PURPLE PASSION FLOWER, MAYPOP
(Passiflora incarnata)

RANGE: Southern North America to northern South America, in Costa Rica, and Europe (LSBR, ARVL)

NATIVE STATUS: Native

SIZE/MORPHOLOGY: Has a sturdy wood vine that grows 12–36 ft; the stems can be smooth; stems are long and trailing, possessing many tendrils; has leaves with alternating three-lobed leaves and five-lobed leaves measuring 6–15 cm; has many bluish-white flowers; has a white and purple crown (coronal filaments or threadlike petals) between petals and stamens; above the coronal filaments is a yellow stamen (pollen-producing part of the flower); has an orange egg-like fruit called a maypop.

RELATED SPECIES (OR SUBGROUPS): Bush passion fruit (Passiflora foetida)

NATURAL HISTORY: In most cases it requires a large bee to pollinate effectively, although many are self-sterile; very beautiful to attract pollinators; holds itself aloft by having its tendrils curl around nearby plants; nectariferous glands grow on leaf stalks; these glands produce a sweet liquid called nectar that attracts insects to help fertilize the flower or to devour a particular predator that might harm the plant.

MONKEY LADDER VINE, SEA HEART
(Bauhinia glabra or Entada gigas)

RANGE: Central America to the Caribbean to northern South America and Africa; in tropical rainforests (LSBR, ARVL)

NATIVE STATUS: Native

SIZE/MORPHOLOGY: A reddish-brown, long-twisted wood vine that can grow over 30 m long with 1–2 m pods hanging from the vine. The pods have about 15 seed compartments containing little seeds that resemble hearts; stretches from tree to tree.

RELATED SPECIES (OR SUBGROUPS): Calingcard vine (Entada polystachya)

NATURAL HISTORY: Grows in wet to moist lowlands; climbs trees to reach the sunlight; climbs large older trees that shade the lower forest; creates a ladder for monkeys and other animals; when summer ends, seed compartments fall and decompose to reveal the seeds; sometimes seeds germinate; are buoyant; when there is flooding, the seeds float in the water so they can reproduce to keep their species alive in tropical climates; seed buoyancy lasts at least two years.
PLANTS: CLIMBERS AND STRANGLERS

STRANGLER FIG, BANYAN TREE
(genus Ficus)

RANGE: Central Asia, Central America, tropical climate in Costa Rica by the dark forest floor (LSBR)

NATIVE STATUS: Native

SIZE/MORPHOLOGY: Can grow up to 148 feet depending on the size of its host; light-brown bark; umbrella-shaped canopies; leaves are egg-shaped and 1.5–3 in. long; leaves are waxy to protect it from the strong winds and sunlight that it is exposed to high up in the canopy; have a small flower-bearing structure called a cyconia; the inside of the cyconia is lined with hundreds of male and female flowers; males carry pollen; females bear seeds.

RELATED SPECIES (OR SUBGROUPS): Golden strangler fig (Ficus aurea)

NATURAL HISTORY: Tall canopy trees which can grow to 148 feet; they are known to strangle; this growth habit is an adaptation; start out as epiphytes deposited by a bird on a tree branch; send out thin aerial roots that dangle or snake down the trunk of the host tree; when roots reach the ground, they dig in; send out a network of roots that encircle the host tree and fuse together; as the roots grow thicker they squeeze the trunk of its host and cut off its flow of nutrients; in the canopy it puts out lots of leaves that soon grow thicker than the host tree and rob it of sunlight; eventually the host dies from strangulation and insufficient sunlight and root competition; each fig has a symbiotic relationship with a wasp; the wasp pollinates the short-styled female flowers; symbiotic relationship helps to prevent cross-pollination.
PLANTS: EPIPHYTES

**PINEAPPLE**
(family Bromeliaceae, Ananas comosus)

**RANGE:** Unique to the Americas, one species in western Africa (ARVL, LSBR)

**NATIVE STATUS:** Introduced

**SIZE/MORPHOLOGY:** Typically have bright red, orange, purple, or blue flowers. Many bromeliads have stiff overlapping leaves that hold rainwater. 2 1/2 to 5 ft (.75–1.7 m) high; spread 3 to 4 ft (.9–1.2 m). Very short stem and spiral of waxy, strap-like, long pointed leaves 20 to 72 in. (50–180 cm).

**RELATED SPECIES:** Aqua bromeliad (*Aechmea aquilega*)

**NATURAL HISTORY:** Terrestrial, saxicolous, or epiphytic; absorb nutrients and moisture from the atmosphere (sometimes called “air-plants”); seedlings are planted and will bear fruit 16–30 months later. Ideal rainfall would be 45 in. (1,143 mm); ideal temperature range is 65°–95°F (18.33–45°C); accidentally introduced to Costa Rica from Africa; part of the neotropical family.

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**PLANTS: EPIPHYTES**

**ORCHID**
(family Orchidaceae)

**RANGE:** Mexico to Panama (LSBR, ARVL)

**NATIVE STATUS:** Native

**SIZE/MORPHOLOGY:** Average stem is around 3 m long; leaves are 9–23 cm long and 4–7 cm wide with pointed tip. Flowers are white, yellowish green and are bilaterally symmetric. Flower petals are 5–6 cm long and 1–5 cm wide. Fruit are a yellow-green, 10–25 cm long and about 1 cm wide; gather in bean-like clusters.

