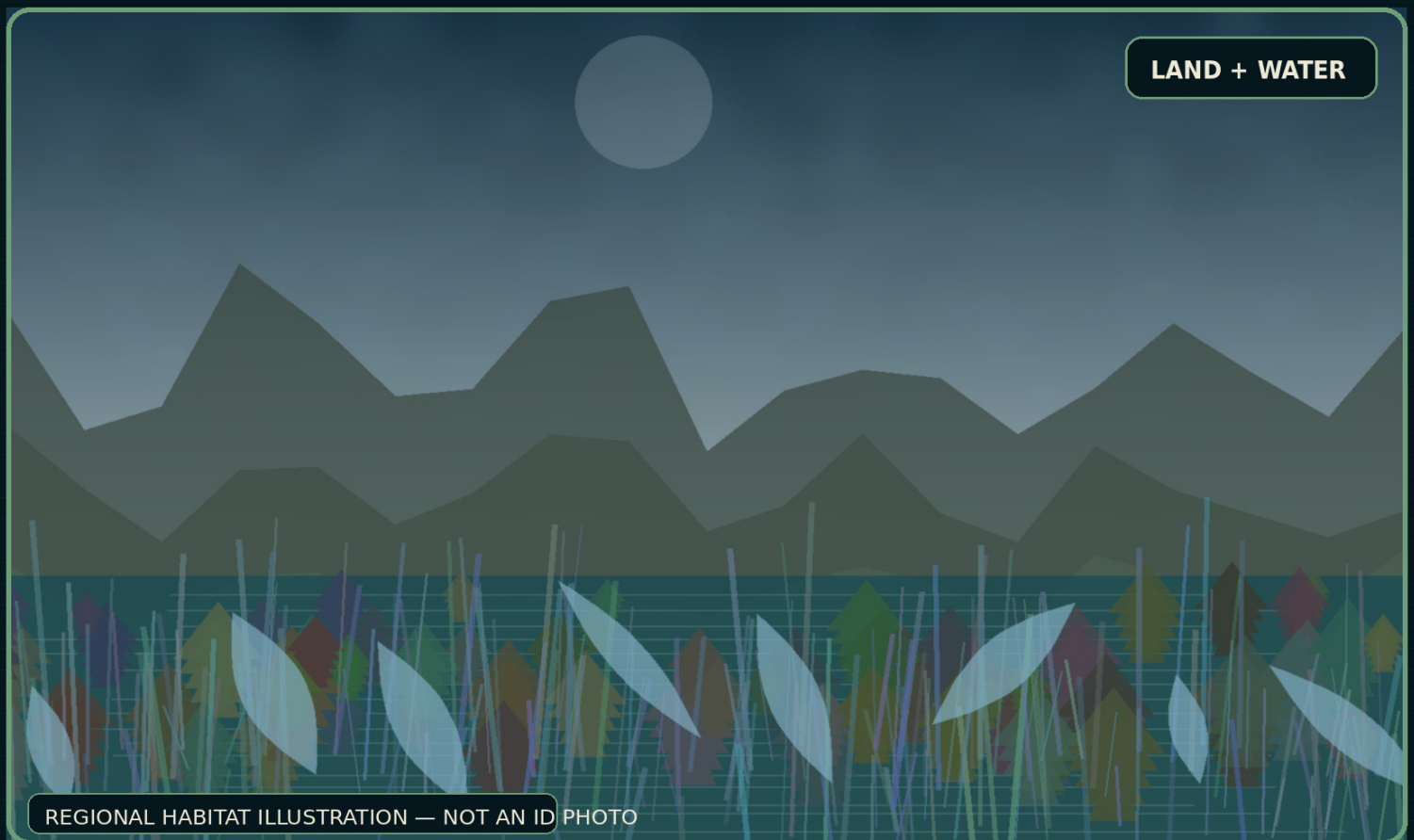


ARCTIC TUNDRA & POLAR BARRENS PLANT SURVIVAL GUIDE

North America • USDA-EQUIVALENT ZONES 1-2 • KÖPPEN ET / EF



USEFUL

EDIBLE

MEDICINAL

POISONOUS

IDENTIFY • EAT • BUILD • HEAL • AVOID

Illustrations show habitat and form; verify every plant with current regional photographs and expert sources.

