

MESOAMERICAN TROPICAL HIGHLANDS & CLOUD FOREST PLANT SURVIVAL GUIDE

North America • USDA-EQUIVALENT ZONES 9-12 • KÖPPEN Cwb / Cfb / Am

LAND + WATER

REGIONAL HABITAT ILLUSTRATION — NOT AN ID PHOTO

USEFUL

EDIBLE

MEDICINAL

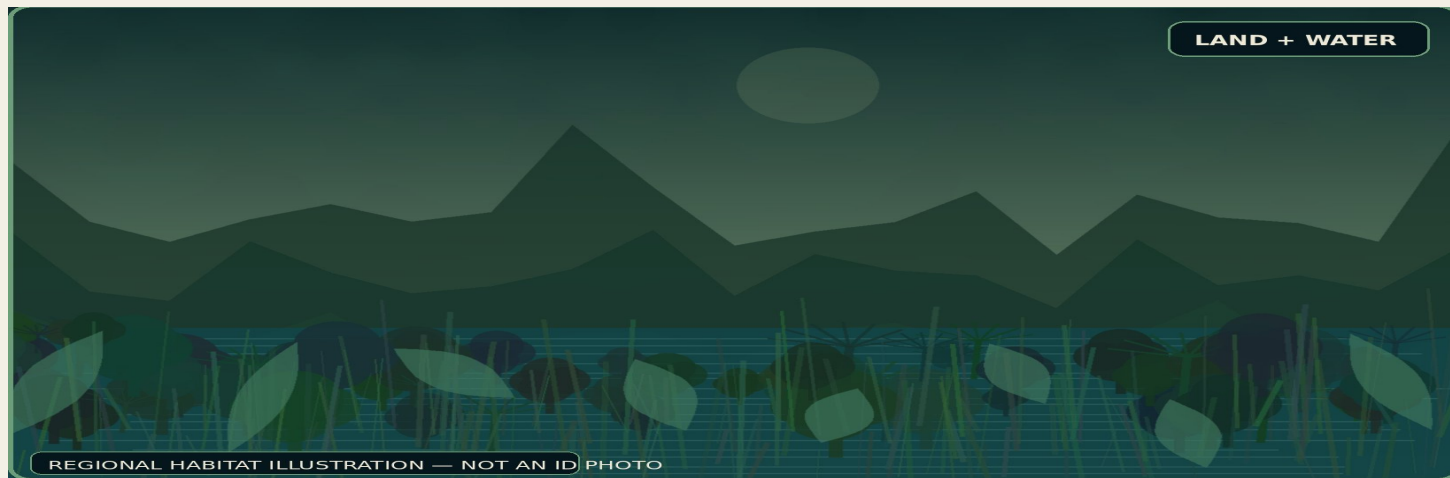
POISONOUS

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: 9-12 Köppen: Cwb / Cfb / Am

Regional habitat: Pine-oak highlands, cloud forest, volcanic slope and wet valley

Zone warning: hardiness describes winter minimum temperature only; rainfall, heat, soils, fire, elevation and seasonality still control the flora.

FIELD PRIORITIES

- In species-rich forest, require flower, fruit or several vegetative traits; leaf shape alone is almost never enough.
- Match at least three independent traits and rule out every dangerous look-alike before harvest.
- Treat water plants as both botanical and water-quality decisions; parasites, sewage and algal toxins can defeat correct identification.
- 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

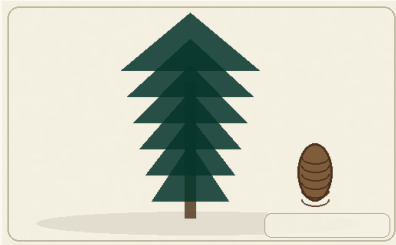
1. Deadfall and shed bark.
2. Abundant annual greens and fruit.
3. Pruned shoots and leaves.
4. Small stems from common thickets.
5. Roots, bark and whole plants only with permission and no safer substitute.