**RELATED SPECIES (OR SUBGROUPS):** *Guaria morada* (the national flower of Costa Rica)

**NATURAL HISTORY:** Can be terrestrial, epiphytic, or saprophytic. The flowers are sometimes bisexual, but are mainly unisexual. They thrive in very wet forests and are widely cultivated. Altitude ranges from sea level to 200 m above sea level. Flowers bloom from April–June and December–January.
SPLIT LEAF
PHILODENDRON/
SWISS CHEESE PLANT
(*Monstera deliciosa*)

**RANGE:** Mexico, Central America, Hawaii, Florida, Galapagos Islands, Tanzania (LSBR, ARVL)

**NATIVE STATUS:** Native

**SIZE/MORPHOLOGY:** Vines tend to be 10 m long; leaves are large, green, and split. Juvenile leaves are somewhat heart shaped. Flowers are off-white, thick, waxy, and crowded on spikes 25 cm long. Fruit is fleshy, yellow, and edible when ripe.

**RELATED SPECIES (OR SUBGROUPS):** Shingle plant (*Monstera acuminata*)

**NATURAL HISTORY:** Live in wet forests that mostly consist of mountains. The altitude level can range from 500–2200 m above sea level. Seedlings grow in dark areas where tree trunks are available, then grow upward toward sunlight. Growth requires high humidity and shade. The plant and unripe fruit is toxic to most animals, including humans; begins to bear fruit after two years; produces white flowers, which are pollinated by bees; fruits eaten by a variety of mammals such as rats and monkeys.
ROYAL PALM
(Scheelea rostrata)

**RANGE:** Cuba, northern Central America to Mexico, southwest Florida (LSBR)

**NATIVE STATUS:** Native

**CONSERVATION STATUS:** Least concern

**SIZE/MORPHOLOGY:** More than 25 m tall; light gray, smooth trunk looks like a concrete pillar; pinnately leaves, typically 34 m long, with 1 m long compound arching leaflets in various directions; cream to white flowers; purplish fruit that is 1.5 cm long in heavy clusters.

**RELATED SPECIES:** Roystonea oleracea

**NATURAL HISTORY:** Very common; often used as a decoration for houses and other areas; the heart of palm can be eaten; fruit is sometimes used as food for pigs; leaves can be used for thatching; reproduce by the fruit they grow that drops on the ground, allowing easier access for animals to spread the seeds in the fruit.

WELFIA PALM
(Welfia georgii)

**RANGE:** Honduras to Ecuador (LSBR)

**NATIVE STATUS:** Native

**CONSERVATION STATUS:** Least concern

**SIZE/MORPHOLOGY:** Tall, wet forest palm; non-spiny; shiny trunk with conspicuous leaf scars and alternating bands of dark and light brown; pinnate leaves up to 6 m; flowers up to 1 m long below leaves; red-brown to purple fruit.

**RELATED SPECIES:** Pentaclethra macroloba

**NATURAL HISTORY:** Crown can weigh up to 250 kg, which can cause damage to its own or other seedlings if it falls; fruits ripen in the wet season, seeds are dispersed by monkeys, kinkajous, squirrels, large birds, and others; the heart of palm is edible; leaves are used to thatch in some regions; trunks make good supports for coastal homes; wood is hard and resists rotting in salt water.
WALKING PALM  
(Socratea durissima)

RANGE: Southeast Nicaragua to tropical South America (LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Single trunk height is 30 m, 5–25 cm in diameter; base is a 2 m, open, cone-shaped cluster of brown spiny stilt root; it has gray trunks of 10–15 cm in diameter; small (proportionate to the size of the tree) pinnate leaves; branches 50 cm long; yellowish fruit.

RELATED SPECIES: Iriartea deltoidea

NATURAL HISTORY: Able to “walk” to reach more sunlight because of its stilt-like roots; when young, the original base is visible but dies over time as spreading roots take over; has a hard outer trunk that is used in floors and walls and has been used to make bows and harpoons; heart of palm is edible but bitter; palm pollinated by beetles and seedlings eaten by white-lipped peccaries.
HELICONIA
(Heliconia)

**RANGE:** Tropical Americas; in Costa Rica, grows on rainforest floor, often grown ornamentally (LSBR, ARVL)

**NATIVE STATUS:** Native

**SIZE/MORPHOLOGY:** 0.5–4.5 m tall, large long oblong leaves, brightly colored (red, orange, or yellow) bracts protrude from opposite sides of the stalk, which support small flowers, blue-purple fruits.

**RELATED SPECIES (OR SUBGROUPS):** Parrot heliconia (*Heliconia psittacorum*)

**NATURAL HISTORY:** Pollinated by mostly hummingbirds and bats; provides shelter for wide variety of insects; flower during the wet season; produce lots of nectar, which attracts pollinators; seeds dispersed almost entirely by birds.

KAPOK
(Ceiba pentandra)

**RANGE:** Mexico, Central America, and northern South America; in Costa Rica, found mainly in rainforests (LSBR, ARVL)

**NATIVE STATUS:** Native

**SIZE/MORPHOLOGY:** Generally 60–70 m tall; trunk about 3 m wide; large seed pods filled with stringy fibers; branches often covered with thorns; leaves composed of 5–9 leaflets; oblong green fruit.

