAE)







GROUNDNUT, Hopniss, or Potato Bean is a climbing vine that prefers damp areas and riparian woods. It grows from southeastern Canada to Florida and west, as far as Colorado. Groundnut will climb nearby structures, such as trees and shrubs. It will also pile up on itself on the ground. Depending on growing conditions, red-brown stems can be 3 to 20 ft. (1-6 m) long. Underground, the plant forms long rhizomes with neatly spaced, edible swellings that are 1-2 inches (2.5-5 cm), but can reach larger sizes after several years - up to 8 inches (20cm).

FLOWER: Pink to purple ¾ inch (2cm) flowers bloom in summer at the apex of the leaves. They grow in clusters and become a seed pod, that is 2-5 inches (5-12cm) long.

LEAF: Smooth, toothless, veined alternate compound leaves are 3-6 inches (8-15cm) long. They have 5 to 7 leaflets (rarely 3), 1.5-3 inch (4-8 cm) long.

EDIBLE PARTS: seeds, seedpods, flowers, leaves, stems, rhizomatous tubers

HOW TO HARVEST AND EAT: Rhizomes can be harvested anytime, but fall-early spring is best. Tubers are found in the top 6 inches (15cm) of soil. A shovel is helpful. Skins are woody and slip off easily when boiled. Tubers are dry and starchy and can be boiled, roasted, fried, or dried and ground into a flour additive. Leaves, stems, seeds, and particularly tubers should not be eaten raw. Seeds and seedpods do not always appear; can be cooked and used like beans.

GROUNDNUT CHIPS: Collect 3-4 cups of tubers. Boil for 5 min. and dunk in cold water to slip off skins. Slice lengthwise into ¼-inch (0.6 cm) slices. Season lightly. Deep fry for 3 min. or shallow fry, flipping occasionally for 3-5 min. Season with salt and serve hot or cold.

WARNING: It contains difficult to digest sugars and some people may want to boil it for 30 min.

Hedgenettle (Common), *Betonica/ Stachys officinalis* (LAMIACEAE)







BETONY, Common Hedgenettle, Bishopwort, or Wood Betony, previously known as Stachys officinalis, is found in dry grasslands, meadows, and open woods. It grows to 1-2 ft. (0.3-0.6 m) tall. It is square stemmed and mat forming, and the roots are light in color, thick, woody, and easy to dig. The plant is covered in fine hairs.

FLOWER: Blooming July to September, seeds ripen from July to October. The white, pink, or purple, ½ inch (1.5 cm) flowers are two-lipped and arranged in dense rings that form short 2- to 4-inch (5-10 cm) spikes. Fertile flowers are followed by four brown, smooth three-cornered nutlets.

LEAF: From a rosette at the base of the plant, leaves are 2-10 inches (5-25 cm) long and grow in opposite pairs sparsely up the stem. They are heart-shaped at the base, narrowly oval, with a wrinkly texture and toothed margins.

EDIBLE PARTS: flowering tops, shoots, and leaves (for tea)

KEY MEDICINAL USES: May help arthritis, anxiety, high blood pressure, pain, and digestion.

HOW TO HARVEST AND EAT: Tea can be made from the upper plant, collected when in flower or just before blooming and dried for later use. Tea is aromatic with a slight vanilla scent.

WOOD BETONY TEA: Use 1-2 tsp. of washed, dried leaves and steep for 10-15 min. in one cup of boiling water. Enjoy this relaxing tea before bed, or to settle nerves.

Hops, *Humulus lupulus* (CANNABACEAE)






HOPS is a perennial vine that grows up to 30 ft. (9 m) long. The stems are prickly and bristly, and light green or tan. It grows in disturbed areas, climbing structures and other vegetation. Hops are grown primarily for flavoring and preserving beer. There are both male and female plants, each with different blooms.

FLOWER: Male plants produce drooping panicles of flowers in summer that are 12 inches (30 cm) long and 6 inches (15 cm) wide. These contain numerous small yellow or whitish green flowers that are star-like and ¼ inch (0.6 cm) across. Female plants produce cone-like spikes of flowers in summer that are 3 inches (7.5 cm) long and 2 inches (5 cm) wide. They are oval and are made of overlapping green, oval bracts. This becomes a dry fruit in autumn that eventually turns brown and contains the seed. The flowers smell like pine.

LEAF: Lobed palmate leaves are opposite with a rough texture and coarse serrated edges. They are medium green to yellowish on top and whitish green and hairy underneath. They grow 6 inches (15 cm) long and 4 inches (10 cm) wide with 3 to 5 lobes.

EDIBLE PARTS: fruit, flowers, leaves, and young shoots

KEY MEDICINAL USES: Hops has antiseptic, antispasmodic, antibacterial, and calming properties.

HOW TO HARVEST AND EAT: Young leaves can be eaten raw in salads, or cooked as vegetables alongside young shoots. Pick leaves and shoots before the end of May. The flower cones can be used for tea or for flavoring dishes, baked goods, or for brewing beer.

HOP TEA: Gather flower cones when still green and use 3-4 cones for each cup of water. Boil for 10 min. Drink tea as is or add other herbal teas such as chamomile or peppermint.

WARNING: May cause dermatitis when handling. Avoid during pregnancy and when suffering breast, uterine, and cervical cancers. Toxic to dogs.

Horehound, *Marrubium vulgare* (LAMIACEAE)







WHITE/COMMON HOREHOUND is a drought tolerant hardy wild edible that can be found in disturbed areas, fields, and along roadsides. It is square stemmed, bushy, and well branched. It grows 10-18 inches (25-45cm) tall.

FLOWER: Plant blooms in April-October, in its second or third year. White flowers are ⅛ inch (0.3 cm) in size and grow in clusters and spiral around the stem.

LEAF: Leaves are ¾-2 inches (2-5 cm) long, opposite, wooly, and whitish-gray; have a sharp, bitter scent.

EDIBLE PARTS: flowers and leaves

KEY MEDICINAL USES: Helps with cough and colds. May aid indigestion and induce appetite.

HOW TO HARVEST AND EAT: Harvest stems during flowering. Trim top 6-8 inches (15-20cm). These can be bundled and dried, away from sun and heat. Once dry, strip leaves and flowers from stems and store in an air-tight container for use as tea or seasoning. You can also use the leaves and flowers fresh in salads, stir-fry, soup, or stew. They are bitter tasting so best to use in moderation.

HOREHOUND DECOCTION: Steep 1 cup dried/2 cups fresh leaves and flowers in 3 cups of boiling water. Cover and steep for 15 min. Drain. Liquid is ready to make a syrup by adding equal parts honey or sweetener. Or the liquid can be used as an addition to a soothing beverage or to make horehound candy or cough drops. A less concentrated decoction makes a nice tea.

WARNING: Large doses may affect heart rhythm, blood pressure, and blood glucose. Best to use sparingly and less than once a week.

Horsetail, *Equisetum arvense* (EQUISETACEAE)







HORSETAIL is a fern-like perennial. It spreads extensively by 3 ft. (1m) long dark-felted rhizomes with small tubers. In early spring, fertile unbranched stems appear; are thick and succulent, brownish to whitish, 4-12 inches (10-30cm) tall, and topped with a cone-like structure. These die back in late spring and are followed by green, slender, vegetative stems that are 8-40 inches (20-100 cm) tall, leafless but have whorls of 6 to 8 branches. They have very high levels of silica.

FLOWER: Cones shed spores in early May; it has no true flower.

LEAF: Pointed sheaths at nodes of both early cone-bearing plant and vegetative green plants.

EDIBLE PARTS: stems and roots

KEY MEDICINAL USES: May treat wounds, burns, infections.

HOW TO HARVEST AND EAT: The brownish shoots of early spring can be used as asparagus. Pick when very young, remove the node sheaths and cone tip, then fry or cook in at least one change of water; can be eaten raw but are better cooked. Vegetative new green shoots are edible raw; pick before branches unfold and peel the sheaths. Root nodules are difficult to harvest being small and deep; are edible cooked, or dried and then cooked. Use caution when eating roots.

HORSETAIL SAUTÉ: Soak shoots in cold salted water for 5 min. Strain and blanch for 30 sec. in boiling salted water with 2 tbsp. of vinegar. Plunge immediately in the cold salted water for an additional 5 min. Pat dry and sauté in butter until crisping. Add a splash of balsamic vinegar.

WARNING: May be toxic to livestock. May rob the body of vitamin B. Enjoy in moderation.

Indian Cucumber, *Medeola virginiana* (LILIACEAE)







Fritz Flohr Reynolds, CC-BY-SA-2.0

INDIAN CUCUMBER or Indian Cucumber Root is a perennial that grows 1-2.5 ft. (0.3-0.7m) tall. It has one erect unbranched stem with 1 or 2 whorls of leaves. Plants with 2 whorls of leaves produce flowers. The central stem is medium green, slightly woolly when young, becoming hairless and smooth with maturity.

FLOWER: Hermaphroditic flowers occur at the top of the second tier of leaves. There are 3-9 nodding/hanging flowers. Each flower is 0.6 inch (16 mm) across. They have 6 greenish-yellow petals that fold back with time, revealing a center with purple stamens and 3 distinctive red styles. They bloom from late spring to early summer for about 1 month. In late summer and fall, the small flower stalks become more erect holding berries with seeds. They are ¼-⅓ inch (6-8 mm), dark purple berries that are held above the leaves.

LEAF: In flowering plants, there are 2 whorls of leaves: one at the middle of the stem with 5 to 10 leaves that are 2 ½ to 5 inches (6.5-13 cm) long and ½ to 2 inches (0.6-5 cm) wide and an upper tier of whorled leaves at the top of the plant with 1 to 5 leaves that are 2 to 4 inches (5-10 cm) long and ½ to 2 inches (0.6-5 cm) wide. All the leaves are smooth, hairless, medium green, and elliptic to oval in shape with pointed tips. Leaves often get a purple tinge when once berries form.

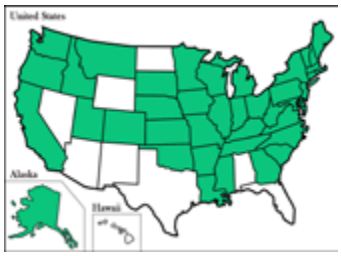
EDIBLE PARTS: roots

KEY MEDICINAL USES: The root may be diuretic and has been used to treat edema.

HOW TO HARVEST AND EAT: Harvesting is not recommended as this is a rare plant. If you must harvest, take the opportunity to replant some of the rhizomes to help distribute the plant. Roots are crisp and tender with the aroma and taste of cucumber. They can be eaten raw or cooked and have a sweet flavor. When the plant has finished flowering and setting seed in the fall, gently dig the small 3-inch (7.5 cm) roots. Take a moment to spread some berries to help distribute its seeds.

INDIAN CUCUMBER WITH WILD GREENS: Gather 1 or 2 Indian cucumber roots. Wash and rinse away any debris. Slice thinly. Gather 2 cups wild greens and dunk in cold salted water. Many greens are improved if there has been a light frost. Trim and rinse greens. Spread greens on a plate and top with thinly sliced Indian cucumber root. Dress this salad gently with 1 tbsp. light, herbed vinegar mixed with ½ tsp. of maple syrup.

Japanese Knotweed, *Polygonum cuspidatum* (POLYGONACEAE)





Matt Lavin, CC-BY-SA-2.0


JAPANESE KNOTWEED is a semi-woody, rhizomatous perennial that is fast growing with hollow, erect, branched, bamboo-like stems. It forms dense, leafy thickets that are woody with age. Young shoots are red. It prefers moist habitats including riverbanks, wetlands, and lakeshores. It grows 5-8 ft. (1.5-2.5 m) tall with distinct raised nodes that give it the appearance of bamboo.

FLOWER: Flowers are formed on spike-like, 2.5-6-inch (6-15cm) clusters at the leaf axils in late summer. Individual flowers are ⅛ inch (0.3 cm) across. They are green/white to pinkish with 5 petals. Female flowers produce small 3-angled black fruit, but this is uncommon.

LEAF: Leaves are arranged alternately along stems. They are 3-8 inches (8-20cm) long, 2-4.5 inches (5-11cm) wide, broad oval with pointed tips. They are hairless with smooth margins.

EDIBLE PARTS: young leaves and young shoots

KEY MEDICINAL USES: Roots are often used to help with Lyme and SARS-related viruses.

HOW TO HARVEST AND EAT: Young shoots and unfurled leaves can be eaten in spring, before the plant becomes woody, as vegetables or as an asparagus substitute. They can also be used in pies and jam, as rhubarb stems substitute. Soak in cold water for half a day or parboil for best results.

STEAMED JAPANESE KNOTWEED: Prepare 2 cups of shoots and leaves as above. Add 1 cup each of washed and trimmed asparagus and spinach. Make a dressing of 2 tbsp. melted butter, 1 tbsp. of honey, and 1 tsp. mustard powder. Set aside. Steam the greens and toss in the dressing.

WARNING: Often sprayed with herbicides, ensure you harvest from untreated plants.

Jerusalem Artichoke, *Helianthus tuberosus* (ASTERACEAE)







JERUSALEM ARTICHOKE is an erect 2 to 8 ft. (0.6-2.4 m) tall, occasionally branching, herbaceous perennial. They have light green stems that are stiff and hairy. Chunky tubers form underground and can be more than 2 inches (5cm) across.

FLOWER: Yellow flowerheads form at the ends of stems and are up to 8 inches (20cm) long. Each flowerhead is 2.5-3.5 inches (6-9cm) across; consists of a dense disk surrounded by 10-20 ray florets.

LEAF: Leaves are 9 by 4 inches (22 by 10cm) and can be either opposite or alternate, born on leaf stalks ¼ to 2 ½ inches (0.3-6cm) long. They are hairy, oval with rounded bases and pointed tips.

EDIBLE PARTS: roots/tubers

KEY MEDICINAL USES: A folk remedy for diabetes, it may aid digestion, appetite, and leaves may be antioxidant.

HOW TO HARVEST AND EAT: Tubers can be dug from mature plants at any time. Eating them can cause flatulence. This can be avoided by either harvesting after the plant has been exposed to frost or by cooking well. Tubers can be eaten raw or sliced thinly for salads. They can be used like potatoes when cooked. They are creamy inside when baked or roasted and puree well.

ROASTED JERUSALEM ARTICHOKE SOUP: Harvest 4 cups of roots and scrub well. Chop into 1-inch (2.5 cm) pieces. Chop 1 onion. Lightly coat with oil and salt and spread out on a baking tray. Roast for 25-30 min. at 350°F (175°C). Cover in 3 cups chicken, beef, or vegetable stock. Boil for 10 min. Mash well. Puree in blender. Add ½ cup of cream and season to taste. Enjoy warm.

Jewelweed, *Impatiens capensis* (BALSAMINACEAE)






The Cosmonaut, CC-BY-SA-2.5CA

JEWELWEED is found in moist woodlands, floodplains, bogs, roadsides and tolerates disturbed areas. It grows as a summer annual, 2-5 ft. (60-150 cm) tall, on succulent, semi-translucent, pale green, smooth, round stems. Stems are weak and fragile and can break easily.

FLOWER: The flowers are orange to reddish in small clusters of 1 to 3, and form a three-lobed tubular corolla with a hooked conical spur at the back of the flower. They begin blooming in midsummer and continue until the plant is killed by frost. They are unscented and 1 inch (2.5 cm) long and become 1 inch (2.5 cm) long seed pods that rapidly eject the seeds.

LEAF: Leaves are bluish green, alternate, ovate, and thin textured. They are hairless with low broad teeth. Leaf stalks are up to 2 inches (5 cm), shorter than the leaves which can be up to 5 inches (12.5 cm) long.

EDIBLE PARTS: flowers, leaves, and young shoots

KEY MEDICINAL USES: Used externally, it has anti-inflammatory, antihistamine, and anti-fungal properties. Often used for poison ivy rashes.

HOW TO HARVEST AND EAT: Large quantities can be purgative. Harvest stems, young shoots, and leaves when young and tender. They must be cooked, boiled in at least one change of water.

JEWELWEED GREEN BEANS: Gather 2 cups young shoots and stems. Trim to 2 inch (5 cm) long pieces and wash gently. Place in a pot of boiling water for 2 min. Remove and pat dry. In fresh salted boiling water, submerge shoots and stems for another 2 min. Drain. Dress with melted butter and a splash of vinegar.

WARNING: Best used in moderation and well cooked due to high quantities of calcium oxalate.

Kudzu, *Pueraria* spp. (FABACEAE)








Forest & Kim Starr, CC-BY-3.0

KUDZU is a fast growing, climbing perennial vine that can reach 100 ft. (30 m) in length. Stems can be ½-4 inches (1.2-10cm) in diameter and old stumps can be up to 12 inches (30cm) across. Varieties found in US are *P. montana*, *P. edulis*, *P. phaseoloides*, and *P. tuberosa*.

FLOWER: Purple flowers are highly fragrant, smelling of artificial grape flavoring. They are ½ inch (0.6 cm) long, and are found in long 4-inch (10 cm) clusters. They flower in late summer becoming brown, hairy, flattened, inedible seed pods.

LEAF: Leaves are green, broad, compound with 3 leaflets, and up to 4 inches (10 cm) across. They can be deeply lobed and are hairy underneath.

EDIBLE PARTS: flowers, leaves, young shoots, and roots

KEY MEDICINAL USES: Kudzu is antioxidant, improves blood circulation, and may help treat alcoholism.

HOW TO HARVEST AND EAT: Best to harvest shoots in spring and use like asparagus, raw or cooked. Young leaves can be harvested anytime to use as a green, dried for tea, or juiced. Older leaves become fibrous but can be used as food wrappers. Blossoms can be picked fresh for jelly or made into pickles. Roots are best harvested in fall or early spring and have an edible starch that needs to be pounded out of the fibrous wood. The wood, seeds, and seedpods are not edible.

SURVIVAL KUDZU ROOT CHEW: You can obtain nutrients from the starchy roots in a survival situation. Dig any root that is ½ to 3.4 (0.6-7.5 cm) thick, wash, and cut into 4 to 6-inch (10-15 cm) lengths. Scrape off the exterior bark. Chew and suck on the root to get the edible starch, being careful to not eat or swallow the nondigestible wood fibers.

Lady Fern, *Athyrium filix-femina* (ATHRYIACEAE)









LADY FERN is a lacy, erect, finely divided fern, 1 to 3 ft. (0.3-1m) tall and 1 to 2.5 ft. (0.3-0.7m) wide. In fiddlehead form, they have fewer brown scales at the base of the stem and shorter bottom leaves.

FLOWER: no flower

LEAF: Leaves are light yellow-green to green in color, 8-36 inches (20-90cm) long and 2-10 inches (5-2 cm) wide. They are diamond shaped, so the leaflets are shorter at the bottom and top of the stems with the middle leaflets being the longest. Brown horseshoe shaped scales are found on the undersides of the leaflets.

EDIBLE PARTS: unfurled leaves (known as fiddleheads)

KEY MEDICINAL USES: A tea may relieve pain and powdered root can be applied topically to heal sores.

HOW TO HARVEST AND EAT: Ensure correct identification by either marking the plant in the summer/fall when in its adult stage, or using an experienced forager. Young, unfurled shoots less than 4 inches (10cm) tall can be harvested in early spring by cutting close to the. Harvest only 1 or 2 fiddleheads per plant so that the fern lives. They must be cooked; boiled, or steamed for 10-12 min. after removing the brown scales. I enjoy them sautéed in butter.

CREAMY FIDDLEHEAD PASTA: Collect ½ cup fiddleheads and prepare as above. Make a roux with ½ cup diced onion, 1 diced clove garlic, cooked in ½ cup butter. Add 1 tbsp. flour. Cook for 10 min. Add ½ cup milk, stirring constantly over low heat until thickened. Gently add more milk if too thick. Add ½ cup grated cheese. Toss in lady ferns and mix well. Pour over cooked pasta.

WARNING: Some ferns may be toxic. Ensure absolute positive identification. Lady fern fiddleheads contain thiaminase, so they must be cooked to ensure no adverse effects.

Land Cress, *Barbarea verna* (BRASSICACEAE)







LAND CRESS, Creasy Greens, Upland Cress, or Early Winter Cress is a smooth-stemmed biennial herb that grows from a basal rosette of leaves with 6 to 10 pairs of lateral lobes, with the uppermost leaves pinnately divided several times. It grows 1 ft. (0.3 m) tall by 1 ft. wide. It can tolerate drier conditions than watercress and can be found growing in disturbed ground and meadows.

FLOWER: Flowers are mid yellow and less than ½ inch (0.7-1cm) in size. They grow from lightly dense flowerheads. The fruits are 1-2.5 inches (3-7cm) long and contain dark brown, plump seeds.

LEAF: Basal leaves are 1-4 inch (2.5-10cm) long and have 6 to 10 lobes on each side, with the end lobe being much larger. They have smooth margins. Stem leaves are shorter with fewer lobes.

EDIBLE PARTS: seeds, leaves, and oil

HOW TO HARVEST AND EAT: Leaves are bitter-spicy and can be used as a seasoning in salads rather than a green. For greens, it is best harvested young early in the day, before flowers have opened. Blanching in boiling water for at least 2 min. can help with the bitterness. Seeds can be pressed for an edible oil or sprouted.

SPICY GRAIN SALAD: Gather 1 cup of leaves and young unopened buds. Plunge in cold salted water for 10 min. Blanch in boiling water for 2 min. and plunge into cold water. Drain well and chop finely. Make salad using 2-3 cups of leftover grain pilaf such as rice or quinoa. Dress with olive oil, lemon juice, 1 clove of crushed garlic, salt, and pepper. Add chopped land cress and mix well.

Lamb's Quarter, *Chenopodium album* (AMARANTHACEAE)







LAMB'S QUARTER, Pigweed or Goosefoot is a summer annual found on every continent. It is tough, hardy, and survives in many habitats preferring disturbed ground such as gardens, fields, cleared forests, and waste ground. It grows 1-6 ft. (0.3-2 m) tall in a branching, tapering, triangular shape. The stems are stout, angular, and can be blue-green to purple or red striped. Young stems have hairs while older stems are smooth. It grows from a taproot and spreads by reseeding.

FLOWER: Flowers are borne on spikes between 4 and 8 inches (10-20cm) long. They are made up of densely packed yellowish green flowers that are $\frac{1}{10}$ inch (0.25cm) across and have no petals. These plants bloom for 1-2 months from midsummer through fall.

LEAF: Leaves are triangular, up to 5 inches (12.5 cm) long and 3 inches (7.5 cm) wide, and resemble the shape of a goose's foot. They are light green and appear to have a white, powdery coating.

EDIBLE PARTS: seeds, flowers, and leaves

KEY MEDICINAL USES: Very nutritious and used for skin conditions when made into a poultice.

HOW TO HARVEST AND EAT: Harvest young leaves in the early, coolest part of the day and plunge into cold salted water for 10-20 min. and drain well. Can be used sparingly raw in salads, smoothies, juices, or cooked and used like spinach; steamed, boiled, added to soups, stews, sauces, and egg dishes. They can also be dried or frozen for extra winter nutrition. Flower spikes can be used as a broccoli substitute. Seeds can be harvested in fall. Flower spikes can be hung to dry inside a bag. Seeds will fall when dry. Roll them gently with a rolling pin to release from the dry casing and sift from the chaff. Can be used as a cereal grain or to add to pilafs or dals. Best soaked overnight and rinsed well, seeds must be cooked or frozen prior to consuming. They can also be ground into flour or sprouted.

WILD GREENS SOUP: Collect 4-6 cups of wild greens (lamb's quarter's, dandelion, and chickweed). Plunge all greens into cold salted water and drain well. Chop well. Sauté 2 chopped onions and 2 chopped garlic cloves. Add 4 cups vegetable broth. Bring to a boil. Add greens. Stir and serve hot.

WARNING: May contain saponins and oxalic acid. Best consumed in moderation, especially when raw. Harvest from unpolluted, untreated sites.

Largeflower Triteleia/Wild Hyacinth, *Triteleia grandiflora* (ASPARAGACEAE)







Thayne Tuason, CC-BY-SA-4.0

LARGEFLOWER TRITELEIA / WILD HYACINTH, also known as Largeflower Tripletlily and Largeflowered Brodiaea, is native to western North America and can be found in Montana south to California, and in Utah and Wyoming as well as British Columbia, Canada. It prefers grasslands, open forests, valleys, and lower montane areas often among sagebrush or pine forests. It is a sparse, almost leafless, grass-like perennial with bell-shaped ruffled flowers. It grows 1 to 2 ½ ft. (0.3-0.75 m) tall from a bulb-like corm.

FLOWER: Six ruffled petal-like segments make this flower stand out. It blooms from April through July. Its funnel shaped flowers are on smooth, erect stems in umbel-like clusters of multiple flowers (usually 6-20 at the top of the flower stem). The flowers are up to 1 ½ inches (3.5 cm) long. The flower is pale to deep blue in color with a darker blue-purple mid-vein.

LEAF: Just 1 or 2 grass-like linear basal leaves that are 1 to 2 ½ ft. (0.3-0.75 m) long. Leaves are ⅛ to ¾ of an inch (0.3-2 cm) wide.

EDIBLE PARTS: young seedpods, and bulb-like corm

HOW TO HARVEST AND EAT: Young seedpods are edible raw, can be cooked as a potherb, and make an excellent green. Harvest while still green in early midsummer. Corms are edible raw but are better boiled. They were traditionally harvested in early spring. Make sure to leave twice as much as you take, and take the opportunity to replant a few corms for next year. They are at their best when slow roasted. They have a sweet, nutty flavor and can be used like potatoes. They can also be boiled and dried for storage.

ROASTED LARGE FLOWER TRITELEIA: Collect ½ cup large flower triteleia corms and wash well. Chop into 1-inch (2.5 cm) pieces. Peel and chop 2 carrots, 3 potatoes, 2 parsnips, and 1 large, sweet potato into 1-inch (2.5 cm) pieces. Toss in ½ cup olive oil, 1 crushed garlic clove, 2 tbsp. vinegar, salt, and pepper. Lay in a single layer on a baking sheet for the oven or in a Dutch oven for the fire. Roast at 275°F (135°C) for 60-90 min., turning occasionally.

POISONOUS LOOK-ALIKES: Mountain Death Camas, *Anticlea elegans* (formerly *Zigadenus elegans*) and Meadow Death-Camas, *Toxicoscordion venenosum*, grow in similar areas but have white flowers.

Licorice Fern, *Polypodium glycyrrhiza* (POLYPODIACEAE)









LICORICE FERN, Many-footed Fern or Sweet Root can survive as an epiphyte in mature deciduous trees, a lithophyte on mossy rocks, and in dead or dying wood. It is often found growing in moss on Bigleaf Maple trunks. Single 3-12 inches (7-30 cm) triangular fronds grow along the rhizome.

SPORES: Ferns reproduce using spores. Adult fronds are sporophytes and produce spores in sacs called sporangia clustered into sori on the underside of their fronds. Spores germinate into gametophytes, where sexual reproduction must occur in standing water.

LEAF: Single, 3-12 inches (7-30cm) triangular licorice fern fronds grow along reddish-brown rhizomes. The stipe is naked and each leaflet has pointed tips with finely scalloped margins. Sori appear as brown circular dots on either side of each leaflet's main vein.

EDIBLE PARTS: rhizome

KEY MEDICINAL USES: Rhizomes are used for sore throats, coughs, and as a laxative. It has shown anti-viral activity against herpesvirus type 1.

HOW TO HARVEST AND EAT: Follow the frond down to harvest pieces of the reddish-brown rhizome. The rhizome is thin and fibrous. It is best to either chew on raw or roasted root to swallow the juices, or infuse its licorice flavor teas, liqueurs, and sauces. The rhizomes contain polypodoside A, a compound said to be 600 times sweeter than sucrose. It is a good mouth cleanser in the bush (simply chew a small amount of the raw rhizome).

LICORICE FERN TEA: Add 2-3 inches (5-8 cm) chopped rhizome to 4 cups water. Bring to a boil. Turn heat off and steep for 20 min.

WARNING: Use caution, as many ferns contain carcinogens. Many ferns also contain thiaminase, which robs the body of B-complex vitamins. Cooking the plant destroys the thiaminase.

London Rocket, *Sisymbrium irio* (BRASSICACEAE)







LONDON ROCKET grows as an herbaceous, stiffly erect smooth-stemmed plant from a taproot. It can be found in open deserts, pastures, and neglected areas, tolerating dry conditions. London Rocket can grow abundantly to over 3 ft. (1 m) tall.

FLOWER: Flowers bloom in January-May, are 0.1-0.16 inch (0.25-0.4 cm) long, have 4 pale yellow petals, and grow in small clusters at the stem tips. They become tubular, green seedpods. Seeds are oblong and less than 0.04 inch (1mm) long.

LEAF: Leaves are hairless and form a basal rosette of deeply lobed or fully separated leaflets which can be 6 inches (15 cm) long. Upper leaves are smaller, up to 4 inches (10 cm) long.

EDIBLE PARTS: seeds, flowers, and leaves

KEY MEDICINAL USES: Helps with asthma and throat and chest infections.

HOW TO HARVEST AND EAT: A spicy plant, young leaves can be used as a green or seasoning, raw or cooked. Pick in the coolest part of the day. Will get spici er with age and hotter weather. Flowers can be used raw. Seeds can be used raw or cooked, toasted, or dried and ground into a meal. Seeds can be mixed with water for a thirst-quenching drink. Harvest seeds by gently beating plant tops with seedpods that are dry and beige.

REFRESHING LONDON ROCKET SEED DRINK: Make a mint water by submerging ½ cup of clean mint leaves in ½ gallon (2L) water overnight. Stir in ¼ cup sugar. Use 1 tbsp. for London rocket seeds per cup. Stir and sip and enjoy this thirst-quenching drink.

Mallow, *Malva* spp. (MALVACEAE)

The genus *Malva* contains about 25 to 30 mallows, which are often edible and used as vegetables.

EDIBLE PARTS: leaves, stems, flowers, and immature seeds

KEY MEDICINAL USES: Leaves have anti-inflammatory, antioxidant, expectorant, and laxative properties. The plant is used for coughs and IBS.

HOW TO HARVEST AND EAT: Leaves can be harvested any time. They are one of the few raw wild greens that do not get too bitter in hot weather. Raw or cooked leaves are a nice addition to greens and can even replace lettuce in salads, as they have a mild, pleasant flavor. Immature seeds, although tiny, have a pleasant nutty flavor and can be added to soups, or creamed like pea soup, or eaten raw as a snack. Seeds can be fiddly to harvest and are best before they are fully mature. Flowers can be picked and used as a garnish or in salads. Remove stamens and anthers.

CHEESEWEED MALLOW, *M. parviflora*, or Little Mallow can be annual or perennial and is often considered a weed, growing 2 ft. (0.6m) high. It can be found in disturbed sites and lawns. It develops a strong taproot, and the stems are tough, fibrous, and almost woody.





FLOWER: Almost continually in bloom, ¼ inch (6mm) white to pink flower clusters form at the bases of leaf stalks. Parviflora means "small-flowered". The fruit or seed capsules look like little, ¼ inch (0.6cm), cheese wheels. Each wedge-shaped section contains a seed. The seeds are rounded, brown, kidney shaped, and very tiny.

LEAF: Round or palm-shaped 3 to 4-inch (8-10cm) leaves with 5 to 7 shallow lobes, alternate up the long creeping stems and vary in hairiness.

HIGH MALLOW, *M. sylvestris*, is a showy, vigorous plant that grows 3-4 ft. (1-1.2m) tall. It has a stout central stem that is sparingly branched, green and hairy.

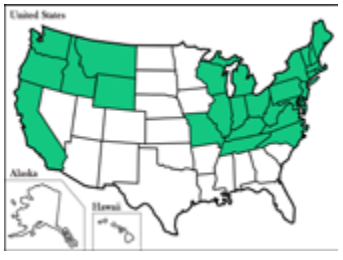




FLOWER: Clusters of flowers occur from the leaf axils along the upper half of the plant. Flowers have 5 reddish-purple petals with dark purple veins, are 2 inches (5cm) across on 2-inch stems. They bloom for about 2 months from midsummer into the fall. Flowers are followed by ring-like nutlets that are ¼ inch (0.6cm) wide.

LEAF: Leaves are 5 inches (12.5cm) long and 5 inches wide, with 5 to 7 shallow lobes, which are often pointed. They are palmately veined with toothed margins. Leaves are dark green and have 6-inch (15cm) stems.

MUSK MALLOW, *M. moschata*, grows to 24 inches (60cm) tall and is noted for its musk-scented, saucer-shaped flowers and hairy stems and foliage. It is often found in grassy areas and pastures, usually in rich soils.





FLOWER: Flowers are 1½ to 2 inches (3-5cm) in diameter with 5, blue to purple, shades of pink, or white petals. They appear singly or in clusters at the leaf axils. Seeds are disc-shaped capsules, ⅛ to ¼ inch (0.3-0.6cm), enclosing 10 to 16 seeds.

LEAF: Leaves are ¾ to 3 ¼ inches (2-8cm) long and wide. Basal leaves on the lower stem have shallow lobes. Leaves higher on the stems are deeply divided with narrow lobes. They are bright spring green and hairy.

MALLOW SALAD: Late in the season when other greens are often bitter, this green can be used to make a fine salad. Collect and wash 2 cups of leaves, grate 1 carrot and 1 small beet, dice 1 small onion, and toss. For a simple dressing, use 1 tbsp. lemon juice, 2 tbsp. olive oil and salt and pepper. Enjoy.

WARNING: High levels of nitrates can concentrate in mallow leaves if grown in high-nitrogen areas. Harvest from unfertilized, unpolluted sites.

Mariposa Lily, *Calochortus* spp. (LILIACEAE)







MARIPOSA LILY is a genus of about 70 species of perennial plants. Many species are rare, at risk, or already extinct. One or more flowers rise on a stem from a small deep bulb in spring or early summer. **Sego Lily**, *C. nuttallii*, is found in southwestern North America, California to New Mexico, in dry grass and scrublands. **Gunnison's Mariposa Lily**, *C. gunnisonii*, is found in southwestern North America in the Rocky Mountains on grassy hillsides and open coniferous woods.

FLOWER: Flowers are white to purple, greenish inside with 3 oval petals that are 1.25-1.4 inch (3-4cm) long. They can be hairy or hairless, spotted, or striped, usually blooming in spring.

LEAF: There are 3-5 leaves only per plant, 2-4 inches (5-10cm) long and 0.06-0.12 inch (0.15-0.3cm) wide. They are grass-like, alternate, and rolled in lengthwise.

EDIBLE PARTS: seeds, flowers, leaves, and roots

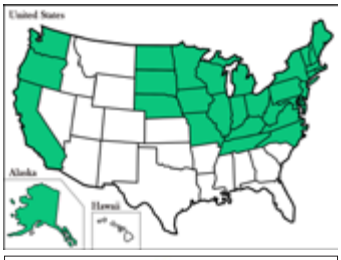
KEY MEDICINAL USES: Plant may be infused to treat rheumatic swelling.

HOW TO HARVEST AND EAT: Dug bulbs after plant flowers and makes seeds; edible raw but best cooked. Dry for storage, boil for soups, or ground into flour for porridge. Spread some seeds if you harvest bulbs and leave twice as much as you take. Leaves are sparse but edible cooked. Flowers and buds can be eaten raw.

PETAL STEW: Gather one petal from each Mariposa Lily flower you find and wild rose petals. Make a sweet rice by adding ½ cup rice, ½ cup sweetened coconut, 1 cup water. Bring to a boil. Stir in 2 tbsp. honey. Place lid and let rest 15 min. Add flower petals and replace lid. Let stand 5 min.

POISONOUS LOOK-ALIKES: Death Camas, T*oxicoscordion venenosum*

Marsh Marigold, *Caltha palustris* (RANUNCULACEAE)









MARSH MARIGOLD or Kingcup grows up to 6-18 inches (15-50cm) tall and wide. It looks more buttercup than marigold.

FLOWER: Bright yellow flowers bloom in May- August. They have 5 petals with rounded tips on erect, hollow stems. Flowers are ¾-2 inches (1.5-5cm) across. white and purple flower are less common.

LEAF: Waxy alternate slightly-toothed leaves are kidney shaped or heart shaped. They are 1 ½ to 10 inches (3-25 cm) long and 1 ½ to 8 inches (3-20 cm) across.

EDIBLE PARTS: flower buds, leaves, and roots

KEY MEDICINAL USES: May be used as an expectorant, diuretic, and antispasmodic.

HOW TO HARVEST AND EAT: All parts must be cooked. Leaves can be harvested in early spring-end of summer once the flowers finished. Young 1 to 3-inch (2.5-7.5cm) leaves are best. Flower buds can be picked in May-midsummer and used like capers. Roots can be dug in fall; these are used for medicine rather than food. All parts need to be boiled with 2-3 changes of fresh water for 10-15 min. each before eating. Leaves make a succulent cooked green.

MARSH MARIGOLD CASSEROLE: Gather 4 cups leaves cooked as above, 2 cups salted ¼ inch (0.6 cm) thick eggplant slices, 1 can each of white beans, crushed tomatoes, and grated cheddar cheese; 1 lb. (500g) cooked macaroni, 4 cups cottage cheese. Arrange in layers. Cook at 350°F (175°C) for 60 min.

WARNING: Plant juices contain protoanemonin. It can cause blistering and inflammation.

Marsh Woundwort/Swamp Hedgenettle, *Stachys palustris* (LAMIACEAE)







MARSH WOUNDWORT / SWAMP HEDGENETTLE, Clown's Woundwort, or Clown's Heal-All is a perennial that can be found growing in wet soils near lakeshores, alder tree marshes, streams and ditch banks. Downy plants with square stems can reach 2-3 ft. (0.6-1m) tall and can spread via its hollow tuberous roots.

FLOWER: Purplish-red, labiate flowers bloom July to September in terminal spikes. They are tightly clumped in whorls at the tips and more widely spaced at the bottom of spikes. Each flower consists of 5 fused petals with a gently hooded upper lip, a flat three-lobed lower lip, and a two-lobed corolla. The lower lip is marked with purple or white blotches.

LEAF: Linearly lanceolate stem leaves have almost no petiole and are opposite with branching occurring in the axils. Leaves are 1.5-4 inches (3.5-10cm) long, up to 1.5 inches (4cm) wide, serrated and slightly cordate, or heart-shaped, at the base.

EDIBLE PARTS: roots, young shoots

KEY MEDICINAL USES: It has antiseptic, antispasmodic, expectorant, and sedative properties.

HOW TO HARVEST AND EAT: Harvest in summer when coming into flower. Young shoots can be cooked and eaten like asparagus. Harvest roots from fall to early spring after the plant has died off. Roots can be cooked or dried, ground, and cooked into bread.

STEAMED SWAMP HEDGE-NETTLE "ASPARAGUS": Steam a couple handfuls of young shoots with chopped Wild Garlic for 3-5 min. Season to taste.

Meadow Beauty, *Rhexia virginica* (MELASTOMATACEAE)







VIRGINIA MEADOW BEAUTY or Handsome Harry is an herbaceous perennial with fibrous roots and tuberous swellings. It varies in size from ½ to 2 ½ ft. (0.15-0.8 m) tall. In short plants, it stands erect while taller plants often sprawl across the ground. It grows in wet to moist, acidic, sandy soils in prairies and marshes in high-quality natural areas.

FLOWER: Rose pink to pale pink with 4 petals, each flower is 1 to 1 ½ inches (2.5-3 cm) across. They bloom in loose clusters from midsummer to fall. Flowers are followed by pitcher-shaped, ½ inch (1.3 cm) long, red seedpods.

LEAF: Leaves occur in opposite pairs along the central stem. They are 3 by 1 ¼ inches (7.5 by 3cm) in size, medium green, sharply toothed, and attach directly to the stem.

EDIBLE PARTS: leaves and roots

KEY MEDICINAL USES: Leaves make a throat cleansing tea.

HOW TO HARVEST AND EAT: Choose young leaves before the plant makes flowerheads in spring and early summer. Leaves can be eaten raw or cooked and have a slightly acid taste that may be sweet. Plunge in cold salted water to wash. Roots are best gathered after plant has completed making seeds in fall. Cut down the plant, taking a moment to distribute seeds. Dig the roots and wash well. They can be chopped up and eaten raw in salads or as a snack.

MEADOW BEAUTY SALAD: Gather 2 cups young leaves. Plunge in cold salted water for 10 min., dry well, and chop. Chop 1 cucumber, 1 red bell pepper, and 1 tomato. As dressing, mix ¼ cup olive oil, ⅛ cup lemon juice, splash of balsamic vinegar, salt, and pepper. Mix all ingredients together. Enjoy.

Mayapple/Wild Mandrake, *Podophyllum peltatum* (BERBERIDACEAE)







MAYAPPLE or **WILD MANDRAKE** is a lone species in its genus and a unique plant that colonizes by rhizomes and forms dense mats in damp, open woods. It blooms in May, making an edible ripe golden yellow fruit in the fall. Mayapples grow in the eastern United States and are rare and endangered in some places. They prefer moist, rich soil in part shade in deciduous forests. It is a native herbaceous perennial that grows 1 to 1 ½ ft. (0.3-0.45 m) tall. From nodes of the rhizome arise solitary stalks with an umbrella-shaped leaf on top, which gives the mat-like appearance.

FLOWER: Mature plants have one solitary flower at the axil of a second lower leaf. The flowers are nodding, white to rose colored, and usually bloom in May, resembling an apple blossom. There are 6-9 waxy petals and each flower is 2 to 3 inches (5-7.5 cm) across. The subsequent fruit is a lemon-shaped berry 2 inches (5 cm) long.

LEAF: At maturity, each stalk has a top leaf and alower leaf with one flower. The top leaf is a large, twin, umbrella-like showy leaf. It remains closed while the stem lengthens. At 1 to 1 ½ ft. (0.3-0.45 m) tall the leaves unfold to 6 to 8 inches (15-20 cm) across. They are deep forest green, palmately lobed with 3-9 shal low to deeply cut lobes.

EDIBLE PARTS: only very ripe fruit, without the seeds (The rest of the plant is poisonous.)

KEY MEDICINAL USES: Resin used for moles, warts and skin cancer. Use with care.

HOW TO HARVEST AND EAT: In fall, fruit will begin to be ripen enough to eat. Unripe fruit resemble a lime and are poisonous until fully ripe. When the fruit is ripe it is soft, golden yellow (occasionally red) and wrinkly. It has a unique flavor and can be used in preserves or cold drinks. The seeds are poisonous and need to be removed.

MAYAPPLE CUCUMBER WATER: Gather 2-3 very ripe mayapples and one large cucumber. Slice the mayapples in half lengthwise and discard the seeds. Cut into ¼ inch (0.5 cm) strips. Slice the cucumber into ¼ inch (0.5 cm) slices. In a 2-gallon (8L) container, place slices. Fill with 2 gallons (8L) of water. Let sit overnight. Enjoy. You could also add lemon slices.

WARNING: Leaves and roots are very poisonous. They contain podophyllotoxin, which is highly toxic. Do not consume ripe fruit if pregnant.

Milk Thistle, *Silybum marianum* (ASTERACEAE)




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MILK THISTLE is a biennial that grows as a basal rosette in its first year and can reach 3-6 ft. (0.9-1.8 m) tall in its second year. It can tolerate many growing conditions including dry, rocky soils.

FLOWER: Flower heads are 1.7-5 inches (4-12cm) long and wide, red to purple in color, and framed by spiny bracts. They flower in June-August.

LEAF: Leaves are oblong with spiny edges, green, and alternate with milky-white veins.

EDIBLE PARTS: seeds, unopened flower buds, leaves, stems, and roots

KEY MEDICINAL USES: It is often used for diabetes, liver, gallbladder, and kidney issues as it contains silymarin, which is also used to counteract mushroom poisoning.

HOW TO HARVEST AND EAT: Harvest in cool weather for best flavor. Plunge leaves, flower buds, and stalks in cold salted water for 10 min. to remove bitterness. Always remove spines. Roots, peeled, stems, and first and second-year young leaves can be eaten raw, but are better cooked. Roots taste best if harvested in the fall of the plant's first year. Harvest stems before flower buds appear. Flower buds can be eaten like artichokes. Seeds make an edible oil; can be roasted and used as a coffee substitute. Harvest in the fall with scissors.

ROASTED MILK THISTLE ROOTS: Collect roots. Trim off the top and tip. Scrub well. Brush with oil and add salt. Roast in the oven for 25 min. at 350°F (175°C). Serve hot as a side dish.

WARNING: Plant concentrates nitrates in its leaves. Harvest from unfertilized, non-nitrogen rich soils. People with ovarian cancer and hormone-sensitive conditions should take care.

Milkweed (Common), *Asclepias syriaca* (APOCYNACEAE)







COMMON MILKWEED, Silkweed or Butterfly flower is a perennial which grows typically 3 to 5 ft. (1-1.5m) tall, but can reach 8 ft. (2.5m) in ditches and gardens.

FLOWER: Flowers are light pink to purple in color, ¾ inch (2cm) long and ½ inch (1cm) wide. These become green, 2-4 inch (5-10cm) long seedpods.

LEAF: Leaves are up to 10 inches (25cm) long and 4.5 inches (12cm) wide with reddish veins, opposite, oblong, and lance-shaped.

EDIBLE PARTS: young shoots under 6 inches (15cm) long, newly opened leaves, flowers, seeds, and seed pods (always cooked)

KEY MEDICINAL USES: Root may be an expectorant and purgative.

HOW TO HARVEST AND EAT: Milkweed can have a nice flavor or be quite bitter. All parts need to be cooked in a couple of changes of water. Cooked unopened flower buds can be eaten like broccoli. Cooked young shoots can replace asparagus. Young seedpods, collected before seed floss appears, can be cooked and used like okra. Sprouted seeds are edible.

FRIED MILKWEED SEED PODS: Harvest seedpods when less than 2 inches (5cm), blanch in boiling water for 10 min., drain, and cool. Mix enough breadcrumbs or cornmeal to coat pods well and add seasonings. Soak seedpods in seasoned buttermilk or beaten eggs for 1h. Dredge in breadcrumb mixture. Fry in a pan of hot oil, turning often until crispy.

WARNING: Older leaves may be poisonous if consumed in large quantities.

Miner's Lettuce/Spring Beauty, *Claytonia (Montia)* spp. (MONTIACEAE)

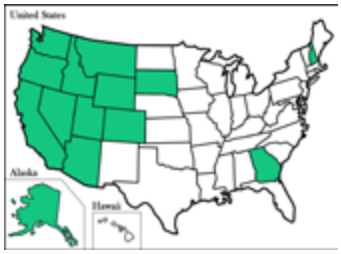
MINER'S LETTUCE/SPRING BEAUTY or Candy Flower has quite a few common edible species. 5-petalled flowers are usually pink or white and opposite leaves often, but not always, clasp the stem. It is an easy to identify tasty green. Edible species include *C. perfoliata, C. sibirica, C. virginica, C. acutifolia, C. tuberosa, C. caroliniana, C. lanceolata,C. megarhiza*.

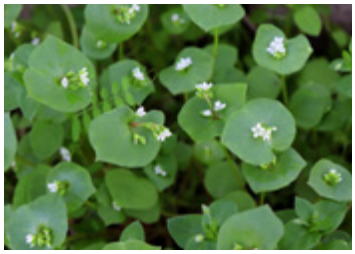
EDIBLE PARTS: flowers, leaves, and roots (entire plant is edible)

KEY MEDICINAL USES: It's a gentle and nutritious laxative, often used as a spring tonic.

HOW TO HARVEST AND EAT: Pick young, basal leaves for salads or cook as a green. Leaves are best picked in the spring, but can be eaten anytime. Flowers can be picked with the leaves. Tubers are best harvested in fall, after identifiable by flowers. Keep bigger tubers and always replant smaller ones. The root has a radish flavor when eaten raw, tastes like a cross between a water chestnut and a potato when cooked, and is rich in vitamins A & C.

COMMON MINER'S LETTUCE, *C. perfoliata* grows up to 16 inches (40cm) but can be as short as ½ inch (1.3cm). It has 2 fused leaf-looking bracts with a stem of white flowers that protrudes from the center. It is found in winter and early spring, in shady spots and moist banks.





FLOWER: The small white ⅛ inch (0.3cm) flowers are 5-petalled and bloom in February-May. They appear in small clusters and are ½ inch (1.3cm) or more across.

LEAF: Leaves are basal, on long and narrow stems that widen into oval or triangular bright green succulent leaves that range in size from ½ inch (1.3cm) to 2 inches (5cm) or more across. The stem passes through the center of the opposite clasping leaves.

SIBERIAN MINER'S LETTUCE, *C. sibirica,* Siberian Springbeauty, Candy Flower, or Pink Purslane is a long-lived, flowering perennial, biennial, or annual that can be found growing in moist, rich soils of deciduous forests and along shady streambeds. Plants can reach 8 inches (20cm) tall, spreading like a ground cover.





FLOWER: Flowers bloom in April- July and measure 0.5-0.8 inches (1.3-2cm) in diameter. They have 5 pink or white, candy-striped petals with 2 divided lobed tips.

LEAF: Fleshy, bright green leaves are present from January through mid-October. Basal leaves are on very long, smooth, purplish-brown petioles, lanceolate with entire margins. Stem leaves are opposite and they either meet or overlap at the base with entire margins and pointed tips.

VIRGINIA SPRING BEAUTY, *C. virginica,* Fairy Spud, or Grass-Flower is found in wetlands, wet forests, riparian hardwood forests, and prairies. Plants have little pink flowers and can grow up to 8 inches (20cm) tall with an 8 inch (20cm) spread.





FLOWER: Flowers grow in a raceme of 5 or more per cluster in spring. Each white to pink flower measures 0.5 inches (1.3cm) across and has 5 petals with dark pink veins and 2 green sepals. They close on cloudy days and at night, and are open and erect on sunny days.

LEAF: Green leaves are opposite, lanceolate and grow 1.25-5.5 inches (3-14cm) long and 0.2-0.5 inches (0.5-1.3cm) wide on 2-8 inch (5-20cm) long petioles.

MIXED WILD GREENS SALAD: Mix Miner's Lettuce, Chickweed, and Purslane. Add chopped, wild herbs, like wild garlic or watercress, and wildflowers. Season to taste and dress with vinegar and oil.

Missouri Gourd, *Cucurbita foetidissima* (CUCURBITACEAE)







MISSOURI GOURD is a vining plant, ¾ inch (2cm) in diameter, that often spans 20 to 30 ft. (6-9m) across. It grows from a substantial taproot that can reach 8 ft. (2.5m) long and weigh as much as 150 lb. (70kg). The plant is rough and foul-smelling when bruised.

FLOWER: Flowers are bell-like squash flowers with ruffled edges that are 2 to 4 inches (5-10 cm) long. They are yellow to orange with 5 lobes at the opening. Flowers become green-striped fruits. At maturity they turn yellow. Seeds resemble pumpkin seeds.

LEAF: Leaves are rough, hairy, and often reach 12 inches (30cm) long. They are large, triangular heart-shaped, thick, and gray green.

EDIBLE PARTS: roots, seeds, and young fruit (flesh of the mature fruit is inedible)

KEY MEDICINAL USES: May be a laxative, vermicide, and aid in the treatment of skin complaints.

HOW TO HARVEST AND EAT: Seeds harvested from mature fruit in fall can be roasted or boiled, and ground into a flour additive. They can be eaten raw or cooked and have a pleasant nutty flavor. Young fruit is harvested while still green; can be used like a squash-type vegetable or dried for later use. The root is rich in starch but some say it may be poisonous.

MISSOURI GOURD SEED SNACKS: Cut a couple of mature gourds, let dry in the sun until brown. Cut open the gourd and scoop out the seeds. Wash well. Spread them in a single layer on a baking sheet and let dry in the sun for several days. Roast them for 15-30 min. Add salt or seasoning of your choice. Enjoy like pumpkin or sunflower seeds.

WARNING: Mature fruit is poisonous to humans. Sprouting seeds produce a toxic substance. There is a report that the root is poisonous.

Mock/Indian Strawberry, *Potentilla indica* (ROSACEAE)









MOCK, **FALSE** or **INDIAN STRAWBERRY** is a low-growing perennial that is evergreen in southern climates. It grows 1 ft. (0.3m) high in colonies and makes a dense ground cover.

FLOWER: Flowers are ¾ inch (2cm) across and consist of 5 yellow notched petals. Drupes or berries are bright red, spherical, ½ inch (0.6cm) across, and bumpy. Fruits appear in September.

LEAF: Leaves are basal and trifoliate with long, hairy, leaf stalks emerging from the plant's crown. Leaflets are blunt tipped, broad, oval, ¾-1 ¾ inches (2-4.5cm) long, and ½-1 ¼ inch (0.6-3cm) wide. They are somewhat hairy with serrated margins.

EDIBLE PARTS: fruit and leaves

KEY MEDICINAL USES: It has anticoagulant, antiseptic, purifying, and fever reducing qualities.

HOW TO HARVEST AND EAT: Berries are best picked when perfectly ripe, bright red, and the seeds are spread out across its flesh. They can be eaten fresh. They have a light, sour watermelon flavor in favorable conditions, but can also be bland. Leaves can be harvested year-round where the plant stays green and eaten raw or cooked. They can also be dried for tea.

FALL SALAD: Collect 4-5 cups of Mock strawberry leaves. Pair with other late season wild salad greens such as mallow. Submerge in very cold salted water for 10 min. to wash and remove any fall critters. Drain well. Grate 1-2 cups of root vegetables (beet, carrot). Marinade grated vegetables in oil, vinegar, 1 crushed garlic clove, honey, and lemon juice. Toss with wild greens. Enjoy.

Monkeyflower, *Mimulus ringens* (PHRYMACEAE)







MONKEYFLOWER is a rhizomatous perennial that grows from 8 inches (20cm) to 3 ft. (0.9m) tall. It is recognizable for its 4-angled stems which are erect, green, and smooth. It prefers moist floodplains, bottomland forests, swamps, muddy streams, or pond edges, and likes sunny spots.

FLOWER: Lavender flowers are about an inch (2-3cm) long on a tubular sheathed base, that is also about an inch (2-3 cm) long. It blooms for about 1.5 months from midsummer to fall.

LEAF: Leaves are lance-shaped to oblong, up to 4 inches (10cm) long and 1 inch (2.5cm) wide with pointed tips. They are opposite, nearly joining where they clasp the stem.

EDIBLE PARTS: leaves

HOW TO HARVEST AND EAT: Leaves are edible cooked or raw; best to harvest in spring before the stems have made flower buds. They have a slightly bitter taste. It's recommended to pick a few leaves over several plants.

MONKEYFLOWER LEAF SALAD: Harvest 2 cups monkeyflower leaves and add 2 cups baby spinach leaves. Plunge in cold salted water for 10 min. Drain and dry well. Grate 1 carrot and 1 beet. Add ½ cup fresh peas. For the dressing, chop 1 clove garlic, and fresh herbs (parsley, dill, basil). Mix 1 tbsp. honey with 1 tbsp. apple cider vinegar. Mix all dressing ingredients in ½ yogurt. Let stand 10 min. Mix salad greens with grated roots and peas. Toss in dressing. Enjoy fresh.

Mountain Mint, *Pycnanthemum* spp. (LAMIACEAE)






Krzysztof Ziarnek, CC-BY-SA-4.0


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MOUNTAIN MINT is recognizable by its strong menthol or camphor herbal-like scent when crushed. It makes small colonies through its rhizomatous root system and adapts to many conditions. It can be found from moist sand prairies to rocky bluffs. It is a large, spreading plant that can grow 1 to 4 ft. (0.3-1.2m) with equal spread. Many populations are at risk so keep an eye out for these plants to take a moment to spread some seeds.

FLOWER: The plant is topped with numerous flattened small heads of white to purple dotted flowers. Each head is around 1 to 3 inches (2.5-7.5cm) across with as many as 50 flowers, framed by a rosette of leaves. Each flower is ⅛ inch (0.3cm) long. Plants bloom for a month in summer.

LEAF: The opposite leaves look more like basil than mint, are deeply veined, and 1 to 3 inches (2.5-7.5cm) long.

EDIBLE PARTS: leaves, unopened flower buds, and flowers

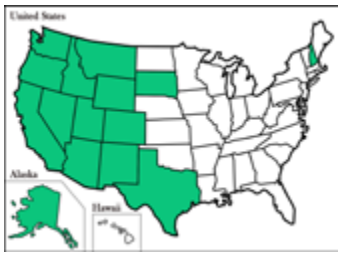
KEY MEDICINAL USES: Strongly medicinal with many uses including analgesic, expectorant, and as a bronchodilator.

HOW TO HARVEST AND EAT: Leaves are edible raw or cooked and make a good seasoning. Young leaves and unopened flower buds are nice additions to soups and salads and these are best harvested early in the day in spring or early summer. Leaves fresh or dried make a nice herbal tea.

MOUNTAIN MINT TEA: Collect a handful of fresh leaves or use 1 tbsp. dried leaves. Boil 1 to 2 cups of water. Add leaves. Steep for 10 min. and enjoy!

WARNING: Pregnant women are advised to avoid using this plant.

Mountain Sorrel, *Oxyria digyna* (POLYGONACEAE)







MOUNTAIN SORREL is one of the hardiest plants and can be found growing on mountaintops where nothing else will grow. They are 4 to 12 inches (10-30cm) tall with reddish, hairless stems. They are found in mountain ranges south to New Mexico and California and north through Alaska, the Yukon, and across the arctic.

FLOWER: Flowering depends on elevation and can be from June to August. The small, green flowers are hard to see. They cluster along 4 to 24 inch (10-60cm) tall, narrow flower stalks. Each 0.06-inch (0.15cm) flower has 4 petals. Fruit is a small ¼-inch (0.6cm) red-winged, shiny nut.

LEAF: Leaves are fleshy, kidney shaped, and hairless. They form a basal rosette with stalks 1 ½ to 3 inches (4-8cm) long holding up leaf blades that can be ½ to 2 inches (1-5cm) wide.

EDIBLE PARTS: leaves (raw or cooked)

HOW TO HARVEST AND EAT: Leaves can be picked at any time they are out of the snow, being careful not to damage the flower stalk. Use in moderation. Nice to add sour interesting flavor to salad or to cook as a potherb.

SOUR RICE: Boil one cup of rice with 1 ½ cup water. Place lid and let rest for 10 min. Gather 3 to 4 mountain sorrel leaves. Rinse and chop into thin strips. Place in rice pot with a splash of lemon juice and a pinch of salt. Replace lid and let stand 10 min. more. Stir and serve warm.

WARNING: High in oxalates, moderation is recommended.

Mullein, *Verbascum thapsus* (SCROPHULARIACEAE)







MULLEIN is a biennial and prefers sunny, dry areas. It is a large rosette of leaves in its first year, sprouting a tall 3 to 6 ft. (1-2m) unbranched stem in its second year. The plant is covered in soft hairs giving it an almost velvet-like feel (often called "bush toilet paper").

FLOWER: The large flower spike or central stem terminates in a dense spike of pale-yellow flowers. This spike can be 4 inches (10 cm) to 4 ft. (1.2 m) long. Each flower is about ¾ inch (2cm) across. They have 5 petals, and 5 hairy green sepals. They bloom in summer for about 6 weeks until they turn into a seed capsule.

LEAF: A velvety, gray-green rosette of long-oval leaves that can grow up to 20 inches (50cm) long and 4 inches (10cm) wide appear in the plant's first year. In the second year the leaves grow alternately up the main stem, becoming narrower and smaller towards the top.

EDIBLE PARTS: flowers and leaves

KEY MEDICINAL USES: Leaves and flowers are anti-inflammatory, antiseptic, antispasmodic, astringent, and expectorant.

HOW TO HARVEST AND EAT: Leaves and flowers can be used in salad, but tea is the most enjoyable way to use this plant. Harvest leaves in the plants' first year early in the spring for best results.

MULLEIN TEA: Use 1 tsp. dried leaves and 1 tsp. fresh flowers. Boil in 1 to 2 cups of water. Steep for 10 min. Filter out the tiny hairs. Enjoy warm or cold.

WARNING: Leaf hairs can be an irritant. Contains rotenone, an insecticide and coumarin, a blood thinner.

POISONOUS LOOK-ALIKES: Foxglove, *Digitalis purpurea*

Nipplewort, *Lapsana communis* (ASTERACEAE)







NIPPLEWORT is an annual or biennial plant. It grows 1-3 ½ ft. (0.3-1m) tall. It has a spreading, flowering top but it only branches slightly underneath. The stout central stem is reddish to green. It has slight ridges and is covered in hairs, more so at the lower parts of the plant.

FLOWER: Composite yellow flowers are ½ to 1½ inches (1-4cm) long. These parts of the stalks are round, slender, and hairless. Each flower is less than ½ inch (1cm) wide, with 18 to 20 spreading ray florets. They bloom from midsummer to fall.

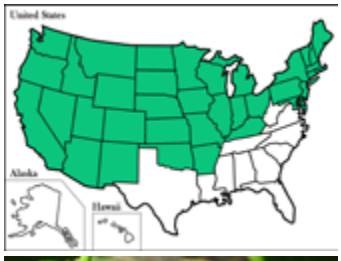
LEAF: Lower leaves are 6 inches (15cm) long and 2.5 inches (6cm) wide. They have 1 large, oval, terminal lobe with 2 small, opposite side lobes. Upper leaves are alternate, smaller in size and fewer in number.

EDIBLE PARTS: young leaves and shoots

HOW TO HARVEST AND EAT: Young leaves and shoots are best harvested before the flower stems appear in spring. They taste like radish and can be bitter; can be eaten raw or cooked. Best plunged in cold salted water for 10-15 min. to improve flavor and texture.

WEED LASAGNA: In spring, gather 2 cups young leaves of nipplewort along with other spring greens (dandelion, spinach, milk thistle). Prepare as above. Dry and rough chop. Season with salt and pepper. Mix with 4 cups ricotta or cottage cheese. Build lasagna in layers with cooked lasagna noodles, weed and cheese mixture, tomato sauce, and grated mozzarella and parmesan cheese. Bake at 350°F (175°C) for 60 min. Enjoy hot, maybe with a fresh spring greens salad.

Northern Water Plantain, *Alisma triviale* (ALISMATACEAE)







NORTHERN or **LARGE-FLOWERED WATER PLANTAIN** is a wetland plant found in shallow muddy areas that tend to dry up during the summer months such as shallow marshes, pond and lake edges, sloughs, slow moving waterways, and temporary pools in wet prairies or meadows. It has a basal rosette of leaves, with a large whorl of branched flowers reaching 3 ft. (1 m).

FLOWER: Flowers appear at the tips of stalks and are small, about ¼ inch (0.6cm) across, with 3 white petals, each with a yellow patch at the base, around a green center. They bloom from late spring through the summer.

LEAF: Basal leaves are 7 inches (17cm) long and 4 inches (10cm) wide. They are oval, hairless, with smooth margins.

EDIBLE PARTS: leaves and roots

KEY MEDICINAL USES: Leaves are antibacterial, diuretic, hypoglycemic, and hypotensive.

HOW TO HARVEST AND EAT: Leaves and roots are best harvested before flower stalks appear in early summer. Using a rake or shovel, dig roots. All parts must be boiled in 2 changes of water for 30 min. each and then dried. They can then be cooked for use.

NORTHERN WATER PLANTAIN MISO SOUP: Prepare ⅛ cup leaves per serving as above. Chop into 1-inch (2.5cm) squares. Make miso soup by adding 1 tbsp. of prepared miso paste to 1 cup of high-quality boiling water per serving. Let stand 5 min. Add chopped plantain leaves. Enjoy hot.

WARNING: Fresh leaves and roots are toxic but toxic compounds are destroyed by heat or drying. May cause skin reaction and may be poisonous to some people. People taking heart or diabetic medication should be cautious.

Ohio Spiderwort/Blue Jacket, *Tradescantia ohiensis* (COMMELINACEAE)







OHIO SPIDERWORT / BLUE JACKET, Cow Slobber, Indian Paint, Job's Tears, Trinity Flower, Dayflower, or Widow's Tears is a flowering perennial that can be found growing in moist, acidic soils. It can reach 2-3 ft. (0.6-1m) tall, and has an 18-30 inch (45-7 cm) spread.

FLOWER: Cup-shaped flower clusters bloom sequentially, each flower for just a single day, from early June to September. 3 lavender petals, 0.3-0.8 inches (8-20mm) long, are circular, radially symmetrical surrounding 6 bright yellow anthers on purple filaments. Each flower is on a 0.3-1.2 inches (7-30mm) long pedicle. Dry fruits split open when ripe.

LEAF: Blue-green, grass-like, whorled, lanceolate leaves are up to 1.5 ft. (0.5m) long and 1.7 inches (4.5 cm) wide and are folded lengthwise, forming a channel.

EDIBLE PARTS: flowers, leaves, and stems

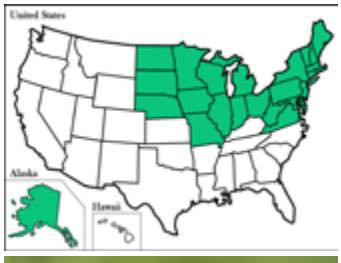
KEY MEDICINAL USES: Can be used for kidney problems, digestive problems, stomach ulcers, and insect bites.

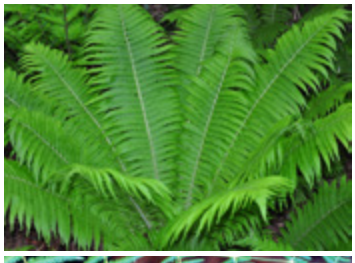
HOW TO HARVEST AND EAT: Flowers can be harvested in May-July and are best used raw in salads. Leaves and stems can be eaten raw, or cooked like asparagus.

OHIO SPIDERWORT AND ASPARAGUS: ½ pound (225g) of both Ohio Spiderwort stems and asparagus, 1 cup of mozzarella cheese, 5 cloves of chopped garlic, 3 tbsp. of olive oil, 2 tbsp. of lemon juice, salt and pepper. Lay stems out on a baking paper. Mix the garlic, olive oil, lemon juice and salt and pepper together in a jar and pour it over the stems and asparagus. Bake in the oven for 10 min. at 425°F (220°C). Remove from oven and cover with cheese and grill for another 5 min.

WARNING: Stems lactate a thick white sap that can irritate skin.

Ostrich Fern, *Matteuccia struthiopteris* (ONOCLEACEAE)







OSTRICH FERN is the only species of its genus. It has green sterile fronds that are almost vertical, resembling ostrich feathers. They can be 3-6 ft (1-2m) tall and 8 to 14 inches (20-35cm) wide. It favors moist areas such as rich woodlands, riverbanks, and sandbars.

FLOWER: none

LEAF: The sterile leaves are compound, can grow up to 6 ft. (2m) tall and 12 inches (30cm) across. and have between 20-50 pairs of leaflets. The central stalk is green and hairless. The fertile leaves have 10-30 pairs of leaflets and turn dark brown at maturity.

EDIBLE PARTS: young, unfurled leaves (fiddleheads)

KEY MEDICINAL USES: May help pain, blood disorders, and infection.

HOW TO HARVEST AND EAT: From late April to early June, search for unfurled, sterile leaves. They are rolled in a circular shape, deep green, and 6 to 8 fronds emerge from a single crown. Pick fiddleheads that are still tightly coiled and less than 6 inches (15cm) tall. Fiddleheads must be cooked. Put in boiling water and boil for 15 min. or steam for 10-12 min. At this point, they are ready to cook in any recipe calling for green vegetables.

SEARED FIDDLEHEADS WITH GARLIC: Heat butter and 1 clove crushed garlic in a pan. Use 2 to 3 cups fiddleheads prepared as above. Put in garlic butter. Turn up the heat and stir fry for 5-10 min. Add a splash of lemon juice and salt and pepper. Enjoy.

WARNING: Ensure correct identification because some ferns are known to have carcinogenic properties.

Oxeye Daisy, *Leucanthemum vulgare* (ASTERACEAE)







OXEYE DAISY is an aromatic pungent plant that grows 1-3 ft. (0.3-1m) tall and is slightly branched. The central stems are slightly hairy, angular, and furrowed. The root system is densely fibrous and forms dense colonies by spreading rhizomes.

FLOWER: 15 to 35 white petals surround the yellow center of the single flowerhead. It spans about 1 ¼ to 2 inches (3-5cm) across and looks like a typical daisy. It blooms from midsummer for about 1.5 months.

LEAF: The plant develops from a tuft of basal leaves. Leaves are coarsely toothed, generally hairless, 5 inches (12.5cm) long and ¾ inch (2cm) wide, becoming smaller at taller parts of the plant.

EDIBLE PARTS: leaves, young spring shoots, and roots

KEY MEDICINAL USES: Flowers harvested and dried may be antispasmodic, antitussive, and may aid wound healing.

HOW TO HARVEST AND EAT: All parts are best harvested in spring before central stems appear. Young leaves can be used raw or cooked. Young spring shoots can be used sparingly, finely chopped and added to salads. Roots dug and harvested in spring can be used raw.

OXEYE DAISY GRAINS: Harvest entire young plants and wash well. Trim upper parts and shoots off plant's crown. Dunk in cold water bath. Dry well. Trim top and tips of roots. Wash well and soak in cold water for 10 min. Finely dice roots, shoots, and leaves. Make grain pilaf using rice, quinoa, or barley. In a pot, sauté 1 onion. Toss in 2 cups of cooked grains, and ¼ to ½ cup of diced oxeye daisy roots, shoots, and leaves. Mix well and serve hot.

Oysterleaf, *Mertensia maritima* (BORAGINACEAE)









OYSTERLEAF, also known as Sea Bluebells, Oyster Plant, and Sea Mertensia, can be found just above the high tide line on cold northern hemisphere beaches of the Atlantic and the Pacific oceans. The plant gets its "oyster" name from its distinctly oyster-like texture and flavor. *Mertensia maritima* is listed as endangered in Massachusetts and New Hampshire. The plant looks like a cross between Italian basil and sage. The round central stem can grow up 6-12 inches (15-30cm) high and 8-12 inches (20-30cm) wide. This is a perennial plant that grows in gravel and well-draining ground.

FLOWER: Blue bell-shaped flowers are under 1 inch (2.5cm) long and appear in June-August. Fruits appear in late summer to early fall and grow 0.16-0.20 inches (4-5 mm) long. The fruit is dry but does not split open when ripened.

LEAF: The wide blue-green silvery leaves are thick, simple, alternate, and about 4 inches (10cm) long with a succulent-like, mucilaginous texture, and a fresh ocean oyster flavor.

EDIBLE PARTS: flower, leaf

HOW TO HARVEST AND EAT: When harvesting leaves, cutting the stems back to half their length fortifies the plant for more growth. Always leave more than half to allow the plant to keep growing. Cut the leaves from the stem to include the entire petiole with the leaf by cutting right up to the stipule. Pinch flowers just beneath the sepals. Leaves can be eaten both raw or cooked.

CROSTINI TOPPED WITH OYSTERLEAF: Slice baguette and toast lightly in 350°F (175°C) oven. Top with a layer of butter. Arrange leaflets and flowers on bread.

Partridgeberry/Twin-flower, *Mitchella repens* (RUBIACEAE)







PARTRIDGEBERRY / TWIN-FLOWER, Checkerberry, Squawberry, Teaberry, Running box, Two-eyed berry, or Squaw vine can be found in both dry and moist forests. They are woody, non-climbing, trailing evergreen vines that grow in rocky woodlands, wooded sand dune slopes, on sandstone ledges and mossy boulders in ravines, and along edges of swamps and bogs.

FLOWER: Flowers are white, trumpet-shaped, and grow in pairs. Each 0.5 inch (1cm)-long flower has 4 fuzzy petals. They produce a single shiny, red berry up to 0.3 inches (8mm) across, with a tiny dimple and star-shaped marks.

LEAF: Opposite, paired leaves are roundish with a white central vein, and may be variegated with whitish veins. Each leaf is 0.5-2 inches (1.3-5cm).

EDIBLE PARTS: leaves and berries

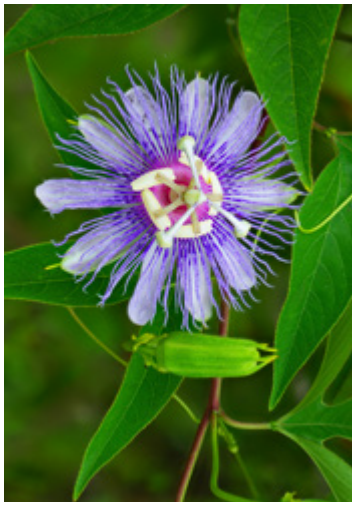
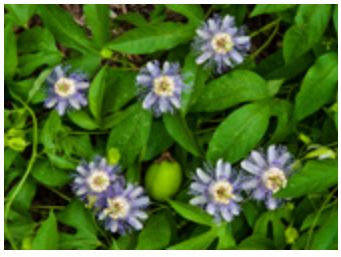
KEY MEDICINAL USES: Tea from fresh or dry leaves is used for severe menstrual cramps or heavy menstrual bleeding.

HOW TO HARVEST AND EAT: Leaves and berries can be eaten raw or cooked. They can be enjoyed in desserts or savory dishes, in puddings, pies, cakes, jams, sauces, and so on.

PARTRIDGEBERRY JAM: Bring 1 cup berries and ⅓ cup water to a boil. Add ½-1 cup sugar, ½ tsp. pectin, orange zest, and cinnamon. Cook for 15 min. Boil jar and lid to sterilize. Seal in hot sterile jars.

Passion-flower, *Passiflora incarnata* (PASSIFLORACEAE)



PASSION-FLOWER, also known as Maypop and Wild Passion Vine, is a broadleaf evergreen found in average, well-drained soils in full sun to part shade along streams, roadsides, woodland edges, and meadows. It's a fast-growing perennial vine that uses tendrils to climb up to 25 ft. (7.5 m) long.

FLOWER: Long stalked flowers appear in the apex of leaves. 5 greenish-white sepals and 5 greenish-white petals alternate to form a saucer, and is overlain by purple or pink corona filaments with 3 stigma and 5 anthers projecting from the center on a long, trumpet shaped tube. Oblong green fruits are filled with sweet, fleshy covered seeds. Fruits are 1.5–3 inches (4-7.5cm) in diameter.

LEAF: Green leaves are 3-6 inches (7-15cm) wide, palmatifid (hand-shaped with lobes clefting about halfway to the base), alternate, 3- or 5- lobed.

EDIBLE PARTS: leaves, flowers, and fruit

KEY MEDICINAL USES: Tea made from fresh or dried leaves, flowers, and stems is used for insomnia, lowering blood pressure, inflammation, heart problems, menopausal symptoms, skin conditions, depression, and anxiety.

HOW TO HARVEST AND EAT: Pinch flowers, leaves, and stems. Use fresh or dried in tea. Harvest fruits just at color change to yellow and slightly wrinkled. Eat fruit fresh or juiced. Leaves can be eaten raw or cooked.

PASSION-FLOWER TEA: Place 2 flowers, 2-3 leaves with stems in 1 ¼ cup boiling water, cover and steep 10 min. Strain and add honey.

WARNING: Passion-flower tea can disturb uterine contractions and can cause miscarriage or premature labor. Nursing moms shouldn't use passion-flower. Consuming tea in excess can result in vomiting, cognitive distress, dizziness, and stomach upset.

Pearly Everlasting, *Anaphalis margaritacea* (ASTERACEAE)







PEARLY EVERLASTING, also known as Pearly Life Everlasting, is a flowering perennial plant that is drought tolerant and prefers full sun, and dry, rocky, poor soil conditions. It is found in North America and Asia, and has naturalized to Europe. The plants grow erect on dry, brittle stems 2-4 ft. (1.2m) high.

FLOWER: Flowers are small, whitish to yellowish, and clustered at the top of erect stems. Numerous white, papery bracts surround each disc of florets, measuring 0.5 inches (1.2cm) across.

LEAF: Green, narrow, linear-lanceolate leaves grow 3-5 inches (7-13cm) long. There is one alternate leaf per node along the stem. Leaves and stems are covered in tiny white hairs that give the plant its pearly appearance from a distance. Leaves feel and look wooly from tiny white hairs.

EDIBLE PARTS: leaves, stems, and whole plant cooked

KEY MEDICINAL USES: The whole plant is anodyne, antiseptic, astringent, expectorant, and sedative.

HOW TO HARVEST AND EAT: Harvest the whole plant and eat leaves cooked, or make a medicinal tea from the flowers, or the entire dried or fresh plant.

BRONCHIAL TEA: Combine 1-2 slices fresh ginger root, 1 tsp. pearly everlasting flowers &/or leaves, 1 tsp. pine needles, in 1 cup boiling water. Cover and steep in boiling water 30 min. and strain. Drink ½ cup three times daily.

Peppergrass, *Lepidium virginicum* (BRASSICACEAE)






BOTTLEBRUSH PEPPERGRASS, also known as Least Pepperwort and Virginia Pepperweed, is an herbaceous plant growing from a single taproot. It grows throughout Canada, the U.S, Mexico, Central America, South America, Europe, parts of Asia, and Australia in a wide range of habitats and elevations. Plants consist of basal leaves with branching flowering stems that can reach 20 inches (50cm) tall.

FLOWER: Flowers are produced along the top 2-3 inches (5-7cm) of the stem and have a bottle-brush appearance. They consist of 4 tiny, white petals arranged in a cross measuring 0.015-0.06 inches (1-4mm) across and have 2 to 4 stamens. Fruits are flat and round with a winged structure around the exterior.

LEAF: Obovate leaves grow 1-4 inches (2.5-10cm) long in a basal rosette and can be either linear-lanceolate or lance-shaped. Linear-lanceolate leaves have a large terminal lobe and several small lateral lobes. Lance-shaped leaves grow along the flower bearing central stem and are toothed and alternate.

EDIBLE PARTS: young leaves, flowers, and unripe seed pods

KEY MEDICINAL USES: Leaves are generally detoxifying, have been used for vitamin C deficiency, diabetes, and to expel intestinal worms.

HOW TO HARVEST AND EAT: Pinch leaves and seed pods at base. The leaves can be tossed into a salad or sautéed. Ripe seeds are a pepper substitute.

PEPPER SUBSTITUTE: Collect, wash and crush ripe seeds. Use like pepper.

Pineapple Weed, *Matricaria discoidea* (ASTERACEAE)







PINEAPPLE WEED is a low growing plant resembling wild chamomile, but flowerheads lack small white petals and the foliage is leafier. It grows in compacted, rocky soils and is found growing around buildings, where humans have disturbed the soil, near structures, parking lots, and roads. Branching plants grow no taller than 4 inches (10cm).

FLOWER: Single, cone-shaped flowerheads, from 0.25 to 0.5 inches (0.6-1.3cm) in diameter grow on terminal ends of branches. Flowerheads smell of pineapple when crushed and are composed of densely packed yellowish-green corollas, and lack ray-florets.

LEAF: Leaves grow up to 2 inches (5cm) long and 0.7 inches (1.7cm) wide. Smooth, green leaves are deeply branching into narrow segments that have a feathery fern-like appearance. Leaves and stems are mostly hairless, but may have a few sparse hairs. Pinnately dissected leaves are sweet smelling when crushed.

EDIBLE PARTS: leaves and flowerheads

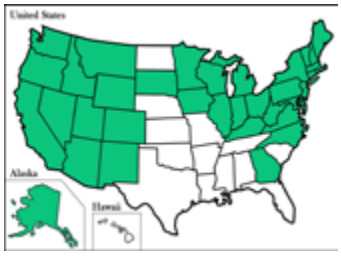
KEY MEDICINAL USES: Pineapple Weed has been used for relief of gastrointestinal upset, fevers, and menstrual pain.

HOW TO HARVEST AND EAT: Harvest whole plant at the base, or pinch flowers at base. Leaves are a tasty finger food while hiking. Steep fresh or dried flowerheads or the entire plant to make tea. Leaves can be washed and eaten raw or cooked.

PINEAPPLE WEED SYRUP: Cover flowerheads with water, simmer for 6 min. and strain. Measure the infusion and to every cup of liquid add one cup of sugar. Combine the infusion and sugar and heat slowly while stirring until the sugar dissolves. You can use it for drinks or salad dressing.

WARNING: Some people are allergic, use with caution.

Pipsissewa/Prince's Pine, *Chimaphila umbellata* (ERICACEAE)









PIPSISSEWA / PRINCE'S PINE, Butter Winter, Ground Holly, King's Cure, Love in Winter, *Pyrola umbellata*, or Rheumatism Weed is a perennial, evergreen, flowering plant most commonly found in low to mid elevation, mixed, temperate, coniferous forests of the Northern Hemisphere. Pipsissewa plants require slightly damp, well drained, lime-free soil. It is a dwarf shrub growing 4-14 inches (10-35cm) tall.

FLOWER: Each flower stem is topped with 3-10 white or pink, cup-shaped flowers clustered in a whorl. Flowers are replaced by deeply colorful pink fruit capsules in August and September.

LEAF: Pipsissewa leaves are narrow, oval, bright green, shiny, stiff, and leathery, with coarsely serrated edges. They are 1-3 inches (3-7cm) long and arranged in opposite pairs along the stem.

EDIBLE PARTS: leaves

KEY MEDICINAL USES: The whole plant is antibacterial, astringent, diaphoretic, diuretic, rubefacient, a stimulant, and a tonic. Often used for kidney stones.

HOW TO HARVEST AND EAT: Harvest the whole plant when in flower, and the leaf during growing season. Nibble the leaves, use them for tea, or use as a root beer flavoring.

PIPSISSEWA TEA: Add ½ tsp. leaves to boiling water. Steep 15 min., sweeten and drink.

WARNING: Overharvesting has negatively affected wild populations. It is highly recommended to reduce harvesting to taking only the top ⅓ when necessary.

Plantain, *Plantago* spp. (PLANTAGINACEAE)




P. lanceolata


P. lanceolata


P. major


P. major

PLANTAIN is a perennial with leafless, silky, hairy flower stems. *Plantago* genus contains about 200 species and is found all over Earth. They are most commonly in wet seepages, bogs, coastal areas, and alpine or semi-alpine areas. Most are herbaceous, but some are subshrubs growing up to 24 inches (60cm). Most people use **Broadleaf Plantain**, *P. major* and **Narrowleaf/Ribwort Plantain**, *P. lanceolata*.