REGION AT A GLANCE

A continental bioclimatic region, not a destination or a promise that every listed plant occurs at every site.



Continent: North America USDA-equivalent hardiness: 1-2 Köppen: ET / EF
Regional habitat: Arctic tundra, polar desert, meltwater margins
Zone warning: hardiness describes winter minimum temperature only; rainfall, heat, soils, fire, elevation and seasonality still control the flora.

FIELD PRIORITIES

- Use the continent, climate band and habitat as filters — never as proof of identity.
- Match at least three independent traits and rule out every dangerous look-alike before harvest.
- Do not treat succulent tissue as safe drinking water; many desert plants concentrate irritants, salts or toxins.
- Alpine and tundra plants recover slowly; avoid roots and cushion plants and harvest only common, replaceable material.
- Medicinal notes document traditional use only; the guide gives no dosing and does not replace medical care.

SURVIVAL STANDARD

A correct plant name is only the beginning. Also verify plant part, maturity, preparation, dose, contamination, legal access and local cultural protocol. When any one of those is uncertain, do not consume or medicate.

POSITIVE IDENTIFICATION AND PRACTICAL USE

The illustrations are form diagrams. The linked POWO and iNaturalist pages provide current photographs and taxonomic context.

1

1. PLACE

Confirm continent, elevation, water regime, soil and disturbance.

2

2. FORM

Tree, shrub, vine, herb, grass, sedge, palm, fern, succulent or aquatic.

3

3. LEAF

Arrangement, veins, edge, hairs, glands, sap, odor and underside.

4

4. STEM / BARK

Thorns, pith, nodes, buds, lenticels, fibers, latex and branching.

5

5. FLOWER / FRUIT

Petal count, inflorescence, fruit attachment, seed and maturity.

6

6. EXCLUDE

Name every dangerous look-alike and explain why it is different.

7

7. VERIFY

Use current regional flora, qualified local knowledge and several photos.

AUTOMATIC STOP LIST

No tasting to identify.
No unknown roots, bulbs or white umbels.
No unknown milky sap.
No raw wetland foods.
No medicinal dose experiments.
No smoke from unknown toxic wood.

USEFUL-PLANT HIERARCHY

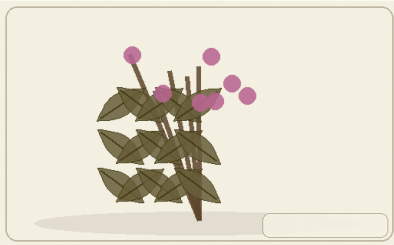
1. Deadfall and shed bark.
2. Abundant annual greens and fruit.
3. Pruned shoots and leaves.
4. Small stems from common thickets.
5. Roots, bark and whole plants only with permission and no safer substitute.

USEFUL PLANTS FOR TOOLS, FIRE AND SHELTER

Wood, fiber, tinder, bow-and-arrow components, friction fire, containers and construction.

DWARF BIRCHES

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Betula nana / *B. glandulosa* group

IDENTIFY: Low many-branched shrub with small rounded toothed leaves and tiny catkins.

HABITAT / SEASON: Arctic heath, bog margins, alpine slopes and snow-catching hollows. Season: Growing-season leaves; twigs year-round.

SURVIVAL USE: Fine twigs make brush bedding, small bundles and light screens; dense patches trap snow and mark slightly raised ground.

CAUTION: Slow-growing and important for soil stability. Harvest sparingly and never strip large tundra patches.

LOOK-ALIKES: Dwarf willows often have narrower leaves; young alder has larger catkins.

TASKS: bedding, tinder, brush, route marker

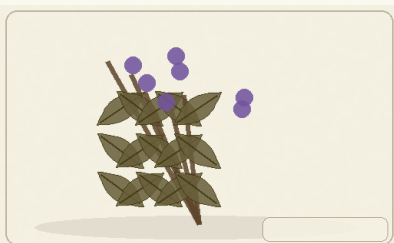
Verified images: POWO

iNaturalist

1

WILLOWS

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Salix spp.