**RELATED SPECIES (OR SUBGROUPS):** Floss silk tree (*Ceiba chodatii*)

**NATURAL HISTORY:** Adult trees produce hundreds of seed pods per season; lives for hundreds of years if preserved; harbors many tree-dwelling species of birds and insects; seeds produce oil when crushed.
Yucca
(Yucca)

RANGE: North and Central America; in Costa Rica, grows low to the ground in hotter, drier areas (ARVL)

NATIVE STATUS: Introduced (from US deserts)

SIZE/MORPHOLOGY: 1–4 m tall depending on the subspecies; long sword-shaped leaves; long stalks of white or purple flowers; flowers have bulb-like shape; thick roots.

RELATED SPECIES: Banana yucca (Yucca baccata)

NATURAL HISTORY: Specialized mutualistic pollination system where yucca moths transfer the pollen from flower to flower and also lay eggs in a few of the flowers; thick roots enable the capture of water in arid locations; can live for extended periods of time; blooms perennially.
**BIRD OF PARADISE**  
(*Strelitzia reginae*)

**RANGE:** South Africa, Ecuador, Costa Rica, imported to North America (ARVL)

**NATIVE STATUS:** Introduced

**SIZE/MORPHOLOGY:** Grows to 2 m; leaves: strong, 25–70 cm long, 10–30 cm wide, fan-shaped crown, evergreen; flowers: stand above foliage, orange, yellow, spathe perpendicular to stem.

**RELATED SPECIES (OR SUBGROUPS):** African desert banana (*Strelitzia juncea*), white bird of paradise, giant bird of paradise, wild banana, blue-and-white strelitzia (*Strelitzia nicolai*)

**NATURAL HISTORY:** Takes 3–5 years to bloom; thrives with rich soil and a lot of water; blooms January–May; petals open and cover birds’ feet in pollen when they drink nectar; also known as the crane flower; an erratic herb with tough fruit and black or brown seeds; both bees and sunbird pollinate the flower; the beak-like sheathe is called a spathe, which is perpendicular to the stem and allows sunbirds to perch while pollinating; when sunbirds sit to drink its nectar, the petals of the flower open to cover their feet in pollen; it is slow-growing and blooms only after 3–5 years; grows well in rich, moist, and gritty soil.

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**MICONIA**  
(*genus* *Miconia*)

**RANGE:** Mexico, Guatemala, Nicaragua, Costa Rica, Panama, Colombia, Peru, Brazil, Argentina, introduced to Hawaii (LSBR, ARVL)

**NATIVE STATUS:** Native

**SIZE/MORPHOLOGY:** Shrub: 1–2.3 m tall, scaly, hairy; Leaves: scaly, hairy, stalk is pink, blade is 15 cm long and 6 cm wide, red and green hairs; flower is white to pink, stem 0.3–0.4 cm wide; fruit is pale blue to dark purple, 0.5–1 cm wide.

**RELATED SPECIES:** María (*Miconia argentea*), canilla de mula (*Miconia nervosa*)

**NATURAL HISTORY:** Found in wet mountain forest, flower blooms from March–July; fruit grows from February–October; grows above 1500 m; fruit eaten by birds; leaves eaten by caterpillars; threatened by habitat destruction; thrives in shade and in sunlight; can turn from a seed to a tree in four days; seed spread by birds; overgrowing, very reproductive by animals spreading seeds from fruit.
TRUMPET UMBRELLA PLANT

*(Cecropia longipes)*

**RANGE:** Mexico to Colombia, understories of wet forests (LSBR, ARVL)

**NATIVE STATUS:** Introduced

**SIZE/MORPHOLOGY:** 2–6 m tall, leans; stalk: 2–55 cm tall; blade: 12–55 cm long, 8–25 cm wide, elliptic to egg-shape; flower is white, cream, or green, tiny (0.1 cm long), has threadlike strings, fruit is dry, tiny (0.1 cm long), green.

**RELATED SPECIES:** Snakewood tree (*Cecropia obtusifolia*), trumpet tree (*Cecropia peltata*)

**NATURAL HISTORY:** Sometimes blooms March–July; usually November–January; found from sea level to 2000 m above; eaten by many animals; aggressive, rapid, growth; larva of cecropia moth lives off fruit; sloths eat leaves; threatened by habitat loss; used for modern-day medicine as food or snake bite remedy; Aztec ants allow plant to stay healthy, grow fast and compete with other trees for sunlight.
PLANTS: FLOWERING PLANTS III

DUTCHMAN’S PIPE, PELICAN FLOWER
(Aristolochia grandiflora)

RANGE: Tropical forests (near water sources, especially streams and gullies) in the Caribbean or Central America; around Lake Arenal (ARVL)

NATIVE STATUS: Native to South America, Central America (Costa Rica), and the Caribbean; introduced to Florida

SIZE/MORPHOLOGY: Stem size reaches up to 10 m; leaves reach 25 cm; and the heart-shaped, tubular flowers measure 10–20 cm across. Flowers are white with purple veins that extend from the gooey, dark grey interior. When the flower is closed, the outside appears pale pink/orange or mint green with miniature, yellow spots.