FLOWER: Flowers are either a short cone or a long spike, which produces hundreds of seeds. Flower spikes are 2-6 inches (5-15cm) long. Fruits are 0.04-0.15 inches (2-4mm) long, dry and split open when ripe.

LEAF: Leaves are basal, slightly fuzzy, broad or narrow. They are spreading or erect, scarcely toothed, and have 3-5 strong veins that are parallel and narrow. Leaves have stretchy fibers that are exposed when gently pulling the stem from the leaf. P. major leaves are 2-8 inches (5-20cm) long and 1.5-3.5 inches (4-9cm) wide. P. lanceolata has lanceolate to lance-oblong leaves that taper to the petiole and are 2-9 inches (5-25cm) long.

EDIBLE PARTS: leaves, seeds

KEY MEDICINAL USES: The plant has antioxidant, anti-inflammatory, antibiotic, and analgesic properties. Often used as a drawing plant for bites, stings, rashes, and leaky gut.

HOW TO HARVEST AND EAT: Harvest leaves at the base, remove stems and use like spinach. Leaves can be sautéed, stuffed, added to pesto, used in salads. Leaves can be eaten raw, but older leaves taste better cooked. Seeds are edible raw, roasted, or ground into a meal.

FIELD LAXATIVE: Steep small handful of seeds in boiling water for 10-15 min. Drink tea, swallowing some seeds. Hydrate well when drinking laxatives.

Prairie Turnip, *Psoralea esculenta* (FABACEAE)




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PRAIRIE TURNIP, Timpsula, Tinpsila, or Indian Breadroot is an herbaceous, seed-bearing perennial that lives 3 to 6 years and is native to dry woodlands and prairies of central North America. The plant grows best on well-drained, rocky or sandy soil, in full sun.

FLOWER: Prairie turnips produce densely hairy spikes of ½-inch (1.3cm) bluish-purple pea-shaped flowers. Flowers are found in terminal clusters that are 4 inches (5-10cm) long, leading to flattened pods.

LEAF: Stalked leaves are palmately compound in groups of 5 growing up to 6 inches (15cm) long. Leaflets, measuring 1-2 inches long, ⅓ -¾ inches (0.8-2cm) wide, are oval and elliptic. The upper surface is nearly smooth, and undersides are covered in flattened hairs.

EDIBLE PARTS: tubers

KEY MEDICINAL USES: Prairie turnip is used for anemia, heart health, brain health, cancer, diabetes, energy, osteoporosis and more.

HOW TO HARVEST AND EAT: Tubers have a dark, hard skin and need to be peeled before consuming. They can be eaten raw, cooked, or dried and powdered.

ROASTED PRAIRIE TURNIPS AND WINTER SQUASH: Roast cubed turnips and winter squash. Drizzle with agave syrup in the last 5 min. Top with toasted sesame seeds.

Pond Lily/Cow-Lily, *Nuphar lutea* (NYMPHAEACEAE)







COW-LILY or **YELLOW POND LILY** is an aquatic plant found in shallow marshes, ponds, swamps, lakes, and slow-moving rivers. The plant grows to 3 ft. (1m) as a rhizomatous perennial and spreads 6 ft. (2m). Seedpods look like little flasks and the flowers smell like brandy, leading to one of its common names, Brandy Bottle.

FLOWER: Each flower grows on a separate stem that sits a few inches above water. Flowers are bright yellow, ½ to 2 ½ inches (4-5.5cm), and have rounded petals, that are thick and waxy. The 5-6 sepals are longer than the petals and flowers close in the afternoon. They develop into fat pods about ½ an inch (5 cm) long that contain numerous seeds and are slimy inside when still green. Yellow pond lilies flower anytime from March to October.

LEAF: The shape and size of the leaves vary greatly, but often they are large, rounded, fan or heart-shaped. The green leaves grow anywhere from 4-15 inches (10-40cm) in diameter, having long stems that reach down to the roots at the bottom of the water body.

EDIBLE PARTS: roots, young leaves, stems, and seeds

KEY MEDICINAL USES: The herb is thought to be astringent, cooling and soothing. It is used as a wound poultice.

HOW TO HARVEST AND EAT: Ensure the water source you are harvesting from is free of contaminants. Young leaves are good in soups. Roots can be eaten peeled and boiled in several changes of water, roasted, or it can be then dried and pounded into flour. They are very tannic and bitter. Harvest in spring. The seeds can be cooked, fried, or popped. They are easiest to harvest when the seedpods turn brown in late summer or early fall. The fruit will burst on its own to distribute its seeds in the water. Seeds swell when lightly fried in oil or roasted in the oven, and make a great snack.

POPPED LILY SEEDS: Gather fruit. Allow it to dry until seed harvest is possible. Clean seeds from fruit and dry further. When ready to eat, heat a pan with a lid, add oil. Put seeds in oil, place lid, and move pan continuously over heat until seeds have popped (note they "crack" more than "pop"). Season to taste.

WARNING: Best to consume in moderation, as large quantities may be poisonous.

POISONOUS LOOK-ALIKES: Tuberous Water Lily, *Nymphaea tuberosa* - Some report that flower buds are toxic once they have matured and opened, yet others report roots are edible.

Prickly Pear Cactus, *Opuntia ficus-indica* (CACTACEAE)







Forest and Kim Starr, CC-BY-3.0

PRICKLY PEAR, also known as Barbary Fig, Indian Fig, and Tuna Cactus, is a desert growing, succulent cactus, 5 to 10 ft. (1-3m) tall (but can grow up to 15 ft. tall).

FLOWER: Yellow, white, or red blooms appear in early May through the summer with fruits, called tunas, forming in August-October.

PAD: Thick, oblong, flat, pear-shaped stem segments or pads called *cladodes* are blue to green, while new growth at the ends of the stems is bright green. They are 8-24 inches (20-60cm) long and 4-16 inches (10-40cm) wide. Pads are succulent, with a thick, waxy, water repellent skin; may be spineless, or may bear a number of yellow 1-inch (2.5cm) spines.

EDIBLE PARTS: fruit and pads

KEY MEDICINAL USES: Topical uses are treatment of burns and wounds.

HOW TO HARVEST AND EAT: Fruits are best harvested in late summer and eaten raw, with or without the plentiful seeds, scooped out of their hard shell. The fruit has a high vitamin C content and high-water content so it is valuable as an emergency food source. Pads are eaten raw or cooked, either with their skins or without; are often cut into strips and boiled or fried, with a taste like string beans with a little tanginess. Pads are best harvested in the spring or after it rains.

PRICKLY PEAR CASSEROLE: *(recipe credit: Mark "Merriwether" Vorderbruggen, Ph.D.)*: Ingredients: 2 cups diced wild mushrooms, ¼ cup onion, 4 cups young prickly pear pads (sliced into 1" long, ¼" wide sections), 2 cups milk, 3 tbsp. cornstarch, 5 tbsp. butter,1 ⅓ cup French fried onions, salt & pepper. Optional: wine, red pepper flakes. Remove thorns and needles from pads, then place the pads in ice water for 15 min.; remove from water and slice pads. Sauté in 2 tbsp. of butter with a dash of salt until tender. Set aside. Sauté the onions, puree them with the milk, add the mushrooms, then scald in a double-boiler. Lightly brown 3 tbsp. of the cornstarch in 3 tbsp. of butter, stirring the whole time, and occasionally removing from heat to avoid burning it. Add salt and pepper to the cornstarch "roux", then slowly stir in the scalded milk/onion/mushroom blend. The end goal is a cream soup similar in thickness to cream of mushroom soup. Add salt, pepper, red pepper flakes, and wine to taste while maintaining the proper consistency. Transfer mushroom cream into a casserole dish and stir in the sautéed pieces of prickly pear cactus. Bake the casserole uncovered 25 min. at 350°F (175°C). Remove from oven, stir a bit, then sprinkle on the French-fried onions. Return to oven for another 5 min. at 350°F (175°C). Remove and serve.

Puncture Vine, *Tribulus terrestris* (ZYGOPYHLLACEAE)







PUNCTURE VINE, also known as Goathead, Caltrop, and Bindii, is a summer annual, invasive vine. Puncture Vine has naturalized around the world, and has adapted to dry climates where few other plants can survive.

FLOWER: Bright lemon-yellow flowers are solitary on short stalks from leaf axils. Each flower has five 0.5 inches (1.3cm) wide petals. The fruit is a hard-spiny bud with an almost circular shape. Each bur has 2 spines and 2 to 5 seeds.

LEAF: Green to reddish-brown, hairy stems are prostrate, and radiate from the crown to a diameter of 4 inches to over 3 ft. (10 cm-1m). Bright green, opposite leaves are evenly pinnate, divided into pairs of 4-8 oval 0.5 inches (1.3cm) leaflets. A line of hairs lines the main vein of each leaf, and border the smooth margins of each leaf. Puncture Vine may be mistaken for *Potentilla anserina (Silverweed)*, which has deeply serrated leaves.

EDIBLE PARTS: leaves, young shoots, fruit, seeds

KEY MEDICINAL USES: The seed is used for blood sugar, heart health, and to boost libido.

HOW TO HARVEST AND EAT: Young leaves are eaten as a green. Older leaves, fruit, and young shoots are cooked. The hard seeds are ground into a powder and used for baking into bread.

PUNCTURE VINE GREENS: Boil a handful of young, tender greens in water and mix with salt and chilis.

Purple Poppy-Mallow, *Callirhoe involucrata* (MALVACEAE)







PURPLE POPPY-MALLOW, also known as Wine cup and Buffalo Rose, is native to the United States and northern Mexico. It frequently grows in dry, rocky, well drained soils in fields, prairies, and along roadsides in full sun. Unlike other members of the Malvaceae family, is mat forming.

FLOWER: Flowers grow on stalks up to 8 inches (20cm) tall, in leaf axils. Upward facing, cup-shaped, poppy-like, magenta flowers appear on thin stems above the foliage from mid-spring to fall. Flowers measure up to 2.5 inches (5cm) wide. Numerous stamens are united at the top of a central column, typical for mallow species. The fruit is a schizocarp less than 1 inch (2.5cm) long and wide. Seeds are flattened, kidney-shaped with short hairy breaks. Each contains a single seed.

LEAF: Leaves are bright green, alternate, deeply lobed, palmate and grow to 6-12 inches (15-30cm) high on thin stems, growing in patches up to 3 ft. (1m) in diameter. Leaves typically have 5-7 lobes.

EDIBLE PARTS: leaves and root

KEY MEDICINAL USES: Sticks chewed for antibiotic properties and tooth care. Dried roots crushed, burned and inhaled for colds. It is believed the smoke can reduce pain to arms and legs. A tea made from roots is used for intestinal pain.

HOW TO HARVEST AND EAT: Harvest young leaves and eat raw or cooked as a green. Dig up the root and boil or roast until tender.

BOILED PURPLE POPPY-MALLOW ROO: Cut roots into chunks and boil until tender. Remove outer rind and enjoy!

Purslane, *Portulaca oleracea* (PORTULACACEAE)







PURSLANE or Moss Rose is found growing in Rocky bluffs, barnyards, gardens, and sidewalk cracks. The plant prefers disturbed areas and is common in city lots. Purslane naturalized throughout North America and Hawaii.

FLOWER: Tiny yellow flowers bloom from midsummer to early fall. They have 5 regular parts that measure up to 0.25 inches (0.6cm) wide. Flowers are replaced by a seed capsule containing dark brown, almost black very tiny seeds.

LEAF: Purslane has smooth, reddish, prostrate branching stems with thick, waxy, succulent, round leaves that form a thick mat up to 3 ft. (1m) across. Leaves may be alternate or opposite. They are 1-3 inches (2.5-7.5cm) long and less than 1 inch (2.5cm) wide.

EDIBLE PARTS: leaves, stems, and seeds (raw, dried, pickled, or cooked)

KEY MEDICINAL USES: Purslane is antibacterial, antiscorbutic, diuretic and febrifuge. Leaves are rich in omega-3 fatty-acids, which are believe to prevent heart attacks and strengthen immunity.

HOW TO HARVEST AND EAT: Leaves can be harvested before the plant flowers and used fresh or dried. Harvest whole stems to plant base. Purslane has been eaten for thousands of years in a variety of ways from fresh salad greens, stuffed in breads, sautéed, eaten with meats or fish. Ash of the burnt plant is used as a salt substitute. The seeds are highly nutritious.

MIXED WILD GREEN SALAD: Chop purslane, chickweed, amaranth, and wild onion. Season, squeeze a lemon on top, and toss.

WARNING: Not for pregnant woman or those with digestive issues.

POISONOUS LOOK-ALIKES: Spotted Spurge, *Euphorbia maculata* - It grows similarly, but is not succulent and leaves are thinner, smaller, and sometimes have reddish coloring at the center of the leaf.

Queen's Cup, *Clintonia uniflora* (LILIACEAE)








QUEEN'S CUP, Bride's Bonnet, Wolf Berry, or Bead Lily is a rhizomatous perennial herbaceous plant native to the mountains of western North America from California to Alberta. It grows in the understory of coniferous forests.

FLOWER: The small simple single flower is bell-shaped, has 6 white petals and 6 protruding white stamens with yellow pollen-dusted anthers. Hairy flower stems grow up to 8 inches (20cm) tall with a single 6-petal flower that produces a single round blue berry. The fruit is a small blue berry measuring up to 0.4 inches (1cm) across.

LEAF: The plant consists of 2 or 3 shiny, slightly fleshy basal, oblanceolate to oblong leaves. They grow at the base of the plant measuring 4-10 inches (10-25cm) long, 1-3 inches (3-7cm) wide.

EDIBLE PARTS: leaves

KEY MEDICINAL USES: Used as a dermatological aid and eye medicine, as a body wash, and for treating wounds.

HOW TO HARVEST AND EAT: Leaves are edible raw and cooked. Young, raw leaves have mild sweet taste. Older leaves are best when cooked.

QUEEN'S CUP AND MINT TEA: 2 tbsp. of young Queen's Cup leaves, 1 tbsp. of fresh mint leaves, 1 cup of boiling water, honey or sugar to taste. Pour boiling water over the leaves and brew for 5-8 min. Add sugar or honey if required.

WARNING: Berry is poisonous to humans.

Quickweed/Potato Weed, *Galinsoga parviflora* (ASTERACEAE)







QUICKWEED/POTATO WEED or Gallant Soldier is an herbaceous invasive plant found in disturbed sites and empty fields with sandy, loamy, or clay soils. It reaches 30 inches (75cm) tall, with a spread of 20 inches (50cm).

FLOWER: Flowers bloom on pedicles emerging from leaf axils and bearing clusters of a few small, daisy-like flowers from October to April. Small, composite flower discs measure 0.2-0.3 inches (5-8mm) across and have 5 tiny, white, widely spaced petals with 3 lobes.

LEAF: Pointy, lance-shaped leaves measuring 1-3 inches (2.5-8cm) long and 0.5-1.5 inches (1.2-4cm) wide are toothed, simple, opposite, and rounded at the base.

EDIBLE PARTS: leaves, stem, and flowering shoots

KEY MEDICINAL USES: Quickweed is used for treating stings, wounds, and coagulating blood.

HOW TO HARVEST AND EAT: Quickweed is highly nutritious, has a mild taste, and pairs well with strongly flavored greens. Harvest young shoots from fall to spring. It can be used in salads, smoothies, steamed as a green, or as a flavoring spice in soup.

QUICKWEED GREENS WITH WILD GARLIC: Steam greens 10 min. Sauté quickly with olive oil, chopped wild garlic, or other strong wild green, and season to taste. Enjoy.

POISONOUS LOOK-ALIKES: Coat Buttons, *Tridax procumbens* – Their flowers are very similar. The plants differ, as Coats Buttons plants are low growing, and foliage is more lobed than toothed.

Ram's Horn, *Proboscidea louisianica* (MARTYNIACEAE)







RAM'S HORN, Devil's Claw, Unicorn Plant, or Aphid Trap is an annual herb found in pastures, along riverbanks, cultivated fields, and feedlots. Spreading branches grow up to 3 ft. (1m) tall and form mounding, shrubby plants. Ram's Horn foliage produces an oil from glandular hairs and emits a foul, acrid odor.

FLOWER: Flowers bloom from July to September. White to lavender, ruffled, lobed corollas measure 1.5 inches (4cm) wide. They are composed of 5 petals that are fused into a funnel at the base with orange, yellow nectar-guiding color splotches, with or without purple spots on the outside. A single plant can produce up to 80 fruits, and gets its name from the curving, 0.5-1 inch (1-2cm) long, horn-shaped, hooked seed pod.

LEAF: Dark green, heart-shaped, almost round leaves can grow 4-12 inches (7-30cm) wide. Leaves are covered in glandular hairs that have tiny oil droplets on them.

EDIBLE PARTS: young, green fruits, roots (cooked, medicinally)

KEY MEDICINAL USES: Roots and tubers are used for bruises, sprains, trauma, and muscle pain.

HOW TO HARVEST AND EAT: Harvest young, tender pods while they can be poked easily with a fork. They can be boiled, steamed, or fried like okra; added to soups as a thickening agent; or pickled.

FRIED RAM'S HORN PODS: Cut tips and tops off pods, cut in half. Soak Ram's Horn in buttermilk. While pods soak, mix 2 tbsp. baking soda and spices (garlic, onion powder) into 1 cup flour, and mix with cold water until a thick clumpy batter forms. Dip soaked pieces into batter and fry in a cast iron pan.

Red Root/New Jersey Tea, *Ceanothus americanus* (RHAMNACEAE)




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RED ROOT or **NEW JERSEY TEA** is a woody perennial that grows up to 4 ft. (1.2m) tall. It has a stout taproot and tends to grow very wide. It benefits from fire and can be found in black soil, gravel, sand prairies and in hilly and rocky upland forests.

FLOWER: Flowers form on the tips of upper stems in clusters, 2-8 inches (5-20cm) long and 2-3 inches (5-7.5cm) wide. Each flower is ¼ inch (0.6cm) across with 5 white sepals and 5 petals. They bloom in mid-summer for 3-4 weeks, having a lovely floral aroma.

LEAF: Leaves are alternate or opposite, 3 inches (7.5cm) long and 2 inches (5cm) wide. They are oval with smooth or finely serrated edges. The upper leaf surface is medium to dark green and somewhat rough with tiny stiff hairs. The leaf's underside is pale green and hairier than the upper surface.

EDIBLE PARTS: leaves

KEY MEDICINAL USES: The root and root bark have many medicinal uses, including stimulating the lymphatic system.

HOW TO HARVEST AND EAT: It's best to harvest when the plant is in full bloom, in early to midsummer. The leaves can be picked individually and dried in single layers in the shade. Keep in an airtight container in a dry, dark place. Red Root is a good substitute for black tea, although non-caffeinated. It has a refreshing wintergreen flavor.

NEW JERSEY TEA: For each cup of boiling water, add 2 tbsp. fresh leaves or 1 tsp. dry leaves. Steep for 10 min. and strain. Enjoy.

Rose Root/Golden Root, *Rhodiola rosea* (CRASSULACEAE)






Alpsdake, CC-BY-SA-4.0



ROSE ROOT/GOLDEN ROOT or Arctic Root is a succulent usually found growing in mountain rock crevices, on sea cliffs, along stream banks, in snow-bed sites and in rock shelves; it prefers sandy soil. Plants are polymorphic with foliage being variant in shape, size and color. It usually grows 4-15 inches (10-40cm) tall (though can grow taller), with an abundance of yellow blossoms bunched at the top of several single shoots growing from the same scaly, branching rootstock.

FLOWER: Yellow to greenish-yellow flowers measuring 0.2-0.4 inches (0.5-1cm) across, bloom in the summer and have 4 greenish-yellow petals and sepals that are sometimes bright red at their pointy tips. Small, pistillate flowers are 0.14 inches (3.5mm) long and staminate flowers are 0.1 inches (2.5mm) long, and they cluster in dense, hemispherical cymes.

LEAF: Leaf color and shape varies. They have light green to silvery-green, fleshy succulent leaves that are waxy, stalkless, ovate, serrated, and alternating in opposite pairs along the unbranching stem. Leaves often have a blue tint. Lower leaves are scale-like.

EDIBLE PARTS: young succulent leaves, stems, roots

KEY MEDICINAL USES: Rose root is an adaptogen and anti-inflammatory. It is used for anxiety, depression, fatigue, and concentration.

HOW TO HARVEST AND EAT: Harvest young, tender leaves and shoots in the spring. Eat raw in salads, or cook like spinach. Leaves can be made into sauerkraut and used to flavor vodka. Stems can be cooked like asparagus. Roots are edible raw, cooked, or pickled.

ROSE ROOT STRESS TEA: Add 1 cup boiling water to 1 tbsp. chopped root. Cover and steep 12 min. Longer steep times produce more bitter teas.

NOTE: *Rhodiola* root is a mental stimulant and may make it difficult to get to sleep.

Saguaro, *Carnegiea gigantea* (CACTACEAE)







SAGUARO, also called Sahuaro, Giant Cactus, and Pithaya, is a tree-like, erect cactus that grows over 50 ft. (16m) tall, 2.5 ft. (0.8m) in diameter, and may or may not develop vertically growing side arms. Saguaros grow very slowly, reaching a height of only 3 ft. (1 m) in 20-50 years, and can live over 150 years. They start growing side arms between 75 to 100 years old.

FLOWER: White, waxy flowers are 3.5-5 inches (8-12cm) long. They bloom in spring, from May through June. Flowers open sequentially for a month, about 4 a day, for less than 24 hrs. They open after sunset and close in midafternoon. Ripe, ruby red fruits are 2.5-3.5 inches (6-9cm) long. Fruits ripen in June and contain over 2,000 seeds.

SPINES: Spines are very sharp, unbarred, 2.25 inches (7cm) long. They only grow for a season.

EDIBLE PARTS: fruits

KEY MEDICINAL USES: Saguaro is used for constipation and hydration.

HOW TO HARVEST AND EAT: Fruits can be eaten raw, cooked in jams, or fermented for wine. A pole is usually needed to reach the fruits. This cactus is threatened and is a critical species in its natural biome, being protected in many places.

SUGAR-FREE SAGUARO JAM: Soak 6 cups fruit pulp in a pot and fill with water until the pulp is submerged ½-way for 1.5 hrs., stirring occasionally. Cook mixture on low for 30-40 min. Separate pulp from liquid and put aside. Boil liquid slowly until syrupy. Mash pulp through a sieve to remove seeds. Combine remaining pulp to syrup. Serve over warm fry bread.

WARNING: Overconsumption can cause: stomach upset, acid reflux, vomiting, and diarrhea.

Salsify, *Tragopogon* spp. (ASTERACEAE)







SALSIFY, Goat's Beard, Purple Salsify, Jerusalem Star, Vegetable Oyster, or Oyster Plant is a flowering biennial that grows to 4 ft. (1.2m) tall. It grows in full sun.

FLOWER: Pointy, beak-like flower buds bloom from May through July. Petals vary with squared-off or rounded, long, slender yellow or purple petals surrounded by 8 bracts. Flower heads turn into large, brown, dandelion-like globes of parachuted seeds. *T. dubius* and *T. pretenses* have yellow flowers. *T. porriffolius* have purple flowers with long, thin, serrated petals that open in the morning and close by noon.

LEAF: Linear, grass-like leaves are light green to green-blue. Basal leaves grow 7-12 inches (18-30cm) long and 0.8 inches (2cm) wide in dense rosettes and are purplish-brown along the lower stem. Leaves along stems are lanceolate and alternate.

EDIBLE PARTS: roots, young leaves and stalks, root crowns, flowering shoots

KEY MEDICINAL USES: Salsify root is used for beneficial liver and gall bladder effects and for arteriosclerosis and high blood pressure.

HOW TO HARVEST AND EAT: Salsify root tastes similar to oysters and should be harvested from late autumn through winter, after at least the first frost, so it becomes tender and develops flavor. Don't harvest tough, post-flower root. Carefully dig up the roots without breaking them. Roots can be eaten raw, or dried, ground, and roasted as coffee substitute. Young leaves and flowering shoots can be eaten raw.

PAN ROASTED SALSIFY: Add peeled salsify root to heated butter in a cast iron pan. Season to taste and sauté until browned.

Saltbush/Orache, *Atriplex* spp. (CHENOPODIACEAE)







SALTBUSH/ORACHE is a summer annual that grows 1 ½ to 3 ft. (0.5-1m) tall. It branches occasionally, mostly at the base. It grows from a branching taproot. There are about 250-300 species in the genus. Most species are edible. Garden orache or *A. hortensis* is a favored edible species.

FLOWER: Upper stems terminate in spikes of flowers. There are male and female flowers. They are both ⅛ inch (0.3cm) across and whitish green. They bloom in late summer into fall. Female flowers turn into unusual arrowhead-shaped fruits.

LEAF: The lowest leaves are opposite and upper leaves are alternate. They have slender stalks up to 1 inch (2.5cm) long. Leaf blades are up to 3 ½ inch (8cm) long and ¾ inch (2cm) wide, getting smaller at higher parts of the plants. They are green, flat, and oval to lance shaped.

EDIBLE PARTS: seeds and leaves

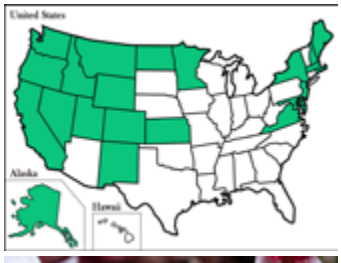
KEY MEDICINAL USES: Leaves are diuretic, emetic, and purgative.

HOW TO HARVEST AND EAT: Orache is edible raw or cooked and is slightly bland. They mix well with stronger flavored greens, such as sorrel. Harvest before flower stalks mature. Plunge in cold salted water for best flavor and to wash away any tiny insects. Seeds are small and fiddly to harvest. Collect in fall in paper bags and allow to dry. Roll with a rolling pin or use a mortar and pestle to remove hard seed shell. Sift from chaff. Cleaned seed can be ground into a meal to extend flour.

SAUTÉED ORACHE: Heat butter in a pan. Use 2 to 3 cups of trimmed, washed orache leaves. Put in melted butter. Place lid and allow to steam for 5-10 min. Add pepper. Salt is not necessary.

WARNING: Use in moderation. Seeds contain saponins.

Sea Milkwort, *Lysimachia (Glaux) maritima* (PRIMULACEAE)









SEA MILKWORT, Sea Milkweed, or Black Saltwort is a perennial herb, somewhat succulent, that grows in sandy or boggy soils and requires direct sunlight. Sea Milkwort, previously known as *Glaux maritima*, is found in brackish or salty marshes, on sandy beaches, along rivers, lakes and wetland margins. Plants spread to form 2 inches (5cm) tall mats.

FLOWER: Flowers have no pedicel and bloom from June through August. They measure 0.15 inches (4mm) across and have 5 pink petals. Dry, 0.09-1.4inch (2.5-3.5mm) long fruits split when ripe, dispersing 5 seeds.

LEAF: Simple, ovate leaves alternate in opposite pairs along the stem. Fleshy leaves have one main, central vein from base to tip and grow 0.25-0.5 inches (4-20mm) long. They are oblong with smooth margins and pointy tips. Lower leaves are scaly and brown.

EDIBLE PARTS: young shoots, roots

KEY MEDICINAL USES: Said to induce sleep

HOW TO HARVEST AND EAT: Young shoots can be eaten raw (bitter) or pickled. Roots should only be consumed cooked.

PICKLED SEA MILKWORT: 1 cup young sea milkwort shoots, ¼ cup each of grated carrot and bean shoots, ½ cup each of water and vinegar, 1 tbsp. each of raw sugar and salt. Dissolve the salt and sugar in the water and vinegar by heating slowly on low. Place the sea milkwort, carrot and bean shoots in a jar and pour the warm mixture over the top. Wait for it to cool, seal the jar and eat within 2 weeks.

WARNING: Overconsumption of roots can cause nausea.

Sea Rocket, *Cakile edentula* (BRASSICACEAE)






John Tann, CC-BY-2.0


Mcitsci, CC-BY-SA-3.0

SEA ROCKET, Oval Searocket, or American Searocket is a flowering succulent found on dunes and beaches. It is highly branching and tends to grow as a short shrub, 1-3 ft. (0.3-1m) high.

FLOWER: Flowers bloom from early July to early September at tips of branches. They are radially symmetrical with 4 round, pinkish-purple petals. Flowers measure 0.25 inches (0.6cm) across and are separate in small racemes at the tips of branches. Dry fruits do not split when they ripen, late July through late September. They are distinctively shaped, flesh covered pods that look like seaweed air bladders, reaching 0.4-0.8 inches (1-2cm) in diameter with pointy tips. The seedpod is unevenly divided into 2 sections, containing one seed per section.

LEAF: Fleshy, succulent leaves are spatulate with variations of toothed to lobed margins that gradually taper to a rounded tip. Thick, green leaves can grow 1-2 inches (2.5-5cm) long. They are alternate, with one leaf per node, branching occurring at the axils and leaves shortening up the stem.

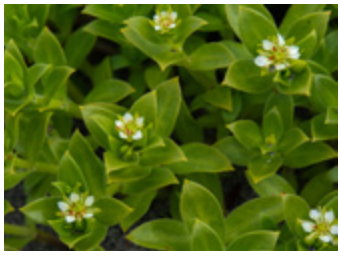
EDIBLE PARTS: leaves

HOW TO HARVEST AND EAT: Sea Rocket leaves and stems have a peppery, arugula flavor that makes them a nice addition to tuna, tomato, and other salads.

PICKLED SEA ROCKET: Fill a 16 oz. (500 ml) jar with young shoots, 1 tbsp. chopped garlic, 1 tbsp. mustard seed, ⅛tsp. chopped chilis, a sprig of your favorite herb, and salt to taste. Add vinegar to submerge shoots. Cover and store in refrigerator for 2 weeks.

Seabeach Sandwort, *Honckenya peploides* (CARYOPHYLLACEAE)







SEABEACH SANDWORT is a succulent perennial found above the high-water mark. This hardy, slow-growing plant is only about 8 inches (20cm) tall with a spread of 3 ft. (1m). It is also called Seaside Sandplant, Sea Sandwort, Beach Greens, and Sea Chickweed.

FLOWER: This plant flowers from May to August. It has tiny, ¼ to ½ inch (5-10mm), white-green to yellow five-petaled flowers along the stem, or 1 to 6 flowers at its tips. The seeds are equally small dry fruits that open when ripe, and can be gathered from July to September.

LEAF: The fleshy dark green succulent leaves are stemless, simple, and toothed. They grow in closely arranged opposite pairs, with pointed tips up to ½ an inch (1cm) in size.

EDIBLE PARTS: shoots, leaves, seeds

HOW TO HARVEST AND EAT: Young leaves and shoots can be eaten raw, or cooked as a green, leafy vegetable, high in vitamin A and C. These are best picked before the plant is in flower, but can be eaten once in flower too. Plunge in cold water to wash. Harvest seeds in fall. Seeds are small and difficult to harvest; can be ground and used as an additive to flour or used as a garnish.

BRINED SANDWORT LEAVES AND SHOOTS: Collect 2 cups of young leaves and shoots. Wash and trim well. Pack into 1-pint jar. Brine: ½ cup white wine vinegar, ½ cup apple cider vinegar, ½ cup water, 2 tbsp. pickling salt, 1 tbsp. pickling spice, 2 cloves garlic cut into quarters. Mix all brine ingredients in a pot and bring to a boil. Let cool and poor over sandwort. Put on lid and keep in the fridge. Eat in 2 weeks. Serve as a side, as you might use brined pickles, or sauerkraut.

Seacoast Angelica/Wild Celery, *Angelica lucida* (APIACEAE)




Jacob W. Frank, CC-BY-2.0


André-Philippe D. Picard, CC-BY-SA-3.0

SEACOAST ANGELICA/WILD CELERY, Wild Parsnip, or Seawatch is a stout herb in the parsley family, native to coastlines of the Atlantic, Pacific, and Arctic coasts of North America and the Russian Far East. Plants can reach 2-5 feet (1-1.5m) in height.

FLOWER: Compound flower umbels have 20-45 rays from 1-3 inches (2-7cm) across and have hundreds of tiny, greenish-white flowers, measuring less than 0.12 inch (0.3cm) across. These umbels often merge, thus appearing as one large cluster up to 6 inches (15cm) across. Flowers have 5 petals and bloom from June to August.

LEAF: Green leaves are pinnately compound, with each petiole having 3 to 5 bunches of 3 to 5 leaflets. Leaves are serrated, with 1.5-4 inches (4-10cm) ovate to widely lanceolate leaflets, that are pointed at the tips and rounded at the base.

EDIBLE PARTS: leaves and stems of young shoots only

KEY MEDICINAL USES: Root can be used externally for pains, sores, cuts, blood poisoning, flatulence, and infections.

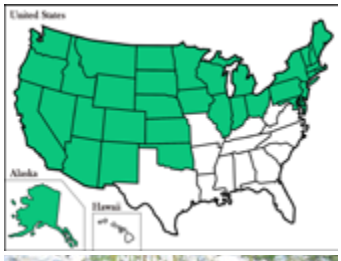
HOW TO HARVEST AND EAT: Harvest young stems and shoots only during the spring. Older plants tend to be tough. Do not eat the roots.

PICKLED SEACOAST ANGELICA STEMS: Place Seacoast Angelica stem lengths in a 16 oz. (500 ml) jar so they just fit without being crammed. Add 1 tsp. chopped garlic, 1 tsp. wild mustard seed, 1 tsp. peppercorns, a sprig of wild dill and season to taste. Add chilis for a spicy kick.

WARNING: Root is toxic. Do not consume.

POISONOUS LOOK-ALIKES: Water Hemlock, *Cicuta maculata* – it has white umbel flowers that are more spread apart than densely packed Angelica flowers, and their leaves are thinner than Angelica leaves. These two plants may hybridize so be very careful with your ID.

Seaside Arrowgrass, *Triglochin maritima* (JUNCAGINACEAE)




Meneerke bloem, CC-BY-SA-3.0


Olivier Pichard, CC-BY-SA-3.0

SEASIDE ARROWGRASS, Common Arrowgrass, Sea Arrowgrass, or Shore Arrowgrass is a perennial succulent native to Northern hemisphere shorelines. Plants can reach 8-30 inches (30-76cm) tall and can be found growing in brackish and saltwater marshes, wet sandy beaches, damp grasslands, and bogs.

FLOWER: The plant blooms from May to August. Flower stalks resemble those of Sea Plantain and may reach 5 ft. (1.5m) tall with flowers blooming along their tops. Greenish flowers have 3 petals with purple edges and they measure 0.13 inches (2mm) across. Green or brown perianths have 6 sepal-like parts with a leafy texture. Dry fruit pods contain 6 seeds, each 0.08-0.2 inches (2-4.5mm) long.

LEAF: Dark, green, fleshy, basal, half-rounded, grass-like leaves grow in clumps reaching 6-18 inches (15-45cm) tall and 0.05 inches (1.4mm) wide.

EDIBLE PARTS: only the white stem base of leaves, very young flowering stems, and seed

HOW TO HARVEST AND EAT: The white bases of leaves can be harvested in late spring, prior to flowering, and can be eaten raw or cooked. They have a sweet flavor when raw, but give off an unpleasant odor when cooked. Seeds can be roasted and ground as a coffee substitute.

RECIPE: Enjoy the white leaf bases as a snack while foraging.

WARNING: Green parts of leaves are toxic.

Self Heal/Heal-all, *Prunella vulgaris* (LAMIACEAE)







SELF HEAL/HEAL-ALL, Woundwort, Carpenter's Herb, or Blue Curls is an herbaceous plant that grows in neutral soils along woodland edges, roadsides, pasturelands, and in clearings. Self Heal grows in full to partial sun to a height of 2-20 inches (5-50cm), with creeping, self-rooting, tough, square, reddish stems branching at leaf axis. In mowed lawns it adapts and is low-growing.

FLOWER: Small purple flowers grow from a pineapple-shaped, whorled cluster about 1-2 inches (2.5-5cm) wide and 1 inch (2.5cm) long. Tubular, snapdragon-like flowers are two-lipped and about 0.4 inches (1cm) long. The top lip is a hood, and the bottom lip has 3 lobes, with the middle lobe being larger and fringed upwardly.

LEAF: Ovate leaves are 'puckered', serrated, and reddish at the tip, about 1 inch (2.5cm) long and 0.5 inches (1.5cm) broad. Covered in coarse hairs, they grow in opposite pairs down the stem. Each leaf has 3-7 veins.

EDIBLE PARTS: young leaves and stems, whole plant (cooked as potherb)

KEY MEDICINAL USES: Self Heal has antioxidant and antimicrobial properties. It contains vitamins C & K, thiamine, and tannins. It is used to relieve muscle pain, for allergies, Crohn's disease, diabetes, gastroenteritis, headache, ulcerative colitis, and sore throat.

HOW TO HARVEST AND EAT: Leaves and stems can be used raw in salads, soups, or cooked. It is bitter when consumed raw. Taste improves when cooked, but loses some nutrients by cooking.

SELF-HEAL TEA: Place 1 to 2 spoonful of dried self-heal leaves into a cup of hot water. Steep for one hour. Drink 2 or 3 cups per day.

Sheep Sorrel/Sour Dock, *Rumex acetosella* (POPLYGONACEAE)







SHEEP SORREL/SOUR DOCK, Red Sorrel, or Field Sorrel is native to Eurasia and the British Isles, and has been naturalized to most of the rest of the Northern Hemisphere. It is commonly found on acidic, sandy soils in heaths and grassland.

FLOWER: Flowers emerge from a tall, upright stem. Male flowers are yellowish-green and female flowers are reddish/maroon. They develop at the apex of the stem, on separate plants and develop into red fruits, called achenes. Drooping flowers have 3 petals and 3 sepals measuring 0.04-0.06 inches (1-1.5mm) long. Fruits are 0.7-1 inches (1.8-2.5mm) long.

LEAF: Green, sword-shaped leaves are small, slightly longer than 1 inch (3cm), and smooth with a pair of horizontal lobes at the base. Leaves and red-tinted deeply ridged stems sprout from an aggressive, spreading rhizome.

EDIBLE PARTS: whole plant (raw or cooked)

KEY MEDICINAL USES: Sheep Sorrel is a powerful antioxidant rich in vit. A and C. It is a diuretic used for urinary dysfunction and edema.

HOW TO HARVEST AND EAT: Sheep sorrel can be used in salads, garnishes, tarts (for flavoring), and in cheese-making (works as a curdling agent for milk). Leaves have a lemony, tangy, rhubarb-like tart flavor.

SHEEP SORREL SOUP: Sauté diced wild garlic and onions medium heat. Add 2 cups broth and 4 cups chopped sorrel leaves. Cook 5 min., blend and serve. Add a couple branches of purslane to thicken it.

WARNING: People with kidney disorders should avoid eating sheep sorrel due to its high oxalate content, which can cause kidney stones.

Shepherd's Purse, *Capsella bursa-pastoris* (BRASSICACEAE)

SHEPHERD'S PURSE is an annual and sometimes biennial plant that can be found growing along roadsides, in fields, and vacant land in early spring. The plant grows 8-16 inches (20-40cm) tall with feathery foliage and tiny white flowers.

FLOWER: Clusters of white flowers are produced from February to June. Four tiny, white petals form a cross measuring 0.12-0.3 inches (3-8mm) across and 0.08-0.15 inches (2-4mm) long. Flat, green seed is shaped like a heart or triangular "purse" and measures less than 0.12 inches (3mm) across and 0.2-0.3 inches (5-8mm) long.

LEAF: Green, basal leaves are 1-6 inches (3-15cm) long and 1.5 inches (4cm) wide. Leaves vary in shape, size, and type. They look similar to dandelion, but the lobes point outward. Some basal leaves are deeply lobed, and some have no lobes.

EDIBLE PARTS: the entire plant (raw or cooked)

KEY MEDICINAL USES: Shepherd's Purse can help with circulatory problems, hormonal imbalances, menstrual disorders, and inflammation. It has Vitamins A, C, B2, and K.







HOW TO HARVEST AND EAT: Shepherd's purse has an arugula flavor. Harvest individual basal leaves for greens at the base of the leaf prior to flowering. Harvest flower stalks 2 inches from the ground. Leaves and flowers can be used like other wild greens, and the single taproot can be used like ginger. Shepherd's purse can be eaten in a salad with other greens, in a stir-fry, in tea, and more.

SAUTÉED SHEPHERD'S PURSE GREENS: Sauté 1 handful of fresh leaves with diced wild garlic and olive oil. Season to taste.

Silverweed/Cinquefoil, *Argentina (Potentilla) anserina* (ROSACEAE)

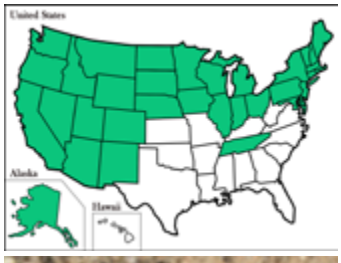
SILVERWEED/CINQUEFOIL, Common Silverweed, or Goosegrass is a perennial flowering plant native to the Northern Hemisphere. It can be found growing in moist, well-drained, sandy, gravelly soils. Low growing plants can reach 8 inches (20cm) tall.

FLOWER: Flowers bloom from spring through summer. Single flowers are 2-6 inches (5-15cm) long. They have 5 round, yellow petals surrounding a central head of 20-100 bright yellow pistils. Directly beneath the petals, are 5 light green sepals and 5 floral bractlets similar to the sepals, except lanceolate.

LEAF: Bright green, basal leaves grow in a spreading or ascending rosette. They are simple, odd-pinnate; and 5-11 leaflet pairs are 2 inches (5cm) long, deeply serrated, and opposite. Leaf undersides are densely covered in fine hairs that give them a silky feel and a silvery appearance.

EDIBLE PARTS: the entire plant

KEY MEDICINAL USES: Silverweed is astringent, antispasmodic, diuretic, homeostatic, and tonic.







HOW TO HARVEST AND EAT: Roots are best harvested in autumn. They taste like sweet potatoes or parsnips and can be roasted, boiled, or added to soups and stews. Leaves can be eaten raw in salads, cooked in stews, or brewed as tea.

ROASTED SILVERWEED ROOT: Coat chopped Silverweed root and other root vegetables generously with olive oil, season to taste, and steam roast until soft.

Skunk Cabbage, *Symplocarpus foetidus* (Eastern) and *Lysichiton americanus* (Western) (ARACEAE)




S. foetidus


L. americanus

SKUNK CABBAGE thrives in mucky soils, is usually first to bloom in spring, as early as February, and may form large colonies. All parts of the plant, especially the flowers, have a strong unpleasant aroma. **Eastern Skunk Cabbage**, also known as Swamp Cabbage, is native to Eastern North America's bog and swamp margins. **Western Skunk Cabbage** is native to the PNW of North America, and is used in a similar way.

FLOWER: Plant flowers in February-April, and seeds ripen in August-September. Flowers are housed inside a 3-6 inch (7.5-15cm) long leaf-like bract, or spathe, that is twisted at the top with an opening on one side. Tiny flowers clustered on a fleshy oval spadix, 1-2 inches (2.5-5cm) long, measure 0.25 inches (6.35mm) across, and have 4 stamens and 4 petals. The dark purplish-brown spathe withers once the flower blooms. Fruits are roundish, compound, 2-4 inches (5-10cm) across, with a quilt-like pattern covering the surface. It is initially purplish, or greenish, becoming black at maturity. It contains many seeds.

LEAF: A rosette of bright green basal leaves grow up to 2 ft. (61cm) long and 1 ft. (30cm) wide, on ridged, 1 ft. (30 m) long, leaf stems. Leaves are smooth, veiny, toothless, hairless, and have a blunt or pointed tip.

EDIBLE PARTS: roots and young shoots/leaves (always cooked or dried – otherwise poisonous)

KEY MEDICINAL USES: The root is antispasmodic, expectorant and slightly narcotic. Often used for bronchitis and asthma.

HOW TO HARVEST AND EAT: Wear gloves when handling fresh plants. Skunk Cabbage can cause blisters, inflammation, and itching. Thoroughly cook all parts of the plant before eating. Change water at least once during the cooking process. Cut young shoots and leaves at base, or dig up whole plant with root. Never soak root when cleaning. Leaves have a peppery flavor. I like to use large leaves as "wax paper" for pit roasts, or to wrap fish in, prior to cooking over a fire.

STUFFED TROUT WRAPPED WITH SKUNK CABBAGE LEAVES: Stuff fresh-caught trout with Wood Sorrel (*Oxalis*) leaves, then wrap it completely in Skunk Cabbage leaves. Place near coals until cooked. Unwrap and the Skunk Cabbage will have retained the trout's moisture. Salt as needed.

WARNING: Skunk Cabbage is poisonous as it contains calcium oxalates, a toxic substance that makes the mouth and digestive tract feel as though hundreds of needles are being stuck into it. Always cook or dry the plant to destroy its toxicity.

Sowthistle (Common), *Sonchus oleraceus* (ASTERACEAE)




Harry Rose, CC-BY-2.0 re




Santhaladevi, CC-BY-SA-4.0

SOWTHISTLE grows 12-40 inches (30-100 m) high and is related to dandelions. It can be found growing in most soil conditions in sunny, often disturbed sites. It grows from a short taproot and a milky latex flows from broken stems. This and other plants of the *Sonchus* family are nutritious and edible.

FLOWER: Bright yellow ray florets, less one inch (2.5cm) in size, rise above the plant on branched stems. Seeds form little parachutes to travel on the wind.

LEAF: Young leaves form a rosette of round, slightly toothed bright green leaves, maturing to thin, soft, dark green leaves that are 8 inches (20cm) long, 2 ½ inches (6cm) wide, and irregularly toothed margins with small, soft spines.

EDIBLE PARTS: leaves, stems, and roots

KEY MEDICINAL USES: It may help liver issues, skin issues, and may have anticancer properties.

HOW TO HARVEST AND EAT: Young leaves are best harvested in early spring in the first part of the day. Plunge in cold salted water before serving for best flavor. They are a delicious spring green and can be added to salads,and used like spinach. Roots can be cooked or roasted and used as a coffee substitute.

SAUTÉED SPRING GREENS: Gather young 2- 4 inches (5-10cm) leaves and gently rinse any debris. In a sauté pan, melt butter and toss greens in. Place lid and wait 5 min. Stir and season to taste.

Spiny Wood Fern, *Dryopteris expansa* (DRYOPTERIDACEAE)






Andrea Moro, CC-BY-SA-3.0



SPINY WOOD FERN, Northern Buckler Fern, Alpine Buckler Fern, or Spreading Wood Fern is a deciduous fern species that can be found growing in moist soils of cool, light-shade in mixed evergreen forests along stream banks, on rotting logs, and on tree stumps. Green, lacy fronds typically grow 2-3 ft. (0.6-1m) tall on stout, woody stems. Ferns spread 1-2 ft. (0.3-0.6m) in asymmetrical clumps, by erect or branching rhizome.

SPORES: Brownish, circular sori are located on leaflet undersides, arranged in rows on either side of the center vein. Sori are partly covered by a translucent indusium attached to the inner curve.

FRONDS: Wide, lanceolate fronds grow on woody, creeping or erect stems with brown scales at their base. Fronds are deltate with bipinnate leaflets at the base and pinnate leaflets at their pointy tips. Lobed leaflets may be divided to the mid-vein. Leaflets are toothed with bristle-like tips and they have forked veins.

EDIBLE PARTS: roots and young, unfurled shoots

KEY MEDICINAL USES: The root has been used to paralyze tapeworms and other parasites, and to treat cuts and dandruff.

HOW TO HARVEST AND EAT: Roots are best when harvested in early autumn. Rhizomes are surrounded by finger-like projections and should not be eaten if the scaly projections are flat and dark inside. Roots are good to eat if the projections are fleshy and lightly colored. They are bitter raw, but develop a sweet flavor, similar to sweet potatoes when cooked. Peel baked root before eating. Shoots should always be cooked.

ROASTED SPINY WOOD FERN ROOT: Clean roots, roast until tender, peel, add butter, and enjoy.

Speedwell, *Veronica* spp. (PLANTAGINACEAE)




V. persica


V. americana
Rob Routledge, CC-BY-3.0

VERONICA is the largest genus in the Speedwell/Plantain family (it was formerly in the Figwort family). *Veronica* comprises approximately 500 species and is also called Speedwell, Gypsyweed, and Bird's Eye. They are herbaceous annuals or perennials that grow as plants, sub-shrubs, and even shrubs, depending on the species. Gypsyweed plants vary with a range of sizes from 0.5-35 ft. (0.15-10m) tall with 4-20 inches (10-50cm) spread. They spread using adventitious roots that spout at their nodes. Two common species are listed below. **Persian Speedwell**, *V. persica,* is an edible, creeping perennial Native to Europe and Asia; naturalized to North America, and grows 4-12 inches (10-30cm) in height. **American Speedwell**, *V. americana* is an herbaceous perennial with bright green, glabrous stems and foliage and small periwinkle flowers blooming on axillary racemes. It grows 4-20 inches (10-50cm) in height.

FLOWER: *V. persica* - single flowers measuring 0.3-0.5 inches (0.8-1.3cm) in diameter, with 4 round, periwinkle petals and dark purple vertical lines. Petals are colored light yellow at their bases and form a central circle. Flowers are on long peduncles, emerging from leaf axils. *V. americana* - single flowers emerge in small clusters from leaf axils. They have 5 round periwinkle petals with dark vertical lines. Petals are colored white at their bases and form a central circle.

LEAF: *V. persica* - Broadly ovate leaves 0.2-1 inch (5-25mm) long have coarsely serrated edges and a 0.03-0.3 inches (1-8mm) long petiole. Leaves are paired on lower stem and alternate on upper stem. *V. americana* - Lanceolate, serrate leaves are opposite with short petioles on a square stem.

EDIBLE PARTS: young shoots and stems

KEY MEDICINAL USES: Leaves are expectorant. Older leaves are used to treat bronchial symptoms caused by asthma and allergies.

HOW TO HARVEST AND EAT: Harvest very young, tender *V. persica* and *V. americana* leaves. They have a similar flavor to watercress. Use raw in salad, or as a flavoring in soups and stews.

GYPSYWEED SALAD WITH MIXED WILD GREEN: Mix a handful of *V. persica* and *V. americana*, Purslane, and Miner's Lettuce into a bowl. Dress with oil and vinegar of your choice. Season to taste.

Stinging Nettle, *Urtica dioica* (URTICACEAE)







STINGING NETTLE is an herbaceous perennial growing up to 8 ft. (2.5m) tall (though usually 2-4 ft. (0.6-1.2m), commonly found along rivers, streams, and lakes. It prefers temperate climates, thriving when it has plentiful moisture and sunlight.

FLOWER: Tiny, 0.08 inches (2mm) long flowers bloom between June and September. They have 4 creamy green to pinkish petals. The fruit is flattened, egg-shaped, less than 0.06 inches (1.5mm) long.

LEAF: Leaves are opposite, lance-shaped, usually 1-4 inches (2.5-10cm) long and ½-1½ inches (1.25-4 cm) wide. Edges are deeply toothed. The leaf's lower surface is sparsely covered with stinging hairs.

EDIBLE PARTS: young leaves (raw or cooked) and seeds (cooked or dried)

KEY MEDICINAL USES: It is used to reduce pain-causing inflammation, lower blood pressure, for eczema and arthritis, to balance blood sugar, and treat wounds/burns.

HOW TO HARVEST AND EAT: Harvest and handle with gloves until dried or cooked. Stinging Nettles are highly nutritious, containing vitamins A, C, K, several B vitamins, and minerals. I like to dry them for use throughout the year, and add to stews and soups. Seeds are delicious cooked into patties with natural fats, in a smoothie, or sprinkled into any dish.

NETTLE PESTO: Blanch 3 cups nettles. Add 1 garlic clove, 3 cups parsley (or other wild greens), ⅓ cup pine nuts, ½ cup parmesan. Season. Blend while drizzling ⅓ cup virgin olive oil.

WARNING: Stinging hairs cause skin irritation. Best to eat only young leaves, as older leaves develop cystoliths, which can irritate the kidneys. If you harvest nettle tips, new growth will occur, allowing you to harvest new leaves much of the growing season.

Stonecrop, *Sedum* spp. (CRASSULACEAE)




Diego Delso, CC-BY-SA-3.0


Joan Simon, CC-BY-SA-2.0

SEDUM is a genus of 400-500 mostly edible annual and biennial herbaceous succulents. Plants vary from creeping herbs to shrubs. *Sedum purpureum*, Orpine, or Live Forever is an edible species also known as *S. telephium*, *S. capraticum*, and *S. fabaria*. They have erect, unbranching stems, fleshy leaves.

FLOWER: Flowers usually have 5 sepals and 5 petals; seldomly 4 or 6. Petals are often fused to form urn-shaped flowers. *S. purpureum* have tiny purplish-red flowers in yarrow-like clusters. *S. robrotinctum* and *S. acre* have bright yellow, star-shaped flowers with 5 pointy petals.

LEAF: Fleshy leaves and stems vary widely. *S. purpureum* have lanceolate, serrated, alternate leaves in opposite pairs. *S. robrotinctum* have little green pine nut-shaped leaves, tipped bright red. *S. acre* have small green pine nut-shaped leaves, tipped lighter green.

EDIBLE PARTS: leaves of most species (except for *S. robrotinctum*)

KEY MEDICINAL USES: *S. purpureum* is astringent and cytostatic.

HOW TO HARVEST AND EAT: Harvest *S. purpureum* root before flowering. Older leaves are best cooked. Roots can be seasoned and buttered, or used in soups. I love snacking on *Sedum* leaves raw from my garden.

BRAISED ORPINE TUBERS: Boil Orpine tubers and any other tuber until tender. Peel and chop. Mix with a wild herb (Ramps, Gypsyweed), drizzle olive oil, braise in a cast iron pan, and season.

WARNING: *S. robrotinctum* and *S. acre* can be toxic if consumed in large amounts and may cause stomach upset. Best stick to the other edible species.

Stork's-Bill, *Erodium cicutarium* (GERANIACEAE)







STORK'S-BILL, Redstem Filaree, Pigweed, Common or Red-Stemmed Stork's-Bill is an herbaceous annual in cold climates and biennial in warm climates. It can be found growing in dry sandy soils along roadsides and in fields.

FLOWER: Flowers with 5 pink, purple, or white elliptical petals measure 0.25-0.5 inches (5-8mm) in diameter. Umbrella-like clusters bloom from November to June. Seedpods look like a stork's bill, which split into 5 achenes with a long awn that coils tightly to "drill" the seed into the ground.

LEAF: Basal leaves are 2-18 inches (5-45cm) long and 0.15-2 inches (0.4-4.5cm) wide. They are pinnate to pinnate-pinnatifid, made of 3-9 deeply lobed leaflets, giving them a fern-like appearance. Leaves are alternate and have no petioles, with their bases wrapping around stems appearing as if they have been pierced by the stem.

EDIBLE PARTS: the entire plant

KEY MEDICINAL USES: It is astringent and hemostatic. Seeds are rich in Vitamin K.

HOW TO HARVEST AND EAT: Harvest young, overwintered, tender leaves. They taste like parsley. Old leaves are tough and bitter.

STORKS-BILL, NETTLE PESTO, WITH SHEPHERD'S PURSE SEED: You'll need a handful of each plant's boiled leaves, 1 clove garlic, pine nuts, parmesan cheese, shepherd's purse seed. Blend with olive oil to desired consistency. Season to taste. Use on pasta, meats and fish, or mix with yolk for deviled-eggs.

POISONOUS LOOK-ALIKES: Poison Hemlock, *Conium maculatum*

Strawberry Blite, *Blitum capitatum* (AMARANTHACEAE)







STRAWBERRY BLITE, Elite Goosefoot, Strawberry Spinach, Strawberry Goosefoot, Indian Paint, or Indian Ink is a monocarpic plant, which can be found growing in moist mountain valleys, in partial shade or sun and in disturbed soils along roadsides, gravel pits, waste areas, fields, open forests, thickets and clearings. Plants can reach 8-40 inches (2-10cm) tall, and have a 12-15 inch (5-38cm) spread.

FLOWER: Tiny flowers bloom from July to August in tight clusters, measuring 0.4 inches (1cm) in diameter, and are whorled along upper stems. Fruits are small and bright red, measuring 0.5 inches (1.2cm) in diameter and containing small, black seeds. Strawberry Blite is most recognized by its bright red berries whorled along upper branches.

LEAF: Thin, green leaves are coarsely serrated, arrowhead-shaped, and alternate. They are 1-4 inches (10-20cm) long with long petioles. They both become shorter along the length of the stem.

EDIBLE PARTS: fruits, leaves, seed

KEY MEDICINAL USES: Strawberry Blite has been used for treating black eyes, head bruises, and lung congestion.

HOW TO HARVEST AND EAT: Eat younger leaves fresh in salads and cook the older leaves. Seeds can be cooked and ground into a meal after being soaked overnight and rinsed to remove saponins. Fruits can be eaten raw or cooked in syrup or jelly.

STEAMED STRAWBERRY BLITE LEAVES: Steam a few handfuls of Strawberry Blite leaves with chopped garlic for 3-5 min. Drizzle olive oil. Season to taste.

WARNING: Raw leaves contain oxalates and should be eaten in moderation. Seeds may be toxic when eaten in large quantities.

Sweet Alyssum, *Lobularia maritima* (BRASSICACEAE)






SWEET ALYSSUM, also known as Sweet Alison, Snow Princess and Snow Crystals, can be an annual or a perennial, depending on winter conditions. It can be found growing on sandy beaches and dunes of the coastal Pacific states, and in gardens. Plants can reach 6-12 inches (15-30cm) in height and have a 10-12 inches (25-30cm) spread.

FLOWER: Sweet Alyssum flowers can be white, pink, purple, red, or yellow, and bloom spring through summer clustered in small, dense racemes. Flowers can be so profuse that they block out the foliage completely. Individual flowers are 0.2 inches (5mm) in diameter, with 4 round, tiny petals arranged like a cross. Dry, oval seedpods ripen July to October. Each pod splits when ripe and contains a single brown to yellowish, oval seed.

LEAF: Gray-green, narrow leaves grow up to 0.12-0.20 inches (3-5mm) long and 0.04-0.16 inches (1-4mm) wide. They are alternate, linear, and smooth-margined.

EDIBLE PARTS: petals, leaves, and stems (Do not eat seeds.)

KEY MEDICINAL USES: Sweet Alyssum is astringent and diuretic.

HOW TO HARVEST AND EAT: Young flowers and leaves can be used to add flavor to salads.

CANDIED SWEET ALYSSUM FLOWERS: Beat one egg white just before it becomes frothy, add 1 tsp. powdered sugar and continue beating until frothy. Gently paint flowers with egg whites and dust with finely ground sugar crystals. Dry flowers in an oven set to 150°F (65°C) for a couple of hours, until all the water is driven off. Top a desert, or store in an air-tight jar for up to a year.

Sweet Flag, *Acorus calamus* (ACORACEAE)





SWEET FLAG, also known as Calamus, is an aquatic herbaceous perennial found in wetlands. It is single veined, grows up to 6 ft. (2m) tall, and looks like a member of the Iris family. It has spreading, stout, rhizomes.

FLOWER: Blooming in late spring or early summer, a 2–4-inch (5-10 m) spadix emerges from one side of the upright stalks, resembling a small corncob that is packed with small, 6-parted, yellowish-green flowers that make a diamond pattern.

LEAF: Erect, sword-shaped, 1 inch (2.5cm) wide; resemble iris but is greener, flattened on one side and smooth along the margins. Margins can be slightly red.

EDIBLE PARTS: young, partially grown flowers, young stalks, roots

KEY MEDICINAL USES: The rhizome may help nausea, heartburn, colds, and anxiety.

HOW TO HARVEST AND EAT: New shoots and flower stems can be cut in early spring. Flower stems and inner stalks are sweet and can be eaten raw. Roots are in the mud and can be dug early in the spring, before flower stems appear, or in late fall, when plant has finished flowering. Roots are more flavorful unpeeled, can be eaten raw or cooked, and make a great ginger or cinnamon substitute. Young leaves are good cooked.

SWEET FLAG CHEW: With a sharp knife, cut a small piece of new growth of stalk, trim off exterior tough leaves, and chew a small piece to freshen your breath.

WARNING: There are reports of people having nausea and vomiting after consuming sweet flag, so best to keep to small amounts of this strong, spicy plant.

POISONOUS LOOK-ALIKES: Wild Iris, *Iris versicolor*, and Yellow Water Iris, *Iris psuedacorus*

Sweet Clover (Yellow), *Melilotus officinalis* (FABACEAE)







YELLOW SWEET CLOVER or Common Melilot is an annual or biennial that can reach 6 ft. (2m) in height. It is often found in colonies. The sweet-smelling plants have deep taproots, allowing them to survive drought and cold temperatures. They are often found in disturbed areas, but can also be found in open grasslands and woodlands, where they often outcompete and shade native plants. Light green stems are lanky and smooth, almost hairless, and freely branching.

FLOWER: Blooming from May to October, its yellow flowers grow in whorls on 6-inch (15cm) long drooping spikes, that form at the leaf axils of the upper leaves and at the ends of stems. Flowers are ⅓ inch (0.8cm) long; they become small seedpods, each containing 1 to 2 seeds.

LEAF: Leaves are alternate and divided into 3 oblong leaflets, that are about ¾ inch (2cm) long and ¼ inch (0.5cm) wide, with fine toothed almost hairless margins.

EDIBLE PARTS: seedpods, flowers, leaves, shoots, and roots

KEY MEDICINAL USES: Common sweet clover keeps blood from clotting, is a diuretic and laxative.

HOW TO HARVEST AND EAT: Flowers picked at the peak of blooming can be used as a flavoring in tea. Later, the subsequent seeds can be winnowed right off the plant, once the pods have turned brown or black, and used as a spice. Young leaves can be used sparingly to flavor salads. Young shoots can be used like asparagus. Leaves and young green seedpods can be cooked as a vegetable.

CLOVER FLOWER ICED TEA: Collect flowers early in the morning before the bees are at them. Rinse in cold water. Place 1 tbsp. of flowers per each cup of boiling water. Let steep 15-20 min. Remove flowers and allow water to cool. Add honey or sweetener of your choice, about 1 tsp. per cup. Mix well and enjoy the refreshing, lightly vanilla flavored iced tea. Soaking flowers overnight in cold water will also make a nice infusion that can be used the same way.

WARNING: Fermented and mouldy plants should never be used. These are toxic to livestock. Dried leaves may be toxic to humans. People using heart medication, diuretics, blood thinners, or who have diabetes or prediabetes should be extra cautious with this plant.

Sweet Gale, *Myrica gale* (MYRICACEAE)

SWEET GALE, Bog Myrtle, or Sweet Bayberry is commonly found in Pacific Coast bogs in BC, WA, and OR. Plants can reach 4-5 ft. (1-2m) tall, are shrubby, and spread slowly with many smooth, red, woody branches, sprouting from the base.

FLOWER: Dioecious flowers have no petals or sepals, and are hidden inside catkins or cones that grow out of leaf axils from March to May. Female flowers are found in greenish-yellow, waxy, 0.3-0.4 inch (8-10mm) long catkins, that look like miniature leafless pineapples. Male flowers are found in 0.3-0.6 inches (7-15mm) long, reddish-brown, stalkless catkins, that look like miniature Douglas Fir cones. Bright green fruit capsules are tightly packed, each containing a single seed or nutlet. Seeds do no split when they ripen, August to September.

LEAF: Firm, leathery, wedge-shaped leaves, 0.4-3 inches (1-8cm) long, and 0.15-1 inches (0.4-3cm) wide, are on round petioles that attach to the basal margin of the leaf. Leaves are widely serrated on the ends and blunt tipped. Leaves drop off in winter, leaving buds at terminal ends.

EDIBLE PARTS: leaves and nutlet







KEY MEDICINAL USES: It has been used to treat stomachaches, liver issues, bronchial problems, and acne.

HOW TO HARVEST AND EAT: Leaves and nutlets can be used as a sage-like flavoring for meats, soups and stews. Steep leaves to make a delicate tea. The leaves can be used to flavor drinks; they have been used to flavor Schnapps and beer before using hops. Leaves can be eaten raw or cooked.

SWEET GALE TEA: Pour a cup of boiling water over 6 leaves, and steep 5-10 min. Sweeten to tast.

Tiger Lily, *Lilium columbianum* and *L. lancifolium* (LILIACEAE)

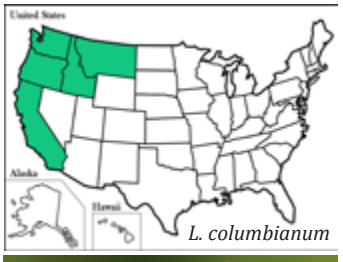
COLUMBIA TIGER LILY (*L. columbianum*), also known as Columbia Lily, is a perennial plant native to western North America. When mature, a single stem develops from each bulb, which can grow up to 5 ft. (1.5m) tall. It prefers moist sites with well-draining soil. ***L. lancifolium*** has the same edibility.

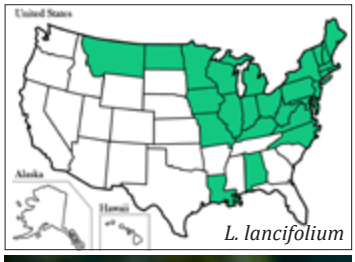
FLOWER: Large flowers are orange, with obvious brown spots on petals, and can reach 2 inches (6cm) long. Multiple flowers are arranged at the top of a single stiff stem and produce a soft scent. Tiger lilies flower from June to early August; pods ripen to produce bulbils, which are edible and can be harvested when dark and almost dry.

LEAF: Lance-shaped leaves are light green, about 2-4 inches (6-10cm) long, and arranged in a whorl around the upright stem.

EDIBLE PARTS: bulbs

HOW TO HARVEST AND EAT: Dig up the bulb in the colder months, when vegetation above ground has died off and the softer ground makes for easier digging. When cooked, it tastes like a slightly bitter chestnut and is starchy like a potato. You can use it as a substitute for any root vegetable.









TIGER LILY RICE BAKE RECIPE: Ingredients: 1 ½ cups of washed rice, 1 cup each of diced tiger lily bulb, diced pumpkin, chopped broccoli, and chopped cauliflower; 1 diced carrot; 1 diced onion, 1 cup cooking cream; 2 cups of chicken stock/broth. Spread the rice on the bottom of a large casserole dish, add all of the vegetables, and pour the cream and stock over the top. Cover and cook in an oven at 400°F (200°C) for 1 h. You can serve with a sprinkling of parmesan cheese.

WARNING: Lilies in the *Lilium* genus are edible, but highly poisonous to cats.

Thistle (Plume), *Cirsium* spp.
(ASTERACEAE)







PLUME THISTLE is a name given for this large genus of perennial or biennial plants. Plume thistles grow 2-4 ft. (0.6-1.2m) tall from a deep taproot, and are named for the long, feathery plumes that are attached to its seeds.

FLOWER: The flower is typical of other thistles; a tuft of up to 50, purple or crimson-colored petals and stamens exploding from a green, bulb-shaped flower head at the end of a tall, sometimes leafless stalk. The bulb-shaped flower head can be over 1 ½ inches (4cm) in diameter and is covered in spikes that can be as long as ½ inch (13mm) in some species. The flower eventually dries and the petals are replaced by fine, feather-like plumes that can reach over 1 ½ inches (4cm) long. Each feathery plume is attached to a single seed, and 20-30 seeds are packed into the spikey flower head, ready for wind dispersal.

LEAF: All species have prickles on their leaves and start as basal leaves in a rosette. Each leaf is heavily lobed and the tips of each lobe has sharp prickles. The leaves tend to be rough in texture, and some species can grow leaves up to 11 inches (20cm) long. Many species have a woolly appearance on the underside of the leaves, while the leaf surface is usually green, sometimes slightly mottled white.

EDIBLE PARTS: roots, leaves, seeds, and unopened flower buds

KEY MEDICINAL USES: Seeds contain a high concentration of compounds that are known to assist liver regeneration. A tea made from the leaves and/or roots can aid digestion and ease diarrhea.

HOW TO HARVEST AND EAT: The root can be dug up and eaten at any time of year, but younger plants taste less bitter. Young flower buds can be added to a salad or used as a garnish before they have developed any spikes. Young flower heads can be cooked like an artichoke (my favorite!). Younger leaves are best picked in spring. Seeds can be easily harvested once the flower heads have dried.

PLUME THISTLE ROOT CREAMY STEW RECIPE: Ingredients: 2 cups each, chopped, of plume thistle, leek, and carrots; 1 cup each, chopped, of cauliflower and broccoli, ½ chopped onion, 2 cloves of chopped garlic, 2 cups of cream, 1 cup of water, salt and pepper. Cook all vegetables in a pot on medium heat for 15-20 min. Add the cream and water and simmer for another 15-20 min. Mix with a hand blender until you have the desired consistency. Serve with crusty bread.

Twisted Stalk/Watermelon Berry, *Streptopus amplexifolius* (LILIACEAE)







TWISTED STALK/WATERMELON BERRY grows up to 3 ft. (1m) tall and about 1 ft. (0.3m) wide. It can be found in moist habitats, except for coastal areas, and it prefers part-shade.

FLOWER: A single flower hangs vertically from a long, slender stem from underneath the point where the leaf joins the stalk. This flower stem is 1-2 inches (2.5-5cm) in length and can often have a twist in it like a pig's tail. Each flower is ½ inch (13mm) long and has 6 narrow petals that are fused at the base and curl back at the tips, giving the flower a bell-shaped appearance. The color of the flower gradually changes from light green at the fused base, to cream or white at the curled tips. A single berry up to ½ inch (15mm) long eventually replaces each flower. Berries turn red and are plump when mature.

LEAF: Leaves are alternately arranged up the stalk, which is slightly bent or kinked where the leaf joins the stalk. The common name comes from the fact that each leaf wraps or 'twists' slightly around the stalk. Leaves can grow over ½ inch (1.3cm) in length and have a wavy or curled appearance.

EDIBLE PARTS: young leaves, stems, roots, and berries in moderation

KEY MEDICINAL USES: Traditionally the whole plant, including roots and berries, was brewed into a tea or decoction to ease stomach pain, increase appetite and for kidney problems.

HOW TO HARVEST AND EAT: Berries are ready to harvest when they turn red and taste like a mixture of watermelon and cucumber. Eat in moderation raw or cooked. Fresh, young shoots can be harvested in early spring and eaten raw in salads or cooked. Roots can be eaten raw.

TWISTED STALK BERRY MUESLI AND YOGURT RECIPE: Ingredients: 2 tbsp. each of twisted stalk berries, diced apple, and diced pear; ½ cup of muesli; 3 tbsp. oatmeal; 2 tbsp. crushed unsalted nuts; ¼ cup natural Greek yogurt. Combine everything in a bowl and enjoy.

WARNING: Eating more than a handful of berries and young leaves can cause a laxative effect.

POISONOUS LOOK-ALIKES: False Hellebore, *Veratrum* spp. - In the early stages, twisted stalk has leaves that look identical to *Veratrum's* leaves. Once the flowers start to develop, they are easy to distinguish since *Veratrum* species have erect flower spikes that hold numerous flowers.

Violet (Wild), *Viola* spp. (VIOLACEAE)







WILD VIOLET or Native Violet is a term used to describe a broad family of herbs that are common in woodlands, grasslands and forests. The plant grows to about 6 inches (15cm) and forms clusters of heart-shaped leaves, with a flower slightly raised above the leaves on its own stalk. The flowers have a distinct fragrance that momentarily inhibits receptors in the nose to block other scents from being detected.

FLOWER: Flowers range in color from blue to purple. Each flower has 5 rounded petals: 2 on each side and 1 lobed petal facing down, which are often striped. In most species, the flowers range from about ¼ - ½ an inch (5-7mm) in length. Flowers develop into a 3-valved seedpod, which is about half the size of the flower. This pod eventually dries and erupts to distribute its seeds.

LEAF: Most edible species have heart-shaped leaves that are clustered close to the ground and the margins of the leaves are all serrated or toothed to some degree. Depending on the species and condition, the leaves can be light or dark green and range between 1-1½ inches (2.5-4cm) long.

EDIBLE PARTS: flowers, stems, and young leaves

KEY MEDICINAL USES: Studies show that a syrup made from violet flowers can boost the immune response by increasing the production of antibodies.

HOW TO HARVEST AND EAT: Wild violets are typically found in moist, shady areas. Flowers can be picked while in full bloom and added to salads, drinks or desserts. Leaves can be harvested anytime and are used to thicken soups and stews.

WILD VIOLET SYRUP RECIPE: Ingredients: 1 cup each of fresh violet flowers, boiling water, and white sugar (you can use other sugars, but it won't result in a bright blue colored syrup). Put the flowers into a glass jar and pour the hot water over. Screw the lid on and leave it at room temperature for 18-24 hrs. Then warm the mixture by sitting the jar in a pot of warm water (or a double boiler) and add the sugar. Stir until the sugar has dissolved, then strain the mixture. Label and store in the fridge for up to 4 months.

WARNING: Most wild violets are edible, however, the roots can cause diarrhea and vomiting in larger doses. Many of the yellow-colored violets can cause stomach issues as well.

POISONOUS LOOK-ALIKES: Lesser Celandine, *Ficaria verna*

Water Avens, *Geum rivale* (ROSACEAE)







WATER AVENS, also known as Indian chocolate or Water Flower, grows in damp, shady forests. As the name infers, it is usually found close to water along streams and swampy edges. The foliage grows to 1 ft. (0.3m) tall, while the flowering stems can grow up to 2 ½ ft. (0.8m) tall.

FLOWER: 1-3 flowers are held above the foliage on an erect, hairy stem. Each has 5 large, bright-purple or pink colored sepals that hold the shorter, paler petals. These sepals can be up to 1 inch (2.5cm) long and have pointed tips. The flower develops into a fluffy seed head, with each seed having a feathery plume about 1 inch (2.5cm) long attached to it.

LEAF: Basal leaves are up to 8 inches (20cm) long, over 3 ½ inches (9cm) wide, and are much larger and fan-shaped than the upper leaves. The leaf shape varies greatly with location, age and position on the plant, but each leaf is typically divided into 3 segments (trifoliate) with bluntly toothed margins (similar to strawberry leaves), with a pair of smaller leaves further down the long stem. Basal leaves are usually on stalks up to 8 inches (20cm) long. Both the underside and surface of the leaves are slightly fuzzy.

EDIBLE PARTS: root

KEY MEDICINAL USES: Dried root repels moths. Root tea is used for dysentery.

HOW TO HARVEST AND EAT: Harvest the finer roots in spring. They can be boiled to make a drink similar to hot chocolate, or used to season food and flavor ale and mulled beverages. The fragrance of the root diminishes when dried, so it should be dried whole, stored in an airtight container, and ground or chopped up only when needed.

WATER AVENS MASALA CHAI RECIPE: Ingredients: 3 tbsp. chopped Water Avens root, ¼ tsp. each of cinnamon, ginger, and nutmeg; 4-6 green cardamom pods; 4-6 whole cloves; 2-4 allspice seeds, black pepper; 1 earl grey tea bag; 2 cups water; 3 cups milk; sugar or sweetener to taste. Add the Water Avens root, water and spices to a small pot and slowly bring it to a boil while stirring occasionally. Once it has started to boil, reduce the heat and simmer for 20 min. Add the teabag and milk and simmer for another 5 min. Remove the teabag and simmer for another 5-10 minutes. Strain and sweeten with sugar or honey as needed. Makes 4 cups.

Water Parsnip, *Sium suave* (APIACEAE)




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WATER PARSNIP or Hemlock Waterparsnip is found in boggy marshes, swamps and wetlands. In full bloom, it can reach 4 ft. (1.2m) in height.

FLOWER: The flower is shaped like an umbrella (umbel). It consists of 10-20 tiny, white flowers. This umbel can be up to 5 inches (13cm) in diameter, and is held by 6-10 sepals that curl downwards. Each individual flower has 5 lobed petals that are less than ⅛ inch (3mm) long.

LEAF: Leaves are pinnate and consist of up to 17 thin, linear leaflets growing in pairs. Leaflets can range between 1-3 ½ inches (2.5-9cm) long. The thin leaflets have tiny, sharp teeth along the margin, while the leaflet surface is smooth. Submerged leaves can develop fern-like bipinnate leaves.

EDIBLE PARTS: roots

KEY MEDICINAL USES: Root relieve mild paid.

HOW TO HARVEST AND EAT: Roots have a mild, nutty flavor, and can be eaten raw or cooked like any root vegetable. Harvest in spring, when identification is easiest.

WATER PARSNIP AND LENTIL STEW RECIPE: Ingredients: 1 cup of chopped water parsnip roots, 1 can lentils, 1 can tomatoes, 1 sliced chorizo, 1 sliced onion, ½ tsp. mustard, salt and. Fry the chorizo, onion and water parsnip until brown, add the tomatoes, lentils, mustard, salt and pepper and simmer for 10-15 min.

WARNING: Leaves, flowers, and stems are poisonous to livestock and large quantities are thought to be toxic to humans.

WARNING: Foraging for Water parsnip is not recommended, unless you are with an experienced forager.

POISONOUS LOOK-ALIKES: Poison Hemlock, *Conium maculatum*, and Water Hemlock, *Cicuta douglasii*

Watercress, *Nasturtium officinale* (BRASSICACEAE)









WATERCRESS or Yellowcress is an aquatic flowering perennial that grows rapidly, with roots able to grow from every node of their hollow stems. Bright green plants can grow to 1.5-4 ft. (0.5-1.2 m) tall.

FLOWER: Flowers grow on 0.3-0.5 inches (8-12mm) long stalks at the top of flowering stems in late spring. 0.1-0.2 inches (3-5 mm) long flowers have 4 round, white petals. Dry fruits ripen and split 2 months after flowering. They are 0.4-1 inches (10-25 mm) long, 0.08 inches (2 mm) wide, slightly curved cylinders, containing 4 rows of spherical, reddish-brown seeds.

LEAF: Compound leaves are alternate with one leaf per node, growing 1.5-6 inches (4-16 cm) long and 0.8-2 inches (2-5 cm) wide. Leaves may be toothed, or lobed.

EDIBLE PARTS: young leaves and seeds

KEY MEDICINAL USES: Watercress leaves are high in vitamins and minerals, including: vitamins C and E. It is a tonic, a stimulant, and a blood purifier.

HOW TO HARVEST AND EAT: It can be harvested throughout most of the year, but is mostly known as a spring tonic. Leaves have a peppery hotness, like mustard and arugula. Tender leaves at tips of branches can be eaten raw or cooked. Seeds can be sprouted and eaten raw, or ground and used like mustard. Always use caution when wildcrafting aquatic plants downstream from livestock and cook plants that may be growing in areas with liver flukes.

WATERCRESS MUSTARD: Grind ½cup watercress seed, add ½ cup heated white wine, ⅓ cup heated white wine vinegar, and salt. Let sit a day or 2 to thicken. Vinegar can be replaced with water and creates a mild, bitter mustard. For a pungent mustard, use cold water.

Waterleaf, Hydrophyllum spp. (BORAGINACEAE)

WATERLEAFS are named for the light markings found on their leaves, looking like water spots. All species in North America have edible leaves and stems; some also have edible roots. Common edible species are *H. occidentale, H. tenuipes, H. virginianum, H. canadense, H. capitatum, H. fendleri*. Some species are protected.

EDIBLE PARTS: leaves, stems, and roots of certain species (cooked)

KEY MEDICINAL USES: Tea is used to treat diarrhea.

HOW TO HARVEST AND EAT: Leaves may be eaten raw, but are fuzzy; I prefer them steamed or added to soups. Young leaves are best, having pleasant taste similar to spinach or nettles. Harvest roots using your hands or a small rake to carefully pull surface soil back. Snap or sever the rhizome growth. Cook until tender before eating. Mild flavored rhizomes/roots from *H. tenuipes* and *H. occidentale* are crisp and watery, similar to a bean sprout.

CALIFORNIA WATERLEAF, *H. occidentale,* is native to California, Nevada, Utah, Arizona, Oregon and Idaho. It's usually found on moist slopes in forested areas. It can grow up to 2 ft. (0.6 m) tall. Roots are also edible.





FLOWER: A ball of clustered flowers grows at the end of a fuzzy stem that can rise 12 inches (30cm) above the foliage. The flower consists of 5 white-to-lavender petals that are slightly lobed on the tips and ⅓ inch (1cm) long. Each flower has 5 lavender colored stamens that are twice the length of the petals.

LEAF: Leaves can grow up to 15 inches (40cm) and are deeply lobed with rounded tips. Leave is covered with fine hairs that give it a fuzzy appearance.

PACIFIC WATERLEAF, *H. tenuipes,* is native to the Pacific Northwest, from Canada to Northern California forests. It grows in rich, moist shaded soils of low to mid elevation steams and forests. Roots are also edible.





FLOWER: Stalks extend from upper leaves in spherical clusters of numerous flowers as cyme scorpioid. Bell shaped flowers can have cream, greenish-white, lavender, or blue petals and grow to 0.4 inches (1cm) long.

LEAF: Leaves can be 12-24 inches (30-60cm) high, 12 inches (30cm) long, and 8 inches (20cm) wide. Leaves are 5-9 pinnate with an odd number of deeply cut, toothed lobes with sharp points.

VIRGINIA WATERLEAF, *H. virginianum,* or Indian Cabbage has the typical 'feathery' or fuzzy' characteristics. It has a clumping habit due to its rhizomatous roots, and prefers part-shade in moist forests and closed woodlands, but it will tolerate a wide range of conditions. In full bloom, the plant can grow up to 2 ft. (0.6m) tall. Roots can only be used for tea.





FLOWER: Flowers usually appear only in May. Bell-shaped, flowers are pink, purple or white. Each flower is ½ inch (1cm) long and made up of 5 feathery petals. The 5 stamens are also feathery, are twice as long as the petals and protrude from below the petals. Fruits are somewhat hairy and split into 2 when mature in July and August to release 1-3 seeds.

LEAF: Leaves are deeply divided into either 3, 5, 7 or 9 segments, and each segment has blunt-toothed edges and pointed tips.

STEAMED WATERLEAF: Steam fresh, young leaves for 5 min. Season to taste with smoked sea salt.

WARNING: As with most species in the *Boraginaceae* family, consuming high amounts of waterleaf on a regular basis can be harmful to your liver.

POISONOUS LOOK-ALIKES: Grecian wildflower, *Anemonoides blanda* - has a similar habitat and leaf as Virginia waterleaf.