IDENTIFY: Alternate narrow to oval leaves; flexible twigs; catkins; many species root along wet ground.

HABITAT / SEASON: Riverbanks, lake margins, floodplains, tundra valleys and moist forest. Season: Twigs year-round; leaves and catkins in the growing season.

SURVIVAL USE: Flexible rods for baskets, fish traps, wattle, arrow shafts and repair splints. Dry punky willow and softer species can serve bow-drill hearth boards; denser pieces make spindles. Bark has documented salicylate-related traditional use.

CAUTION: Species identification is difficult. Do not self-dose bark with aspirin allergy, bleeding risk, kidney disease, pregnancy, or in children with viral illness.

LOOK-ALIKES: Alders have cone-like female catkins; some dogwoods have opposite leaves.

TASKS: arrow shaft, bow drill board, basketry, cordage, medicine

Verified images: POWO

iNaturalist

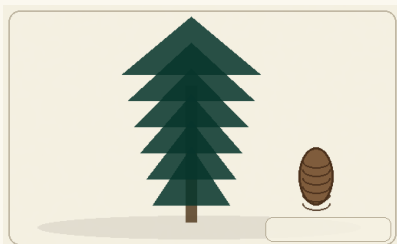
2

USEFUL PLANTS FOR TOOLS, FIRE AND SHELTER

Wood, fiber, tinder, bow-and-arrow components, friction fire, containers and construction.

COMMON JUNIPER

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Juniperus communis

IDENTIFY: Stiff sharp needles in whorls of three with one pale band; blue-black berry-like cones.

HABITAT / SEASON: Rocky heaths, boreal openings, mountains and steppe. Season: Cones late summer through winter; wood year-round.

SURVIVAL USE: Dense aromatic wood for pegs and small tools; mature cones have limited documented culinary use.

CAUTION: Avoid medicinal use in pregnancy or kidney disease. Oils are concentrated and irritating.

LOOK-ALIKES: Crowberry has softer tiny leaves and glossy black fruit.

TASKS: pegs, tinder, seasoning

Verified images: POWO

iNaturalist

3

WHITE SPRUCE

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Picea glauca

IDENTIFY: Sharp single needles with a pungent odor when crushed; flexible hanging cones; gray scaly bark.

HABITAT / SEASON: Well-drained boreal terraces, river valleys, lake shores and treeline islands. Season: Year-round.

SURVIVAL USE: Strong poles, carving wood, roots for lashings and dry lower twigs for fire starting.

CAUTION: Do not strip living roots. Pitch can irritate eyes and wounds.

LOOK-ALIKES: Fir needles are flat and soft; black spruce is narrower with smaller cones.

TASKS: poles, fuel, tinder, cordage, carving

Verified images: POWO

iNaturalist

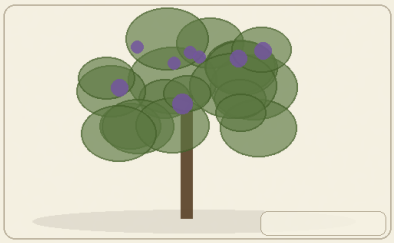
4

USEFUL PLANTS FOR TOOLS, FIRE AND SHELTER

Wood, fiber, tinder, bow-and-arrow components, friction fire, containers and construction.

ALDERS

USEFUL MATERIAL



Alnus spp.

IDENTIFY: Oval toothed leaves; catkins; woody cone-like female structures persist through winter.

HABITAT / SEASON: Wet thickets, streambanks, avalanche tracks and disturbed forest. Season: Wood year-round; leaves growing season.