RELATED SPECIES: Giant pelican flower (Aristolochia gigantean), elegant dutchman’s pipe/calico flower (Aristolochia littoralis), tiny pelican flower (Aristolochia nana)

NATURAL HISTORY: A deciduous vine that has a strong odor of rotten meat, coming from the combination of essential oils. Odor attracts the flies and wasps, which pollinate the large flowers. Flowers open at dawn, attracting insects, and they close after the sun sets, trapping the insects. Reproduction of flowers occurs in three stages: (1) the fly carrying pollen pollinates the carpel, (2) the stamen release pollen on the fly as a trap mechanism, (3) the flower ages and falls from the vine. Plant contains alkaloids, which provide chemical defense against insects and plant microbes.
AFRICAN TULIP TREE

(Spathodea campanulata)

RANGE: West Africa; more rare in Costa Rica, Columbia, Cuba, India, Jamaica, Puerto Rico, Sri Lanka, and Zanzibar (LSVR)

NATIVE STATUS: Introduced

SIZE/MORPHOLOGY: The African tulip tree is anywhere from 23–82 ft tall. Its leaves are 18 in. long, composed of 7 to 19 oval leaflets, which are each 4–6 in. long. The wood is soft and light brown, easily carved, while the bark, the seeds, and the flowers can be used as medicine. Its reddish/orange or crimson flowers are cup-shaped when opened in order to hold water and dew. The flowers grow in clusters, starting as brown, claw-shaped buds that open vertically; the flowers emerge in one clump.

RELATED SPECIES: Trumpet vine (Campsis grandiflora), yellow trumpetbush (Tecoma stans)

NATURAL HISTORY: The African tulip tree provides nectar for hummingbirds such as the black-throated mango, the black jacobin, and the gilded hummingbird. However, the hard interior of the fruit it produces poisons the hummingbirds and is used to kill animals. The seeds are edible and used to make many products in Africa. The African tulip tree has different attributes depending on climate. In colder climates, it may act as a deciduous tree by losing leaves during winter and early spring. The flowers bloom only in warm weather.
RED GINGER
(Alpinia purpurata)

RANGE: Tropics, subtropics; needs water, sun, and partial shade; Central America, Pacific Islands (LSVR)

NATIVE STATUS: Native to Pacific Islands, New Caledonia, New Hebrides, Yap, British Solomon Islands Protectorate, Bismarck Archipelago and Bougainville, and Central America (Costa Rica); introduced to Hawaii

SIZE/MORPHOLOGY: A cane-like stem protrudes from a plant that is 3–15 ft tall and 2–4 ft wide. The dark green leaves are 12–32 in. long and 4–9 in. wide, pointed at the top. Connected to the stem are layers of bright red/dark pink bracts, which form the shape of a cone. At the top of the bracts there are a few 0.25 in., crisp white flowers.

RELATED SPECIES: Variegate-ginger (Alpinia vittata), small shell ginger (Alpinia mutica)

NATURAL HISTORY: Grows best when the temperature is above 60°F and the weather is sunny. Growing process will take 4 ½ months. Flowering is year round, but more red ginger blooms during summer. Found in a tropical habitat at sea level to 500 ft above sea level. When under 50°F, the ginger will grow slowly, turn green, and produce flowers that do not open normally. Red ginger reproduces by constantly spreading rhizomes. Buds, known as eyes, come to the surface of the rhizomes and come up through the soil to form new plants. Humans grow and use ginger as houseplants and in flower arrangements.
**PLANTS: FERNS**

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**MAIDENHAIR FERN**  
*(Adiantum)*

**RANGE:** Eastern Asia and the Andes, North America, New Zealand; in Costa Rica, moist areas (LSBR)

**NATIVE STATUS:** Native and some hybrids

**SIZE/MORPHOLOGY:** Bright green with dark stripes and rachises; fan-shaped leaf segments, height range about 12–18 in. (differs with species), no set growth pattern, stripe (stem) is dark and wiry, spores on outer edge of leaflets.

**RELATED SPECIES:** Five-fingered fern (*Adiantum aleuticum*), northern maidenhair (*Adiantum pedatum*)

**NATURAL HISTORY:** Able to shed water without getting wet; prefer moist soil (many found growing on rock walls around waterfalls); covered by reflexed flaps of leaf tissue; subtle dimorphism between sterile and fertile fronds.

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**TREE FERN**  
*(Cyatheales)*

**RANGE:** Tropical and subtropical areas, Australia, New Zealand, Southern Europe; in Costa Rica, found in humid tropical forests (ARVL, LSBR)

**NATIVE STATUS:** Native

**SIZE/MORPHOLOGY:** Can grow up to 20 m tall (depends on species), spores on outside of fronds, have a tree-like form, rather than woody tissue, there are fibrous masses of roots that support the trunk, leaves typically 4–6 in. long.

**RELATED SPECIES:** *Dicksoniaceae calochlaena*, *Cyatheaceae cyathea*

**NATURAL HISTORY:** Group of around 1,000 species; reproduce by means of their spores: millions of tiny spores scattered by wind and—with luck—land on damp soil; large fronds.

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PLANTS: FERNS

POLYPODYS
(Polypodium)

RANGE: From tropical and subtropical to temperate areas; in Costa Rica, in the rainforests of the Atlantic lowlands (LSBR)

NATIVE STATUS: Native

SIZE/MORPHOLOGY: 10–80 cm or longer, has a foot-like appearance; has rhizomes, leaves, and roots; light green

RELATED SPECIES: Welsh polypodys (Polypodium cambricum), common polypodys (Polypodium virginianum)

NATURAL HISTORY: Genus of 75–100 species; reproduce by spores; spores found under the fertile frond leaflets; does not use seeds.
BULLHORN ACACIA  
(*Acacia cornigera*)

**RANGE:** Mexico and Central America: grows in moist lowland regions (LSBR, ARVL)

**NATIVE STATUS:** Native

**CONSERVATION STATUS:** Not available

**SIZE/MORPHOLOGY:** Has swollen horns at the base of the leaves; can grow to 15 m (50 ft).

**RELATED SPECIES (OR SUBGROUPS):** Pea, bean, legume family (*fabaceae*)

**NATURAL HISTORY:** This tree is a home to many pseudomyrmex ants. These ants make their homes in the thorns of the bullhorn acacia. In return, these ants protect the tree from harmful animals, insects, and humans. This is a form of mutualism (a relationship where both of the organisms benefit). This tree can live up to 30 years. The bullhorn acacia also has flowers that look like corn. The thorns from the bullhorn acacia are used for necklaces, belts, and decorative pins.

