

SOUTHWESTERN DESERTS & SKY ISLANDS PLANT SURVIVAL GUIDE

North America • USDA-EQUIVALENT ZONES 7-10 • KÖPPEN BWh / BWk / BSh

LAND + WATER

REGIONAL HABITAT ILLUSTRATION — NOT AN ID PHOTO

USEFUL

EDIBLE

MEDICINAL

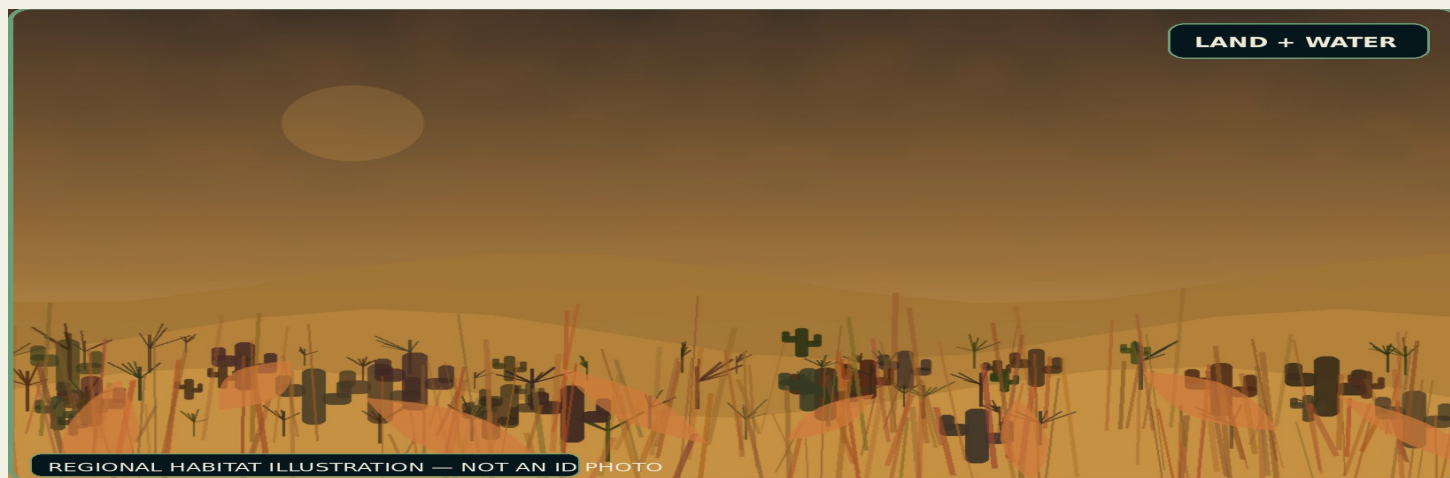
POISONOUS

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: 7-10 Köppen: BWh / BWk / BSh

Regional habitat: Sonoran-Chihuahuan desert, canyon, spring and montane island

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.
- Take material from deadfall or abundant growth first. Roots, bark and whole plants are the most destructive harvests.
- 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

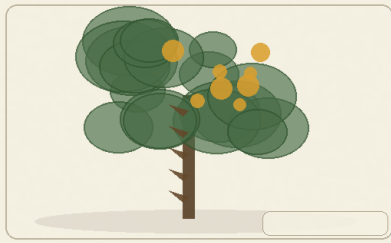
1. Deadfall and shed bark.
2. Abundant annual greens and fruit.
3. Pruned shoots and leaves.
4. Small stems from common thickets.
5. Roots, bark and whole plants only with permission and no safer substitute.

USEFUL PLANTS FOR TOOLS, FIRE AND SHELTER

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

MESQUITES

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Neltuma / Prosopis spp.

IDENTIFY: Feathery compound leaves, stout thorns, yellow-green flower spikes and long bean pods.

HABITAT / SEASON: Desert washes, floodplains and thorn scrub of the Americas. Season: Pods summer; wood year-round.

SURVIVAL USE: Dry pods of selected species can be milled into sweet meal; dense wood makes durable bows, tools and hot coals.

CAUTION: Pods mold easily and some populations have unpalatable or harmful chemistry. Thorns cause deep punctures.

LOOK-ALIKES: Acacias have different pod and flower forms; confirm local species.

TASKS: food pod, bow wood, fuel, tools

Verified images: POWO

iNaturalist

1

YUCCAS

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Yucca spp.

IDENTIFY: Stiff sword leaves in a rosette, often with fibrous margins; tall stalk of cream bell flowers.