SURVIVAL USE: Straight stems for racks and wattle; seasoned alder burns evenly and is widely used as smoking wood.
 CAUTION: Wet alder smokes heavily; dense thickets can hide unstable banks.
 LOOK-ALIKES: Birch lacks persistent woody cones.
 TASKS: poles, wattle, fuel, smoking

Verified images: POWO

iNaturalist

5

MATERIAL SELECTION SCREEN

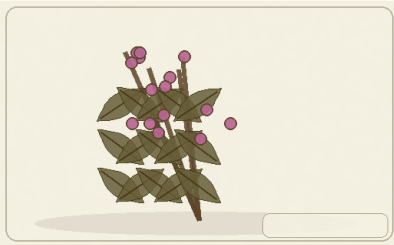
Before cutting, test straightness, grain, dryness, hidden rot, sap or smoke toxicity, and whether the species is protected. Match the material to the load: springy bow wood, straight shaft wood, soft dry hearth board, harder spindle, fibrous cordage, or resin-free cooking fuel.

LAND-BASED EDIBLE PLANTS

Documented foods on dry or seasonally dry ground. Preparation and contamination still matter.

CROWBERRY

LAND FOOD



Stylized form diagram — not an identification photograph

Empetrum nigrum

IDENTIFY: Creeping evergreen mat with tiny grooved needle-like leaves and shiny black berries.

HABITAT / SEASON: Arctic and alpine heath, bog margins and windswept coasts. Season: Late summer through winter.

SURVIVAL USE: Ripe berries are documented food, mild and water-rich.

CAUTION: Low fruit gathers grit and animal contamination.

LOOK-ALIKES: Juniper has stiff needles in whorls and blue waxy cones.

TASKS: food fruit

Verified images: POWO

iNaturalist

6

LINGONBERRY

LAND FOOD



Stylized form diagram — not an identification photograph

Vaccinium vitis-idaea

IDENTIFY: Low evergreen shrub; leathery oval leaves with pale dots beneath; bright red berries with a crown.

HABITAT / SEASON: Boreal forest, tundra heath, alpine ground and bog hummocks. Season: Late summer through winter.

SURVIVAL USE: Ripe berries are documented food and often persist after frost; suitable fresh, cooked or dried.

CAUTION: Confirm woody evergreen leaves and fruit crown; avoid animal-contaminated patches.

LOOK-ALIKES: Bearberry has netted leaf veins and mealier fruit.

TASKS: food fruit

Verified images: POWO

iNaturalist

7

LAND-BASED EDIBLE PLANTS

Documented foods on dry or seasonally dry ground. Preparation and contamination still matter.

BILBERRY / BOG BLUEBERRY GROUP

LAND FOOD



Stylized form diagram — not an identification photograph

Vaccinium myrtillus / *V. uliginosum*

IDENTIFY: Low woody shrub; blue to blue-black berries with a crown; leaves alternate and small.

HABITAT / SEASON: Boreal, montane and tundra heath. Season: Mid- to late summer.

SURVIVAL USE: Ripe berries are documented food and can be dried or cooked.

CAUTION: Color alone is not enough; confirm woody stem and *Vaccinium* fruit crown.

LOOK-ALIKES: Black-berried herbs lack woody stems; crowberry has needle-like leaves.

TASKS: food fruit

Verified images: POWO

iNaturalist

8

CLOUDBERRY

LAND FOOD



Stylized form diagram — not an identification photograph

Rubus chamaemorus

IDENTIFY: Low unarmed plant with rounded lobed leaves and one amber-orange raspberry-like fruit.

HABITAT / SEASON: Peatland, bog edge and wet tundra. Season: Mid- to late summer.

SURVIVAL USE: Fully ripe amber fruit is documented food.

CAUTION: Unripe red fruit is sour and firm; avoid trampling peat.

LOOK-ALIKES: Dwarf raspberry species may have more divided leaves.

TASKS: food fruit

Verified images: POWO

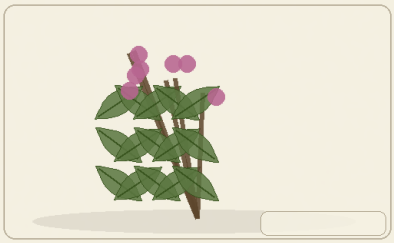
iNaturalist

9

LAND-BASED EDIBLE PLANTS

Documented foods on dry or seasonally dry ground. Preparation and contamination still matter.