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BALSA  
(*Ochroma pyramidale*)

**RANGE:** Mexico, Bolivia, Brazil, and Costa Rica (LSBR)

**NATIVE STATUS:** Native

**CONSERVATION STATUS:** Not available

**SIZE/MORPHOLOGY:** A fast-growing and large tree. Can grow up to 30 m (100 ft) tall.

**RELATED SPECIES (OR SUBGROUPS):** Mallow family (*malvaceae*)

**NATURAL HISTORY:** This tree grows very quickly up to 30 m (90 ft) in 10–15 years. These trees live up to 30 years and in rare cases up to 40. These trees reproduce from the flowers that blossom from their third year and after. These flowers are pollinated by the capuchin monkeys, the kinkajou, and the olingo. Balsa wood is very soft and light, so it can be used for fishing gear, table tennis paddles, surfboards, and the decks of boats.
ALMOND
(Prunus dulcis)

RANGE: Middle East, Southeast Asia, southern Europe, Costa Rica, USA (LSBR)

NATIVE STATUS: Native to Middle East and Southeast Asia; introduced to southern Europe, Costa Rica, and the United States of America

CONSERVATION STATUS: Not available

SIZE/MORPHOLOGY: A deciduous tree. Can grow up to 30 m (100 ft) tall.

RELATED SPECIES (OR SUBGROUPS): Rose family (rosaceae)

NATURAL HISTORY: This tree can live up to 35 years. The tree bears flowers that are white or pale pink in the early spring. These trees are able to reproduce because of these flowers that are pollinated by bees. The fruit that this tree bears is called a drupe, which is another name for almonds. These almonds start to grow after the third year that the tree was planted, but the trees become fully able to grow the almonds after the fifth or sixth year.
MAHOGANY
(Swietenia macrophylla)

RANGE: Found throughout South America; in Costa Rica; tropical forests, either dry or moist

NATIVE STATUS: Native

SIZE/MORPHOLOGY: Can be 40–60 m in height, full-grown trunks are usually about 80 m in circumference; leaves can vary from 35–50 cm.

RELATED SPECIES: Caribbean mahogany (Swietenia mahogani), Honduran or Pacific coast mahogany (Swietenia humilis), Venezuelan mahogany (Swietenia candollei)

NATURAL HISTORY: The flaky bark of the mahogany smells sweet. Its flowers are white and its fruit is gray to brown. The population of the mahogany has gone down 70% in the last 60–65 years. The species has been determined commercially extinct (too few species to make a profit) in El Salvador and Costa Rica.

TEAK
(Tectona grandis)

RANGE: Southeast Asia, Africa, and Latin America; in Costa Rica, in wet or dry forests with a 3–5 month dry season

NATIVE STATUS: Native

SIZE/MORPHOLOGY: Hardwood tree that can grow up to 40 m tall; leaves are 15–45 cm in length and 8–23 cm in width; have grayish-brown wood; leaves are oval-elliptical shaped; small white flowers bloom in the summer.

RELATED SPECIES: Tectona hamiltoninana, Tectona philippinensis

NATURAL HISTORY: The tree has small, white flowers. When cut, the wood smells like leather. Teak leaves are fuzzy or hairy on their underside. Teak is resistant to termites. Loses its leaves every year during the dry season; often lives to an age of 100 years; its white, papery flowers are fragrant and hairy at the bottom.
GUANACASTE
(Enterolobium cyclocarpum)

RANGE: Southern North America to Central America; in Costa Rica, most areas

NATIVE STATUS: Native

SIZE/MORPHOLOGY: Medium-sized tree that grows to 25–35 m tall; trunks are over 1 m in diameter; have grayish to reddish-brown bark; when growing by itself, often has large low horizontal branches.

RELATED SPECIES: Harino (Enterolobium schomburgkii)

NATURAL HISTORY: Light-gray bark, broadened crown, seed pods are believed to resemble the ear, hence the nickname “Elephant Ear” tree. They are primarily used for shade at coffee plantations and for cattle. Tolerant to wide rainfall levels; thrive at low elevations; grow large, glossy, dark brown pods/fruit; it takes a long time for fruit to mature, sometimes up to nine months; seeds fall at the beginning of rainy season so that they have time to grow before the start of the dry season; seeds are dispensed from large seed pods; flowers pollinated by bees; widely used as shade to shelter coffee plantations.
ANT PIPER
(Piper cenocladum)

RANGE: Wetlands of Central America

NATIVE STATUS: Native

SIZE/MORPHOLOGY: A small understory shrub, 1–3 m, with big green leaves that often have ants or food on them. Its brown follow petioles provide homes for ants. They bloom in January and July.

RELATED SPECIES (OR SUBGROUPS): Betel (Piper betle)

NATURAL HISTORY: Grows in dim, shady, and swampy areas. It provides a home for ants and ants provide food for the plant with their waste and pollinate and spread its seeds. The ants also protect the plant from caterpillars, beetles, and fungi. The ants nurse the seeds and feed them too.