Water-Lily (Fragrant)/Beaver Root, *Nymphaea odorata* (NYMPHAEACEAE)







FRAGRANT or **WHITE WATER-LILY** is a floating aquatic plant that can grow in water up to 8 ft. (2.5m) deep. It prefers clear, slow moving waters of lakes and rivers and grows from long, forking rhizomes.

FLOWER: Radially symmetrical, 3 to 6-inch (7.5-15cm) flowers appear floating at the end of unbranched long stalks. Blooming in summer to early fall, each flower lasts for 3 to 4 days.

LEAF: Glossy green on top, purplish underneath, smooth leaves have long leaf stalks and float on the water's surface. They are 4 to 12 inches (10-30cm) across, circular with a cleft toward the middle on one side.

EDIBLE PARTS: seeds, flower buds, flowers, leaves, and rhizomes

KEY MEDICINAL USES: Roots may aid with gastrointestinal, infectious, and inflammatory problems.

HOW TO HARVEST AND EAT: Harvest undamaged leaves, flowers, and flower buds in summer and early fall. Fruits containing seeds can be harvested the same way later in the season and can be cooked or ground into a meal. Flower buds can be cooked or pickled. Young flowers are edible raw. Leaves are edible raw or cooked. Roots are best harvested in the spring before the plant is in flower. They can be boiled or roasted and used like potato.

FRAGRANT WATER-LILY LEAF AND BUD STIR FRY: Collect a couple of undamaged pads and unopened flower buds. Wash well and blanch in boiling water for 2 to 3 min. Slice pads into 3-inch (8cm) strips. Prepare stir-fry vegetables such as 1 cup each of red or green peppers, onions, and mushrooms. Prepare a sauce using soy sauce, garlic, ginger, honey, and lemon juice. Stir fry vegetables in hot oil and serve with rice.

Western Sword Fern, *Polystichum munitum* (DRYOPTERIDACEAE)









WESTERN SWORD FERN, Sword Fern or Holly Fern is a perennial that can be found growing in well-drained, moist, coniferous forests. Fronds grow from a rhizome covered in reddish-brown scales and arch into a mound of long, narrow fronds reaching 2-4 ft. (0.6-1.2m) tall, and 2-4 ft. across. The rhizome and rachis of young, emerging fiddleheads are covered in reddish brown scales. It is thought of as a starvation food as roots don't offer a great amount of food.

SPORE: Small round sori with 32-64 spores are arranged in lines. Sori are covered by a translucent insidium lined with tiny straight hairs.

LEAF: Dark green fronds with up to 100 leaflets grow in tight radial clumps. Lance-shaped fronds are single pinnate with fine-toothed leaflets, that have a lobe on one side of its base liken to the hilt of a sword. Mature plants can have 75-100 fronds.

EDIBLE PARTS: roots (roasted)

KEY MEDICINAL USES: Fronds can be used to treat sores. Shoots chewed for sore throats.

HOW TO HARVEST AND EAT: Harvest roots in the spring before new growth starts. Cook and peel root prior to roasting.

BRAISED WESTERN SWORD FERN ROOTS: Boil Sword Fern Tubers and any other tubers you are lucky enough to find until tender and peel. Chop roots and sauté with wild garlic, wild mustard seed, and olive oil in a cast iron pan. Season to taste.

WARNING: Use caution, as many ferns contain carcinogens and thiaminase, which robs the body of B-complex vitamins. Cooking the plant destroys the thiaminase.

Wild Carrot, *Daucus pusillus* (APIACEAE)







AMERICAN WILD CARROT or Rattlesnake Weed is a biennial that can grow in most soil types, but prefers moist sunny spots.

FLOWER: Like other carrots, it has umbels of tiny white or pinkish flowers. Each umbel has 5 to 12 tiny flowers, each borne on a ray around 1 inch (2.5 cm) long. Each flower has 5 round petals. Flower clusters resemble a cup or bird's nest at the stem tips at maturity. Seeds have stiff bristles.

LEAF: Leaves are fern-like, divided into tiny segments, and grow at alternate, widely spaced intervals along the stem, ending in a whorl at the top, surrounding the terminal flower umbel. Its finely dissected leaves are covered with white, bristly hairs.

EDIBLE PARTS: the small taproot

KEY MEDICINAL USES: A poultice made from the plant may help in case of snakebite.

HOW TO HARVEST AND EAT: Taproots can be consumed raw or cooked. Identification is key. If it doesn't smell like a carrot, it might be poison hemlock, which smells musty when crushed.

WILD CARROT SLAW: Ingredients: ½ cup each of washed and trimmed wild carrots, finely chopped red cabbage, raisins, and sunflower seeds; 1 cup finely chopped green cabbage; 1 small chopped sweet onion. For the dressing: ½ cup mayonnaise, 1 tbsp. apple cider vinegar, 1 tsp. raw sugar, salt and pepper. Mix dressing ingredients and set aside. Mix slaw ingredients well and add dressing. Let flavors marry in the fridge for 1 h to overnight. Serve with foods such as cold roast chicken, potato salad, and buns.

POISONOUS LOOK-ALIKES: Poison Hemlock, *Conium maculatum*

Wild Garlic, *Allium ursinum* (AMARILLIDACEAE)







WILD GARLIC, also known as Broad-leaf Garlic, Bear Leek, Wood Garlic, Ramsons, and Bear's Garlic, is a bulbous, herbaceous plant found growing in moist forests, mostly along streams. Bulbs form along branched rhizomes and produce individual, bright green leaves, which is a key identifier so as not to confuse Wild Garlic with poisonous Lily of the Valley.

FLOWER: Flowers grow on leafless stalks in the spring, producing umbels of 6 to 25 white, star-shaped flowers. Flowers have 6, elongated, elliptical sepals 0.6 inches (16 mm) across and produce capsules with black seeds.

LEAF: Bright green, elliptical leaves have smooth margins and grow individually from the plant's bulb. Typically, they grow up to 10 inches (25cm) long and 3 inches (7cm) wide. Leaves emit a strong garlic aroma when crushed; smell can be used in identifying the plant.

EDIBLE PARTS: entire plant (raw or cooked)

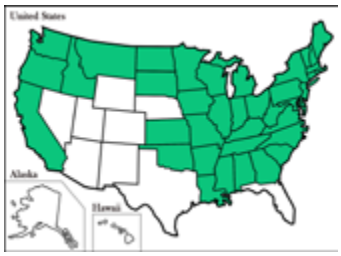
KEY MEDICINAL USES: Wild Garlic is used for high blood pressure, high cholesterol, balancing intestinal flora, and cancer.

HOW TO HARVEST AND EAT: Wild Garlic is one of the first spring greens to eat. Harvest leaves starting in March and stop when flowers begin blooming from April through June, as leaves lose their flavor. People use them similarly to ramps in sautés, soups, pickled, in pesto, or salads.

WILD GARLIC PESTO: Grind 4 cups Wild Garlic greens, 2 cups chickweed, 2 oz. (60g) pine nuts, 3 oz. (90g) parmesan cheese, and salt in processor while drizzling olive oil.

POISONOUS LOOK-ALIKES: Indian Poke, V*eratum viride*

Wild Ginger, *Asarum canadense* and *A. caudatum* (ARISTOLOCHIACEAE)









WILD GINGER, Snakeroot or Canadian Wild Ginger (*A. canadense*) is native to rich, moist, rocky soils. It spreads by rhizomes with foliage and flowers growing along the length of the rhizomes. Dense colonies form carpets of heart-shaped leaves growing on 6-12 inches (15-30cm) tall, fuzzy stems.

FLOWER: In April-June, solitary, bell-shaped flowers bloom on short, leafless stalks. Flowers measure 2 inches (5cm) across. 3 sepals are light brown and fused at the hairy base.

LEAF: Leaf pairs grow on stalks along branching rhizomes. Dark green, almost circular, heart-shaped basal leaves have many deep veins and grow 3-6 inches (7.6-15cm) long and wide.

EDIBLE PARTS: flowers and roots

KEY MEDICINAL USES: Wild ginger is used as a tea for digestion, regulating blood sugar, infections, and gingivitis.

HOW TO HARVEST AND EAT: It can be harvested year-round, but best in early spring-fall. Harvest by carefully digging up a length of the rhizomes that contain a few plants. Replant the plants with the bulbs. Flowers and roots can be eaten in small amounts raw or cooked. Aristolochic acid is not very soluble in water, thus tea is a good way to enjoy this plant.

WILD GINGER ROOT CANDY: Soften roots in boiling water for 1h. Dissolve 2 cups sugar in 1 cup water on medium heat. Once soft, add the Wild Ginger Root to simmer 30 min. Remove root, dry, and enjoy as a candy. The leftover syrup can be saved and used.

WARNING: Fresh, raw leaves are toxic and cause skin irritation. Considered safe in small doses, Wild Ginger has aristolochic acid, which can cause kidney problems, and even renal failure in high enough amounts. Wild Ginger also stimulates menses and can cause miscarriages in high doses.

Wild Leek/Ramps, *Allium tricoccum* (AMARYLLIDACEAE)







WILD LEEK/ RAMP, Wood Leeks, or Rampion Bellflower are monocots found growing in rich, moist soils of shady, deciduous forests. They are easily identified by their onion smell and their onion-like, white flower clusters that bloom after leaves die off.

FLOWER: Solitary flower stalks, with a 1-1.5 inch (2.5-4cm) diameter spherical cluster of 30-50 white flowers, radiate out from a central point at the apex of the stem. Flowering stems grow from the bulb as leaves die off in May. Individual flowers have 6 rays, consisting of 3 shorter sepals and 3 longer petals, measuring 0.25 inches (0. cm) across. Seed heads ripen and disperse glossy, black, spherical seeds from October through November.

LEAF: From March through May, 2 to 3 elliptical, 8-12 inch (20-24cm) long and 1-3 inch (2.5-7.5cm) wide, simple, green basal leaves grow from a single bulb. Leaves have parallel veins and smell like onions. Leaf stalks and sheaths are reddish-purple.

EDIBLE PARTS: whole plant (raw, pickled, and cooked)

KEY MEDICINAL USES: Wild Leeks are used for digestive issues, worms, and lipid and cholesterol control.

HOW TO HARVEST AND EAT: Harvest greens prior to flowering, as leaves wither away upon flowering. Eat leaves pickled or sautéed as a green. Focus on harvesting only leaves while leaving the bulbs to reproduce, as it takes up to 5 years to reach reproductive maturity. Also, be conscious to leave at least a leaf for the plant to.

STEAMED WILD LEEKS: Steam a handful of leaves for 3 min. Drizzle with olive oil, season, enjoy.

Wild Lettuce, *Lactuca* spp. (ASTERACEAE)




L. serriola




L. virosa

WILD LETTUCE, Opium Lettuce or Prickly Lettuce looks like a thistle with dandelion leaves, and has a milky sap. It is a biennial, with first year plants growing leaves in a basal rosette, and second year plants putting up a bristly purplish-green or light-green flower stalk reaching 3-5 ft. (1-1.5m) tall. We will discuss 3 species: *L.canadensis, L. virosa,* and *L. serriola*.

FLOWER: Inflorescence with many small, yellow, dandelion-like flowerheads bloom from July to September. Flowerheads measure 0.3 inches (0.8cm) across, with 12-25 rays, and rise well above the leaves on a very tall stem. Seeds ripen from August to October.

LEAF: Alternate leaves vary from lobed to lance shaped, and from toothed to smooth. In general, deeply lobed, pointy-toothed basal leaves grow up to 10 inches (25cm) long and 3 inches (8cm) wide and gradually change shape and size along the stems. Leaves growing on the flowering stem gradually become much shorter and lance-shaped; some have hairs along the mid vein on their undersides, and may be toothed or not.

EDIBLE PARTS: leaves, young stems

KEY MEDICINAL USES: Wild Lettuce sap has antispasmodic, digestive, diuretic, and sedative properties. Its sap is used for pain relief.

HOW TO HARVEST AND EAT: Harvest young leaves, about 3-4 inches (7-10cm) long. Boil 10-15 min. with one water change to remove bitterness.

SAUTÉED WILD LETTUCE SHOOTS AND LEAVES: Simmer young leaves and shoots for 10-15 min., until water tastes bitter. Remove from water, sauté in butter, and season to taste.

Wild Licorice, *Glycyrrhiza lepidota* (FABACEAE)




Matt Lavin, CC-BY-SA-2.0


Dcrjsr, CC-BY-3.0

WILD LICORICE or American Licorice grows 16-39 inches (40-100cm) tall and is covered in fine sticky hairs. It has long, tough, brown roots that have a flavor like licorice. It tolerates heavy clay and saline soils.

FLOWER: Flowers are found in spike-like clusters which are cone shaped or cylindrical. They are greenish white, cream, or pale yellow and ½ inch (12mm) long. They resemble pea flowers having a long erect upper petal. Flowers become oblong, green, ½ inch (12mm) seedpods that are covered in hooked bristles. They turn brown and contain a few bean-like seeds.

LEAF: Leaves are compound with 11-19 leaflets and inches (30cm) long. Each leaflet is 1 ½ inch (3.5cm) long and ½ inch (12 mm) wide. Leaves are often sticky.

EDIBLE PARTS: roots and tender young shoots

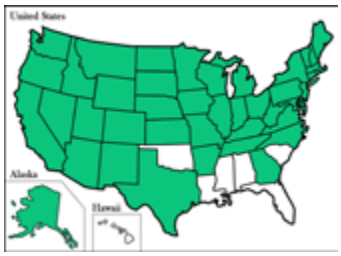
KEY MEDICINAL USES: All parts but mostly roots are medicinal and may aid coughs, chest pains, and stomach aches.

HOW TO HARVEST AND EAT: Roots can be eaten raw or cooked. They are best harvested in fall once the plant has begun to die back. It can be dried for later use. They are long, sweet, and fleshy. They can be slow roasted and taste like sweet potatoes but are fibrous. They can be chewed to clean teeth, or for teething children. Can be used for flavoring and sweetener. Sugar in the root is a substance 50 times sweeter than sugar.

SWEET LICORICE DRINK: Dried licorice root, 4-inch (10cm) piece pounded into powder. 5 tbsp. dried peppermint leaves. Steep in 1 gallon (4L) cold water overnight. Strain and enjoy the refreshing, thirst quenching drink.

WARNING: Very young growth can be poisonous to animals.

Wild Mint, *Mentha arvensis* (LAMIACEAE)







WILD MINT, also known as Corn Mint and Field Mint, grows abundantly in a variety of soil types and conditions, and is a reasonably hardy perennial. It is often prolific along streams and damp gullies in partial shade, and grows between 0.5-1 .5 ft. (15-45cm) tall.

FLOWER: Multiple flowers ranging from pink to purple are whorled tightly around the upright stem, which is square-shaped. These tiny bell-shaped flowers are less than ¼ inch (5mm) long and consist of 4-5 petals and 4 stamens. Wild mint flowers from July to September.

LEAF: 1-3 inches (2.5-7cm) long leaves grow in pairs, are slightly hairy and serrated along the margins.

EDIBLE PARTS: leaves and stems

KEY MEDICINAL USES: Mint tea is often used as a remedy for an upset stomach and to aid digestion.

HOW TO HARVEST AND EAT: Harvest leaves anytime, but for best results, harvest them before the flowers have started to develop. Eat leaves fresh in a salad, cooked, or brewed in a tea.

WILD MINT LEMONADE RECIPE: Ingredients: 1 cup wild mint, 2 peeled lemons, ½ a cup brown sugar, 2 cups water, 1 cup crushed ice. Place all of the ingredients into a blender until smooth and serve.

WARNING: Pregnant women should avoid excessive amounts of mint.

POISONOUS LOOK-ALIKES: European Pennyroyal, *Mentha pulegium* - has a heavier peppermint scent than wild mint, and slightly narrower, smaller leaves that are only slightly serrated.

Wild Rhubarb, *Rumex hymenosepalus* (POLYGONACEAE)






WILD RHUBARB, also known as Canaigre Dock, Desert Rhubarb, Arizona Dock, and Sand Dock, is a desert-loving perennial that grows to 3 ft. (1m). It prefers sandy, dry habitats.

FLOWER: The 6-parted flowers bloom from January to May in dense clusters that are usually more than 1 ft. (30cm) long, in shades of dusty rose. The subsequent fruit is also in rose shades, drying to reddish brown seeds.

LEAF: The deep green, waxy, ridged leaves are 6 to 24 inches (15-60cm) long.

EDIBLE PARTS: seeds, leaves, and stems

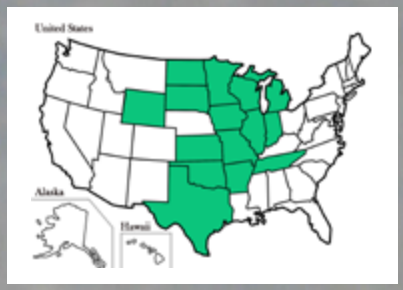
KEY MEDICINAL USES: An astringent, tea made from roots, leaves, and stems helps wounds and colds.

HOW TO HARVEST AND EAT: High in tannins, young leaves, picked just after they unfurl, can be cooked in a couple of changes of water and used as a green or pot-herb. Stems are sweet and tart, picked in spring or early summer before the flowers open, and can be stewed or baked in pies like rhubarb. Seeds are harvested in fall by hanging seed heads to dry, then cutting them and rolling them with a rolling pin to relieve the seed from its pod. They are edible raw or cooked and can be ground into a meal, or mixed with water and eaten as a mash.

WILD RHUBARB JUICE: Gather 2-3 stems, remove leaves, wash, and chop into pieces. In a shallow pan, put stems just barely covered in water and bring to a boil. Let simmer until stems are soft enough to mash. Sieve the mash, collecting the juice to add nutrition and flavor to water or tea.

POISONOUS LOOK-ALIKES: Rhubarb, *Rheum rhabarbarum* – has glossy, completely hairless, and smooth leaves, while those of Wild Rhubarb are waxy and ridged.

Wild Onion, *Allium stellatum* (AMARYLLIDACEAE)




A. cernuum




A. stellatum
Jeannine Tidwell


A. canadense

Meneerke bloem, CC BY-SA 3.0

Wild onions are a favorite of mine for their ease of ID and taste. There are many species of wild onion and a rule of thumb is if it looks and smells like an onion, it's an onion. Smell is a key identifier. Below is an ID for one common onion. Other common species are *A. canadense* and *A. cernuum*.

WILD ONION, Cliff Onion or Prairie Onion is a bulbous perennial native to central and eastern North America. It is found growing in rocky, limestone or calcareous soils on slopes, shores, and ridges, forming compact clumps of 1 ft. (0.3 m) tall grass-like foliage from underground bulbs. Plants emerge in the spring and pink onion flowers bloom once foliage dies back. All parts of this plant have an oniony smell when crushed or bruised.

FLOWER: Small, pink or whitish-pink, six-petaled flowers bloom in spherical clusters of flowers at the apex of 1-2 ft. (0.3-0.6m) long, smooth, straight stems from July through September. 2-3 papery bracts persist throughout flowering at the base off the cluster. The flowering umbel measures 2-3 inches (5-7cm) across, and each 0.25-inch (0.6cm) flower has 3 sepals and 3 petals that flare outward into a small star-like whorl. Dry fruit chambers measure 0.15 inches (0.3cm) across containing capsules with black seeds.

LEAF: Wild onions have flat, slender, smooth linear grass-like basal leaves that can grow up to 6-12 inches (14-45cm) long and recurve outward from the plant. Solid leaves have parallel veins and often have died back by the time the plant flowers.

EDIBLE PARTS: flowers, leaves, and bulbs

KEY MEDICINAL USES: It's used for colds, sore throats, respiratory ailments, and infections.

HOW TO HARVEST AND EAT: Bulbs, leaves, and flowers are edible raw or cooked. Bulbs are best harvested after the flowers have completed making seeds in the fall. Harvest the largest bulbs and replant any bulblets. Leaves have excellent flavor and can be used like green onions. Pinch flowers at their base and use as a seasoning/garnish.

WILD ONION TART: Collect 10-12 leaves. Rinse and chop into ¼ inch (0.6cm) pieces. Use a frozen 9-inch (23cm) pastry shell. For the filling, mix 9 beaten eggs, ¼ cup flour, ½ cup milk, $^{9}/_{10}$ of the chopped onion leaves, 2 tbsp. fresh thyme leaves, 2 tbsp. fresh parsley leaves. Mix well and pour into pastry shell. Bake at 350°F (175°C) for 45 min. Top with remaining chopped onion leaves.

WARNING: *Allium* species are toxic to dogs and cats.

Wild Radish, *Raphanus raphanistrum* (BRASSICACEAE)





Harry Rose, CC-BY-2.0



Harry Rose, CC-BY-2.0

Olivier Pichard, CC-BY-SA-3.0

WILD RADISH, Sea Radish or Jointed Charlock is a common annual herb throughout the world and there is a lot of variety within the species. Wild Radish prefers non-calcareous soils but it will tolerate a wide range of conditions. It is very closely related to commercially grown radish, but doesn't grow a fleshy root. It can grow up to 4 ft. (1.2m) tall.

FLOWER: Wild radish flowers from June to August. Flowers look the same as garden radish or wild mustard, however they tend to be white or pale yellow, unlike garden varieties, which tend to also be pink and purple. Flowers are less than 1 inch (2.5cm) in size and consist of 4 narrow petals with thin purple veins.

LEAF: Leaves are slightly wider than arugula or rocket leaves, and taste very similar. Basal leaves emerge first from a thin taproot, then a hairy, thick stem produces deeply lobed leaves with the terminal lobe being much larger than the others. Leaves can grow up to 9 inches (23cm) long.

EDIBLE PARTS: flowers, young leaves, seeds, young seedpods, and stems

KEY MEDICINAL USES: Often used for asthma and stomach issues, wild radish can be ingested or applied topically.

HOW TO HARVEST AND EAT: Harvest young leaves in spring for a slightly peppery addition to salads or pasta. Older leaves are much more bitter tasting. Cooking the leaves reduces the peppery taste and they can also be eaten like spinach. Flowers and buds can be eaten fresh or used to flavor vinegar. The seeds have the strongest taste and can be ground into a paste for a homemade mustard, or the whole young seed pods can be pickled.

WILD RADISH PASTA RECIPE: Ingredients: 2 cups of wild radish leaves, 8 oz. (230g) pasta, 1 garlic clove, ½ chopped onion, 1 can of chopped tomatoes. Fry the garlic and onions in a pan until soft. Add the tomatoes. Allow the sauce to simmer for 10 min. Cook and drain the pasta, then mix in the sauce and finally stir in the wild radish. Serve either with a sprinkle of parmesan cheese or some pieces of feta cheese.

POISONOUS LOOK-ALIKES: Many *Senecio* species, which are toxic to humans, have similar looking leaves to wild radish, but *Senecio* species have a white sap. Luckily the flowers make Senecio easy to distinguish from wild radish; Senecio flowers are yellow composite flowers like a sow thistle.

Wild Rice, *Zizania* spp. (POACEAE)







WILD RICE, also known as Canadian Rice, Indian Rice, and Water Oats, is an aquatic grass. There are 4 species in the *Zizania* genus. 3 are native to North America: Z. aquatica; *Z. palustris,* and *Z. texana. Z. latifolia* is native to Eurasia. Plants can grow up to 3 ft. (1m) tall with branching flower stalks reaching 2ft. (0.6m) long, loaded with edible seeds up to 0.8 inches (2cm) long.

FLOWER: Separate pistillate (female) and staminate (male) flowers bloom from July to September on single branching clusters that can grow to 2 ft. (0.6m) long.

LEAF: Leaves float on water's surface early in the season, becoming emersed (growing up out of the water) as the season progresses. Flat basal leaves are alternate, spreading and hairless. They can grow 8-24 inches (20-61cm) long and up to 1.5 inches (4cm) wide.

EDIBLE PARTS: stalk/shoot and seeds (cooked)

KEY MEDICINAL USES: Wild Rice has antioxidant and diuretic properties, lowers cholesterol, and is beneficial to the cardiovascular system.

HOW TO HARVEST AND EAT: Best place to collect is throughout the Mississippi Valley and Great Lakes region in mid to late summer. Harvest young, tender shoots.

FIRST RICE FEAST: *(recipe credit: River Corcoran)*: Cook onion and sauté until golden brown. Add elk or other wild meat, cook until not quite brown. Add mushrooms and cook until soft. Add celery. Add cranberries. Add already cooked wild rice. Put in a baked and buttered acorn squash. Enjoy!

WARNING: Ergot, a toxic fungus, can infect Wild Rice Seeds and should not be eaten. Pink or purplish blotches on enlarged seeds indicate fungal growth.

Wild Strawberry, *Fragaria vesca* (ROSACEAE)









WILD STRAWBERRY, also known as Alpine Strawberry, Carpathian Strawberry, and Woodland Strawberry, is found in forests and grasslands of the Northern Hemisphere. It is a fruiting, evergreen vine that spreads easily with adventitious roots at nodes along runners, or stolons.

FLOWER: Soft, hairy flower stalks are 1.2-6 inches (3-15cm) long with 5 to 11 flowers measuring 0.5 inches (1.3cm) across; they bloom from May through August. Flowers have 5 round, white petals, a light green to yellow center of tightly clustered pistils and stamens, and a calyx of 5 green sepals joined together at the base. Fruits are bright red, ovoid, a little less than 0.5 inches (1.3 cm) long and have achenes embedded in the surface. Sepals of the persistent calyx are reflexed and do not adhere to the fruit.

LEAF: Trifoliate leaves have coarsely toothed margins and grow in rosettes. Ovate leaflets are hairy, thick and leathery with pinnate veins, growing to 2.5 inches (6cm) long and 0.75-2 inches (2-5cm) across.

EDIBLE PARTS: leaves, flowers, fruit

KEY MEDICINAL USES: It is a tonic, astringent and diuretic.

HOW TO HARVEST AND EAT: Harvest green and red fruits to eat fresh, or make a jam. Harvest young leaves and eat raw or cooked with other greens. Dry leaves or steep fresh for a mild tea.

WILD STRAWBERRY SYRUP: Bring 1 cup water, 2 cups Wild Strawberries, and 1 cup sugar to a boil for 10 min., mash berries a little, and reduce heat to simmer 10 min., until the mixture thickens. Put in a jar and store in refrigerator. Strain for a smooth syrup.

Wood Lily, *Lilium philadelphicum* (LILIACEAE)







WOOD LILY, also known as Philadelphia lily, Prairie Lily, and Western Red Lily, was once common across prairies, grasslands and open woodlands, but has recently declined due to grazing pressure, habitat loss, and over-harvesting. It can grow to 3 ft. (1m) tall.

FLOWER: Wood lily blooms from June to early August. 1-4 flowers are held on the single, upright stem 1-2 ft. (30-60cm) tall. Large, funnel-shaped flowers are orange or red and have brown or purple spots on the 6 large, showy petals, which can grow up to 3 inches (8cm) long. The flower develops into a club-shaped pod.

LEAF: Leaves are arranged in a whorl around a single, thick stem. They have lance-shaped leaves up to 3 inches (8cm) long that die off in winter.

EDIBLE PARTS: bulbs, flowers, leaves, and young shoots

KEY MEDICINAL USES: Tea made from the bulb and flowers can ease stomach pain, fever and coughs. Flowers can be ground into a poultice for insect bites.

HOW TO HARVEST AND EAT: Bulbs taste starchy like a potato; are easiest to dig up once the plant has died down in the cold months. Flowers can be eaten raw, or brewed into a tea along with the bulb.

WOOD LILY SOUP: Ingredients: 2 cups of chopped wood lily bulbs; 1 cup each of chopped celery, chickpeas, chopped chives, and chopped mushrooms; 1 tbsp. of rosemary, 2 cups chicken broth, 6 cups water. Place all ingredients in a large pot and simmer for 2-3 hrs. Add salt, pepper; serve with bread.

WARNING: Wood lily is highly poisonous to cats.

Wood Sorrel, *Oxalis* spp. (OXALIDACEAE)









WOOD SORREL is in a genus with over 800 species of low-growing, herbaceous perennials found in moist, rich, forest soils all over Earth, except for polar biomes. Height, leaf size and color, and flower size and color all vary, but they are all colonial, rhizomatous plants that can carpet an area with their clover-like leaves. Their flowers all have 5 petals. It's my kids' favorite snack while wondering through the woods.

FLOWER: *Oxalis* flowers bloom from May-July and originate on a single peduncle. **Redwood Sorrel/Oregon Oxalis**, ***O. oregana***, flowers measure 1 inch (2.5cm) across. Petals can be white or pink, with prominent pink veins. Almond-shaped seeds are housed in hairy, egg-shaped, 5-chambered seed capsules.

LEAF: Leaves are clover-like with 3 heart-shaped leaflets that fold along a central crease. 0.5-2 inch (1-4.5cm) long leaflets grow at the tips of petioles. O. oregana petioles can grow 2-8 inches (5-20cm) tall and are covered in brown hairs. Leaves are green on top and often reddish-purple on the bottom.

EDIBLE PARTS: leaves (raw or cooked)

KEY MEDICINAL USES: *Oxalis* is used for digestive disorders, wounds, swollen gums, and a source of vitamin C.

HOW TO HARVEST AND EAT: Harvest leaves and flowers at the base of petioles. Add fresh leaflets to salads. Steep leaves for a refreshing drink. Some South American species have edible tubers.

TROUT STUFFED WITH WOOD SORREL: Stuff fresh-caught trout with Wood Sorrel leaves, then wrap it completely in Skunk Cabbage leaves. Place near coals until cooked. Unwrap and the Skunk Cabbage will have retained the trout's moisture. Salt as needed. Delicious!

WARNING: *Oxalis* contains oxalic acid. Excessive consumption can inhibit calcium uptake.

Wood/Canada Nettle, *Laportea canadensis* (URTICACEAE)







WOOD/CANADA NETTLE is an herbaceous perennial growing in rich moist soils along streams of open deciduous forests. Plants grow 3 ft. (1m) tall from tuberous roots and clump into small 3. ft. (1m) patches. Wood Nettle can be confused with Stinging Nettle, which has smaller, opposite, hairier leaves, and False Nettle, which is hairless with opposite leaf attachment.

FLOWER: Male and female flowers are separate on the same plant with male flowers branching from leaf axils halfway up hairy stems, and female flowers on the top of stems. Greenish-white male flowers are less than 0.13 inches (0.3cm) across with 5 tiny petals. Female flowers are in flat branching clusters and have 4 tiny, green sepals that look like curly leaves.

LEAF: Pointy, oval leaves are rounded at the base, serrated, and alternate on long stalks. They can grow to 6 inches (15cm) long and 4 inches (10cm) wide. Stinging hairs are thinly distributed on leaves and their stalks.

EDIBLE PARTS: young shoots and leaves

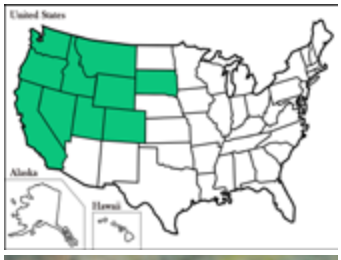
KEY MEDICINAL USES: The root is diuretic.

HOW TO HARVEST AND EAT: Always wear gloves when handling raw, fresh plant parts. Don't eat this plant raw. Snip young plant tops.

COOKED WOOD NETTLES: Wash young shoots in cold water and dry. Heat pan with butter and stock, add Wood Nettles, season to taste, cover and simmer 4-5 min. until completely wilted.

WARNING: Stinging hairs on undersides of leaves are barbed and can get stuck in skin, causing skin irritation, including blisters that last several days. Cooked leaves are perfectly safe.

Yampah, *Perideridia* spp. (APIACEAE)







YAMPAH is a collective name for a genus within the carrot and parsnip family. Yampah grows 4 ft. (1.2m) tall. It's found in open grasslands and prairies.

FLOWER: A hollow stem grows from the tuberous root and ends with an umbrella-shaped flower head (umbel), typical of the carrot family. This umbel is made up of 10-20 tiny, white flowers clustered at the end of erect stalks and can collectively measure up to 4 inches (10cm).

LEAF: Yampah starts with bipinnate basal leaves that look like very slender parsley. As the plant matures, the stalks and leaves grow longer. Each bipinnate leaf has multiple, slender leaflets that can grow up to 5 inches (13cm) long. Leaves start to wilt and die off when the flower heads start to appear.

EDIBLE PARTS: roots, leaves and seeds

KEY MEDICINAL USES: Tea made from roots can ease stomach cramps and vomiting.

HOW TO HARVEST AND EAT: Roots are best harvested after the plant goes dormant in autumn, and become sweeter after the first frost. Can be cooked and eaten like potatoes. Seeds can be harvested once the umbels have turned brown, in July-September. The whole plant can be dried and ground into flour for baking. Leaves taste similar to parsley and stems taste like asparagus.

YAMPAH OATMEAL COOKIE RECIPE: Ingredients: 2 tbsp. dried ground yampah roots, 1 tsp. yampah seeds, 1 cup melted butter, 2 cups self-rising flour, 1½ cups brown sugar, 2 eggs, 3 cups oatmeal. Combine butter and sugar, add the eggs, flour, roots, seeds and oatmeal. Leave it in the fridge for 1 h., then roll the dough into balls, lay them out on a baking tray. Flatten them with a fork. Cook for 8 min. at 375 °F (190 °C).

POISONOUS LOOK-ALIKES: Poison hemlock, *Conium maculatum*, and Water hemlock, *Cicuta douglasii*

Yarrow, *Achillea millefolium* (ASTERACEAE)






Alpsdake, CC-BY-SA-4.0

YARROW is a plant that has been used medicinally for thousands of years. It grows 1-3 ft. (0.3-1m) tall and occurs naturally in almost every part of North America, other than in exceptionally arid climates. *Achillea millefolium* references the Greek hero Achilles, who used Yarrow to treat the wounds of his soldiers and speed up healing.

FLOWER: White flowers grow on a funnel-shaped umbel protruding about 2 ft. (0.6m) from the ground on a single stem. Flowers bloom from May to July, and each umbel is a cluster of 14-40 tiny disk flowers surrounded by 3-8 ray flowers. There are cultivated varieties with yellow, pink, or red flowers. Yarrow does not produce fleshy fruits, but small seeds that can be collected from the flowers once they start to dry and turn grey.

LEAF: "*Millefolium*" translates to "thousand leaves", referring to its highly compound fern-like leaves. They are 2-8 inches (5-20cm) long and mostly grow from a single base, other than smaller leaflets that grow on the flower stem. The foliage is aromatic and serves to distinguish it from potential look-alikes.

EDIBLE PARTS: leaves, flowers

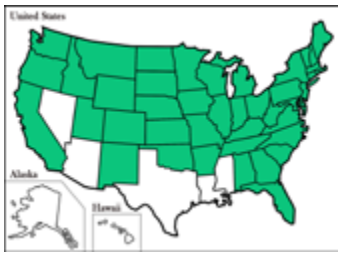
KEY MEDICINAL USES: Yarrow is used externally as a poultice to stop bleeding and as an antibiotic, or taken internally to bring down fever and fight bacterial infections. To stop bleeding, chew and apply it directly to the wound for 2-3 min. or until bleeding stops.

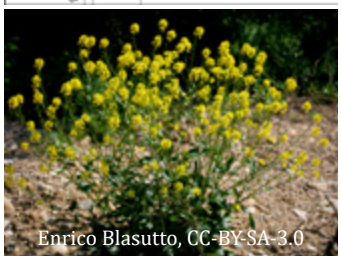
HOW TO HARVEST AND EAT: Harvesting yarrow is as simple as cutting individual leaves from the base of the plant. Its strong flavor proves great when minced and used for seasoning meat or vegetables, but is too bitter to consume in large quantities. You can use it similarly to how you would use Rosemary. It can also be dried and ground into an easy-to-use seasoning mix. Both leaves and flowers can be infused in hot water to make a medicinal tea.

YARROW POTATOES: Mince yarrow finely and mix with your favorite potato recipe! Only add 1-2 small leaves per serving to avoid an overly bitter flavor.

POISONOUS LOOK-ALIKES: Poison Hemlock, *Conium maculatum* - Yarrow leaves are much finer, softer, and frillier than those of Poison Hemlock and the flower rarely grows more than 2 ft. (0.6 meters) from the ground. In contrast, Poison Hemlock bares its flower on a tall purple-splotched stem that can grow up to 6 ft. (2 meters) in height.

Yellow Rocket, *Barbarea vulgaris* (BRASSICACEAE)







GARDEN YELLOW ROCKET, Winter Cress, Scurvy Grass, Scurvy Cress, or Bitter Cress thrives in disturbed soils around construction sites, roadsides, and fields that are wet or boggy. It is also found along streams and in wetlands. Plants grow up to 3 ft. (1m) tall.

FLOWER: Flowers bloom in rounded clusters 1-1.5 inches (2.5-4cm) across from April through August at the apex of single, branching flower stalks. Each flower has 4 yellow petals that form a cross pattern, measuring 0.3 inches (0.8cm) across. Slender, green fruits split when ripe, releasing numerous tiny, brown, spherical seeds.

LEAF: A rosette of basal leaves starts to grow on warm late winter days. Dark green, basal leaves are deeply lobed with 1 to 4 small lobe pairs along the stalk and 1 larger round lobe at the tip, grow to 6 inches (15cm) long and 2.5 inches (6cm) wide. Leaves on hairless, angled, flowering stems vary in shape and are much smaller than basal leaves with little to no stalk.

EDIBLE PARTS: leaves and flower buds (cooked)

KEY MEDICINAL USES: It has diuretic and digestive properties.

HOW TO HARVEST AND EAT: Harvest basal leaves in the late winter, when leaves are mild and add to salads or cook like spinach. Leaves are too bitter once flowers appear. Densely packed flower buds can be boiled and served like broccoli.

SAUTÉED YELLOW ROCKET: Boil leaves for 5 min. with a water change to decrease bitterness. Sauté with chopped garlic and olive oil. Season to taste.

WARNING: Ingesting too much raw yellow rocket can cause kidney malfunction.

Yellowcress, *Rorippa palustris* (BRASSICACEAE)







YELLOWCRESS, Bog Yellowcress or Yellow Marsh Cress is native to damp, wet, aquatic habitats. It can be found in the muddy surroundings of lakes, bogs, marshes, floodplains, and ditches. The plant varies in appearance, with erect, deeply ribbed, green to red branching stems that can grow up to 3 ft. (1m) tall, topped with a raceme of yellow mustard-like flowers. Yellowcress plants can be annual, perennial, or biennial.

FLOWER: Flowers cluster at the apex of branches in racemes 2-8 inches (5-20cm) long, blooming from June to September. Each individual flower grows on 0.16 inches (4mm) long pedicles, and measures 0.04 inches (1mm) across. 4 tiny, yellow, spoon-shaped petals grow in the typical Mustard Family cross-pattern. Dry, cylindrical fruits split when ripe, dispersing 20-90 minute seeds.

LEAF: Basal leaves grow in a rosette up to 7 inches (18cm) long, 0.8-2 inches (2-5cm) wide, and can be toothed or deeply lobed. Along the stem, leaves are alternate, thinner, and less lobed than basal leaves.

EDIBLE PARTS: young leaves, stems, and seedlings (raw or cooked)

KEY MEDICINAL USES: Leaves are high in vitamin C.

HOW TO HARVEST AND EAT: Harvest young basal leaves in spring. Prepare and eat like watercress.

STEAMED, SAUTÉED YELLOWCRESS: Steam leaves for 5 min. Quickly sauté with olive oil and garlic. Season to taste, and enjoy.

Yerba Buena, *Clinopodium douglasii* (LAMIACEAE)




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John Rusk, CC-BY -2.0

YERBA BUENA, formally known as *Satureja douglasii*, is a perennial ground cover that belongs to the mint family, but has glossier leaves than other mints. It rarely grows higher than 4 inches (10cm).

FLOWER: A single white or pale-yellow flower grows directly from the square stem at leaf axis. The tubular-shaped flowers are composed of 3 lower petals, 1 upper, and 4 stamens and are no larger than ⅓ inch (10mm) long. Yerba Buena flowers from late April to August.

LEAF: Underneath the leaves are tiny oil glands which, when crushed, produce a slight spearmint scent. Leaves are rounded or oval and can form a dense cover. Leaves can grow to 1 inch (2.5cm) long.

EDIBLE PARTS: leaves and stems

KEY MEDICINAL USES: Yerba Buena has been approved in small quantities in many countries as a treatment to relieve aches and pain due to its analgesic properties. This includes arthritis, muscle pain and headaches.

HOW TO HARVEST AND EAT: Harvest leaves any time of the year, but for best results, harvest before it has started to flower. Eat leaves fresh in a salad, brewed into tea, cooked with meat or mixed into a mocktail.

YERBA BUENA YOGURT SAUCE: Ingredients: ½ cup of fresh leaves, 1 cup Greek yogurt, 1 tbsp. lemon juice, 1 tbsp. wholegrain mustard, 1 tbsp. fresh parsley, salt, pepper. Combine all of the ingredients in a dish, and serve on top of chicken breast or fish.

WARNING: Large doses of yerba buena can cause vomiting.

POISONOUS LOOK-ALIKES: Creeping Pennyroyal, *Menta pulegium* - has a similar aroma and creeping habit, but has multiple purple flowers.

Yerba Mansa, *Anemopsis californica* (SAURURACEAE)




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YERBA MANSA or Lizard Tail is a perennial that grows up to 1 ft. (0.3m) high, preferring silty, sandy soil in boggy areas. It often grows in dense blankets along streams and marshes.

FLOWER: The large white bracts of the flower are usually about 1 ½ inches (4cm) long. These bracts can be mistaken for petals, but actually they hold the upright inflorescence, which is a cone of 100 tiny clustered flowers. This cone produces a hard seed pod. Yerba Mansa flowers from March to September.

LEAF: The waxy blue-green leaves have a strong aroma, similar to a mixture of camphor, clove and eucalyptus. They grow vertically straight from the root like spinach, up to 6 inches (15cm) long, and turn red in the cooler months.

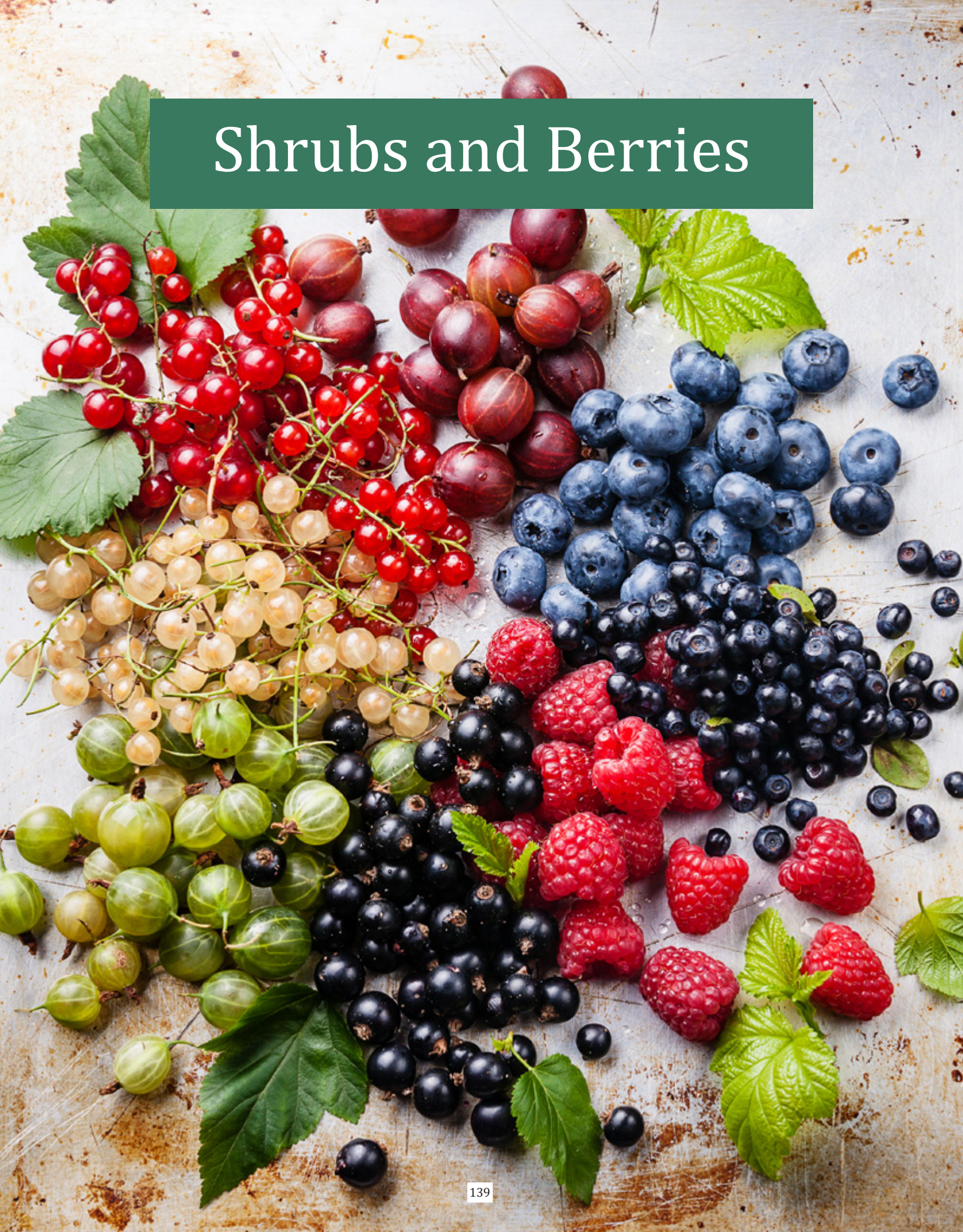
EDIBLE PARTS: leaves, roots, flowers, and seeds

KEY MEDICINAL USES: Yerba Mansa essential oil is effective against *Staphylococcus aureus, Streptococcus pneumoniae*, and *Geotrichim candidum.*

HOW TO HARVEST AND EAT: Roots have a peppery taste when raw, which diminishes when cooked. Leaves are best harvested when young. Seeds can be ground into a flour and used in a variety of baked goods.

YERBA MANSA BREAD: Ingredients: 1 cup dried ground seeds, 1 cup flour, 1 packet instant yeast, 2 tbsp. olive oil, 2 tsp. salt, and 1 cup warm water. Mix the ground seed, flour and yeast in a large bowl. Add the olive oil. Slowly add the water until it turns into a dough. Transfer dough to a worksurface covered in flour to knead the bread. Cover the bread and leave it to rise in a warm location for at least 1h. Re-knead the bread for another minute and then place in a bread baking tin to rise for 1h. Cook in the oven for 25-30 min. at 210°F (100°C).

Shrubs and Berries



Arctic Raspberry, *Rubus arcticus* (ROSACEAE)







ARCTIC RASPBERRY, Nagoonberry or Arctic Bramble is a low-growing perennial. Its slender spineless upright stems can reach 4-6 inches (10-15cm) high. Nagoonberry often forms sprawling mats across the ground. They are found in arctic, subarctic, and alpine zones, occurring around river edges, swamps, boggy woods, and tundra.

FLOWER AND FRUIT: Plants are in bloom from May to July. Each plant produces 1-3 flowers at the tips of its velvety stalks. 1 inch (2.5cm) across flowers may be pale pink, lavender, or deep rose, and have 5 rounded petals and 5 lance-shaped sepals. Berries ripen from July to August, are red or purplish, and 0.4 inches (1cm) wide.

LEAF: The foliage is alternate, stipulate, and coarsely double-toothed at the edges. Leaves grow in a three-part palmate structure. The middle leaflet is diamond-shaped and typically 2 inches (5cm) long, while the 2 outer leaflets are smaller and ovate. Sparse hairs populate the leaf undersides. In autumn the foliage becomes red.

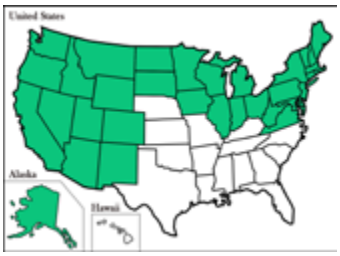
EDIBLE PARTS: fruit, flowers

KEY MEDICINAL USES: Because of their high vitamin C content, they are antiscorbutic; they have been used to treat and prevent scurvy.

HOW TO HARVEST AND EAT: The flavor of these succulent berries has been compared to sweet pineapple. Once picked, arctic raspberries will not ripen further, so harvest them as they reach maturity from July to August. Be sure to dress appropriately for their wet, boggy habitat and bring gloves along to protect your hands from the plant's thorns. Use a shallow, wide container to avoid bruising the berries and eat them as soon as possible, since they won't last in the fridge for more than a day or two. Arctic raspberries are best savored fresh on their own, with yogurt, or in salads. They can be used in jams, juices, baked goods, and liqueurs. The plant's edible flowers are sweet and can be steeped with nagoonberry leaves and fruits to make a soothing tea. Harvest them from May to July in mid-morning once the dew has evaporated off of them.

ARCTIC RASPBERRY BAKED OATMEAL: In a large pan, combine 1 ½ cup rolled oats, 1 tsp. ground ginger, ½ tsp. salt, and ¼ cup roasted and chopped almonds. In a separate bowl, mix 2 cups milk, ¼ cup honey, 2 tsp. olive oil, and 1 tsp. vanilla. Add to oat mixture and stir. Fold in 1 cup fresh nagoonberries. Bake over a low fire for 20 min, until oats have set.

Bearberry, *Arctostaphylos uva-ursi* (ERICACEAE)




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BEARBERRY, Uva Ursi or Kinnikinnik is a dwarf shrub that sprawls along the ground in carpets. Its woody stems can grow 5-6 ft. (1.8m) long and 8 inches (20cm) high. Bearberry thrives in rocky, sandy areas such as slopes, hilltops, and river edges.

FLOWER AND FRUIT: Flowers bloom in April-July. Shaped like tiny puckered urns, they are white or pink with rosy tips. In late summer, round ruby-red fruits appear, 0.2-0.5 inches (0.5-1cm) wide.

LEAF: 0.8-2.5 inches (2-6cm) long, dark evergreen leaves are thick and rubbery with very smooth edges. Foliage takes on a rusty color in the fall and winter.

EDIBLE PARTS: fruit, leaves

KEY MEDICINAL USES: It has diuretic, astringent, and antiseptic properties. Leaves are used to treat bladder and kidney infections.

HOW TO HARVEST AND EAT: Pick as they ripen in late summer and fall. Those that persist on the plant into the winter are also suitable for harvesting. Fruits are edible raw, but tend to be dry, mealy, and bitter. For a better taste, cook or dry. Berries make a delicious jelly, can be used as a seasoning for red meat, or as a cranberry sauce substitute. Bearberries will last longer than blueberries and raspberries when stored in cool temperatures. For a traditional alternative to drying, store bearberries in oil or lard.

BEARBERRY POPCORN: Wash and stem berries. Coat skillet with oil and put over a low heat fire. Berries will pop like popcorn. Eat while they're hot and crispy. For extra flavor, sprinkle with cinnamon.

WARNING: Eating very large doses of bearberries may cause nausea, vomiting, fever, back pain, and tinnitus. Best to be avoided by pregnant or breast-feeding women.

Beautyberry, *Callicarpa americana* (LAMIACEAE)






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BEAUTYBERRY is a deciduous shrub found in light woodland areas and thickets. It can grow up to 6 ft. (1.8m) tall with long bowing branches.

FLOWER AND FRUIT: Flowers grow in compact bunches and may be white, pink, or lavender with extruding yellow stamens. Purple fruits with a pearl-like sheen appear in autumn. They grow in tight round clusters and persist after the leaves have fallen. Each fruit is 0.08-0.2 inches (0.2-0.5cm) wide.

LEAF: Leaves may be ovate to elliptic, with pointed tips and serrated edges. They grow up to 10 inches (25cm) long and are arranged in opposite pairs. Undersides of young leaves are coated with branched hairs. Foliage turns yellow in autumn.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Freshly crushed leaves are applied to the skin as an insect repellent.

HOW TO HARVEST AND EAT: Berries can be eaten raw, being juicy and slightly astringent. Pick fruits when they are entirely purple. Beautyberries should only be consumed in small amounts, as they have been known to cause mild stomach aches.

BEAUTYBERRY CUSTARD: Pour 5 cups of berries into a large pot with 3 cups of water. Bring to a boil while mashing the berries with a spoon. Strain juice into a bowl through 2 layers of cheesecloth. Add 3 cups of sugar and 1 envelope of sure-jell pectin. Let simmer, continuing to stir until dissolved. In a second bowl, stir 3 tbsp. cornstarch into a small amount of water. Mix in one can of condensed milk and 3 egg yolks. Pour mixture into beautyberry juice. Heat and stir until the mixture thickens.

Black Currant, *Ribes americanum* (GROSSULARIACEAE)









BLACK CURRANT is a deciduous shrub that occurs in beech-maple forests, swamps, marshes, and along waterways shores. Stems are smooth, without any prickles or thorns, and may grow up to 5 ft. (1.5m).

FLOWER AND FRUIT: Bell-shaped, creamy-white blossoms hang downwards in clusters of 2-7 flowers along the branches. Berries are 0.4 inches (1cm) across and contain 10-15 seeds each. Their skins are striped with faint yellow glands. In summer, berries become crimson and finally black when ready to release their seeds.

LEAF: Leaves may have 3 or 5 primary lobes, with coarsely serrated edges. Pronounced veins radiate from the leaf's heart-shaped base. Each leaf is about 1-2.5 inches (2-6cm) long and 1-2 inches (2-5cm) wide.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Bark can be applied externally to treat swellings. Roots have been used to treat kidney illness and expel worms.

HOW TO HARVEST AND EAT: Fruit gradually ripens over a 4-6-week period starting in June. Fruit skins will be tight when ready to harvest. They should be firm and plump when squeezed, and may turn an even darker color when ripe. Berries can be eaten fresh, while slightly under-ripe ones are better for making jams and jellies.

BLACKCURRANT INFUSED GIN: Pour fresh blackcurrants up to the midway point of a mason jar. And ⅔ cup maple syrup, 1 tsp. lemon juice, 16 oz. (470ml) gin, and 1 rosemary sprig. Let infuse for at least 24 hrs. Strain out the berries and enjoy.

POISONOUS LOOK-ALIKES: Buckthorns, *Rhamnus cathartica*

Black Haw, *Viburnum prunifolium* (ADOXACEAE)









BLACK HAW is a small spreading tree that grows up to 10-15 ft. (3-5cm), preferring sunny woodland areas. Young plants have red or green slender stems. Mature plants' bark is scaly and reddish-brown.

FLOWER AND FRUIT: 0.4 inches (1cm) wide white flowers occur in flat-topped lacey clusters between April and May. Elliptical fruits are 0.4 inches (1cm) across, bluish-black with a waxy bloom, and mature in autumn. They persist into the winter.

LEAF: Dark green leaves are 2.5-4 inches (7-10cm) long and alternate. They have toothed edges and pointed tips. In autumn, foliage turns crimson.

EDIBLE PARTS: fruit, bark

KEY MEDICINAL USES: It has antispasmodic, anti-inflammatory, and nervine properties.

HOW TO HARVEST AND EAT: Plant may ripen as early as late summer; the fruit becomes sweet only after it has been touched by frost. It is easiest to locate during spring, when their white flower clusters are in full bloom, and to note their location. Fruits will last 1-2 weeks in the fridge. Black haws are delicious raw, or made into full-bodied jams and jellies.

SAVOURY-SWEET BLACKHAW BANNOCK: Add 3 cups flour, 2 tbsp. baking powder, ½ tsp. salt. Add ½ cup oil, 1.5 cups water, 1 cup pitted black haw fruits, ½ cup grated cheese, ¼ cup fresh herbs. Mix well. Place balls of dough in greased tin foil squares. Fold over to form an envelope. Bake in hot coals for 15 min.

WARNING: Consuming very large quantities of the fruit can cause nausea, dizziness, seizures, and slowed pulse. Do not eat black haw fruits if you are pregnant.

POISONOUS LOOK-ALIKES: Buckthorn, *Rhamnus cathartica*

Blackberry, *Rubus* spp. (ROSACEAE)







BLACKBERRY is a perennial shrub with arching biennial canes. Highly variable in form, its stalks can range in color from green to burgundy. Stems of some taxa are covered in sharp prickles, which curve backward. Plant thrives in many habitats, from woods and hillsides to ditches and vacant lots. Upright shrubs typically reach a height of 6.5 ft. (2 m).

FLOWER AND FRUIT: In May-August, pink or white blossoms emerge in clusters. Each flower is 0.8-1.2 inches (2-3cm) across. The fruit is an aggregated berry, composed of 20-50 tiny drupes. Each berry can be 0.8-1.5 inches (2-4cm) long, with a round or cylindrical shape. As they mature, the berries change from crimson to inky black.

LEAF: Leaves are alternate and may be simple, lobed, pinnate, or palmate. They are typically dark green with pale undersides and serrated edges. In some species, the underside of foliage is coated in fine hairs.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It has astringent and diuretic properties.

HOW TO HARVEST AND EAT: Blackberries are delicious raw. They are also great in preserves, pie, and cobblers. Should be harvested only when mature. Prime blackberry season is between July and August in more southern latitudes, and between August and the first frost in northern regions.

BLACKBERRY CAMPFIRE COBBLER: Before leaving home prepare a dry cobbler mix by combining 1 cup flour, ½ cup sugar, 1 tbsp. cinnamon, and a pinch of salt. At your campfire, melt a stick of butter in a skillet and stir in cobbler mix. Add blackberries, before covering with tin foil. Set your skillet over the fire and cook slowly for 45 min.

Blueberry (Bog/Alpine), *Vaccinium uliginosum* (ERICACEAE)








BOG or **ALPINE BLUEBERRY** is a low-growing deciduous shrub. Its stems may be upright, reaching 2 ft. (0.6m) in height, or else prostrated, spreading in carpets. Bog blueberries prefer acidic, peaty soils. They are commonly found around bogs, swamps, and open tundra, and also grow on mountain slopes and in forest understory.

FLOWER AND FRUIT: Small urn-shaped flowers may be white, dark pink, or bronze-colored. Each flower is 0.2 inches (0.5cm) long with 4 or 5 lobes. Fruits are 0.2-0.4 inches (0.5-1cm) wide. They are round and slightly flattened with prominent calyxes. Their dusky blue skin is covered with a subtle waxy coating.

LEAF: Leaves are less than 0.8 inches (2cm) long and have a leathery texture. They are dark green with a pale underside and smooth edges. In autumn, foliage turns mahogany.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It has antiseptic, astringent, and anti-inflammatory properties. Blueberry species are rich in antioxidants and are being investigated for their cancer-preventative potential.

HOW TO HARVEST AND EAT: Picking season is from mid-July to late September. The higher the elevation, the sweeter berries tend to be. You can eat them raw, or use them as a garnish for salmon.

BALSAMIC BLUEBERRY GLAZE: In a small pot, combine ½ cup blueberries, 5-6 sprigs of fresh thyme; 1 tbsp. each of maple syrup, balsamic vinegar, and lemon juice; ¼ tsp. of salt. Boil for 15 min. over medium heat until the sauce reduces and thickens. Brush glaze on grilled salmon and broil for 3-5 min.

Blueberry (Highbush), *Vaccinium corymbosum* (ERICACEAE)




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HIGHBUSH BLUEBERRY is an upright deciduous shrub commonly found in swamps, woodlands, pine barrens, disturbed areas, and along shores. Their stems can grow up to 23 ft. (7m).

FLOWER AND FRUIT: White or pink urn-shaped blossoms are borne in clusters of 8 to 10. Flowers have 5 petals and emerge between May and June. Dusky blue fruits are round and slightly flat, measuring 0.25-0.5 inches (0.6-1cm) across. They have a waxy bloom.

LEAF: Foliage is red in spring, turning blue-green in summer. Leaves are simple and alternate, with smooth or toothed edges. They may be oval or elliptical, with a length of 1.5-3 inches (4-7cm). Hairs cover the lower leaf surfaces.

EDIBLE PARTS: fruit, leaves

KEY MEDICINAL USES: Leaves are astringent. Fruits are high in antioxidants.

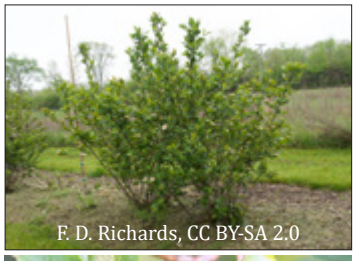
HOW TO HARVEST AND EAT: Can be savored raw or cooked. Pick blueberries when they are at peak maturity - usually in August-September - as they will not ripen off the branch. Tea can be made from the leaves and fruit.

BLUEBERRY GRUNT: Combine 4 cups berries, 1 cup sugar, and ½ cup water in a pan. Bring to a boil and reduce to a simmer until cooked. Remove from heat. Add 1 tbsp. cinnamon, 1 tsp. lemon juice. In a bowl, combine 2 cups flour, ¼ cup sugar, 2 tsp. baking powder, and ½ tsp. salt. Mix in 2 tbsp. butter and 1 cup milk. Roll dough into balls and drop them into your cooked berries. Set pan on medium heat, cover, and steam for 15 min. Top with fresh thyme.

POISONOUS LOOK-ALIKES: Buckthorn, *Rhamnus cathartica*

Chokeberry (Black), *Aronia melanocarpa* (ROSACEAE)




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BLACK CHOKEBERRY is a deciduous suckering shrub that grows 3 to 6 ft. (1-2m) tall, preferring full sun and slightly acidic soils. It thrives in woodland edges, shorelines, meadows, bogs, and roadsides.

FLOWER AND FRUIT: Blossoms emerge in loose clumps, 2 inches (5cm) across, during late spring. Flowers may be white or pink, with 5 petals and showy pink stamens. Inky-black berries growing up to 0.4 inches (1cm) wide emerge in clusters in September.

LEAF: Glossy dark-green leaves are simple, obovate, and alternate. They are 1-3 inches (2-7cm) long with finely toothed edges. In autumn, foliage turns a vivid wine.

EDIBLE PARTS: fruit

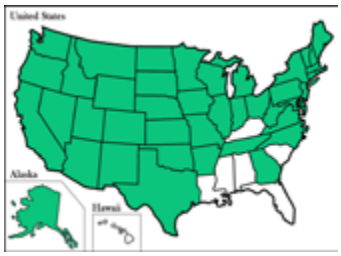
KEY MEDICINAL USES: Fruits are extremely rich in antioxidants.

HOW TO HARVEST AND EAT: Gather chokeberries in August-October once they ripen to deep purplish-black. Even when foraged in optimal conditions, they are incredibly astringent. The high levels of pectin and tartness make them ideal for jams and jellies. They are also processed into juices, teas, and wines. You can harvest several gallons from a single bush. Berries don't bruise easily; they last for a few days at room temperature and can be stored in the freezer for a year.

CHOKEBERRY CHUTNEY: Combine 6 ½ lb. (3kg) chokeberries and ⅔ cups sugar in a pot. Cook over fire while stirring. In a smaller skillet, sauté 4 diced red onions in butter. Add onions and butter to your chokeberry mixture along with 6 chopped and peeled pears, ½ cup vinegar, and a pinch each of cardamom, allspice, ground cloves, mustard seeds, ginger, and salt. Let simmer for 1 h. Serve with poultry.

POISONOUS LOOK-ALIKES: Buckthorn, *Rhamnus cathartica*

Chokecherry, *Prunus virginiana* (ROSACEAE)









CHOKECHERRY gets its name from the puckering taste of its fruit. This large deciduous shrub can grow 20-30 ft. (6-9m) tall and is found in woodlands, by stream banks, and along fencerows.

FLOWER AND FRUIT: White flowers appear in April-July, have a bitter-almond fragrance, and grow in long clusters. Each flower is 3.5 inches (9cm) across and cup-shaped. Red fruits are 0.2-0.6 inches (0.5-1.5cm) across. They ripen to deep plummy purple in June-September.

LEAF: Foliage is dark to medium green and turns amber in autumn. Leaves grow in an alternate pattern, with gray-green undersides and sharply serrated edges. Leaf blades are oval and 5 inches (13cm) long.

EDIBLE PARTS: fruit (see **WARNING**)

KEY MEDICINAL USES: It has astringent properties.

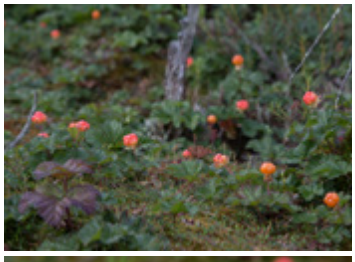
HOW TO HARVEST AND EAT: Chokecherries are ready to be harvested between July and October, once they have changed from bright red to deep plummy red. Fully ripe fruits will astound your tastebuds with a sweet-sour combo punch. Unripe cherries, on the other hand, will be prohibitively bitter. Storing your harvest in the fridge for 2-3 days will increase the cherries' sweetness. The stones of these fruits are poisonous, so be sure to remove them before you pop the flesh in your mouth. You can also boil chokecherries briefly to separate the pulp from the stone. Chokecherries can be eaten fresh or made into jam, juice, fruit leather, or wine.

WARNING: Fruit pits, leaves, twigs, and bark are poisonous, producing cyanide when ingested.

POISONOUS LOOK-ALIKES: Buckthorn, *Rhamnus cathartica*

Cloudberry, *Rubus chamaemorus* (ROSACEAE)









CLOUDBERRY grows mainly in bogs, wet peaty meadows, and open tundra. Its stems grow 4-11 inches (10-28cm) tall, and are slender and herbaceous rather than woody. Unlike most other plants in the *Rubus* genus, the cloudberry lacks prickles and bristles.

FLOWER AND FRUIT: Between early and mid-summer, a solitary white flower will form at the end of each stem. Each flower is 0.8-1.2 inches (2-3cm) wide and has 5-8 petals with pointed tips. Aggregate berries ripen in late August and early September. Each berry is 0.8 inches (2cm) across and is composed of 6-8 drupelets. Young berries are red and sour. As they mature, they become sweeter, fleshier, and take on a rosy or amber hue.

LEAF: Each stem has 1-3 simple leaves, which are alternate and nearly. They grow from 1.5-4.5 inches (4-11cm) wide and have finely serrated edges.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It is a febrifuge and antioxidant.

HOW TO HARVEST AND EAT: Cloudberries are ripe for the picking between July and August, once they assume their rosy-golden hues. Because their harvest period lasts for no more than a couple of weeks, it's best to scout cloudberry plants in advance, while the fruits are still developing. Berries are delicate and should be hand-picked. They are best enjoyed fresh within a day or so of picking. Cloudberries are sweet and tender, making heavenly jams, desserts, and even alcoholic beverages.

SIMPLE CLOUDBERRY JAM: Throw cloudberries and sugar together into a pot over the fire. Keep portions to a 4:1 ratio. Add a few tbsp. of water if necessary. Stir occasionally while letting the mixture simmer until the berries are soft and almost all the liquid has boiled off. The jam will thicken as it cools.

Cranberry, *Vaccinium* spp. (ERICACEAE)







CRANBERRY is an evergreen shrub that grows in low prostrated mats. It prefers cool, damp environments with acid soils. They occur around bogs, marshes, and streams.

FLOWER AND FRUIT: Nodding flowers are pale or bright pink and have 4-5 reflexed petals. Round berries can grow 0.4-1 inches (1-2.5cm) wide and ripen to a deep crimson color in August-November.

LEAF: 0.4 inches (1cm) long leaves are simple, alternate, and leathery, with a glossy surface. In spring, foliage takes on a copper-brown color.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Fruits are a strong diuretic.

HOW TO HARVEST AND EAT: Harvest ripe, firm cranberries once they tunr red or dark crimson. For the small cranberry, this time is from August to October. Large cranberries ripen from September to November and often persist into winter. Most people prefer them cooked or dried. They are excellent for jams, jellies, and cranberry sauce.

CRANBERRY PEMMICAN: Cut fat off 5 lbs. (2kg) of lean beef or game meat. Cut meat into strips and salt. Sun-dry or dehydrate on low heat in the oven. Once dried, mince and grind meat into a fine powder. Dehydrate cranberries until they are bone-dry and grind them into a powder. Mix meat and berry powders in a bowl. Melt fat into tallow and pour over the mixture (1:6 ratio of fat to powder). Add 2 tsp. maple syrup and mix well. Form into bars and leave to cool.

POISONOUS LOOK-ALIKES: Winterberry, *Ilex verticillata* - leaves are much larger, growing up to 3.5 inches (9cm) long.

Cranberry (Highbush), *Viburnum trilobum* (ADOXACEAE)







HIGHBUSH CRANBERRY, American Cranberry Bush or Crampbark is an upright deciduous shrub that grows in cool moist conditions. They grow from 8-17 ft. (2.5-5m), with rounded crowns.

FLOWER AND FRUIT: In May-July, 4 inches (10cm) across rounded-headed clusters of white flowers appear. Berries arrive in autumn, starting out orange and maturing to bright crimson. Each fruit contains a single flat stone.

LEAF: Leaves are deeply 3-lobed, similar to maple foliage. They are simple and opposite, growing 2-4 inches (5-10cm) long with coarsely-toothed edges and hairy undersides.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It is antispasmodic and astringent.

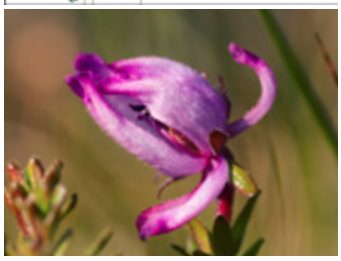
HOW TO HARVEST AND EAT: Though edible fresh, highbush cranberries have the tartness of conventional cranberries and are better-tasting when cooked with sugar. Once their seeds are removed, they can be made into jellies and sauces. Use lemon peels to counter fruit's unique musty odor. Highbush cranberries can be harvested well into the winter.

HIGHBUSH FEAST: Roast 2 whole butternut squash in a bed of campfire coals. Cook for 10-12 min., turning the squash to cook evenly. In a pot, sauté chopped onions and garlic until translucent. Add 1 cup quinoa, 2 tsp. thyme, and 2 cups water. Cover and simmer for 10 min. Stir in ½ cup highbush cranberries (cooked and sweetened). Remove from heat. Fold in chopped swiss chard, cover, and let stand for 10 min. Halve and hollow out squash. Serve with cranberry stuffing.

WARNING: Unripe berries eaten in large amounts may cause stomach irritation and vomiting.

Crowberry, *Empetrum nigrum* (ERICACEAE)




CROWBERRY is a creeping, evergreen dwarf shrub that frequently forms dense mats. Thriving in either moist or dry acidic soils, it occurs in bogs, open tundra, moorlands, and forests. Crowberry plants grow 4-20 inches (10-50cm) tall.

FLOWER AND FRUIT: Minute urn-shaped flowers appear in May and June. They may be pink, purple, or magenta. Each flower is 0.16–0.24 inches (0.4-0.6cm) long, and formed of 3 petals and 3 sepals. Fruits are round drupes and ripen to inky purple in autumn, containing 6-9 seeds.

LEAF: Leaves are linear to elliptic and stalkless, resembling the needles of spruce trees. They grow in an alternate pattern. Their color can vary from dark or bright green to yellow.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Fruit has anti-inflammatory, antibacterial, and antifungal properties.

HOW TO HARVEST AND EAT: They ripen in July-November, often last into the winter, and have a long picking season. Some plant varieties produce their fruits abundantly, while others yield only a few berries. Juicy and mellow in flavor, berries can be enjoyed raw, processed into jellies and jams, brewed in teas, or fermented into wine.

AKUTAQ: Chop fresh salmon into pieces and place into a pot. Fill with water just until fish is submerged. Bring to a boil, then lower heat to slow simmer for 20 min. or until cooked. Let fish cool to room temperature. Take off any skin or bones and squeeze out any water. Mash up the fish. Add 2 large scoops of lard and a splash of vegetable oil. Whip until creamy. Add sugar or maple syrup to sweeten. Add in a nice big handful of crowberries.

Desert Lavender, *Hyptis emoryi* (LAMIACEAE)




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DESERT LAVENDER is found in arid environments and can grow from 3-10 ft. (1-3m) tall, with a rounded or upright columnar crown. It thrives in dry, sandy regions with full sun or partial shade.

FLOWER: It has light purple or bluish hue and a tangy lavender-like fragrance. Flowers are up to 1 inch (2.5cm) across and occur in clusters. While appearing throughout the year, flowers are most abundant in the spring.

LEAF: Leaves are grey-green and oval-shaped with pointed tips and toothed edges. Their coating of fine hair makes leaves soft to the touch. Growing up to 1 inch (2.5cm) long, they remain on the plant throughout the year.

EDIBLE PARTS: leaves (infusion)

KEY MEDICINAL USES: Betulinic acid, which can be derived from desert lavender, has been studied for its use as a treatment against chronic pain.

HOW TO HARVEST AND EAT: Leaves can be dried or used fresh and made into slightly minty infusions. The best time to pick them is when the lowest flowers on the stalk open.

DESERT LAVENDER HERBAL TEA: Heat water to a boil and then let it cool for 10 min. This will draw out the fragrance and healing properties of your desert lavender leaves. Pour water over 2 tbsp. of fresh or dried leaves. Let steep for 3-5 min. Sweeten with honey or agave nectar.

POISONOUS LOOK-ALIKES: Silverleaf Nightshade, *Solanum elaeagnifolium* – its leaves are much longer, growing up to 6 inches (15cm), with waved edges.

Devil's Club, *Oplopanax horridus* (ARALIACEAE)




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DEVIL'S CLUB is a large understory shrub, often found in sprawling colonies, growing on erect, woody stems that are covered with noxious, irritating spines. It usually grows 5 ft. (1.5m) tall but can reach 15 ft. (4.5m) high in moist, undisturbed sites.

FLOWER: Flower umbels are dense pyramidal clusters, 4 to 8 inches (10-20cm) in diameter. Flowers have 5 greenish-white petals and produce a small red fruit or drupe which is about ¼ inch (0.5cm) in size.

LEAF: Large, palmate leaves look like maple leaves but have spines along the veins on the underside and on the petioles. They grow 8-16 inches (20-40cm) across and are arranged spirally on the stems. Leaves are simple, green and lobed with 5 to 13 lobes on each leaf.

EDIBLE PARTS: young shoots and roots (tea)

KEY MEDICINAL USES: Inner bark and stems are used for infection, pain, inflammation, arthritis, and adult-onset diabetes.

HOW TO HARVEST AND EAT: Wearing long sleeves and gloves, being careful of the ½ inch (1.3cm) spines on the stems and leaves, cut or twist off new shoots in the spring when they are 2 inches (5cm) long. Remove brown sheath. Wash well in a couple of changes of water. Blanch in boiling salted water for 5 min. and plunge directly into cold water. Roots can be dug, peeled and chewed, but they have a strong taste.

SAUTEED DEVIL'S CLUB SHOOTS: In a hot skillet, melt butter. Sauté shoots for 5-10 min., coating well in butter. Season with salt and pepper.

WARNING: Potential severe injury to skin and eyes from spines, as well as allergic reaction to spine prickles have been reported by some.

Dewberry, *Rubus* spp. (ROSACEAE)




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DEWBERRIES are slender trailing shrubs that occur in temperate climates. There are 7 main species of dewberry in North America including Bristly Dewberry, *R. hispidus*, Northern Dewberry, *R. flagellaris*, and Southern Dewberry, *R. trivialis*. All are edible. Stalks of many species are covered with prickles.

FLOWER AND FRUIT: Blossoms are white or pale pink with 5 petals and many stamens. Flowers do not form dense clusters; they are irregularly dispersed. Each flower is 0.8-1.1 inches (2-2.8cm) across. Aggregate fruits are red to inky black and composed of many druplets. Some species ripen between April and May. Other species mature in the fall.

LEAF: Arranged in an alternate pattern, 1-3 inches (2.5-7cm) long leaves are oval-shaped and palmately compound. They are typically dark green with pale undersides and serrated edges.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It has been used to treat hemorrhoids, heal gastric disorders, and promote throat and mouth health.

HOW TO HARVEST AND EAT: Dewberries are sweet, juicy, and delicious raw or cooked. Fruits don't ripen once picked, so harvest only when fully mature. Store in a dry place.

DEWBERRY FRUIT LEATHER: You will need a flat surface for drying your fruit and plenty of sunlight. A sheet of freshly cut and cleaned birch bark will work. Crush dewberries in a bowl. With your hands, squeeze out the juice into a second container and make flat patties with the pulp. Press patties down as thin as you can and lay out in the sun (bringing indoors at night) to dehydrate. 2-3 days should do it. You can also prepare in an oven at low heat.

Elderberry, *Sambucus nigra* ssp. *caerulea* (Blue) and *S. nigra* ssp. *canadensis* (American/Black) (ADOXACEAE)







ELDERBERRY is a deciduous, woody shrub with arching branches. Elderberries can grow to 30 ft. (9m), but are more commonly about 12 ft. (3m) tall. They prefer areas with full sunlight and low moisture. The bark is smooth and green when young, and forms round lumps (lenticels) and turns brown/grey with age, eventually developing vertical furrows. Branches and trunks have a pithy center. Note that Red Elderberry, *S. racemosa*, has edible fruits and flowers (cooked only), with the same warnings as these Elderberry species.

FLOWER AND FRUIT: Tiny cream-colored flowers appear in flat-topped clusters in April-July. They are 0.2-0.3 inches (0.5-0.7cm) across and fragrant, with 5 flat petals and 5 protruding stamens. Fruits ripen through the summer, taking on red, blue, or black hues. Each fruit is about 0.2 inches (0.5cm) and contains 3-5 conspicuous seeds.

LEAF: Bright green compound leaves grow in opposing pairs in a pinnate. Leaflets are 2.5-6 inches (7-15cm) long with serrated edges. They may be elliptical or lance-shaped and give off a distinct odor.

EDIBLE PARTS: fruit, flowers (dried/cooked; See **WARNING**)

KEY MEDICINAL USES: Elderberry is a well-known antiviral, used as a prevention and remedy for colds and flu.

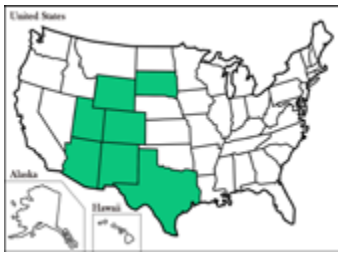
HOW TO HARVEST AND EAT: June and July are typically the seasons for elderflower blossoms. To ensure freshness, collect them in a mesh bag or open container, keep them out of the sun, and process them the same day. Dried clusters can be made into fritters or used to flavor syrups and drinks. Berries are edible only when fully ripe and fully cooked. They ripen from August to October and should be nearly black or purple and release purple juice when squeezed. Cooking will remove lingering toxins present in the fruit flesh and seeds. Elderberries have a short shelf-life once picked. They can be frozen for future use.

ELDERFLOWER CORDIAL: Boil water in a pot and dissolve 1 lb. sugar (500g). Remove from heat and mix in: 20 fresh elderflower heads, 25g citric acid, 1 zested and sliced lemon. Cover and steep for 12-24 hrs. Drain liquid through a cheesecloth.

WARNING: Seeds, bark, roots, leaves, and unripe berries are poisonous and can lead to cyanide poisoning. Flowers, if consumed directly, may cause diarrhea. Always dry and/or cook flowers and berries.

POISONOUS LOOK-ALIKES: Buckthorn, *Rhamnus cathartica*; Devil's Walking Cane, *Aralia spinosa*; and Poison Hemlock, *Conium maculatum*

Fendler's Ceanothus, *Ceanothus fendleri* (RHAMNACEAE)







FENDLER'S CEANOTHUS, Fendler's Buckbrush or Deerbriar is a deciduous thorny shrub that grows to 6.5 ft (2m) tall. Branches are greenish-brown to grey and covered in thorns, which can grow up to 2 inches (5cm) long. Not all Ceanothus fruits are edible, so make sure you have the correct species.

FLOWER AND FRUIT: White, light green, or pale pink flowers blossom in June-August. Flowers are shaped like slender tubes and grow in elongated clusters. In August-October, red, pink, or brown fruit ripen. They are 0.2 inches (0.5cm) across, and almost triangular, with 3 glossy lobes.

LEAF: Foliage is silvery-green, alternate, and velvety. Leaf blades are ovate and 1.2 inches (3cm) long, with 3 prominent veins on the upper surface and whitish undersides. While the leaf edges are smooth, the tips of leaves can sometimes be toothed.

EDIBLE PARTS: fruit, leaves (tea)

KEY MEDICINAL USES: A natural sedative, infusions of the leaves have been used to quell anxiety. Leaves can be chewed for sore mouths.

HOW TO HARVEST AND EAT: Berries can be harvested as they ripen, in August-October. While edible raw, their astringent flavor is not very inviting. However, once dried and sweetened, the berries make a good snack. Leaves can be dried and used as a tea and are best harvested in early summer when flowers are in full bloom. Take care to avoid the sharp thorns when harvesting.

FENDLER'S HOT CHOCOLATE ENERGY BALLS: Mash together finely chopped berries, crushed almonds and cashews, cocoa powder, chili powder, cinnamon, cayenne pepper, and vanilla extract. Once all is well blended, roll into balls. Refrigerate.

Giant Reed, *Arundo donax* (POACEAE)







GIANT REED, Elephant grass or Wild cane can grow up to 25 ft. (8m), with a diameter of 0.4-1.6 inches (1-4cm), and is topped with a feathery panicle. Its canes are hollow and partitioned into sections at the nodes, giving the reed a bamboo-like appearance.

FLOWER: In March-September, a crest-like panicle will emerge from the reed's tip, growing up 1-2 ft. (0.3-0.6m) long. The panicle is formed from several spikelets, each bearing numerous 0.5 inches (1.2cm) long florets. These may have a light green or tawny hue.

LEAF: 2-3 ft. (0.7m) long grey-green leaves are two-ranked, alternating in parallel files on opposite sides of the stem. Foliage turns brown in the autumn.

EDIBLE PARTS: roots, leaves, young shoots

KEY MEDICINAL USES: Due to their diuretic and diaphoretic (sweat-producing) properties, rhizomes are used for edema (oedema).

HOW TO HARVEST AND EAT: Underground rhizomes are edible raw or cooked and can be harvested at any time of year, but taste better when young and tender in spring and early summer. Use a shovel to dig up the rhizomes beneath the base of the stem. Peel bark with a knife. The white rhizome flesh can be boiled, baked, or dried and ground into flour. Young shoots and leaves, harvested in the spring, are great cooked vegetables.