WILD ROSES
LAND FOOD



Rosa spp.

IDENTIFY: Prickly stems; compound toothed leaves; five-petaled flowers; red to orange hips.

HABITAT / SEASON: Open woods, thickets, prairie, dunes and mountain slopes. Season: Hips late summer through winter.

SURVIVAL USE: Fleshy hip walls are documented food after the irritating hairs and seeds are removed; good for simmering or drying.
 CAUTION: Internal hairs irritate skin and mouth. Avoid sprayed or moldy fruit.
 LOOK-ALIKES: Hawthorn has simple lobed leaves and woody thorns.
 TASKS: food fruit, cordage

Verified images: POWO
iNaturalist

10

FOOD HARVEST SCREEN

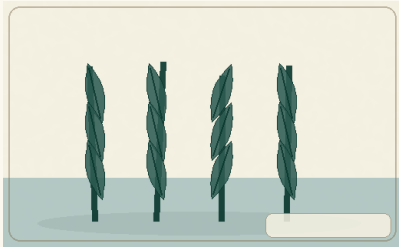
Confirm species, plant part and maturity. Check whether cooking, leaching, peeling, fermenting or repeated water changes are required. Reject mold, animal contamination, roadside plants, chemically treated ground and any food whose safe preparation cannot be completed with current water and fuel.

WATER AND WETLAND EDIBLE PLANTS

Freshwater, marsh, tidal and marine foods. Correct ID does not make dirty water safe.

BROAD PONDWEEDS

AQUATIC FOOD



Stylized form diagram — not an identification photograph

Potamogeton spp.

IDENTIFY: Submerged or floating leaves with parallel veins; small flower spikes rise above water; flexible stems.

HABITAT / SEASON: Lakes, ponds and slow rivers across temperate and cold regions. Season: Growing season.

SURVIVAL USE: Tubers, young shoots or seeds of some species have documented food use; beds shelter fish and invertebrates.

CAUTION: Species identification and water quality are essential. Avoid stagnant, cyanobacteria-rich or polluted water.

LOOK-ALIKES: Water smartweed has jointed stems and pink flower spikes.

TASKS: food aquatic

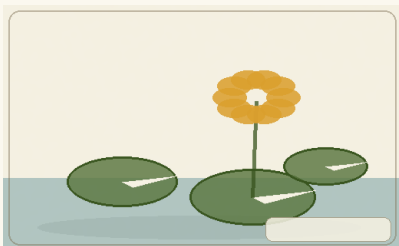
Verified images: POWO

iNaturalist

11

TEMPERATE WATER LILIES

AQUATIC FOOD



Stylized form diagram — not an identification photograph

Nymphaea / Nuphar spp.

IDENTIFY: Round floating leaves with a slit; solitary flowers; thick rhizomes anchored in sediment.

HABITAT / SEASON: Ponds, lakes and slow river backwaters. Season: Flowers summer; rhizomes year-round.

SURVIVAL USE: Seeds and rhizomes of selected species have documented food use after intensive species-specific processing.

CAUTION: Raw rhizomes can be bitter or irritating; water quality and correct genus matter. Do not confuse with toxic aquatic aroids.

LOOK-ALIKES: Lotus leaves are peltate and rise above water; water lily leaves usually float and are not fully circular.

TASKS: food seed, food starch

Verified images: POWO

iNaturalist

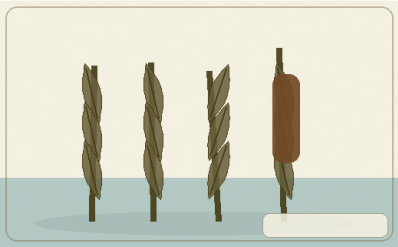
12

WATER AND WETLAND EDIBLE PLANTS

Freshwater, marsh, tidal and marine foods. Correct ID does not make dirty water safe.

BULRUSHES

AQUATIC FOOD



Schoenoplectus spp.