SENSITIVE PLANT
(Mimosa pudica)

RANGE: South America to Central America, Tanzania, South Asia, Australia (ARVL)

NATIVE STATUS: Native

SIZE/MORPHOLOGY: 5 ft; young plants have erect stems; stems droop with age. They have prickly petioles, bipinnately compound, 10–20 leaflets, pink purple flowers in mid-summer; the flowers then break into 2–5 pieces and give 3–4 seeds 2.2 mm long with hard shells to prevent germination. They are fern-like and close up to the touch. Produce red-yellow fruits.

RELATED SPECIES (OR SUBGROUPS): Giant sensitive tree (Mimosa pigra)

NATURAL HISTORY: Grew naturally in North through South America and was transported to other places. This plant grows invasively and is now considered a weed in most places. It drops a fruit and seeds, and after 90 days grows to maturity; closes when touched or shaken to scare away predators.
PLANTS: SHRUBS AND SMALL TREES

HOT LIPS PLANT
(Psychotria poeppigiana)

RANGE: Caribbean lowlands and the wetlands of Central America (LSBR)

NATIVE STATUS: Native

SIZE/MORPHOLOGY: Grows a little higher than 1 m. It has waxy big green leaves and two bright red bracts that look like a pair of made-up lips. These are actually there to attract pollinators like hummingbirds. A yellow five-leaved flower comes out of the center.

RELATED SPECIES (OR SUBGROUPS): Psychotria ipecacuanha, Psychotria acuminate

NATURAL HISTORY: This plant is part of the coffee family. The “lips” attract both straight and curve-billed hummingbirds because they do not need to stick their bill in too deep into the flower. The hummingbirds pollinate the plant. After the flower blooms, sometimes there are bright blue blueberry-like fruits that form.
**PAPAYA**  
*(Carica papaya)*  

**RANGE:** In most tropical countries/regions; in Costa Rica, found in rain forests and grown in private areas (ARVL, LSBR)  

**NATIVE STATUS:** Native  

**SIZE/MORPHOLOGY:** Can be up to 30 ft tall; has a hollow green/purple stem; leaves are spirally arranged; leaves vary from 1 to 2 ft wide, and have prominent yellowish veins; small, funnel-shaped flowers, five cream-white to yellow-orange petals; fruits are oval to round, 6 to 20 in. long (semi-wild plants have miniature fruits), skin is waxy and tough, first green then ripens light/deep yellow on the outside, on the inside is yellow, orange, salmon, or red; seeds are black and about 5 mm long.  

**RELATED SPECIES:** Jarilla (*Jarilla chocola*)  

**NATURAL HISTORY:** Obtains energy through photosynthesis; flowers and fruit attract animals and insects and they help in the process of pollination; animals are also attracted to the taste of the fruit, which helps in the process of seed dispersion where the seeds are dropped onto the soil, germination occurs, and a new plant can grow. The leaves of the plant have a waxy covering to protect against water loss. They have tiny openings called stomata that open and close to allow gas exchange.

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**BANANA**  
*(genus Musa)*  

**RANGE:** Cultivated in all tropical areas of the world; throughout Costa Rica, from sea level to 1200 m, in garden plots, large plantations, and wet lowlands (ARVL, LSBR)  

**NATIVE STATUS:** Invasive introduced  

**SIZE/MORPHOLOGY:** 3–5 m tall; stem is about 25 cm wide; leaves are spirally arranged; the stalk is 60–90 cm long and is a waxy pale green color; flowers are white or yellow; fruit is fleshy, yellow when mature, and edible.  

**RELATED SPECIES:** Scarlet banana (*Musa coccinea*)  

**NATURAL HISTORY:** Obtain energy through photosynthesis. In wild species of bananas once the flower grows it is pollinated by insects, bats, or hummingbirds; fertilization ensures formation of fruit; fruits swell and ripen; after a stem produces a flower, it slowly dies and rots to the ground; seeds go into soil, germination occurs, and a new plant grows. In modern hybrids: an underground root-like stem (rhizome) grows and multiplies; stems grow flowers if they are pollinated or not, they don’t have seed-making compartments, no seeds; after the stem dies, the rhizome sends up a new stem; it keeps on replacing itself.
Plants: CRoP Plants

**Cacao**

*(Theobroma cacao)*

**Range:** The tropical belt; areas that are either 20° latitude north or south of the Equator; in Costa Rica, in the lowland tropical forests in the understory, sea level to 600 m (LSBR, ARVL)

**Native Status:** Native

**Size/Morphology:** Can be up to 12 m tall; leaves are dark green, shiny, egg-shaped, and 20–35 cm long, 7–8 cm wide; pod is egg-shaped, green while immature, yellow, orange, red, or purple when ripe, 5 to 10 longitudinal ridges; pod contains 20–60 reddish-brown beans, usually arranged in five rows.

**Related Species:** Jaguar tree (*Theobroma bicolor*)

**Natural History:** Obtains energy through photosynthesis; pollinated by midges; six months after fertilization, large pod-like fruits develop. Produces flowers right on the main trunk of the tree. This adaptation, called cauliflory, holds the fruits closer to the ground where the animals that disperse their seeds are most active.
COFFEE
(genus Coffea)

**RANGE:** Grows best at higher elevations, tropics, Africa, Asia, Costa Rica, Colombia, Brazil, Hawaii (LSBR, ARVL)

**NATIVE STATUS:** Introduced

**SIZE/MORPHOLOGY:** Shrub or tree grows to 10–33 ft; produces small, oval, red or purple fruit called “cherry”; inside are one to two seeds or “coffee beans”; seeds white or yellow, turn dark brown when roasted; coffee flower is small, white, very fragrant.