HABITAT / SEASON: Deserts, prairies and dry rocky slopes of the Americas. Season: Flowers and young stalks seasonal; leaves year-round.

SURVIVAL USE: Leaf fibers make strong cordage; dry flower stalks are classic bow-drill spindles and tinder; flowers or fruit of some species are documented foods.

CAUTION: Edibility varies by species and plant part. Roots called "soaproot" are not the cassava food. Sharp leaf tips injure eyes.

LOOK-ALIKES: Agaves have thicker succulent leaves and usually a single massive flowering event.

TASKS: cordage, bow drill spindle, tinder, food flower

Verified images: POWO

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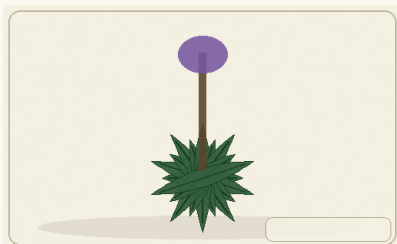
2

USEFUL PLANTS FOR TOOLS, FIRE AND SHELTER

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

AGAVES

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Agave spp.

IDENTIFY: Thick fibrous succulent leaves with a terminal spine; giant branched flower stalk produced after years.

HABITAT / SEASON: Hot deserts, dry slopes and thorn scrub of the Americas. Season: Roasted hearts and stalks seasonal; leaves year-round.

SURVIVAL USE: Prepared leaf fiber makes cordage and nets; dry stalk makes fire-drill and construction material; traditionally roasted hearts of selected species are food.

CAUTION: Raw sap and leaf juice can cause severe dermatitis. Harvesting kills the plant and may be illegal.

LOOK-ALIKES: Yuccas have thinner leaves and bell flowers; aloes have softer gel-filled leaves.

TASKS: cordage, bow drill spindle, construction, food core

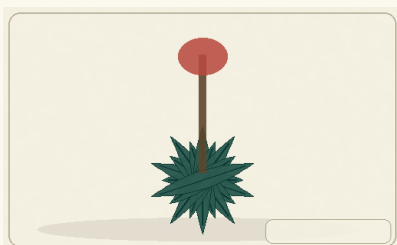
Verified images: POWO

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3

SOTOL

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Dasyliirion spp.

IDENTIFY: Dense rosette of narrow saw-edged leaves; tall unbranched flower stalk; spoon-shaped leaf bases.

HABITAT / SEASON: Chihuahuan Desert and dry mountain slopes. Season: Stalks seasonal; leaves year-round.

SURVIVAL USE: Leaves provide weaving and cordage; dry stalks are excellent friction-fire spindles and light shafts; roasted crowns have traditional food use.

CAUTION: Leaf edges cut skin. Food preparation is labor-intensive and species knowledge is required.

LOOK-ALIKES: Yucca leaves are usually broader and less finely serrated.

TASKS: cordage, bow drill spindle, basketry, food core

Verified images: POWO

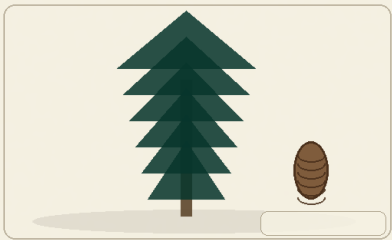
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4

USEFUL PLANTS FOR TOOLS, FIRE AND SHELTER

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

COMMON JUNIPER
USEFUL MATERIAL



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
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5

MATERIAL SELECTION SCREEN

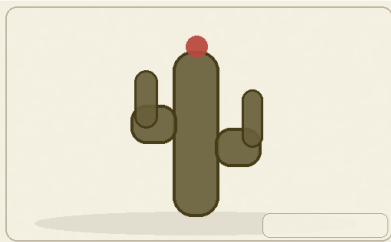
Before cutting, test straightness, grain, dryness, hidden rot, sap or smoke toxicity, and whether the species is protected. Match the material to the load: springy bow wood, straight shaft wood, soft dry hearth board, harder spindle, fibrous cordage, or resin-free cooking fuel.

LAND-BASED EDIBLE PLANTS

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

PRICKLY PEARS

LAND FOOD



Stylized form diagram — not an identification photograph

Opuntia spp.

IDENTIFY: Flattened pads with clusters of fine glochids and often spines; showy flowers; fleshy fruits.

HABITAT / SEASON: Dry Americas, disturbed warm regions and some Mediterranean/African landscapes. Season: Fruit summer-fall; young pads seasonal.