IDENTIFY: Round or triangular mostly leafless stems; small brown flower clusters near stem tips.

HABITAT / SEASON: Freshwater and brackish marshes, pond edges and slow rivers. Season: Young shoots spring; rhizomes and stems longer.

SURVIVAL USE: Rhizomes and young shoots have documented food use after correct species identification; stems make mats, cordage and basket frames.

CAUTION: Wetland contamination is a major risk. Several sedges are difficult to separate.

LOOK-ALIKES: Cattails have broad flat leaves and a brown cylinder.

TASKS: food shoot, food starch, basketry, cordage

Verified images: POWO

iNaturalist

13

AQUATIC HARVEST SCREEN

Check five separate questions: Is the species correct? Is the plant part edible? Is the water free of sewage, mining or farm runoff? Are parasites or harmful algal blooms plausible? Is entry and exit from the water safe? A “yes” to the plant and a “no” to the water still means do not eat.

MEDICINAL AND TRADITIONAL-USE PLANTS

Traditional and historical uses only — no dosing, diagnosis or treatment claims.

LABRADOR TEA

TRADITIONAL-USE



Stylized form diagram — not an identification photograph

Rhododendron groenlandicum / *R. tomentosum*

IDENTIFY: Evergreen rolled-edge leaves with rusty-woolly undersides; white terminal flower clusters.

HABITAT / SEASON: Bogs, wet taiga and muskeg. Season: Leaves year-round.

SURVIVAL USE: Culturally important documented beverage and traditional-use plant in northern regions.

CAUTION: Strong or repeated infusions can cause illness; bog rosemary is a dangerous look-alike.

LOOK-ALIKES: Bog rosemary leaves are narrower and pale rather than rusty beneath.

TASKS: medicine, beverage

Verified images: POWO

iNaturalist

14

YARROW

TRADITIONAL-USE



Stylized form diagram — not an identification photograph

Achillea millefolium

IDENTIFY: Aromatic finely divided leaves; flat clusters of small white to pink flower heads.

HABITAT / SEASON: Dry openings, trails, grassland, shore gravel and disturbed soil. Season: Summer through fall.

SURVIVAL USE: Documented traditional external uses include washes and aromatic preparations; dry flower heads make light tinder.

CAUTION: Possible allergy, pregnancy and anticoagulant concerns. Not a substitute for wound cleaning or medical care.

LOOK-ALIKES: Poison hemlock is much taller with hollow purple-spotted stems and true umbels.

TASKS: medicine, tinder

Verified images: POWO

iNaturalist

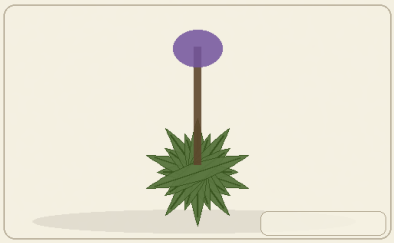
15

MEDICINAL AND TRADITIONAL-USE PLANTS

Traditional and historical uses only — no dosing, diagnosis or treatment claims.

GOLDEN ROOT

TRADITIONAL-USE



Rhodiola rosea and related spp.

IDENTIFY: Fleshy blue-green leaves on upright stems, yellow flower clusters and thick aromatic rhizome.

HABITAT / SEASON: Cold Eurasian alpine cliffs, streambanks and tundra. Season: Summer.

SURVIVAL USE: Widely documented traditional-use plant.
 CAUTION: Wild populations are vulnerable to root harvest. No field dosing; may affect mood, sleep and medications.
 LOOK-ALIKES: Other Rhodiola and Sedum species are similar.
 TASKS: medicine

Verified images: POWO

iNaturalist

16

MEDICINAL RESTRAINT

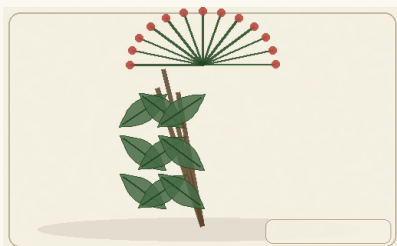
A plant can be culturally important and pharmacologically active yet still be the wrong survival choice. Unknown concentration, dehydration, pregnancy, allergies, chronic illness and medicine interactions can turn a traditional remedy into a second emergency.