USEFUL PLANTS FOR TOOLS, FIRE AND SHELTER

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

MEXICAN MOUNTAIN PINES

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Pinus montezumae / *P. pseudostrobus* group

IDENTIFY: Long needles in bundles, large cones and thick bark; species vary with elevation.

HABITAT / SEASON: Mexican and Central American pine-oak highlands. Season: Year-round wood; seeds seasonal.

SURVIVAL USE: Poles, resinous kindling, fuel and edible pine seeds from selected species; pitch aids repairs.

CAUTION: Species identification and protected-forest rules matter. Cones and dead limbs fall.

LOOK-ALIKES: Cloud-forest firs have flat needles and upright cones.

TASKS: poles, fuel, tinder, food seed

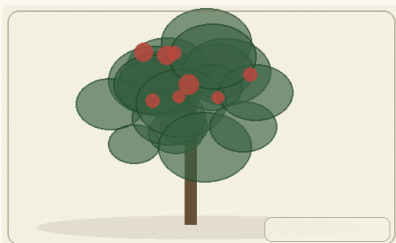
Verified images: POWO

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1

OAKS

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Quercus spp.

IDENTIFY: Alternate leaves; acorns in cups; buds clustered at twig tips. Leaf lobes may be rounded or bristle-tipped.

HABITAT / SEASON: Temperate woodland, savanna, Mediterranean scrub and mountain forest. Season: Acorns fall; wood year-round.

SURVIVAL USE: Dense bow and handle wood, durable stakes and excellent coals. Acorns are high-energy food only after species-specific leaching to remove tannins.

CAUTION: Never eat raw bitter acorns in quantity. Moldy acorns are unsafe.

LOOK-ALIKES: Chestnuts have spiny burs and long toothed leaves.

TASKS: bow wood, handles, fuel, food nut

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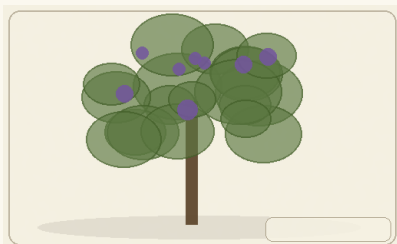
2

USEFUL PLANTS FOR TOOLS, FIRE AND SHELTER

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

ALDERS

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

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

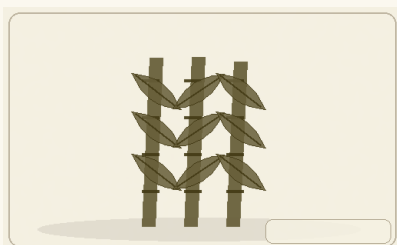
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3

GUADUA BAMBOO

USEFUL MATERIAL



Stylized form diagram — not an identification photograph

Guadua angustifolia and related spp.

IDENTIFY: Large hollow segmented culms; branch thorns in some species; broad grass leaves.

HABITAT / SEASON: Tropical American riverbanks, foothills and disturbed forest. Season: Culms year-round; shoots rainy season.

SURVIVAL USE: Exceptional material for shelter, containers, water tubes, traps, arrow shafts, bows in laminated designs and friction-fire sets; young shoots of selected species require boiling.

CAUTION: Fresh culms can split explosively in fire. Species and shoot cyanide levels vary.

LOOK-ALIKES: Woody reeds are smaller and lack robust branching culms.

TASKS: construction, container, arrow shaft, bow drill, food shoot

Verified images: POWO

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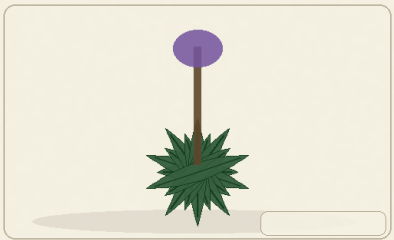
4

USEFUL PLANTS FOR TOOLS, FIRE AND SHELTER

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

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

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MATERIAL SELECTION SCREEN

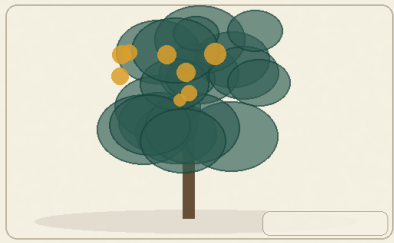
Before cutting, test straightness, grain, dryness, hidden rot, sap or smoke toxicity, and whether the species is protected. Match the material to the load: springy bow wood, straight shaft wood, soft dry hearth board, harder spindle, fibrous cordage, or resin-free cooking fuel.