SURVIVAL USE: Ripe fruit and properly de-spined young pads of confirmed species are documented foods; dry woody joints can support fuel.

CAUTION: Invisible glochids embed in skin, eyes and mouth. Some fruits are insipid or seedy; avoid sprayed invasive stands.

LOOK-ALIKES: Chollas have cylindrical joints.

TASKS: food fruit, food pad, fuel

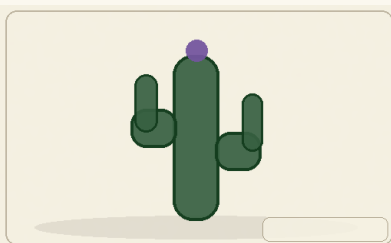
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6

SAGUARO

LAND FOOD



Stylized form diagram — not an identification photograph

Carnegiea gigantea

IDENTIFY: Tall columnar cactus with upward arms, pleated ribs, white flowers and red fruit.

HABITAT / SEASON: Sonoran Desert lowlands. Season: Fruit early summer.

SURVIVAL USE: Ripe fruit and seeds have documented Indigenous food use; ribs from naturally fallen dead plants have construction value.

CAUTION: Protected by law in many places. Do not cut living plants; spines and falling ribs injure.

LOOK-ALIKES: Organ-pipe cactus has multiple stems from the base.

TASKS: food fruit, construction

Verified images: POWO

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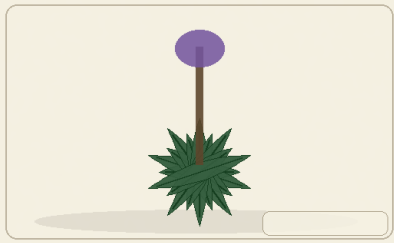
7

LAND-BASED EDIBLE PLANTS

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

COMMON PURSLANE

LAND FOOD



Stylized form diagram — not an identification photograph

Portulaca oleracea

IDENTIFY: Low reddish succulent stems; smooth fleshy leaves; tiny yellow flowers; clear sap.

HABITAT / SEASON: Disturbed warm ground, gardens, river deposits and camp edges worldwide. Season: Warm growing season.

SURVIVAL USE: Young leaves and stems are documented food and water-rich greens.

CAUTION: High oxalate content; avoid large amounts with kidney disease and avoid contaminated ground.

LOOK-ALIKES: Spurge often exude milky sap and are unsafe.

TASKS: food green

Verified images: POWO

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8

SALTBUSHES

LAND FOOD



Stylized form diagram — not an identification photograph

Atriplex spp.

IDENTIFY: Gray or mealy alternate leaves; inconspicuous flowers; often salt-tolerant and sprawling.

HABITAT / SEASON: Deserts, salt flats, coasts and disturbed dry ground. Season: Leaves most of year.

SURVIVAL USE: Leaves of selected species are documented cooked greens; stems can fuel small fires and brush shelters.

CAUTION: High salt and oxalate content makes this a small-portion food, especially when dehydrated or kidney-impaired.

LOOK-ALIKES: Many gray desert shrubs resemble saltbush; fruiting bracts help confirm.

TASKS: food green, fuel, brush

Verified images: POWO

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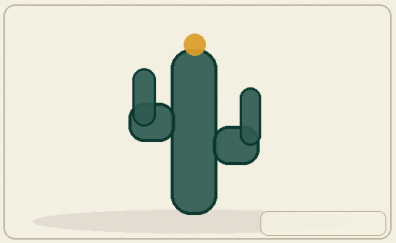
9

LAND-BASED EDIBLE PLANTS

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

BARREL CACTI

LAND FOOD



Stylized form diagram — not an identification photograph

Ferocactus spp.

IDENTIFY: Round to cylindrical ribbed cactus with heavy hooked or straight spines and a crown of flowers.

HABITAT / SEASON: Rocky desert slopes and plains. Season: Fruit seasonal.

SURVIVAL USE: Some fruits and seeds have documented emergency food use after correct species identification.

CAUTION: Cactus pulp is not a dependable drinking-water source and may cause vomiting or diarrhea. Spines are severe hazards.

LOOK-ALIKES: Young saguaros and other columnar cacti differ in rib and spine arrangement.