ARUNDO SOUP: Scrape 1 lb. (500g) *Arundo* rhizomes with a paring knife. Wash and chop into pieces along with onions and garlic. In a pot, sauté onions and garlic. Add root chunks and sauté until tender. Add 4-8 cups water, cover, and cook over for 30 min. Mash ingredients together until smooth. Add finely chopped Arundo greens and shoots. Cook until tender. Season.

Golden Currant, *Ribes aureum* (GROSSULARIACEAE)









GOLDEN CURRANT is an upright deciduous shrub with smooth, spineless bark. It can grow to 10 ft. (3m) and agrees with most soil types. It is found along streams, slopes, woodland edges.

FLOWER AND FRUIT: In late spring, clusters of 5-15 sunny-yellow blossoms emerge, exuding a vanilla and clove scent. Each flower is formed of an elongated tube encircled by 5 upright lobes. Flowers are 0.2-0.4 inches (0.5-1cm) long and take on reddish hues with maturity. Rounded fruits emerge in summer, are red or orange and sometimes black.

LEAF: 0.5-1.8 inches (0.5-4.5cm) long and 0.6-2 inches (1.5-5cm) wide leaves are alternate with smooth or serrated edges.

EDIBLE PARTS: fruit, flowers

KEY MEDICINAL USES: This plant has anti-inflammatory properties.

HOW TO HARVEST AND EAT: Fruits ripen from orange to blue-black in mid-late summer. You can eat currants fresh, dry them, use them in baking, ormake jams and jellies. They will keep for only a few days in the fridge. Flowers are edible raw.

CURRANT AND DANDELION PASTA: Boil 4 cups young dandelion greens until thoroughly cooked. Drain and chop finely along with 1 onion and 6 garlic cloves. In a larger pot, add pasta noodles to boiling salted water and let cook. Sauté garlic, onion, and greens in a pan with olive oil until onions are translucent. Toss with pasta noodles. Add pine nuts, salt, pepper, and golden currants.

LOOK-ALIKES: Sticky Currant, *Ribes viscosissimum* - Consuming this plant has been known to cause vomiting. Leaves, stems, and fruit are covered with a sticky coating. Bristly fibers sometimes coat fruits.

Hackberry (Spiny/Desert), *Celtis ehrenbergiana* (CANNABACEAE)









SPINY HACKBERRY or Desert Hackberry is a deciduous shrub found along rocky slopes and in arid bushes. Growing 3-10 ft. (0.9-3m) tall, plant has smooth grey bark and zig-zagging branches. Pairs of sharp woody spines, about 1 inch (2.5cm) long, grow at its nodes.

FLOWER AND FRUIT: Flower clusters appear in the leaf axils between March and May. They are yellowish-green and lack petals and sepals. The lustrous orange or amber fruits mature in the late summer and persist until after the leaves have fallen. They are fleshy round drupes of about 0.25 inches (0.6cm) and contain a hard seed.

LEAF: Medium green leaves are simple, alternate, and slightly leathery. Measuring 0.4-1.2 inches (1-3 cm) long, they are oval to elliptic with rough surfaces. Their upper edges are coarsely toothed.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: An infusion of this plant's leaves has been used as a digestive aid.

HOW TO HARVEST AND EAT: Desert hackberries are mildly sweet. They can be eaten raw or made into jams and wines. Dried and pulverized berries can be used as a spice. Be careful to mind the thorns when you are harvesting them.

HACKBERRY JAM: Ingredients: 1 cup hackberries, water, ¼ cup sugar, 1tbsp. lemon juice. Cover berries with water in a saucepan. Bring to a boil and let simmer for 20-30 min. Use a masher to crush the berries. Strain out seeds with a sieve. Add sugar and lemon juice and bring mixture to a boil. Simmer for 15-25 min. until the jam thickens.

Gooseberry, *Ribes* spp. (GROSSULARIACEAE)




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GOOSEBERRY is a deciduous shrub found in many habitats, from fields, woodland clearings, and river-edges to bogs, swamps, forests, and rocky heights. Shrubs may be sprawling, loosely spreading or upright, growing 1.6-5 ft. (0.5-1.5m) tall. There are over 50 species in the *Ribes* genus and all are edible. Common North American species include: American Gooseberry, *R. hirtellum*, Northern Gooseberry, *R. oxyacanthoides*, and Prickly Gooseberry, *R. cynosbati*.

FLOWER AND FRUIT: Between April and August, light green to purplish flowers emerge in elongated bunches. Each flower is 0.4 inches (1cm) long with 5 petals. Slightly oval fruits appear in June-September. They may be covered in bristly hairs or smooth-skinned, ranging in hue from greenish-yellow to red to purplish-black.

LEAF: Foliage is three-lobed with coarsely toothed edges. 0.5-5 inches (1.2-12.5cm) long leaves are alternate, commonly greyish-green, and often covered in very fine hairs. Thorns grow at the bases of the leaf stalks.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Gooseberries are high in vitamin C and rich in antioxidants.

HOW TO HARVEST AND EAT: Gooseberries do not ripen all at once. Their picking season begins as early as June and ends as late as September. Slightly underripe berries are best for jams, pies, sauces. Fully ripe berries are great fresh. Gooseberries come in all sorts of colors, but the same ripeness test applies to every species: give the fruits a gentle squeeze - fully mature fruits are soft and may burst their juices. Any spines present on berries can be removed by cooking. Gooseberries They pair excellently with fish, meat, and poultry, or eaten with cream as dessert.

ROASTED MACKEREL WITH GOOSEBERRY SAUCE: In a saucepan, combine 1 ½ cup gooseberries, ½ tbsp. white wine vinegar, 3 tbsp. sugar, 1 finely chopped shallot, 4 tbsp. olive oil, 4 tbsp. water, salt, and ground black pepper. Simmer for 15-20 min. Place a whole, gutted, and cleaned mackerel on a sheet of aluminum foil and cover with gooseberry sauce. Fold over the foil's edges and wrap up the fish tightly. Secure in another layer of aluminum foil. Roast for 5-8 min. on each side. Sauce should be enough for four fish.

Grape (Wild/Muscadine), *Vitis rotundifolia* (VITACEAE)







WILD GRAPE, Muscadine Grape or Southern Fox Grape often grow in thickets, but are also found in woodland and open forests in rich soil that is free-draining. They prefer full sun and like other grapes, they grow on a deciduous climbing vine with alternately arranged branches. It can grow 60-100 ft. (18-30m) in length.

FLOWER AND FRUIT: Fruits grow in bunches like table grapes, but often ripen one at a time. When ripe, fruits have thick skins that range in color from bronze to dark purple. Fruits can grow over an inch (2.5cm) in diameter but are more often ½-1 inch in length (1.3-2.5cm). Inside are up to 5 seeds. Flowers are clusters of tiny pale-yellow stamens sprouting out of pale green buds.

LEAF: Green leaves are similar to other grape leaves, except that they have sharper serrated edges. The hairless lobed leaves are usually as wide as they are long, and they can grow to 4-6 inches (10-15cm). The underside of the leaf is yellow-green. A single leaf grows from one side of the stem, while a simple unforked tendril grows from the other.

EDIBLE PARTS: fruits, young tendrils, leaves

HOW TO HARVEST AND EAT: Harvest ripe grapes individually in August-September. Skin is tart like a plum, while the flesh inside is very sweet. Can be made into wine or desserts, or eaten straight from the vine. Leaves are often bitter but they can be eaten raw or cooked, as can the tendrils; they taste best cooked in a change of water.

MUSCADINE JELLY RECIPE: Ingredients: 2 cups of wild grapes, 2 cups of water, 4 cups of sugar, 2 tsp. lemon juice, 1 packet of pectin. Put grapes and water in a pot of water and simmer for 30 min. Strain off seeds and skins and bring the juice to a boil. Add the sugar, stir, and allow to simmer until it slowly reaches 220°F (105°C) (30 min. or so). Add the pectin and check the consistency before bottling into jars.

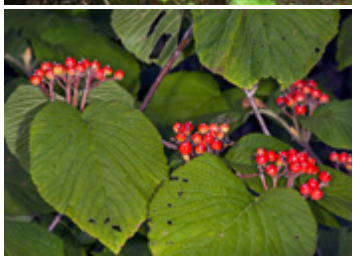
POISONOUS LOOK-ALIKES: Canadian Moonseed, *Menispermum canadense* - fruit and leaves are similar to wild grapes', but the leaves are not serrated and the fruit has a single, crescent-shaped seed inside. Virginia Creeper, *Parthenocissus quinquefolia* - produces poisonous dark purple berries similar to wild grapes, but their palmate compound leaves differ greatly.

Hobblebush, *Viburnum lantanoides* (ADOXACEAE)









HOBBLEBUSH, also known as Moosewood and Witch-hobble, is a deciduous that reaches 10 ft. (3m) high. It flourishes in rich, moist soils, occurring in forest understory, cool woodlands, and along waterways.

FLOWER AND FRUIT: Fragrant, round-topped clusters of white or pink flowers bloom in May-June. Flowers have 5 petals and are 0.8-1.5 inches (2-4cm) across. Fruits begin bright red and ripen to bluish-black in September-October. Each fruit is 0.2-0.5 inches (0.5-1.2cm) long and ovoid.

LEAF: Leaves are simple, opposite, and heart-shaped, growing 4-8 inches (10-20cm) long and nearly as wide. The upper surface of each leaf is prominently veined, while hairs grow from the lower surface. Edges are finely double toothed. In fall foliage turns a stunning red.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It is an analgesic and blood purifier.

HOW TO HARVEST AND EAT: Fruits taste halfway between raisins and dates when dried - just watch out for its big seed. They can be eaten raw or cooked. Pick fruits when they are black, preferably after the first frost.

HOBBLEBERRY APPLE BUTTER: Pour 2 quarts hobblebush berries into a large pot and add 1 cup water. Let simmer for 30 min. or until the skins burst. Cool, and pour contents through a sieve to remove the seeds. Next, combine your berry sauce with applesauce, sugar, 1 tsp. cinnamon, ½ tsp. cloves, ½ tsp. salt, lemon zest, and the juice of 1 lemon. Simmer for 30 min. until the mixture thickens.

Honeysuckle (Mountain Fly) /Waterberry, *Lonicera villosa* (CAPRIFOLIACEAE)







MOUNTAIN FLY HONEYSUCKLE, Northern fly honeysuckle, or Waterberry is a small deciduous shrub that thrives in rocky and peaty soils. It is commonly found around bogs, swaps, and disturbed sites. Growing 1-3 ft. (0.3-0.9m), their erect branches have a red or purplish hue.

FLOWER AND FRUIT: Pale yellow or cream funnel-shaped flowers emerge in late spring. Flowers are 0.3-0.5 inches (0.8-1.3cm) long and hairy. Blue-black berries mature in June-August. They are oblong-elliptic and 0.4 inches (1cm) long with a waxy bloom.

LEAF: Leaves are oval-shaped, and hairy on both sides; they may grow 0.7- 2.5 inches (1.7-6cm) long. Leaf edges are smooth and sometimes fringed with fine fibers.

EDIBLE PARTS: fruit/flower nectar

HOW TO HARVEST AND EAT: Berries are ready for harvesting once they mature in June and July. It's best to scout out the flowering shrubs in May, note their location, and return a month later. They can be eaten raw or made into jams, desserts, and drinks.

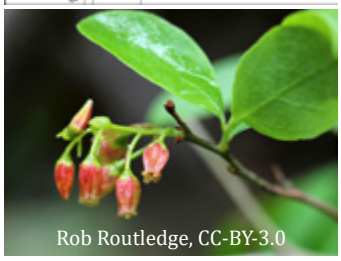
WATERBERRY GRILLED CHEESE SANDWICH: In a saucepan, combine ½ cup honeysuckle waterberries, 1 ½ tbsp. brown sugar, and ½ tbsp. balsamic vinegar. Let simmer on medium heat for 5 min, while mashing the berries. Pour contents through a strainer. Save liquid syrup for pancakes. Spread the berries on a slice of bread. Add baby spinach leaves and slices of mature cheddar.

WARNING: Some honeysuckle species are poisonous. Make sure of your ID.

Huckleberry (Black), *Gaylussacia baccata* (ERICACEAE)









BLACK HUCKLEBERRY is a deciduous, thicket-forming shrub that prefers dry, rocky, and acidic soils. They can grow to 3.3 ft. (1m). Bark on mature plants may range from reddish-brown to grey.

FLOWER AND FRUIT: Bell-shaped five-petaled flowers bloom in mid-spring, while its purple-black berries ripen in August. Fruits are about 0.4 inches (1cm) wide and have a prominent calyx.

LEAF: 0.8-2 inches (2-5cm) long, oval-shaped leaves with smooth edges are emerald green with a whitish underside and a golden resin on the surface. In autumn, foliage turns fiery red.

EDIBLE PARTS: berry

KEY MEDICINAL USES: It has high levels of vitamin C and antioxidants.

HOW TO HARVEST AND EAT: Harvest as they ripen. In the south, prime picking season is in June, while in the north, it can begin as late as September. Ideally, your berries should be dark blue or blackish and relatively firm. Huckleberries bruise easily, so gather them in a shallow container. Refrigerate as soon as you get home and eat them within a day or two. Alternatively, you can dry them like raisins or pop them in the freezer. Enjoy them fresh or in jams, pies, and baked goods.

BROCCOLI HUCKLEBERRY SALAD: Slice up bacon and cook on a skillet. Set aside to cool. Chop 3-4 lightly steamed broccoli heads and place in a large bowl. Add 1 cup huckleberries, ½ cup diced red onion, ½ cup sliced almonds and bacon. In a second bowl combine 1 ½ cup mayonnaise, 5 tbsp. red wine vinegar, and 2 tbsp. honey. Drizzle dressing over broccoli salad.

POISONOUS LOOK-ALIKES: Buckthorn, *Rhamnus cathartica*

Huckleberry (Bog), *Gaylussacia bigeloviana* (ERICACEAE)







BOG HUCKLEBERRY is a low-growing deciduous shrub that prefers wet, acidic soils and is commonly found in pine forests and around the edges of bogs, swamps, and lakes. It can grow to a height of 20 inches (50cm).

FLOWER AND FRUIT: Flowers are delicate nodding bells borne on velvety stems. Their 5 white petals are tinged with pink. Each flower 0.3-0.4 inches (0.7-1cm) long, appearing on the plant between June and July. The black fleshy fruits are 0.2-0.3 inches (0.5-0.7cm).

LEAF: Measuring 0.8-1.5 inches (2-4cm) long, leaf blades are oval-shaped and widest in the middle. The upper leaf surface is lustrous and dark green, while the lower one is speckled with glossy yellow resin dots. Mature leaves end in a short sharp point.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It is high in antioxidants.

HOW TO HARVEST AND EAT: Gather bog huckleberries as they ripen to blue-black in late summer. To avoid bruising the delicate fruits, place them in a container. Refrigerate them as soon as you get home and consume them within a day or two. Bog huckleberries are enjoyed raw, dried, or cooked. They are good for jams, baked goods, pies, and syrups.

BOG HUCKLEBERRY SOUP: Whip 1 ⅓ cup cottage cheese, ¼ cup water, 1tsp. lemon juice until smooth. This will serve as a topping for the soup. Now in a pot combine 2 cups water, 1 cup bog huckleberries, ½ tsp. grated lemon rind, and a dash of salt. Cook until the berries have become soft. Serve cold in bowls with whipped topping.

Huckleberry (Evergreen), *Vaccinium ovatum* (ERICACEAE)




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EVERGREEN HUCKLEBERRY is an upright woody shrub that grows best in acidic soils and in second-growth forests and edge habitats. Their greyish stems can grow to 6 ft. (1.8m).

FLOWER AND FRUIT: Bell-shaped flowers emerge in April-May, hanging from pendant racemes in tight clusters. They are blush-pink or white with 5 sepals. Round, glossy black fruits are 0.3-0.4 inches (0.7-1cm) wide with a prominent calyx. They mature in October-December.

LEAF: Leaves are dark green and glossy, sometimes with a bronzy texture when young. They are 1 inch (2.5cm) long with irregularly toothed edges and a leathery texture.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant has hypoglycemic, astringent, and antiseptic properties.

HOW TO HARVEST AND EAT: *(recipe credit: River Corcoran)*: Ingredients: 2 tbsp. thinly sliced shallot, 2 tsp. red wine vinegar, 1 cup huckleberries, ¼ cup flat leaf parsley (coarsely chopped), 2 tbsp. olive oil, salt and pepper. Combine shallot and vinegar in large bowl. Let stand 10 min. Add huckleberries (partially mashed), parsley and oil. Season with salt and pepper. Let stand 30 min. before eating. Spoon over roasted meat like chicken or pork.

POISONOUS LOOK-ALIKES: Buckthorn, *Rhamnus cathartica*

Huckleberry (Red), *Vaccinium parvifolium* (ERICACEAE)




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RED HUCKLEBERRY is found in coniferous forests, valleys, and along low mountain slopes, and often grow from nurse logs. In their first 4-5 years of life, these shrubs are straggly. As they grow older, they assume a more upright and bushier stance, reaching 6-12 ft. (1.8-3.6m) high.

FLOWER AND FRUIT: In May-June, 0.2 inches (0.5cm) long, yellowish-pink or pale green waxy urn-shaped flowers arise singly in the leaf axils. 0.3 inches (0.8cm) across fruits are bright red or coral-hued with translucent skin and a prominent calyx.

LEAF: Leaves of young plants are evergreen and finely toothed, while mature leaves are deciduous and entire. They grow about ½ - 1 inches (1.2-2.5cm) long, turning red in fall.

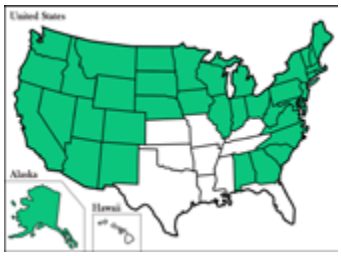
EDIBLE PARTS: fruit

KEY MEDICINAL USES: It is antiseptic and astringent.

HOW TO HARVEST AND EAT: Red huckleberries mature in June-September, depending on location. Harvest when they are bright red, slightly firm, and juicy. They will last only a few days in the fridge, so freeze, dry, or preserve in some other way. Traditionally, they were stored in animal grease. Tart and tasty, they make killer jellies and juices. Try using fruit and leaves in a tea.

RED HUCKLEBERRY HALIBUT: Ingredients: halibut fillets, 1 ½ cup red huckleberries, ½ cup port, ½ cup sugar, 1 tbsp. balsamic, ⅛ tsp. cinnamon, ⅛ tsp. nutmeg, 1 tbsp. lemon juice, butter. Combine huckleberries, port, sugar, vinegar, spices, lemon juice. Bring mixture to a boil. Lower heat and let simmer until it is reduced to a syrup. Grill halibut fillets. Brush on melted butter and drizzle with lemon juice. Top with salt, pepper, huckleberry sauce.

Juniper (Common/Dwarf), *Juniperus communis* (CUPRESSACEAE)









COMMON or **DWARF JUNIPER** is an evergreen found in forests and shrublands, with a bark that shreds in thin strips. In North America, most common junipers are prostate and mat-forming, growing to no more than 3 ft. (1m) tall, though they can grow into small trees to 16 ft. (5m), and occasionally to 30 ft. (10m) tall.

FRUIT: Fruits are small hard cones, 0.2-0.5 inches (0.5-1.3cm) across, containing 2-3 seeds. Young cones begin red and ripen over 2 years. Mature "berries" are blue-black with a waxy bloom.

LEAF: Sharp, awl-shaped leaves are 0.1-0.6 inches (0.3-1.5cm) long. They are green or silvery.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant is diuretic, rubefacient, and antiseptic.

HOW TO HARVEST AND EAT: Pick ripe juniper berries in August-December. Dry and grind the berries to make a seasoning for game dishes. For a gin-flavored tea, steep dried berries in hot water.

JUNIPER RUB FOR VENISON: Ingredients: 4 tbsp. juniper berries, 2 tbsp. mustard seeds, 2 tbsp. whole coriander seeds, 2 sprigs fresh rosemary (finely chopped), 2 tbsp. salt, 2 tbsp. brown sugar, 2 tbsp. ground black pepper. Pulverize juniper, mustard seeds, and coriander seeds in mortar. Mix with rosemary, salt, sugar, and pepper.

WARNING: Consume juniper berries only in small amounts. Pregnant women and people with kidney disease should not ingest. Juniper extracts can be poisonous, avoid.

POISONOUS LOOK-ALIKES: Yews, *Taxus* spp.; Savin Juniper, *J. sabina*; Cade Juniper, *J. oxycedrus*

Lingonberry, *Vaccinium vitis-idaea* (ERICACEAE)









LINGONBERRY, Northern Mountain Cranberry or Cowberry is a low evergreen shrub prized for its ruby-red fruits. It thrives in boreal, and subarctic regions throughout the northern hemisphere. Growing 1-4 inches (2.5-10cm) high, this plant is mat-forming and prefers infertile acidic soils. It is found in a variety of habitats: bogs, spruce forests, rocky slopes, tundra.

FLOWER AND FRUIT: Bell-shaped flowers appear during May and June. They are four-parted, ranging in color from white to deep blushing pink. Between August and October, the dark crimson berries ripen, persisting through the winter. They are 0.2-0.4 inches (0.5-1cm) across.

LEAF: Leaves are leathery, oval-shaped, and alternate. The upper surface of the foliage is glossy, while the lower surface is speckled with black dots. Leaves are ⅓ to ¾ inches (0.8-2cm) long with smooth edges.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Leaves have antiseptic, astringent, and diuretic properties.

HOW TO HARVEST AND EAT: Tart and sweet, with a flavor similar to cranberries, lingonberries can be eaten raw or cooked and are often harvested after the melting of the snow. Leaves can be made into a tea, which should not be consumed often because it contains the toxin, arbutin.

SWEEDISH LINGONBERRY SAUCE: In a large skillet combine 2 cups lingonberries, ½ cup brown sugar, ½ cup apple cider, 5 allspice berries, 1 cinnamon stick, 1 thyme sprig, kosher salt. Simmer over low heat, stirring occasionally, for about 25 min. Bring to a boil, continuing to stir, for 10 min. Let cool. Remove allspice, cinnamon, and thyme. Serve with meat.

Labrador Tea/Trapper's Tea, *Rhododendron (Ledum) groenlandicum* and *R. neoglandulosum* (ERICACEAE)







LABRADOR TEA is an evergreen shrub common throughout Canada and the northern United States. **Bog Labrador Tea**, *R. groenlandicum*, has erect, auburn branches and fragrant leaves. Often forming dense colonies, Labrador tea flourishes in peaty soils. It occurs in bogs, tundra, and wet forests. **Western Labrador**, *R. neoglandulosum*, *Ledum glandulosum*, is also called Tea, or Trapper's Tea. Its hairy erect stems can grow to 3-8 ft. (1-2.5m), and are speckled with glandular scales. Its smooth bark can peel with age. *R. groenlandicum* is the preferred species for tea (see warning).

FLOWER: ***R. groenlandicum***: Round-topped clusters of terminal white flowers form between April and June. Each flower is about 0.8 inches (2 cm). ***R. neoglandulosum***: Rounded clusters of 10-25 white flowers are borne in umbel-like racemes at the branch ends. Flowers bloom in June-August.

LEAF: Similar in both species. ***R. groenlandicum***: Foliage is leathery. The undersides of leaves bear a dense fuzz that is white in young plants, and rust-colored in mature ones. With a length of 1-3 inches (2.5-7.5m), leaves are oblong, or linear-oblong. ***R. neoglandulosum***: The evergreen foliage is alternate, leathery, and aromatic. Measuring 2 inches (5cm) long, the blades are elliptic to obovate, with a glossy dark-green upper surface and a lower surface that is coated in white hairs and yellow glandular scales.

EDIBLE PARTS: leaves (tea)

KEY MEDICINAL USES: Labrador Tea has analgesic, astringent, and diuretic qualities.

HOW TO HARVEST AND EAT: You can pick leaves at any time of the year. The new spring leaves have a bright, fresh flavor, which becomes richer once the plant is in flower. In autumn and winter, leaves have a more minerally, earthy flavor. Once picked, leaves can be used fresh or dried.

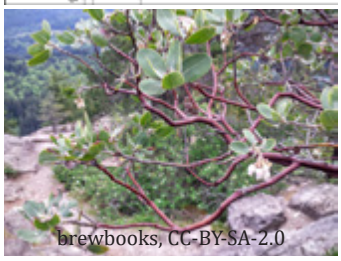
BLUEBERRY LABRADOR TEA: In a pot, cover blueberries with water and bring to a boil. Reduce heat and simmer for 5 min. until blueberries break down. Take off heat and drain water. Steep 1 tbsp. dried Labrador tea leaves in hot water for 5-10 min. and then remove them. Add blueberries, honey, and a drop of lemon juice.

WARNING: Labrador tea contains grayanotoxins, which affect the heart and nervous system. Using *R. groenlandicum* instead of *R. neoglandulosum* is recommended, as the toxicity levels in Trapper's Tea are higher. With either species, do not boil the leaves. Instead, steep them for no more than 10 min. and always use an open vessel, like a mug, rather than a covered teapot. Consume sparingly.

POISONOUS LOOK-ALIKES: Bog Laurel, *Kalmia polifolia*; Bog Rosemary, *Andromeda polifolia*; Northern Labrador Tea, *Rhododendron tomentosum*

Manzanita (Hairy), *Arctostaphylos columbiana* (ERICACEAE)




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HAIRY MANZANITA is an upright evergreen shrub that grows from 3-10 ft. (1-3m) tall, arising from a single stem, which bears multiple twisting branches. These shrubs do best in areas of full sunlight and acidic, well-drained soil. Its bark is smooth and reddish.

FLOWER AND FRUIT: Blossoms come in shades of pale pink or white between March and June. They are urn-shaped and bow in delicate clusters from the ends of their twigs. ¼-½ inches (0.6-1.2cm) in diameter red fruits arrive in late June and may persist until the following spring.

LEAF: The greyish-green foliage is leathery and covered with a velvety fuzz. Growing about 1-2.8 inches (2-7cm) long, leaves may be spoon or lance-shaped, growing simply and alternately. They spring from the ends of the twigs, giving the branches a naked appearance.

EDIBLE PARTS: fruit/berries

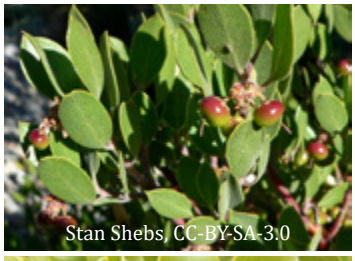
KEY MEDICINAL USES: It has been used as a remedy for urinary and digestive tract inflammation and as a treatment for hemorrhoids.

HOW TO HARVEST AND EAT: Enjoy fruits raw or cooked. Best picking time is when they are slightly underripe, as mature fruits can develop a mealy texture. Unripe berries make an exquisite cider.

MANZANITA CIDER: Toss 2 cups of slightly under-ripe berries into a large pot. In a second pot, bring 8 cups of water to a boil. Pour the boiling water over the berries. Let infuse for 20 min. Gently crush the berries. Be aware that too much pressure will release bitter tannins into your cider. Leave to steep for 12 hrs. Now strain cider twice into a container - first with a sieve, then with a cheesecloth. Sweeten with honey.

Manzanita (Pointleaf), *Arctostaphylos pungens* (ERICACEAE)




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POINTLEAF MANZANITA or Mexican Manzanita is a flowering evergreen found in medium to high, sunny woodlands in most of the western U.S and Mexico. It is an erect growing shrub that can grow 3-6 ft. (1-3m) high. Pointleaf Manzanita thrives in dry, shallow, acidic, sandy, gravelly soils forming relationships with mycorrhizae to obtain extra nutrients and water. Young stems are sparsely covered in hairs, and all branches are smooth and reddish-brown.

FLOWER AND FRUIT: Flowers form as a short, elongate cluster on the upper end of a stalk. Pink or white flowers are 0.25 inches (6 mm) long, urn-shaped; as they are narrow, strongly recurved, and pointed at the tip. The fruit is a red drupe measuring 0.2-0.3 inches (5-8 mm) wide.

LEAF: Greenish-gray mature, elliptic leaves are 1.5 inches (4 cm) long.

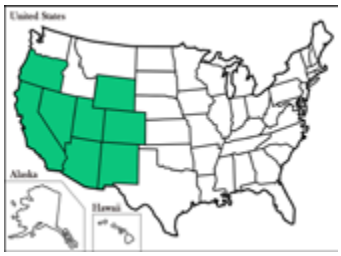
EDIBLE PARTS: fruit/berries, young flowers

KEY MEDICINAL USES: An infusion of leaves has been used internally to treat diarrhea and externally to treat poison oak symptoms.

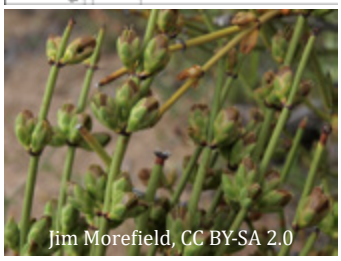
HOW TO HARVEST AND EAT: Pointleaf Manzanita blooms mid winter through spring with fruits ripening in the summer. Harvest berries for a cooling drink, a sugar substitute, or a jam. Young flowers can be eaten raw.

MANZANITA "SUGAR": Manzanita berry seeds are extremely hard. To separate them from the flesh, place them in a spice grinder for about 30 sec. to pulverize the soft dry fruit, but not the seeds. Sift the fruit from the seeds. Sprinkle on sliced fruit for a sweet apple-like addition.

Mormon Tea, *Ephedra viridis* (EPHEDRACEAE)









MORMON TEA or Green Ephedra grows 3-5 ft. (1-1.5m) tall and just about as wide. Its twigs emerge in an alternate or whorled pattern from joined woody stems. Mormon tea thrives in warm, semi-arid regions, occurring on rocky slopes, mesas, and alluvial fans.

CONE AND SEED: Mormon tea reproduces through spores contained in cone-like structures. Plants have either male cones or female cones, which cluster at the nodes in groups of 2 or more. In late spring, male plants produce floral parts with protruding stamens and yellow pollen. Female cones are brownish-green.

LEAF: In April-May, the minute scale-like leaves grow in opposite pairs along the stem nodes. Each leaf is 0.08-0.2 inches (0.2-0.5cm) long with a brownish base.

EDIBLE PARTS: twigs, seeds

KEY MEDICINAL USES: Mormon tea is a diuretic and an astringent.

HOW TO HARVEST AND EAT: Stems can be used for tea. Steep them fresh, dried, or roasted, and enjoy a flavor similar to a mild green tea. Young stems can also be eaten raw or chewed on for water in survival situations. Seeds are bitter but edible and can be ground into flour. Mormon tea is available for harvesting year-round.

MORMON TEA: Place a handful of Mormon tea twigs in a teapot and fill with boiling water. Cover and steep for 20 min. If desired, flavor with honey and lemon.

POISONOUS LOOK-ALIKE: Do not confuse Mormon tea with other *Ephedra* species, especially *Ephedra sinica*, which contains the alkaloid ephedrine.

Nannyberry, *Viburnum lentago* (ADOXACEAE)









NANNYBERRY, Sheepberry or Sweet Viburnum is a large deciduous shrub with very sweet, late-ripening fruit. It grows up to 20 ft. (6m), has a short, compact trunk, and a robust crown of bowing branches. Young trees bear reddish bark, which becomes scaly and charcoal-hued with age. They thrive in moist soils and are found around swamps, lakeshores, wet meadows, and woodland edges.

FLOWER AND FRUIT: Creamy-white blossoms come to life in May-June. Each round-headed cluster is about 4 inches (10cm) wide. Flowers are 5-lobed and odorless, with showy stamens. Elliptical yellow fruits ripen to blue-black by the fall. These "berries", which droop from wiry reddish stalks, are 0.3-0.5 inches (0.8-1.3cm) across and contain a single flattened stone.

LEAF: The lustrous green foliage is simple and ovate, with winged leafstalks. Leaf blades are 2.5 inches (6cm) long and opposite, and have finely toothed edges. In autumn, foliage turns claret-red.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant has diuretic and antispasmodic properties.

HOW TO HARVEST AND EAT: Nannyberries are great for winter. For an earlier harvest, wait until the fruits are fully ripe and the autumn leaves are falling. Berries can be eaten raw or cooked; they are sweet and juicy with a slightly earthy flavor.

NANNYBERRY MAPLE BUTTER: In a pot, let 5 cups nannyberries simmer for 40-45 min. on low heat, while mashing them thoroughly. Pass the puree through a strainer. Add ½ cup maple syrup to the mixture and blend until smooth. Cook over the fire, stirring occasionally until the butter thickens. Add cinnamon.

POISONOUS LOOK-ALIKE: Buckthorn, *Rhamnus cathartica*

Northern Redcurrant, *Ribes triste* (GROSSULARIACEAE)




Albert Herring, CC-BY-2.0


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NORTHERN REDCURRANT is a deciduous shrub that grows around swamps, woodland edges, and rocky slopes. In areas of ample sunlight, it grows upright to 5 ft. (1.5m). In shady regions, it trails across the ground. The plant's stems lack prickles.

FLOWER AND FRUIT: The pale pink or greenish flowers are 5-lobed, saucer-shaped and 0.25 inches (0.6cm) across. They are borne in clusters of 6-15, arising in the leaf axils. The flower's center, which contains the stubby petals, is dark pink. Fleshy scarlet berries ripen in the summer. They are 0.25-0.5 inches (0.6-1.3 cm) wide and hold many tiny seeds.

LEAF: Leaves are simple, alternate, and coarsely toothed. With their 3-5 primary lobes, they resemble maple foliage. Leaf blades are 1.5-2.5 inches (4-6.3cm) long and 2-4 inches (5-10cm) wide, often with heart-shaped bases. Soft white hairs line the undersides.

EDIBLE PARTS: fruit

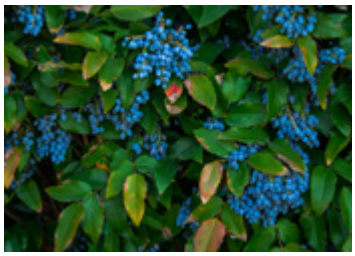
KEY MEDICINAL USES: A wash for sore eyes can be made from the plant's decocted stems. The root and stem decocted together have been used to dissolve kidney stones.

HOW TO HARVEST AND EAT: Redcurrants are edible fresh, though more popularly used in jams, jellies, sauces, and pies. When sweetened and cooked, redcurrants go particularly well with savory meat dishes. These fruits are generally ready for harvest in July-August, once they turn bright red. To make redcurrant jellies and sauces, gather the currants while they are slightly under-ripe and highest in natural pectin. For sweet desserts, wait until they are mature before you pick them. Simply snip the clusters from the branches, store them in the fridge, and be sure to eat or preserve your harvest within a few days. Dry or freeze any surplus.

VENISON REDCURRANT STEW: Ingredients: butter, 2 lbs. (900g) cubed venison, 3 strips of chopped bacon, 2 chopped onions, 4 oz. (113g) mushrooms, 2 chopped red peppers, 6 oz. (170g) currants. 2 ½ tbsp. flour, 2 tbsp. brown sugar, 2 bay leaves, 1 pinch each of mace, allspice, salt, pepper, ½ pint ale, water. Melt butter in a skillet. Sear venison over high heat. Remove venison and cook bacon until crisp. Next, cook onions and mushrooms until soft. In a pot combine all vegetables with meat and currants. Sprinkle with flour, sugar, and seasoning. Mix well. Add ale and enough water to cover ingredients. Cook until tender.

Oregon Grape, *Mahonia aquifolium* (BERBERIDACEAE)







OREGON GRAPE is not an actual grape, but a broadleaf evergreen shrub. Many species form low sprawling mats. However, *Mahonia aquifolium* is erect, growing up to 6 ft. (1.8m). They prefer moist, well-drained soils and commonly occur in coniferous forests.

FLOWER AND FRUIT: Bright yellow blossoms are borne in clusters in March-May. Bell-shaped flowers are honey-scented and have 6 petals. From July, purple-blue berries emerge in grape-like bunches.

LEAF: The foliage is pinnately compound, with 5-9 leaflets forming each leaf. Leaves are leathery, glossy, and prickly at the edges, turning crimson in the fall.

EDIBLE PARTS: fruit and flowers

KEY MEDICINAL USES: Roots, stems, and leaves have antibacterial and anti-inflammatory properties.

HOW TO HARVEST AND EAT: Grapes and flowers can be eaten raw or cooked. Pick fruits when they are dark and plump. Berries are dried, fermented into wine, and made into pies and preserves.

OREGON LEMON CURD: Lightly puree 2 cups berries. Combine with ½ cup lemon juice, 2 tbsp. lemon zest, 1½ cup sugar, and 6 eggs in a saucepan. Whisk over medium heat until contents thicken. Remove from heat. Pour through a fine-mesh sieve. Discard seeds. Whisk 8 tbsp. butter into the hot curd.

WARNING: *Mahonia* species contain berberine, which can cause lowered blood pressure, vomiting and other complications if consumed in high doses. Avoid if you are pregnant or with thyroid problems.

POISONOUS LOOK-ALIKE: Holly, *Ilex* spp; Canadian Moonseed, *Menispermum canadense*; Virginia Creeper, *Parthenocissus quinquefolia*

Osoberry, *Oemleria cerasiformis* (ROSACEAE)







OSOBERRY, Oregon Plum or Indian Plum blossoms in spring. A slender-stemmed suckering shrub, it can grow 8-20 ft. (2.5-6m) tall, preferring moist, well-drained soils and areas of full sun or partial shade.

FLOWER AND FRUIT: In late February 0.5 inches (1.2 cm) wide, white almond-scented flowers appear, often before leaves begin to emerge. The large-pitted "oso-berries" are 0.5 inches long and olive-shaped. They start the color of blushing peaches, turning purple-black when fruits ripen between May and July.

LEAF: Lance-shaped leaves are simple, alternate, and bright green with pale undersides. They have smooth edges and a length of 3-5 inches (7.5-12.5cm).

EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant has analgesic properties. Tea made from the bark is a laxative.

HOW TO HARVEST AND EAT: Osoberries are ready for picking only once they have fully matured to blue-black. The harvest season begins in late spring and ends at the end of summer. Berries have a harsh bitter-almond flavor before ripe, which usually mellows when they reach maturity. Your ideal crop should have bright cherry and crisp cucumber flavors. Do not eat the pits due to the presence of hydrogen cyanide.

OSO-RAISINS: Rinse berries and pour into a pot of boiling water. Boil for 5 min. or until you start seeing cracks on the surface of the fruit. Drain water. Next, place a cloth over a large plate. Arrange berries on the cloth so that they are not touching. If there is any moisture on your fruit, dab it off. Dry in the sun for 2-3 days.

WARNING: Fruit contains small amounts of hydrogen cyanide. Eat only in small quantities.

Pale Desert-thorn, *Lycium pallidum* (SOLANACEAE)









PALE DESERT-THORN or Pale Wolfberry is a spiny, intricately-branched shrub that grows 3-9 ft. (0.9-2.8m), occurring on flats, rocky slopes, and washes. Young plants have pale yellow bark, which turns a smooth dark-reddish brown in older plants.

FLOWER AND FRUIT: Funnel-shaped flowers are yellowish, white, or pale-green with purple veins. Each flower is formed by a slender tube, 0.5-1 inches (1.3-2.5cm) long, that flares out into 5 lobes. The plant blooms from February to June. Its juicy red berries are ovoid-shaped and 0.4 inches (1cm) long.

LEAF: Leathery grey-green foliage is simple and alternate with smooth edges. Measuring 0.4-3 inches (1-7.6cm) long, leaf blades are oval to elliptical with pointed or rounded tips.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: The ground root has been used to relieve toothaches.

HOW TO HARVEST AND EAT: The plant produces fruit twice a year: between March and April, and later in August and September. Berries can be eaten raw, dried, made into jams, or cooked into stews. They are similar to goji berries, with a slightly bitter taste.

SUPER-WOLF ENERGY BALLS: Finely crush ¾ cup almonds and ½ cup walnuts. Grind in ½ cup dried desert-thorn berries and ¼ cup chopped dates, 1 tsp. vanilla extract, 1 tsp. cinnamon. Add 1 cup dried cherries and 2 tbsp. cacao nibs. Grind until ingredients are fully mixed. Roll dough into balls.

WARNING: While safe to eat, the pale desert-thorn belongs to the often-poisonous nightshade family. Harvest only ripe berries.

Pokeweed (American), *Phytolacca americana* (PHYTOLACCACEAE)







AMERICAN POKEWEED is an unpleasant-smelling herbaceous perennial that grows up to 12 ft. (3.6 m). It grows in open areas such as meadows and woodland edges.

FLOWER AND FRUIT: White, green, or pink blossoms hang in elongated cones. Each flower is composed of 5 waxy sepals surrounding a green berry. In autumn, these mature into cylindrical clusters of glossy purple fruits, 0.2-0.4 inches (0.5-1cm) wide.

LEAF: Simple, lance-shaped leaves are alternate and emerald green, with a purple tinge in the fall. Growing between 8-14 inches (20-35cm) long, they have an unpleasant acrid odor.

EDIBLE PARTS: young leaves and shoots (see **WARNING**)

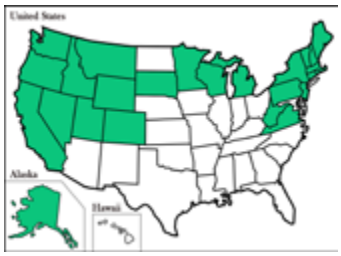
KEY MEDICINAL USES: Pokeweed is being investigated for its antiviral and antifungal qualities.

HOW TO HARVEST AND EAT: Pokeweed must never be eaten raw. Because the plant becomes more toxic with maturity, only harvest young shoots and leaves under 1.5 inches (4cm). If shoots bear a purple tint or markings, do not harvest. Leaves must be boiled at least twice, for a total of 20-30 min., changing the water in between.

APPALACHIAN POKE FRY: Boil 2 pots of water. Chop up pokeweed shoots. Add shoots to the small pot. Cook for 7 min. Drain water into sink. Empty greens back into the small pot. Pour boiling water from large pot over greens and cook for another 6-7 min. Repeat process 3 more times, boiling, and straining greens thoroughly. Once greens are cooked, fry in bacon grease. Season with salt, pepper, breadcrumbs.

WARNING: It is acutely poisonous to humans. Most toxins are in its roots, followed by stems, leaves, and berries. Ingesting these can be fatal. Contact with broken skin can cause swelling, blisters.

Prickly Currant, *Ribes lacustre* (GROSSULARIACEAE)









PRICKLY CURRANT or Black Gooseberry flourishes in damp woods, by streambanks, and along meadow margins. In sunlight, its stems can grow upright to 5 ft. (1.5m). Sharp spines appear along the nodes.

FLOWER AND FRUIT: Flowers are saucer-shaped and vary in color from yellowish-green to pink, dull red, and maroon. They appear in April-June. Glossy black fruits are ⅓ inches (0.9cm) across.

LEAF: Each blade is 1 -2 inches (2.5-5cm) wide, with a heart-shaped base and toothed edges. The upper surface of the leaf is dark green.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant is an analgesic, laxative, and stomachic.

HOW TO HARVEST AND EAT: Harvest currants as they ripen to purplish-black, from early June to mid-August. Slightly under-ripe currants contain high levels of natural pectin and are best for jams and jellies. Fully mature fruits are sweeter and suitable for desserts. They only last a few days in the fridge, so any surplus should be dried, frozen, or cooked.

PRICKLY CURRANT VINAIGRETTE: Ingredients: 1 cup prickly currants, 1 tsp. apple cider vinegar, ½ tsp. garlic powder, 1 tsp. maple syrup, ½ tsp. wholegrain mustard, ½ tsp. sea salt, 1 tsp. water. Grind together dry ingredients. Combine with remaining ingredients.

WARNING: Some people experience allergic reactions when their skin comes in contact with the plant's spines. Wearing gloves while harvesting is a good idea.

LOOK-ALIKES: Sticky Currant, *Ribes viscosissimum* - Consuming this plant has been known to cause vomiting. Leaves, stems, and fruit are covered with a sticky coating. Bristly fibers sometimes coat fruits.

Raspberry, *Rubus* spp. (ROSACEAE)









RASPBERRY is a many-stemmed deciduous shrub, with over 200 species; all are edible. The 2 predominant species in North America are the American Red Raspberry, *R. strigosus*, and the Black Raspberry, *R. occidentalis. R. strigosus* has bristly stems growing to 6 ft. (1.8m), while *R. occidentalis* is larger, reaching up to 9 ft. (2.7m). They are common in thickets, forests, along waterways.

FLOWER AND FRUIT: In June-August, 0.5 inches (1.3cm) across, white flowers bloom in loose clusters. Fruits are 0.5 inches wide. As the names suggest, red raspberry fruits ripen to red, while black raspberry fruits become dark-purple with maturity.

LEAF: Foliage is alternate, hairy below, and toothed at the edges. Pinnately compound leaves measure 1.5-3.5 inches (4-9cm) long each. Foliage is compound with 3 elliptic leaflets, each 2-4 inches (5-10cm) long.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant has astringent, anti-inflammatory, and antioxidant properties.

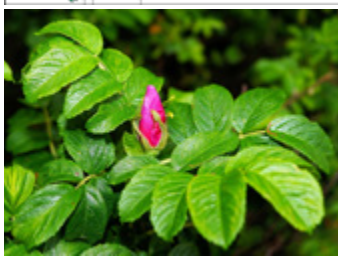
HOW TO HARVEST AND EAT: Raspberries mature in June-late August. They will not continue to ripen once picked. Long sleeves are advisable since the plant' prickled brambles often grow in dense thickets. Raspberries are delicious raw, added in jams, desserts, wines, and liqueurs.

RASPBERRY QUINOA SALAD: Ingredients: ¾ cup quinoa, ½ cup water, ¼ cup olive oil, 3 tbsp. honey, juice of 2 limes, 4 pints fresh raspberries, ½ cup chopped mint, sliced almonds. In a pot, combine quinoa with water. Bring to a boil and then simmer for 10-15 min. Leave to cool. In a bowl, whisk oil, honey, and lime juice. Add raspberries and mint to cooled quinoa. Drizzle dressing. Garnish with almonds.

Rose (Wild), *Rosa* spp. (ROSACEAE)









WILD ROSES are a group of bristly or thorny flowering shrubs. Ranging 2-6.6 ft. (0.6-1.8m) tall, there are over 35 species of wild roses in North America including **Western Wood's Rose**, *R. woodsii*, and **Eastern Sweetbriar**, *R. rubiginosa*.

FLOWER AND FRUIT: 1-2 inches (2.5-5cm) across flowers develop at the stem tips, ranging from white to pink to deep lilac-rose. Bright red-orange fruits (rosehips) are 0.5-1 inch (1.5-2.5cm) across and appear in late summer, often persisting into winter.

LEAF: Leaves are alternate and pinnately compound with 5-9 toothed leaflets. Leaflets are ovate or obovate and 0.8-2 inches (2-5cm) long. The blade margins of *R. woodsii* are toothed toward the tip, while *R. rubiginosa*'s leaflets are hairy and double-toothed.

EDIBLE PARTS: fruit, petals, leaf shoots

KEY MEDICINAL USES: Wild rose is astringent, analgesic, and diuretic.

HOW TO HARVEST AND EAT: Gather rosehips in autumn after a frost when they are sweet and tender. The thin layer of flesh surrounding the seed is high in vitamin C. It can be nibbled raw or made into jams, jellies, syrup, and tea. Young leaf shoots, harvested in spring, can be peeled and eaten raw. Use mature petals in salads after removing the bitter white base.

ROSEHIP BBQ SAUCE: Ingredients: 3 cups rosehips (lobes removed), 3 tomatoes (diced, 2 cloves garlic (minced), 1 tbsp. allspice, 2 carrots (diced), 1 cup white vinegar, 1 cup water, 1 tbsp. birch syrup, ½ cup brown sugar, ¼ tsp. cayenne pepper. Combine ingredients in a saucepan. Bring to a boil and simmer until reduced to a thick sauce. Apply to meat and grill.

Sacahuista, *Nolina microcarpa* (ASPARAGACEAE)







SACAHUISTA, Beargrass or Palmilla is distinguished by its rosette of narrow fibrous leaves, which grow from a woody underground caudex. Leaves form a dense mound measuring 6.5 ft. (2m) wide.

FLOWER AND FRUIT: The 3-ft. (1m) panicle of tiny cream-colored tepals bloom on a 3-6 ft. (0.9-1.8m) stalk. Flowers are 0.06-0.13 inches (0.15-0.3cm) across, persisting until the end of September. They give way to papery 3-lobed capsules, 0.15-0.25 inches (0.4-0.6cm) wide, which contain 3 seeds.

LEAF: Evergreen leaves are thick, linear, and rigid. They are 1.5-4 ft. (0.5-1.2m) long and 0.2-0.5 inches (0.5-1.3cm) wide, with minutely serrated edges and a grey-green hue. Curly fibers grow from the ends of the leaves, giving the plant a slightly disheveled appearance.

EDIBLE PARTS: young flower stalks

KEY MEDICINAL USES: A root decoction has been used for rheumatoid arthritis.

HOW TO HARVEST AND EAT: Young flower stalks can be peeled, then roasted, boiled, or eaten raw. They are most tender in May and June when they are no more than 1-2 ft. (0.3-0.6m) long. Cooking the stalk hearts will sweeten them while mellowing out their naturally bitter taste. Seeds appear in mid to late summer; can be ground into flour and used to make bread.

ROASTED SACAHUISTA STALK: Ingredients: Young flower stalks, butter, smoked paprika, salt, pepper. Peel outer skin from stalks. Roll the center of the stalk in butter and season with salt, white pepper, and smoked paprika. Wrap in foil. Roast over coals for 15-20 min., turning stalks over every 5 min.

WARNING: Sacahuista is a protected species in Arizona and should not be harvested there.

Salal, *Gaultheria shallon* (ERICACEAE)









SALAL is a trailing to upright evergreen shrub that grows 1-8 ft. (0.3-2.5m) high and spreads via underground rhizome networks. Native to North America's Pacific Coast, salal is found in woodlands, forest understory, brushy areas, and edge habitats.

FLOWER AND FRUIT: Elongated clusters of 5-15 flowers hang from reddish racemes. Urn-shaped flowers are white or pale pink and 0.3-0.4 inches (0.8-1cm) long. Their 5 lobes are waxy and covered in minute sticky hairs. 0.2-0.4 inches (0.5-1cm) wide inky-blue fruits develop in August-September.

LEAF: Leathery foliage is simple, alternate, and finely toothed at the edges. 2-4 inches (5-10cm) long and 1-3 inches (2.5-7.5cm) wide leaf blades are ovate, with glossy dark green upper surfaces and pale undersides. Leaves become reddish-brown in winter.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant has astringent and anti-inflammatory properties.

HOW TO HARVEST AND EAT: Fruits have well-balanced sweetness and acidity. Berries cling to the plant and the best harvesting method is to roll them off. Enjoy them raw, dried, or cooked into jellies, jams, and desserts. Leaves can be used for tea and seasoning.

SALAL-BERRY SALSA: Ingredients: 1 onion, 1 jalapeño, ½ cup cilantro, ½ salal berries, ½ red huckleberries, ½ blackberries, ½ quartered strawberries, lime juice. Finely chop onion, jalapeño, and cup cilantro. Toss together in a bowl with berries. Drizzle with lime juice. Season with salt and pepper.

Salmonberry, *Rubus spectabilis* (ROSACEAE)









SALMONBERRY is a west coast deciduous shrub that occurs from Alaska to southern California and grows 4-14 ft. (1.2-4.3m) high, being frequently covered with fine bristles. It thrives in moist coastal forests and swamps, on mountain slopes, along woodland edges.

FLOWER AND FRUIT: 1 inch (2.5cm) across bright-pink flowers have 5 broad petals and a ring of nearly 100 stamens at the center. ¾ inch (2cm) wide fruits resemble raspberries. They may be amber, salmon-colored, or purplish. The same plant may produce all three colors at once. They ripen in May-June.

LEAF: Leaves are trifoliate, with one larger leaflet growing between two smaller ones. Leaflets range from 1-8 inches (2.5-20cm) long. All have shallow lobes and double-toothed edges.

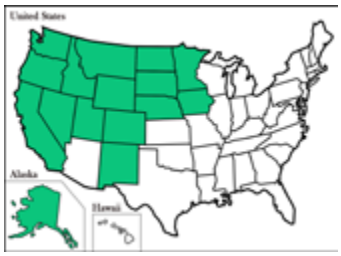
EDIBLE PARTS: fruit, young shoots

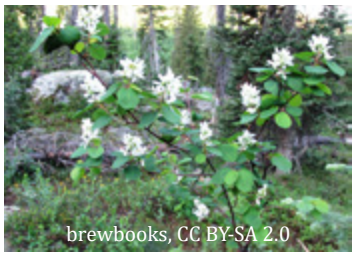
KEY MEDICINAL USES: This plant is an astringent, analgesic, and disinfectant. Leaves can be chewed and applied to burns.

HOW TO HARVEST AND EAT: Fruits of the same bush may be golden, reddish, or salmon-colored, so rather than relying on color, use tenderness and juiciness as an indicator for ripeness. Salmonberries are delicate and should be collected in a wide, shallow container so that they do not crush each other. They will keep in the fridge for only two or so days. Enjoy them fresh or cooked into jams, jellies, and desserts. Because of their many seeds and high-water content, they are not suitable for drying. leaves can be brewed into tea. young springtime shoots can be peeled and eaten raw or steamed like asparagus.

CIITAQ (SALMONBERRY MASH): Ingredients: 1-gallon (3.8kg) salmonberries, ¾ sugar, evaporated milk. Mash berries until crushed into a liquid. Add sugar and stir until dissolved. Ladle the juice into individual bowls. Add evaporated milk to thicken.

Saskatoon Berry, *Amelanchier alnifolia* (ROSACEAE)




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SASKATOON BERRY, Serviceberry or Juneberry is a suckering deciduous shrub that usually grows to 10-25 ft. (3-7.6m) with a rounded crown. Saskatoons occur in woods, swampy areas, open prairies, and along slopes.

FLOWER AND FRUIT: Before leaves appear, bowing clusters of 5-15 white flowers emerge at the tips of the branches. They are 0.75 inches (2cm) across with 5 narrow petals. Fruits are 0.25-0.4 inches (0.6-1cm) wide with prominent calyces and 5 seeds within. They begin red, ripening to deep purplish-blue with a waxy bloom in June-September.

LEAF: Lght-green leaves are alternate and oval-shaped with rounded tips. Their upper edges are finely toothed, and a fine grey fuzz often covers their undersides. Leaf blades can range from 0.8-1.5 inches (2-4cm) long. In autumn, foliage turns red, burgundy and gold.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It's a diaphoretic, febrifuge, and stomachic. Root bark has been used to aid digestion and to medicate upset stomachs, worms, and diarrhea.

HOW TO HARVEST AND EAT: Pick berries as they ripen to dark purplish-blue, from June to September. Refrigerate as quickly as possible to prevent spoiling. Eat or process them soon as they will continue to ripen, eventually turning mushy, after being picked. They dry and freeze well.

SASKATOON BERRY CRISP: Ingredients: 4 cups Saskatoon berries, 2 cups hazelnut granola, 2 tbsp. tapioca starch, 3 tbsp. lemon juice, ¼ cup honey, 1 tsp. almond extract, 1 tsp. cinnamon. Toss berries together with other ingredients. Pour mixture onto a skillet and cook over medium heat until crispy.

POISONOUS LOOK-ALIKES: Buckthorn, *Rhamnus cathartica*

Smooth Witherod, *Viburnum nudum* (ADOXACEAE)




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SMOOTH WITHEROD or Wild Raisin is a shrub that can grow to 12 ft. (3.6m). Adult plants have smooth grey-brown bark often marked by globular lenticels.

FLOWER AND FRUIT: Saucer-shaped white fragrant flowers are borne in flat clusters between April and June. Each flower has 4-5 petals and a diameter of 0.25 inches (0.6cm). Fruits appear in August-October, begin pink and mature to dark blue. 0.3 inches (0.8cm) wide different-colored berries will occur on the plant at the same time.

LEAF: Dark green leaves are simple, opposite, and leathery. They can range from 3-6 inches (8-15cm) long, with an oval or elliptical shape. Leaf edges, which are often wavy, may be smooth or slightly toothed.

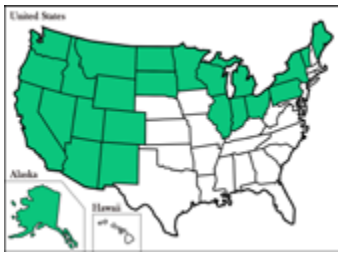
EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant has antispasmodic, diuretic, and diaphoretic properties.

HOW TO HARVEST AND EAT: Berries are ready for picking once they turn dark blue. Fruits will last longer than blueberries in the fridge. Sweetest when picked after a few freezes and thaws, these berries make good jams and pie fillings; can also be dried if you don't mind gnawing around the large seed.

WITHEROD-TURMERIC LEMONADE: Ingredients: 2 quarts fully ripened witherod berries, 1 cup water, 3 tbsp. each of grated ginger and turmeric, 1 cup lemon juice, cayenne pepper, maple syrup. Cook berries for 5-6 min., mashing them thoroughly. Add water, ginger, turmeric, and let simmer for 5 min. Remove seeds and pulp by straining juice through 2 layers of cheesecloth. Add lemon juice, 3 pinches cayenne pepper, and sweeten with maple syrup.

Soapberry, *Shepherdia canadensis* (ELAEAGNACEAE)






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SOAPBERRY, Russett Buffaloberry or Foamberry is an upright to spreading shrub commonly found along sandy shorelines, rocky slopes, and coniferous forest edges. Growing 3-8 ft. (1-2.5m) tall and nearly as wide, soapberry's pale stems are flecked with rust-colored scales.

FLOWER AND FRUIT: 0.16 inches (0.4cm) wide, subtle yellowish flowers emerge in late spring; they may be solitary or grouped in dense clusters. 0.3 inches (8cm) across berry-like fruits are fleshy, with orange and red hues.

LEAF: Leaves are opposite and entire, with an oval to elliptical shape. Their upper surfaces are dark green, while the undersides are speckled with silver and rust-colored spots. Leaf blades measure 0.5-2.5 inches (1.3-6cm) long.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant has haemostatic, hypotensive, and stomachic properties.

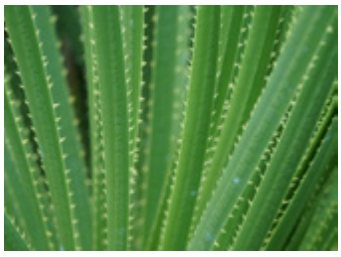
HOW TO HARVEST AND EAT: Soapberries are typically harvested in late summer and into fall, though they often remain on the bush into mid-winter. Fresh fruits have a bitter ashy taste, becoming slightly sweeter after a few frosts. They can be coaxed into an aromatic, herbal-tasting jelly. Fresh berries will last for a week or two in the refrigerator. For long-term storage, freeze or dry them.

SOAPBERRY ICE CREAM: Ingredients: 1 cup soapberries, ½ cup water, 4 tbsp. sugar. In a bowl, combine soapberries, water, and sugar. Crush the berries. Whisk the mixture until the foaming berries develop the texture of whipped cream. Top with raspberries and blueberries.

WARNING: Fruits contain high levels of saponins, which can cause nausea, vomiting, and diarrhea if consumed in large quantities or frequently over time. However, they make a good soap.

Sotol, *Dasylirion wheeleri* (ASPARAGACEAE)







COMMON SOTOL is an evergreen shrub that has the curious look of an upside-down tree. It thrives on rocky desert slopes and attracts hummingbirds.

FLOWER AND FRUIT: In May-July, thousands of greenish-white flowers bloom in a cylindrical formation along the tip of a single, unbranched spike. The stem can reach a height of 16 ft. (5m). Each flower is 1 inch (2.5cm) across with 6 tepals. Flowers of female plants can take on a rosy hue. Fruits are 0.2-0.3 inches (0.5-0.7cm) long, dry oval-shaped capsules with a single seed each.

LEAF: Leaves radiate from the stem's base in a rosette formation. Each blade can reach up to 5 ft. (1.5m) long and is tipped with a curly white filament. Leaves have a dusky blue-green hue, with sharp spiny teeth.

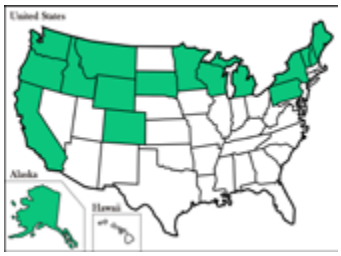
EDIBLE PARTS: stem

HOW TO HARVEST AND EAT: The heart of the bulb-like stem at the base of the plant is edible when cooked. These pulpy stems begin their growth underground like roots, so you'll have to dig them out, clean them, and strip off the tough outer layer. Sotol hearts are processed today to make the tequila-like spirit, "sotol".

DASYLIRION AREPAS: Boil, roast, or steam stripped sotol hearts until cooked thoroughly. Mash 1 lb. (500g) of sotol hearts and add ½ cup masarepa, 2 tbsp. milk, 2 tbsp. melted butter, and salt to your taste. Make small balls with the sotol mixture. Pat the dough into thick patties. Set patties on a greased skillet and let cook for 3 min. on each side, until golden.

WARNING: Raw sotol contains poisonous compounds.

Squashberry, *Viburnum edule* (ADOXACEAE)




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SQUASHBERRY or Moosewood Viburnum is a straggling to upright shrub that grows best in moist woods and forests, occurring along streams, marshes, and edge habitats. Squashberry can grow from 2-12 ft. (0.6-3.5m) high. Its many spreading branches are smooth and reddish-brown, becoming grey with age.

FLOWER AND FRUIT: Starting in June, milky-white flowers appear in 1 inch (2.5cm) across clusters. Each flower is bell to saucer-shaped and has a diameter of 0.25 inch (0.6cm). Red or orange fleshy drupes measuring 0.2-0.4 inches (0.5-1cm) wide ripen in early fall and persist into winter.

LEAF: Foliage is simple and hairy below, with sharply serrated edges. Measuring 2-3 inches (5-7.5cm) long and almost as wide, leaf blades are often shallowly 3-lobed and palmately veined.

EDIBLE PARTS: fruit and flowers

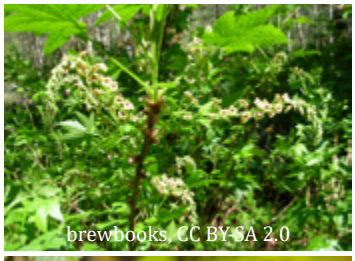
KEY MEDICINAL USES: This plant is astringent and antispasmodic.

HOW TO HARVEST AND EAT: Pick fruits once they have ripened to bright red. This process begins in July and August, but squashberries will persist on the plant into winter. Will keep in the fridge for 1-2 weeks. Once you remove the large seed, they are great for making juices, sauces, and jellies. Flowers, which appear in June and early July, can be used in fritters.

SQUASHBERRY NASAMP: Ingredients: 1 cup squashberries, 2 cups cornmeal, water, maple syrup to taste, chopped walnuts, or hazelnuts. Cover berries with water in a saucepan. Bring to a boil and let simmer for 20-30 min. Use a masher to crush the berries. Strain out seeds. In a pot, cook cornmeal and equal parts water until thick and creamy. Mix in berries, nuts, and maple syrup.

Stink Currant, *Ribes bracteosum* (GROSSULARIACEAE)




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STINK CURRANT reaches 10 ft. (3m) in height; its upright stems are thornless and spotted with translucent glands. Its leaves give off a sweet-skunky smell when bruised. It thrives in moist to wet soils.

FLOWER AND FRUIT: 4-12 inches (10-30cm) long racemes of 20-40 flowers are produced in March-June. Each flower is 0.2 inches (0.5cm) across and saucer-shaped. 0.2-0.5 inches (0.8-1.2cm) wide inky-blue berries ripen in August-September.

LEAF: Foliage is simple and alternate with 5-7 deeply cleft lobes. 2-9 inches (3-22cm) long and 2-10 inches (3-25cm) wide blades are dotted with yellow glands.

EDIBLE PARTS: stem

KEY MEDICINAL USES: Fruits act as a laxative, when eaten in large quantities.

HOW TO HARVEST AND EAT: While edible raw, stink currants tend to be bitter and mealy when fresh. Their flavor improves with cooking. They are excellent for making jams and pie fillings, or dried and eaten like raisins. Harvest as they ripen to dusky blue in August-September. Will last for a few days in the fridge.

PTARMIGAN BERRY JELLY: Ingredients: 6 ptarmigan breasts (3 birds); 3 tbsp. stink currant jelly, 3 crushed garlic cloves, ½ tsp. thyme, 2 tbsp. oil; 1 cup flour; ½ cup sherry (or chicken stock). Fillet ptarmigan breasts, pound them flat with a mallet and roll them in flour. Heat oil in a skillet. Add garlic, thyme, and ptarmigan fillets. Fry for 1 min. per side, then remove fillets and place in a dish. Add sherry and jelly to the skillet and let thicken. Pour sauce over fillets.

WARNING: Do not confuse with Devil's Club, *Oplopanax horridus*, which is similar in size and leaf shape.

Sumac, *Rhus* spp. (ANACARDIACEAE)




R. copallina


R. glabra
Jay Sturner, CC-BY-2.0

R. typhina

SUMAC is in the *Rhus* genus, which includes cashews, mangos and pistachios, containing 35 woody North American species. Plants have feather compound leaves and grow as shrubs or small trees with stout, pithy twigs that have a milky sap. *Rhus'* with red berries all have fruits that are considered edible. Edible species are: Staghorn Sumac, *R. typhina* (up to 30 ft./9m tall); Dwarf or Winged Sumac, R. copallina (4-10 ft./1-3m); Smooth Sumac, *R. glabra* (4-15 ft./1-4.5m).

FLOWER AND FRUIT: Small, hairy, dry red fruits are found in dense, terminal clusters. Fruits persist after ripening. They do not fall off. *R. copallina/copallinum* has tiny, yellow-green flowers in dense cone-shaped clusters. Dull red fruits/berries appear in August-October. *R. glabra* has tiny, red flowers in dense, cone-shaped clusters 4-10 inches (10-25cm) long. Red fruits/berries appear in June-October. *R. typhina* has tiny, red flowers in dense, cone-shaped clusters 4-8 inches (10-20cm) long. Red fruits/berries appear in June-September.

LEAF: Leaves are large, odd-pinnate. *R. copallina* has 11 to 23 glossy leaflets with toothless margins, measuring 6-14 inches (15-35cm) long. Central rachis is winged between leaflets. *R. glabra* is similar to R. typhina, but twigs and leaf stalks are hairless. Leaflets are dark, shiny green on top and whitish beneath, 2-4 inches (5-10cm) long and 0.5-1.2 inches (1.2-3cm) wide. *R. typhina* has 11 to 21 toothed leaflets, measuring 1-2 ft. (30-60cm). Twigs and leaf stalks are very hairy.

EDIBLE PARTS: fruit and very young peeled shoots

KEY MEDICINAL USES: Leaves are known to help with skin rashes, sore gums and lips. Berries are used for diabetes, constipation, female disorders, bladder issues, coughs, and asthma.

HOW TO HARVEST AND EAT: Harvest ripe fruit clusters starting in late summer through the autumn. Lick like a lollipop for a lemony thirst quencher. Very young spring shoots are edible peeled before a pith forms.

SUMAC BERRY LEMONADE: Bruise dried berries. Soak for 15 min. in cold water. Strain, sweeten to taste, and refrigerate.

POISONOUS LOOK-ALIKES: Poisonous species include *Rhus radicans, Rhus vernix*. Both cause contact skin dermatitis, with *R. vernix* causing much more serious reactions.

Sweet Fern, *Comptonia peregrina* (MYRICACEAE)




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Sten Porse, CC-BY-SA-3.0

SWEET FERN is a low-growing deciduous shrub that thrives in dry infertile soils and is commonly found along waterways, roadsides, and clearings. It grows 2-5 ft. (0.6-1.5m) high and twice as wide.

FLOWER AND FRUIT: In March-April, brown and yellow-green catkins huddle at the ends of the branches. These inconspicuous flower spikes are 1.2-1.6 inches (3-4cm) long and emerge before the leaves unfurl. The seeds are small nutlets contained within a greenish burr-like capsule.

LEAF: Narrowly lance-shaped, leaf blades measure 3-6 inches (7.5-15cm) long and 1-3 inches (2.5-7.5cm) wide. They are lustrous with a leathery, velvety texture and deeply notched edges.

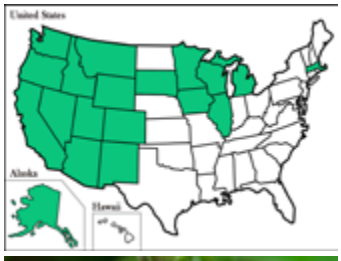
EDIBLE PARTS: leaves (tea)/fruit (catkins/nutlets)

KEY MEDICINAL USES: This plant is an astringent, expectorant, and parasiticide.

HOW TO HARVEST AND EAT: Fresh or dried leaves are brewed into an aromatic tea. They also make a gorgeous seasoning for meat, fish, and mushroom dishes. The inner leaves are the tenderest. The sweet fern's aromatic catkins, which appear in the spring, are used to flavor alcohol. For a delicious snack, try the sweet fern's nutty seeds. They ripen from September to October and can be dried or frozen for later use.

SWEET FERN TEA: Add 2 tbsp. fresh leaves (or 1 tbsp. dried leaves) to 1 cup water. Steep leaves in a cup of boiled water for about 5-8 min. Add honey.

Thimbleberry, *Rubus parviflorus* (ROSACEAE)




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THIMBLEBERRY is a deciduous upright to spreading shrub that thrives in moist, nutrient-rich soils. Found in shrublands, forests, and open areas, it often forms dense thickets through complex rhizome networks. This plant's typically biennial stems, which can grow to 8 ft. (2.5m), are spineless, thornless, and sparsely covered in glandular hairs.

FLOWER AND FRUIT: Large terminal flowers, 1-2 inches (2.5-5cm) wide, bloom in May-July. White flowers, occasionally tinged with pink, develop in loose spreading clusters of 2-9. The 0.5-0.75 inches (1.3-2cm) across aggregate berries are pink to bright red, dome-shaped, and softly hairy. They ripen from late summer to early fall.

LEAF: The large soft foliage is simple, alternate, and maple-shaped with 5-7 triangular lobes. Soft hairs cover the upper and lower surfaces, while the edges are irregularly toothed. Leaf blades are 2-6 inches (5-15cm) long and just about as wide.

EDIBLE PARTS: fruit and young shoots

KEY MEDICINAL USES: This plant has stomachic, astringent and anti-inflammatory properties. Leaves make a great "bush toilet paper".

HOW TO HARVEST AND EAT: Similar in flavor to raspberries, fresh fruits are juicy and delicious. They are also excellent dried or cooked into jams and desserts. Thimbleberries will not ripen off the plant, so make sure to pick them as they mature. Young shoots that are just starting to show leaves can be peeled and eaten raw or cooked.

THIMBLEBERRY SHOOT SALAD: Ingredients: 1 handful thimbleberry shoots, 1 tbsp. dried cherries, 2 cups salad greens, 1 tsp. chopped mint, 2 tsp. balsamic vinegar. Peel off and discard outer skins of thimbleberry shoots. Chop up shoots and combine in a bowl with cherries, greens, and mint. Toss with balsamic vinegar.

Trailing Arbutus, *Epigaea repens* (ERICACEAE)









TRAILING ARBUTUS or Mayflower is an evergreen shrub that grows in open woodlands and clearings, particularly under pine trees and rocky slopes. It only grows up to 4 inches (10cm) high, but can form a thick carpet with a 2-ft. (60cm) spread in ideal conditions.

FLOWER: Up to 8 tubular-shaped flowers are clustered above the leaves, each ½ inch (1cm) long. The color ranges from white to pink. The flowers are held by hairy sepals that are as long as the petals. Fruit are ¼ inch (6mm) in diameter, covered in glandular hairs and are white and fleshy inside. Trailing Arbutus flowers from late April to May, hence the name Mayflower.

LEAF: Thick, egg-shaped, leathery leaves are about 1-4 inches (2.5-10cm) long and half as wide. Trailing Arbutus is easily recognizable by the stiff, long, rusty colored hairs growing on the leaves, stems and sepals; the abundance of these hairs decreases with the age of the plant.

EDIBLE PARTS: leaves and flowers

KEY MEDICINAL USES: In small doses, the leaves are commonly used to treat kidney stones, bladder infections and urinary problems.

HOW TO HARVEST AND EAT: Leaves can be picked at any time of the year; however, young fresh leaves harvested in spring are best. Flowers can be picked in April and May.

TRAILING ARBUTUS VINAIGRETTE RECIPE: Ingredients: ¼ cup leaves and flowers, ¼ cup of vinegar, ¾ cup of olive oil, salt and pepper. Place all the ingredients in a jar and shake. Leave in the fridge overnight. Either strain the vinaigrette the next day for a light taste, or leave for a week for a stronger flavor.

Wax Myrtle, *Morella cerifera* (MYRICACEAE)









WAX MYRTLE is an evergreen shrub famous for its waxy fruits, which are harvested for candle-making. Growing 10-30 ft. (3-9m) high, its numerous pale-grey stems are often hairy and dotted with glands. Wax myrtles are common along coastal plains and swamps.

FLOWER AND FRUIT: Male shrubs produce greenish-pink catkins, about 0.5-0.7 inches (1.3-1.7cm) long. Catkins on female shrubs measure 0.5-1.2 inches (1.3-3cm), give way to pale blue, 0.12 inches (0.3 cm) wide, round berry-like nutlets in fall and winter.

LEAF: Narrow leaf blades are oblanceolate, ranging from 1.5-4 inches (4-10cm) long. Edges may be toothed towards the tip, or entire.

EDIBLE PARTS: leaves and fruits

KEY MEDICINAL USES: This plant has astringent, anti-inflammatory, and anti-bacterial properties.

HOW TO HARVEST AND EAT: Dried leaves can be brewed into tea or used like bay leaves to season soups and stews. They can be harvested year-round but are most flavorful in summer. Berries ripen evenly from August to October and persist into winter. They are ready to be picked once they have turned from light green to bluish-white. Berries are dried and ground in a pepper mill as a seasoning for meat. They are also fermented into wine.

WAX MYRTLE BERRY DRY RUB: Ingredients: 4 tbsp. berries; 2 tbsp. each of mustard seeds, coriander seeds, salt, brown sugar, and ground black pepper; 2 sprigs minced rosemary. Pulverize berries and seeds with mortar and pestle. Add remaining ingredients and mix well.

WARNING: Consumed in large quantities, may cause nausea, vomiting, and liver damage. Some reports indicate carcinogenic activity in root bark and wax.

Wintergreen, *Gaultheria procumbens* (ERICACEAE)




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jacinta lluch valero, CC BY-SA

WINTERGREEN, Eastern Teaberry, Checkerberry, or Boxberry is an evergreen shrub that prefers sandy or poor soils within evergreen or hardwood forests.

FLOWER: Bell-shaped waxy flowers are white but can have a pinkish tinge. Flowers are pendulous with 5 petals and the flower stalk is light green to red. Berries are red, about ¼- ⅓ inch (0.6–0.9cm) in diameter, but are dry capsules and not true berries. Red berries last throughout winter.

LEAF: Leathery simple alternate oval leaves are 0.8-2 inches (2–5cm) in length and about half as wide. Leaves have a distinct wintergreen scent, especially when crushed. Each leaf has one primary vein running down the middle; smaller veins branch off the main vein.

EDIBLE PARTS: fruits, leaves

KEY MEDICINAL USES: The plant contains methyl salicylate-rich essential oils, which are distilled from the plant and used for relieving aches and pains. These plants are especially good at relieving sore and inflamed joints.

HOW TO HARVEST AND EAT: Berries can be eaten raw. They have a wintergreen flavor but a mealy texture. Leaves and stems are best suited to be dried or infused to make, tea but can be chewed for their wintergreen flavor.

WINTERGREEN RUM INFUSION: Crush leaves in a jar and add as much rum as you would like. Let sit for 3-5 days after which strain off the liquid and enjoy a refreshing and warming beverage.

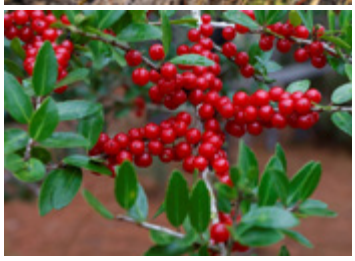
WARNING: People who are allergic to Aspirin should not consume Wintergreen.

Yaupon Holly, *Ilex vomitoria* (AQUIFOLIACEAE)




Luteus, CC-BY-3.0





YAUPON HOLLY is an erect shrub that can reach 30 ft. (9m) tall and can spread via root suckers as well as by seed. It prefers sandy, coastal areas.

FLOWER: Both male and female plants produce an abundance of white flowers which are 0.2 inch (5mm) in diameter. Female plants produce masses of small, bright red or yellow berries in autumn, which are also packed along the branches and stems. They are only ¼ inch (6cm) in diameter, but are very conspicuous in deciduous forests in winter. Each berry contains 4 seeds.

LEAF: Leaves are only 1 ½ inch (4cm) long and less than an inch (2cm) wide. They tend to be dark green and glossy on the surface, but paler green underneath. The bark is pale grey, sometimes with white patches where the bark has shed.

EDIBLE PARTS: leaves and stems

HOW TO HARVEST AND EAT: Leaves and stems contain caffeine, which, when dried roasted and then brewed with hot water, makes a warm, stimulating drink that tastes like Yerba Mate.

YAUPON HOLLY TEA RECIPE: Ingredients: 1 handful of dried leaves, water, sugar to taste. Roast the dried leaves in the oven for less than 5 min. at 300°F (150°C), then into a cup and pour boiling water over them. Brew for 5 min., strain, and add sugar to taste.

WARNING: Berries are toxic to humans. Do not eat.

POISONOUS LOOK-ALIKES: Chinese Privet, *Ligustrum sinense* - has both toxic berries and leaves. The leaves are larger than yaupon holly, and yaupon holly is much more branched and variable in habit.

Yucca (Banana/Blue), *Yucca baccata* (ASPARAGACEAE)







BANANA or **BLUE YUCCA** is a perennial shrub, native to the dry plains and slopes of the southwestern United States and northern Mexico. It forms colonies of rosettes up to 30 inches (76cm) high and twice as wide. There are up to 50 species of yucca and most have edible flowers and fruits. These include **Aloe Yucca** (*Y. aloifolia*), **Joshua Tree** (*Y. brevifolia*), and **Beargrass** (*Y. filamentosa*).

FLOWER AND FRUIT: Between April and July, drooping, fleshy white flowers develop in a large terminal panicle, which emerges from the center of the rosette. The panicle is 12-36 inches (30-91cm) long. Each flower is 6-petaled, bell-shaped, 2-5 inches (5-13cm) across, and often tinged with purple. The fleshy yellow-green fruits, which hang in profuse clumps, look like squat bananas. Individual fruits are about 7 inches (18cm) long and 2.5 inches (6cm) wide. They contain black seeds.

LEAF: The rigid blue-green leaves are narrow and dagger-like, measuring 20-40 inches (50-100cm) long and 1.25-1.5 inches (3-4cm) wide. Each blade tip ends in a stiff spine. Together, the foliage forms a rosette pattern.

EDIBLE PARTS: fruits, flowers, flowering stems, seeds

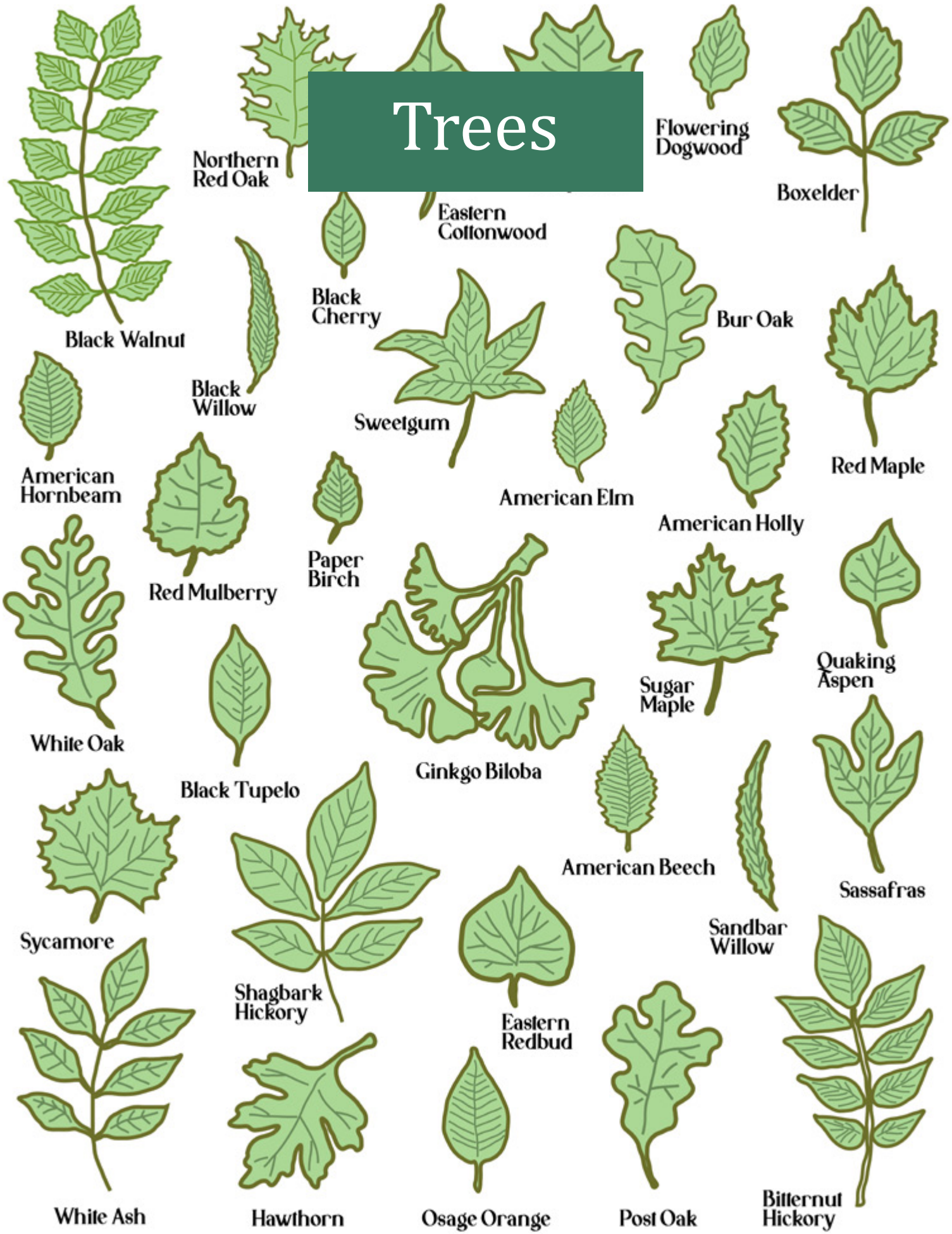
KEY MEDICINAL USES: This plant is an antiemetic and laxative. An infusion of the leaves helps prevent vomiting. The raw fruit relieves constipation.