LAND-BASED EDIBLE PLANTS

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

AVOCADO

LAND FOOD



Stylized form diagram — not an identification photograph

Persea americana

IDENTIFY: Large alternate aromatic leaves; small green flowers; pear-shaped fruit with one large seed.

HABITAT / SEASON: Mesoamerican cloud forest, old orchards and tropical highlands. Season: Fruit seasonal; wood year-round.

SURVIVAL USE: Ripe fruit flesh is calorie-dense documented food; wood provides fuel and light tools.

CAUTION: Leaves, bark and seed are not food and may contain harmful compounds; ownership and cultivar matter.

LOOK-ALIKES: Other *Persea* species may bear smaller fruit and are not equally edible.

TASKS: food fruit, fuel, tools

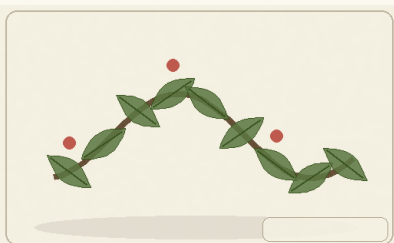
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CHAYOTE

LAND FOOD



Stylized form diagram — not an identification photograph

Sechium edule

IDENTIFY: Climbing cucurbit with tendrils, heart-shaped rough leaves, small pale flowers and pear-shaped green fruit with one soft seed.

HABITAT / SEASON: Mesoamerican humid highlands, forest edge and old gardens. Season: Fruit and shoots in warm wet season.

SURVIVAL USE: Fruit, seed, young shoots and tuberous roots of known plants are documented foods after cooking as appropriate; vines offer temporary lashings.

CAUTION: Unknown gourds can be dangerously bitter. Taste is not a safe test for wild cucurbits.

LOOK-ALIKES: Other cucurbits may have hard seeds and bitter toxic fruit.

TASKS: food fruit, food shoot, lashing

Verified images: POWO

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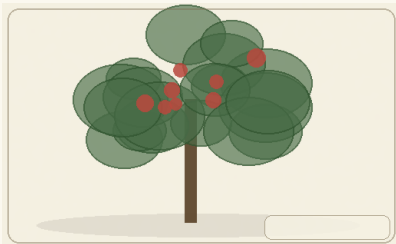
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LAND-BASED EDIBLE PLANTS

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

GUAVA

LAND FOOD



Stylized form diagram — not an identification photograph

Psidium guajava

IDENTIFY: Opposite oval leaves with strong parallel side veins; smooth peeling bark; white brush flowers; aromatic fruit.

HABITAT / SEASON: Tropical and subtropical disturbed ground, forest edge and river terraces. Season: Fruit varies by climate; wood year-round.

SURVIVAL USE: Ripe fruit is documented food; hard close-grained wood makes pegs, handles and friction-fire spindles.

CAUTION: Fruit can host insects and feral plants may be sprayed. Leaves are not a substitute for medical care.

LOOK-ALIKES: Other Myrtaceae share opposite leaves; fruit odor and flower structure help confirm.

TASKS: food fruit, handles, bow drill spindle

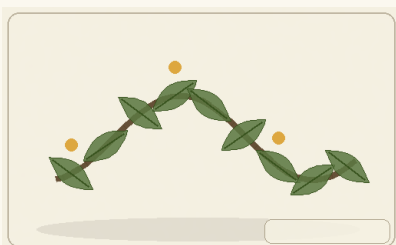
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WILD PASSIONFRUITS

LAND FOOD



Stylized form diagram — not an identification photograph

Passiflora spp.

IDENTIFY: Tendrilled vine; distinctive radial flowers; round to oval fruits; leaves often lobed.