POISONOUS PLANTS AND DANGEROUS LOOK-ALIKES

High-consequence species to learn before gathering starts.

WATER HEMLOCKS

POISON — AVOID



Stylized form diagram — not an identification photograph

Cicuta spp.

IDENTIFY: Wetland perennial with divided leaves, white umbrella flower clusters and thick chambered rootstocks.

HABITAT / SEASON: Marshes, wet meadows, stream edges and ditches across the northern hemisphere. Season: Spring through fall.

SURVIVAL USE: No survival use. Make wetland root gathering a prohibited activity unless a qualified botanist is present.

CAUTION: Extremely poisonous; small amounts, especially roots, can cause violent seizures and death.

LOOK-ALIKES: Angelica, cow parsnip and other Apiaceae can look similar. Never taste to decide.

TASKS: poison

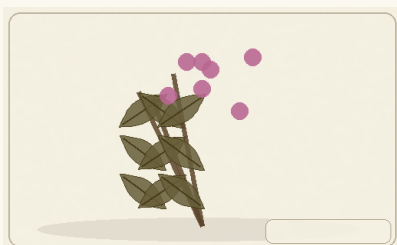
Verified images: POWO

iNaturalist

17

MONKSHOODS

POISON — AVOID



Stylized form diagram — not an identification photograph

Aconitum spp.

IDENTIFY: Deeply divided palmate leaves; blue, purple, yellow or white hood-shaped flowers.

HABITAT / SEASON: Moist mountain meadows, streambanks and cool forest. Season: Summer.

SURVIVAL USE: No food or field medicinal use.

CAUTION: All parts contain potent aconitine-type alkaloids; ingestion can cause fatal heart and nerve effects.

LOOK-ALIKES: Larkspurs have a rear spur and are also toxic.

TASKS: poison

Verified images: POWO

iNaturalist

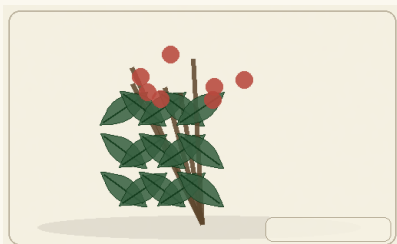
18

POISONOUS PLANTS AND DANGEROUS LOOK-ALIKES

High-consequence species to learn before gathering starts.

BOG ROSEMARY

POISON — AVOID



Andromeda polifolia

IDENTIFY: Low evergreen bog shrub with narrow rolled-edge leaves pale beneath and pink urn-shaped flowers.

Stylized form diagram — not an identification photograph

HABITAT / SEASON: Sphagnum bogs and peat hummocks. Season: Year-round leaves; flowers early summer.

SURVIVAL USE: No food or tea use.

CAUTION: Contains grayanotoxin-type compounds and may cause vomiting, dizziness and heart effects.

LOOK-ALIKES: Labrador tea leaves are broader and rusty-woolly beneath.

TASKS: poison

Verified images: POWO

iNaturalist

19

BANEERRIES

POISON — AVOID



Actaea spp.

IDENTIFY: Woodland herb with divided leaves, white flower clusters and red, white or black berries on stout stalks.

Stylized form diagram — not an identification photograph

HABITAT / SEASON: Moist temperate and boreal forest. Season: Fruit late summer.

SURVIVAL USE: No food use.

CAUTION: Berries and roots are poisonous and can affect the gastrointestinal and cardiovascular systems.

LOOK-ALIKES: Edible *Vaccinium* berries grow on woody shrubs with simple leaves.

TASKS: poison

Verified images: POWO

iNaturalist

20

SURVIVAL TASK MATRIX

Choose the least destructive plant that meets the job. A material that works poorly but is abundant may beat the perfect rare species.