HOW TO HARVEST AND EAT: The succulent fruits can be consumed raw, dried, or cooked. When baked, their taste is similar to sweet potato. Young stems with unopened flowers can be roasted and eaten. Mature flowers are very sweet and can be cooked as a vegetable, or made into fritters. Harvest flowers before the summer rains to avoid them turning bitter. Seeds can be roasted and ground into flour.

ROASTED BANANA YUCCA: Ingredients: Banana yucca fruits (ripe, firm), butter, seasoning. Roast whole fruits for 20-30 min. on medium heat until tender. Scrape out the seeds. Season the pulp with butter, salt, pepper, and chipotle.

WARNING: Eating large quantities of fruits may cause diarrhea. Do not confuse with the root vegetable "yuca", also known as cassava. Banana yucca roots contain toxic saponins (good for soap).

Trees


Northern Red Oak
Eastern Cottonwood
Flowering Dogwood
Boxelder
Black Walnut
Black Cherry
Black Willow
Sweetgum
Bur Oak
Red Maple
American Hornbeam
American Elm
American Holly
Red Mulberry
Paper Birch
White Oak
Ginkgo Biloba
Sugar Maple
Quaking Aspen
Black Tupelo
American Beech
Sassafras
Sycamore
Shagbark Hickory
Sandbar Willow
Eastern Redbud
White Ash
Hawthorn
Osage Orange
Post Oak
Bitternut Hickory

Basswood, *Tilia americana* (MALVACEAE)









BASSWOOD, American Linden, or Lime Tree is a deciduous tree with a rounded spreading crown, that often has two or more trunks and can grow up to of 60-80 ft. (18-24m), with a diameter of up to 3 ft. (1m). Its dark-brown bark is textured with furrows and horizontal cracks. Basswoods grow in moist deciduous forests.

FLOWER AND FRUIT: Drooping axillary cymes of creamy-yellow flowers are produced between June and August. Each flower is about 0.5 inches (1.5cm) across, with 5 petals and 5 groups of yellow anthers surrounding a single white style. The fruit is a hard nut-like drupe, 0.25 inches (0.6cm) wide.

LEAF: Dark green leaves are simple, alternate, and broadly ovoid with a length of 5-10 inches (13-25cm). They have finely toothed edges and asymmetrically heart-shaped bases.

EDIBLE PARTS: leaf buds, young leaves, flowers, sap

KEY MEDICINAL USES: This plant is a diuretic, antispasmodic, and sedative. Bark has been used to treat urinary problems, dysentery, and stomach ailments.

HOW TO HARVEST AND EAT: Leaf buds emerge in early spring, are sweet and crunchy with a slightly gelatinous texture. They are excellent as a snack or in salads. Young leaves under 2 inches (5cm) are tender and can be harvested for salad greens. You can dry flowers and use them for tea. Sap can be boiled into syrup.

CRANBERRY-WALNUT LINDEN SALAD: Ingredients: 1lb. (500g) basswood leaf-buds, 1 cup dried cranberries, ¾ cup walnuts, 2 tbsp. minced onions, ½ cup cider vinegar, ¼ cup olive oil. Combine leaf buds with dried cranberries, onions, walnuts. Whisk vinegar and oil and drizzle over salad.

WARNING: Frequently drinking basswood tea has been linked with heart damage.

Beech, *Fagus grandifolia* (FAGACEAE)









BEECH trees commonly grow 60-80 ft. (18-24m) high with a diameter of 2-3 ft. (0.6-1m). Preferring moist, fertile soils beeches are commonly found along river valleys and in upland deciduous forests.

FLOWER AND FRUIT: Minute greenish-yellow male flowers occur in globe-shaped clusters just under an inch (2.5cm) wide. Tiny female flowers are reddish-brown and grow in pairs. Nuts which ripen between September and October, are three-sided and encased in thin shells. Groups of 2-3 nuts develop within a spiny burr-like husk, 0.6-2 inches (1.5-5cm) long.

LEAF: Lustrous dark-green leaves are simple, alternate, and coarsely serrated. Ranging 1-5 inches (2.5-13cm) long, they are oval to elliptic and often leathery.

EDIBLE PARTS: nuts, inner bark, young leaves

KEY MEDICINAL USES: Beech is a vermifuge, emollient, and respiratory plant.

HOW TO HARVEST AND EAT: Beechnuts can be eaten raw (in small quantities), but are best roasted, ground into flour, or boiled to produce oil. The roasted kernels can be ground into a coffee replacement. Forage beechnuts following the first frost, after they have dropped from the tree. Extract the nuts from their husks and dry them for 2-3 weeks in a warm, open space. Remove the shell and papery brown inner-layer before eating. Young leaves are edible, as is the inner bark in limited quantities.

BEECHNUT BUTTER: Remove the brown papery skin from the dried beechnuts. With a blender or utensil, blend or grind nuts into a paste. Mix in a small dash of oil. Add honey and salt.

WARNING: In large quantities raw beechwood nuts are toxic.

Birch (Black), *Betula lenta* (BETULACEAE)







BLACK BIRCH grows 50-70 ft. (15-21m) high and 3 ft. (1m) across, preferring moist, fertile soils. The bark, which is dark mahogany or nearly black, is shiny and taut in young plants, breaking into uneven plates as the plant ages.

FLOWER AND FRUIT: In early spring, trees bear male and female flowers arranged on separate catkins, 2-4 inches (5-10cm) long. Fruits are upright oblong brownish cones, 0.75-1.25 inches (2-3cm) in length. They mature between August and September.

LEAF: Aromatic leaves are simple, alternate, and ovate, with finely double-toothed edges. The blades are 2.5 to 6 inches (6-15cm) long and broadest near the base. Fall foliage is golden-yellow.

EDIBLE PARTS: sap, inner bark, twigs

KEY MEDICINAL USES: This plant is analgesic, anti-inflammatory, and diaphoretic. Bark tea was taken as a remedy for stomach ailments.

HOW TO HARVEST AND EAT: The sap can be tapped between late March and April. It can be consumed fresh, boiled into syrup, or fermented into birch beer and vinegar. In emergencies, you can dry the inner bark and grind it into flour. Twigs can be used for tea.

GINGER BIRCH SALMON: Ingredients: 2 salmon steak fillets, 4 tsp. birch syrup, 1 tsp. fresh ground ginger, salt and pepper. In a bowl, combine syrup, salt, and pepper. Place salmon steaks in the syrup, turning them over to coat thoroughly. If you have a refrigerator, let them marinate overnight. Cook over the fire, skin-side down in tin foil.

WARNING: Essential oils are toxic, easily absorbed through the skin, and potentially lethal.

Birch (Yellow), *Betula alleghaniensis* (BETULACEAE)









YELLOW BIRCH typically grows from 60-80 ft. (18-24m) in height with a trunk diameter of up to 2 ft. (0.6m). In forested areas, its branches form a small, irregularly rounded crown. It is commonly found in damp, acidic woodlands.

FLOWER AND FRUIT: From mid to late April, tiny male and female flowers are borne in catkins on the same tree. The golden-purple male catkins are 2.5-4 inches (6.5-10cm) long and droop from the branches, while the stout greenish females are erect. These give way to cone-like fruits, ¾-1.5 inches (2-4cm) long, which bear numerous winged nutlets within their 3-lobed scales.

LEAF: Leaves are simple, alternate and 1.5-2.5 inches (4-6cm) wide and 3-6 inches long (7-15cm) long, with finely double-toothed edges.

EDIBLE PARTS: sap, inner bark, twigs

KEY MEDICINAL USES: A decoction of the plant's bark has been used as an emetic and diuretic.

HOW TO HARVEST AND EAT: The best time for tapping is between March and April. To produce 1 quart of syrup, boil 22-33 gallons of sap at 220°F (104°C). In emergencies, inner bark can be harvested, dried, and ground into flour. Twigs and leaves can be used for tea.

SIMPLE BIRCH BEER: Ingredients: 1 cup birch syrup, 3 ½ cups boiling water, ¼ packet wine yeast. Pour syrup into 1-quart mason jar. Add boiling water, stirring until dissolved. In a small bowl, combine yeast and 3 tbsp water. When the birch syrup reaches room temperature, add the dissolved yeast. Screw on a mason jar fermentation kit and let sit for a few weeks. Once the fermentation finishes, separate the beer from the sediment by tipping just the liquid into a sealable bottle. Age for 2 weeks before drinking.

Black Locust, *Robinia pseudoacacia* (FABACEAE)







BLACK LOCUST or False Acacia is a suckering deciduous tree that can grow 70-90 ft. (21-27m) high with a diameter of 1-2.5 ft. (0.3-0.8m). Branches of mature trees are armed with 1 inch (2.5cm) long paired spines. The bark becomes dark grey and deeply furrowed with age.

FLOWER AND FRUIT: In April-June, white flowers blossom on dangling racemes of about 6 inches (15cm) long. Flowers are under 0.8 inches (2cm) across and butterfly-like. They mature into flattened reddish pods, 6-12 inches (15-30cm) long, containing 4-8 hard seeds.

LEAF: Dark green leaves are alternate and pinnately compound with 7-21 oval leaflets on a central stalk measuring 6-12 inches (15-30cm) long. Each leaflet is 1.5-2 inches (4-5cm).

EDIBLE PARTS: flowers, seeds, very young seedpods

KEY MEDICINAL USES: Bark is emetic and purgative. Flowers have antispasmodic properties and are used for coughs and rheumatism.

HOW TO HARVEST AND EAT: Flowers can be used to make fritters, jams, pancakes, salads, soups, and syrup. Their flavor is a cross between vanilla and sweet pea. The blossoms persist for only about 2 weeks, so harvest them while you can. Seeds are edible cooked (boiling works well), as are very young seedpods.

BLACK LOCUST FLOWER PANCAKES: Ingredients: 3.5 oz. (100g) flour, 2.8 oz. (80g) sugar, 15 clusters of black locust flowers, ¼ cup sparkling water, 1 knob of butter, 3 eggs. Pick out the flowers from the clusters. In a bowl, combine flour, eggs, water, sugar, and flowers. Melt butter on a skillet and ladle on batter. Cook on both sides until golden.

WARNING: Leaves, seeds, roots, and bark of this plant are poisonous. The strong smell of the flowers may cause headaches and nausea in some people.

Box Elder, *Acer negundo* (SAPINDACEAE)









BOX ELDER or Ash-leaf Maple typically reaches 40-70 ft. (12-20m) with an irregular spreading crown. While it may develop a single grey-brown trunk, 2-3 ft. (0.6-1m) wide, in forested areas, box elder is sometimes multi-stemmed and shrub-like in open environments.

FLOWER AND FRUIT: Male and female flowers are pale yellow and occur on separate trees. Male flowers, about 1-1.5 inches (2.5-4cm) across, are borne in dense hairy cymes. Female flowers are smaller and dangle from slender racemes.

LEAF: Bright green leaves are deciduous, opposite, and pinnately compound with 3-5 ovate leaflets. The central stalk is 6-14 inches (15-35cm) long, while the leaflets are 2-4 inches (5-10cm) in length with pale undersides and either coarsely toothed or entire edges.

EDIBLE PARTS: sap

KEY MEDICINAL USES: The inner bark is an emetic.

HOW TO HARVEST AND EAT: Sap can be consumed fresh or boiled into syrup. Tree-tapping time is generally early January until the arrival of the first leaves. Drill a hole into the sun-facing side of the trunk 2 inches deep and about 3 ft. (1m) from the ground. Using a mallet, insert a spout or "spile". Place a clean container underneath to collect the sap.

BOX ELDER SYRUP: 40 pints sap produce 1-pint syrup. Pour sap into a heavy-duty pot and boil to reduce to a thick syrup. Keep the temperature at 219-222°F (104-106°C).

POISONOUS LOOK-ALIKES: Box elder seedlings resemble Poison Ivy, *Toxicodendron radicans.*

California Bay Laurel, *Umbellularia californica* (LAURACEAE)




The Marmot, CC BY 2.0



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CALIFORNIA LAUREL, also known as Bay Laurel, Pepperwood, and Myrtlewood, is an aromatic evergreen tree that grows 40-80 ft. (12-24m) tall and has a rounded or spreading crown. Its trunk is often forked into several branches, while its dark brown bark becomes thick and fissured with age.

FLOWER AND FRUIT: Flat-topped clusters of 4-9 pale yellow flowers blossom at regular intervals throughout the year. Each flower is 0.4-0.6 inches (1-1.5cm) across. Thin-shelled avocado-like fruits are 0.8-1 inches (2-2.5cm) long. In autumn, they ripen from green to yellow-green or purple. Each fruit contains a large nut-like seed.

LEAF: Dark evergreen leaves are simple, alternate, and lance-shaped, often with pointed tips. The blades are lustrous and leathery, ranging from 3.5-5 inches (8-13cm) long with smooth margins. When bruised, they emit a spicy fragrance.

EDIBLE PARTS: fruit, seeds, leaves

KEY MEDICINAL USES: Leaves have analgesic, stomachic and nervine properties.

HOW TO HARVEST AND EAT: Harvest the spicy-scented bay laurel fruits as they ripen and begin to drop from the tree (September-November). Like avocados, their flesh is dense, buttery, and edible raw. They should be soft but not mushy. Overly firm fruits with skins that are difficult to remove can be left on your counter to ripen for 1-3 days. The large seeds of the fruits, once laid out to dry for 2 weeks, can be roasted at 350°F (175°C) for 60-90 min., shelled, and then eaten. You can also grind the roasted and hulled seeds into flour. The roasting step is crucial since it destroys the seed's volatile oils, which can irritate your digestive system. Leaves, available year-round, are dried and used like bay leaves to flavor soups and stews.

ROASTED BAY NUTS: Remove flesh, wash nuts well, and lay them out on a towel until the moisture evaporates. Place nuts in an open bowl or in paper bags and dry in a dark place for 2 weeks minimum. Roast for 1- 1 ½ h at 350°F (177°C). Once roasted, crack them open.

WARNING: Leaves can cause skin irritation, sneezing, and headaches in some people.

POISONOUS LOOK-ALIKES: Mountain Laurel, *Kalmia latifolia*; Cherry Laurel, *Prunus laurocerasus*

Chestnut (American), *Castanea dentata* (FAGACEAE)









AMERICAN CHESTNUT once dominated the hardwood forests of eastern North America. Today, you'll often see small multi-stemmed sprouts grow from the stumps of dead trees, reaching no more than 15 ft. (4.5m).

FLOWER AND FRUIT: Male catkins are yellowish and 4-8 inches (10-20cm) long. Smaller females produce clusters of nuts encased in spiny green burr-like husks. Each husk is 2-3 inches (5-7.5cm) across, while the 1-3 nuts within are each 0.75 inches (2cm) long with flattened sides and glossy brown shells. Between September and October, the fruits drop from the tree.

LEAF: Yellow-green leaves are alternate and 6 inches (15cm) long. Blades are oblong to elliptical with smooth hairless surfaces and coarsely toothed edges.

EDIBLE PARTS: nut

KEY MEDICINAL USES: This plant is an astringent.

HOW TO HARVEST AND EAT: Raw chestnuts, while edible, are bitter and difficult to peel. The flesh becomes soft and sweet after the nuts have been boiled, steamed, or roasted. Chestnuts can also be dried, pounded into flour, or ground into a coffee substitute. Gather the nuts after the husks have been split open by the first frost. Use a mesh bag to store them in a dry place.

ROASTED CHESTNUTS: Soak chestnuts in water for 30 min. With a knife, score the flat side of the chestnut with an x-pattern. Arrange chestnuts in a cast-iron pan with the x-pattern facing up. Place pan over the coals and cook for 10-15 min., stirring occasionally. Remove from fire. When cool enough to handle, peel, and enjoy.

POISONOUS LOOK-ALIKES: Horse Chestnut, *Aesculus hippocastanum*

Chinquapin (American), *Castanea pumila* (FAGACEAE)









AMERICAN CHINQUAPIN or Dwarf Chestnut is a deciduous multi-stemmed tree that can grow 10-30 ft. (3-9m) high, preferring dry acidic soils. Its reddish twigs are densely hairy when young. As the tree matures, its bark becomes light brown and furrowed.

FLOWER AND FRUIT: In May-July, pale yellow catkins are borne in clusters. In fall, bristly greenish-brown husks, about 1.5 inches (3.5cm) wide, encase single, shiny brown nuts. Unlike American chestnuts, chinquapin nuts are not flattened. They have broad bases and narrow tips.

LEAF: Yellow-green foliage is simple and alternate with coarsely toothed edges. Measuring 3-5 inches (8-13cm) long, the blades are lanceolate to oblong.

EDIBLE PARTS: nut

KEY MEDICINAL USES: This plant is an astringent and febrifuge.

HOW TO HARVEST AND EAT: Chinquapin flesh becomes fluffy and sweet after the nuts have been boiled, steamed, or roasted. They can be enjoyed as a snack, cooked in stuffings and soups, pounded into flour, ground into a coffee substitute, or dipped in syrups to make confections. Gather the nuts after the husks have been split open by the first frost.

PUMPKIN WITH CHINQUAPIN: Ingredients: 1.75 lb. (800g) Hokkaido pumpkin or any squash (minced), salt, 9 oz. (255g) chinquapin (cooked and peeled), 2-3 onions (chopped), 3 sprigs thyme, 4 tbsp. oil, pepper, nutmeg. Boil pumpkin for 5 min. in salted water. Drain well. In a large pan, fry onions until translucent. Add pumpkin, cooked chinquapin, thyme, and cook for 10-15 min. Season with salt, pepper, and nutmeg.

POISONOUS LOOK-ALIKES: Horse Chestnut, *Aesculus hippocastanum*

Cottonwood, *Populus deltoides* (SALICACEAE)




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EASTERN COTTONWOOD grows to 190 ft. (58m) tall with a diameter of 6 ft. (1.2m). This large deciduous fast-growing tree has dark, furrowed bark with flattened ridges. It is found along rivers, in swamps, and in bottomland forests. Note that **Black Cottonwood**, *P. trichocarpa*, is utilized in the same way, as is **Fremont Cottonwood**, *P. fremontii*.

FLOWER AND FRUIT: Male and female flowers occur on separate trees in early spring. The reddish male catkins are 1 inch (2.5cm) long (longer in other *Populus* species). Female catkins are yellowish-green and 2-5 inches (5-13cm) in length (longer in other *Populus* species). The elongated seed capsules are borne in clusters. When mature, they split open to disperse seeds plumed with cottony fibers.

LEAF: Broad glossy leaves are simple, alternate, and pale beneath. Measuring 2-6 inches (15-15cm) long and 4-5 inches (10-13cm) wide, leaf blades are broadly triangular or heart-shaped and coarsely toothed.

EDIBLE PARTS: inner bark, young leaf shoots, leaves, catkins, sap

KEY MEDICINAL USES: This plant is an anti-inflammatory, anodyne, and febrifuge. Its bark and buds contain salicin, which breaks down into salicylic acid (aspirin) in the body.

HOW TO HARVEST AND EAT: The tree's nutritious, vitamin C-rich inner bark can be harvested in the spring for emergency use. Cut away a patch of the outer bark and peel off the cambium layer. It can be dried and ground into flour or boiled in strips like noodles, or used as a soup-thickener. The springtime catkins and leaf shoots are edible raw or cooked. Leaves are edible and high in protein but are bitter; boiling in a change of water helps. In late winter, the tree can be tapped for sap and can be consumed raw or boiled into syrup.

PASTA WITH BRAISED COTTONWOOD CATKINS: Ingredients: 12 oz. (340g) spaghetti, 6 slices bacon, 2 onions (chopped), 1 garlic clove (minced), 2 cups catkins, salt, pepper, 1 ½ cups cream, Parmesan. Fry bacon until crisp. Reserve. Cook onions, garlic, and catkins in bacon fat. Once tender, add cream, salt, pepper. Simmer for 2-3 min. Add bacon. Serve sauce with spaghetti. Top with Parmesan.

COTTONWOOD CATKIN TEMPURA: Ingredients: cottonwood catkins, ½ cup rice flour, 1 eggwhite, ⅓ cup ice-cold water, 1 pinch salt, lard for frying. In a bowl, mix flour, egg white, water, and salt into a thin batter. Dip whole catkins into the batter, covering them completely. In a skillet, melt lard, and fry catkins on both sides.

WARNING: Avoid if taking blood-thinning medication.

Common Prickly-Ash, *Zanthoxylum americanum* (RUTACEAE)







COMMON PRICKLY-ASH is an aromatic, many-branched deciduous tree in the citrus family. Growing 4-25 ft. (1-8m) tall, its stems are armed with paired nodal spines to 0.5 inches (1.3cm) long.

FLOWER AND FRUIT: Male and female flowers, which occur on separate plants, are greenish-yellow and inconspicuous. They are borne in axillary cymes, appearing before the leaves. The glossy dark fruits are produced in clusters of reddish capsules, 0.16-0.2 inches (0.4-0.5cm) wide. The capsules open to expose the ripened fruits between August and October.

LEAF: Lemon-scented leaves are pinnately compound with 5-11 ovate leaflets. The central stalk is about 1 ft. (0.3m) long and the leaflets are 1.6-3.1 inches (4-8cm). Leaf undersides are slightly hairy.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It is an analgesic and antirheumatic. Bark is chewed for toothaches.

HOW TO HARVEST AND EAT: Cooked or dried berries can be used as a peppercorn substitute. Raw berries have an unpleasant numbing effect on the mouth.

PRICKLY-ASH ASPARAGUS: Ingredients: 1 tsp. prickly-ash berries (toasted, crushed), 3 tbsp. oil, 6 dried hot chilis, 4 garlic cloves (minced), 1 tbsp. ginger (minced), 3 scallions (thinly sliced), 1 lb. (500g) asparagus, 2 tsp. sugar, salt. Fry berries and chilies for 2 min. Add garlic, ginger, scallions. Cook for another minute. Roast asparagus in tin foil over coals for 10 min. Toss prickly-ash sauce, sugar, salt.

WARNING: Do not use if you are taking blood-thinning medication, or if you have heart disease, hypertension, or a digestive disorder.

LOOK-ALIKES: Hercules Club, *Zanthoxylum clava-herculis*

Douglas Fir, *Pseudotsuga menziesii* (PINACEAE)






DOUGLAS FIR is a large coniferous evergreen tree that typically grows 80-200 ft. (24-60m) tall. Young trees have pyramidal crowns and drooping lower branches that grow near to the ground. In time, this crown becomes cylindrical, looming above 65-130 ft. (20-40m) of grey branchless trunk.

CONES: Male and female cones often occur on the same twig. Male cones are numerous and rust-colored. Large female cones begin become light brown and woody with maturity. They are 4-5 inches (10-13cm) long with unique 3-pronged bracts over the scales.

LEAF: Green needles are flat, up to 1.5 inches (4cm) long, and radially arranged with 2 white bands traveling along the length of their undersides. Needles are fragrant when crushed.

EDIBLE PARTS: young shoot tips, inner bark

KEY MEDICINAL USES: It is antiseptic and antirheumatic.

HOW TO HARVEST AND EAT: In spring, light green new-growth leaves can be plucked from the tips of the branches and eaten raw. You can also brew them into a citrusy tea or use them to flavor meals. The inner bark can be dried, ground into flour, and mixed with other grains to make bread.

DOUGLAS FIR CHAI: 1 cup fir needles dried or fresh, 1 tbsp. dried orange peel, 1 tbsp. cinnamon chips, 1 tbsp. green cardamom pods (lightly crushed), 1 tbsp. star anise pods (lightly crushed), 1 tbsp. dried ginger, ½ tsp. black peppercorns (lightly crushed), honey. Steep 1 tbsp. tea mixture in boiling water for 5-7 min.

POISONOUS LOOK-ALIKES: American Yew, *Taxus canadensis*; Longleaf Pine, *Pinus palustris*

Hackberry, *Celtis occidentalis* (CANNABACEAE)




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COMMON HACKBERRY is a large deciduous tree that ranges from 20 to 70 ft. (6-20m) in height. The brown-grey bark of mature trees is often gnarled with corky protrusions. All hackberry species have edible berries.

FLOWER AND FRUIT: Greenish-yellow flowers appeat between April and May. Each fruit is 0.3-0.4 inches (0.8-1cm) broad and contains a single seed. They ripen to dark red or blue-black between autumn and early winter.

LEAF: Dark green leaves are simple, alternate, and sharply toothed, with pale undersides. Measuring about 3.5 inches (9cm) long, their ovate blades have long, tapered, slightly curved tips. In autumn, foliage turns pale yellow.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: A decoction of the bark has been used to treat STDs and sore throats.

HOW TO HARVEST AND EAT: Hackberries have been described as a quirky cross between a fruit and a nut. They can be enjoyed raw, or in jams, preserves, and 'hackberry milk'. They can also be mashed along with their seeds and used to flavor cooked foods. Laying out a tarp below the tree and shaking the tree's limbs is often the best harvesting method. Hackberries last for 2-3 weeks in the fridge and will even persist on the tree throughout the winter.

HACKBERRY MILK: Ingredients: 1 cup hackberries, 2 cups water. Crush hackberries with mortar and pestle. Combine hackberries and water in a pot. Cover and gently simmer low heat, stirring occasionally, for 20 min. Strain through a nut milk bag or cheesecloth.

Hawthorn, *Crataegus* spp. (ROSACEAE)






River Corcoran


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HAWTHORN, Hawberry, Quickthorn, or Thornapple is characterized by long thorns, wide spreading crowns, and colorful fruits, which resemble crab apples or rosehips. Some species can grow beyond 40 ft. (12m) tall. There are up to 200 hawthorn species worldwide. While all North American varieties produce technically edible fruits, most are not pleasant-tasting. Eastern Mayhaw (*C. aestivalis*), Downy Hawthorn (*C. mollis*), Douglas Thornapple (*C. douglasi*), and Apple Haw (*C. opaca*) are noted for their palatable fruits.

FLOWER AND FRUIT: White flowers appear in April-June. Hawberries arrive in fall and can be 0.3-0.6 inches (0.7-1.5cm) across, with a rounded or bulb-like shape. Yellow, orange, and red berries are the most common color varieties.

LEAF: Leaves may be cut, lobed or entire, ranging from 0.8 to 4 inches (2-10cm) long. Most leaves are dark green and sharply toothed at the edges.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: It is used to treat arteriosclerosis, high cholesterol, and high blood pressure.

HOW TO HARVEST AND EAT: Hawberries ripen from late summer to late autumn. Some have mealy, parched flesh, while others are sweet and tender. They can be eaten fresh, or added to jams and jellies. Be sure to avoid the plant's sharp thorns and to remove the fruit's poisonous seeds.

HAWBERRY KETCHUP: Combine 2 cups hawberries, 1 cup water, and 1 cup vinegar. Bring to a boil, then simmer until fruits start to burst. Remove from heat. Strain out stones. Add ½ cup sugar to the juice. Stir on low heat until dissolved. Bring to a boil and let simmer for 10 min., allowing the liquid to reduce to a thick syrup. Season with salt and pepper.

Hazelnut, *Corylus* spp. (BETULACEAE)







HAZELNUT is a deciduous, thicket-forming shrub found in woodlands and edge. The American hazelnut (*C. americana*), which can grow to 15 ft. (4.5m), has a rounded crown, greyish bark, and bristly glandular-hairy twigs. **The Beaked Hazelnut** (*C. cornuta*), usually hairless with dark brown bark, can grow to 10 ft. (3m).

FLOWER AND FRUIT: In early spring, yellow-brown male catkins of up to 3 inches (7.5cm) long droop from year-old twigs. Tiny female flowers, solitary or paired, are crowned with red styles. Hard-shelled nuts ripen between July and September. Measuring 0.4-0.6 inches (1-1.5cm) across, they are arranged singly or in clusters of 2-6. Beaked hazelnuts are entirely enclosed in bristly husks that form narrow beaks.

LEAF: Foliage of both species is simple, alternate, and coarsely double-toothed with hairy undersides. Blades are oval to elliptic, with pointed tips and slightly heart-shaped bases. Beaked hazelnut leaves are 1.2-4 inches (3-10cm) long, while the leaves of American hazelnut are 2-6 inches (5-15cm) in length with hairy stalks. Autumn foliage is yellow to crimson.

EDIBLE PARTS: nuts

KEY MEDICINAL USES: American Hazelnut is emetic and astringent. The bark can be applied to abrasions and skin diseases.

HOW TO HARVEST AND EAT: Gather hazelnuts as they fall to the ground from late summer to October. Foraging them before the autumn rains increases your chances of foraging nuts that have not yet been attacked by mold. Once you've collected your harvest, separate the good nuts from the bad by submerging them in water. The non-keepers will float. Next, spread the nuts out on a tarp to dry in a warm, dry place for 2-4 weeks. Fully cured nutmeat will have transformed from white to cream-colored throughout. Cured hazelnuts will keep in their shells for a few months in a cool, dry area. They'll last for up to a year in the fridge and up to 2 years in the freezer. Enjoy these nuts as a snack, or in salads, hot meals, and baking. The nutmeat can also be processed into flour, butter, and oil.

HAZELNUT APPLE AND PARSNIP SOUP: Ingredients: ½ cup blanched hazelnuts (chopped), 2 cups parsnips (peeled, diced), 2 apples (peeled, diced), 2 tbsp. oil, 4.5 cups veritable stock. Toss hazelnuts, parsnips, and apples together with 2 tbsp oil and roast until tender. In a pot, combine with vegetable stock. Mash while simmering. Add salt, pepper, and seasoning.

Honey Locust, *Gleditsia triacanthos* (FABACEAE)







HONEY LOCUST is a deciduous tree growing to 80 ft. (24m) tall with a spreading, open crown. Its trunk and limbs are armed with reddish-brown, branching thorns to 8 inches (20cm) long. The tree's blackish bark is fissured into plates. Honey locusts occur in woods and fields across the east-central United States.

FLOWER AND FRUIT: From May to July, fragrant greenish-yellow flowers droop in clusters. Each raceme is 2-5 inches (5-13cm) long. Flattened, twisted pods emerge in summer, reaching 8-18 inches (20-45cm) long and maturing to dark reddish-brown. They contain bean-like seeds embedded in a sweet, tacky pulp.

LEAF: The glossy, dark green foliage is alternate and once or twice compound. Measuring 4-8 inches (10-20cm) long, the central stalk often bears 3-6 pairs of side branches. The lance-shaped leaflets are 0.5-1.2 inches (1-3cm) long and slightly toothed. They turn yellow in autumn.

EDIBLE PARTS: pulp of unripe pods, seeds

KEY MEDICINAL USES: Juice from the seed pods is antiseptic. The bark is a stomachic, taken as a tea for indigestion. This species is being studied for its anti-cancer potential.

HOW TO HARVEST AND EAT: Harvest young, green pods from the branches in the late summer. The sticky, bright green pulp inside is as sweet as honey. Enjoy it raw as a snack, or dry it for use as a sweetener or thickener, or dry and powder for flour. Mature pods that have dropped to the ground are bitter and inedible. You can also cook the immature pod seeds, which taste similar to peas.

HONEY LOCUST POWDER: Ingredients: Young honey locust pods. Soak pods in boiled water for 4-6 hrs. Remove seeds. Chop pods into 1-inch (2.5cm) pieces. Dehydrate at 150°F (65°C) in an oven. Grind pods with a pestle. This sweet, coarse powder can be used in baking. For use in beverages, strain powder through a fine-mesh sieve.

WARNING: This tree, including its pods, contains potentially toxic compounds. The pulp has also been known to cause throat irritation.

POISONOUS LOOK-ALIKES: Kentucky Coffee Tree, *Gymnocladus dioicus* - pods are poisonous; note its seeds are edible well-roasted.

Juniper (Alligator), *Juniperus deppeana* (CUPRESSACEAE)









ALLIGATOR JUNIPER is one of the largest juniper trees in North America, growing up to 60 ft. (18m), though it is typically much smaller. The tree gets its name from the unique pattern of its bark.

FLOWER AND FRUIT: Round berry-like cones are 0.5 inches (1.3cm) in diameter. Each cone contains 2-5 seeds and matures after 18 months.

LEAF: Fragrant, scale-like foliage has a deep blue-green hue. The minute leaves are 0.04-0.2 inches (0.1-0.5cm) long and 0.04-0.6 inches (0.1-1.5cm) wide, huddling tightly to the twig.

EDIBLE PARTS: fruit

HOW TO HARVEST AND EAT: Berries can be picked once they ripen to a purplish or reddish-brown color. This process takes 2 years, with berries reaching maturity from September to December of the second season. Juniper berries are known for their bitter, peppery flavor and their dry, gritty texture. While edible raw, they are more appealing as a spice. Famously, these berries are used to flavor gin. Used sparingly, they can enliven conserves, marinades, and sauerkraut. Dried and ground berries make an exquisite seasoning for game dishes.

FERMENTED JUNIPER BERRY JUICE (SMREKA): Ingredients: ½ lemon, 1 cup dry juniper berries, 4 cups water. Wash lemon and quarter it with the skin on. Place in a 2-pint jar along with juniper berries. Fill to top with water and close the lid loosely. Let sit in the shade for 10-15 days. Strain the juice and sweeten to your liking.

WARNING: Consume juniper berries only in small amounts. Pregnant women and people with kidney disease should not ingest. Juniper extract can be poisonous, avoid.

POISONOUS LOOK-ALIKES: *J. sabina, J. oxycedrus*

Juniper (Utah), *Juniperus osteosperma* (CUPRESSACEAE)









UTAH JUNIPER grows 15-30 ft. (4-9m) tall; its ascending branches form a bushy, rounded crown. The tree's ash-grey bark exfoliates in thin vertical strips. Of the 13 North American juniper species, Utah Juniper is among the few that are edible. Other edible western species are California Juniper, *J. californica*, Alligator Juniper, *J. deppeana*, and Common Juniper, *J. communis*.

FLOWER AND FRUIT: Fibrous, berry-like seed cones are bluish-brown with a waxy-grey bloom. Round and 0.2-0.35 inches (0.5-0.9cm) across, they typically bear 1 seed, though sometimes 2. Berries ripen over 1-2 years.

LEAF: Light yellow-green leaves are minute, scale-like, and oppositely arranged on erect branchlets. They measure 0.04-0.07 inches (0.1-0.2cm) long.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Twigs and fruits are analgesic and diuretic.

HOW TO HARVEST AND EAT: Berries are sweet and resinous with a sage-like flavor. They are best used as a seasoning for game, or as a survival food. You can also roast the dried fruits as a coffee substitute.

JUNIPER-NUT SKILLET BISCUITS: Ingredients: 2 tsp. dried juniper berries (roasted, ground), 8 oz. (226g) animal fat, 7 oz. (198g) sugar, ½ tsp. salt, 7 oz. chestnut flour, 2.6 oz. (74g) cocoa powder, 6 oz. (170g) hazelnuts (toasted, ground). Combine dry ingredients. Pour in animal fat, mixing well. Make dough into flattened cookies and place on a greased skillet. Create an aluminum foil tent over the skillet. Cook over fire for 7-10 min.

POISONOUS LOOK-ALIKES: *J. sabina, J. oxycedrus*

Kentucky Coffeetree, *Gymnocladus dioicus* (FABACEAE)









KENTUCKY COFFEETREE is a medium-sized deciduous tree with dark, irregularly fissured bark. It ranges from 40-80 ft. (12-24m) in height. Its stout trunk is 1-2 ft. (0.3-0.6m) in diameter.

FLOWER AND FRUIT: Greenish-white flowers are 0.75 inches (2cm) across, with 5 narrow petals. Male flowers occur in 4 inch (10cm) long panicles, while female-flowering panicles can reach 12 inches (30cm). fruit is housed in flat, purplish-brown pods measuring 4-10 inches (10-25 m) long and 2.5 inches (6cm) wide.

LEAF: Large dark-green leaves are alternate and twice compound. Central stalks are 1-3 ft. (0.3-1m) long, with 3-9 pairs of pinnate leaflets. Individual sub-leaflets are 1-3 inches (2.5-7.5cm) long, toothless, and oval.

EDIBLE PARTS: seeds (roasted)

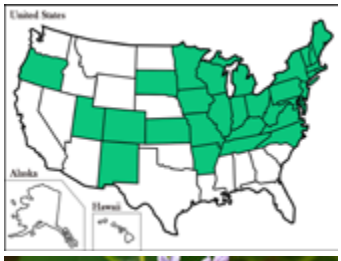
KEY MEDICINAL USES: Leaves have been used as a laxative and insecticide. Tea made from the root bark is a diuretic.

HOW TO HARVEST AND EAT: Roasted seeds are eaten like nuts or ground to produce a caffeine-free beverag-esimilar in taste to coffee. Harvest the seed pods as they ripen to purplish-brown from October to mid winter. To destroy the toxic hydrocyanic acid present in the seeds, you will have to roast them for at least 3 hrs. at 300° F (150°C). The roasted beans will last from 2-6 months in a sealed container.

KENTUCKY COFFEE: Remove seeds from pods and rinse them thoroughly with warm water to remove the pulp. Pat them dry and place them in a roasting pan with the lid on. (This will catch any popping seeds.) Roast for 3h. at 300°F (150°C). Grind into coffee.

WARNING: Raw seeds and the pulp within the pod are poisonous. Only consume well-roasted seeds.

Lilac (Common), *Syringa vulgaris* (OLEACEAE)









COMMON LILAC can be a large shrub or a small, multi-stemmed tree and can grow up to 20 ft. (6m) tall with a 15 ft. (4m) wide spread. It quickly loses its leaves, so while it may not have an abundance of fall color, it does have an abundance of fragrant edible flowers.

FLOWER AND FRUIT: They have purple, lilac or sometimes white colored flowers. Multiple, small flowers cluster together on a cone-shaped spike that can grow up to 7 inches (18cm) long. Each individual flower is about ⅓ inch (8mm) long. The fruits are held upright and are oval shaped, ¾ inch (2cm) in length and eventually split to release 4 brown, winged seeds.

LEAF: Green to blue-green leaves are 2-4 inches (5-10cm) long. Leaves are 1-2 ½ inches (3-6cm) wide at the stem and taper to a pointed tip and are sometimes heart-shaped.

EDIBLE PARTS: flowers

KEY MEDICINAL USES: It contains lutein, which prevents macular degeneration and cataracts.

HOW TO HARVEST AND EAT: Plant flowers from mid to late. Harvest flowers when they are at their peak, and use them to garnish salads, brew tea or make syrup.

LILAC SYRUP RECIPE: Ingredients: 1 cup each of common lilac flowers, water, and sugar. Remove all of the stems from the lilac flowers. Bring water and honey to a boil, add flowers and simmer for 10 min. Remove from heat, cover and allow to brew for 6-8 hrs. Strain away flowers and store the syrup for 2 weeks in the fridge.

WARNING: The bark of some varieties can be poisonous.

Magnolia (Southern), *Magnolia grandiflora* (MAGNOLIA)





Acabashi, CC-BY-SA-4.0





Marija Gajic, CC-BY-SA-4.0

SOUTHERN MAGNOLIA is a flowering evergreen tree nthat grows 50-90 ft. (15-27m) tall, has a wide conical to rounded crown and a straight trunk of up to 3 ft. (1m) in diameter. Wooly brown hairs cover the tree's thick twigs. Its pale bark develops tight scales with maturity.

FLOWER AND FRUIT: Giant cup-shaped flowers, cream-white and fragrant, bloom singly in the leaf axils from late spring to autumn. Measuring 6–8 inches (15–20cm) wide, each flower has 6-15 thick petals. The aggregate fruits are 3–5 inches (8–13cm) across, cone-like, and yellowish to reddish-brown.

LEAF: Lustrous leaves are simple, alternate and 5–10 inches (13–25cm) long. Thick, leathery, dark green, they have an oval to elliptical shape and smooth edges.

EDIBLE PARTS: flower petals, flower buds, leaves

KEY MEDICINAL USES: This plant is anti-inflammatory, antispasmodic, and hypotensive. Bark has been used for arthritis, sores, and itchiness. Seeds are used to reduce muscle spasms and high blood pressure.

HOW TO HARVEST AND EAT: Petals are gingery and floral, with notes of cardamom. Harvest flowers and leaves between May and June. Leaves can be used like bay leaves to flavor soups or for tea. Buds, leaves, and flowers are also good pickled. All parts are best cooked or pickled.

PICKLED MAGNOLIA LEAVES: (*recipe credit: Jessica Carew Craft*): Collect about a jar's worth of unblemished leaves, load them into a jar and fill it to the brim with rice wine vinegar. Cap it tightly and leave it for 2 weeks somewhere cool and dry. Leaves will be pickled, and are an excellent substitute for pickled ginger, with more of a floral taste. You can eat them as a palate cleanser, with sushi, or on a plate with other pickled veggies and crudites.

Maple (Bigleaf), *Acer macrophyllum* (SAPINDACEAE)





Walter Siegmund, CC-BY-SA-3.0





Superfantastic, CC-BY-2.0

BIGLEAF MAPLE is the largest maple species on the continent, growing 50-80 ft. (15-24m) tall. Branches are frequently covered with mosses, lichens, and ferns. Thriving in moist, well-drained soils, it is especially abundant in mixed evergreen forests.

FLOWER AND FRUIT: Fragrant male and female flowers, which occur together on the same tree, are 0.3 inches (0.8cm) across. They are borne on 4-8 inch (10-20cm) long cylindrical racemes between April and May. Single seeds are produced in bristly green 2-winged samaras, about 1 ½ inches (4 cm) long. They ripen between September to October.

LEAF: Large glossy leaves are deciduous and deeply 5-lobed, measuring 4-10 inches (10-25 cm) long and wide. Young leaves emerge burgundy-tinted, maturing to dark green before finally turning yellow and orange in the fall. The leaf stems contain a milky sap.

EDIBLE PARTS: sap, flowers

KEY MEDICINAL USES: Raw sap is a tonic.

HOW TO HARVEST AND EAT: Sap is not as sweet as sugar maple sap, but sugary enough to be sipped as a drink or boiled into syrup. Tap the trunk in early spring. Flowers are rich with nectar and can be used in salads or made into fritters, and are one of my favorite spring treats.

BIGLEAF MAPLE FLOWER FRITTERS: Ingredients: maple flower clusters, ½ cup flour, ½ tsp. baking powder, 1 pinch salt, 2 eggs, ¼ cup milk, ¼ cup oil. In a bowl, mix flour, baking powder, and salt. In a second bowl, whisk eggs with milk. Heat oil in a pan. Dip flower clusters in egg mixture and roll them in flour. Place them in a pan and fry on each side until golden.

Maple (Sugar), *Acer saccharum* (SAPINDACEAE)







SUGAR MAPLE ranges in height from 40 to 100 ft. (12-30m). Similar species are Red Maple, *A. rubrum*, Silver Maple, *A. saccharinum*, and Bigtooth Maple, *A. grandidentatum*.

FLOWER AND FRUIT: Yellow-green petalless flowers develop before the leaves emerge. The 2-winged seeds, or samaras, are under an inch long and mature between September and October.

LEAF: Simple leaves are oppositely arranged, with 5 pointed lobes, deep rounded sinuses, and a cordate base. The blades range from 3-10 inches (7.5-25cm) both long and wide. Fall foliage is golden to crimson.

EDIBLE PARTS: sap, seeds, inner bark

KEY MEDICINAL USES: Inner-bark is expectorant and diuretic.

HOW TO HARVEST AND EAT: The sap of all maple species can be consumed as a beverage or boiled into syrup. Harvest sap between the first thaw (usually in January) and the first leaves. Drill an upward-slanting hole 2-3 inches (5-7.5cm) into the trunk, insert a spile, and collect the sap. Underripe sugar maple seeds, once stripped of their wings, can be boiled and roasted. To make flour, dry and grind up the tree's inner bark, taking care not to ring the tree.

MAPLE SYRUP: Ingredients: Maple sap. Pour a portion of sap, to a depth of 1.5 inches (4cm), into a wide heavy-duty pan. To begin, boil at 212°F (100°C), the boiling temperature of water, without stirring. When the sap level drops, add more. Keep temperature between 212 and 219°F (100-104°C). To finish, transfer the liquid to a smaller pan and continue boiling. Once the temperature reaches 7°F (4°C) above the boiling temperature of water (~219°F/104°C), which is the boiling temperature of maple syrup, remove from heat. Store in a cool place. 30-40 gallons sap yields 1-gallon syrup.

Mulberry, *Morus* spp. (MORACEAE)







MULBERRY grows 20-70 ft. (6-20 m) tall. **Red Mulberry**, *Morus rubra*, native to eastern Canada and the U.S, has smoothly furrowed reddish-brown bark. **White Mulberry**, *Morus alba*, originates in Asia but is now distributed across North America. Its grey or yellow-brown bark is irregularly fissured.

FLOWER AND FRUIT: Whitish-green flowers of both species emerge in spring, giving way to cylindrical, aggregate berries between May and July. Fruits are 1-1.2 inches (2-3cm) long and ripen to purplish-black. The white to purple berries are 0.4-0.8 inches (1-2cm) long.

LEAF: Leaves of both species are simple, alternate, and toothed, with pointed tips and heart-shaped bases. They measure 2.5-6 inches (6-15cm) long.

EDIBLE PARTS: fruit (ripe), young shoots (cooked)

KEY MEDICINAL USES: Red Mulberry bark is used for parasites and as a purgative.

HOW TO HARVEST AND EAT: Once fully ripe, mulberries can be eaten raw or cooked. Young shoots, collected in early spring when just unfurling, are edible cooked. Boil for 20 min. and drain thoroughly to remove the mild hallucinogens found in red mulberry.

MULBERRY SPINACH SALAD: Salad ingredients: 1 cup red mulberries (ripened), 2 cups baby spinach, ½ cup walnut halves, 1 green onion (diced). Dressing ingredients: ½ tsp. mustard powder, 1½ tsp. apple cider vinegar, 2 tbsp. olive oil, ½ cup extra-ripe raspberries. Whisk together dressing ingredients, drizzle over salad and toss gently.

WARNING: Red mulberry's unripe fruits and raw shoots contain hallucinogens.

Mesquite, *Prosopis* spp. (FABACEAE)






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Dinesh Valke, CC BY-SA 2.0

MESQUITE is a deciduous tree with a spreading crown and sharp thorns along its twigs. It flourishes in arid regions of northern Mexico and the American southwest. **Honey Mesquite**, *P. glandulosa*, can grow to 40 ft. (12m) tall, with a diameter of 1 ft. (0.3m) and thorns to 2 inches (5cm). Screwbean Mesquite, *P. pubescens*, grows to 30 ft. (9m) with a similar trunk size, shredding reddish bark, and thorns to 1 inch (2.5cm). **Velvet Mesquite**, *P. velutina*, has snooth reddish-brown bark that turns grayer and shreds with age, and can grow to 40 ft (12m) but is usualy much smalller, with 1 inch (2.5 cm) thorns. Mequite seeds and seedpods are verry high in protein and fiber. I love the sweetness of these pods – it is one of my favorite flours.

FLOWER AND FRUIT: Drooping cylindrical spikes of yellow flowers are 2-5.5 inches (5-14cm) long in the honey mesquite and 1.5-3 inches (4-8cm) long in the screwbean mesquite. In summer, these form leguminous pods. Honey mesquite pods are flat, narrow, and yellowish, with a length of 4-9 inches (10-23cm). The hairy brown screwbean pods are tightly coiled spirals of 1-2 inches (2.5-5 cm) long. Flowers have 10 stamens.

LEAF: Feathery leaves are alternate and twice compound with 1-2 pairs of pinnae. Honey mesquite pinnae are 5-8 inches (12-20cm) long, with 5-17 pairs of narrow leaflets. Screwbean pinnae are 1.5 to 2 inches (4-5cm) long, with 5-8 pairs of leaflets.

EDIBLE PARTS: seedpods, seeds, flowers, sap

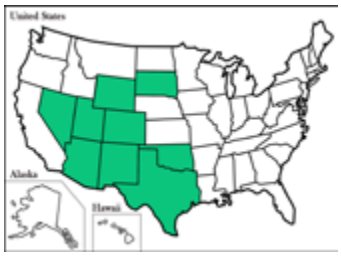
KEY MEDICINAL USES: Honey mesquite is an astringent.

HOW TO HARVEST AND EAT: Pods and seeds are cooked and eaten like green beans. Harvest the mature pods of the honey and velvet mesquite and the young tender pods of the screwbean mesquite from the tree. The pods and seeds can be dried and ground into a sweet flour. Fowers can be eaten raw or roasted.

MESQUITE FLOUR TORTILLAS: Ingredients: 1 ½ cup white flour, ½ cup mesquite flour, 3 tbsp. oil, ½ tsp. salt, ½ cup warm water. Combine dry ingredients. Add oil and water. Knead dough for 2 min. Cover and leave for 20 min. Parse into 12 parts and flatten into disks. On a dry skillet, cook on both sides at medium heat.

SWEET HONEY MESQUITE FLOUR SMOOTHIE: (*recipe credit: Mike Lowe*): Ingredients: 2 cups milk (macadamia or almond is my favorite but any milk works), 4 tbsp. chia, 1 tsp. honey mesquite flour, 1/2 tsp. vanilla, 1 tbsp. maple syrup. Mix liquids and then add seeds and flour and shake vigorously several times over 10 min. to prevent clumping. Chill in fridge. Serve cold.

Oak (Gambel), *Quercus gambelii* (FAGACEAE)




Kenraiz, CC-BY-SA-4.0


Stan Shebs, CC-BY-SA-3.0

GAMBEL OAK trees typically have rounded crowns and can range from 16 to 30 ft. (5-9m) in height. The grey-brown bark of mature trees is fissured into longitudinal ridges.

FLOWER AND FRUIT: Male and female catkins are produced on the same tree. The egg-shaped nuts, or acorns, are 0.75 inches (2cm) long with a width of 0.6 inches (1.5cm). Each nut is topped with a scaly cap. Ripe golden-brown acorn fall from the tree in autumn.

LEAF: Bright green leaves are simple, alternate, and highly variable. They may be elliptic, obovate, or oblong, with 2-6 shallow or deeply cleft lobes. Leaf blades can grow to 5 inches (13cm) long.

EDIBLE PARTS: nut

KEY MEDICINAL USES: Root bark is analgesic and expectorant.

HOW TO HARVEST AND EAT: Gather acorns from the ground in autumn or shake the branches, which will cause any ripened nuts to fall. Spread them out on a tarp to sun-dry for 1-4 weeks. Cured acorns will be lighter in color, easy to crack, and with relatively hardened flesh. They will keep for several months in a cool, dry place. Your last step is to remove the bitter, toxic tannins from the acorn's flesh by leaching the hulled nutmeat in several changes of hot or cold water. The nutmeat can then be roasted for snacking, ground into a versatile flour, or processed into a coffee substitute.

ACORN FLOUR: Shell acorns and grind into small pieces. In a bowl, cover with cold water. (Cold water keeps the starches intact.) Once the water turns brown, drain and repeat the leaching process until the water is clear. To dry the meal, strain through cheesecloth and dehydrate the mix on low heat. Finally, grind into a fine powder.

WARNING: Oak leaves, flowers, and unripened green acorns are toxic.

Oak (White), *Quercus alba* (FAGACEAE)







WHITE OAK is a deciduous tree, 60-90 ft. (18-27m) tall, with a trunk diameter of 2-3 ft. (0.6-1m) and light grey bark that can be shallowly or deeply furrowed.

FLOWER AND FRUIT: Yellow-green male catkins are 2-3 inches (5-8cm) long, while shorter reddish female catkins develop in the axils of new growth. Females give way to ovoid acorns, which measure 0.5-0.8 inches (1.2-2cm) long. A warty bowl-shaped cup covers the top ¼ of the acorn, while the inner surface of the nut's shell is hairless. Ripe acorns are light brown.

LEAF: Bright green leaves are simple, alternate, pale beneath, and 2-9 inches (5-23cm) long, with 7-10 evenly rounded lobes.

EDIBLE PARTS: nut

KEY MEDICINAL USES: Inner bark is antiseptic. It's used for diarrhea, hemorrhoids, coughs, asthma.

HOW TO HARVEST AND EAT: Gather ripened acorns from ground in autumn. While all oak species produce edible acorns, white oak nutmeat is the sweetest. It's best to remove the tannins by leaching the shell-less acorns in changes of cold water. Dry for 2-4 weeks before storing. Acorns can be roasted, ground into flour, or processed into a coffee substitute.

ACORN GRIDDLE CAKES: Ingredients: 2 cups leeches acorn flour, 1 large egg, ½ tsp. salt, ½ cup water, 1 tbsp. maple syrup, 2 tbsp. butter. Combine ingredients and whisk into batter. Ladle batter onto a greased skillet and cook on both sides until brown.

WARNING: Oak leaves, flowers, and unripe green acorns are toxic.

Pacific Crabapple, *Malus fusca* (ROSACEAE)









PACIFIC CRABAPPLE can grow up to 30 ft. (9m), with slender spreading branches that are often armed with thorny spur-shoots. These branches are hairy in the tree's first year. With age, the tree's bark will change from reddish-brown to grey, becoming deeply fissured.

FLOWER AND FRUIT: Fragrant clusters of 5-12 white or pink flowers emerge between April and May. Small red or blushing-yellow apples measuring 0.5-0.8 inches (1.3-2cm) lengthwise appear in the summer and often persist until winter.

LEAF: Leaves are highly variable. They may be ovate or lance-shaped, while some are irregularly lobed. All leaves end in sharp-pointed tips. Their surfaces may be smooth or hairy above and are generally hairy below. Leaf blades are 1.2-5 inches (3-12cm) long.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Bark has antirheumatic, astringent, and tonic properties.

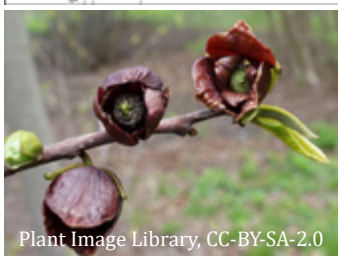
HOW TO HARVEST AND EAT: Pacific crab apples ripen in late summer and into the fall. Best time for making jams and jellies from these fruits is during late August and early September. The honey-lemony flavor is excellent in confections and, when dried, they make superb raisins.

CRABAPPLE WHISKY: In a bowl, whisk together 2 cups whisky and 5 tbsp. honey. Wash and halve approx. 2 cups crabapples. Layer them in a 1-quart jar, along with 3 fresh ginger slices, 1 cinnamon stick, 1 tsp. cloves, and a halved vanilla pod. Pour whisky mixture over the contents, making sure the fruit is fully covered. Secure the lid and leave to infuse to your taste.

Pawpaw, *Asimina triloba* (ANNONACEAE)









PAWPAW is a small deciduous understory tree that ranges from 9 to 30 ft. (3-9m) tall. Its smooth brown bark is frequently covered in grey blotches and wart-like lenticels.

FLOWER AND FRUIT: Dark, purplish-red flowers emerge before leaves in May and June. The broad oblong fruits can grow 6 inches (15cm) long and 1.5 inches (4cm) wide, ripening from green to brown between August and October.

LEAF: Dark green leaves are simple, alternate, and obovate. Measuring 6-12 inches (15-30cm) long, they have smooth edges and pale undersides that are coated in rusty hairs.

EDIBLE PARTS: fruit (ripe)

KEY MEDICINAL USES: Fruits are a laxative.

HOW TO HARVEST AND EAT: The sweet, custardy flesh of the pawpaw has a banana-like flavor and is delicious raw or cooked. It can be used in puddings, baked desserts, and ice cream. Harvest the fruits when they are still green and let them ripen to brown before eating. Skin and toxic seeds should not be consumed.

PAWPAW BREAD: Ingredients: 2½ cups flour, 2 tsp. baking soda, ¼ tsp. salt, 2 cups sugar, 1 cup butter (softened), 4 eggs, ½ tsp. vanilla, 3 cups pawpaw pulp. Combine dry ingredients in a bowl. In a second bowl, whisk together sugar and butter, gradually introducing the eggs, vanilla, and pawpaw pulp. Lightly mix in dry ingredients. Bake in a greased bundt pan for 40-45 min. at 350°F (175°C).

WARNING: Leaves, unripened fruit, and seeds contain neurotoxic acetogenins, which can bring on vomiting and stupor if consumed. Leaves may cause dermatitis. Ripe pawpaw flesh produces upset stomachs in some individuals.

Pecan, *Carya illinoinensis* (JUGLANDACEAE)




Jerry A. Payne, CC-BY-3.0


Clemson University, CC-BY-3.0



PECAN is a tall deciduous tree growing to 120 ft. (35m) with a rounded crown. It has a diameter to 4 ft. (1. m) and its reddish-brown bark is irregularly patterned with vertical ridges.

FLOWER AND FRUIT: Male flowers hang in slender catkins, while the inconspicuous females cluster at the tips of the twigs. Nuts are encased in smooth oblong husks, 1.5-2 inches (3.5-5cm) long, and yellow-green. In autumn, husks open by splitting into 4 segments to reveal the glossy brown nutshell. The meat within is sweet.

LEAF: Leaves are alternate and pinnately compound with 9-17 toothed leaflets. The central stalk is 12-30 inches (30-75cm) long, while the asymmetrically lanceolate leaflets are 3-8 inches (8-20cm) in length.

EDIBLE PARTS: nuts, sap

KEY MEDICINAL USES: Bark and leaves are astringent.

HOW TO HARVEST AND EAT: The tasty nutmeat can be enjoyed raw as a snack, tossed onto salads, or cooked into breads and pies. Pecans can be boiled for oil or roasted and ground into flour. Gather them in fall and dry them for 2 weeks before storing. The tree's sap can be consumed fresh or boiled into syrup.

SWEET AND SAVORY ROASTED PECANS: 2 tbsp. oil, 8 cups pecan halves, ⅓ cup maple syrup, ¼ cup brown sugar, 3 tbsp. orange juice, 4 tbsp. chopped fresh rosemary, 4 tsp. kosher salt. Combine oil, maple syrup, sugar, and orange juice. Pour mixture over pecans and add 2 tsp. salt and 2 tbsp. rosemary. Spread on a pan and roast for 25 min. at 350°F (175°C). Toss with final 2 tsp. salt and 2 tbsp. rosemary.

Persimmon (Wild), *Diospyros virginiana* (EBENACEAE)




Puddin Tain, CC-BY-SA-2.0


Jean-Pol GRANDMONT, CC-BY-3.0

WILD PERSIMMON grows from 30 to 80 ft. (9-25m) in height with a trunk diameter of 2 ft. (0.6m). Its nearly black bark is characteristically fissured into small rectangular plates, while its zig-zagging branches create an irregularly shaped crown.

FLOWER AND FRUIT: Male and female flowers are produced on separate trees between May and June. Male flowers are small and tubular, while the larger solitary female flowers are urn-shaped with 4 recurved petals. Both are fragrant and range in color from yellow-green to ivory. The round, fleshy fruits are 1-2.5 inches (2.5-6cm) across and bear 6-8 flattened seeds. Appearing from September to December, fruits mature to shades of bright orange, red and purple.

LEAF: Dark green leaves are simple, alternate and 2-6 inches (5-15cm) long, with lustrous upper surfaces and pale undersides. Their shape is elliptic, usually with smooth edges.

EDIBLE PARTS: fruit, leaves

KEY MEDICINAL USES: The highly astringent inner bark has been taken for sore throats, heartburn, diarrhea, and thrush.

HOW TO HARVEST AND EAT: Fresh persimmons are delectably sweet with flavor notes of dates and vanilla. While astringent and mealy when under-ripe, they become tender and honey-like after the first frost. You can dry them like prunes, boil them into molasses, or use them in baking. For a robust tea rich in vitamin C, steep dried persimmon leaves in hot water.

PERSIMMON PUDDING: Ingredients: 6 ripe persimmons, ½ cup whipping cream, ½ tsp. salt, 4 tsp. honey, ½ tsp. vanilla extract, 1 tsp. ground cardamom. Remove seeds from persimmons. In a bowl, mash fruits into a paste. Blend in cream, salt, honey, vanilla, and cardamom.

Pignut Hickory, *Carya glabra* (JUGLANDACEAE)




Shaun C. Williams, CC-BY-2.0


Kristel Schoonderwoerd, CC-BY-SA-2.0

PIGNUT HICKORY grows from 50 to 100 ft. (15-30m) tall with a trunk diameter to 3 ft. (1m).

FLOWER AND FRUIT: In April-May, male flowers are borne in light green catkins to 3 inches (7cm) long. Female flowers develop on short spikes. Nuts are embedded in pear-shaped, yellow-green husks to 1 inch (2.5cm) across. At maturity, husk splits into 4 sections, exposing the ovoid, hard-shelled nut.

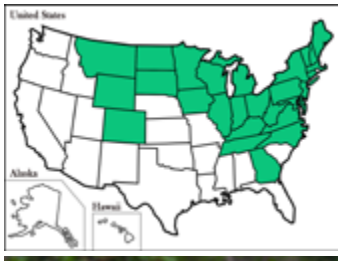
LEAF: Alternate leaves are pinnately compound with 5-7 toothed leaflets. Lanceolate and 3-6 inches (7-15cm) long, leaflets are arranged on a central stalk of 6-12 inches (15-30cm).

EDIBLE PARTS: nut, sap

HOW TO HARVEST AND EAT: Pignuts, while edible raw or cooked, vary in quality. Some are sweet, while others are bitter and unpalatable. You can leach out the bitterness by soaking the nutmeat in repeated changes of hot or cold water. Nuts can be dried and ground into flour, or boiled for oil. Gather in autumn and dry for two weeks before storing. Sap can be boiled into syrup.

HICKORY NUT SOUP: Ingredients: ½ cup raw shelled hickory nuts, 1-quart water, 1 tsp. salt, 1 tbsp. maple syrup, 1 cup hominy cooked and drained (or 1 large sweet potato peeled, diced, and roasted). Grind nuts into a thick paste. In a saucepan add nut paste, water, and salt. Bring to a boil and whisk until combined. Lower to a simmer and cook uncovered for about 30 min., stirring occasionally. When reduced by half, add maple syrup and bring to a quick boil for 5 min. Ladle soup into bowls of hominy or sweet potato.

Pin Cherry, *Prunus pensylvanica* (ROSACEAE)






Superior National Forest, CC-BY-2.0


Rob Routledge, CC-BY-3.0

PIN CHERRY, also known as Bird cherry, Fire cherry, and Red cherry, is native to woodlands with rich, moist soil in North America, across much of Canada from Newfoundland and southern Labrador to British Columbia, and the southern Northwest Territories. It is also found in New England, the Great Lakes region, and the Appalachian Mountains. Pin Cherry is found scattered in the Rocky Mountains, south to Colorado and in the Black Hills of South Dakota. Typically, trees grow 15-50 ft. (5-15m) tall, with much taller trees found in the Appalachians, and the tallest found growing to 100 ft. (30m) tall in the Great Smoky Mountains.

FLOWER AND FRUIT: Flowers occur in small clusters of 5 to 7, with each flower having 5 white, round petals and measuring 0.5 inch (1cm) across. Small, bright red fruits are drupes 0.15-0.3 inches (4-8mm) in diameter.

LEAF: Green, hairless, serrated leaves are 1.5–4.2 inch (4–11cm) long and 0.4-1.8 inch (4.5cm) wide.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: A decoction of the root has been used for stomach pains.

HOW TO HARVEST AND EAT: Harvest ripe berries and eat only the fleshy part of the fruit. The fruit is usually too sour to eat raw, so it's used mainly for pies and jellies.

PIN CHERRY JELLY: Bring 6 ½ cups Pin Cherry juice with 7 cups sugar and 6 tbsp. pectin to a rolling boil for 1 min., stirring constantly. Remove from heat, pour off foam, and pour into hot sterilized canning jars.

WARNING: Pin Cherry Seeds and leaves contain hydrogen cyanide, a toxin that can be detected by its bitter taste. Any very bitter seed or fruit should not be eaten.

Pine (White), *Pinus strobus* (PINACEAE)




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sciondriver at Flickr, CC-BY-2.0

WHITE PINE is a large evergreen conifer, growing to 150 ft. (45m), with a pyramidal crown that grows irregular with age. All true pines are edible, though not all are palatable.

FLOWER AND FRUIT: Yellow male catkins to 0.4-0.6 inches (1-1.5cm) long are borne in clusters. Light-green female flowers give way to seed-bearing cones to 8 inches (20cm) long.

LEAF: Measuring 3-5 inches (8-13cm) long, pale green needles are flexible and soft to the touch. They grow in bundles of 5, falling off after 2-3 years.

EDIBLE PARTS: young shoots, juvenile male cones, needles, inner bark

KEY MEDICINAL USES: This plant is an antiseptic, demulcent, and expectorant. Resin can be applied to cuts and inflammations.

HOW TO HARVEST AND EAT: In spring, tender new growth shoots can be harvested and cooked. You can use the juvenile male cones for flavoring, or boil them as survival fare. Inner bark can be dried and ground into flour. All year-round needles can be used for a vitamin C-rich tea.

PINE SHOOT SYRUP: Ingredients: 2 parts young pine shoots, 1 part sugar. Layer shoots and sugar in a jar. Let sit for a week.

WARNING: Resin and wood of various pine species have been known to cause dermatitis in some individuals.

POISONOUS LOOK-ALIKES: American Yew, *Taxus canadensis*; Yew Pine, *Podocarpus macrophyllus*

Pinyon Pine, *Pinus edulis* (PINACEAE)




Curtis Clark, CC-BY-SA-2.5



TWO-NEEDLE PINYON PINE is an evergreen conifer with a height of 10-40 ft. (3-12m) and grey-brown, irregularly furrowed bark. Closely related edible species are the **Single-leaf** Pinyon, *P. monophylla*, **Mexican Pinyon**, *P. cembroides*, and **Digger Pine**, *P. sabiniana*.

FLOWER AND FRUIT: The resinous seed cones are 1.5 to 2 inches (3.5-5cm) long. They have a pale yellow to rusty coloration and occur on short stalks in clusters of 2-3.

LEAF: Dark green needles are 0.5-2 inches (1.5-5cm) long, occurring in bundles of 2. Each needle has 2-3 sides with either smooth or finely serrated margins.

EDIBLE PARTS: seeds (pine nuts), inner bark

KEY MEDICINAL USES: Resin is antiseptic, expectorant, and diuretic.

HOW TO HARVEST AND EAT: The best time to harvest pinyon pine nuts is at the very beginning of September. Put on some gardening gloves to prevent your hands from getting caked with the cones' glue-like pitch, and collect the cones from the trees while they are still green. Spread the cones out on a flat surface and wait about 3 weeks for them to open. Then pick out the delicious seeds. You can roast pine nuts in their shells or eat them raw. They produce an excellent nut-butter. The inner bark, harvested in the spring, can be dried and ground into flour.

TOASTED PINYON NUTS: Heat the skillet. Cover its surface with a layer of nuts. Sprinkle with a few tablespoons of salt-water and cook on high until nuts begin to pop.

WARNING: Resin and wood of various pine species have been known to cause dermatitis in some individuals.

POISONOUS LOOK-ALIKES: American Yew, *Taxus canadensis*; Yew Pine, *Podocarpus macrophyllus*

Plum (American), *Prunus americana* (ROSACEAE)







AMERICAN PLUM grows to a height of 26 ft. (11m), often forming thickets. Of the 15-17 species of North American plums, the American plum is the most widely distributed. Related species are Beechwood Plum, *P. maritima*, Black Plum, *P. nigra*, and Chickasaw Plum, *P. angustifolia*.

FLOWER AND FRUIT: Fragrant white clusters of 2-5 flowers emerge before leaves in early spring. Each flower is about 1 inch (2.5cm) across with 5 rounded petals. The brilliant red or orange fruits are 1 inch (2.5cm) in diameter and nearly round. They ripen in August-September.

LEAF: 2.4-5 inches (6-10cm) long leaves have double-toothed edges and pale undersides.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: This plant has astringent, disinfectant, and diuretic properties.

HOW TO HARVEST AND EAT: Plums are sweet, tart, and juicy. They can be savored fresh, dried into prunes, or cooked into jellies, jams, and pies. Add pectin when making jelly. Pick plums from the tree as they ripen to bright red or orange between August and September. Plums stored in the refrigerator will keep for 1-2 weeks.

WILD PLUM COMPOTE: Ingredients: 3 cups plums, ¼ cup sugar, ¾ cup, water, 1 tsp. cinnamon, ¼ tsp. cloves. Remove pits. Place plums in a saucepan with water, sugar, and spices. Cook for 3-10 min., stirring until the sugar is dissolved. When the skins of the plums split, the compote is ready.

WARNING: All parts of this tree contain hydrogen cyanide. The quantity of toxins in the fruit's flesh is normally too low to be dangerous. However, if the flesh is bitter, do not eat. Do not consume pits or leaves.

Quaking Aspen, *Populus tremuloides* (SALICACEAE)




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Matt Lavin, CC-BY-SA-2.0

QUAKING ASPEN is a deciduous tree, growing to 40 ft. (12m). Its smooth thin bark is white when young, becoming greenish and slightly furrowed with age.

FLOWER AND FRUIT: Pendulous male and female catkins develop on separate trees between March and April before the leaves unfurl. The grey to reddish male catkins are 1.5-2.5 inches (4-6cm) long. Female seed-bearing catkins are green and 4 inches (10cm) long at maturity. They produce up to 100 silvery-tufted capsules, each containing 6-8 seeds.

LEAF: Small glossy leaves are simple, alternate, and 1.5-3 inches (4-8cm) long, with finely serrated edges and flattened stems.

EDIBLE PARTS: inner bark, sap, catkins

KEY MEDICINAL USES: This plant has antiseptic, analgesic, and anti-inflammatory properties.

HOW TO HARVEST AND EAT: In emergencies, the inner bark, which is best harvested in the spring, can be eaten fresh, boiled like noodles, or dried and ground into flour. Sap can be consumed fresh as a drink, or boiled into syrup. Catkins, though bitter-tasting, can be eaten raw or cooked.

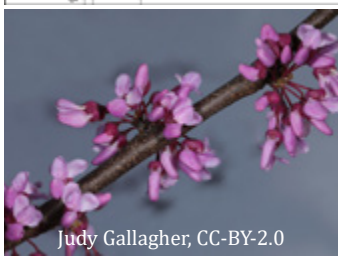
CAMBIUM CHIPS: Between the outer bark and the wood of the tree is the cambium layer. Shave away a small patch of outer bark (over-harvesting can kill the tree). Peel away the soft cambium beneath. Fry cambium strips in oil until crispy. Season with salt.

WARNING: This plant contains salicylates (from which aspirin is derived). Individuals with ulcers should not consume.

Redbud, *Cercis canadensis* (FABACEAE)






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Jean-Pol GRANDMONT, CC-BY-3.0

EASTERN REDBUD is a deciduous understory tree, typically growing to 30 ft. (12m) tall with one or more trunks. Its rounded spreading crown can grow to 25 ft. (8 m) broad. Its smooth brown bark becomes furrowed with maturity.

FLOWER AND FRUIT: Clusters of magenta-hued flowers are produced from March to May before leaves appear. Flowers are butterfly-like and measure 3.5-5 inches (9-12cm) across. Flattened pea-like pods are 2-4 inches (5-10cm) long. Each pod contains 6-12 dark seeds and matures from greenish-red to brown in the summer.

LEAF: Leaves are simple, alternate, and broadly heart-shaped, measuring 2-6 inches (5-15cm) long and wide.

EDIBLE PARTS: flower buds, flowers, young seed pods

KEY MEDICINAL USES: Bark tea has been used to treat whooping cough.

HOW TO HARVEST AND EAT: Flower buds, harvested in early spring, can be pickled like capers. Mature flowers are rich in vitamin C, with a sweet-citrusy flavor. They are fantastic in salads, fritters, and pancakes. Young, tender seed pods can be eaten raw or sauteed like snow peas.

PICKLED REDBUD: Ingredients: 1 cup flower buds, ½ cup white wine vinegar, ½ cup water, ½ tsp. kosher salt. Combine vinegar, water, and salt. Fill a clean jar with buds. Cover with brine until filled. Screw on the cap and let sit for 3 days in a cool dark place.

Rowan, *Sorbus americana* (ROSACEAE)




Darren Swim, CC-BY-SA-3.0


Superior National Forest, CC-BY-2.0


Fungus Guy, CC-BY-SA-3.0

ROWAN or Mountain Ash is a small deciduous tree growing to 40 ft. (12m), with an open, rounded crown and grey semi-smooth bark.

FLOWER AND FRUIT: White flowers are borne in flat-topped clusters to 6 inches (15cm) across. Firm, orange-red fruits arrive in August and persist until the following spring. They are 0.25 inches across, slightly glossy, and form large dense clusters.

LEAF: Leaves are alternate and pinnately compound with 11-17 finely serrated leaflets.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Fruits are astringent and digestive.

HOW TO HARVEST AND EAT: Harvest berries as they ripen from late August to November. While the fresh fruits are typically bitter and mealy, they do become sweeter after a few frosts. Simply snip the fruit clusters from the twigs, taking care not to damage next year's buds. A bucket of berries will keep for 1-2 weeks if stored in a cool, dry area. High in pectin, they are excellent for making jelly, pies, and preserves. They can also be dried, picked, cooked with meats, and fermented into a strong cider.

WILD RICE WITH ROWAN BERRIES: Ingredients: 1 cup wild rice, 4 cups chicken stock, ½ cup rowan berries (cooked, sweetened), 4 oz. (113 g) bacon, 5 crab apples, 1 tbsp. butter. Combine rice and chicken stock. Simmer for 15-20 min. Drain and save ¼ cup of stock. Lightly sauteed bacon. Add chopped apples and cook for 2 min. Toss with rice, berries, and remaining stock. Mix in butter and your choice of seasoning.

WARNING: Fruits may contain amounts of hydrogen cyanide. Consume in moderation.

POISONOUS LOOK-ALIKES: Texas Mountain Laurel, *Sophora secundiflora*; Holly, *Ilex* spp.

Sassafras, *Sassafras albidum* (LAURACEAE)




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SASSAFRAS grows 10-50 ft. (3-15m) tall and has a trunk diameter of 1 ft. (0.3m) and reddish-brown bark that releases a spicy fragrance when crushed. It occurs in woodland edges, disturbed sites, and bottomlands.

FLOWER AND FRUIT: Clusters of small yellow flowers emerge in April-May, before the leaves. Fruits are small inky-blue drupes on reddish stalks. Measuring 0.4-0.6 inches (1-1.5cm) long, they are fleshy, egg-shaped, and 1-seeded. The base of each drupe is borne in a red cup.

LEAF: Aromatic leaves range from 3-9 inches (7-23cm) long and are highly variable. A single tree may have up to 3 different leaf shapes: ovate, 2-lobed (resembling a mitten), and 3-lobed.

EDIBLE PARTS: young roots, leaves

KEY MEDICINAL USES: This plant is antiseptic, diuretic, diaphoretic, and a vasodilator.

HOW TO HARVEST AND EAT: Roots can be harvested year-round and boiled for tea. Dried root bark can be ground into a rub for meats. Dried young leaves can be pulverized to make a thickening powder for gumbo, soups, and gravies.

ROOT BEER (NON-FERMENTED): Ingredients: 10 cups water, ¼ cup sassafras root bark, 3 tbsp. sarsaparilla root, 1 tbsp. ginger, 1 tbsp. licorice root, 2 tsp. dandelion root, 2 tsp. birch bark, ¾ cup sugar. Add water, ginger, licorice, dandelion, and birch to a pot. Bring to a boil, then simmer on medium-low for 30 min. Add sassafras and simmer for 15 min. Remove from heat and dissolve in sugar.

WARNING: This plant contains safrole, a carcinogen, and potential liver-toxin. The essential oil has been banned as a food flavoring by the FDA.

Saw Palmetto, *Serenoa repens* (ARECACEAE)




David Stang, CC-BY-SA-4.0


Jacopo Werther, CC-BY-SA-2.0


Jim Duggan, CC-BY-2.0

SAW PALMETTO is a shrubby, low-growing palm that forms dense thickets. It is in leaf all year-round, often with several creeping, horizontal stems, and an overall height of 3-7 ft. (1-2 m). Occasionally, it grows upright to 25 ft. (8m) tall.

FLOWER AND FRUIT: In late spring, numerous creamy-white flowers grow on stalked, plume-like spadices to 2 ft. (60cm) long. Each flower is 0.2 inches (0.5cm) across. Fruit is, olive-shaped, single-seeded, and 1 inch (2.5cm) long. Green when immature, it ripens from amber to bluish-black between August and October.

LEAF: Rigid, dagger-like leaflets radiate from a central point to form a distinct fan shape 1-3 ft. (30-90cm) wide. Leaf-stalks can grow to 5 ft. (1.5m) long.

EDIBLE PARTS: palm heart, fruit

KEY MEDICINAL USES: Fruit is expectorant, diuretic, and antiseptic. They are often used for prostate issues and to increase libido.

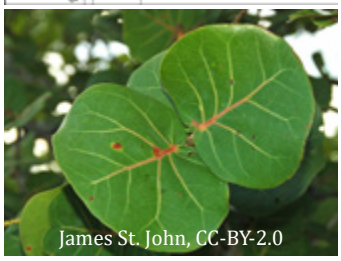
HOW TO HARVEST AND EAT: The palm-heart is located at the tip of the palmetto's trunk. To harvest them, you'll need protective gloves and a sharp tool. Remove leaves, then hack into the stem to retrieve the dense cylinder of tender new growth. Hearts are delicious in salads and can be cooked as a vegetable. The pungent fruits are edible raw or cooked.

PAN-SEARED PALM HEARTS: Ingredients: 14 oz. (400g) palm hearts (cut into ½ inch rounds), 1 tbsp. oil, ½ tsp. cayenne pepper, ¼ tsp. pepper, ¼ tsp. salt. Heat oil in pan. Rub palm hearts with seasoning. Cook for 2 min. on both sides until golden brown.

WARNING: Do not consume if pregnant, lactating, or taking hormonal medication. This plant can potentially increase blood-pressure. Stop using 2 weeks prior to any surgery.

Sea Grape, *Coccoloba uvifera* (POLYGONACEAE)




James St. John, CC-BY-2.0



SEA GRAPE is a small tree or shrub found along sandy and rocky seashores, often forming sprawling thickets in sand dunes. The plant's light-brown bark is commonly blotched with orange and grey. Sea grape may develop by spreading to 6.5 ft. (2m) in height, or grow erect to 50 ft. (15m) with a compact rounded crown.

FLOWER AND FRUIT: Narrow racemes of fragrant white-green flowers are produced in January- August. Flowers are 0.2 inches (5mm) across and 5-lobed. In March-October, fruits develop in tight cylindrical clusters. Each grape is egg-shaped, 0.7-1 inches (1.8-2.5cm) broad, and contains a large elliptical seed.

LEAF: Leaves are simple, alternate, and nearly round, with smooth margins and a heart-shaped base. Measuring 4-10 inches (10-26cm) long and almost as wide, they persist on the plant for 2-3 years.

EDIBLE PARTS: fruit

KEY MEDICINAL USES: Bark and roots are astringent.

HOW TO HARVEST AND EAT: Pick grapes as they mature from summer to October. One harvesting method is to cover the clusters with a bag and give the branches a shake. The ripe fruit will dislodge from the branches. They can be enjoyed fresh or made into jams and jellies. They can also be used for wine making. The plant's springtime flower nectar produces a spicy honey.

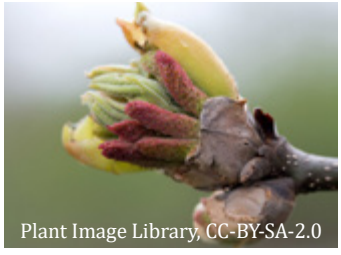
SEA GRAPE TEQUILA: Ingredients: 12 green sea grapes (seeds removed), 2 oz. (30ml) tequila, ice cubes, 1.5 oz. (44ml) tonic water, ¾ oz. (22ml) grenadine. Muddle sea grapes in a cocktail shaker. Add tequila, grenadine, and ice and shake for 30 seconds. Strain into a glass and top up with cold tonic water.

POISONOUS LOOK-ALIKES: See American Pokeweed

Shagbark Hickory, *Carya ovata* (JUGLANDACEAE)




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Tgalos90, CC-BY-SA-4.0

SHAGBARK HICKORY is a medium to large deciduous tree, growing to 90 ft. (27m) with distinctively shaggy grey bark. It has a trunk diameter to 1.7 ft. (0.5m) and an oval-rounded crown.

FLOWER AND FRUIT: Male flowers emerge with the leaves in drooping yellow-green catkins 4-5 inches (10-13cm) long. Female flowers are inconspicuous on short spikes at the branch tips. Green, nearly-round husks with thick walls enclose the nuts. Each husk is 1-2 inches (3-5cm) long. It divides into 4 segments in autumn to release its egg-shaped nut.

LEAF: Leaves are alternate and pinnately compound with 5-7 toothed leaflets. Measuring 3-7 inches (8-18cm) long, leaflets are broadest near the middle or tip, with the terminal leaflet as the largest.

EDIBLE PARTS: nuts, sap

KEY MEDICINAL USES: It's analgesic and antirheumatic. Bark can be applied externally to inflamed joints.

HOW TO HARVEST AND EAT: The sweet nutmeat can be eaten raw or roasted. Like walnut flesh, it can be boiled for oil, ground into flour, or used in salads, cooking and baking. Collect nuts as they fall and dry them for 2 weeks before storing. The sap can be boiled into syrup.