**RELATED SPECIES:** Coffea arabica, robusta coffee (Coffea canephora)

**NATURAL HISTORY:** Coffee beans contain caffeine; protects plant from toxic substances; coffee is food for larvae of some species of moth and butterflies; coffee plant grows best in high elevations with rich soil; unable to grow in freezing temperatures; plants can produce for 50–60 years; fruit takes nine months to ripen.

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GUAVA
(Psidium guajava)

**RANGE:** Tropics, subtropics, Brazil, Mexico, Central and South America, Florida, Costa Rica (ARVL)

**NATIVE STATUS:** Invasive

**SIZE/MORPHOLOGY:** Round or oval, rough, green skin, white or pink pulp, tastes sweet, approximately 2–5 in. long.

**RELATED SPECIES:** Cattley (Psidium cattleianum), cas (Psidium friedrichsthalium)

**NATURAL HISTORY:** Guava fruit grows on trees and shrubs in rainforest; contains many vitamins and antioxidants; food for caterpillars, moths, and birds; seeds planted by droppings of animals that have consumed the pulp; has become very rare due to habitat destruction.
MANGO
(Mangifera indica)

RANGE: Tropical regions; South Asia, India, Costa Rica, Africa (LSBR, ARVL)

NATIVE STATUS: Introduced

SIZE/MORPHOLOGY: oval; can be up to 10 in. long; colors range from green to orange and red; pulp is juicy, sweet, and yellow/orange; large pit in the center; fruit grows on mid-sized evergreen tree; large 15–20 cm leaves, range from purple and brown to dark green; flowers are small, white-pink.

RELATED SPECIES: Horse mango (Mangifera foetida), malaysian mango (Mangifera caesia)

NATURAL HISTORY: Mangoes and flowers grow on evergreen tree; mango tree approximately 40 ft; native to India; mangoes introduced to many countries; fruit consumed by herbivores like monkeys and insects such as caterpillars, as well as by humans.
BLUE MORPHO BUTTERFLY  
(Morpho menelaus)

**RANGE:** Southern Mexico to Central America, northern South America; in Costa Rica, most common in the tropical forests near the forest floor (LSBR, ARVL)

**NATIVE STATUS:** Native

**CONSERVATION STATUS:** Not threatened

**SIZE/MORPHOLOGY:** Typical wingspan about 5–8 in; wings are bright blue with black edges on the dorsal side and brown with false eye spots on the ventral side; males’ wings are broader and brighter than females’.

**RELATED SPECIES:** Sunset morpho butterfly (Morpho hecuba), banded blue morpho (Morpho achilles)

**NATURAL HISTORY:** Lives about 115 days; caterpillar is brown and yellow-green, metamorphosis into an adult butterfly; sip fruit juice, tree sap, fungi, and wet mud; found in the forest floor but fly through all layers while looking for mates.

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GLASSWING BUTTERFLY  
(Greta oto)

**RANGE:** Mexico to Panama; in Costa Rica, most common in the lowlands to 1500 m on the Pacific side, rarely at 200 m on the Atlantic side, found in virtually all habitats (LSBR)

**NATIVE STATUS:** Migrant

**CONSERVATION STATUS:** Not threatened

**SIZE/MORPHOLOGY:** Typical wingspan is about 56–58 mm and forewing length is 27–31 mm; dorsal and ventral sides are clear with a dark border; been called “espejitos” (little mirrors); similar male and female color and structure, but males have a patch of small hairs located on the hind wing.

**RELATED SPECIES:** Oleria paula, Ithomia patilla

**NATURAL HISTORY:** Lives up to two weeks as an adult, but sometimes longer; caterpillar is white with lines of dark and yellow spots; metamorphosis into adult butterfly; feed on species of cestrum; males travel to the shady parts of the forest to attract the females; use sense of smell to find a mate.
ZEBRA LONGWING BUTTERFLY
(Heliconius charitonia)

RANGE: South America, Central America, the West Indies, and parts of North America; in Costa Rica, found mostly in the hammocks and forests (LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Not threatened

SIZE/MORPHOLOGY: Typical wingspan about 72–100 mm; wings are long and black with thin light yellow stripes on the dorsal side; same except paler with red dots on the ventral side; similar male and female structure.

RELATED SPECIES: Papilio charithonia; Heliconius charithonius

NATURAL HISTORY: Lives up to six months as an adult; caterpillar is white with black spots, spikes, and a yellow head, metamorphosis into adult butterfly; caterpillars eat leaves of passion flowers that make them poisonous to predators; collect pollen through proboscis and sip nectar; found in the tropical hammocks and moist forests; fly in groups of about 70.
**BULLET ANT**  
*(Paraponera clavata)*

**RANGE:** From Nicaragua down to the Amazon; in Costa Rica, found in tropical forests, mostly found on tree trunks near the ground, but are all over the forest (LSBR)

**NATIVE STATUS:** Native to Costa Rica

**CONSERVATION STATUS:** Unknown

**SIZE/MORPHOLOGY:** Long and narrow body; has a rounded head, narrow abdomen and a narrow thorax connecting them; red-brown to dark-brown in color; light-colored hairs, hairier than most other ants; can reach up to 2.5 cm long; males have a narrower head and a lighter color. Queens are just a bit bigger than female workers.