TASKS: food fruit

Verified images: POWO

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10

FOOD HARVEST SCREEN

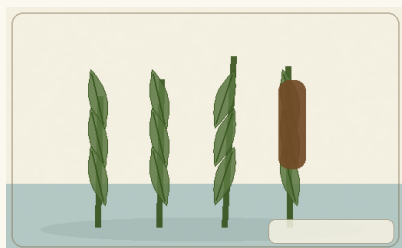
Confirm species, plant part and maturity. Check whether cooking, leaching, peeling, fermenting or repeated water changes are required. Reject mold, animal contamination, roadside plants, chemically treated ground and any food whose safe preparation cannot be completed with current water and fuel.

WATER AND WETLAND EDIBLE PLANTS

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

CATTAILS

AQUATIC FOOD



Stylized form diagram — not an identification photograph

Typha spp.

IDENTIFY: Tall flat strap leaves; dense brown cylindrical female flower spike below a narrower male section.

HABITAT / SEASON: Marshes, pond edges, slow channels and wet ditches. Season: Shoots spring; pollen early summer; rhizomes year-round where lawful.

SURVIVAL USE: Documented food parts include young inner shoots, pollen and processed rhizome starch. Leaves make mats, baskets and thatch; seed down can bulk tinder.

CAUTION: Water can concentrate sewage, metals and parasites. Raw rhizome requires correct processing; avoid contaminated marshes.

LOOK-ALIKES: Yellow flag iris has sword leaves and showy flowers but no brown cattail head.

TASKS: food shoot, food starch, basketry, thatch, tinder

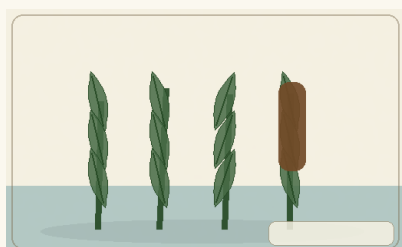
Verified images: POWO

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11

COMMON REED

AQUATIC FOOD



Stylized form diagram — not an identification photograph

Phragmites australis

IDENTIFY: Tall jointed canes; broad leaves with rough margins; large feathery purple-tan panicles.

HABITAT / SEASON: Marshes, riverbanks, lake edges and brackish wetlands worldwide. Season: Canes year-round; young shoots spring.

SURVIVAL USE: Dry canes make arrow shafts, fish spears, mats, thatch, containers and friction-fire spindles; young shoots have limited documented food use.

CAUTION: Invasive populations may be chemically treated. Cut cane edges are sharp; food use is excluded where water quality is uncertain.

LOOK-ALIKES: Giant reed is stouter; reed canary grass has a smaller seed head.

TASKS: arrow shaft, bow drill spindle, thatch, basketry, container

Verified images: POWO

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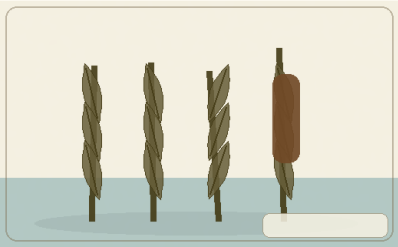
12

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

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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.

JOJOBA

TRADITIONAL-USE



Stylized form diagram — not an identification photograph

Simmondsia chinensis

IDENTIFY: Opposite thick gray-green leaves; small green flowers; acorn-like brown seeds.

HABITAT / SEASON: Sonoran Desert bajadas and rocky slopes. Season: Seeds summer.

SURVIVAL USE: Seeds yield a stable wax oil used traditionally for skin and tool protection; woody stems make pegs.

CAUTION: Seeds are not a calorie food and contain compounds that can cause digestive illness.

LOOK-ALIKES: Desert holly has alternate toothed silvery leaves.

TASKS: oil, tool care, pegs

Verified images: POWO

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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

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15

MEDICINAL AND TRADITIONAL-USE PLANTS

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

EPHEDRA / JOINTFIR
TRADITIONAL-USE



Ephedra spp.

IDENTIFY: Green jointed nearly leafless stems; small cone-like reproductive structures; woody base.

HABITAT / SEASON: Asian, American and Mediterranean deserts and steppe. Season: Stems year-round.

SURVIVAL USE: Straight jointed stems make light tinder and have documented traditional medicinal history.

CAUTION: Ephedrine-type alkaloids can cause dangerous heart, blood pressure and drug effects. No self-dosing.

LOOK-ALIKES: Casuarina is a tree with many fine drooping branchlets and woody cones.

TASKS: tinder, medicine

Verified images:
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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.

DATURAS / THORN APPLES

POISON — AVOID



Stylized form diagram — not an identification photograph

Datura spp.