TASK	BEST REGIONAL CANDIDATES IN THIS GUIDE	FIELD DECISION
Bow / spring wood	No reliable candidate among the priority profiles.	Use a different technology or carried tool; do not force unsuitable plant material.
Arrow or dart shaft	Willows	Use dead, shed or pruned material first.
Bow-drill hearth	Willows	Use dead, shed or pruned material first.
Bow-drill spindle	No reliable candidate among the priority profiles.	Use a different technology or carried tool; do not force unsuitable plant material.
Tinder	Dwarf birches, Common juniper, White spruce, Yarrow	Use dead, shed or pruned material first.
Fuel / coals	White spruce, Alders	Use dead, shed or pruned material first.
Cordage / fiber	Willows, White spruce, Wild roses, Bulrushes	Use dead, shed or pruned material first.
Basket / mat	Willows, Bulrushes	Use dead, shed or pruned material first.
Container / wrap	No reliable candidate among the priority profiles.	Use a different technology or carried tool; do not force unsuitable plant material.
Fruit food	Crowberry, Lingonberry, Bilberry / bog blueberry group, Cloudberry	Verify part, maturity and preparation.
Green food	No reliable candidate among the priority profiles.	Use a different technology or carried tool; do not force unsuitable plant material.
Seed / nut	Temperate water lilies	Verify part, maturity and preparation.
Root / starch	Temperate water lilies, Bulrushes	Verify part, maturity and preparation.
Traditional-use	Willows, Labrador tea, Yarrow, Golden root	Documented use only; no field dosing.

SEASONAL OPERATING RHYTHM

PHASE	PRIMARY OPPORTUNITY	PRIMARY RISK
Early growth	Shoots, greens, flowers, sap and easy bark identification.	Toxic shoots and bulbs are hardest to separate before flowering.
Peak growth	Maximum leaf and flower information; fiber plants mature.	Heat, insects, sap and water contamination.
Fruit / seed	Highest food density; nuts, berries, pods, grains and tubers.	Mold, wildlife encounters and unripe or toxic fruit.
Dormant / dry	Wood, bark, evergreen leaves, persistent fruit and roots.	Fewer diagnostic traits; overharvest of stored underground parts.

SOURCES, IMAGE VERIFICATION AND EMERGENCY

Every profile links to current taxonomic and photograph searches. Treat community photographs as evidence to compare, not as a final authority.

1. 2023 USDA Plant Hardiness Zone Map

USDA Agricultural Research Service — hardiness-zone reference

<https://planthardiness.ars.usda.gov/>

2. Plants of the World Online

Royal Botanic Gardens, Kew — taxonomy, distribution and images

<https://powo.science.kew.org/>

3. World Flora Online

World Flora Online Consortium — global plant taxonomy

<https://www.worldfloraonline.org/>

4. Global Biodiversity Information Facility

GBIF Secretariat — occurrence records and licensed media

<https://www.gbif.org/>

5. World Checklist of Useful Plant Species

Royal Botanic Gardens, Kew — documented plant uses

<https://kew.iro.bl.uk/concern/datasets/7243d727-e28d-419d-a8f7-9ebef5b9e03e>

6. Poison Control

National Capital Poison Center — poisoning first-response guidance

<https://www.poison.org/>

7. WHO Monographs on Selected Medicinal Plants

World Health Organization — medicinal-plant safety and monographs

<https://www.who.int/publications/i/item/9241545178>

8. Flora of North America North of Mexico

Flora of North America Association — regional scientific flora

http://floranorthamerica.org/Main_Page

9. USDA PLANTS Database

USDA Natural Resources Conservation Service — North American distribution and traits

<https://plants.usda.gov/>

SUSPECTED POISONING

Stop exposure. Remove material from the mouth and rinse. Do not induce vomiting unless directed. Save a sample or clear photographs. Contact local emergency services or a poison center. Monitor airway, breathing and consciousness.

PUBLICATION LIMITS

Regional lists are representative, not exhaustive. Species ranges, names, laws and preparation practices change. Local floras, land managers, Indigenous knowledge holders, poison centers and clinicians take precedence.