HICKORY NUT AMBROSIA: Ingredients: 2 cups crushed hickory nuts and shells (without husks), 6 cups water, 1 cup milk, 4 tbsp. honey. Wash nuts thoroughly. Smash them with a hammer. Collect shells and good nut meat in a pot, discarding any bad meat. Simmer in water over medium-low heat for 45 min. Strain liquid into mugs through a cheesecloth. Add milk and honey.

Siberian Elm, *Ulmus pumila* (ULMACEAE)




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Melburnian, CC-BY-2.5

SIBERIAN ELM reaches 50-70 ft. (15-20m) tall and grows best in rich, well-drained soils.

FLOWER AND FRUIT: Small, short-stemmed clusters of 3-15 inconspicuous flowers are produced in March-April before leaves develop. Flowers are reddish-green and 0.12 inches (0.3cm) wide. They give way to flattened, oval samaras of about 0.4 inches (1cm) long, each containing a solitary seed.

LEAF: Dark green leaves are simple, alternate and 1-3 inches (2.5-7.5cm) long. Blades are elliptic to oblanceolate in shape and toothed along the edges.

EDIBLE PARTS: young samaras, leaves, inner bark

KEY MEDICINAL USES: The stem bark and leaves are a diuretic and febrifuge.

HOW TO HARVEST AND EAT: Young samaras can be harvested in spring; are delicious fresh, boiled, or steamed. Leaves are most tender in March-April; are edible raw or cooked. To harvest inner bark, remove a vertical patch of the outer bark with a knife and then strip off the tender cambium layer between the outer bark and the wood. Never remove a section of bark in a ring around the trunk, since this will interrupt the nutrient flow and kill the tree. Once harvested, the cambium can be sun-dried for a few days and then ground into flour to thicken soups or make bread. Strips of inner-bark can also be boiled as noodles.

SIBERIAN SAMARA SALAD: Ingredients: immature samaras; carrot shavings; 1 tbsp. each of mayo, horseradish, fresh dill, and garlic greens; 3 tbsp. milk. Add samaras and carrot shavings in a bowl. As dressing, whisk mayo, horseradish, dill, garlic greens, and milk. Drizzle over salad.

Sitka Spruce, *Picea sitchensis* (PINACEAE)




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Sitka National Historical Park, CC-BY-2.0

SITKA SPRUCE is a giant evergreen conifer that grows to more than 250 ft. (80m) tall with an open conical crown; it holds the title of the world's largest spruce. Its towering naked trunk is buttressed at the base and plated with scaly, maroon-hued bark, and can grow to 15 ft (5m) wide.

FLOWER AND FRUIT: Male catkins are yellow and egg-shaped. Female catkins are reddish. Female seed cones are 1-4 inches (2.5-10cm) long.

LEAF: Sharp needles are 0.5-1.5 inches (1.5-4cm) long and bluish to yellowish-green. Technically 4-sided, they appear flattened or triangular in cross-section.

EDIBLE PARTS: young shoots, male catkins, young female cones, inner bark

KEY MEDICINAL USES: This plant has antiseptic and analgesic properties.

HOW TO HARVEST AND EAT: Young shoot tips make a vitamin C-rich tea. Together with the immature male catkins, they are edible raw or cooked. Female cones, when young and tender, turn honey-like within when roasted. In emergencies, inner bark can be harvested in spring-summer.

SPRUCE CRUMBLE TOPPING: Mix ¼ cup spruce needles (dried, powdered), ½ cup each of ground almonds and chestnut flour, ⅔ cup butter, 1 tsp. salt. Spread on a baking sheet and toast until golden. Sprinkle over meats and vegetables.

POISONOUS LOOK-ALIKES: American Yew, *Taxus canadensis*; Yew Pine, *Podocarpus macrophyllus*; Norfolk Island Pine, *Araucaria heterophylla*

Slippery Elm, *Ulmus rubra* (ULMACEAE)









SLIPPERY ELM is a deciduous tree growing to 60 ft. (18m). It has a trunk diameter of 2 ft. (0.6m) and grey bark that develops in flat, longitudinal ridges. The tree's large winter buds are fuzzy with rust-colored hairs.

FLOWER AND FRUIT: Greenish-red flowers develop in crowded short-stalked clusters before leaves emerge. Each flower is 1 inch (2.5cm) across. In March-June, single seeds are produced within yellow-green samaras measuring 0.6-0.8 inches (1.5-2cm) broad.

LEAF: Leaves are simple, alternate and 5-8 inches (12-20cm) long, with sharply double-toothed edges.

EDIBLE PARTS: inner bark

KEY MEDICINAL USES: The inner bark is demulcent, emollient, and expectorant.

HOW TO HARVEST AND EAT: Due to a combination of over-harvesting and dutch elm disease, the slippery elm is in decline all across North America. With this in mind, only harvest the inner bark of trees that have recently been cut down, or that have fallen over on their own. Steam the slippery cambium in hot water to make a thick, soothing tea. You can dry and grind it into a pow der for mixing with other grains or for making a broth. You can also cut bark into strips and boil them like noodles.

SLIPPERY ELM PORRIDGE: Ingredients: 3 tbsp. powdered slippery elm bark, 7 oz. (207ml) water, 1 cup nut milk, 1 scoop protein powder, 1 tsp. cinnamon, 3 oz. (85g) berries. In a saucepan, simmer bark powder in water on medium heat until the mixture thickens. Dissolve protein powder and cinnamon in nut milk; stir into porridge. Remove from heat and add berries.

WARNING: Outer bark contains compounds that can induce abortions. Avoid if pregnant.

Walnut (Arizona), *Juglans major* (JUGLANDACEAE)









ARIZONA WALNUT grows to 50 ft. (15m) and its bark is dark and furrowed. The trunk is often forked and can grow to about 4 ft. (1.2m) in diameter. Arizona walnuts grow in dry, rocky soils.

FLOWER AND FRUIT: In late spring, branches bear drooping male catkins and inconspicuous 4-lobed female flowers. Seeds ripen in October-December, are encased in spherical husks, about 1-1.5 inches (2.5-4cm) in diameter, with fuzzy, yellow-green skins. Within each husk is a hard-woody shell, blackish-brown in color and vertically grooved, which protects a single 2-lobed walnut.

LEAF: Leaves can grow up to 1 ft. (0.3m) long and are pinnately compound.

EDIBLE PARTS: nut

HOW TO HARVEST AND EAT: Enjoy walnuts as a snack or use them in oatmeal, salads, stews, and desserts. By boiling the nutmeat, you can obtain a delicate vegetable oil with a shelf-life of 6-12 months. To harvest, gather them as they fall from midsummer through autumn. Once you've hulled the nuts from the husks with a knife, lay them out to dry for 3-4 days. The cured nuts will keep for several months in a cool dry area, up to a year in the fridge, and more than 2 years in the freezer.

ROAST PEPPER WALNUT DIP: Ingredients: 1 tsp. ground cumin, 1 tsp. pimento, 6 tbsp. olive oil, 3.5 oz. (100g) Arizona walnuts, 8 oz. (227g) roasted red peppers (minced), 1 tbsp. tomato puree, 1 garlic clove, 2 tbsp. lemon juice. In a pan, heat ground cumin and pimento in olive oil until fragrant. Crush up walnuts with mortar and pestle, Blend with the remaining ingredients and stir in the oil.

Walnut (Black), *Juglans nigra* (JUGLANDACEAE)







BLACK WALNUT can grow up to 120 ft. (36m) tall. Its trunk can grow to 4 ft. (1.2m) in diameter. The black walnut's stout twigs have three-lobed scars that resemble monkey faces.

FLOWER AND FRUIT: Male flowers occur on green catkins. Female flowers are borne in small upright clusters and develop into spherical green husks, 1.5-2.5 inches (4-6cm) in diameter, which encase the woody, deeply-furrowed walnut shell. The nut inside is fleshy and 4-lobed, maturing between October and November.

LEAF: Leaves are alternate and pinnately compound with 13-23 unevenly paired leaflets. Measuring 1.5-3.5 inches (4-9cm) long, leaflets are lance-shaped with toothed edges and slightly hairy undersides.

EDIBLE PARTS: nut, sap

KEY MEDICINAL USES: Black walnut is analgesic, astringent, anti-fungal, and anti-inflammatory.

HOW TO HARVEST AND EAT: Gather nuts that have fallen, wearing gloves to protect your hands from their staining tannings. Remove husks. Lay walnuts to dry for 2-3 weeks. To crack the shells, place them on the ground with the pointed side up and strike with a hammer. Walnut sap can be boiled into syrup.

BLACK WALNUT CREAM: Ingredients: 6 cups walnuts, 6 cups vegetable stock (or water), salt and pepper. Simmer nuts and vegetable stock until nuts become tender. Puree in a blender or mash with a utensil. Season with salt and pepper. Toss with pasta noodles or drizzle over vegetables.

WARNING: Fruit husks and leaves have been known to cause dermatitis in some people.

Walnut (White), *Juglans cinerea* (JUGLANDACEAE)






WHITE WALNUT or Butternut is a deciduous tree growing to 80 ft. (24 m) tall, that thrives in moist, fertile woodlands.

FLOWER AND FRUIT: Yellow-green male catkins and inconspicuous white female flowers appear in April-June. Nuts are encased in sticky, green lemon-shaped husks, which are 1.2-2.5 inches (3-6cm) long. In clusters of 3-5, they ripen between mid-September and November.

LEAF: The fragrant yellow-green leaves are alternate and pinnately compound with 7-17 toothed leaflets.

EDIBLE PARTS: nut, sap

KEY MEDICINAL USES: This plant is an antiseptic, astringent, and cholagogue (bile stimulating).

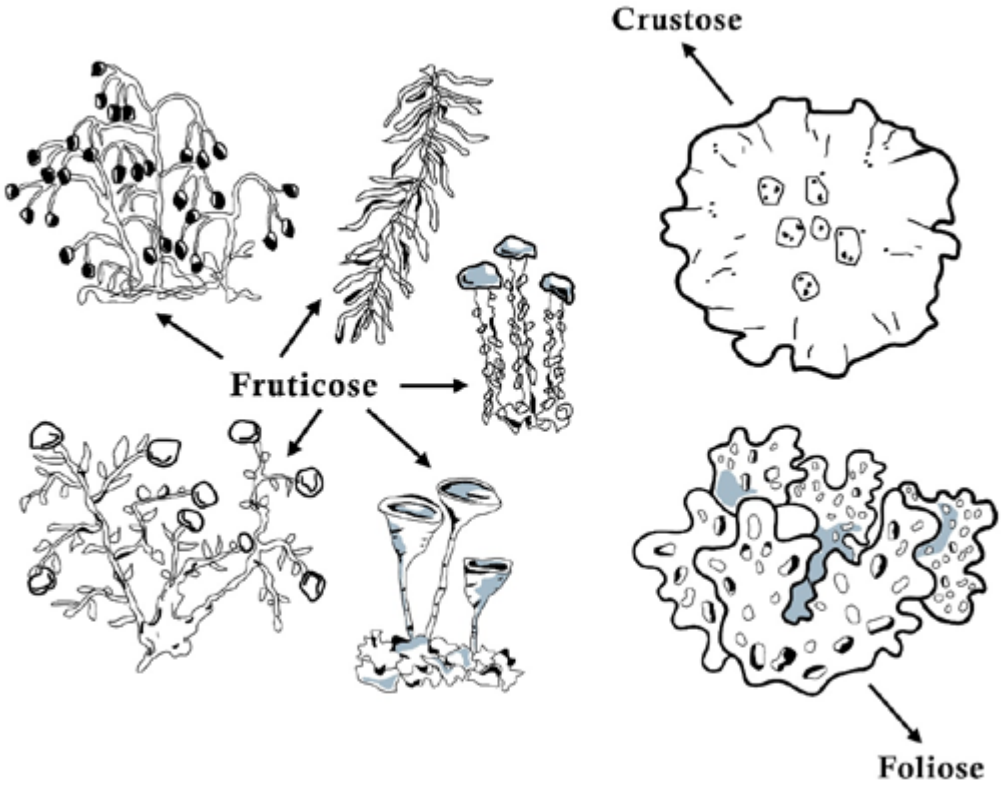
HOW TO HARVEST AND EAT: Savor nuts as a snack, use them for cooking, grind them into flour, or boil for their oil. It is best to shake the ripe butternuts from branches, as the ones fallen spoil rapidly. If you can dent the outer husks with your thumbnail, they are ready. Remove husks within a day after harvesting and separate good nuts from bad ones by placing in water. Discard any that float. Next, sun-dry the nuts for 3-4 weeks until you can hear them rattling in their shells. Once you remove their shells, butternuts will go rancid quickly. The sap, tapped on a sunny day in the new year before the leaves emerge, can be boiled into syrup.

WHITE WALNUT PESTO: Ingredients: ½ cup butternuts, 3-4 garlic cloves, 0.5 cup parmesan cheese, ½ tsp. salt, ½ black pepper, ½ cup olive oil, 1 tsp. honey. Toast butternuts on a skillet for 8 min. Pulverize walnuts with garlic. Add cheese, salt, pepper, oil, and honey. Blend well.

WARNING: Contact with this plant may cause skin irritation in some individuals.

Lichens

Lichen growth forms



Lichens Foraging, ID, and Safety

Lichens consist of at least 2 types of organisms living symbiotically; a structural fungus that encapsulates either a green alga or a blue-green cyanobacterium, or both. It is now thought that a fourth organism, a type of yeast, may play a crucial role in the formation of some species.

The fungus protects the algae from direct sunlight and from drying out. The fungus absorbs minerals and nutrients from the air and substrate, whereas the algae and cyanobacteria produce energy via photosynthesis. Cyanobacteria also convert nitrogen gas from the air into a usable fixed form of nitrogen that can be used to form amino acids.

A typical characteristic of all lichen species is the ability to dry out during the summer and seemingly come back to life in the wetter months. This ability comes from the fact that the fungus produces microscopic filaments that are rooted into the surface of the substrate, so it's only the fruiting body of the lichen that you can see with the naked eye.

These filaments physically and chemically erode the substrate they are growing into, including rock, so lichens form an important part of nutrient cycling. Lichens dry out incredibly slowly because they can absorb up to 35 times their weight in water; they can even absorb moisture directly from the air.

Types of Lichens

Broadly speaking, there are 3 types of lichens. They are distinguished by the type of structure the fungi produce: crustose, foliose and fruticose. These 3 main types of structures, called a thallus, combine and morph to produce the huge variety of lichens found all over the world.

Crustose lichens are the most common and form a tight crust on the substrate that flakes off like old paint in the summer months.

Foliose lichens are flat, leaf-like structures that flake off the substrate easily.

Fruticose lichens have an obvious bushy or shrubby appearance.

Lichens usually reproduce via small fragments breaking off. These fragments are equipped with both the fungus and the algae or cyanobacteria, so it can start growing immediately, although incredibly slowly.

Alternatively, lichens can reproduce sexually via spores, similar to fungi.

Foraging Lichens

Here are some guidelines for foraging edible lichens:

1) Lichens contain powerful acids that must always be leached away before you eat them. Failing to do so can result in the worst stomachache of your life. To leach lichens, soak them for 3 hours in many changes of water. If available, use 1 tsp. baking soda or potash with each change.

2) As a general rule, stay away from yellow-hued lichens. They may contain poisonous acids that not even leaching can remove.

3) Pay attention to the lichen's substrate (the surface it grows on). If your lichen is growing somewhere where it's not supposed to be, avoid it. It's probably a different species than the one you want.

4) Lichens absorb water and nutrients through their bodies and many are incredibly long-lived. This means they can accumulate a lot of pollutants, including heavy metals, throughout their lives. For this reason, consume lichens only in small quantities and from clean areas.

5) Lichens are very slow-growing, so please harvest them in an ethical way. I prefer to harvest tree-growing lichens after a windstorm knocks them to the ground, leaving intact lichens to keep growing in place.

Warning

Lichens are some of the most mysterious organisms on the planet. While relatively few lichens have been described as poisonous by scientists, it is important to keep in mind that the vast majority of lichens are inedible.

Moreover, our understanding of these organisms is evolving all the time.

New species are being identified almost every year, and many lichens can only be properly distinguished from each other with the help of a microscope and chemical testing.

With this in mind, take proper care when identifying lichen species. Do not eat anything you cannot identify with 100% certainty, and always seek an expert opinion first.

Terminology List

Apothecia - A raised, disc shaped structure found on some lichens that produce the spores.

Areolae - Crustose lichens eventually break up into flakes, like old, cracked paint. These flakes are called areolae.

Crustose - One of the 3 major types of lichens, based on their structure. Crustose lichens form a flat crust on the rock that is tightly secured to the surface.

Foliose - One of the 3 major types of lichens, based on their structure. Foliose lichen form scales or flaps that are slightly raised off the surface of the rock.

Fruticose - One of the 3 major types of lichens, based on their structure. Fruticose lichen form prominent features that look shrubby or coral-like.

Isidia - The reproductive structures which emerge from the surface of the thallus as stalks which can break away to produce another lichen. Both algae and fungal cells exist in the isidia.

Pseudocyphellae - The pores on the thallus of lichens that help with gas exchange. They appear as tiny white or yellow spots.

Soredia (plural; Soredium) - The powdery reproductive structures that are blown off the thallus when its surface ruptures to produce another lichen. Both algae and fungal cells exist in the soredia.

Thallus - The fruiting body of a lichen, which is the most visible part. Its shape and color vary enormously between species of lichens.

Edible Lichens

Iceland Moss, *Cetraria islandica* (PARMELIACEAE)







ICELAND MOSS is a fruticose lichen that forms spongy, moss-like mats over sandy soils and exposed surfaces. It grows from 2 to 4 inches (5-10cm) high in colonies that typically span 2-8 inches (5-20 cm) across. Suited to tundra, bogs, and alpine zones, it occurs across Canada and in the US Appalachian Range.

PHYSICAL FEATURES: This upright lichen is usually anchored to its substrate from a single point. Its numerous trough-shaped branches divide into thin, flattened lobes. The lobes are evenly toothed with tiny spines, giving the lichen a tufted appearance. The lichen's upper surface may be olive-green to brown; its underside is whitish. When wet, Iceland Moss is lush and rubbery; when dry, it becomes curled and brittle, often developing a rusty tinge.

REPRODUCTIVE FEATURES: Though rare, fruiting bodies (apothecia) are produced along the edges of the lobes. They are brown, rounded, and slightly compressed.

EDIBLE PARTS: entire lichen (leached)

KEY MEDICINAL USES: Iceland Moss has strong demulcent, disinfectant, and antibiotic activities. It has been used to treat coughs, bronchitis, tuberculosis, indigestion, and pulmonary illness. It is applied externally to wounds.

HOW TO HARVEST AND EAT: It is rich in nutritious starches and can be harvested year-round. To remove its rock-dissolving acids, soak it for 3 hrs. in many changes of water. If possible, add baking soda to each soaking. Leached lichen can be boiled into jelly, or dried and powdered for use in soups and bread.

ICELAND MOSS MILK SOUP: Ingredients: 1 large handful of Iceland Moss (leached), 4 cups milk, 1 tbsp. sugar, salt. Bring milk to a simmer in a saucepan. Add Iceland Moss and sugar and cook for 10 min. Add salt to taste. For a thicker, gelatinous soup, simmer for 2 hrs.

WARNING: Due to the presence of strong acids, do not eat before leaching first. People with ulcers should avoid. In excess, this lichen may cause nausea and diarrhea. Lead contamination is possible. Avoid during pregnancy and breastfeeding.

POISONOUS LOOK-ALIKES: See chapter Warning

Lungwort Lichen, *Lobaria pulmonaria* (LOBARIACEAE)







LUNGWORT LICHEN, also known as **Tree Lungwort**, is a giant green leaf-like lichen. Found in rich, moist forests, Lungwort drapes from trees, rocks, and rotting wood. In North America, it occurs along the Pacific Coast, from Alaska to California. Populations are also found to the east around the Great Lakes and Appalachian Mountain regions.

PHYSICAL FEATURES: Resembling billowing lung tissue, Lungwort's strongly lobed body is loosely anchored at one end. Growing to more than 12 inches (30cm) broad, its surface is ridged and pitted. Its branching lobes measure 0.4-1.2 inches (1-3cm) wide and up to 3 inches (8cm) long. Lush and vivid green when wet, Lungwort becomes green-brown and brittle when dry. Its underside is whitish and bumpy.

REPRODUCTIVE FEATURES: Reddish-brown fruiting bodies (apothecia) are occasionally produced on the Lungwort's upper surface. Tiny knob-like isidia and granule-like soredia develop along the ridges.

EDIBLE PARTS: entire lichen

KEY MEDICINAL USES: This lichen has anti-inflammatory and antiseptic properties. It has been used to treat respiratory and staph infections, coughs, bronchitis, and ulcers. It is also applied externally to wounds.

HOW TO HARVEST AND EAT: A traditional ingredient in Siberian beer-making, Lungwort can be harvested at all times of the year. To remove its rock-dissolving acids, soak it for 3 hours in many changes of water. If possible, add baking soda to each soaking. Leached lichen can be boiled into jelly, or dried and powdered for use in soups and bread.

LUNGWORT FLATBREAD: Ingredients: 1 cup dried Lungwort (leached, powdered), 1 ½ cup rye flour, ½ cup wheat flour, salt, boiling water. Combine powdered lichen with flours and salt. Slowly add in boiling water while mixing until you get a dough. Pat dough into flat cakes, place on a pan. Grill on both sides.

WARNING: Due to the presence of strong acids, do not eat before leaching.

POISONOUS LOOK-ALIKES: See chapter Warning

Oak Moss, *Evernia prunastri* (PARMELIACEAE)







OAK MOSS is a bushy, fruticose lichen that is widely distributed throughout the Northern Hemisphere. It grows on neutral to acidic bark, favoring the stems and branches of oaks. It has also been known to grow on other hardwoods and, in rare instances, on conifers. This lichen is found from low elevations to montane regions, thriving in sunny, humid environments.

PHYSICAL FEATURES: The lichen's body is palmately branched, shrubby, and green-grey to pale yellowish-green, ranging from 0.8-3 inches (2-8cm) broad. Its numerous branches, which may be upright or drooping, are strap-shaped, flattened, and forking. Measuring about 0.2 inches (0.5cm) broad near the base, the branches taper outward, ending in blunt or pointed tips. Netted ridges pattern their surfaces. The lichen's underside is pale with whitish patches. When old or dried, oakmoss becomes greyish-white with a dark-brown base and tips.

REPRODUCTIVE FEATURES: Fruiting bodies (apothecia) are rare. Greyish, coarsely granular soredia often appear on the ridges and margins of the branches.

EDIBLE PARTS: entire lichen

KEY MEDICINAL USES: Oakmoss is used in aroma therapy to relieve headaches. Its essential oil is antiseptic, emollient, and expectorant.

HOW TO HARVEST AND EAT: Oakmoss can be harvested year-round. Once leached (see "Iceland Moss" for instructions) it can be boiled, fried, or dried and powdered for use in soups and bread. This starchy lichen has a perfume-like aroma. Avoid yellowish specimens, which are higher in acid content and can be confused with poisonous lichens.

TRUFFLE-LEMON OAKMOSS: Ingredients: 2-4 handfuls fresh oakmoss (cleaned, leached), sunflower oil, ½ tsp. truffle oil, 1 squirt lemon juice, salt, pepper. Boil oak moss for 10 min. and set aside for a few minutes to dry off. Fry oakmoss in sunflower oil for 5-10 sec., remove with tongs and place on paper towel sheets to drain. Transfer crispy moss to a bowl and toss with salt, pepper, truffle oil, and lemon juice.

WARNING: Due to the presence of strong acids, do not eat before leaching first. Oakmoss contains the toxin thujone. Consume sparingly.

POISONOUS LOOK-ALIKES: See chapter Warning

Reindeer Lichen, *Cladonia rangiferina* (CLADONIACEAE)







REINDEER LICHEN also known as **Reindeer Moss**, is a shrubby, finely-branched lichen that occurs in well-drained, open environments. Forming dense sprawling mats or balls, it grows upon soil, raised peat, and mossy rock. While most abundant in the southern arctic, it is also found in temperate regions across Canada and the northern United States.

PHYSICAL FEATURES: Beginning as a scaly crust, Reindeer Lichen develops into an upright, finely-branched structure of 1.5 to 5 inches (4-12cm) tall. Its numerous stems are round, hollow, 0.02-0.07 inches (0.6-1.8mm) wide, and sometimes perforated. The tips of the branchlets, which resemble tiny antlers, are curved downward. Reindeer lichen may be white or silvery-grey, occasionally with brown or purple tips. It is never greenish or yellowish.

REPRODUCTIVE FEATURES: Fruiting bodies (apothecia) are rare. Greyish, coarsely granular soredia often appear on the ridges and margins of the branches.

EDIBLE PARTS: entire lichen

KEY MEDICINAL USES: A decoction of this lichen has been used to treat diarrhea.

HOW TO HARVEST AND EAT: In Scandinavia, Reindeer Lichen is used to make the spirit, akvavit. Once leached, it can also be boiled into jelly, or dried and powdered for use in soups and bread. To remove the harmful acids, soak Reindeer Lichen for 3 hours in many changes of water. If possible, add baking soda to each soaking.

FRIED REINDEER LICHEN: Ingredients: Reindeer Lichen (leached), oil, dried fish (crumbled). Steam lichen for 10 min. Place in a pan with hot oil and fry until crispy. Sprinkle with dried fish.

WARNING: Due to the presence of strong acids, do not eat before leaching first. People with ulcers should avoid. Because of potential lead contamination, consume in small quantities. Avoid during pregnancy and breastfeeding.

POISONOUS LOOK-ALIKES: See chapter Warning

Rock Tripe, *Umbilicaria* spp. (UMBILICARIACEAE)







ROCK TRIPE is a family of 65 foliose lichens that grow over the surfaces of rocks, boulders, and cliff faces. Large and leathery, they thrive in moist, shaded areas including forests. In North America, these lichens are distributed from Canada to Mexico. Two prevalent species are **Smooth Rock Tripe, *U. mammulata***, and **Frosted Rock Tripe, *U. americana***. In East Asia, **Stone Ear Mushroom, *U. esculenta***, is a much-loved delicacy.

PHYSICAL FEATURES: Rock tripe is thick, flattened, and leathery with a spreading, indefinite form. Ranging from 1-8 inches (2.5-20cm) wide, it is attached to its substrate from a naval-like center. Its upper surface may be brown, grey, olive green, or orange-brown, often with brittle margins. Its lower surface is deep brown or black, with tiny dark hairs called rhizines. Some rock tripe varieties are smooth; others are wrinkled, crumpled, covered in small bumps, or pitted with cell-like cavities. Still others are covered with white powdery granules called pruina, which give them a frosted appearance.

REPRODUCTIVE FEATURES: Apothecia are common in some species and rare in others. They are dark and disc-shaped. Some are raised, others are tightly appressed to the lichen's upper surface.

EDIBLE PARTS: entire lichen

KEY MEDICINAL USES: *U. esculenta* has been used in Chinese medicine to treat bleeding, inflammation, and poisoning. It exhibits anti-tumor, anti-HIV, and anti-thrombotic activities.

HOW TO HARVEST AND EAT: All rock tripe is considered edible. Once leached (see "Iceland Moss" for instructions), they can be cooked as a vegetable, fried, or simmered in soups and stews.

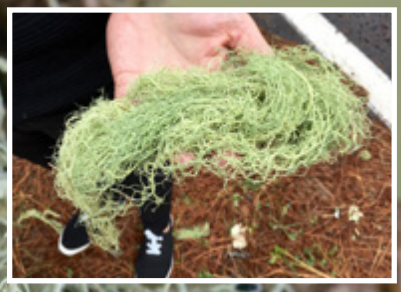
ROCK TRIPE SALAD: Ingredients: Rock Tripe (leached, rehydrated), garlic (diced), fresh chili peppers (finely chopped), Chinese black vinegar, light soy sauce, sugar, sesame oil. Simmer Rock Tripe for 30 min. Drain, rinse and let cool. Combine other ingredients in a bowl until sugar dissolves. Mix in rock tripe. Cover and let marinate for 30 min. Garnish with chopped scallions.

WARNING: Contains strong acids; do not eat before leaching first. People with ulcers should avoid. Consume in small quantities. Avoid during pregnancy and breastfeeding.

POISONOUS LOOK-ALIKES: See chapter Warning

Usnea Lichen, *Usnea* spp.
(PARMELIACEAE)







USNEA is a large genus of edible fruticose lichens. Anchored at one end by a holdfast, Usnea grows from the bark of coniferous and hardwood trees. Most species are pale greenish-grey, though some are yellowish-green. They can be bushy and beard-like, or filamentous and drooping. Found in moist, temperate forests across North America, Usnea is most abundant along the Pacific Coast.

PHYSICAL FEATURES: Every Usnea species contains a white, and often elastic, central cord, which threads through the interior of its branches. This white cord, which can be seen by pulling one of the main stems apart, distinguishes Usnea from other lichens. (The core of plant "look-alike", Spanish Moss, is black.) Usnea's stems and side branches are cylindrical, rather than flat. Some species are short and shrubby. *U. longissima* is threadlike and can grow to 20 ft. (6m) long.

REPRODUCTIVE FEATURES: Fruiting bodies are rare in most North American species. *U. florida*, found in Mexico, produces apothecia that are flat, whitish, and disk-shaped.

EDIBLE PARTS: entire lichen

KEY MEDICINAL USES: Usnea contains usnic acid, a strong antifungal, antibacterial, and antiviral agent. It has been used to treat pneumonia, tuberculosis, and sore throats. It can also be applied to wounds to prevent infection.

HOW TO HARVEST AND EAT: Usnea can be harvested year-round. You can nibble small amounts of this lichen off the tree. However, larger quantities should be properly leached (see "Iceland Moss" for method) before eating. Usnea has a sweet-bitter flavor. It can be used to fill out soups and stews.

USNEA SALMON HEAD SOUP: 1 large salmon head (gills removed), 4 onions (diced), 3 carrots (chopped), 4 garlic cloves (diced), 3 slices ginger, 1 fennel (diced), 1 cup Usnea (leached, chopped). In a pot, add salmon, 2 onions, carrots, and water. Simmer for 2-3 hrs. Strain out fish head and vegetables, reserving the broth and salmon flesh. Sauté garlic, ginger, 2 onions, fennel. Add broth and Usnea. Simmer until flavors integrate. Add salt, seasoning, and reserved salmon flesh.

WARNING: Usnea has been linked to liver damage when eaten in quantity.

POISONOUS LOOK-ALIKES: See chapter Warning

Wila/Edible Horsehair Lichen, *Bryoria fremontii* (PARMELIACEAE)





Jason Hollinger, CC-BY-2.0



Jason Hollinger, CC-BY-2.0

WILA drapes in thread-like skeins from the tree branches. Found in dry, open forests, it prefers coniferous species such as ponderosa pine, western larch, and Douglas fir. Wila grows in western North America, occurring from southern Yukon Territory to California. It contains 2-5% protein.

PHYSICAL FEATURES: Wila's tangled, drooping filaments grow from 2.5-18 inches (6-45cm) long. Its main branches are distinctly twisted and pitted, with rounded to flattened surfaces. Stem thickness is uneven, from 0.02-0.06 inches (0.05-0.15cm) wide. Slimmer side branches fork off at roughly perpendicular angles. Wila's brown coloration varies from chocolatey to reddish to yellowish. It is typically sleek and wiry, without brittleness. When wet, it becomes soft and flaccid.

REPRODUCTIVE FEATURES: Fruiting bodies (apothecia), when present, are yellow disks, 0.04-0.08 inches (1-2mm) across. Granule-like soredia, yellow or greenish, occasionally develop in tiny patches.

EDIBLE PARTS: entire lichen

KEY MEDICINAL USES: Wila has been used externally to remove warts, relieve swellings, and staunch wounds. Internally it is taken for gastrointestinal complaints.

HOW TO HARVEST AND EAT: Wila can be harvested year-round with a long stick. It must be washed thoroughly, leached (see instructions under "Iceland Moss"), and pounded to expel its green, acidic juices. The traditional way to cook Wila is slowly in an earthen pit. If prepared right, Wila will taste sweet and savory.

PIT-COOKED WILA: Ingredients: Wila (washed, leached, pounded), wet vegetation (e.g.: moss, ferns, grass), root vegetables. Dig a pit 11.5 feet (3.5 m) wide and 3 ft. (1 m) deep. Line bottom with red-hot rocks. Cover rocks with soaked vegetation. Layer on Wila and vegetables. Cover with another bed of wet greens. Bury with earth and light a fire above. Let steam for 1-5 days. Cooked Wila should resemble a black, sticky dough. Eat fresh or dried.

WARNING: Only harvest Wila if it is dark-hued (not yellow) and growing on a coniferous tree. If it is bitter-tasting, avoid, as it can contain vulpinic acid, which is poisonous. Leach before eating. Consume in small quantities.

POISONOUS LOOK-ALIKES: Wila can be easily confused with other stringy lichens, including the deadly *B. tortuosa*. See chapter Warning.

Poisonous Lichens

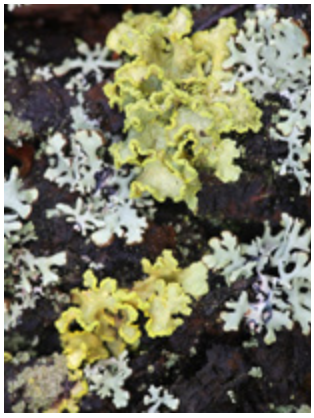
Poisonous Wila, *Bryoria tortuosa* (PARMELIACEAE)



Millifolium, CC-BY-SA-3.0

The deadliest lookalike for Edible Wila, *B. fremontii*, is *Bryoria tortuosa*, which contains highly poisonous vulpinic acids. *B. tortuosa* has tiny, yellow slit-like pores (pseudocyphellae) on its surface, which are absent in edible Wila. *B. tortuosa* also tends to have a yellowish or greenish color. Because of this, many people will only harvest dark-hued edible Wila. However, both poisonous Wila and edible Wila can display each other's colors. What's more, the 2 species sometimes grow intermixed. Unless you are equipped with the necessary experience to distinguish the two, it's best to stay away from Wila.

Powdered Sunshine Lichen, *Vulpicida pinastri* (PARMELIACEAE)



Powdered Sunshine Lichen is bright yellow and leafy. It grows on the bark and wood of various trees, often preferring slender branches and twigs. In North America, it occurs most commonly in open mountain forests across boreal and subarctic regions.

PHYSICAL FEATURES: The short, leafy lobes overlap in many layers, often forming rosettes. Averaging 0.08- 0.3 inches (0.2-0.6cm) wide, the lobes are loosely appressed to loosely attached to the lichen's substrate. Their edges are minutely round-toothed to sharp-toothed. Both the upper and lower surfaces are sunny yellow to yellowish-green, occasionally becoming greyish green in shaded habitats. The center of the lichen's underside is darker - usually brownish-yellow - and covered in whitish rootlike structures called rhizines.

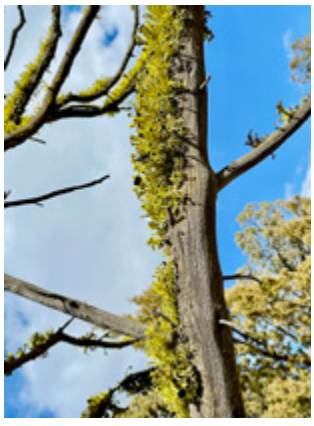
Tumbleweed Lichen, *Xanthoparmelia chlorochroa* (PARMELIACEAE)


Matt Lavin, CC-BY-SA-2.0

Tumbleweed Lichen, previously named *Parmelia molliuscula*, may have been the culprit of 300 elk deaths in 2004. Distributed from the Rocky Mountains region to the semi-desert areas of Mexico, this pale greenish lichen grows freely on soil. It often becomes unattached and is blown about by the wind.

PHYSICAL FEATURES: This lichen's tough leathery body grows free from the soil and is separated into equally or irregularly branched lobes. Each lobe is nearly linear, with an average length of 1.2-4 inches (3-10 cm) and width of 0.06-0.2 inches (0.2-0.5 cm). The lobe edges are downturned and roll inward. The upper surface can range in color from pale yellowish-green to whitish blue-green. The lower surface is pale to dark brown, sometimes with whitish tips, and covered with tiny pale brown rootlike structures called rhizines.

Wolf Lichen, *Letharia vulpina* (PARMELIACEAE)

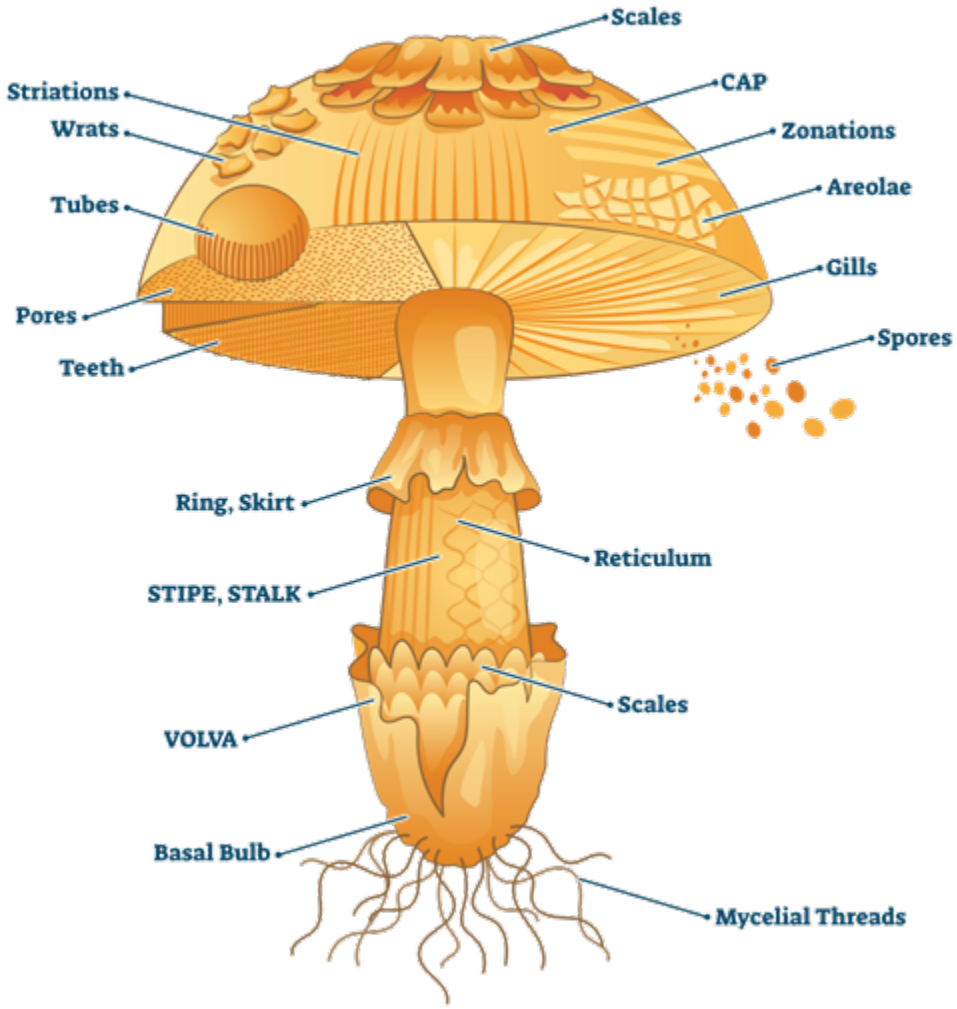


Wolf Lichen is recognizable by its fluorescent yellow-green habit. Distributed across western North America, this shrubby, highly branched lichen grows on the bark and wood of both living and dead conifers. Less frequently, it may develop on acidic rock.

PHYSICAL FEATURES: It grows upright to spreading, averaging 0.8-2 inches (2-5cm) tall and 0.8-3 inches (2-8cm) wide. Its numerous, tangled branches may extend in tufts or slightly droop like beards. They are flexible, crowded, and form right angles towards the tips. Each branch is about 0.02-0.06 inches (0.05-0.15cm) wide. The lichen's color ranges from bright lemon yellow to chartreuse, though normally it is somewhere in between. Old branches may discolor to pale orange-yellow, yellowish-brown, or greenish-grey.

Mushrooms

Mushroom anatomy



Mushroom Foraging, ID, and Safety

Good harvesting practices and mushroom safety go hand in hand. Here are some guidelines for foraging wild mushrooms:

Learn Your Land

Mushroom foraging demands an ongoing engagement with fungi and the natural world. The best way to practice smart, safe mushroom hunting is by learning about the edible and poisonous mushrooms in your area and how to identify them. This will sharpen your identification skills, give direction to your foraging, and help you stay alert to possible dangers.

Know the Risks

It is useful to remember that the many inedible and poisonous mushrooms that grow in the wild vastly outnumber the edible wild mushrooms. If a mushroom is simply inedible, it won't necessarily harm you, but there are poisonous varieties that may indeed be lethal. **Don't experiment with eating mushrooms you don't know**.

The effect a poisonous mushroom can have on the human body varies depending on the species of mushroom and often on the person who has consumed it. In North America, there are no mushroom toxins that can be absorbed through the skin by touching or handling a poisonous species. However, eating a poisonous mushroom - or even a small piece of one - can be enough to hospitalize or even kill a person. Some of the deadliest mushrooms, including members of the *Amanita* genus, inflict damage on the cellular level, eventually shutting down the body's major organs. Non-lethal poisonous species can cause a range of unpleasant symptoms.

If you think you have accidentally eaten a poisonous mushroom, call your nearest hospital or poison control center immediately.

Some edible mushrooms may cause adverse reactions in sensitive people. If you are trying a confirmed edible mushroom for the first time, it is best to start with small portions until you have a better understanding of how your body responds to it. **Always cook mushrooms**. This book contains information on key poisonous look-alikes, which you should be on the alert for when you are hunting for edible mushrooms. Bear in mind that this section is not an exhaustive list of all the poisonous species that grow in the wild. Inedible mushrooms have not been included. Remember that no mushroom is foolproof and that you should always obtain an expert opinion before consuming a wild mushroom.

Hunt Prepared

Materials to bring with you when you're out mushroom hunting are:

- A sturdy knife
- A pen and paper for making notes
- Waxed paper or paper bags
- A sharpie for labeling
- A basket
- A mushroom field guide
- A magnifying glass (recommended)

Get the Whole Mushroom

To identify a mushroom accurately, make sure you are dealing with the entire mushroom by digging the whole fruiting body up. Important evidence may be hidden underground.

Poisonous members of the *Amanita* genus, for example, have a characteristic volva, or sack, that sheathes the underground portion of the stem base. Without digging up the mushroom in its entirety, you'd miss out on a crucial identification feature that, in the case of a deadly *Amanita*, could mean the difference between life and death.

For mushrooms that grow on the ground, insert a sturdy knife or trowel into the soil about 1 inch (2.5 cm) from the stem and use it to carefully lever the mushroom up. Some mushrooms that grow on wood can be twisted or trimmed from their stem bases. Do replant the stem once identified and spread mushroom spores if possible, for future harvests (do not breathe them in).

If Possible, Get the Family

Harvesting a collection of mushrooms from a single site will give you further clues about your specimen's identity. Ideally, you want to acquire samples of the same kind of mushroom at different stages of life, since mushrooms can transform significantly from button stage to maturity.

The poisonous False Parasol (*Chlorophyllum molybdites*), for example, has white gills when young and is easily confused at this stage with similar-looking edible mushrooms. As it matures, however, its gills turn greyish-green. So, the presence of a green-gilled mushroom among a group of seemingly-edible white-gilled ones can act as a warning.

Keep in mind that key features of a mushroom's anat-

omy, such as the ring on a species' stem, can easily fall off or be destroyed. Collecting a representative sample of mushrooms can improve your chances of getting the full scope of evidence you need for accurate identification.

With this said, never assume that the mushrooms you find all belong to the same species, just because they are growing together in the same area. Similar-looking mushrooms, including poisonous and edible ones, do grow together. Always identify individual mushrooms case by case. Always obtain an expert opinion. And if in doubt, throw it out.

Make Notes on Site

Mushroom identification always begins on site. Once a mushroom is picked, it will begin to decay. Deterioration will cause the specimen's shape, color, and texture to change - more quickly and dramatically in some species than in others. By documenting your mushroom's appearance right away, you'll ensure that you have a reliable, permanent record of its features. You can refer to these notes later when you continue the identification process at home.

Starting from top to bottom, make notes on the mushroom's size, anatomy, surface texture, flesh color, bruising patterns, odor, and other characteristics you may notice. The color of the mushroom's exterior is also important, but don't rely on it as a primary means of identification since color can change depending on the mushroom's age and environment.

A second reason for identifying your mushroom on location is that, in the fungal world, ecology is everything. What surface (substrate) your mushroom grows on and which plant species it grows near are often crucial identification features. Whether your mushroom grows with other mushrooms, and how close or distant they are to each other, may also be important clues. Include these observations in your notes.

Keep Them Fresh; Keep Them Organized

You are going to want to get your mushrooms home as quickly as possible while they are still fresh. Don't use plastic bags to transport your findings because plastic will cause mushrooms to sweat, thereby speeding up the decaying process. The old-school method of carefully wrapping your mushrooms in waxed paper, or placing them in open wax-coated paper bags, is still the best one. Keep your mushrooms in separate, labeled packages to avoid confusing them, and use a basket to transport them.

Always Make a Spore Print

The size, shape, features, and color of a mushroom's spores are all valuable information for mushroom identification. While not everyone has a microscope at home, everyone can and should be making a spore print for each mushroom.

Spore prints tell us the color of a mushroom's spores, which can be a valuable identification feature in distinguishing an edible mushroom from a poisonous look-alike. Make your spore print as soon as possible, before your specimen starts to dry out or decay.

Separate the mushroom's cap from its stem, and place the cap spore surface (e.g. gills, pore surface) down on a sheet of white paper. Note that white spore prints will not easily show up on white paper. As a solution to this, I like to lay a sheet of black paper halfway over a sheet of white paper and position the mushroom cap so that it straddles both surfaces. Others prefer to make their spore prints on a mirror surface. It is important not to use colorful or tinted paper since it



Gills on the underside of a mushroom ready for a spore print, by the author



Mushrooms on both black and white paper, gills down, covered by a glass container to obtain spore prints

can distort the hue of your mushroom's spores, which could, in turn, lead to a serious identification mistake.

To keep the air from interfering, place a clean bowl or cup upside down over the mushroom cap and paper.

Some species will take longer than others to deposit their spores. You should wait for 4-24 hrs., without moving the mushroom or the paper.



Mushroom, gills down, showing the spore print it made



Mushroom, gills up, after spore print is complete



Mushroom, gills up, after spore print is complete

Consult a Guidebook

Compare your field notes, the mushroom's spore print, and (if possible) microscopic details you've noted to the descriptions offered in a mushroom guidebook. If your specimen displays *some* but not *all* of the features described in your field guide, do not assume that it is the same species as the one you are reading about.

Mushroom hunters make a practice of consulting multiple field guides. New mushroom species are discovered each year and information on the edibility of a given mushroom can change as our understanding of them grows.

So, make sure your guidebooks are up-to-date and that at least one of them is regional. A mushroom with no poisonous look-alikes in the southeast may have poisonous look-alikes in the northwest.

Getting in touch with a local expert or joining a mushroom hunting group are great ways of building up your knowledge and experience.

If in Doubt, Throw it Out

If you cannot confirm a mushroom's identity with 100% certainty, throw it out. Always obtain an expert opinion before cooking and eating wild mushrooms.

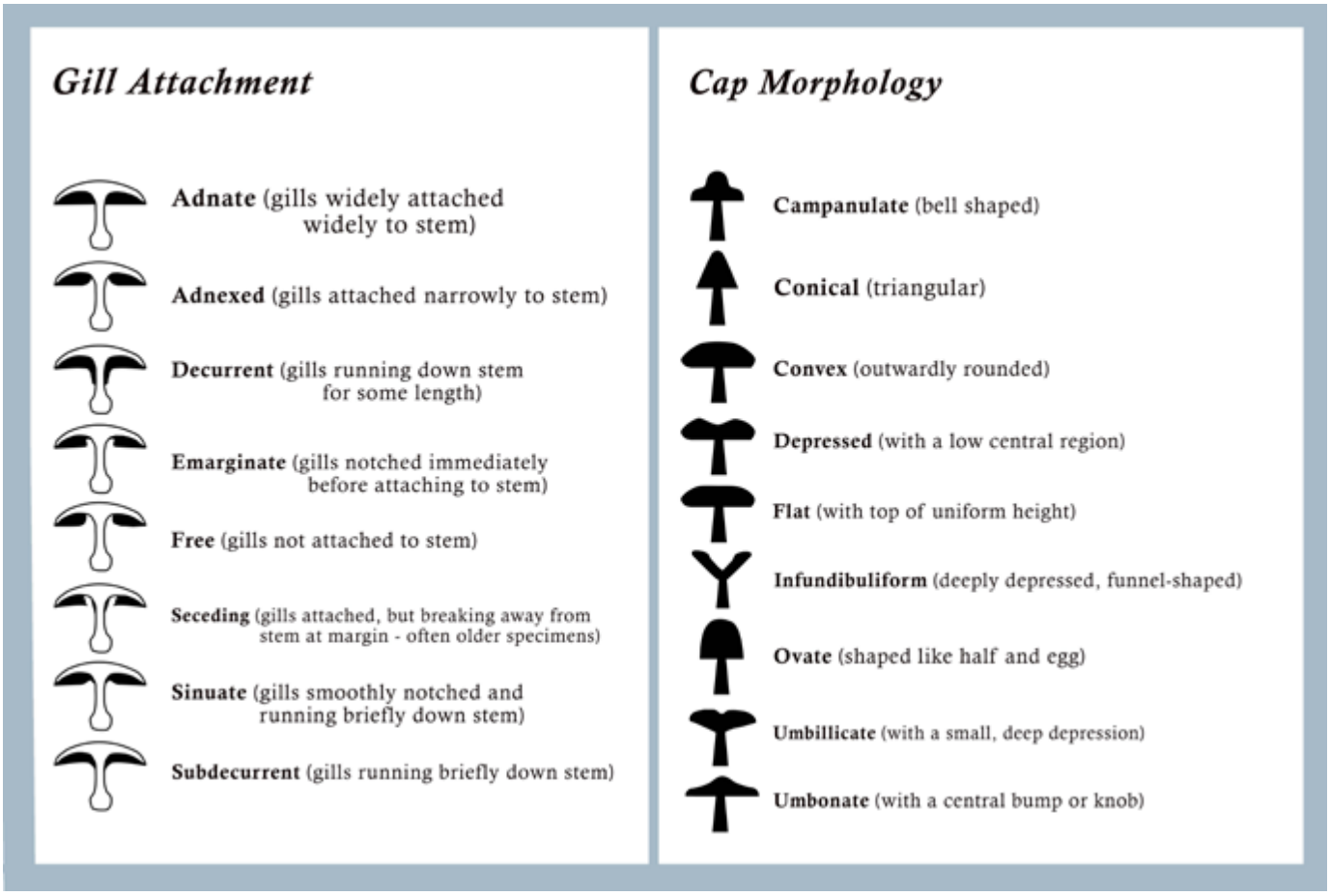
Never Eat Wild Mushrooms Raw

Once you've positively identified an edible species of mushroom with 100% certainty, make sure to cook it thoroughly. Some edible mushrooms, like morels, are poisonous when raw or undercooked. On the same note, never eat any mushroom that is past its prime. Like any expired food, mushrooms in an advanced state of decay can cause food poisoning.

A Note on Spore-Bearing Surfaces

The profiles found in this section of the book will often include information about the mushroom's spore-bearing surface. Four common surfaces mentioned are:

Gills: These are bladelike structures attached to the underside of the cap, which produce spores. The gills' shape, size, texture, color, distance from each other, and relationship to the stem are all important identifying features. While the gills of most mushrooms run parallel to each other, a few species are known to have forking or cross-veined gills.



False Gills: Some mushrooms, such as Chanterelles, have a wrinkled or ridged spore-bearing surface on the underside of the cap. These can resemble gills if they become prominent enough. Unlike gills, however, the wrinkles are not separate structures and they cannot easily be plucked from the cap.

Pores: Other mushrooms, including those in the Bolete family, have a spongy layer of tubes on the underside of the cap. The mouths of these tubes resemble tiny pores. The spores are produced inside the tubes.

Spines: Hedgehog mushrooms are among the few fungi that have spore-bearing teeth that hang from the cap's underside.

A Note on Chemical Testing

Chemical testing is another valuable tool for discovering the identity of a mushroom. One of the most common chemical tests involves applying Melzer's reagent to a mushroom's spores.

Melzer's reagent is an iodine solution. Spores that turn navy blue on contact with this liquid are called "amyloid". Those that don't change color are "inamyloid". A "dextrinoid" reaction is when a mushroom's spores change to reddish-brown. Because Melzer's reagent contains the controlled substance, chloral hydrate, it is not easy for most people to acquire. If you can obtain some through a mycologist friend, here is how to use it:

Use a razor blade to scrape some of the spore dust off your mushroom's spore print. Carefully tap the spore dust onto a microscope slide. Add a drop of Melzer's solution to your spores.

From here, you can observe the spores under a microscope. (Place a coverslip over the slide and softly tap away any bubbles. Before reaching the highest magnification on your microscope, place a drop of immersion oil on the top of the coverslip.)

If you don't have a microscope, you will still be able to see any changes in the spore dust's color by placing the microscope slide on top of a sheet of white paper.

Edible Mushrooms by Type

Edible mushrooms are divided into 2 large groups: Ascomycetes and Basidiomycetes.

Ascomycetes are divided into: Morel Mushrooms, Truffles, Lobster Mushrooms, and Cup Fungi.

Basidiomycetes are divided into: Gilled Mushrooms, Bolete Mushrooms, Gilled Boletes, Chanterelles and Chanterelle-like Mushrooms, Polypore Mushrooms/Bracket Fungi/Shelf Fungi, Club and Coral Mushrooms, Toothed/Spined Mushrooms, Puffballs, and Jelly Fungi.

Terminology List

Adnate gills - The gills extend from the edge of the cap straight across to the stalk (or stipe) so that it covers the top of the stalk. For example, the gills of *Cortinarius* and *Leptonia* species.

Adnexed gills - The gills extend from the edge of the cap but curve inwards and narrow towards the stalk (or stipe) which exposes the top of the stalk. For example, the gills of blewit mushrooms.

Basal bulb - Found at the base of the volva, the basal bulbs are the start of the fruiting body or button stage. It tends to be half buried where the mycelium are attached.

Cap - The top of a mushrooms fruiting body that holds the gills, tubes, teeth, or pores.

Decurrent gills - The gills extend from the edge of the cap and then start to extend down the top of the stalk. For example, the gills of *Cuphophyllus* species.

Fibrillose ring - The remnants of the universal veil that protects the immature spores under the cap, otherwise known as the ring or skirt.

Fusiform setae - Microscopic structures found on the surface of mushroom gills. They tend to be dark brown with thick walls that taper to a point at each end.

Gill - The gills are one of four types of structures that contain the spores in certain species of mushrooms. The gills are usually held underneath the cap of the mushroom.

Mycelial thread - The fine, hair or thread like structures that act as a root system in mushrooms, also called hyphae. The collective term for the network of hyphae or threads is mycelium.

Pores - Pores are one of four types of structures that hold the spores underneath the cap in some mushrooms. For example, *Boletus* species such as porcini.

Reticulum - A rectangular type of pattern that is found on the cap and sometimes stalk of mushrooms. The rectangular pattern may produce raised ridges or simply a color difference.

Ring or Skirt - The remnants of the universal veil which remains underneath the cap of the mushroom, otherwise known as the fibrillose ring. This part of the veil protects the spores while the mushroom matures and as it grows, the veil is ripped apart to release the spores.

Scales - The remnants of the universal veil that remains as small pieces scattered over the cap of the mushroom. Scales can also be found around the base of the stalk, where it joins the volva. In some mushrooms, for example, *Lepiota* species, the scales on the cap may be a result of the skin cracking as the cap grows larger.

Spores - The minute reproductive cells that are released from the cap of the mushroom, either via the gills, pores, tubes or teeth. Each spore is a single cell and come in a variety of colors.

Stalk or Stipe - The upright stem of the mushroom that supports the cap.

Striation pattern - A vertically striped pattern on the top of the cap, usually around the margin of the cap. The striations may have raised ridges, be smooth or even transparent. For example, on *Amanita* species.

Teeth - Teeth are one of four types of structures that hold the spores on the underside of the cap in some mushroom species. Otherwise known as spines, the teeth hang down from the cap to take advantage of wind dispersal for the spores. For example, hedgehog and lion's mane mushroom caps.

Tubes - Tubes are one of four types of structures that hold the spores underneath the cap in certain types of mushrooms. They are usually embedded into the mushroom cap.

Veil - The veil is the remnant of the universal veil that encloses the mushroom while in the button stage. The veil remnants that are found on top of the cap are known as scales; the veil remnants that are found underneath the cap that protect the immature spores is called the fibrillose ring or skirt and the veil remnants at the base of the stalk is called the volva.

Volva - The bulbous structure at the base of the mushroom with the remnants of the universal veil attached. The volva is usually cup shaped. At the base of the volva is the basal bulb.

Warts - Smaller pieces of the scales that are found on the top of the mushroom cap. A term also used for microscopic scales and abnormal growths.

Zonation pattern - Horizontal stripes or concentric circles on the top of the cap. *Zonation* patterns are in the opposite direction of striations. For example, on the caps of *Lactarius* species.

MOREL MUSHROOMS

Morels are members of the genus *Morchella*, which are pitted and ridged, forming a honeycomb-look on its cap. This group also contains false morels, *Gyromitra* and *Verpa*. Always cook well.

Black Morel group, *Morchella elata* (MORCHELLACEAE)





BLACK MOREL is a name given to 14 different North American dark-hued morel species, including *M. angusticeps* and *M. importuna*. Black morels grow on forest ground, favoring disturbed or burned areas and the soil around conifers and aspen. Widely distributed, they fruit singly or in groups during spring.

CAP: The caps are 1.2-4.3 inches (3-11cm) tall and 0.8-3 inches (2-8cm) wide, with a rounded margin at the base. Some are narrowly cone-shaped, while others are nearly round. They are patterned with elongated, honeycomb-like pits and ridges, which are sometimes arranged in rows. The pits are yellow-brown to nearly black, while the ridges are dark brown to black in mature mushrooms. The cap's interior is hollow, brittle, and whitish.

STEM: Measuring 1.6-5 inches (4-13cm) tall and 1-2.8 inches (2.5-7cm) thick, the whitish stems are equal, thicker at the top, or swollen at the base. Some are smooth while others are wrinkled, irregularly fluted, or roughened with tiny granules. The interior is hollow.

SPORES: 20-30 x 11-15 µ, elliptical, smooth, no oil droplets

EDIBLE PARTS: cap, stem

HOW TO EAT: These highly sought-after mushrooms are nutty, woodsy, and fragrant. Use them in simple recipes that showcase their unique flavor. As you clean them, slice them in half to check for bugs. Always cook morels thoroughly.

SAUTEED MORELS WITH ASPARAGUS: Ingredients: ¼ lb. (100g) fresh morels (chopped), 2 tbsp. olive oil, 2 tbsp. butter, 1-2 green garlics (sliced), 1 tsp. herbs de Provence, 1 lb. (500g) asparagus (trimmed), salt, black pepper. Boil asparagus in salted water (3 min.). Sauté garlic, morels, and herbs in oil and butter (3-5 min.). Toss with chopped asparagus, salt, and pepper.

WARNING: Morels can cause gastric upset if eaten raw or if not thoroughly cooked.

POISONOUS LOOK-ALIKES: **False Morels** (*Gyromitra* spp. and *Helvella* spp.)- caps wrinkled and brain-like or saddle-shaped, not pitted; interiors not hollow, filled with soft, wooly tissue. **Early Morel** (*Verpa bohemica*) - cap longitudinally wrinkled, not pitted, completely free of the stem.

Blushing Morel, *Morchella rufobrunnea* (MORCHELLACEAE)




Dany Torres, CC-BY-SA-3.0


Ron Pastorino, CC-BY-SA-3.0

BLUSHING MOREL occurs in a variety of habitats. It grows mostly on wood chips, compost heaps, and disturbed ground. It fruits in spring solitarily or in groups.

CAP: Cap is 2.4-4.7 inches (6-12cm) long, 0.8-2 inches (2-5cm) broad, and conical to egg-shaped, with the base fused to the stalk. Its exterior is patterned with large, honeycomb-like pits and ridges, which are vertically elongated. Ridges begin whitish and nearly-rounded, becoming narrowed and yellowish-brown as mushroom matures. Pits are dark brown, paling to yellowish-brown in age. Cap's interior is whitish and hollow.

STEM: Stem is 0.8-3 inches (2-8cm) tall, 0.4-1.2 inches (1-3cm) thick, and equal or enlarged at base. Its whitish surface is smooth to finely granular, often developing broad wrinkles. Stem's interior is hollow.

SPORES: 18-25.5 x 12-17 µ, elliptical, smooth, no oil droplets

EDIBLE PARTS: cap, stem

HOW TO EAT: They have a rich toasted-nut flavor. Always cook morels thoroughly.

FRIED MORELS: 1 lb. (500g) morels, 2 cups flour, salt, pepper, garlic powder, 2 eggs, ½ cup milk, lard. Combine flour and seasonings. Whisk together eggs and milk. Coat morels in flour, dip them into the egg mix. Roll in flour again. Fry in hot lard.

WARNING: Morels can cause gastric upset if eaten raw or if not thoroughly cooked.

POISONOUS LOOK-ALIKES: **False Morels** (*Gyromitra* spp. and *Helvella* spp.), **Early Morel** (*Verpa bohemica*)

Common Morel, *Morchella esculenta* (MORCHELLACEAE)









COMMON or **YELLOW MOREL** is especially common east of the Rocky Mountains. Growing in a wide variety of habitats, it is most closely associated with hardwoods including oak, elm, and fruit trees. It fruits on the ground in early spring, occurring on its own, or in dense to scattered groups.

CAP: Cap is 1.6-4.3 inches (4-11cm) tall, 0.8-2.5 inches (2-6cm) wide, and conical to oval, with the base fused to the stalk. It is patterned with narrow ridges and irregularly arranged honeycomb-like pits of different sizes. Cap's color is whitish-yellow to yellowish-brown and usually paler along the ridges.

STEM: Measuring 0.8-4.7 inches (2-12cm) tall and 0.6-4 inches (1.5-10cm) thick, the stem is equal or broader at the base. Its finely granular exterior is white to yellowish or brownish.

SPORES: 18-24 x 11-15 µ, elliptical, smooth, no oil droplets

EDIBLE PARTS: cap, stem

HOW TO EAT: Rich, nutty, and earthy, these mouthwatering mushrooms taste even better after you dry them. To revive them, simply soak them in water. During prep, slice your morels in half to check for bugs.

MOREL CREAM SAUCE: Ingredients: ¼ cup shallots (minced), 1 tbsp. butter, salt, ¼ cup dry white wine, 1 handful of fresh morels (halved), 6-8 oz. (170-230g) cream, lemon juice, pepper. Sauté shallow in butter with salt. Add wine and simmer until it has reduced by two thirds. Add morels, cream, lemon juice, and pepper. Cook on medium-low heat for 5 min. Serve with pasta or meat.

WARNING: Morels can cause gastric upset if eaten raw or if not thoroughly cooked.

POISONOUS LOOK-ALIKES: **False Morels** (*Gyromitra* spp. and *Helvella* spp.), **Early Morel** (*Verpa bohemica*)

Thick-stemmed Morel, *Morchella snyderi* (MORCHELLACEAE)




M. Kuo & Methven, CC-BY-SA-3.0


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THICK-STEMMED MOREL is widespread along the Rocky Mountains and the montane regions of the Pacific coast. Appearing singly or numerously from April to June, it fruits on the soil under conifers including Douglas-fir, white fir, and ponderosa pine. Unlike many other morels, this mushroom does not grow on recently burned sites.

CAP: The cap is 1.4-3 inches (3.5-8cm) high, 1.2-2 inches (3-5cm) broad, and conical to oval, with a rounded margin at the base. Its elongated, honeycomb-like pits and ridges are vertically arranged. Yellowish when young, the ridges darken to greyish-brown or black in age, growing thin, while the pits become dingy. The cap's interior is hollow and whitish.

STEM: The hollow stem is 1.4-2.8 inches (3.5-7cm) tall, 1-1.6 inches (2.5-4cm) thick, and equal or enlarged towards the base. Its surface is whitish to brownish-tan and granulose. As it matures, the stem becomes knobbly with ridges and depressions.

SPORES: 25-37 x 15-23 µ, elliptical, smooth, no oil droplets

EDIBLE PARTS: entire lichen

HOW TO EAT: These nutty, richly-flavored mushrooms should be cooked thoroughly. When preparing morels, cut them in half to inspect for bugs.

THICK-STEMMED MOREL BISQU: Ingredients: ½ cup butter, 1 tbsp. minced garlic, 1 onion (diced), 8 oz. (230g) morels (sliced), 1 tbsp. chicken soup base, 1 tbsp. flour, 2 cups water, 2 cups heavy cream, 1 tsp. thyme, salt, pepper. In a pot, sauté garlic, onion, and morels in butter (5 min.). Add chicken soup base and flour (cook 1-2 min.). Add water and cream (simmer 5 min.). Puree the soup in a blender. Return puree to the pot and simmer on low heat for 10-15 min. Season with salt, pepper, and thyme.

WARNING: Morels can cause gastric upset if eaten raw or if not thoroughly cooked.

POISONOUS LOOK-ALIKES: **False Morels** (*Gyromitra* spp. and *Helvella* spp.), **Early Morel** (*Verpa bohemica*)

TRUFFLES

Oregon White Truffle, *Tuber oregonense* and *T. gibbosum* (TUBERACEAE)




Ryane Snow, CC-BY-SA-3.0

Ivy Hutchison

OREGON WHITE TRUFFLE is the common name for 2 species that are native to the western coast of North America in Douglas fir forests. They don't grow in maple or cedar forests. The 2 species are very similar in appearance and have the same distribution and habitat, but they fruit at different times. They grow underground.

CAP: No cap, instead it is the typical, irregular potato-shape that truffles have. Outer skin on *T. oregonense* is opaque and develops a reddish tinge as it gets older. It tends to be golf ball size. Outer skin on *T. gibbosum* is thinner, which makes it even more translucent looking, and it develops a cinnamon-pinkish tinge instead. Oregon white truffles can range in size from a cherry to a golf ball. They are firm when squeezed. The inside of the truffle is white when young and becomes marbled and smoky colored when mature.

STEM: none

SPORES: Enclosed within the truffle are its microscopic spores, which are dispersed by animals feeding on them. 1–4 spores are scattered within tiny sacks inside the truffle, and each spore within the sack can vary in shape from oblong to spherical.

EDIBLE PARTS: round, fruiting truffle

HOW TO HARVEST AND EAT: *T. oregonense* is best harvested in October to early March. *T. gibbosum* can be found in early February-June. Truffles usually grow between the layer of organic material on the surface, and the soil layer underneath, so you may see cracks in the organic layer or signs of animals digging where the truffle is growing. Rake the organic material away carefully to expose the truffle. Avoid raking large areas. Once you have found one, you can return to it every year. Best truffles have a rich, earthy scent that tells the forager that it is mature and ready to eat. Immature truffles that have been raked up will not mature, so they won't produce the intense smell and taste. Wash in water, brush with a damp, soft toothbrush. Dry with a paper towel. Best eaten fresh within 3 days and grated in small quantities for seasoning cheese, dairy products, smoked meat, pasta and sauces. Cooking them will destroy the flavor. Sprinkle on top of finished dishes.

SCRAMBLED EGGS WITH SHAVED OREGON WHITE TRUFFLE: Ingredients: 4 eggs, 1 Oregon white truffle, handful of cut shallots for garnish. Whisk the eggs and fry, sprinkle with shaved Oregon white truffle and shallots. Serve with toast. Alternatively, store your truffles in a glass container with your eggs for 24 hours; the eggs will absorb their aroma and flavor.

POISONOUS LOOK-ALIKES: Some poisonous species of ***Amanita*** and ***Cortinarius*** mushrooms in the young, underground developmental stages can look similar to Oregon white truffle. The texture helps to identify these young, poisonous mushrooms; truffles are firm and brittle, whereas developing *Amanita* and *Cortinarius* mushrooms are soft and spongy and easy to squash.

LOBSTER MUSHROOMS

Lobster Mushroom, *Hypomyces lactifluorum* (HYPOCREACEAE)





Ivy Hutchison

Dan Molter, CC-BY-SA-3.0

LOBSTER MUSHROOMS are created when *Hypomyces lactifluorum* engulfs and parasitizes a white-fleshed host mushroom of the *Russula* or *Lactarius* genus. The result is a pimpled, distorted, but brilliantly colored orange fruiting body (they can sometimes be white). Lobster mushrooms devel-op in summer and fall, following wet weather. They are widely distributed, occurring alone or gregariously in wooded areas.

FRUITING BODY: As the host mushroom becomes enveloped by *H. lactifluorum*, it changes from white to bright orange or orange-red. Its surface turns tough and pimpled and its shape deforms into many odd distortions. Some mushrooms can appear nearly funnel-shaped, while others are reduced to a crumple of folds. The host's gills become blunt ridges, though its flesh remains notably white. Old mushrooms turn purplish and soft with a rank fishy odor.

SPORES: 30-50 x 4.5-8 µ; spindle-shaped, two-celled, densely warted, colorless

EDIBLE PARTS: young fruiting body

HOW TO EAT: When fresh, these highly prized mushrooms have a crisp texture and a flavor that resembles seafood. Harvest them when they are young and firm, clean them well, and cook them thoroughly. Old mushrooms, which develop flaccid flesh and a strong fishy odor, should be avoided.

LOBSTER MUSHROOM SOUP: Ingredients: 4-5 stalks celery (diced), 3 onions (finely chopped), 10 cups chicken stock, 2 large lobster mushrooms (chopped), ¼ cup butter, ¼ cup parboiled rice grains, 1 tsp. turmeric, salt, pepper. In a large pot, bring stock to a boil. Add rice and reduce to a simmer. In a pan, sauté mushrooms in butter (3 min.). Add celery (sauté 3 min.) and onions (sauté 3 min.). Stir mushrooms and vegetables into the broth. Season with turmeric, salt, pepper. Simmer for 30 min.

WARNING: Cumulative evidence so far shows that *H. lactifluorum* only parasitizes edible *Russula* and *Lactarius* mushrooms. However, lobster mushrooms do make some people sick. There have been a few reports of gastrointestinal irritation, burning throat, and sweating.

POISONOUS LOOK-ALIKES: ***H. luteovirens***, which looks like a greenish-yellow lobster mushroom, is inedible.

CUP FUNGI

Orange Peel Fungus, *Aleuria aurantia* (PYRONEMATACEAE)







ORANGE PEEL FUNGUS fruits on the ground in scattered groups or close clusters. It favors sandy and clayey soils as well as disturbed areas, including roadsides and urban environments. Widely distributed and common, this fungus appears from spring until early winter, following wet weather.

FRUITING BODY: The fruiting body is 0.6-3.9 inches (1.5-10cm) broad. It begins cup-shaped, often with an incurved margin. As it matures, the cup expands becoming wavy, lobed, flattened, or irregularly warped. The smooth inner surface of the cup shape is a vivid shade of orange. Its outer surface is normally lighter in color and may be covered in minute whitish hairs. The thin flesh of the fungus is brittle. There is no stem.

SPORES: 18-22 x 9-10 µm, elliptical, reticulate ridged at maturity; spores are transparent. Asci do not stain blue in iodine.

EDIBLE PARTS: fruiting body

HOW TO EAT: While orange peel fungus can't boast much flavor, it can provide a splash of brilliant color to your next meal. Its thin fragile flesh becomes nice and crispy when fried and makes an excellent garnish for salads. You can add this fungus to other mushroom dishes for a bit of orange mystique.

STIR-FRIED MUSHROOM SALAD: Ingredients: 2 tbsp. olive oil, salt, 1 handful orange peel fungus, 2 cups mushrooms of your choice (chopped), 1 clove of garlic (sliced), 1 tsp. of ginger (grated), 1 tbsp. of sweet chili sauce, 1 tbsp. tamari, ½ cup fresh chives (chopped). Sauté your chosen mushrooms in olive oil until they release their water. Add orange peel fungus. (Cook for 2 min.). Add garlic, ginger, sweet chili sauce, and tamari. (Cook for 2 min.) Remove from heat and toss with fresh chives.

INEDIBLE LOOK-ALIKES: ***Melastiza chateri*** - brown hairs grow along the cup margin; ***Sowerbyella rhenana*** - smaller than orange peel fungus; grows from a white stem; ***Acervus epispartius*** - exterior is yellow-orange and felty; small flap of tissue inside the cup; ***Otidea* spp.** - colors usually duller; may grow somewhat erect; smooth spores.

GILLED MUSHROOMS

Amethyst Deceiver, *Laccaria amethysteo-occidentalis* (HYDNANGIACEAE)







Walter Siegmund, CC-BY-SA-3.0

AMETHYST DECEIVER is a common, slender mushroom that is widely distributed west of the Rocky Mountains. Forming sparse or dense colonies on forest floors, it grows under conifers, especially pines. While these mushrooms fruit year-round, they prefer cool to cold temperatures.

CAP: With a width of 0.8-2.75 inches (2-7cm), caps begin convex, becoming nearly flat. They often develop a central depression, sometimes a hole. The margins are even or uplifted, frequently becoming wavy. The surface may be finely scaly. Moist mushrooms are deep purple, fading to brown as they dry. Their thin flesh is light-purple to whitish with a mild scent.

GILLS: Thick, considerably spaced, and sometimes waxy, the gills may be adnate (broadly attached) or decurrent (attached and extending down the stipe). While their bright-violet hue dulls with maturity and accumulates white spores, the purple coloration never leaves entirely.

SPORES: 7.5-10.5 x 7-9 µ, broadly elliptical, spiny; Spore print: white, or tinged purple

EDIBLE PARTS: cap

HOW TO EAT: Beautifully colored and pleasantly textured, Amethyst Deceivers are mild in flavor and work well as a supporting ingredient in stews or soups. Remove their tough, sinewy stems before cooking. A good mushroom for beginners.

AMETHYST DECEIVER AND LENTILS: Ingredients: 1 cup Amethyst Deceivers, 7 oz. (200 g) Puy lentils, 1 garlic clove (crushed), rosemary sprigs (finely chopped), 1-quart chicken stock, 1 lemon, 2 tsp. olive oil, knob of butter, black pepper, salt. In a pan, add lentils, stock, lemon juice, and oil. Cover and simmer for 30 min. Sauté amethyst deceivers in butter with garlic and rosemary. Combine with lentils and season with salt and pepper.

POTENTIALLY TOXIC LOOK-ALIKES: ***L. trullisata's long***, smooth spores are 16-22 µ. It grows exclusively in sand or dunes. Edibility is unknown.

Deceiver, *Laccaria laccata* (HYDNANGIACEAE)







DECEIVER is a common, widely distributed mushroom. Appearing singly, scattered, or in clusters, it fruits from spring to fall near hardwoods and conifers, including alder, beech, birch, and pine. While characterized by white spores, a sinewy stem, and peachy to dull reddish-brown coloration, this species is often difficult to identify without a microscope.

CAP: The cap is 0.4-2.4 inches (1-6cm) across, beginning convex and flattening with maturity, often with a shallow depression. The margins, which are sometimes wavy and uneven, may become flared. When moist, the smooth to subtly scaly surface is pinkish-orange, or pinkish to reddish-brown, paling to greyish-pink as it dries. The thin flesh is colored like the cap with an indistinct odor.

GILLS: Broadly attached to the stem or slightly decurrent, the gills are waxy, well-separated, and pale pinkish to orange-buff. They are finely coated with white spores at maturity.

STEM: The dry, slender stem is 0.8-4 inches (2-10cm) long, up to 0.4 inches (1cm) wide, and nearly equal. Its surface is smooth or minutely scaly with tiny vertical ridges. Colored like the cap, it is sometimes coated with cottony white mycelium at the base.

SPORES: 7-10 x 6-9 µ, subglobose to globose, short spines; Spore print: white

EDIBLE PARTS: cap

HOW TO EAT: Deceivers have a mild, somewhat bland taste. Seasoning improves them. Use the caps and discard the tough stems.

SAUTEED DECEIVERS: Ingredients: olive oil, 2 lbs. (1 kg) Deceiver caps, salt, pepper, 3 garlic cloves (minced), ⅓ cup white wine, 1 tbsp. fresh thyme, 1 cup grated Pecorino. Sauté mushrooms with salt, pepper, and oil for 9 min. Add garlic. Cook for 1 min. Add wine and simmer until reduced. Stir in thyme and cheese.

POISONOUS LOOK-ALIKES: **Funnelcaps, *Clitocybe* spp.** - gills decurrent; some **Waxy caps, *Hygrophorus* spp.** - slimy appearance; some **Coincaps, *Collybia* spp.** - do not have pinkish waxy gills; ***Mycena pura*** - spores 6-10 x 3-4 µ; long-elliptical or nearly cylindrical; ***Inocybe geophylla var lilacina*** - spore print brown. Other poisonous look-alikes exist.

Deer Mushroom, *Pluteus cervinus* (PLUTEACEAE)







DEER MUSHROOM is a brown mushroom with close gills that grow free of the stem. It fruits exclusively on wood, including decaying logs and sawdust, often favoring hardwood trees. Widely distributed and common, it appears alone or in groups during the spring and autumn.

CAP: The cap is 2-5.5 inches (5-14cm) across. Beginning convex, it matures to a broadly convex or flattened shape, sometimes with a low, rounded hump at the center. The cap's color is dark to drab brown, occasionally with whitish margins. The surface may be wrinkled in young mushrooms, becoming smooth or minutely hairy with radial streaks. It turns slightly viscid when wet, drying quickly. Occasionally, the soft white flesh has a radish-like scent.

GILLS: The broad gills are white, becoming flesh pink with age. Growing close or crowded, they are notably free from the stem.

STEM: Measuring 2-5 inches (5-13cm) long and 0.2-0.6 inches (5-15mm) thick, the stem is nearly equal or enlarging at the base. It is firm, dry and white, often with fine brownish hairs.

SPORES: 5.5-8 x 4-6 µ, elliptical, smooth; Cystidia present with 2-5 short prongs at the apex; Spore print: brownish pink

EDIBLE PARTS: cap, stem

KEY MEDICINAL USES: This fungus has shown evidence of antitumor effects.

HOW TO EAT: The deer mushroom's tender flesh is pleasant-tasting when firm. However, it spoils easily, especially in warmer temperatures. Refrigerate as soon as you can. While young mushrooms may have slightly attached gills, harvest only free-gilled specimens as a precaution.

ROASTED DEAR MUSHROOMS WITH HAZELNUTS: Ingredients: 8 oz. (230g) mushrooms (sliced), 4 tbsp. butter (cubed), 2 tbsp. chives (chopped), salt, pepper, ½ cup chopped hazelnuts (fire-toasted). On a sheet of foil, place mushrooms, butter, chives, salt pepper. Fold edges over securely, forming an envelope. Roast near a fire for 15 min. Toss in a bowl with hazelnuts.

POISONOUS LOOK-ALIKES: ***Entoloma* spp.** - grows from the ground; gills are attached to the stem and often notched. ***Amanita* spp.** - Stem with membranous ring, or volva, or both. Cap easily separates from the stalk.

Fairy Ring Mushroom, *Marasmius oreades* (MARASMIACEAE)






Strobilomyces, CC-BY-SA-3.0

FAIRY RING MUSHROOM grows in grassy soils including lawns, fields, and golf courses. Fruiting from spring to fall, it appears in troops or in full to partial fairy rings. Between fruiting periods, it will often leave behind a telltale pattern: fringes of dark green grass encircling browner regions. This mushroom is widely distributed.

CAP: The cap is 0.4-2.4 inches (1-6cm) across. Starting out bell-shaped with an incurved margin, it becomes convex or nearly flat, sometimes with a flared margin, and often keeping its central hump. Light tan to pale brown or reddish-brown in color, its bald and normally dry surface may become subtly lined near the margin. Its tough whitish flesh is pleasantly scented.

GILLS: The gills are never decurrent. They may be either free, narrowly attached to the stem, or broadly attached. They are well-spaced with a white or buff hue.

STEM: The tough, wiry stem is 0.8- 3 inches (2-8cm) long with a width of 0.6- 2.4 inches (1.5-6cm). Colored like the cap or pallid, it is equal and smooth to felty.

SPORES: 7-10 x 4-6 µ, teardrop to pip-shaped, smooth, not amyloid; Spore print: white

EDIBLE PARTS: cap

KEY MEDICINAL USES: This species has shown some evidence of anticancer and antibiofilm activities. Further study is needed.

HOW TO EAT: This tasty mushroom is protein-rich and wonderfully versatile. Dried mushrooms have the enchanting ability to revive when soaked in water. Discard the tough stems.

FAIRY QUESADILLAS: Ingredients: 1 lb. (0.5 kg) mushrooms (sliced), oil, 1 clove garlic (minced), scallions (sliced), 1½ cups grated cheddar, tortillas. In a skillet, sauté mushrooms. Add garlic, scallions. Cook until tender. Spoon mushrooms and cheese onto tortilla and fold over. On a clean skillet, cook on both sides until cheese melts.

POISONOUS LOOK-ALIKES: ***Clitocybe dealbata*** - often grows in circles with Fairy Ring Mushroom; gills crowded, thin, adnate to decurrent; cap flat to convex, not umbonate; ***Galerina* spp.** - brown spore prints; ***Cortinarius* spp.** - rusty-brown spore prints; ***Inocybe* spp.** - brown spore prints; ***Gymnopus luxurians*** - reddish-brown to pinkish-brown cap; close gills.

Glistening Ink Cap, *Coprinellus micaceus* (PSATHYRELLACEAE)







GLISTENING INK CAP grows in large fused clusters on wood, such as tree roots, hardwood stumps, and buried debris. Widely distributed, it fruits during cold, damp weather from spring until fall. Mushrooms can be found both in wooded and urban areas.