HABITAT / SEASON: Tropical and subtropical forest edge, thicket and riverbank. Season: Fruit seasonal.

SURVIVAL USE: Fully ripe fruit of confirmed edible species is documented food; vines can provide temporary lashings.

CAUTION: Many species have cyanogenic leaves or unpalatable fruit. Eat only known ripe fruit, not unknown foliage.

LOOK-ALIKES: Cucurbit vines have separate flower structure and rough stems.

TASKS: food fruit, lashing

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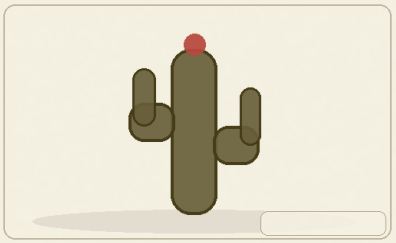
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LAND-BASED EDIBLE PLANTS

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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FOOD HARVEST SCREEN

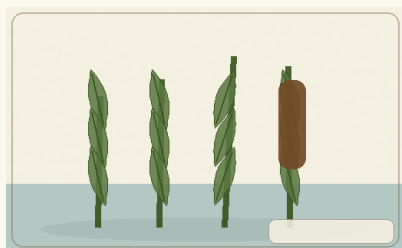
Confirm species, plant part and maturity. Check whether cooking, leaching, peeling, fermenting or repeated water changes are required. Reject mold, animal contamination, roadside plants, chemically treated ground and any food whose safe preparation cannot be completed with current water and fuel.

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

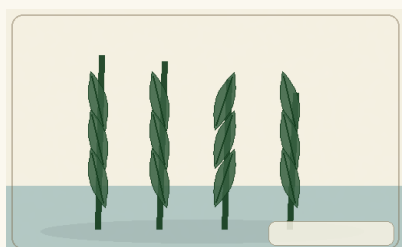
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WATERCRESS

AQUATIC FOOD



Stylized form diagram — not an identification photograph

Nasturtium officinale

IDENTIFY: Creeping hollow stems; pinnate leaves with a larger rounded terminal leaflet; small white four-petaled flowers.

HABITAT / SEASON: Cold flowing springs and streams, often where nutrient-rich. Season: Cool seasons.

SURVIVAL USE: Tender tops are documented food and are usually cooked in survival settings.

CAUTION: Raw watercress can carry liver flukes and sewage pathogens. Avoid downstream of livestock, roads or settlements.

LOOK-ALIKES: Water hemlock has divided leaves and umbrella flowers; never rely on habitat alone.

TASKS: food green

Verified images: POWO

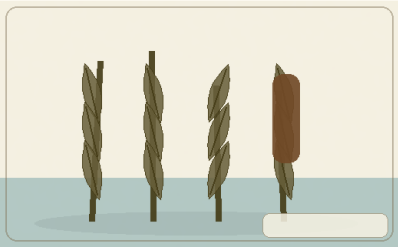
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WATER AND WETLAND EDIBLE PLANTS

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

TROPICAL ARROWHEADS
AQUATIC FOOD



Stylized form diagram — not an identification photograph

Sagittaria guayanensis and related spp.

IDENTIFY: Arrow to oval leaves rising from shallow water; three-petaled white flowers; some produce tubers.

HABITAT / SEASON: Floodplains, marshes and slow tropical water. Season: Tubers seasonal.

SURVIVAL USE: Tubers of confirmed edible species are documented food after cooking.
 CAUTION: Species vary in tuber production; wetlands may contain parasites and toxic aroids.
 LOOK-ALIKES: Arrow arum and other aroids have spadix-and-spathe flowers.
 TASKS: food tuber

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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.

YARROW

TRADITIONAL-USE



Achillea millefolium

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

Stylized form diagram — not an identification photograph

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

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MUGWORTS

TRADITIONAL-USE



Artemisia vulgaris complex

IDENTIFY: Aromatic deeply lobed leaves, commonly silvery beneath; small inconspicuous flower heads.