IDENTIFY: Large foul-smelling leaves; upright trumpet flowers; spiny egg-shaped capsules.

HABITAT / SEASON: Disturbed warm ground, dry riverbeds and fields worldwide. Season: Summer-fall.

SURVIVAL USE: No use.

CAUTION: All parts contain dangerous tropane alkaloids causing delirium, overheating, seizures and death.

LOOK-ALIKES: Brugmansia has hanging trumpets on woody shrubs and is also toxic.

TASKS: poison

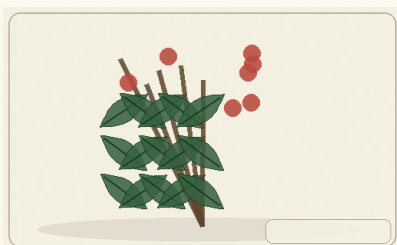
Verified images: POWO

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17

CASTOR BEAN

POISON — AVOID



Stylized form diagram — not an identification photograph

Ricinus communis

IDENTIFY: Large star-shaped palmately lobed leaves; spiny capsules; glossy mottled seeds.

HABITAT / SEASON: Warm disturbed ground, riverbanks and tropical/subtropical waste areas. Season: Growing season; seeds seasonal.

SURVIVAL USE: No survival food or medicine use. Oil extraction is industrial, not a field process.

CAUTION: Chewed seeds can release ricin and cause severe or fatal poisoning.

LOOK-ALIKES: Jatropha has similar lobed leaves but different fruit; it is also toxic.

TASKS: poison

Verified images: POWO

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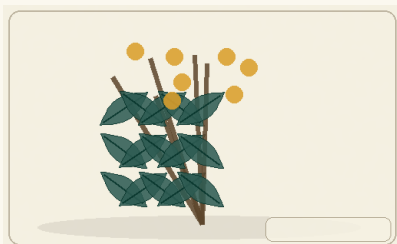
18

POISONOUS PLANTS AND DANGEROUS LOOK-ALIKES

High-consequence species to learn before gathering starts.

OLEANDER

POISON — AVOID



Nerium oleander

IDENTIFY: Evergreen shrub with narrow leathery leaves in pairs or whorls and pink, white or red five-petaled flowers.

Stylized form diagram — not an identification photograph

HABITAT / SEASON: Mediterranean and arid-region waterways, wadis and planted settlements. Season: Year-round foliage.

SURVIVAL USE: No use.

CAUTION: All parts contain potent cardiac glycosides; smoke, skewers and contaminated water can be dangerous.

LOOK-ALIKES: Yellow oleander has different fruit but similar cardiac toxicity.

TASKS: poison

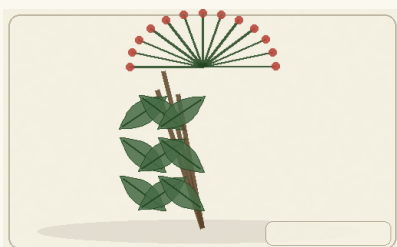
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19

WATER HEMLOCKS

POISON — AVOID



Cicuta spp.

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

Stylized form diagram — not an identification photograph

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

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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	Mesquites	Use dead, shed or pruned material first.
Arrow or dart shaft	Common reed	Use dead, shed or pruned material first.
Bow-drill hearth	No reliable candidate among the priority profiles.	Use a different technology or carried tool; do not force unsuitable plant material.
Bow-drill spindle	Yuccas, Agaves, Sotol, Common reed	Use dead, shed or pruned material first.
Tinder	Yuccas, Common juniper, Cattails, Yarrow	Use dead, shed or pruned material first.
Fuel / coals	Mesquites, Prickly pears, Saltbushes	Use dead, shed or pruned material first.
Cordage / fiber	Yuccas, Agaves, Sotol, Bulrushes	Use dead, shed or pruned material first.
Basket / mat	Sotol, Cattails, Common reed, Bulrushes	Use dead, shed or pruned material first.
Container / wrap	Common reed	Use dead, shed or pruned material first.
Fruit food	Prickly pears, Saguaro, Barrel cacti	Verify part, maturity and preparation.
Green food	Common purslane, Saltbushes	Verify part, maturity and preparation.
Seed / nut	No reliable candidate among the priority profiles.	Use a different technology or carried tool; do not force unsuitable plant material.
Root / starch	Cattails, Bulrushes	Verify part, maturity and preparation.
Traditional-use	Yarrow, Ephedra / jointfir	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.