CAP: The cap begins oval, expanding to 0.6-2 inches (1.5-5cm) wide, with a bell-shaped or convex outline. In young mushrooms, the surface is flecked with glittering white particles, which eventually wash away. The cap is lined or grooved from the margin towards the center. Its color, which may be light brown, yellowish, or reddish-brown, fades in age from the margins. The margins are often lobed, becoming ragged and upturned with time. The watery flesh is pale buff.

GILLS: Crowded gills are attached to the stem or free. At first whitish, they darken to brown and then black, before partially dissolving into inky liquid.

STALK: The delicate stalk is white and hollow, with a smooth, finely hairy, or faintly powdery surface. Measuring 0.8-3 inches (2-8cm) long and 0.12-0.25 inches (3-6mm) thick, it is equal, or nearly so.

VEIL: The universal veil may leave a crude basal ring.

SPORES: 7-11 x 4-6 µ, subelliptical to mitriform, smooth, thick-walled, apical pore; Spore print: blackish-brown to black

EDIBLE PARTS: cap, stem

KEY MEDICINAL USES: This mushroom has demonstrated antitumor and modest antimicrobial activities.

HOW TO EAT: While this mushroom's flesh is thin and watery, its flavor is pleasant. Only harvest young specimens and cook them immediately - they will begin to digest themselves overnight.

MICACEUS COOKIES: Ingredients: 3 ripe bananas, ⅓ cup vegetable oil, 1 tsp. cinnamon, 1 tsp. nutmeg, 1 pinch salt, ¾ cup mushroom caps (gills and stems removed) 1 ½ cups rolled oats, ½ fine-grain oat bran, ¾ cup raisins, ¾ cup chopped walnuts. Combine mashed bananas, oil, spices, raisins, nuts, and mushrooms. Mix in oats and bran. Form dough into cookies. Bake for 15-18 min. at 350°F (175°C).

POISONOUS LOOK-ALIKES: ***C. insignis*** - spores are warty.

Inky Cap, *Coprinopsis atramentaria* (PSATHYRELLACEAE)







INKY CAP is a widely distributed fungus that is found in urban and wooded areas. Fruiting from spring until fall, it grows on and around old stumps and tree bases, or springs from buried wood. Inky caps often form large, dense clumps. At maturity, their gills and caps digest themselves, producing an inky black liquid that drips from the mushrooms.

CAP: The cap is 0.8-3 inches (2-8cm) broad. Oval when young, it becomes broadly bell-shaped as it ages, before deliquescing into black "ink" from the margin inward. Its dry, somewhat smooth surface is light greyish-brown when immature, often with a browner, finely scaly center, and pale margin. Sleek fibrils may persist on the surfaces of young caps. Mature mushrooms are dark grey with lobed, often ragged margins. The mushroom's thin flesh transforms from grey to liquified black.

GILLS: The broad, crowded gills are free or nearly free. They begin white, passing through the stages of grey and pink, before turning runny black.

STEM: Measuring 1.6-6 inches (4-15cm) long and 0.2-0.6 inches (0.6-1.5cm) thick, the hollow stem is equal or tapered upward. It is white and covered in minute, greyish flattened hairs.

PARTIAL VEIL: Finely hairy when present, the partial veil may leave behind an inferior to basal ring or poorly developed volva.

SPORES: 6.5-10.5 x 4-6.5 µ, elliptical, smooth, central pore; Spore print: black

EDIBLE PARTS: young caps and stems

KEY MEDICINAL USES: This species has demonstrated antitumor and antifungal activities.

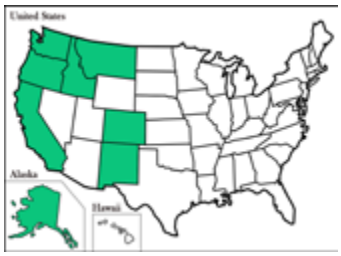
HOW TO EAT: While this mushroom's flesh is thin and watery, its flavor is decent. Harvest young specimens and cook them immediately - they will begin to digest themselves overnight. Do not consume alcohol or use alcohol-based products for up to 48 hrs. before or after eating inky caps.

INKY CAP CARBONARA: Ingredients: 14 oz. (400 g) spaghetti, 1-quart (950 g) mushrooms, ½ lb. (220 g) pancetta (diced), 2 garlic cloves (minced), olive oil, 3-4 eggs, 1 cup grated parmesan, salt, pepper. Heat water for pasta. Sauté mushrooms and pancetta in oil. When the mushrooms become tender, add garlic. Beat eggs with ½ cup parmesan in a bowl. Cook spaghetti, drain and immediately toss with eggs, mushrooms, and pancetta. Season with salt, pepper, and parmesan.

WARNING: Do not eat this mushroom if you regularly consume alcohol. Inky caps contain coprine, which reacts with even trace amounts of alcohol in the body to cause severe poisoning.

POISONOUS LOOK-ALIKES: ***C. insignis*** - spores are warty.

Matsutake, *Tricholoma murrillianum* (TRICHOLOMATACEAE)




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AMERICAN MATSUTAKE or **Pine Mushroom** grows under conifers. Fruiting in fall and during mild winters, it may be solitary, widely scattered, or gregarious.

CAP: The dry or slightly tacky cap is 2-8 inches (5-20cm) wide and broadly convex, becoming flat. Young caps are white with inrolled margins. They develop flattened light-brown scales and fibrils.

GILLS: Crowded white gills are adnate, adnexed, or notched. They bruise reddish-brown or light brown.

STEM: Stem is 1.5-6 inches (4-15cm) long, 0.4-2 inches (1-5cm) thick, and often buried halfway in duff. It is sturdy and nearly equal or tapering slightly towards base. Above the ring, stem is white.

VEIL: The collapsed veil creates a sheath around the lower stem and a persistent ring.

SPORES: 5-7 x 4.5-5.5 µm, broadly elliptical to subglobose, smooth, nonamyloid; Spore print: white

EDIBLE PARTS: cap, stem

HOW TO EAT: Go well with rice, vegetables, seafood.

MATSUTAKE GOHAN: Ingredients: 3 cups Japanese rice (rinsed), 4-7 oz. (113-200g) mushrooms (stems trimmed), 2 ½ cup dashi (Japanese stock), mitsuba (Japanese parsley), 3 tbsp. soy sauce, 2 tbsp. mirin, 1 tbsp. sake. Clean mushrooms with damp towel. Cut into thin slices. Add rice and seasonings into rice cooker with dashi. Place mushrooms on top without mixing. Garnish with mitsuba before serving.

POISONOUS LOOK-ALIKES: ***Amanita smithiana*** grows with pine mushroom; stem widens towards base; ring is powder; bleach-like odor.

Meadow Mushroom, *Agaricus campestris* (AGARICACEAE)









MEADOW MUSHROOMS grow on grassy sites and appear in small to large groups, often forming fairy rings. They typically fruit from spring to fall, but continue to appear during mild, moist winters.

CAP: Cap is 0.8-4 inches (2-10cm) wide, beginning convex and becoming nearly flat. Its dry surface may be bald or covered in flattened scales. Young caps are white, aging to pale brown, or dingy-buff. The firm, white flesh is mild smelling and may tint reddish-brown if the mushroom is old or wet. It shouldn't stain when bruised.

GILLS: Narrow, crowded gills are free at maturity. They begin pink, becoming purplish-brown or chocolate-brown in age.

STEM: The 0.8-2.4 inches (2-6cm) long and 0.4-0.8 inches (1-2cm) thick stem is equal or tapered towards the base. White surface is smooth above ring and fibrillose below. It turns reddish-brown in age.

VEIL: The thin white veil may leave a slender ring.

SPORES: 5.5-8 x 4-5 µ, elliptical, smooth; Basida with 4 spores; Cap surface not yellowing in KOH; Spore print: chocolate-brown

EDIBLE PARTS: cap, stem

KEY MEDICINAL USES: This species shows evidence of antidiabetic and antimicrobial activities.

HOW TO EAT: Harvest when gills are at their pinkest and caps at their whitest.

MEADOW MUSHROOM OMELETTE: Ingredients: ¾ cup mushrooms (sliced), garlic clove (minced), 2 eggs (beaten), ¼ cup taleggio cheese. Sauté mushrooms in butter, adding in garlic midway. Pour eggs into a greased skillet. Once almost set, add mushrooms and cheese.

POISONOUS LOOK-ALIKES: ***A. californicus***, ***A. xanthodermus***; some **white *Amanitas***

Orange Milkcap, *Lactarius deliciosus* (RUSSULACEAE)







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ORANGE MILKCAP is a Russula that is also known as **Red Pine Mushroom** and **Saffron Milk Cap**, fruits in summer under conifers. Common and widely distributed, it appears singly or in groups. Like all milkcaps, *Lactarius deliciosus* exudes a milky latex when broken.

CAP: The cap is 2-5.9 inches (5-15cm) wide. When young, it is convex to broadly convex with an inrolled margin. As it matures, it develops a central depression and its margins begin to flare upwards. Its smooth surface is viscid to sticky when wet, soon becoming dry. The cap is often patterned with concentric color bands. These can vary from orange-buff to carrot-orange to brownish. Green streaks and blotches may develop on the cap's surface. The thick, fragile flesh is pale orange, staining green in age. Its flavor is mild or slightly bitter.

MILK: The milk is orange, causing green stains within 5 hours of the mushroom being wounded.

GILLS: The close gills are attached to slightly decurrent. They are brilliant to pale orange, staining green when injured or old.

STEM: Measuring 1.2-2.8 inches (3-7cm) tall and 0.4-1.2 inches (1-3cm) thick, the rigid orange stem is equal or narrow at the base. Its surface may be smooth or pock-marked. In age, it turns hollow. Injured stems stain green.

SPORES: 7-11 x 6-8 µ, subglobose to broadly elliptical, amyloid ridges and warts; Spore print: yellowish-buff

EDIBLE PARTS: cap, stem

KEY MEDICINAL USES: This mushroom has shown evidence of antibacterial activity.

HOW TO EAT: While highly regarded in Europe, North American varieties of this mushroom vary in quality. Some specimens can be grainy and slightly bitter.

CHORIZO AND MILKCAPS: Ingredients: 8 oz. (230g) milkcaps, ½ tomatoes (peeled, chopped), 4 oz. (113 g) chorizo sausage, 2 tbsp. parsley (chopped), 1 tsp. garlic (chopped), salt, pepper, olive oil. In a pan, cook chorizo until lightly browned. Set chorizo aside. Cook milkcaps in chorizo fat until golden (5 min.). Add salt, pepper, and garlic. (Cook 1 min.). Add tomatoes, chorizo, and parsley. (Cook 5 min.) Serve on toast with olive oil.

POISONOUS LOOK-ALIKES: **Wooly Milkcap, *Lactarius torminosus*** - hairy cap margin; white milk; turpentine odor; acrid taste; favors birch.

Oyster Mushroom, *Pleurotus ostreatus* (PLEUROTACEAE)







OYSTER MUSHROOMS occur throughout most of the northern hemisphere, fruiting on stumps, logs, and injured trees. They favor hardwoods, including alder, cottonwood, and sycamore. Appearing from spring to late autumn following rainfall, these mushrooms often grow in overlapping clumps or shelves.

CAP: The cap is 0.8-11 inches (2-30cm) wide, broadly convex, and becoming bracket-shaped to fan-shaped, or occasionally funnel-shaped. Its margins, which begin inrolled, are lobed or wavy. The cap's surface is bald and slightly clammy when fresh, though not viscid. Mushrooms begin pale to medium brown with tinges of gray, pink, or yellow. They fade to pale buff in age. The thick, whitish flesh does not change color when cut. Its taste and scent are mild.

GILLS: The broad gills are close to subdistant and whitish, becoming dingy with age. They run down the stem when one is present.

STEM: When present, the tough, dry stems are 0.2-1.6 inches (0.5-4cm) long and 0.2-1.2 inches (0.5-3cm) thick. They may be off-center, lateral, or, less frequently, central. Their whitish surface is hairy to downy.

SPORES: 7–11 x 2–4 µm, oblong to elliptical, smooth, nonamyloid; Spore print: white to pale lilac, or faintly yellowish

EDIBLE PARTS: cap

KEY MEDICINAL USES: This species is used for muscle and joint relaxation in traditional Chinese medicine. It shows evidence of anticancer activity.

HOW TO EAT: Oyster mushrooms are earthy, aromatic, slightly sweet, and all-around delicious. When cleaning them, check the flesh and gills for beetles, larvae, and eggs. Remove the tough stem.

BUTTERMILK FRIED OYSTERS: Ingredients: 2 cups mushrooms, 1 cup buttermilk, 1 ½ cup flour, 1 tbsp. oil, 1 tsp. each: salt, pepper, garlic powder, onion powder, paprika. Toss mushrooms in buttermilk and marinate for 15 min. Mix four and spices in a bowl. Coat mushrooms in flour. Fry until golden.

POISONOUS LOOK-ALIKES: **Angel's Wings, *Pleurocybella porrigens*** - white when fresh; smaller caps; thin flesh; no stem; white spore print; grows on conifer wood; **Ivory Funnel, *Clitocybe dealbata*** - slender central stem; white spore print; grows on grassy soil.

Parasol Mushroom, *Macrolepiota procera* (AGARICACEAE)







PARASOL MUSHROOMS are tall, slender, and umbrella-shaped. Widely distributed across eastern and central North America, they grow alone or in groups during summer and fall. Parasol mushroom fruit in a range of environments including woodlands, lawns, and trail sides.

CAP: Measuring 2.5-9.5 inches (6-24cm) across, the cap begins egg-shaped, expanding to broadly convex or flat, with a central solid brown bump. Its dry exterior is smooth when young, soon developing brown scales. These scales, set upon a whitish to brownish subsurface, become shaggy in age. The cap's soft, white flesh does not bruise orange or red when cut.

GILLS: The close gills are broad, free from the stem, and white with fringed edges. With age, they become pinkish to brownish.

STEM: The stem is 4-16 inches (10-40cm) tall and 0.3-0.6 inches (0.7-1.5cm) thick, with a bulbous base that is not sheathed by a volva. Its pale surface is covered in fine pinkish hairs above and brown scales below, which form snakeskin-like bands.

VEIL: The veil leaves a superior, thick, double-edged ring, which easily slides up and down the stem.

SPORES: 12-18 x 8-12 µ, broadly elliptical, thick-walled, with an apical pore; stain purplish-brown in Melzer's solution; Spore print: white

EDIBLE PARTS: cap

KEY MEDICINAL USES: In vitro studies have shown this species has anti-cancer potential.

HOW TO EAT: Parasol mushrooms have a big mushshroomy flavor. They are excellent sauteed, fried, or stewed with chicken. The tough, fibrous stems can be made into stock or flour.

MUSHROOM FLOUR: Ingredients: 1-quart mushroom stems. Peel stems apart along fibers. Space fibers out on a flat surface in a dry, shaded area. Air out for 2-3 days until bone-dry. Grind up mushrooms to produce ¼ cup strongly mushroom-flavored flour. Use it to bread meats, or mix it with cereals for baking.

POISONOUS LOOK-ALIKES: ***Chlorophyllum molybdites*** - greenish spore print; white gills mature to greenish; ***Amanita* spp.** - volva at stem base; associated with trees, rather than organic litter; ***M. rachodes*** - causes severe reactions in some people; stains orange to reddish-brown when sliced.

Salt-loving Mushroom, *Agaricus bernardii* (AGARICOMYCETES)




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SALT-LOVING MUSHROOMS thrive in sodium-rich sands and soils. They are common in maritime habitats, on lawns, and along roads that are salted during the winter. Fruiting from spring to fall, these mushrooms occur singly, in groups, or sometimes in arcs.

CAP: The cap is 2-6 inches (5-15cm) across. It begins convex with an inrolled margin and becomes flat, sometimes developing a central depression. Young mushrooms are whitish, with a dry, mostly bald surface. With age, they may turn brownish, warty, or subscaly. The white flesh is firm and thick. When sliced, it becomes reddish-orange or pinkish, though never yellow.

GILLS: The close gills are free from the stem at maturity. They begin pale pink, becoming brown and finally nearly black with age.

STEM: The solid stem is 1.6-3.5 inches (4-9cm) tall, 1-1.8 inches (2.5-4.5cm) wide, and equal or narrower at the base. Its exterior is smooth, white, and sheathed from below by the veil. The stem bruises reddish.

VEIL: The white veil is thick and membranous. It sheathes the base of the stem and forms a median ring that flares outward at the top.

SPORES: 6-8 x 5-6 µm, broadly elliptical, smooth; Spore print: dark brown; Cap surface does not turn yellow in KOH.

EDIBLE PARTS: cap, stem

HOW TO EAT: These delicious mushrooms are briny and nicely firm. They are excellent in salads, and marinades, or simply sauteed.

WARM MUSHROOM SALAD: Ingredients: olive oil, 1 tbsp. soy sauce, 3 tbsp. sherry vinegar, 2 tbsp. marsala, 2 tbsp. tomato paste, 3 shallots (sliced), 3 lb. (1.5kg) mushrooms (sliced), 3 tbsp. lemon juice, butter, salad greens, ½ cup shredded gouda. Whisk together oil, vinegar, marsala, tomato paste, garlic. Toss mushrooms and shallots in lemon juice. Sauté in butter and season. Serve on greens with vinaigrette and gouda.

POISONOUS LOOK-ALIKES: ***A. californicus*** - flesh bruises yellow; young whitish gills mature to pink; well-developed median to superior ring; phenolic odor; ***A. xanthodermus*** - flesh bruises yellow; phenolic odor; Some **white *Amanitas*** - white gills; volva at stem base.

Shaggy Mane, *Coprinus comatus* (AGARICACEAE)







SHAGGY MANE is a fast-fruiting mushroom that is common and widespread in North America. It grows on the ground during summer and fall, preferring disturbed areas such as roadsides, lawns, trails, and pastures. Most mushrooms appear after rainfalls, in scattered to densely clumped groups.

CAP: The cap is 1.6-8 inches (4-20cm) tall and 1-6 inches (2.5-15cm) broad. Starting cylindrically rounded, it expands to bell-shaped with upturned margins. The dry surface is whitish with shaggy scales. At the cap's center, these are colored light reddish-brown. The soft flesh is white. Mature caps will begin dissolving into black ink.

GILLS: The tightly crowded gills are free from the stem. They begin white and with time blush pink before darkening to black and finally deliquescing into ink.

STEM: The stem is 2-8 inches (5-20cm) tall, 0.4-0.8 inches (1-2cm) thick, and thinner near the cap. Its exterior is white and smooth, while its hollow interior contains a white string-like cord that stretches from bottom to top. The stem separates cleanly from the cap.

VEIL: The partial veil leaves a white, inferior ring that is often movable.

SPORES: 10-16 x 7-9 µ, elliptical, smooth, with an apical pore; Spore print: black

EDIBLE PARTS: stem, cap

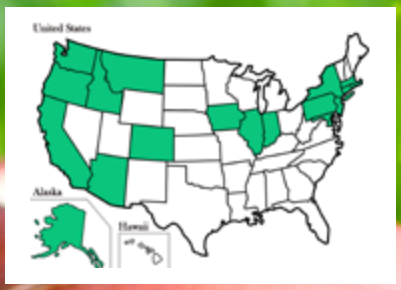
KEY MEDICINAL USES: This species has shown evidence of anti-tumor, anti-nematode, and hypoglycemic activity.

HOW TO EAT: This delicious mushroom is well-loved for its subtle flavor and firm, succulent texture. It is one of the best mushrooms for frying and it also goes excellently in stews. Harvest young caps and prepare them as quickly as possible.

SHAGGY FRITTERS: Ingredients: mushrooms, flour, eggs beaten with milk, grated Parmesan, fresh parsley (chopped), salt, pepper, oil. Add salt, pepper, and parsley to the egg mixture. Dip mushrooms in flour, then in eggs, and lastly in Parmesan. Fry on both sides until golden. Set on a paper towel-covered plate. Serve immediately.

POISONOUS LOOK-ALIKES: ***Chlorophyllum molybdites*** - young white cap with brown scales; expands to a parasol-shape; white gills turn greenish-grey by maturity; they do not turn inky.

Shrimp Mushroom, *Russula xerampelina* (RUSSULACEAE)





SHRIMP MUSHROOM, also known as **Crab Brittlegill** or **Shrimp Russulas**, are a group of fungi with brittle flesh, hard viscid caps, and a shrimpy odor at maturity. Their flesh, which stains yellow-brown when bruised, and their yellow spore prints are important identifiers. Widely distributed across the continent and common, they appear singly or in groups under conifers and hardwoods. These mushrooms fruit in the summer and fall.

CAP: The cap is 1.2-12 inches (3-30cm) wide, convex, or flat, with a broad, shallow depression. Its smooth surface is viscid when moist, though it dries quickly. The cap's color, while usually dark red or purple, may also be olive-greenish, brownish, or yellow-brown. The margins may become faintly lined when mature. The flesh is thick, brittle, and white. It stains yellow, then brown when bruised or old, becomes fishy-smelling with age.

GILLS: The thick, close, creamy-white gills become yellowish as the mushroom ages. When bruised, they stain yellow-brown; when dried, they turn brown or grey. They are adnate to adnexed.

STEM: Measuring 1.2-4.7 inches (3-12cm) long and 0.4-1.6 inches (1-4cm) wide, the stem is equal and smooth to wrinkled, with a slightly bulbous base. Colored white to flushed pink, it stains yellow, then brown. Its dry flesh is solid to spongy.

SPORES: 8-11 x 6-8.5 µ, elliptic to globose with amyloid warts; Spore print: yellowish

EDIBLE PARTS: cap

KEY MEDICINAL USES: This fungus shows evidence of antitumor and antiparasitic activities.

HOW TO EAT: These choice mushrooms have a mellow, yet richly nutty taste when young. As they mature, they develop a gentle shellfish flavor similar to shrimp. (They should never taste peppery.) Shrimp Russulas stay firm and tender when they are cooked and are excellent sauteed, stuffed, or used in soups.

STUFFED CRAB BRITTLEGILL WITH WALNUTS: Ingredients: ¼ cup walnuts (finely chopped), 1 bunch fresh parsley leaves (finely chopped), 1 large garlic clove (minced), 3 tbsp. coarse-grated Parmesan, ½ tsp. salt, 2 tbsp. olive oil, 12 mushrooms (destemmed). Combine walnuts, parsley, garlic, cheese, and salt. Add olive oil and mix well. Using a spoon, scoop walnut mixture into mushroom caps. Bake at 400°F (205°C) for 15 min.

WARNING: Do not eat mushrooms if they stain reddish or black, or if they taste peppery.

POISONOUS LOOK-ALIKES: **Sickener, *R. emetica*** - white spore print; sharp, peppery taste; cap bright red to pink; the white flesh is pink just under the cuticle; lacks fishy odor; **Fragile Brittlegill, *R. fragilis*** - yellow-white spore print; fragile; cuticle peels off easily; cap color variable; odor indistinct, unpleasant, or like apples; smaller stature. ***Amanita* spp.** - stems with a ring (though these can fall off) and a volva at the base; flesh fibrous; white spore print.

BOLETE MUSHROOMS

Boletes are fleshy mushrooms that usually have a spongy pore layer rather than gills on their underside. Each pore is the mouth of a short, vertical tube and the cap resembles a mass of closely packed pores.

Bragger's Bolete, *Aureoboletus mirabilis* (BOLETACEAE)





BRAGGER'S BOLETE, Admirable Bolete, or **Velvet top** grows west of the Rocky Mountains. It fruits on or near decaying conifers, with a preference for hemlock. These mushrooms occur singly or in groups during summer and fall.

CAP: The cap is 2-6.3 inches (5-16cm) wide and convex, becoming flat. Its suede-like surface is coated in tiny fibrils. Color varies from deep reddish-brown to purple-red, to dark brown. When the mushroom is young, its margin is trimmed with an overhanging flap of white tissue. The thick whitish to yellowish flesh is sometimes reddish under the skin.

PORE SURFACE: The tubes are depressed at the stem. Their angular mouths are 0.04-0.08 inches (1-2mm) wide. Both the pores surface and tubes begin light yellow, deepening to sulfur yellow, and becoming olive-hued in old age. They do not stain blue when bruised.

STEM: The club-shaped stem is 2.6-8.7 inches (7-22 cm) tall, 0.4-3 inches (1-8cm) wide, and enlarged near the base. Its color is dark brown to reddish-brown with pale streaks. The apex is frequently yellow and reticulate.

SPORES: 14-24 x 6.5-9 microns, spindle-shaped to elliptical, smooth; Spore print: olive-brown

EDIBLE PARTS: cap, stem

HOW TO EAT: This meaty, nutty bolete has a unique lemony flavor. To best appreciate its taste simply sauté bragger's bolete in butter. This mushroom also goes well with seafood. Check specimens for fly larvae while cleaning them.

STUFFED BRAGGERS WITH CLAMS: Ingredients: 2 lb. (1kg) mushrooms, 6.5 oz. (185g) minced clams, ½ cup butter, 1 clove garlic (minced), ½ cup breadcrumbs, ¼ parsley (chopped), salt, pepper. Separate mushroom stems from caps. Mince and reserve stems. Drain clams; reserve the liquid. In a skillet, simmer stem pieces and garlic in clam water (4-6 min.). Stir in clams, breadcrumbs, and seasoning. Stuff caps with mixture. Broil in the oven for 7-9 min., until tender.

POISONOUS LOOK-ALIKES: Some boletes that stain blue or have red pores are poisonous - avoid. **Lilac Brown Bolete, *Sutorius eximius*** - lilac-brown when young; reddish-brown spore print; it is sometimes noted as edible but for most people, it causes GI distress and is, for the most part, now considered poisonous.

Fat Jack, *Suillus caerulescens* (SUILLACEAE)




Dick Culbert, CC-BY-2.0


Gabi Ford

Gabi Ford

FAT JACK grows in western North America, from British Columbia to California. Tolerant of cold temperatures, it fruits during the fall and winter under Douglas firs. It occurs in scattered or dense groups and is often accompanied by *S. ponderosus*.

CAP: The cap is 2-6 inches (5-15cm) broad and convex, becoming nearly flat. Its surface is smooth or streaked with fibrils or scales, and fairly viscid when moist. Cap color is dull reddish-brown, light brown, or yellow-brown, with paler yellowish margins. Greenish smudges may appear when temperatures drop. Veil remnants sometimes drape from the margins. The thick, pale yellow flesh stains pinkish to brownish when cut.

PORE SURFACE: The angular yellow pores age to brownish. Measuring 0.04-0.08 inches (1-2mm) wide, they are adnate to decurrent and sometimes radially arranged. When bruised, they turn reddish-brown or brown.

STEM: The stem is equal or tapered in either direction, measuring 1-3 inches (2.5-8 cm) long and 0.4-1.2 inches (1-3cm) thick. It is solid and bruises brown. Above the ring, the stem is yellow and finely reticulate. Towards the base, it is smooth to fibrillose and brownish. When cut, the tissue near the base gradually stains blue.

VEIL: The veil often leaves a median to superior ring on the stem. The ring is fibrillose, whitish to dull yellow, and never slimy.

SPORES: 8-11 x 3-5 µ, elliptical to spindle-shaped, smooth; Spore print: cinnamon-brown

EDIBLE PARTS: cap, stem

HOW TO EAT: Fat Jacks can taste mild or slightly lemony. Harvest young, firm mushrooms.

FAT JACKET POTATOES: Ingredients: potatoes, butter, mushrooms (sauteed), sour cream, dill. Poke potatoes all over with a fork; coat with butter. Double-wrap in aluminum foil and cook on hot coals (30-60 min). Pile sauteed mushrooms onto baked potatoes. Top with sour cream and dill.

POISONOUS LOOK-ALIKES: Similar mushrooms with orange/red pores that bruise blue/black, or a peppery taste may be deadly. Some edible "with caution" *Suillus* species cause severe gastric upset in some people: ***S. luteus, S. neoalbidipes, S. tomentosus***.

Fib King Bolete, *Boletus fibrillosus* (BOLETACEAE)




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FIB KING BOLETE is native to the Pacific Northwest and northern California. Occurring in old-growth and mixed forests, it is often found under conifers, including Douglas-fir and western hemlock. This bolete fruits singly or gregariously in soil, usually during the fall.

CAP: The convex to flat cap is 2.5-6.7 inches (6-17cm) wide. Its color is dark brown to cinnamon brown, often with lighter (but not yellowish) areas, especially at the margins. The cap's dry surface is often wrinkly and velvety to fibrillose. The thick flesh is white to yellowish with a mild flavor. When bruised, it does not turn blue.

PORE SURFACE: The pores and tubes, located on the cap's underside, are pale yellow or darker. Like the flesh, they do not bruise blue.

STEM: The stem is 3-6.3 inches (8-16cm) long, 0.8-1.6 inches (2-4cm) wide, and equal or slightly enlarged towards the base. The base itself is often pinched. Solid within, the stem's outer surface is strongly reticulate, fibrillose, and brown, growing yellowish near the top and white at the base. White basal mycelium is sometimes present.

SPORES: 13-17.5 x 3.5-5.5 µ, elliptical to spindle-shaped, smooth; Spore print: dark olive-brown

EDIBLE PARTS: cap, stem

HOW TO EAT: This meaty mushroom has a pleasant nutty taste, but it does not rival *Boletus edulis*.

STEWED FIB KINGS: Ingredients: ¼ cup olive oil, 2 cloves garlic (minced), 1 sprig thyme, 1 lb. (0.5 kg) mushroom caps (sliced), 1 tomato (diced), 2 tbsp. broth, salt, pepper, parsley. Heat olive oil in a saucepan. Saute garlic and thyme (1-2 min.). Add mushrooms. Cook until they have released their water. Add tomato and broth. Simmer on low (30 min.). Season with salt, pepper, and parsley garnish.

POISONOUS LOOK-ALIKES: Some boletes that stain blue or have red pores are poisonous - avoid. **Pepper Bolete, *B. piperatus*** - red pores; sharp, peppery taste. Blue-staining species include: ***B. calopus, B. erythorpus, B. lurideus, B. huronensis.*** **Lilac Brown Bolete, *Sutorius eximius*** - lilac-brown when young; reddish-brown spore print.

King Bolete, *Boletus edulis* (BOLETACEAE)







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KING BOLETE, also called **Porcini** or **Cep**, is highly prized for its flavor. This robust, baker's bun-shaped fungus is solitary to gregarious and widely distributed. From spring until fall, it fruits on forest floors under a variety of trees including birch, oak, fir, hemlock, pine, and spruce.

CAP: The cap is 3-14.5 inches (8-37cm) across, convex to broadly convex, and becoming nearly flat. Its dry surface, which is smooth to lightly bumpy or cracked, turns semi-viscid in wet weather. Cap color is yellow-brown, moderate brown, or red-brown, often with a lighter margin. The thick, white flesh is not peppery or bad-smelling. While sometimes slightly reddish beneath the skin, it should not change color when cut or bruised.

PORE SURFACE: The pore surface begins white, changing to yellow, greyish-yellow, and finally olive-brown. It should not bruise blue. The tubes have small mouths.

STEM: The firm, solid stem is equal or with a bulbous base. Its surface is finely reticulate overall or towards the cap. Stems measure 3-10 inches (8-25cm) long and 0.8-2.8 inches (2-7cm) wide. They are white to creamy, or sometimes brownish above.

SPORES: 13-21 x 4-7 µm, spindle-shaped to elliptical, smooth; Spore print: olive-brown

EDIBLE PARTS: cap, stem

HOW TO EAT: This gourmet mushroom boasts big, complex flavor. Its flesh is nutty and savory with fruity notes and a texture that is meaty and buttery. *B. edulis* often hides under duff.

GRILLED PORCINI MUSHROOMS: Ingredients: large *B. edulis* caps, lemon, garlic slivers, nepitella (lesser calamint) leaves (or fresh thyme), olive oil, salt, pepper. Take a slice of lemon and rub it over the mushroom caps. Make small incisions in the caps and poke in garlic and nepitella. Grill on both sides. Season with olive oil, salt, and pepper.

POISONOUS LOOK-ALIKES: Some boletes that stain blue or have red pores are poisonous. **Pepper Bolete, *B. piperatus*** - red pores; peppery taste. Blue-staining species include: ***B. calopus, B. erythropus, B. luridеus, B. huronensis.*** **Lilac Brown Bolete, *Sutorius eximius - lilac-brown*** when young; reddish-brown spore print.

Queen Bolete, *Boletus regineus* (BOLETACEAE)




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QUEEN BOLETE, also known as ***Boletus aereus***, is a robust mushroom that occurs in the mixed forests of California. Typically fruiting after wet weather, it grows solitarily or in scattered groups on the ground under hardwoods. Though it favors oak, queen bolete is also associated with madrone, tanoak and chinquapin.

CAP: The cap is 2.8-6 inches (7-15cm) across and convex becoming flat. Young mushrooms are yellowish-brown to pale brown and covered in a whitish bloom. The cap's surface is fairly smooth and moist, but not viscid. With age, it darkens to deep brown, developing pits and wrinkles. The thick white flesh may be slightly reddish below the skin. It does not stain blue when bruised.

PORE SURFACE: Young mushrooms have stuffed pores. The pore surface and tubes are cream-white to pale yellow, becoming olive-yellow in age. They do not bruise blue.

STEM: The firm, solid stem is 2-6 inches (5-15cm) tall and 0.8-2 inches (2-5cm) wide. It begins club-shaped with a swollen base, becoming equal as the mushroom matures. The surface is whitish to brownish and is often finely reticulate near the top.

SPORES: 11.5-13.5 x 3.5-4.5 µm, spindle-shaped to narrowly elliptical, smooth; Spore print: olive-brown

EDIBLE PARTS: cap, stem

HOW TO EAT: Queen bolete is rich and meaty with a signature porcino odor. Its flavor is lighter and more delicate than that of king bolete. This mushroom is excellent in risottos.

QUEEN BOLETE RISOTTO: Ingredients: 2 tbsp. butter, 2 cups mushrooms (chopped), ⅔ cup vermouth, 5-6 cups chicken stock, ⅓ cup shallots (minced), 1 ¾ cups arborio rice, ⅓ cup grated Parmesan, salt, pepper, parsley. Sauté mushrooms and shallots in butter (5 min.). Add rice and brandy. Simmer for 3-4 min. Gradually pour in stock while stirring. Simmer for 25 min. until rice is tender. Add Parmesan, salt, pepper. Garnish with parsley.

POISONOUS LOOK-ALIKES: Some boletes that stain blue or have red pores are poisonous - avoid. **Lilac Brown Bolete, *Sutorius eximius*** - lilac-brown when young; reddish-brown spore print.

Shaggy Stalked Bolete, *Aureoboletus betula* (BOLETACEAE)







SHAGGY STALKED BOLETE grows alone, scattered, or in groups on the ground under oak and pine. It fruits during summer and fall.

CAP: Cap is 0.8-4 inches (2-10cm) wide and convex and ranges from bright yellow to orange-red, or deep maroon-red. The yellow flesh is tinged pinkish under the skin and sometimes discolors olive with age.

PORE SURFACE: The bright yellow pore surface grows olive-colored as it matures, but does not bruise when sliced. Pores have tubes of 0.4-0.8 inches (1-2cm) deep.

STEM: When young, the stem is often as wide as the cap. It soon lengthens dramatically to 4-10 inches (10-25cm) tall, with a width of 0.4-0.9 inches (1-2.3cm). It remains mostly equal, with a slightly larger base. Golden-yellow near the top and becoming reddish-stained below in age, the stem's surface is coarsely and deeply reticulate with yellow to red ridges. Its whitish flesh stains pinkish near the mid-section when sliced. White mycelium is present at the stem's base.

SPORES: 16-24 x 7-12 µm, elliptical, finely pitted, thick-walled, with an apical pore; Spore print: olive-brown

EDIBLE PARTS: cap, stem

HOW TO EAT: Unlike most boletes, *A. betula* is mild-tasting and becomes soft when cooked. Scrape out the tubes on the cap to improve texture.

MEXICAN CHIPOTLE AUREOBOLETUS: Ingredients: 10 oz. (280g) sliced mushrooms, a diced onion, 1 chopped chipotle pepper, 1 clove minced garlic, butter, salt, pepper, fresh queso (crumbled), cilantro. Sauté onion in butter (2-3 min.). Stir in mushroom and garlic. Add chipotle, salt, and pepper. Cook until tender. Garnish with queso and cilantro.

Short-stemmed Slippery Jack, *Suillus brevipes* (SUILLACEAE)




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SHORT-STEMMED SLIPPERY JACK grows under conifers, especially pine. Fruiting in summer, fall, and during mild early winters, it occurs singly, scattered, or in crowded groups.

CAP: Cap is 2-4 inches (5-10cm) broad and convex, finally becoming flat. Its bald surface is slimy when moist. Young caps are dark brown, sometimes with a purplish-red tinge. At maturity, they pale to cinnamon-brown or brownish-buff. The margin, which begins incurved and sometimes develops lobes, lacks veil remnants. The thick white flesh yellows with age.

PORE SURFACE: The light-yellow pore surface becomes murky olive in age, but never bruises blue.

STEM: The 0.8-2.5 inches (2-6cm) long and 0.4-1.2 inches (1-3cm) thick stem is equal or slightly swollen at base. Its smooth surface lacks glandular dots when young. In age stem turns pale yellow. There is no ring.

SPORES: 7-10 x 3.5 µ, elliptical to spindle-shaped, smooth; Spore print: brown

EDIBLE PARTS: cap, stem

HOW TO EAT: *S. brevipes* boasts some decent porcino flavor. Dried mushrooms can be used to flavor soups and risottos. Peel away the slimy skin before cooking.

SIMPLE SUILLUS SOUP: Ingredients: 2 lb. (1kg) sliced mushrooms, 2 minced garlic cloves, 2 diced onions, 1tsp. thyme, 6 cups vegetable broth, ¼ cup milk, 1 tbsp. flour, light soy sauce, olive oil, salt, pepper. Sauté onions, garlic, thyme, and mushrooms. Add flour and a bit of oil to make a thick paste. Stir in the broth. Add milk. Simmer for 15-20 min. Finish with a bit of soy sauce.

POISONOUS LOOK-ALIKES: Some mushrooms with orange/red pores that bruise blue/black, or a peppery taste are poisonous.

Slippery Jack, *Suillus luteus* (SUILLACEAE)







SLIPPERY JACK appears in late summer and fall, or during mild winters. It fruits scattered to gregariously on the ground under conifers, favoring pine species.

CAP: Cap is 2-4.7 inches (5-12cm) wide and convex, becoming broadly convex. The deep brown to reddish-brown cap may yellow slightly in age. Partial veil residue often clings to margins.

PORE SURFACE: Beginning white, tubes and pore surface deepen to dark yellow, becoming brownish when old. They do not stain blue.

STEM: The 1.2-4 inches (3-10cm) tall and 0.4-1 inch (1-2.5cm) wide stem is white to yellowish and speckled with pinkish-brown resinous dots.

VEIL: The membranous partial veil sheathes the stem, creating a flaring ring, or else a ring zone. The ring is whitish above, purplish-grey to purplish-brown below, and slimy when moist.

SPORES: 6-10 x 2.5 -3.5 µ, spindle-shaped to elliptical, smooth; Spore print: dull brown

EDIBLE PARTS: cap, stem

HOW TO EAT: Always peel off the slimy skin before cooking. This will improve texture and remove the main source of the stomach-upsetting irritants.

BACON-WRAPPED SLIPPERY JACKS: Ingredients: bacon, mushroom pieces, oil. Cut bacon strips in half. Wrap each mushroom chunk in a half-strip of bacon. Secure with a toothpick through middle. Fry.

WARNING: *S. luteus* causes vomiting, diarrhea, and gastric upset in many people.

POISONOUS LOOK-ALIKES: Some mushrooms with orange/red pores, pores that bruise blue/black, or a peppery taste are highly poisonous.

Spring King Bolete, *Boletus rex-veris* (BOLETACEAE)




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SPRING KING BOLETE is native to California and the Pacific Northwest and grows on soil under conifers, favoring pine and red fir. They fruit in late spring.

CAP: Cap is 3-10 inches (9-25cm) across and convex, becoming nearly flat or centrally depressed in age. It may develop cracks or fine wooly hairs. When moist, surface becomes viscid, drying soon after. Cap color is pale reddish-brown, though in sunlight it may yellow.

PORE SURFACE: When young, the surface beneath the cap is white and its round-mouthed tubes are stuffed with cotton-like fibers. Surface yellows with age; eventually it gets olive to brownish. It never bruises blue.

STEM: The 2-6 inches (5-15m) long, 0.8-3 inches (2-8cm) thick stem is swollen at the base, becoming more equal by maturity. Its dry white surface discolors pinkish or brownish in age. Upper stem is patterned with raised net-like ridges.

SPORES: 13-18 x 4-5 µm, elliptical to spindle-shaped, smooth; Spore print: olive-brown

EDIBLE PARTS: cap, stem

HOW TO EAT: It is sweet and meaty and often buried under soil.

REX-VERIS RICE: Ingredients: ½ lb. (500g) chopped mushrooms, 3 tbsp. olive oil, 2 diced bell peppers, 1 diced carrot, 1 crushed tomato, 3 garlic cloves, ½ tbsp. paprika, 1 glass oloroso wine, ¼ lb. (250g) rice, 6 cups stock, salt, pepper. Sauté mushrooms, garlic, carrot, and peppers (8 min.). Add tomato and paprika. Stir in rice (1 min.). Add oroloso (5 min.). Pour in broth. Bring to a boil, then simmer for 15-20 min. Season with salt and pepper.

POISONOUS LOOK-ALIKES: Some boletes that stain blue or have red pores are poisonous – avoid; **Lilac Brown Bolete, *Sutorius eximius***

Suede Bolete, *Xerocomus subtomentosus* (BOLETACEAE)







SUEDE BOLETE fruits on the ground under hardwoods including beech, birch, aspen, and oak. Widely distributed across North America, it occurs singly, scattered, or in groups from early summer to late fall.

CAP: The cap is 1.5-6 inches (4-15cm) wide and convex, becoming broadly convex in age. Its dry, velvety surface is honey-brown to olive-brown. In age, the cap becomes cracked and often develops a slight reddish tinge. The white to yellowish flesh turns pale blue when cut. The odorless flesh is mild-tasting.

PORE SURFACE: The yellow pore surface becomes dingy in age and may bruise slightly blue. The tubes are 0.4-0.8 inches (10-20mm) deep and 0.04-0.12 inches (1-3mm) wide.

STEM: Measuring 1.5-4 inches (4-10cm) tall and 0.4-0.8 inches (1-2cm) thick, the solid stem is equal or tapering towards the base. Its yellowish surface is nearly smooth with raised longitudinal ridges near the top. Old stems discolor to orange-brown.

SPORES: 10-15 x 3.5-5 µm, elliptical to spindle-shaped, smooth; Spore print: olive-brown

EDIBLE PARTS: cap, stem

HOW TO EAT: This mushroom is edible, though bland-tasting for a bolete. Because *X. subtomentosus* is blue-staining, take extra caution with identification.

BOLETE OMELETTE: Ingredients: butter, mushrooms (sliced), 2 green onions (chopped), 1 chili (chopped), 1 clove garlic (minced), 3 eggs (beaten, seasoned), ¼ cup cheddar, arugula. Sauté mushrooms until tender. Add green onions, chili, and garlic. Cook for 3-4 min. Season and reserve. Pour eggs into a hot, buttered pan and cook on low. When the omelet is almost set, add cheese and mushrooms. As cheese melts sprinkle with arugula. Fold omelet over.

POISONOUS LOOK-ALIKES: Boletes with red pores are poisonous. Toxic blue-staining boletes include: ***B. calopus*** (stem is red near the bottom), ***B. erythropus*** (orange-red pores), ***B. lurideus*** (yellowish pore surface matures to orange-red; stem bottom is usually reddish), ***B. huronensis*** (favors hemlock; upper stem is usually yellowish), and ***Rubroboletus* spp.** (red pore surface). **Lilac Brown Bolete, *Sutorius eximius*** lilac-brown when young; reddish-brown spore print.

Western Painted Suillus, *Suillus lakei* (SUILLACEAE)




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WESTERN PAINTED SUILLUS, **Lake's Bolete**, or **Matte Jack** grows on the ground exclusively under Douglas-fir. In the Rocky Mountains, it fruits in summer and fall, while on the west coast it appears during fall and winter. Occurring alone or in groups, this mushroom favors exposed areas with poor soil.

CAP: The cap is 2-6 inches (5-15cm) wide and convex, becoming flat and occasionally depressed. Reddish-brown to pink scales pattern its yellowish or orange-tan subsurface. The cap may be dry or viscid when wet. Partial veil remnants sometimes cling to the margins. The thick, yellowish flesh sometimes bruises pink.

PORE SURFACE: The cap's underside is broadly attached to the stem, or running down it. Its large pores are 0.04-0.12 inches (0.1-0.3cm) wide and often radially arranged. The pores and tubes begin yellowish, becoming darker in age, and bruising brown.

STEM: Measuring 1.2-3 inches (3-8cm) tall and 0.4-1.2 inches (1-3cm) wide, the solid stem is equal and without glandular dots. Its dry surface is yellow above and streaked reddish-brown below. Its flesh stains bluish or deep green when sliced.

VEIL: The whitish to reddish partial veil leaves a superior fibrillose ring on the stem. This ring often grows ragged or disappears.

SPORES: 7-11 x 3-4 µ, spindle-shaped to elliptical, smooth; Spore print: brown

EDIBLE PARTS: cap, stem

HOW TO EAT: While not particularly flavorful fresh, once dried this mushroom takes on a rich, woodsy taste. *S. lakei* is suitable for pickling and sauteing.

PAINTED SUILLUS WILD RICE: Ingredients: butter, 1 onion (chopped), salt, pepper, 2 cups wild rice, 4 cups broth, 1 lb. (0.5 kg) dried mushrooms, ⅓ cup white wine, chives. In a large saucepan, sauté onions in butter (5 min.). Stir in wild rice (30 sec.). Add broth and mushrooms. Bring to a boil. Cover and simmer on low (45 min.). Add salt, pepper, and wine (simmer 4-5 min.). Fold in chives.

POISONOUS LOOK-ALIKES: Some similar mushrooms with orange to red pores, pores that bruise blue or black, or peppery-bitter flesh are poisonous.

White King Bolete, *Boletus barrowsii* (BOLETACEAE)







WHITE KING BOLETE is found in western North America, where it grows on the ground under conifers and hardwoods. It is most abundant in the southwest, favoring ponderosa pine and fruiting in the summer and fall. On the northwest coast, it is associated with live oak and appears during fall and winter. This robust mushroom occurs alone, scattered, or in groups.

CAP: The cap is 2.5-8 inches (6-20cm) wide and convex, expanding to broadly convex or nearly flat. Its clearly defined outer skin layer is smooth, dry, and cream-colored, turning pinkish-brown or yellowish in age. The thick, white flesh does not bruise blue.

PORE SURFACE: When young, the pore surface is cream-colored and its tubes are stuffed with a whitish pith. With age, the pores and tubes sallow to olive-yellow. They do not stain blue when bruised.

STEM: The fat, solid stem is 2.5-7 inches (6-18cm) long and 0.8-2.5 inches (2-6cm) thick. Bulbous at the base when young, it becomes equal by maturity. Its whitish surface is finely reticulate, especially above. The stem stains brownish in age.

SPORES: 12–17 x 4.5–6 µm, spindle-shaped to elliptical, smooth; Spore print: olive-brown

EDIBLE PARTS: cap, stem

HOW TO EAT: These outstanding, meaty porcini mushrooms are often hidden under organic debris. Look for bumps on the forest floor and celebrate if you get to these boletes before the maggots do! *B. barrowsii* is delectable in risotto and pairs excellently with meats.

WHITE KING AND VENISON: Ingredients: venison (shredded), butter, 1 ½ quart boletes (chopped), 2 onions (diced), ¾ cup mushroom stock, 10 juniper berries, ½ tsp. rosemary, ½ cup cream, ¼ cup cranberries, salt, pepper. Sear venison in a pan with butter. Reserve. Sauté mushrooms and onions in butter. In a pot, combine venison, mushrooms, onions, stock, juniper, rosemary (cook 10-15 min.). Add cream, salt, pepper, cranberries.

POISONOUS LOOK-ALIKES: Some boletes that stain blue or have red pores are poisonous, including ***B. satanas*** - white cap; reddish stem and pores; stains blue when cut.

GILLED BOLETES

Insidious Gomphidius, *Gomphidius oregonensis* (GOMPHIDIACEAE)




Ron Pastorino, CC-BY-SA-3.0

INSIDIOUS GOMPHIDIUS is native to the west coast. Occurring solitarily or in clumps, it grows on the ground under conifers, especially Douglas-fir. Its stem base is often deeply entrenched in the earth. This mushroom fruits from fall through to early spring. Genetically in the Bolete Order but, unlike most pored boletes, they have gills.

CAP: The cap is 0.8-4 inches (2-10cm) wide. Beginning convex, it becomes broadly convex to flattened. Its bald surface is slimy when moist. Young mushrooms may be pale pinkish to brownish. As they mature, they darken to reddish-brown, purplish-brown, or deep brown. Old mushrooms commonly develop blackish spots and smudges. The cap's soft flesh is white.

GILLS: The gills, which run down the stem, begin white or pale buff, and become smoky grey. Tender and fairly waxy, they are usually close, or sometimes subdistant.

STEM: Measuring 2-5.9 inches (5-15cm) long and 0.6-2 inches (1-5cm) wide, the stem is solid, viscid when moist, and supports remnants of the partial veil. Its surface and flesh are whitish above, and bright yellow below. While stems usually taper to the base, enlarged bases may also be found.

VEIL: Immature mushrooms are encased in a slimy, whitish, finely-hairy veil, which leaves a fibrillose superior ring. Rings soon become sooty with black spores.

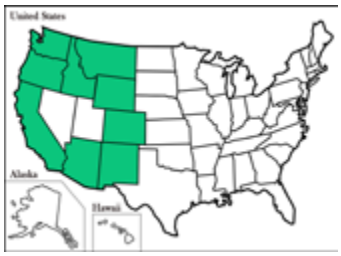
SPORES: 11–13 x 4–5 µm, spindle-shaped to narrowly elliptical, smooth; Spore print: dark grey to black

EDIBLE PARTS: cap

HOW TO EAT: While perfectly edible, these mushrooms are supremely slimy. You can reduce some of this by peeling off the slippery skin. But the fact remains that you are in for a mucilaginous meal.

INSIDIOUS "ESCARGOT": Ingredients: 1 garlic clove (minced and mashed), ⅜ tsp. salt, ½ cup butter (softened), 1 shallot (minced), 1 tsp. parsley (finely chopped), 1 tbsp. dry white wine, 8 oz. mushrooms (skin removed). In a bowl, combine butter, shallot, garlic, parsley, salt, pepper, and wine. On a dry pan, sear mushrooms for 1-2 min. on both sides. Reduce heat to low and cook for 5 min. more. Add butter mixture and cook until sizzling.

Rosy Gomphidius, *Gomphidius subroseus* (GOMPHIDIACEAE)






Richard Kneal, CC-BY-SA-3.0


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ROSY GOMPHIDIUS or **Rosy Spike-cap** fruits on the soil under and around conifers, especially Douglas-fir. It grows in scattered to dense groups during spring, summer, and fall.

CAP: Cap is 0.8-2.8 inches (2-7cm) across and convex, becoming flat or slightly depressed and developing an upturned margin. When moist, its bald surface is slimy. Cap color varies from brownish-pink to bright pink to deep rose-red. The thick flesh is firm and white, sometimes tinted pink under the skin.

GILLS: Soft, broad gills are close to subdistant, running down the stem. They begin white and waxy, becoming grey and finally black with spores.

VEIL: The veil is hairy, white, and coated in a glutinous film. After collapsing, it may disappear or form a poorly developed superior ring on the stem. The slimy rings of mature mushrooms are often dusted with black spores.

STEM: Stem is 1.2-3 inches (3-7.5cm) long and 0.2-0.6 inches (0.5-1.5cm) wide. Above the ring, it is white and dry. Below is slimy and yellow.

SPORES: 15-21 x 4.5-7 µm, narrowly elliptical or nearly fusiform, smooth; Spore print: dark gray to black

EDIBLE PARTS: cap, stem

HOW TO EAT: Taste is a bit bland. Peel off skin before cooking.

ROSY GOMPHIDIUS STROGANOFF: Ingredients: 9 oz. (250g) mushrooms, 1 oz. (28 g) garlic butter, 1 tsp. wholegrain mustard, 5 tbsp. sour cream, fresh chives. Sauté mushrooms in garlic butter until tender and juicy. Remove from heat. Stir in mustard, sour cream, salt, pepper, chives. Serve on toast.

Slimy Spike Cap, *Gomphidius glutinosus* (GOMPHIDIACEAE)









SLIMY SPIKE CAP grows on soil under conifers, favoring spruce and fir. It occurs singly, scattered, or in groups, typically fruiting during summer and fall.

CAP: Cap is 0.8-4 inches (2-8cm) broad. It begins convex with an inrolled margin, becoming flat with its margin upturned. The bald surface is streaked grey-brown, purplish-grey, or reddish-brown, often with pale margins and blackish spots. A layer of slime coats the exterior.

GILLS: The close to subdistant gills are decurrent, beginning whitish, and becoming dark grey by maturity.

STEM: Stem is 1.5-4 inches (4-10cm) long and 0.4-0.8 inches (1-2cm) thick, and tapering to the base. White and smooth near the top, lemon-yellow below, it is sheathed at the base by a slimy, fibrillose veil.

VEIL: The partial veil, which is formed by a glutinous outer layer and a hairy, whitish inner layer, sheathes the stem. It leaves behind a thin, appressed superior ring that becomes blackened with spores.

SPORES: 15-20 x 4-7 µm, subfusiform, smooth; Spore print: dark grey to black

EDIBLE PARTS: cap, stem

HOW TO EAT: Peeling off outer layer to reduce sliminess.

PHYLLO MUSHROOM BUNDLES: Ingredients: 1 package phyllo dough, 1 stick butter, 4 cups chopped mushrooms, 4 cloves garlic (minced), ½ cup white wine, salt, ⅓ cup grated Parmesan. Sauté garlic and mushrooms. Add wine and simmer (5 min.). Brush 4 phyllo sheets with melted butter and layer them. Top with a 5th unbuttered sheet. Cut stacks into rectangles. Spoon mushrooms into the center of each. Sprinkle with parmesan. Gather rectangle edges into a bundle, pinching the neck closed. On a greased tray, bake for 15 min. at 375°F (190°C).

CHANTERELLES AND CHANTERELLE-LIKE MUSHROOMS

Chanterelles have undersides with thick, shallow folds that have cross-veins instead of true gills, forked ridges that run down the stem, and blunt edges. They are often funnel or trumpet-shaped. Their cap and stalk are not always clearly defined.

Black Chanterelle, *Craterellus cinereus* (CANTHARELLACEAE)





BLACK CHANTERELLES are wide-ranging in North America but relatively uncommon. They can be distinguished from other dark-hued chanterelles by the network of forking ridges that run along their undersides. Appearing in spring, these mushrooms fruit on the ground under oaks, occurring singly, scattered, or in dense groups. Fused clusters can be found east of the Rocky Mountains.

CAP: The cap is 0.5-2.5 inches (1.5-6cm) across and depressed, forming a funnel or vase shape with a wavy or lobed margin. Its dry surface is smooth to finely scaly. Young mushrooms are black. As they age or lose moisture, they become brownish-grey. The thin flesh is black or grey.

UNDERSIDE: The cap's undersurface is patterned with a network of raised, forking false gills. These ridges are interconnected by cross veins. Beginning bluish-black, the underside changes to grey as it becomes dusted with spores.

STEM: The stem is 0.8-3 inches (2-8cm) tall, 0.2-0.5 inches (0.4-1.3cm) thick and equal, or thinner toward the base. Colored like the cap, it may be central or off-center. Its interior is hollow above and solid at the base. Some eastern specimens share stems.

SPORES: 8-11 x 5-6 µ, elliptical, smooth; Spore print: whitish

EDIBLE PARTS: cap, stem

HOW TO EAT: These big-flavor chanterelles are smokey, woodsy, and sweet. They pair well with butter, cream, and meats.

MIDNIGHT BREAKFAST: Ingredients: black chanterelles, butter, 1 clove garlic (diced), ¼ cup leeks (chunked), 2 tbsp. chicken broth, 1 tbsp. cream, 1 tbsp. white wine, salt, pepper, thyme, 4 eggs, 4 slices baguette, mozzarella. In a skillet, cook garlic and leeks in butter (1-2 min.). Add broth, cream, wine, thyme (simmer 10 min.). Add salt and pepper. Cover and warm on low heat. Butter baguette slices and layer on mozzarella. Add mushrooms to leeks (cook 1-2 min.). Poach eggs. Broil mozzarella toast (3 min.). Serve mushrooms, leeks, and eggs on toast.

POISONOUS LOOK-ALIKES: ***Plectania* spp.**: cup-shaped, not trumpet-shaped; ***Urnula* spp.** - urn-shaped. ***Thelephora terrestris*** - normally fruits in rosette-like fans; purple-brown coloration.

Blue Chanterelle, *Polyozellus multiplex* (THELEPHORACEAE)




Joe Dorn


Joe Dorn

Joe Dorn

BLUE CHANTERELLE (not a true chaterelle) grows from coast to coast in North America's northern and mountainous regions. Fruiting in summer and fall, it often develops in crowded, fused clusters of 2-6 inches (5-15cm) tall and up to 40 inches (1m) broad. This blue-hued mushroom prefers wet areas, usually growing under conifers (especially spruce and fir), by aspen, and in blueberry patches. Note is a Leathery Earthfan and not in the same family as chanterelles, despite its common name. Sometimes known as **Black Chanterelle**, but different than the other by that name in this book.

CAP: The caps are flat with a vase-like central depression. Measuring 0.8-4 inches (2-10cm) across, they are often irregularly shaped with incurved margins that may be wavy or lobed. Their smooth, velvety surfaces are bluish or purplish, ranging in tone from pale to nearly black. The soft, brittle flesh is deep purple to inky blue, with a mild or fragrant scent.

UNDERSIDE: Slightly paler than the cap with similar coloration, the underside runs down the stem. It may be smooth or textured with dense, low ridges and veins that occasionally resemble pores.

STEM: The short, sometimes grooved, stems are usually joined at the base. They are 0.8-2 inches (2-5cm) long and 0.2-0.8 inches (0.5-2cm) wide. Similar in color to the underside, they are solid to hollow.

SPORES: 5.5-8.5 x 5.5-7.5 µ, globose to elliptical, warted; Spore print: white

EDIBLE PARTS: cap, stem

KEY MEDICINAL USES: This species is currently being investigated for its potential to prevent stomach cancers and Alzheimer's.

HOW TO EAT: This pleasant-tasting mushroom has a supple texture and a mild nutty taste. What sets *Polyozellus multiplex* apart from true chanterelles in the flavor department is its subtle smoky notes. It can be used in sauces, paired with meats, or dried and made into jerky.

BLUE CHANTERELLE SAUCE: Ingredients: 1 cup blue chanterelles, 1 cup heavy cream, ¼ cup onions (minced), 1 tbsp. butter, 1 tbsp. parsley (chopped), salt, pepper. Cook mushrooms in a dry frying pan until dehydrated. Add butter and onions. Saute for 1-2 min. Add cream and simmer for 3-4 min. Season with parsley, salt, pepper. Serve with pasta or smoked salmon fillets.

Golden Chanterelle, *Cantharellus cibarius* (CANTHARELLACEAE)






Cantharellus cascadensis
Ivy Hutchinson

GOLDEN CHANTERELLES are widely distributed in North America. Found in coniferous and hardwood forests, these bright yellow mushrooms fruit on the ground in scattered groups, or numerously. They appear in summer and fall. Another edible chanterelle is the Cascade Chanterelle, *Cantharellus cascadensis*.

CAP: The cap is 1.2-6.3 inches (3-16cm) wide. It begins broadly convex to depressed with a recurved margin. In time, it becomes flat or vase-shaped, with increasingly wavy or lobed margins. The dry, hairless surface is vivid yellow, orangy-yellow or pale yellow. The mushroom's firm flesh is light yellowish, with a subtle fruity odor and a mild or slightly peppery taste.

UNDERSIDE: The blunt false gills are close to subdistant and shallow. They run down the stem, often forking or forming cross veins. They may be yellow like the cap or paler, staining dull orangey-brown as they become old.

STEM: Measuring 0.8-4 inches (2-10cm) long and 0.2-12 inches (0.5-3cm) wide, the firm, solid stem is slightly thinner at the base. Its surface is smooth, dry, and colored like a cap or underside.

SPORES: 8-11 x 4-5.5 µm, elliptical, smooth; Spore print: pale yellow

EDIBLE PARTS: cap, stem

KEY MEDICINAL USES: This mushroom is being investigated for immunomodulatory, anti-inflammatory, and antimicrobial properties.

HOW TO EAT: These choice mushrooms have an enchanting apricot-like odor. Harvest them when they are fresh and firm. Once you spot one chanterelle, check under the surrounding debris for others. Clean thoroughly, check for creepy-crawlies, and remove any rough ends. Chanterelles taste best in simple dishes that showcase their delicate fruity flavor.

SIMPLE SAUTÉED CHANTERELLES: Ingredients: 1 tbsp. olive oil, 1 shallot (diced), 2 garlic cloves (minced), 1 lb. (0.5 kg) mushrooms (quartered), 1 tbsp. butter, ¼ tsp. salt, pepper. Sauté shallots in olive oil until translucent. Add garlic (cook 1-2 min). Set aside. Wipe pan and add mushrooms. (Cook 4 min). Add butter. (Cook 2 min). Toss with shallots, garlic, salt, pepper.

POISONOUS LOOK-ALIKES: **Jack-O-Lantern, *Omphalotus illudens*** - bright orange or yellow; thin flesh; unforked, blade-like true gills; grows on wood; **False Chanterelle, *Hygrophoropsis aurantiaca*** - true gills; umbrella-shaped, not vase-shaped; velvety surface.

Horn of Plenty, *Cantharellus cornucopioides* (CANTHARELLACEAE)







HORN OF PLENTY or **Californian Black Trumpet** is dark and trumpet-shaped. Measuring 1.5-4 inches (4-10cm) tall, it fruits in diffuse to dense groups between winter and spring. This mushroom is found in wooded areas from southern Oregon to northern California. It grows under conifers and hardwoods, preferring Douglas-fir, live oak, tanoak, manzanita, and madrone.

CAP: The funnel-shaped cap, which blends fluidly with the stem, is 1.2-2.5 inches (3-6cm) broad and hollow at the center. Its margins are folded down when young, becoming wavy and spreading with maturity. The inside of the funnel is often finely scaly, with a near-black to greyish-brown coloration. The mushroom's thin, blackish flesh is brittle and pleasant-smelling.

UNDERSIDE AND STEM: Smooth or slightly wrinkled, the underside is usually paler than the cap. As it ages, it accumulates a whitish coating of spores. The hollow stem, which tapers downward, is simply an extension of the cap. Its color is greyish, like the underside.

SPORES: 8.5-12 x 6-9 µ, elliptical, smooth; Spore print: white to creamy

EDIBLE PARTS: cap, stem

KEY MEDICINAL USES: This species is being studied for its antimutagenic and anti-tumor effects.

HOW TO EAT: This versatile mushroom has a robust, earthy flavor and a sweet aroma. Its taste has been compared to fresh sourdough bread. Black trumpets pair well with cream, butter, and meats. When dried, their flavor is reminiscent of parmesan cheese. Make sure to inspect and wash them thoroughly, as they are often frequented by maggots.

BLACK TRUMPET SPREAD: Ingredients: 1 tbsp. butter, 2 tbsp. garlic scapes, ½ cup black trumpets (chopped), 8 oz. (230g) cream cheese, 1 pinch salt, 1 pinch white pepper. In a pan, sauté scapes until tender. Add mushrooms, cooking until their liquid is removed. On low heat, add cream cheese, stirring until combined. Scoop into a sealable jar and let cool for 2 hrs. Serve with crackers.

POISONOUS LOOK-ALIKES: Other black mushrooms including: ***Plectania* spp**. - cup-shaped rather than trumpet-shaped. ***Urnula* spp.** - urn-shaped. ***Thelephora terrestris*** - normally fruits in rosette-like fans; while sometimes funnel-shaped, it is generally smaller than *C. cornucopioides*; purple-brown coloration.

Oak Chanterelle, *Cantharellus californicus* (CANTHARELLACEAE)




Alan Rockefeller, CC-BY-SA-3.0


Ivy Hutchison

Alan Rockefeller, CC-BY-SA-4.0

OAK CHANTERELLE, also known as the **Mud Puppy**, is found in coastal California during the fall and winter. This sizable yellow mushroom fruits on forest floors under and around California live oak, and less frequently near other oak species and tanoak. Occurring solitarily or numerously, its appearance often follows heavy rainfalls.

CAP: Measuring 2-8 inches (5-20cm) broad, the cap begins planoconvex with its margin rolling inward. It expands to become broadly convex, flat, or vase-shaped. The margins of mature mushrooms vary enormously. They may be wavy, inrolled, upturned, or irregular. Colored light yellow to sulfur yellow, the cap's surface is mostly smooth with whitish patches. The thick, firm flesh is whitish to yellowish with a fruity fragrance and a mild taste.

UNDERSURFACE: False gills are decurrent. As the mushroom matures, these ridges often fork, develop cross-veins, and become network-like. The undersurface may be golden to whitish-yellow.

STEM: The fleshy stem is 0.8-3.5 inches (2-9cm) long and 0.2-1.4 inches (0.5-3.5cm) thick. It is often narrowly tapered at the base. Its smooth, dry surface is colored like the cap or paler.

SPORES: 8-13 x 4-5.5 µ, elliptical, smooth; Spore print: pale yellow

EDIBLE PARTS: cap, stem

HOW TO EAT: Oak chanterelles are known for their fruity flavor and good texture. Seek them out after heavy rains and under organic debris.

OAK CHANTERELLES ON TOAST: Ingredients: olive oil, 1 lb. (500g) mushrooms (chopped), 2 tbsp. sherry vinegar, 1 tbsp. lemon juice, 1 cup vegetable stock, ½ tsp. rosemary, 1 tsp. thyme, 1 tbsp. parsley (chopped), 1 tbsp. butter, salt, pepper, shaved Parmesan. Sauté chanterelles in oil (4 min.). Add vinegar and lemon juice; reduce. Add stock; reduce by half. Stir in herbs, butter, and seasoning. Served on toasted sourdough, topped with Parmesan.

POISONOUS LOOK-ALIKES: ***Omphalotus olivascens*** - central to off-center stem; dull orange to yellowish-olive color; true gills; grows on logs or at the base of hardwoods; ***Gomphus floccosus*** - cap deeply depressed to hollowed; dry surface covered by conspicuous scales; transparent spores.

Pig's Ear, *Gomphus clavatus* (GOMPHACEAE)







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PIG'S EARS or **Violet Chanterelles** (note that it is not a true chanterelle), are found in southern Canada and the northern United States. Appearing in late summer and fall, they fruit on the ground under conifers, with a preference for fir and spruce. Rarely grow alone, most pig's ears occur in groups or fused clusters arising from a common stem. These clusters of fruiting bodies, which are clublike with flattened tops, may grow up to 6 inches (15cm) tall and 8 inches (20cm) broad.

CAP: Caps within a larger fruiting body are 0.8-4 inches (2-10cm) across and often asymmetrical, with wavy to lobed upturned margins. Each cap begins broadly convex, before flattening or becoming centrally depressed. Their dry surfaces are smooth to finely scaly. Color may vary from light purplish-grey to buff or creamy tan. The firm flesh is creamy white or faint lilac.

UNDERSIDE: The blunt false gills run down the stem to the base. They are wrinkled and cross-veined, often forking and creating a poroid appearance. The underside is purplish brown, pale lilac, or purplish-grey, fading to buff in age.

STEM: The stem is continuous with the underside. Measuring 0.4-3 inches (1-8cm) long and 0.4-1.2 inches (1-3cm) thick, it often branches from a fused base. The lower portion, which may be dull purple, buff, or whitish, is often covered in white basal mycelium.

SPORES: 10-13 x 4-6 µm, long-elliptical, winkled; Spore print: dingy yellow or brownish

EDIBLE PARTS: fruiting body

HOW TO EAT: Pig's ears are rich and earthy with a firm, meaty texture. They are excellent sauteed, stir-fried, or slow-cooked in soups and stews. Harvest them before they develop a bitter taste.

PIG'S EARS TACOS: Ingredients: mushrooms (chopped thickly), lard, 1 lb. (500g) roma tomatoes, 1 large jalapeño, 3 garlic cloves, ½ onion, tortillas, salt, cilantro. In a skillet, lightly char tomatoes, onion, jalapeños, and garlic. Peel off charred skins. Puree vegetables with cilantro. Add salt. Sauté mushrooms with lard. Add salt. Toast tortillas on a greased pan. Pile on mushrooms and salsa.

WARNING: Though edible, pig's ears cause stomach upset in some people.

Red Chanterelle, *Cantharellus cinnabarinus* (CANTHARELLACEAE)




Geoff Balme, CC-BY-SA-3.0


Katja Schulz, CC-BY-2.0

RED CHANTERELLE grows on the soil under hardwoods in eastern North America. It favors oak and beech and is often found in the company of its golden-yellow relative, *C. cibarius*. Fruiting in the summer and early fall, this mushroom occurs solitarily or in groups and is admired for its brilliant vermillion-red color.

CAP: The smooth, dry cap is 0.4-1.5 inches (1-4cm) across and broadly convex. With age, it flattens, often developing a shallow central depression. Its margin is incurved and more or less circular when young, becoming wavy or irregularly lobed. The cap's vivid red-pink to red-orange color dulls with age. Its thin, white flesh is tinted cinnabar-red near the skin with a mild to slightly peppery flavor.

UNDERSIDE: Color of the cap or paler, the underside is lined with thick, blunt false gills that run down the stem. These ridges may be spaced closely or distantly and are often forked or cross-veined.

STEM: Measuring 0.5-1.5 inches (1.2-4cm) long and 0.2-0.4 inches (0.4-1cm) wide the solid stem is equal or thinner towards the base. It is colored like the underside, sometimes with a whitish or yellowish base.

SPORES: 6-10 x 3.5-5.5 µ, elliptical, smooth; Spore print: creamy-pink

EDIBLE PARTS: cap, stem

HOW TO EAT: These delicately-flavored chanterelles are fruity and floral with a hint of spiciness. While delicious in a simple sauté, they also pair well with meats, fish, and eggs.

CINNABAR SMOKED TROUT SALAD: Ingredients: ¾ cup red chanterelles, butter, 1 red onion (diced), 1 tbsp. mayonnaise, 1 ⅓ cup yogurt, 2 apples (diced), ½ pear (diced), ¾ inch celery (diced), salt, pepper, 14 oz. (400g) smoked trout. Lightly sauté chanterelles in butter (4 min.). In a bowl, combine with onion, mayonnaise, yogurt, apples, pear, and celery. Refrigerate for a few hours. Serve with smoked trout on pumpernickel bread.

POISONOUS LOOK-ALIKES: **Jack-O-Lantern, *Omphalotus illudens*** - bright orange or yellow; thin flesh; unforked, blade-like true gills; grows on wood; **False Chanterelle, *Hygrophoropsis aurantiaca*** - orange-yellow; true gills; velvety surface.

White Chanterelle, *Cantharellus subalbidus* (CANTHARELLACEAE)







WHITE CHANTERELLE is found exclusively in the Pacific Northwest and northern California. It grows on the soil under conifers and hardwoods, including pines, Douglas-fir, tanoak, and madrone. Mostly occurring in old-growth forests, this large cream-colored chanterelle fruits from late summer to midwinter. It may appear singly, scattered, or in large groups.

CAP: The cap is 2-6 inches (5-15cm) across, beginning broadly convex with an incurved margin. As it matures, it grows flat with a central depression, while the margin becomes wavy to irregular. The cap's surface is smooth to finely scaly and creamy-white, bruising dingy orange-yellow. The thick white flesh has a mildly fragrant scent.

UNDERSIDE: The cap's underside is cream-white, discoloring yellowish to orange when bruised. Shallow, blunt false-gills run down the stem from the margin. These ridges are distant, forking, and cross-veined.

STEM: Measuring 0.8-2 inches (2-5cm) long and 0.4-1.5 inches (1-4cm) thick, the solid, fleshy stem is equal or thinner towards the base. Its surface is whitish, staining dingy yellow-orange.

SPORES: 7-9 x 5-6 µ, elliptical, smooth; Spore print: white

EDIBLE PARTS: cap, stem

HOW TO EAT: *C. subalbidus* has all the fruity, floral delicacy of its cousin, the golden chanterelle, but with thicker, meatier flesh. To best appreciate their flavor and texture, roast or sauté them whole with gentle herbs. Their dense flesh also makes them an excellent candidate for mushroom pâté.

WHITE CHANTERELLE PÂTÉ: 12 oz. (340g) chanterelles (chopped), butter, 2 cloves garlic (chopped), 1 splash sherry, 1 tsp. salt, ¼ cayenne pepper, 1 tbsp. tomato paste,1 tbsp. lemon juice, 1 tsp. lemon zest, 2 tbsp. parsley. In a skillet, sauté chanterelles and garlic in butter (5 min.). Add wine, tomato paste, salt, pepper, and cayenne. (Simmer for 2 min.) Pour mixture into a blender. Add lemon juice, zest, and 4 tbsp. butter. Blend until smooth. Serve on crackers and top with parsley.

POISONOUS LOOK-ALIKES: Some white ***Clitocybe*** and ***Hygrophorus*** species - unforked, bladelike true-gills.

Winter Chanterelle, *Craterellus tubaeformis* (CANTHARELLACEAE)







WINTER CHANTERELLE is found in northern and montane habitats east of the Great Plains. Associated with conifers, it fruits on moss and well-decayed logs, often in boggy areas. These mushrooms appear in the fall, occurring solitarily, scattered, or in groups.

CAP: The cap is 0.6-1.8 inches (1.5-4.5cm) broad. It begins convex, becoming vase-shaped and developing a central hole. Incurved when young, the margin soon spreads upward, becoming lobed and wavy. The cap's nearly smooth surface is dark brown to yellow-brown, aging to greyish-brown. The thin flesh has a mild odor and taste.

UNDERSIDE: Blunt, false-gills are well-spaced and cross veined. They fork near the margin and run down the stem. The underside is yellowish to pale greyish-brown.

STEM: The hollow stem is 1-2.5 inches (3-6cm) long and 0.1-0.5 inches (0.3-1.2cm) thick. Equal or thinner towards the base, its smooth, waxy, often flattened surface is orange-grey, yellow-grey, or brownish.

SPORES: 9-11 x 6-8 µ, elliptical, smooth; Spore print: white

EDIBLE PARTS: cap, stem

KEY MEDICINAL USES: This mushroom has shown evidence of antibacterial activity.

HOW TO EAT: Winter chanterelles are slightly fruity but more shroomy than their relatives. While delicious on their own, they are fantastic with noodles.

WINTER UDON SOUP: Ingredients: 2 oz.(57g) dried mushrooms, 1 bunch green onions (chopped), ½ garlic bulb (minced), 1 oz. (28g) ginger (sliced), 1 sheet kombu, 2-quarts water, salt, 1 tbsp. soy sauce, 1 tbsp. miso paste, 1 tbsp. mirin, 1 tbsp. rice vinegar, 2 cups chanterelles (sautéed), bok-choy, 14 oz. (400g) udon noodles. In a pot combine dried mushrooms, onions, garlic, ginger, kombu, water, salt. Bring to a boil. Simmer 1 hr. Strain broth and discard solids. Add miso, soy sauce, mirin, vinegar. Return to pot. Add noodles and bok-choy (simmer 2 min.). Add chanterelles to broth.

WARNING: Some brown true-gilled mushrooms are toxic; always make sure your chanterelle has blunt, forking false-gills.

POISONOUS LOOK-ALIKES: ***Omphalotus illudens*** - bright orange; unforked, blade-like true gills; grows on wood; ***Hygrophoropsis aurantiaca*** - orange-yellow; true gills; velvety surface.

POLYPORE MUSHROOMS/BRACKET FUNGI/SHELF FUNGI

Polypore means many-pored. Spores are produce on the underside within a multitude of tightly packed pores or tubes. They are often leathery and fibrous and usually lack a stalk. Some (conks) are woody, while others are simply fleshy. Many fruit from logs or stumps, forming single or multiple shelf-like fruiting bodies.

Cauliflower Mushroom, *Sparassis radicata* (SPARASSIDACEAE)





Scott Darbey, CC-BY-2.0

WESTERN CAULIFLOWER MUSHROOM is a parasitic fungus found in the old-growth forests of western North America. It grows alone at the bases of conifers, drawing nutrients from the roots, and causing a brown or yellow rot. Douglas-fir and species of pine are its preferred hosts. This mushroom fruits annually in the same location from late summer to midwinter.

FRUITING BODY: Resembling a frilly cauliflower, or a giant white brain, the fruiting body can range from 4 inches to 2 ft. (10-60cm) tall and broad. Its dense mass of flattened, noodle-like lobes are cream-colored, wavy, and 0.6-1 inch (15–25mm) wide with smooth surfaces. In age, they stain dingy brown at the margins. This mushroom has a fragrant, spicy odor.

STEM: The deep-rooting stem is 2-8 inches (5-20cm) long, 1.2-2 inches (3-5cm) thick and tapered downward. Its interior is chambered above and solid below with firm, supple flesh.

SPORES: 6-7 x 4-5 µ, broadly elliptical, smooth; Spore print: white

EDIBLE PARTS: fruiting body

KEY MEDICINAL USES: *S. radicata* has shown evidence of anti-tumor activity, immune stimulation, and antimicrobial activity.

HOW TO EAT: Delicious and versatile, cauliflower mushrooms can be sauteed as noodles, cooked into soups, battered and fried, or baked in the oven with cheese. Harvest young mushrooms and remove the grit that collects between the lobes.

SPARASSIS PAD THAI: Ingredients: cauliflower mushroom, 1 ½ tbsp. tamarind puree, 3 tbsp. brown sugar, 2 tbsp. fish sauce, 1 ½ tbsp. oyster sauce, oil, ½ onion (sliced), 2 garlic cloves (chopped), 5 oz. (140g) chicken (sliced), 2 eggs, 1 ½ cups beansprouts, ½ cup tofu (cubed), ¼ cup finely chopped peanuts. Mix tamarind, sugar, fish sauce, and oyster sauce in a bowl. Sauté garlic, onions, and chicken until mostly cooked. Push to one side of the pan. Scramble eggs on the other side. Mix eggs with chicken. Add sprouts, tofu, mushrooms, and sauce. Toss for 2-3 min. Add peanuts. Serve with lime wedges.

POISONOUS LOOK-ALIKES: Some ***Ramarias*** - grow on ground; erect cylindrical branches

Chaga, *Inonotus obliquus* (HYMENOCHAETACEAE)







CHAGA, also called Cinder conk and Clinker polypore, is a parasitic fungus that primarily grows on the bark of standing birch trees. Widely distributed across circumboreal North America, it begins its growth in summer or fall and persists year-round. When the host tree dies, the chaga will start to decompose it, causing a white heart rot.

FRUITING BODY: The warty, fissured black conk may grow to 12 inches (30cm) broad and high. It blisters through its host's bark, forming an extrusive irregularly-shaped bulge that looks like a fused mass of charcoal. Its dry, rigid surface is broken up into cracked plates. The conk's woody flesh, which is visible through the cracks, is a vivid shade of golden-orange. The fruiting body stains brown in KOH.

SPORES: The fruiting body does not produce spores. However, spores accumulate beneath the host tree's bark after it has died. They are 8-10 x 5-7.5 µm, ellipsoid. Setae are fusiform.

EDIBLE PARTS: fruiting body

KEY MEDICINAL USES: In vitro and animal studies have shown that chaga has anti-cancer, anti-diabetic, anti-inflammatory effects.

HOW TO EAT: Chaga is most nutrient-rich when its host is dormant: in autumn or early winter after 20 consecutive nights of cold (20°F/-6°C or below). Once the tree starts producing sap in the new year, the chaga will become depleted. Only harvest this fungus from living birch trees. Leave at least 25% of the conk behind, and be very careful not to cut into the birch's wood - this will ensure that both the chaga and the tree continue to live. Once you've made your harvest, break the chaga into 1 cm pieces and sun-dry them over a few days. Then, grind them into a powder or keep in small chunks for tea.

SPICED CHAGA TEA: Ingredients: 4 quarts water, ¾ cup chaga pieces, 2 cinnamon sticks, 10 clove buds. Combine ingredients in a pot and simmer for 1 h. Strain before pouring into mugs. Enjoy on a cold day.

WARNING: This species has antiplatelet properties and should not be consumed if taking blood-thinners. People with diabetes or autoimmune diseases should consult a doctor before using chaga.

Chicken of the Woods, *Laetiporus sulphureus* (FOMITOPSIDACEAE)







CHICKEN OF THE WOODS is found east of the Rocky Mountains and fruits annually between summer and fall. Growing on the surfaces of dead or wounded hardwood trees (especially oak), it creates a red-brown heart rot, often accompanied by white mycelium. While sometimes solitary, this fungus more commonly grows in overlapping shelf-like clusters. Its bright orange-yellow appearance is unmistakable.

CAP: The shelf-like caps are 2-10 inches (5-25cm) broad and up to 1.5 inches (4cm) thick. Fan-shaped to irregularly semi-circular, the smooth or slightly wrinkled surfaces have a texture like suede. Bright sulfur-yellow or orange when young, their color dulls with age and the bright yellow margins whiten in time.

FLESH: Young mushrooms have thick, tender, and remarkably moist flesh. White to soft yellow in color, the flesh has a poignant fungal aroma. With age, it becomes tough and brittle.

OTHER FEATURES: The mushroom's underside has 3-4 pores per 0.04 inches (1mm). They are sulfur yellow, measuring 0.12-0.16 inches (3-4mm) deep. There is no stem.

SPORES: 5.5–7 x 3.5–5 µm, elliptical, smooth; Spore print: white

EDIBLE PARTS: soft, yellow edges

KEY MEDICINAL USES: Scientific research has shown this species has antimicrobial, anti-inflammatory, anti-tumor, and immunomodulation activities.