Stylized form diagram — not an identification photograph

HABITAT / SEASON: Disturbed ground, steppe, forest edges and riverbanks. Season: Summer through fall.

SURVIVAL USE: Documented traditional uses include aromatic smoke and digestive preparations; dry stalks can be tinder.

CAUTION: Avoid internal use during pregnancy or with seizure disorders. Species identification is difficult.

LOOK-ALIKES: Ragweeds lack the silvery underside and have different flowers.

TASKS: medicine, tinder

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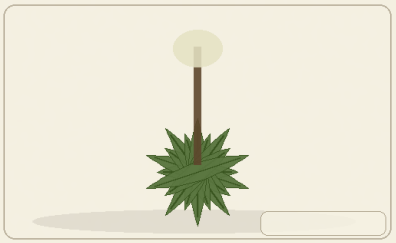
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MEDICINAL AND TRADITIONAL-USE PLANTS

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

BROADLEAF AND RIBWORT PLANTAINS

TRADITIONAL-USE



Stylized form diagram — not an identification photograph

Plantago major / *P. lanceolata*

IDENTIFY: Basal rosette with strong parallel ribs; leafless spikes of tiny flowers and seeds.

HABITAT / SEASON: Trails, camps, meadows and disturbed soil. Season: Spring through fall.

SURVIVAL USE: Young leaves and seeds are documented food; clean leaves have traditional external use on minor irritation.

CAUTION: Do not put dirty leaves on open wounds. Seeds swell with water and can obstruct if taken dry in quantity.

LOOK-ALIKES: Docks have netted veins; plantain ribs run from the base.

TASKS: food green, medicine

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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.

ANGEL'S TRUMPET

POISON — AVOID



Stylized form diagram — not an identification photograph

Brugmansia spp.

IDENTIFY: Woody shrub or small tree with very large hanging trumpet flowers and soft leaves.

HABITAT / SEASON: Andean and tropical American disturbed forest and cultivation. Season: Year-round in warm climates.

SURVIVAL USE: No use.

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

LOOK-ALIKES: Datura has upright trumpets and spiny capsules but is equally toxic.

TASKS: poison

Verified images: POWO

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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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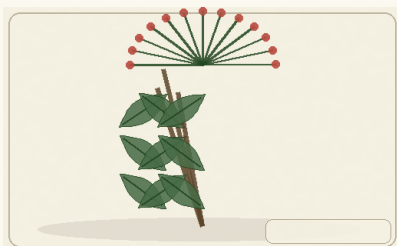
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POISONOUS PLANTS AND DANGEROUS LOOK-ALIKES

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

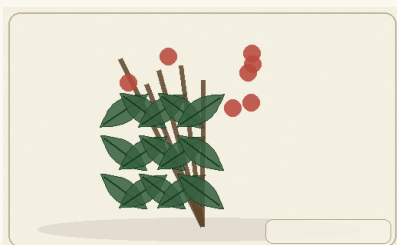
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CASTOR BEAN

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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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	Oaks	Use dead, shed or pruned material first.
Arrow or dart shaft	Guadua bamboo	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	Agaves, Guava	Use dead, shed or pruned material first.
Tinder	Mexican mountain pines, Cattails, Yarrow, Mugworts	Use dead, shed or pruned material first.
Fuel / coals	Mexican mountain pines, Oaks, Alders, Avocado	Use dead, shed or pruned material first.
Cordage / fiber	Agaves	Use dead, shed or pruned material first.
Basket / mat	Cattails	Use dead, shed or pruned material first.
Container / wrap	Guadua bamboo	Use dead, shed or pruned material first.
Fruit food	Avocado, Chayote, Guava, Wild passionfruits	Verify part, maturity and preparation.
Green food	Watercress, Broadleaf and ribwort plantains	Verify part, maturity and preparation.
Seed / nut	Mexican mountain pines	Verify part, maturity and preparation.
Root / starch	Cattails	Verify part, maturity and preparation.
Traditional-use	Yarrow, Mugworts, Broadleaf and ribwort plantains	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.