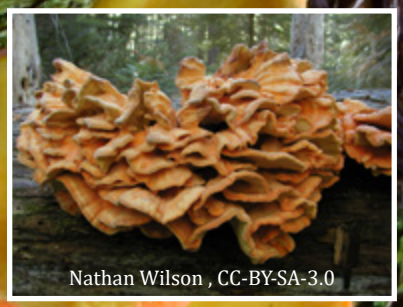
HOW TO EAT: This mushroom's taste and texture, when cooked, is uncannily like chicken. Very young mushrooms have a subtler flavor and a texture comparable to tofu. Old specimens, which are sour and unpalatable, should be avoided. Harvest the mushroom's tender edges, clean well, and cook thoroughly.

CRISPY FRIED CHICKEN OF THE WOODS: Ingredients: 3 lbs. (1.4kg) mushrooms, oil, 2 cups flour, 2 tbsp. salt, 2 tbsp. paprika, 2 tsp. garlic powder, ½ tsp. pepper, 2 cups buttermilk. Cut mushrooms into cutlet-sized pieces. In a bowl, mix salt and spices. Dip cutlets into buttermilk and sprinkle on both sides with spice mix. Coat with flour. Fry until golden brown.

WARNING: While edible to most people, some individuals experience mild poisoning when they consume this mushroom. Try in small quantities the first time. Do not eat raw.

Conifer Chicken of the Woods, *Laetiporus conifericola* (FOMITOPSIDACEAE)




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CONIFER CHICKEN OF THE WOODS occurs west of the Rocky Mountains and fruits annually in summer and fall. Growing on dead or injured trees in multi-leveled brackets, it shares many similarities with its eastern relative, *L. sulphureus*. Among these is the red-brown heart rot - often paired with the presence of mycelium - that both species cause on their substrates. However, *L. conifericola* grows only on conifer wood and is bright orange to salmon-orange.

CAP: The cap is fan-shaped to unevenly semi-circular with occasional wrinkles and a texture like suede. It measures 2-20 inches (5-50cm) wide and up to 1.6 inches (4cm) thick, with a bright orange or salmon-orange color that dulls with age. The thick, frequently yellow margins also fade in time.

FLESH: The yellowish flesh of young mushrooms is loaded with water. Older specimens harden and become brittle. The flesh's scent is strongly fungoid.

OTHER FEATURES: These mushrooms are without stems. Their undersides are covered with minute holes (pores). There are 2-4 lemon-yellow pores per 0.04 inches (1mm), measuring 0.04-0.16 inches (1-4mm) deep.

SPORES: 5–7 x 3.5–5 µm, elliptical, smooth; Spore print: white

EDIBLE PARTS: tender edges

HOW TO EAT: This mushroom has firm yet tender flesh that tastes remarkably like chicken when it is cooked. Harvest the succulent edges of maturing mushrooms in late summer to get the full chicken experience. For a milder flavor, harvest very young specimens. Stay away from old, putrid mushrooms.

SAUTEED CHICKEN OF THE WOODS: Ingredients: 2 tbsp. olive oil, 1 lb. (500g) mushrooms, 2 shallots (chopped), 3 cloves garlic (sliced), ½ cup white wine, 2 tsp. lemon juice, 2 tbsp. parsley, salt, pepper. Tear mushrooms into strips. Cook with oil in a skillet until the flesh begins to brown. Add shallots, garlic, salt, and pepper. When shallots are tender, add wine. Cook until mushrooms have absorbed all the liquid. Season with lemon juice and parsley.

Western Hardwood Sulphur Shelf, *Laetiporus gilbertsonii* (FOMITOPSIDACEAE)







Jason Hollinger, CC-BY-SA-3.0

WESTERN HARDWOOD SULPHUR SHELF is a west coast fungus that grows on living and dead hardwoods, causing a brown heart rot. It is another chicken-of-the-woods mushroom. Distributed from British Columbia to western Mexico, it favors oak, eucalyptus, and carob trees. Though this mushroom sometimes appears alone, it more commonly occurs in overlapping, shelf-like clusters. Its fruiting season is from fall to winter.

FRUITING BODY: The fruiting body can span up to 22 inches (55cm) broad, with individual caps measuring 2.4-5.5 inches (6-14cm) wide, 1.6-4 inches (4-10cm) deep, and up to 1.2 inches (3cm) thick. The caps are fan-shaped to irregularly semi-circular and textured like suede. They are light yellow, orange-tan, or dull salmon, with sulphur-yellow margins. Stems are absent or stumpy.

FLESH: The whitish or yellowish flesh of young mushrooms is thick, tender, and moist. With age, it becomes tough and brittle.

PORE SURFACE: The surface beneath the cap is yellow and finely pored, with 2-3 round or angular tube mouths per 0.04 inches (1mm).

SPORES: 5-7 x 4.0-5.0 µm, broadly elliptical, smooth; Spore print: white

EDIBLE PARTS: fruiting body

HOW TO EAT: Like its *Laetiporus* relatives, cooked *L. gilbertsonii* has the flavor and texture of chicken. However, this species can be bitter-tasting, especially when it grows on eucalyptus. Avoid specimens that grow on this tree. Harvest young mushrooms, or the tender edges of maturing ones, and always cook them thoroughly.

GRILLED SULPHUR SHELF SANDWICH: Ingredients: mushrooms, oil, 1 tbsp. thyme, ¾ tsp. poultry seasoning, salt, pepper, burger bun, cheddar, ¼ cup shaved red onion, lettuce, chipotle mayo. Combine dry seasonings. Sauté mushrooms in oil on both sides until they have released their water. Season and bake for 10 min. at 350°F (175°C). Top with cheese and bake for 5 min. Slide mushrooms onto grilled burger bun. Top with onion, lettuce, and mayo.

WARNING: This mushroom can cause gastric upset in some people, especially when it is harvested from eucalyptus. Always cook thoroughly before eating.

CLUB AND CORAL MUSHROOMS

This group resembles coral with their upright branching forms or a coral-like upright club. Their upright orientation separates this group from the toothed mushrooms, which have spines that hang downward like icicles.

Club Coral, *Clavariadelphus truncatus* (GOMPHACEAE)





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CLUB CORAL is a common, club-shaped mushroom that is widely distributed across North America. Fruiting in summer and fall, it grows in scattered to dense groups under conifers, especially where there is an abundance of decomposing needles. This fungus's flattened, yellowish top sets it apart from related club corals, which are edible but bland and sinewy.

FRUITING BODY: The fruiting body grows upright from 2.4-6 inches (6-15cm) tall and 0.8-3.5 inches (2-9cm) across near the top. Its broad apex is flattened to depressed, often with a bright yellow or orange coloration. The rest of the mushroom is pinkish-brown to yellow-brown. Wrinkles are frequently visible near the top. Towards the base the mushroom tapers and smoothes, becoming covered with a coat of white hairs. The thin, pithy flesh is hollow towards the top, with a white to ochre hue.

SPORES: 9-13 x 5-7.5 µm, elliptical, smooth; Spore print: pale ochre

EDIBLE PARTS: fruiting body

KEY MEDICINAL USES: This species is being studied for its antitumor and antimicrobial activities.

HOW TO EAT: Coral Club's taste can vary quite a lot. These mushrooms can be mild and unremarkable, or bittersweet and woodsy. Occasionally they will be delectably honey-like. To best appreciate the flavor of sweet coral clubs, simply sauté them in butter.

CLAVARIADELPHUS ASPARAGUS BAKE: Ingredients: 1 lb. (500g) asparagus (trimmed, sliced into small pieces), 3 onions (chopped), 10 *Clavariadelphus truncatus* (sliced diagonally), ½ cup melted butter, ½ cup parmesan cheese, 1 cup breadcrumbs, 1 cup sliced almonds. Combine asparagus, onions, and mushrooms in a bowl. Toss with ¼ cup melted butter and parmesan cheese. Cook for 1 hr. in a casserole dish at 350°F (175°C). Fry breadcrumbs in ¼ cup butter until golden and mix with almonds. Sprinkle the topping onto the finished casserole.

TOOTHED/SPINED MUSHROOMS

Bear's Head, *Hericium abietis* (HERICIACEAE)







Jason Hollinger, CC-BY-SA-3.0

BEAR'S HEAD, also known as **Conifer Coral Hericium**, looks like a frozen waterfall with its profusion of icicle-like spines. Fruiting between fall and winter, it grows exclusively on dead or rotting conifers, reappearing annually. Its preferred hosts are Fir and Douglas-fir. Bear's Head is native to western North America.

FRUITING BODY: Supported by a substructure of dense branches, each 0.8-1.2 inches (2-3cm) thick, Bear's Head can grow from 4-30 inches (10-75cm) long and wide. From these branches spill a mass of thin, drooping spines. Its overall color may vary from white to pinkish, becoming yellowish, brownish, or salmon with age. The fruity body is anchored to its substrate by a knoblike base.

SPINES: The spines may be 0.2-1-inch-long (5-25mm) long and up to 0.04 inches (1mm) wide. Soft, delicate, and clustered at the branch tips, they create a cascading appearance.

SPORES: 4.5-5.5 x 4-5 µ, subglobose, smooth or slightly rough, amyloid; Spore print: white

EDIBLE PARTS: fruiting body

KEY MEDICINAL USES: The *Hericium* genus is currently being investigated for its role in preventing neurodegenerative diseases, such as Alzheimer's.

HOW TO EAT: This delicate sweet mushroom has the flavor and texture of crab meat. It can be sauteed, breaded and pan-fried, pickled, or made into "crab cakes". For the best taste, harvest mushrooms when they are young and white. Make sure to wash them well to remove any hidden grit.

STEAMED BEAR'S HEAD WITH BUTTER AND HERBS: Ingredients: 1 lb. (500g) Bear's Head (cleaned), 16 oz. (450g) salted butter, lemon wedges, fresh sage, and parsley (chopped), salt, 1 clove garlic. Crush clove of garlic and add it to a small saucepan with butter. Heat until the garlic starts to sizzle. Let cool and remove the garlic. Break mushrooms into bite-sized pieces and steam until cooked. Reheat butter with herbs until they begin to get crispy. Serve mushrooms in bowls with flavored butter, lemon wedges, and salt.

Coral Tooth Fungus, *Hericium coralloides* (HERICIACEAE)







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CORAL TOOTH FUNGUS is widespread east of the Great Plains. Like other *Hericium* species, it is notable for its striking display of delicate, icicle-like spines. In coral tooth fungus, these spines are short and feathery, hanging in whispy rows along the fungus's branches. Fruiting solitarily or in groups, this mushroom grows on dead or decaying hardwood trees in late summer and fall. It prefers beech, maple, and oak.

FRUITING BODY: The fruiting body is 3-12inches (8-30cm) broad. Its many smooth branches arise from a stout main stalk that is laterally attached to the mushroom's substrate. These branches are 0.2-0.4 inches (0.5-1cm) thick and feathered with fleshy spines. The fungus may be pristinely white or cream-colored. Its white flesh is unchanging when sliced, and has no distinctive odor.

SPINES: The tuft-like spines are 0.2-0.4 inches (0.5–1cm) long and up to 0.04 inches (1mm) wide. Hanging in rows along the branches, they turn from white to yellowish or brownish as they age.

SPORES: 3-4 x 2.5-3.5 µm, globose, smooth or slightly rough, amyloid; Spore print: white

EDIBLE PARTS: fruiting body

KEY MEDICINAL USES: The *Hericium* genus is currently being investigated for its role in preventing neurodegenerative diseases, such as Alzheimer's.

HOW TO EAT: This delicate, sweet mushroom has the flavor and texture of crab meat. For the best taste, harvest mushrooms when they are young and pristine. Make sure to wash them well to remove any hidden grit.

THAI-STYLE HERICIUM SOUP: Ingredients: 2 ½ cups *Hericium* (chopped), 2 ½ cup coconut milk, 1 ½ cup chicken stock, 4 kaffir lime leaves (slivered), 2 stalks lemongrass (sliced), 6 thin slices galangal (or ginger), 2-5 chilies (sliced), ¼ cup fish sauce (or light soy sauce), 2 limes (juiced), 4 tbsp. cilantro. In a saucepan, bring coconut milk to a simmer. Add mushrooms and cook for 10 min. Add limes leaves, lemongrass, and galangal. Simmer for 5 min. Add chile, fish sauce, lime juice. Simmer for 5 min. Top with cilantro.

Hedgehog Mushroom, *Hydnum repandum* (HYDNACEAE)







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HEDGEHOG MUSHROOM gets its name from the pale orange spines along its underside. Widely distributed throughout North America, this fungus fruits solitarily or numerously between summer and fall. It grows on the ground under both hardwoods and conifers.

CAP: The cap is 1.2-5 inches (3-13cm) wide and broadly convex to flattened. Sometimes, it develops a central depression. Its dry surface is mostly smooth, with a color that may be buff, faded orange, or pale reddish-brown. When bruised, it stains deep orange. That cap's wavy margin is sometimes indented or lobed. The thick white flesh within is somewhat brittle, discoloring brownish-orange when bruised. When raw, its taste is often peppery.

SPINES: The slender spines, located on the cap's underside, are of various lengths, from 0.08-0.3 inches (2-8mm) long. They are whitish to dull orange or pinkish-buff, staining dark orange when they bruise. Usually, they run down the stalk.

STEM: The thick stem is central or off-center, measuring 0.8-4 inches (2-10cm) long and 0.2- 1.2 inches (0.6-3cm) wide. Equal, or enlarged at the base, it is colored like the cap or lighter, bruising orange-brown.

SPORES: 6.5-9 x 6-8 µm, subglobose, smooth, thin-walled; Spore print: white

EDIBLE PARTS: cap, stem

KEY MEDICINAL USES: This mushroom shows evidence for potent antitumor and mild antimicrobial activities.

HOW TO EAT: This delicious mushroom boasts a taste and texture similar to chanterelles. Cooking nullifies its initial peppery flavor. Just take care to clean the spines first. Hedgehog mushrooms can take on the main role in dishes. Slow-cooking yields the best results.

PICKLED HEDGEHOGS: Ingredients: 1 cup apple cider vinegar, 1 cup water, 3 tbsp. brown sugar, 1 tbsp. salt, 2 bay leaves, 1 tsp. mustard seeds, 2 sprigs thyme, olive oil. Trim and roughly chop mushrooms. Add all ingredients except mushrooms to a saucepan and boil until sugar and salt are dissolved. In another pot, steam-blanch mushrooms for 3-5 min. Combine mushrooms and brine in jars and top with olive oil. Tightly seal jars.

Lion's Mane, *Hericium erinaceus* (HERICIACEAE)







LION'S MANE fruits from the wounds of living hardwoods or freshly cut logs. It favors but is not limited to, oak. Widely distributed, though uncommon, this fungus most often grows alone and less frequently in pairs. It appears from late summer to fall in colder climates, persisting into spring in warmer regions.

FRUITING BODY: The fruiting body is rounded, unbranched, and anchored to its substrate by a tough, solid base. A profusion of soft, lanky spines spills downward to form a lush "lion's mane" measuring 3-16 inches (8-40cm) across. Young, fresh mushrooms are pristinely white. They discolor to yellowish or brownish in age. Their white flesh does not change when sliced.

SPINES: The spines may range from 0.4-2 inches (1-5cm) long with pointed tips. Young spines are tender and flexible.

SPORES: 5-6.5 x 4-5.5 µm, globose, subglobose, or broadly elliptical; smooth to minutely roughened, amyloid. Spore print: white

EDIBLE PARTS: fruiting body (though not the base)

KEY MEDICINAL USES: *H. erinaceus* is being investigated for its ability to improve cognition, increase Nerve Growth Factor, and prevent conditions such as dementia, Alzheimer's, MS, and depression.

HOW TO EAT: Fresh lion's mane has a sweet and delicate seafood-like taste. However, older specimens become sour and unpalatable. Harvest this mushroom before it starts to yellow. The extremely tough bases are inedible.

LION'S MANE CRAB CAKES: Ingredients: 1 lb. (500g) mushrooms (finely chopped), 1 large onion (minced), 6 cloves garlic (minced), ¼ cup sweet red peppers (diced), oil, ¾ cup bread crumbs, 2 large eggs (beaten), 3 tbsp. parsley (chopped), ¾ tbsp. salt, 2 tbsp. butter (softened). Sauté mushrooms, onions, and peppers on low for 15 min. Add garlic and cook for 5 min. Let cool. In a bowl, combine sauté mix with all other ingredients. Pat into cakes. Fry on both sides in a buttered skillet. Serve with lemon slices.

Scaly Hedgehog, *Sarcodon imbricatus* (BANKERACEAE)







SCALY HEDGEHOG is widely distributed across temperate North America. Growing on the ground under conifers, it occurs singly, in groups, or fairy rings. These mushrooms typically fruit from late spring to fall, though in California they may appear in midwinter.

CAP: The cap is 2-10 inches (5-25cm) with a convex or flat outline. Occasionally, it develops a perforated central depression. Its dry exterior is patterned with coarse, uplifted scales. These are dark brown to almost black, while the surface beneath is dull brown. The margin begins inrolled, becoming decurved and occasionally wavy or lobed. The firm, brittle flesh is whitish or pale brownish. It has a mild to bitter taste.

SPINES: The undersurface is decurrent and covered with spines of 0.2-0.6 inches (5-15mm) long. These begin dull brown, darkening in age.

STEM: The stem is 1.5-4 inches (4-10cm) tall, 0.5-1.4 inches (1.5-3.5cm) wide, and equal or thicker at the base. Beginning solid, its top becomes hollow in maturity. The stem's brown exterior is smooth to fibrillose.

SPORES: 6-8 x 5-7 µ, subglobose, strongly warted; Spore print: brown

EDIBLE PARTS: young caps and stems

KEY MEDICINAL USES: Constituents of this species have been shown to promote bone marrow health and reduce fatigue.

HOW TO EAT: The quality of scaly hedgehogs tends to vary. Some specimens are mild-tasting and suitable for most mushroom recipes. Others are irredeemably bitter. People seem to have better luck with young mushrooms.

MARINATED HEDGEHOGS: Ingredients: 1 lb. (500g) mushrooms, ¼ cup olive oil, ¼ cup white wine vinegar, ¼ diced onion, 2 cloves garlic (minced), 2 tsp. brown sugar, ½ tsp. oregano, ½ tsp. peppercorns, ¼ tsp. chili flakes, 1 bay leaf, salt, parsley. Boil mushrooms in salted water (3-4 min.). In a bowl combine drained mushrooms with remaining ingredients. Scoop into sealable jars and refrigerate.

WARNING: Scaly hedgehogs cause indigestion in some people.

INEDIBLE LOOK-ALIKES: ***Sarcodon scabrosus*** - stalk base is olive-black; cap is less scaly; scales usually not raised; extremely bitter flesh. Cap tissue stains black in KOH.

White Hedgehog, *Hydnum albidum* (HYDNACEAE)




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WHITE HEDGEHOG is found in the mixed forests of southeastern Canada and the eastern United States. Fruiting in summer and early fall, it grows on the soil under conifers and hardwoods. These mushrooms occur alone or scattered.

CAP: Measuring 0.4-2.8 inches (1-7cm) across, the cap is broadly convex becoming nearly flat and often lobed. Its bald, white to creamy surface is dry, soft, and slightly felty to the touch. The thick flesh bruises orange or dull yellow when sliced. Its odor is not distinctive, while its taste is mild to slightly peppery.

SPINES: The slender spines, which densely cover the cap's underside, are of various lengths, from 0.04-0.28 inches (0.1-0.7cm) long. They are soft and white, bruising orange and sometimes running down the stem.

STEM: The thick white stem is 0.8-2 inches (2-5cm) long and 0.3-0.8 inches (0.8-2cm) thick. It is smooth, and sometimes slightly off-center. When bruised, it stains orange or brownish-orange.

SPORES: 4.0-5.5 x 3.5-4.0 µm, subglobose, smooth; Spore print: white

EDIBLE PARTS: cap, stem

HOW TO EAT: This delightful mushroom is sweet, nutty, and easy to identify. Simply saute it in butter to appreciate its smooth flavor. It is also excellent in pasta, on pizza, or paired with turkey. To avoid soaking when removing the grit from its spines, use a brush or damp towel.

WHITE HEDGEHOG RICOTTA TART: Ingredients: ½ cup ricotta cheese, ¼ cup Parmesan (freshly grated), 1 tbsp. rosemary, salt, pepper, butter, 2-3 cups mushrooms (chunked), ¼ cup dry white wine, 10 sheets phyllo dough, 2-4 tbsp. olive oil. Sauté mushrooms in butter (3 min.). Add wine and simmer until evaporated. In a bowl, combine ricotta, Parmesan, rosemary, salt, pepper. Line a large sheet pan with parchment paper. Brush each layer of phyllo dough with olive oil and stack on top of each other. Roll over edges to create a crust. Spread ricotta over tart and cover with mushrooms. Bake for 35-30 min. at 400°F (200°C).

PUFFBALLS

Puffballs puff their spores in the air when hit by rain or poked. They are round and have a white interior when cut in half without gills. They usually lack a true stem or stalk.

Gem-Studded Puffball, *Lycoperdon perlatum* (AGARICACEAE)





GEM-STUDDED PUFFBALLS are common and widespread. While usually growing on the ground under hardwood trees and conifers, they will occasionally frequent open areas. Fruiting from summer until fall, they may develop solitarily, in scattered to gregarious groups, or in fused clusters.

FRUITING BODY: The fruiting body is normally shaped like an upside-down pear, with a rounded or flattened top. Measuring 1.2-2.8 inches (3-7cm) tall and 0.8-2.5 inches (2-6cm) wide, it grows from a thick sterile base. When young, its dry surface is whitish to pallid brown and studded with firm, cone-shaped scales. These cones may be white, greyish, or pale brown, browning further at the tips at maturity. Eventually, these cones fall off, leaving pockmarks on the puffball's surface. Old mushrooms are completely brown.

STERILE BASE: The stem-like sterile base is formed of large white chambers, which eventually discolor to olive-brown or dark brown.

SPORE MASS: The spore mass within begins white and spongy. Soon softening and yellowing, it eventually becomes an olive-brown powder. A rupture at the puffball's top releases the spores.

SPORES: 3.5-4.5 µm, round, thick-walled, minute spines

EDIBLE PARTS: young fruiting body

KEY MEDICINAL USES: This mushroom shows strong antimicrobial activity. It has been applied externally to wounds and sores.

HOW TO EAT: Harvest only young, cushiony puffballs with white innards. The spongy, absorbent flesh is perfect for sauces and marinades. However, if even slightly yellow, the flesh is no longer edible. Do not eat.

LEMONGRASS PUFFBALLS: Ingredients: 1 lb. (500g) mushrooms, ½ tsp. salt, 2 garlic cloves (minced), 1 tsp. lemongrass bottom (chopped), 1 chili (sliced), 1 tbsp. lime juice, 1 tbsp. fish sauce, pepper, oil, cilantro. Stir-fry mushrooms with salt and oil (cook 3-4 min.). Add lemongrass, garlic, chili (cook 1 min.). Add lime juice and fish sauce (cook 2 min.). Sprinkle with cilantro.

WARNING: Inhaling spores can cause respiratory illness, especially in immuno-compromised people.

POISONOUS LOOK-ALIKES: **Earth Ball, *Scleroderma citrinum*** - tough, warty skin; insides usually black or deep purple-blue though occasionally white, firmer than *L. perlatum*; Some ***Amanitas*** grow from a whitish egg sack; if bisected, a white mushroom or gills are usually visible. Puffballs have no gills.

Stump Puffball, *Lycoperdon pyriforme* (LYCOPERDACEAE)







STUMP PUFFBALLS grow on decaying hardwoods and conifers, including logs, stumps, and mulch. If the wood is buried, these mushrooms can appear terrestrial. Widely distributed and common, they occur in scattered or dense groups from summer to early winter.

FRUITING BODY: Young puffballs begin nearly round, soon developing an upside-down pear shape. They are 0.6-1.8 inches (1.5-4.5cm) tall and often nearly as wide at the bulge. The dry exterior is whitish to tan when young, and mostly smooth or with sparse tiny spines. In age, the skin toughens, becoming brown, cracked, and granular. A hole emerges at the top of the fruiting body, through which the mushroom releases its spores.

STERILE BASE: The sterile base, which may be barely developed or stem-like, is whitish and chambered. Tiny, white root-like rhizomorphs extend from it and permeate the surrounding wood.

SPORE MASS: Beginning white, firm, and fleshy, the fruiting body's interior turns yellowish and gritty as it ages, eventually becoming an olive-brown powder. This spore mass is released through a pore at the top of the puffball.

SPORES: 3-4.5 µm, globose, smooth, olive-brown

EDIBLE PARTS: young fruiting body

KEY MEDICINAL USES: This mushroom shows strong antimicrobial activity. It has been applied externally to wounds and sores.

HOW TO EAT: Puffballs are edible when they are young, firm, and completely white throughout. Before cooking, remove the tough outer skin and discard any specimens that show signs of yellowing.

PUFFBALL SCRAMBLED EGGS: Ingredients: puffballs (halved), olive oil, 2 splashes sherry, salt, pepper, 1 splash soy sauce, 3 eggs, 1 splash of milk, grated Parmesan. Sauté puffballs in oil. Once tender, reduce heat and add sherry, salt, pepper, and soy sauce. Sweat for 5 min. Whisk 3 eggs with a splash of milk. Pour over mushrooms, add Parmesan cheese, and scramble.

WARNING: Inhaling spores can cause respiratory illness, especially in immuno-compromised people.

POISONOUS LOOK-ALIKE: **Earth Ball, *Scleroderma citrinum*** - tough, warty skin; insides usually black or purple-blue though occasionally white. Some deadly ***Amanitas*** grow from a whitish egg sack; if bisected, a white mushroom is usually visible

Witches' Butter, *Tremella mesenterica* (TREMELLACEAE)







WITCHES' BUTTER, also known as **Yellow Jelly Fungus** or **Yellow Brain** can be found all over the world. It is usually found in wet months/winter on recently fallen hardwood trees, especially deciduous species like oak, beech and alder wood that still has some bark attached. It is parasitic to another type of fungi, which also decays hardwood trees, so it's actually a parasite of a parasite.

CAP: It has no cap. Witches' butter has wavy, jelly-like fronds that cluster into a brain-looking structure when mature. They are golden yellow to light orange in color. The jelly body can grow up to 3 inches (8cm) in diameter and 1–1.5 inches (2.5-4cm) tall. They feel like jelly; are slimy and greasy, and they look shiny and almost translucent when wet.

STEM: none

SPORE: broad, oblong or oval-shaped yellow spores that are smooth; approximately 15 µ long and 8 µ wide

EDIBLE PARTS: jelly-like fronds

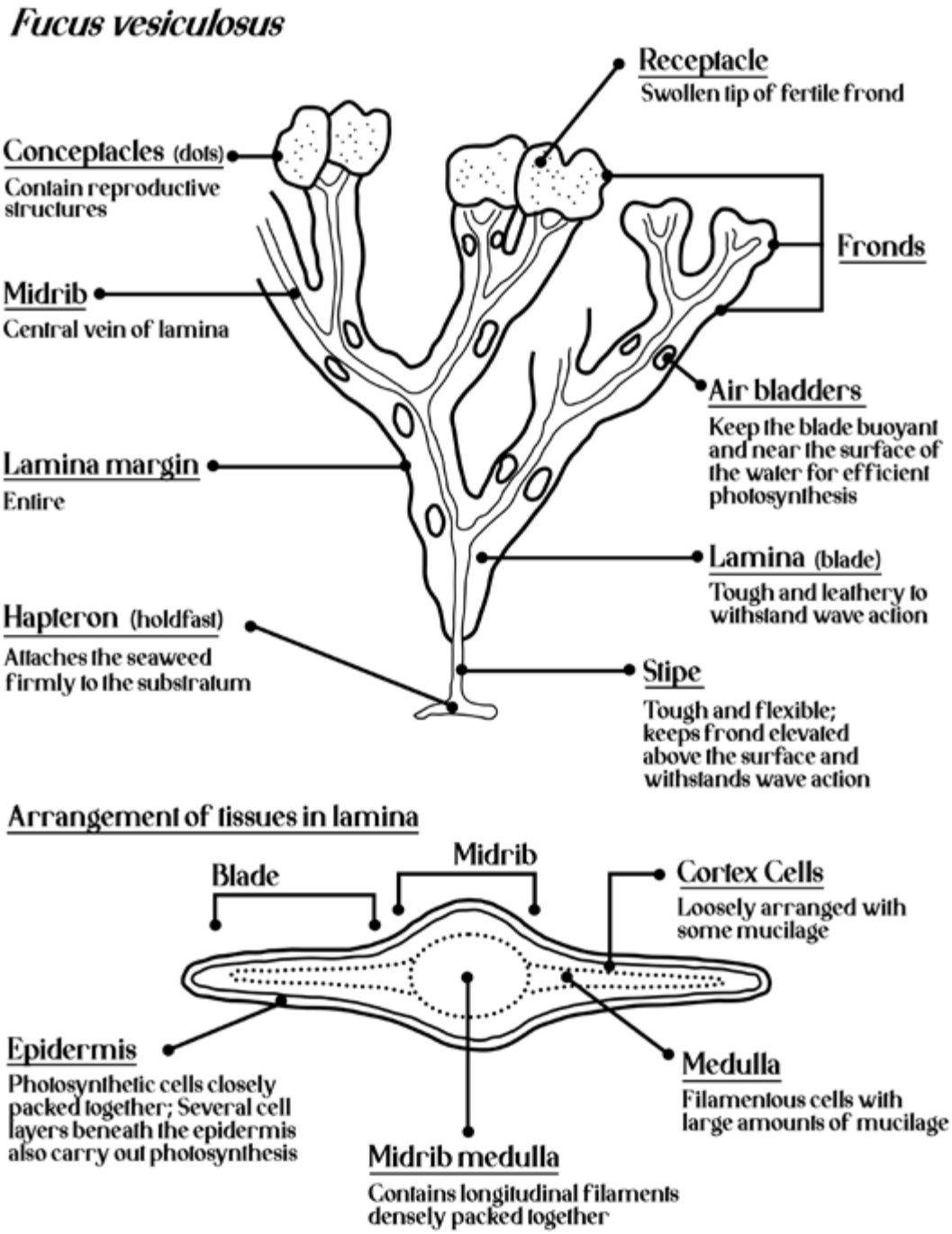
KEY MEDICINAL USES: Traditionally brewed into a tea or broth to ease chest congestion and a sore throat thanks to its cooling sensation. It also has anti-coagulant properties and can improve circulation.

HOW TO EAT: Witches' butter can be harvested at any time of the year after rain. It can be eaten fresh; however, it is very bland with a slight cooling sensation in the mouth. It's incredibly easy to dry and rehydrate in soups and stews.

WITCHES' BUTTER SUGAR JELLY: Ingredients: 1 cup of witches' butter, ¼ cup of sugar, 1 cup of water. Boil the witches' butter for 10 minutes, air dry overnight then soak the dried witches' butter in sugar water for 24 hrs. Remove from the sugar solution and either serve on ice-cream or air dry them to store for longer.

Seaweeds and Marine Grasses

Seaweed Anatomy Diagram



Seaweeds and Marine Grasses ID

Seaweeds and seagrasses are grouped together here due to their marine environment. Seaweeds are not flowering plants; they are multicellular macroalga that have external fertilization (like a fern). Seagrasses are flowering plants, and have a root system and internal fertilization.

General Information

All seaweed comes from 3 different types of macroalgae, classified as: Brown Algae (Phaeophyta), Green Algae (Chlorophyta), and Red Algae (Rhodophta). Don't let the color classification fool you. Many species classified as "red" may actually look brown, while while some "brown" species can look green.

All known marine seaweeds are edible, but caution should be taken in brackish and freshwater areas. Most species of green algae live in freshwater and are toxic. Only the marine algae are edible, so ensure you only harvest in salt water. Seaweed absorbs nutrients (including fertilizers, heavy metals, insecticides and pesticides) from the water, so always harvest in unpolluted water with no run-off from nearby agriculture.

Most seaweed species have a holdfast that secures them to their substrate. The holdfast doesn't absorb any nutrients from the substrate. Most species are attached to rocks or man-made structures. Some may attach themselves to coral, shells or other seaweed species, while others float around the ocean completely detached.

Seaweeds have protection mechanisms. For example, being slippery to the touch as well as being flat and flexible minimizes damage from the waves; having segmented fronds and excellent rehydration abilities helps them cope with being exposed at low tide.

Vegetative reproduction is common in seaweeds. Some have adapted to break off to colonize new areas. Seaweed sexual reproduction involves specialized male and female structures that release their gametes. These structures may take the form of extra blades, bumps on their fronds, or round sacks or swellings.

Harvesting Instructions

The best time to harvest is when the tide is heading out. Start by walking out to the furthest point away and work your way back to the shore. A good rule of thumb is to target rock pools that are abundant with life. Most seaweed species spawn in May-June. Some can spawn as late as September in North America. Avoid harvesting during or right after this event.

Care should be taken to forage sustainably. This includes leaving the holdfast undisturbed, not harvesting large volumes of the reproductive structures, only cutting the top ⅓–½ of the frond and in most cases, leaving the stipe intact.

When harvesting air sacks or bladders, keep in mind that these sacks provide buoyancy to the seaweed to ensure it gets enough light and is protected from being damaged on the rocks. Therefore, don't strip all of the bladders off a single frond. Deep water "brown" species, such kelp, can be washed ashore after a storm. These fronds can be harvested as long as they are still fresh. When harvesting seagrasses, cut above the sheath and do not disturb the rhizomes. If you happen to dislodge a piece, re-plant it like any terrestrial plant.

The Tidal Zone

The following terms are used to help describe where in the shoreline you might find each species:

- **Splash zone** only receives salt spray most of the year and is only inundated during storms.
- **High tide line** is where the spring high tide reaches its maximum.
- **Mid tide** the mid-point between the high and low tide.
- **Low tide line** is where the spring low tide reaches its minimum.
- **Subtidal zone** is only exposed during rare extreme low tides.

Seaweed Nutrition

Many factors can affect the quality and nutritional value of seaweed. Season, water quality, salinity, water temperature, amount of sunlight, wave disturbance and large storms are just a few. The following generalizations can be made:

- All seaweed is high in salt.
- Most seaweeds are high in anti-oxidants.
- When dried, seaweed is nutritionally dense.
- Larger species of brown algae tend to contain more minerals and trace elements than red algae.
- Kombu is incredibly high in potassium, magnesium and vitamin K with plenty of other minerals.
- Nori contains very high amounts of vitamin C which, when eaten fresh, can help our bodies absorb more iron and other important minerals.
- Most kelp species are high in magnesium and vitamin K and have iron and calcium.
- Wakame is high in most of the common minerals except for zinc.

• Irish moss is incredibly high in iron, as well as high in magnesium and zinc.

The compounds that make seaweed feel slippery are alginates and glutamates. Alginates are used medically for topical healing salves and medicine delivery. Glutamates support brain function.

Seaweed and seagrass tend to be high in fiber. This insoluble fiber can help to prevent colon diseases including cancer, and can act as a prebiotic to feed and promote healthy gut bacteria. Most species of seaweed and seagrass are high in magnesium and amino acids. Seaweed also contains a large variety of trace elements, minerals, and vitamins, as well as bioactive compounds that are not abundant in terrestrial plants.

All seaweed contains high concentrations of iodine. These high levels can be used in consultation with a doctor for some thyroid conditions. Both a deficiency and an excess in iodine can lead to a number of health concerns, including weight gain, high cholesterol and thyroid complications, so it's important to balance the amount of seaweed being consumed.

The phlorotannins in brown seaweeds, responsible for many of the medicinal benefits of seaweed, are highly susceptible to oxidization, which is why it is important to seal processed seaweed in an airtight container. Seaweed is one of the best sources of melatonin, and is often used for insomnia and to improve sleep. Seaweed produces higher concentrations of melatonin in the evening.

Preparing, Cooking, and Storing Seaweed

In most cases, it's best to wash the seaweed in salt water before drying, since salt will help to preserve it. The high salt content of seaweed means they can be stored for a number of years. Rinsing the seaweed in fresh water will remove excess salt and sand, but it will increase the slippery texture and it can rupture their cell walls and potentially create a fishy smell. You can reduce both the salt and iodine content by boiling the dried seaweed in fresh water for 2 minutes just before eating it. Seaweed shouldn't take longer than 2 days to air dry. Any longer than this and it runs the risk of growing mold.

If you aren't sure how to prepare a certain type of seaweed, then usually drying and grinding it into a powder for soups and stews is a great start. Smoking is a great way to preserve seaweed for a long period, and the umami taste of the seaweed goes well with a smoky flavor. Blanching or sautéing seaweed is a common way to cook and eat fresh new growth. Pickling seaweed is another good way to store and eat seaweed.

Don't be shy to have a nibble right there on the beach. Many seaweeds and seagrasses make a great snack straight off the rocks while foraging. Dwarf Rockweed and Eelgrass are two examples of tasty raw treats. As you explore the seaweed in your local area, you will become familiar with what tastes and textures are out there, and how best to prepare them.

Terminology List

Air bladder - The small sacks of air that are spread along the fronds.

Conceptacles (dots) - Cavities or dots on the surface of the fronds that are the reproductive organs. They sit within the receptacles. They tend to be cup or bowl shaped.

Cortex cells - Are found in the stipe and midrib, being divided into inner and outer cells. Inner cortex cells are arranged vertically into columns. Outer cells are arranged horizontally or in concentric circles around the stipe. This alternating arrangement gives the stipe and midrib extra strength and flexibility.

Epidermis - The surface or skin of the frond, lamina or stipe.

Frond - The entire leaf-like structures of seaweed; they are the prominent feature of seaweed that photosynthesize. It includes the receptacles, air bladders, and the lamina.

Haptera (holdfast) - Root-like structures that grow out of the holdfast and anchors the seaweed to rocky substrates.

Holdfast - The main attachment at the base of some seaweed species that initially anchors them to the rock.

Lamina (blade) - A flattened blade found in many seaweed species.

Midrib - Central vein running down the middle of lamina or frond; it attaches to the stipe or to the holdfast.

Receptacle - In seaweed, the receptacles are the swollen tips of the fronds. In addition to holding the conceptacles (reproductive organs), they assist with photosynthesis.

Stipe - The stem that connects the frond to the holdfast.

BROWN ALGAE

Bladderwrack/Rockweed, *Fucus vesiculosus* (FUCACEAE)







BLADDERWRACK, also known as **Rockweed**, is very common around the world. It can be found in sheltered areas along both the east and west coast of North America. It attaches itself to rocky substrates. It lives for up to 5 years.

TIDAL ZONE: Commonly found anywhere between low and high tide zones. It can grow to a depth of 10 ft. (3m) below sea level.

FROND: The prominent central midrib and flat, heavily forked fronds with bladders make this species recognizable. The name comes from the air-filled sacks or "bladders" that usually grow in pairs at the joints of the forks. The fronds are very smooth and shiny, and are dark olive green to brown in color. They can grow up to 35 inches (90cm) long and are about 1 inch (2.5cm) wide. In more exposed sites, bladderwrack may be stunted and not grow bladders.

HOLDFAST AND STIPE: A short, flexible stipe is attached to a disc-shaped holdfast. Grows on rocky substrates.

EDIBLE PARTS: young, tender fronds

KEY MEDICINAL USES: Bladderwrack is the original source of iodine so it can be used to treat iodine deficiencies like goiters, but should be used with caution. It is a strong anti-inflammatory and anti-oxidant. When used topically, it promotes collagen production. When added to a bath, it can rejuvenate and moisturize skin. Many Fucus species are studied for their ability to reduce tumors and blood clotting. It is a popular ingredient in many weight loss formulas and to control blood sugar levels.

HOW TO HARVEST AND EAT: Only harvest the fresh, young tips of the frond (2–3 inches/5-7.5cm), and ensure you leave at least 2 inches (5cm) above the stipe undisturbed. It makes a good thickener for soups and stews when dried and ground, otherwise it can be a bit bland.

BLADDERWRACK SOUP POWDER: Ingredients: 1 cup dried bladderwrack, 1 tbsp. mushroom powder, 1 tsp. each of ground ginger, chili flakes, and powdered garlic. Grind up dried bladderwrack into a powder, add the remaining ingredients, and stir. Add 1-2 tbsp. to any soup or stew.

Bull Kelp, *Nereocystis luetkeana* (LAMINARIACEAE)







BULL KELP is a very fast-growing plant. It grows as an annual seaweed from the sea floor and is attached by a holdfast. It can be up to 65 ft. (20m) tall, growing one long stalk or stipe. It is often found in colonies known as kelp forests in the Pacific Ocean on the western coast of North America, from Baja California to Alaska. It is recognizable by its spherical bulb or float, which can be up to 5 inches (12cm) across. The floats appear at the ends of the stalks.

FROND: Long, narrow blades, all arising from the bulb at the top of the plant can be up to 10 ft. (3m) long.

HOLDFAST AND STIPE: very long, rounded hollow stipe, up to 65 ft. (20m) tall

EDIBLE PARTS: blades/leaves, stipes/stalks, bulbs

KEY MEDICINAL USES: Bull Kelp is high in vitamins and minerals and may help attention deficit disorder, insomnia, and depression.

HOW TO HARVEST AND EAT: It is best harvested fresh from water, but can be found washed up on beaches. It can be dried and used as a food additive or seasoning as it has a fresh, ocean-salt taste. It can be eaten as dried kelp chips, used in soups, or eaten with sushi.

BULL KELP PICKLES: Collect one or two bull kelp stalks/stipes, making sure they are firm. Remove bulb float and leaves. Wash hollow portion of stem thoroughly and slice into ½ inch (1cm) rings. Rinse kelp rings again and toss in salt. Slice one large onion and crush one clove of garlic. Rinse kelp rings one more time and stuff into sterilized glass jars with onion and garlic. Put in 1 tsp. lemon juice per jar. Make pickling brine by combining in a saucepan and bringing to a boil 2 cups of vinegar, cup water, ⅔ cup sugar, and 4 tbsp. pickling spice. Boil for 1 min. and pour into jars, covering kelp rings. Refrigerate for at least 48 hrs. before eating.

WARNING: Seaweeds can absorb toxins, heavy metals, and pollutants, so it is important to harvest seaweeds from unpolluted waters.

Dwarf Rockweed, *Pelvetiopsis limitata* (FUCACEAE)




Holdfast, CC-BY-2.0


Jerry Kirkhart, CC-BY-2.0

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DWARF ROCKWEED grows on the west coast of North America on rocky substrates. It looks like a delicate, juvenile bladderwrack or rockweed, but lacks air sacks. Even though its main mode of dispersal is from parts of the mature plant breaking off in the waves and being carried away, it is susceptible to trampling, so tread carefully around it.

TIDAL ZONE: around the high tide line; It often thrives in strong surf.

FROND: The fronds are heavily branched and lobed giving it a very bushy, clumping appearance. Each frond curls inward at its base and flattens out at the tips. Fronds usually grows between 1 ½ inches-3 inches (4-8cm) long, but can reach up to 6 inches (15cm) in ideal conditions. They are light brown to olive green in color with no central midrib. The rounded, lobed tips swell and become warty when it's ready to reproduce, but are smooth and shiny in other times of the year.

HOLDFAST: A small, disc-shaped holdfast attaches directly to the fronds (no stipe).

EDIBLE PARTS: fronds

KEY MEDICINAL USES: It is a strong anti-inflammatory, anti-oxidant and anti-coagulant. Dwarf Rockweed is being studied for its ability to regulated blood sugar levels and remove cancer cells (apoptosis). It is also a common ingredient in weight loss formulas as well as in topical preparations such as anti-wrinkle products and skin-whitening sunscreens.

HOW TO HARVEST AND EAT: Harvest the fronds all year, but avoid harvesting during the reproductive stage in late spring and summer. Leave at least an inch of the frond attached to its holdfast for rapid recovery. Blanching dwarf rockweed will make it turn a brighter shade of green and keeps it crunchy. Many people eat dwarf rockweed in salads and starters, and it is my favorite seaweed to add to a stir-fry.

DWARF ROCKWEED DIP: Ingredients: 1 cup of blanched dwarf rockweed, 1 cup of sour cream, 1 chopped spring onion, 1 clove of garlic, 1 tsp. vinegar or lemon juice, a pinch of sugar and black pepper. Dice the blanched dwarf rockweed and mix all of the ingredients together. Serve with crackers, carrot sticks and/or potato wedges.

Feather Boa Kelp, *Egregia menziesii* (LESSINIACEAE)







FEATHER BOA KELP is the only species in the genus *Egregia*. It is a common native along the western coast of North America on rocky substrates. It often grows with giant kelp in kelp forests.

TIDAL ZONE: Common in the subtidal zone to depths of up to 65 ft. (20m). It can also be found around the low tide line, but is slightly stunted.

FROND: There is a lot of variation within the species. Fronds can grow up to 50 ft. (15m) long, but more often are between 16-33 ft. (5-10m) long. They are dark olive green to brown in color with a heavily branched stipe at the base. Each long frond consists of a central, rough textured, flat ribbon that is fringed with smooth, strap-like blades that are approximately 2 inches (5cm) long, giving it a feather boa appearance. These blades vary hugely in appearance; they are thick, textured and spatula-shaped in the north, while thinner and smooth in the south, or both. The fronds have oval-shaped air sacks interspersed along the length of them for buoyancy.

HOLDFAST AND STIPE: The holdfast can grow up to 10 inches (25cm) in diameter on older kelps and can look like twisted roots. The stipe is multibranched but very short compared to the long fronds.

EDIBLE PARTS: Fronds tend to be tough and leathery, but the air sacks are often referred to as kelp olives.

KEY MEDICINAL USES: Often used in salt therapy baths to cleanse pores and skin. Extracts of feather boa kelp have been found to inhibit the spread of some tumor and cancer cells.

HOW TO HARVEST AND EAT: Along some parts of the coast, feather boa kelp is only exposed during low spring tides, so it's important to time your foraging with these extreme low tide events. Otherwise, it may be wash ashore after a storm. When harvesting the air sacks from feather boa kelp, remember to spread your foraging activities across multiple specimens and fronds so that the kelp still has its mechanism for buoyancy. Some people find the texture too leathery and the taste of this kelp too metallic, but the air sacks are particularly delicious and are best harvested in April, May and June.

BLANCHED FEATHER BOA KELP "OLIVES": Ingredients: 2 cups of feather boa kelp air sacks, 1 tbsp. salt, 1 cup of water. Blanch the air sacks quickly and place them in the salty water overnight. Drain and serve on a platter with pickled vegetables and cheeses.

Giant Kelp, *Macrocystis* spp. (LAMINARIACEAE)







GIANT KELP often grows alongside feather boa kelp in extensive kelp forests. It is one of the fastest growing and largest algae. It grows all over the world on rocky substrates, and can be found on the west coast in North America.

TIDAL ZONE: It is common in the subtidal zone at depths of up to 100 ft. (30m).

FROND: The entire frond can grow up to 150 ft. (45m) in length. It consists of numerous, wide, wrinkly blades that are attached to a single stipe via an elongated, air-filled sack, which is yellow-green in color. The blades are olive green to brown and the margins are toothed. Each blade can grow up to 20 inches (50cm) long.

HOLDFAST AND STIPE: pyramid or slightly cone-shaped holdfast; The stipe is more like a stem and runs almost the entire length.

EDIBLE PARTS: fronds

KEY MEDICINAL USES: Kelp is a strong anti-oxidant. Like most seaweed species, it is also high in iodine, but also contains many trace elements and minerals that are particularly important for maintaining bone density, controlling blood sugar levels and reducing blood clotting. It too has been studied for its ability to reduce the risk of certain types of cancer, including breast and colon cancer.

HOW TO HARVEST AND EAT: Cut the top half of the long frond and leave the lower half of the frond and blades to regenerate. It's possible to harvest from a boat or kayak at low tide anytime of the year except during and after spawning from May to June. The spring low tide at full or new moon is one of the rare times when access to giant kelp is possible on foot. Otherwise collect it opportunistically after a storm has washed it closer to the shore. Giant kelp is very versatile and can be eaten raw, blanched, dried, pickled, boiled, or fried. It has a slightly sweet taste when dried compared to other seaweeds.

GIANT KELP CHIPS: Ingredients: 1 bowl of fresh giant kelp, 2 tbsp. sesame seeds, olive oil. Cut the fronds into 3-inch (8cm) pieces and sprinkle them with sesame seeds. Either dehydrate them or lay them on a sheet of baking paper or oven rack and dry them on low with the oven door ajar. When they have almost dried, lightly fry them in a pan, or roast them in the oven on high for 5 min.

Hijiki, *Sargassum* spp. (SARGASSACEAE)







HIJIKI, also known as **Common Gulfweed** or **Broad Toothed Gulfweed**, is the common name for a number of *Sargassum* species. The native species *S. natans* and *S. fluitans* occur on the east coast of North America, while *S. fusiforme* is native to Asia.

TIDAL ZONE: Most *Sargassum* species are floating algae, so they can be found washed up on the shore or rocks, especially after a storm or high tide.

FROND: The mass of heavily branched fronds of *S. natans* and S. fluitans are golden yellow or light brown in color. *S. natans* tends to have spindly, thin fronds up to 1 inch (3cm) in length, whereas *S. fluitans* has a dense form with wider fronds less than 1 inch (2cm) in length. Both of these species have toothed margins. *S. fusiforme* is yellow, green or brown and has smooth, thick, fleshy fronds growing from a thick stipe, which makes it look like a succulent. All three species have round air sacks for buoyancy that are lighter in color.

STIPE: No holdfast; many Hijiki species form floating mats on the surface of the ocean. The stipe of *S. natans* and *S. fluitans* runs the whole length and is kinked and bent where each frond joins it.

EDIBLE PARTS: fronds and air sacks

KEY MEDICINAL USES: Hijiki studies have found anti-inflammatory, anti-oxidant and anti-viral properties. Studies have also shown potential uses for an-ti-tumor treatments. When boiled and drunk like a tea, it disperses phlegm and relieves sore throats. All species of Hijiki contain arsenic, some of which can be removed during the rinsing process.

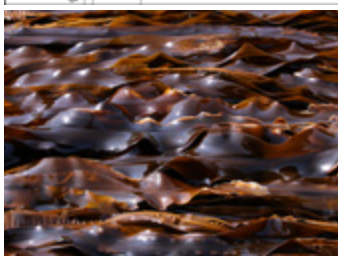
HOW TO HARVEST AND EAT: Harvest is best during the spring low tides, but this species can be collected all year round. Once rinsed, Hijiki is traditionally boiled for an hour or so, and then dried and broken into flakes or ground into powder. Once boiled and dried, the seaweed turns black.

HIJIKI CANAPÉS WITH AVOCADO AND SMOKED SALMON: Ingredients: 1 bowl of fresh Hijiki fronds, 1 avocado, 3 ½ ounces (100g) of smoked salmon. Boil the fresh Hijiki for 1 h., then dehydrate or oven dry it. Use the dried Hijiki like a cracker, and place the avocado and salmon on top of it. OPTIONAL: Add a squeeze of lemon or mayonnaise and serve.

WARNING: Hijiki has been found to contain arsenic in low concentrations, so it's advisable to only eat small doses.

Kombu, *Saccharina japonica* (LAMINARIACEAE)







KOMBU, formerly ***Laminaria japonica***, is a native Japanese seaweed that only grows naturally in Asia. It requires cold water (<73 °F/<23 °C) and a rocky substrate.

TIDAL ZONE: Found in the subtidal zone in calm, high nutrient bays and reefs, Kombu can grow in clear water up to 100 ft. (30m) deep. It is more commonly found in depths of 50 ft. (15m).

FROND: Frond often grows up to 16 ft. (5m) long, but can reach 30 ft. (10m) when fully grown. They are olive green to brown, 4-8 inches (10-20cm) wide with thin, wavy margins.

HOLDFAST AND STIPE: Holdfast is sturdy and looks like twisted roots; Stipe is sturdy, cylindrical, and 0.2-0.4 inch (5-10mm) in diameter.

EDIBLE PARTS: fronds

KEY MEDICINAL USES: It helps with digestion and gas build up.

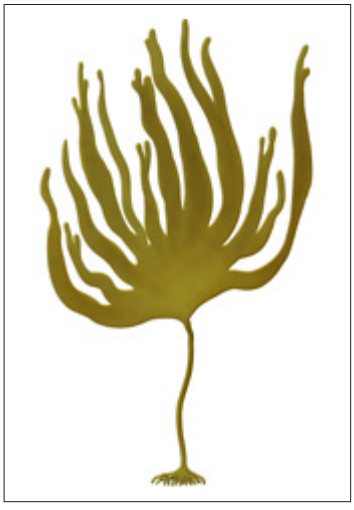
HOW TO HARVEST AND EAT: In Asia is harvested from late April to June from boats. Cut the frond at least 2 inches (5cm) above the stipe. Kombu has a strong umami and briny taste and the iodine content can be reduced by boiling it for 2 minutes before drying it. Otherwise, cut fronds can be rinsed in salt water and hung in the sun to dry and used in a large variety of dishes.

KOMBU RICE BALLS: Ingredients: 1 bowl fresh Kombu, 2 cups cooked rice, 3 oz. (90g) tuna, 1 tbsp. mayonnaise, ¼ diced red onion. Boil fronds for 2 min., drain, and cut into 6-inch (15cm) pieces. Mix tuna with rice, mayonnaise, and red onion. Lay kombu pieces on a board. Place 1-2 tsp. of the mixture in center and fold into a parcel. OPTIONAL: pop balls in the oven for 5-10 min. before serving.

Oarweed/Kombu, *Laminaria digitata* (LAMINARIACEAE)







OARWEED or **Kombu** is usually found amongst kelp forests. *L. digitata* is native to the east coast of North America, on rocky substrates.

TIDAL ZONE: Often growing in the subtidal zone to low tide line, it can grow in water up to 65 ft. (20m) deep.

FROND: At the end of the long stipe the frond broadens to form a large, flat frond from which multiple ribbons grow, giving the appearance of a palm and fingers, or a fan. Oarweed can grow up to 10 ft. (3m) in length and is olive green to brown.

HOLDFAST AND STIPE: Oarweed has a cone-shaped holdfast and a slightly flattened, very flexible stipe that is oval-shaped in cross-section, about 1 inch (2.5cm) wide and 1.5-5 ft. (0.5-1.5m) long.

EDIBLE PARTS: fronds

KEY MEDICINAL USES: Is very effective at softening phlegm and relieving a sore throat.

HOW TO HARVEST AND EAT: Harvest in early autumn. Cut off the long "fingers" and leave the "palm" and stipe to regenerate. It is commonly dried and used as base for miso soup. It can also be used instead of bay leaves. Raw is too tough and leathery, but tastes great when quickly dried. The broad, flat blades can be used as wraps to steam or cook food in.

OARWEED MISO SOUP: Ingredients: 1 cup dried oarweed strips, 3-4 tbsp. miso paste, 4 cups water, 1 tsp. dried wakame, 1 chopped spring onion, and fried onions. Place oarweed strips in water and wait for water to boil. Remove from heat. Add miso, wakame, and spring onion. Garnish with fried onions.

Spiral wrack, *Fucus spiralis* (FUCACEAE)







SPIRAL WRACK or **Flat wrack** tends to grow above bladderwrack amongst rocks.

TIDAL ZONE: It grows around the high tide line, but can be found towards the mid tide line too.

FROND: It has a forked frond with an obvious midrib, similar to bladderwrack; however, spiral wrack has a twist at the base of each fork and the entire plant has a warty texture. Fronds are dark, olive green to brown, and can grow up to 12 inches (30cm) long. Sacks are lighter in colour and gelatinous inside.

HOLDFAST AND STIPE: A thin stipe of varying lengths is attached to a disc-shaped holdfast.

EDIBLE PARTS: fronds and sacks

KEY MEDICINAL USES: Spiral wrack is being investigated for its anti-tumor effects and its potential to control blood sugar levels and treat diabetes.

HOW TO HARVEST AND EAT: You can harvest the new tips of the fronds, including sacks, throughout the year, but limit foraging of the sacks to smaller quantities during their reproductive stage (from late winter to summer). It's best to rotate harvesting from a site every 2 years, as it takes 2 years for a plant to reach maturity. Sacks can be pickled and used like capers.

SPIRAL WRACK OMELET: Ingredients: 1 cup fresh spiral wrack with sacks, 3 eggs, 2 rashes of chopped bacon or ham, 4 asparagus shoots, salt and pepper. Sauté the spiral wrack, bacon and asparagus first and set aside. Beat the eggs and pour into a hot fry pan. Cook for 30 sec. and then add the spiral wrack, bacon and asparagus. Fold the omelet in half and season.

Sugar Kelp, *Saccharina latissima* (LAMINARIACEAE)







SUGAR KELP, **Sea Belt,** or **Devil's Apron** grows on rocky substrates and tends to lie completely horizontally. Its name comes from the high amount of mannitol, which is a natural sweetener. It was formerly known as *Laminaria saccharina*.

TIDAL ZONE: It can grow to depths of 26-100 ft. (8-30m) and is ound from the mid to low tide line in sheltered bays.

FROND: Long, ribbon-like fronds can reach up to 16 ft. (5m) long and 8 inches (20cm) wide. They can be dark yellow, olive green or brown, and are sometimes covered in a whitish powder.

HOLDFAST AND STIPE: Holdfast is somewhat root-like with a 2 inches (5cm) long thin stipe.

EDIBLE PARTS: fronds

HOW TO HARVEST AND EAT: Harvest in spring and autumn. It's best to harvest every second year, so they can reach maturity. Harvest the top ⅓ of the frond. Fermenting reduces the amount of sodium, cadmium and mercury, whereas boiling it for 2 min. removes a third of the iodine.

FERMENTED SUGAR KELP: Ingredients: 1 cup each of fresh sugar kelp and shredded cabbage, ½ a cup each of sliced radish and grated carrot, ¼ cup each of salt and water, 1 tsp. sugar. Boil kelp for 2 min., drain, slice and rub salt into it. Add cabbage and continue massaging salt in for 5 min. Add radish, carrot and water, and massage for 5 min. Leave to rest for 2 hrs. Make sure all is covered with brine. Rinse salt off and pack firmly into a jar, leaving at least an inch (2.5cm) from the top to allow gas production during the fermentation process. Seal jar and keep at room temperature for a week, opening it every day to release the gas. When the taste is to your liking, put jar in the fridge to stop the fermentation.

Sweet Kombu/Sea Cabbage, *Saccharina sessilis (Hedophyllum sessile)* (LAMINARIACEAE)







SWEET KOMBU, SEA CABBAGE, or **Stipe-less kelp** is a perennial native to the west coast of North America, found on rocky substrates.

TIDAL ZONE: It's usually found between the mid to low tide line, often above surfgrass.

FROND: Frond looks roughly like a giant cabbage leaf and grows directly out of the holdfast when mature. Fronds can grow up to 5 ft. (1.5m) long. Color varies from dark olive green to dark brown.

HOLDFAST AND STIPE: Holdfast is strong and looks like twisted roots. There is no stipe attached in mature algae and very short stipe in juvenile algae.

EDIBLE PARTS: fronds

KEY MEDICINAL USES: It contains antivirals made up of compounds that differ from antiviral compounds derived from plants and animals.

HOW TO HARVEST AND EAT: Cut the top off the frond and leave at least 6 inches (15cm) of frond attached to holdfast. Harvest between summer and autumn. Many other seaweed species and creatures rely on this alga to become established or protected, so it's crucial to only harvest small quantities. Eat like any leafy green.

STEAMED FISH WRAPPED IN SWEET KOMBU: Ingredients: 1 bowl fresh sweet kombu, 2 thinly sliced fish fillets, 1 lemon, finely sliced ginger. Lay a piece of kombu on a board, place a small piece of fish fillet in the middle with a small slice of ginger and squeeze some lemon juice over the top. Wrap fish up in the seaweed like little parcels and leave in the fridge for half an hour, then steam for 5-10 min. before serving.

Wakame, *Undaria pinnatifida* and *Alaria marginata* (ALARIACEAE)







WAKAME, Sea mustard, or **Winged Kelp** is the common name for at least two very similar annual species; *Undaria pinnatifida* is native to Asia and *Alaria marginata* is native to the west coast of North America on rocky substrates. The central midrib is a key diagnostic feature.

TIDAL ZONE: It can grow in water up to 23 ft. (7m) deep, being found between the mid to low tide line, and sometimes in the subtidal zone.

FROND: Both species look like a wide, long belt and have a thick, flattened, central midrib with either wavy or long lobes on both sides. Fronds of *U. pinnatifida* grow up to 6 ft. (2m) long and have heavily dissected lobes, whereas fronds of *A. marginata* grow up to 13 ft. (4m) long and margins are wavy. Both species are olive green to dark brown.

HOLDFAST AND STIPE: Holdfast looks like twisted roots. Stipe varies depending on in its reproductive stages, but tends to be ⅕ of the frond's length.

EDIBLE PARTS: fronds

KEY MEDICINAL USES: Wakame is relatively high in fiber, compared to other seaweeds.

HOW TO HARVEST AND EAT: Harvest the tops of the fronds between spring and early summer. Avoid harvesting the reproductive fronds near the base. Cut off the thick, central midrib and discard onto the compost. Use the remaining lobes fresh in salads or treat them like any other leafy green. You may also dry, cook, pickle, smoke or blanch them.

WAKAME TORTILLAS: Ingredients: 1 bowl rinsed Wakame fronds. Remove the central midrib and air dry the fronds in the sun until almost dry. Cut fronds into tortilla-sized pieces and lightly fry for 2-3 min. in butter. Use as tortilla wraps.

GREEN ALGAE

Gutweed, *Ulva intestinalis* (ULVACEAE)







Ryan Hodnett, CC-BY-SA-4.0

GUTWEED, also known as **Sea Hair** and **Grass Kelp**, is found all over the world. It can grow on a variety on substrates and can continue growing if it becomes detached, floating in the water in thick mats. It can grow in saltwater as well as brackish water and it can tolerate poor water quality. It was previously known as *Enteromorpha intestinalis*.

TIDAL ZONE: It's found between the high tide line and the splash zone.

FROND: The bright green mass of thin, tubular fronds makes this seaweed easy to identify. The fine fronds can grow between 4-12 inches (10-30cm) long, and have rounded tips. They are randomly segmented along their length, which helps them to retain water when exposed. The closely related *Ulva linza* has flatter tubular fronds.

HOLDFAST: disc-shaped holdfast with no obvious stipe

EDIBLE PARTS: fronds

KEY MEDICINAL USES: Extracts of gutweed have shown antibacterial, antifungal, antiviral, and anti-inflammatory properties.

HOW TO HARVEST AND EAT: Best harvested in spring to early summer since this is when it has the highest growth rates, but is still inundated for long periods. In late summer, sometimes it can be exposed for long enough to dry it naturally so it can be harvested when it turns white. Thoroughly wash the sand off, dry, and use in any dish.

GUTWEED MASHED POTATOES: Ingredients: ¼ cup of dried gutweed, 5 large potatoes, 1 finely diced shallot, 4 tbsp. butter, ¼ cup of milk, a pinch of salt and pepper. Dice and boil the potatoes until they are soft, drain them, add the butter and the milk and mash them until smooth. Then stir in the sea lettuce, shallots, salt and pepper and serve.

Sea Lettuce, *Ulva lactuca, U. rigida, U. obscura,* and *Monostroma grevillei* (ULVACEAE)







SEA LETTUCE or **Green Laver** is the common name given to a number of *Ulva* and *Monostroma* species. It is a common annual that thrives in areas with high nutrient run off. It can survive in both salt and brackish water. It can continue growing when it becomes detached and can form dense, floating mats. Many *Ulva* species have a higher protein content than other seaweed species, but they aren't as high in vitamins.

TIDAL ZONE: It can grow in water up to 30 ft. (10m) deep in ideal conditions and can be found anywhere from the low to high tide line, on rocky substrates.

FROND: The broad, fan-shaped fronds can grow up to 12 inches (30cm) wide. They are dark or bright green in color. These incredibly thin fronds tend to have wavy, torn margins and have a translucent look. The fronds of *U. lactuca* are double-walled. The base of the frond of *Ulva rigida* is slightly thicker and more cartilaginous. *Ulva obscura* and *Monostroma grevillei* both have thinner, single-walled fronds, with the latter often commonly called **Sea Cellophane**.

HOLDFAST: small, flat and disc-shaped holdfast; no stipe

EDIBLE PARTS: fronds

KEY MEDICINAL USES: Studies show strong anti-microbial, anti-viral, anti-tumor and anti-coagulant properties.

HOW TO HARVEST AND EAT: Best harvested in spring and summer before plants get too torn and tattered. Sea lettuce is very versatile and can be eaten like any leafy green.

SEA LETTUCE KIMCHI: Ingredients: 1 cup each of sea lettuce, cabbage leaves, and bean shoots, 1 tsp. each of ground ginger and raw sugar, 2 tsp. fish or oyster sauce, 3 tbsp. red chili flakes, 3 sliced spring onions, 5 cloves garlic, ¼ cup of salt, water. Slice the sea lettuce and cabbage into 2-inch strips and place in a large bowl. Add salt and massage into strips for 10 min. Cover with water and weight down with a plate. Leave it for 2 hrs. and then rinse thoroughly. To make the paste, mix the garlic, fish sauce, ginger, sugar, and chili flakes. Add the rinsed sea lettuce, cabbage, bean shoots and spring onions and massage the paste into the vegetables for 2 min. Pack the mixture into a jar so that all of the vegetables are covered by the brine, but do not overfill the jar. Seal the jar and leave to ferment for 4 days to 2 weeks at room temperature, opening the lid every day to release some of the gases. The longer it ferments, the stronger the taste. When you are satisfied with the taste, place the jar in the fridge to stop the fermentation process.

RED ALGAE

Cat's Tongue, *Mastocarpus papillatus* (PHYLLOPHORACEAE)




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CAT'S TONGUE, also known as **Turkish Washcloth** or **Grapestone**, is a common native to the west coast of North America. It was recently discovered that it actually has two growth forms; a crust-like perennial form, and a male and female frond form that regrows each season. It grows on rocky substrates.

TIDAL ZONE: between the mid to high tide line

FROND: The fronds are highly variable within the species depending on the sex; females are dark red to brown, whereas males are light red to yellow-green. They are divided into multiple, flat lobes that are broader toward the tips. The broad lobes are ribbed along the margins. Female cat's tongue develops a thicker, warty texture. In general, it doesn't grow longer than 6 inches (15cm). The crust form is present all year round and looks like a thick, dark tar stain on the rocks.

HOLDFAST AND STIPE: The dark crust form acts as the holdfast and the stipe immediately broadens into the frond.

EDIBLE PARTS: fronds

KEY MEDICINAL USES: anti-microbial properties

HOW TO HARVEST AND EAT: Harvest the fronds in spring. It has a briny taste similar to oysters. Good for sautés and light frying, but can also be eaten raw. If using it for a stir-fry or pasta, be sure not to overcook cat's tongue, otherwise it loses all of its texture and turns gelatinous. This gelatinous texture is perfect for thickening soups and stews though.

SAUTÉED CAT'S TONGUE: Ingredients: 1 bowl of fresh cat's tongue, 1 cup of mushrooms, olive oil, ½ a squeezed lemon. Sautee the mushrooms in the olive oil, then add the cat's tongue and sauté lightly. Remove from heat and squeeze the lemon juice over the top.

Dulse, *Palmaria palmata* and *Palmaria mollis* (PALMARIACEAE)







DULSE or **Dillisk** is a name given to two very similar species. *P. palmata* is found on the east coast of North America, whereas *P. mollis* is found on the west coast. Dulse is found on rocks or attached to kelp species.

TIDAL ZONE: They tend to be common at around 16 ft. (5m) deep, between the mid to subtidal zone.

FROND: Fronds are dark purple to rusty brown in *P. palmata* and lighter red in color in *P. mollis*. Fronds are 4-15 inches (10-40cm) long, always soft, flat, heavily lobed ribbons, lacking in veins that branch at base near the holdfast. Branching at the base resembles a palm, hence the genus name *Palmaria*.

HOLDFAST AND STIPE: disc-shaped holdfast with a very short, discrete stipe

EDIBLE PARTS: fresh new fronds

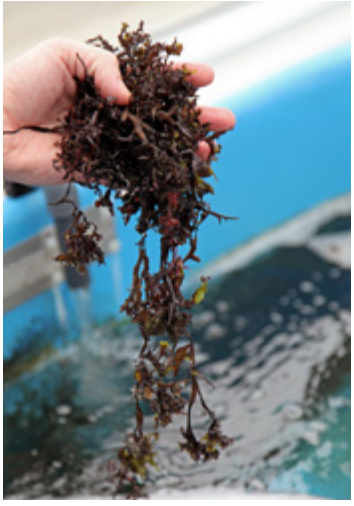
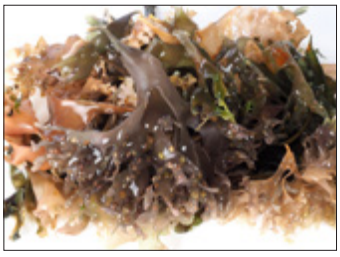
KEY MEDICINAL USES: It is an anti-inflammatory.

HOW TO HARVEST AND EAT: Harvesting is best from mid-May to OctoberDulse has a mild flavor, and some strains of cultivated *P. mollis* taste meaty when smoked or fried. It can be dried, roasted, smoked, fried, ground into a powder, or eaten fresh from the ocean. Dry dulse quickly for best results.

DULSE SMOKED SNACKS: Ingredients: 1 cup of fresh dulse, olive oil. Thoroughly coat each dulse frond in olive oil and lay them out flat on a sheet of aluminum foil. Loosely place a second piece of foil on top, and place it in a smoker next to a dish of water for roughly 30 min. Finish the cooking process in the oven on high for 10 min. or until the dulse turns crispy.

Irish Moss, *Chondrus crispus* (GIGARTINACEAE)



IRISH MOSS or **Carrageen Moss** grows all over the world on rocky substrates.

TIDAL ZONE: It grows to a depth of 65 ft. (20m), between the mid to low tide line.

FROND: The multibranched fronds give it a bushy, fan-like appearance but the fronds themselves are quite flat and tough. On average, they grow about 6 inches (15cm) tall. Color can be light pink to lime green in shallow water and dark purple, red or brown in deeper water.

HOLDFAST AND STIPE: Holdfast is disk-shaped. The stipe is thin and narrow. There isn't a clear distinction between where the stipe ends and where the frond begins.

EDIBLE PARTS: fronds

KEY MEDICINAL USES: It was traditionally boiled with milk and honey to treat sinus infections and colds. It contains iodine and sulfur.

HOW TO HARVEST AND EAT: Harvest the fresh new tips in spring and autumn. Dried Irish moss produces a gelatinous substance when boiled, so it can be added whole to thicken soups and stews, and then removed before serving. When concentrated, it can also be used toset jellies or deserts. Irish moss is also used as a clarifying agent in homebrewing.

IRISH MOSS AGAR: Ingredients: 1 bowl of Irish moss. Alternate between soaking in cold water and drying the Irish moss in the sun until all of the color has been removed (at least a week of soaking and drying). This style of agar is perfect for soups and broth. It can be further concentrated by boiling the seaweed then straining the liquid, which cools to form a gel. This gel is then dehydrated for storage.

Nori, *Porphyra* and *Pyropia* spp. (BANGIACEAE)




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NORI, also known as **Laver**, is the common name for a number of species that have recently been split into these two genera. They are common annuals around the world, and grow on the west coast of North America on rocky substrates. Their fronds are one-cell thick.

TIDAL ZONE: Nori species can grow to a depth of 30 ft. (10m) in ideal conditions, from the mid to low tide line.

FROND: The frond is very thin, flexible and flat and can reach over 8 inches (20cm) in diameter. It looks similar to sea lettuce with its folded, ruffled margins. The color can be bright green, olive green, purple, red or dark brown. When exposed above water, nori can look like a large, popped balloon.

HOLDFAST AND STIPE: Small, disc-shaped holdfast with no obvious stipe.

EDIBLE PARTS: fronds

KEY MEDICINAL USES: Nori is traditionally given to wo1men for three weeks after childbirth to ensure trace elements, minerals, and vitamins are replenished. Like other seaweed species, nori can aid in digestion, and control blood sugar and cholesterol levels. Nori is particularly high in vitamin C and B12 and has substantially less iodine than other species, such as sugar kelp. The high vitamin C content allows our body to absorb more of the equally high amounts of iron in nori.

HOW TO HARVEST AND EAT: Harvest between spring and summer when it is abundant. Cut the frond so that a portion of the frond remains on the holdfast. Rinse thoroughly and air dry, then toast or roast the nori to bring out its subtle, slightly sweet flavor. Otherwise, you can eat it raw or like any other leafy green.

NORI SEASONING: Ingredients: 1 bowl of fresh nori, a pinch of ground paprika, a pinch of salt and pepper. Wash the nori several times, air dry overnight, toast or roast on low for 10-30 min. then either break into smaller pieces or grind into a powder and add the paprika, salt and pepper. Store in a shaker and use for any cooked or fresh dish.

MARINE GRASSES

Surfgrass, *Phyllospadix* spp. (ZOSTERACEAE)







SURFGRASS is the common name for a wide number of *Phyllospadix* species that grow all over the world. They are found on the west coast of North America and are mostly perennial species. Unlike eelgrass, surfgrass grows on rocky substrates, as well as rocky tide pools with minimal sand inundation.

TIDAL ZONE: It tends to grow in turbulent areas when compared to eelgrass, between the low tide line and subtidal zone. Some *Phyllospadix* species are limited to water that is 16 ft. (5m) deep, while others can tolerate a depth of 50 ft. (15m).

LEAF AND STEM: There is some variation within this genus, but they all grow from a rhizomatous root system that produces cylindrical, sheathed stems and thin, grass-like blades. The stems and blades are usually unbranched. The leaves are mostly flat and are between 3-10 ft. (1-3m) long and bright green. The blades are narrower than eelgrass, and are less than ⅙-inch (0.4cm) wide with fine veins. Some *Phyllospadix* species are slightly serrated, while others can feel wiry.

FLOWER AND SEED: The flowers are found towards the base of the plant, on the ends of stems that range in length from ¾-4 inches (2-10cm). The stem swells like a pea pod and produces a row of seeds inside it. Surfgrass flowers in early summer. Seeds are ⅛ inch (3mm) long and have tiny wings, which give them a heart-shaped appearance.

EDIBLE PARTS: fresh new leaves

HOW TO HARVEST AND EAT: Harvest in early spring before they flower. Cut the leaves above the sheath. The stalks can be a bit tough, but fresh new growth can be steamed or blanched. Surfgrass blades have a salty taste.

SURFGRASS AND SHRIMP NOODLES: Ingredients: 1 cup each of surfgrass, cooked and peeled shrimp, and chopped broccoli, ½ a chopped onion, 1 tsp. each of oyster sauce, soy sauce, and oil, 1 packet of instant noodles (pre-soaked in water for 2 min.). Lightly fry the onions and broccoli in the oyster sauce, soy sauce and oil, add the shrimp and noodles and fry for 1 min. and finally stir through the surfgrass.

Eelgrass, *Zostera marina* (ZOSTERACEAE)




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Totti, CC-BY-SA-4.0

EELGRASS, also known as **Seawrack**, grows all over the world in cooler waters and can be found on the east and west coast of North America. It can form large seagrass meadows in spring due to its rhizomatous root system, similar to some terrestrial grasses. It is a flowering plant that is technically a perennial, but can have an annual life cycle in extreme climates. It prefers sandy or muddy substrates in calmer water.

TIDAL ZONE: Widely distributed around the extreme low tide line and subtidal zone, it prefers areas where it is very rarely exposed above the water. It can grow in water up to 22 ft. (7m) deep.

LEAF AND STEM: The stem starts in a light green, cylindrical sheath at the base, which branches and flattens into long, thin, grass-like green blades. Each branch produces the next leaf blade. In deeper water with low turbidity, seagrass can grow up to 3 ft. (1m) in length. The blades are less than ½ inch (1.2cm) wide and their tips are rounded.

FLOWER: Seagrass is technically a flowering plant, although like some terrestrial grasses, the flowers and seeds are not obvious. It flowers underwater in spring. During this time, a 4-inch (10cm) section of the stem develops small tentacles about ⅓ inch (8mm) long. Then this stem fattens, breaks off, floats to the surface and eventually splits to release the seeds.

EDIBLE PARTS: leaves and stems

KEY MEDICINAL USES: Traditionally used to reduce fluid retention and edema, and more recently used in some cosmetics. Studies have shown that an alcohol extract of eelgrass has anti-microbial and anti-oxidant properties.

HOW TO HARVEST AND EAT: Harvest eelgrass leaves above the sheath either in early spring before they flower, or in summer. Being a predominantly subtidal specie means harvesting on foot requires knowledge of when the lowest tides are during these periods. Otherwise, it's possible to use a snorkel or boat to harvest the leaves at low tide, since eelgrass grows in relatively calm water. Avoid harvesting any leaves that are forming seeds, and even though the rhizome is edible, leaving the roots undisturbed will ensure its recovery. They are best eaten raw or blanched to maintain their crunchy and slightly sweet taste.

BLANCHED EELGRASS SALAD: Ingredients: 2 cups of lightly blanched eelgrass, 1 cup each of bean shoots, finely sliced carrot, and baby spinach, vinaigrette dressing. Combine all of the ingredients and serve.

POISONOUS AND TOXIC LOOK-ALIKES

Bog Laurel, *Kalmia polifolia*





Bog Rosemary, *Andromeda polifolia*



Salicyna, CC-BY-SA-4.0



Buckthorn, *Rhamnus cathartica*



Kenraiz Krzysztof Ziarnek, CC-BY-SA-4.0



Buttercup, Cursed/Celery-leaf Buttercup, *Ranunculus sceleratus*, and Tall Buttercup, *R. acris*


Ranunculus acris


Ranunculus sceleratus

Cade/Prickly Juniper/Sharp Cedar, *Juniperus oxycedrus*





Cherry/Common Laurel, *Prunus laurocerasus*





Chinese Ephedra, *Ephedra sinica*





Chinese Privet, *Ligustrum sinense*





Coat Buttons/Tridax Daisy, *Tridax procumbens*





Common/Canadian Moonseed/Yellow Parilla, *Menispermum canadense*





Creeping (European) Pennyroyal/Pudding Grass, *Mentha pulegium*





Death Camas (*Zigadenus venenosus*), *Toxicoscordion venenosum*





Devil's Walking Cane, *Aralia spinosa*







False Hellebore/Indian Poke, *Veratrum viride*





Foxglove, *Digitalis purpurea*





Giant Hogweed, *Heracleum mantegazzianum*




Grecian Wildflower/Balkan Anemone, *Anemonoides blanda*




Groundsels/Ragworts, *Senecio* spp.




Hercules Club/Pepperwood/Southern Prickly Ash, *Zanthoxylum clava-herculis*




Holly (Common/English), *Ilex aquifolium*





Horse Chestnut, *Aesculus hippocastanum*





Indian Rhubarb/Umbrella Plant, *Darmera peltata*





Blue Flag Iris, *Iris versicolor*, and Yellow Water Iris/False Acorus, *I. pseudacorus*





Lesser Celandine/Pilewort, *Ficaria verna*





Lily of the Valley, *Convallaria majalis*





Longleaf Pine, *Pinus palustris*





Mountain Deathcamas/Elegant Camas, *Anticlea elegans* (formerly *Zigadenus elegans*)





Mountain Laurel, *Kalmia latifolia*




Norfolk Island Pine, *Araucaria heterophylla*




Northern Labrador Tea, *Rhododendron tomentosum*




Poison Hemlock/Hemlock, *Conium maculatum*




Poison Ivy, *Toxicodendron radicans* (formerly *Rhus radicans*, or *Rhus Toxicodendron*)





Poison Sumac, *Toxicodendron vernix* (formerly *Rhus vernix*)





Rhubarb, *Rheum rhabarbarum*





Savin Juniper, *Juniperus sabina*





Scarlet Pimpernel, *Anagallis arvensis*




Silverleaf Nightshade, *Solanum elaeagnifolium*





Solomon's Seal, *Polygonatum* spp.

Very young shoots are actually edible and so are the roots, but the rest of the plant is toxic.




Spotted Spurge, *Euphorbia maculata*




Texas Mountain Laurel, *Sophora secundiflora*





Tuberous Water Lily, *Nymphaea tuberosa*





Virginia Creeper, *Parthenocissus quinquefolia*





Water Hemlock, *Cicuta douglasii*





Water Hemlock (Spotted), *Cicuta maculata*





Winterberry, *Ilex verticillata*





Yew (English), *Taxus baccata*, and Yew (American /Canada), *T. canadensis*





Yew Pine, *Podocarpus macrophyllus*





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Weeds, trees and leaves. Bulbs, berries and bark. We are surrounded by wild edibles. The Forager's Guide to Wild Foods will help you identify the wild foods and medicines growing in your own backyard. Learn to ethically harvest, store, and use the abundance of edible plants, seaweeds, lichens, and mushrooms that surround you.

Each entry has an introduction, a range map, common medicinal uses, poisonous lookalikes, a description of flowers and leaves for ID, color photos, harvesting instructions, and a simple recipe.

Wild foods are healthy, they are not genetically modified, and they are pesticide-free. They don't need care or maintenance and they are FREE to collect! They also have hidden medicinal properties and you can use them to create potent remedies for you and your family.

It doesn't matter if you are young or old; it's never too early or too late to start learning a new useful skill that you'll have for life. We hope this book will become a favorite reference guide for you and serve as a starting place on your foraging journey.



Dr. Nicole Apelian is an herbalist, a biologist, a survival skills instructor, an anthropologist, and a mother.

She has spent years living in nature with a community of San Bushmen in the Kalahari Desert, one of the last Indigenous peoples who still live as hunter-gatherers. Their name (San) literally means "picking up from the ground", or "foraging".

In 2015 she was among the first women ever selected for the History Channel's hit TV show "Alone". Despite having Multiple Sclerosis she went on to survive solo for 57 days straight in a remote area of Vancouver Island with little more than her hunting knife and the wild foods and medicines she found there.

Food gathering and harvesting medicines is a way of life Nicole adopted for her personal wellness after being diagnosed with MS. She found that for her, nature's medicine was more effective than standard treatments. She went from being in a wheelchair to taking back full control over her life.

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