**RELATED SPECIES:** *Paraponera dieteri*

**NATURAL HISTORY:** Live in colonies; most nests are in the ground with entrances between tree roots; workers guard the entrances; look for food alone from dusk to dawn; reproduction depends on the queen who lays eggs to populate the colony; they are aggressive, they defend their nests, and sometimes they fall from branches and attack when threatened.

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**BULLHORN ACACIA ANT**  
*(Pseudomyrmex spinicola)*

**RANGE:** Southern Mexico to Columbia; in Costa Rica, found in the rainforest on and around the bullhorn acacia tree (*acacia cornigera*) (LSBR, ARVL)

**NATIVE STATUS:** Native to Costa Rica

**CONSERVATION STATUS:** Unknown

**SIZE/MORPHOLOGY:** Workers are yellow, orange, or brown; have slender bodies with big eyes, more than one and a half times as long as wide; they have a well-developed sting.

**RELATED SPECIES:** Mexican twig ant (*Pseudomyrmex pallidus*)

**NATURAL HISTORY:** Bullhorn acacia ants have developed a mutual agreement with the Bullhorn Acacia plant. The ants live in the hollowed-out thorns of the tree, eat protein-rich Beltian bodies (small orange and yellow waxy structures modified from the tips of the leaves) that the plant provides. They also eat the nectar from the glands of the leaves. In return, the ants protect the plant from invading plants and animals. They are very aggressive. The colony is active 24 hours a day.
LEAF CUTTER ANT
(Atta cephalotes)

RANGE: Central and South America and parts of southern North America; found throughout Costa Rica in many forests and agricultural situations, in humid areas below 2,000 m in elevation (ARVL, LSBR)

NATIVE STATUS: Native to Costa Rica

CONSERVATION STATUS: Unknown

SIZE/MORPHOLOGY: Queen is 30 to 40 mm from head to wing tip. Males, or drones, are bigger than soldiers, but not as big as the queen. They have wings. Soldiers, or maximas, are the largest workers. A soldier is reddish in color, has a large heart-shaped head, big mandibles, long legs, and a bristly body. They have massive jaws, a sting, and are 22 mm in length. Media, or workers, are half as big as soldiers, but their mandibles are still visible. They have strong mouthparts driven by large jaw muscles and they are 10 mm long. The smallest ants in the colony are the minima at 2 mm long. They are the darkest in color. They have pointed mandibles, a large head capsule, and a slender body.

RELATED SPECIES: Leaf cutter ant (Atta colombica)

NATURAL HISTORY: Leaf cutter ants live in huge underground nests connected by tunnels. Workers, or media, place leaves in gardens where fungus grows on them. This is their source of food. The minima tend to the fungus gardens and take care of the nest’s developing young. The maximas defend the colony from other insects and vertebrate predators. The queens produce offspring for the colony. They mate in the air with the drones. The drones die soon after this process and the queen removes her wings. She only mates once, but she produces thousands of eggs a day.
LEAF LITTER GECKO
(Lepidoblepharis xanthostigma)

RANGE: Caribbean and Pacific slopes (ARVL, LSBR)

CONSERVATION STATUS: Least concern

NATIVE STATUS: Native

SIZE/MORPHOLOGY: Males and females look the same; light bar on neck bordered by dark brown, lower lip barred with light and dark; tail is dark brown with faint spots; head narrow and pointed; cylindrical tail; velvety skin with scales, dark brown or brownish lavender; head and tail are lighter; chin and throat yellowish with brown dots; up to 4 cm including tail.

RELATED SPECIES (OR SUBGROUPS): Yellow-tailed dwarf gecko (Sphaerodactylus homolepis), spotted dwarf gecko (S. millepunctatus)

NATURAL HISTORY: Low and middle elevation wet forests; found in the leaf litter; eggs take 40–60 days to hatch; eggs laid in terrestrial or arboreal nest; have specialized egg tooth; prey to some snakes and birds; single egg in each clutch; males court females with visual and chemical cues; diet consist of arachnids, isopods, apterygotes, larval dipterans, and mites; skin of lizard tears easily.

EMERALD GLASS FROG
(Centrolene prosoblepon)

RANGE: Caribbean and southern Pacific slopes, Pacific slopes from Honduras to Ecuador, tropical moist forests, along rivers and streams, in vegetation (LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concerned

SIZE/MORPHOLOGY: Male has bone that protrudes from humerus, up to 26.5 mm; female has spur on upper arm (grabs onto opponents during encounters), up to 27 mm; both have dark green dorsum; green bones visible through translucent skin; iris is ivory gray; dark green, black spots, pale green hands.

RELATED SPECIES: Spined glass frog (Cochranella spinosa), Fleischmann’s glass frog (Hyalinobatrachium fleischmanni)

NATURAL HISTORY: Lifespan is 10–14 years; hatch within 8–20 days from the day their egg was laid; hatchlings develop in pools; their bodies elongate and their mouths adapt so they can stick to rocks in streams; later emerge as frogs; stay in humid regions of the Americas and streams in lowland areas; eat mainly insects (coleopterans and orthopterans); males attract mates with their calls; fight other males who invade their territories; breeding occurs during rainy season; female lays eggs on upper surface of a leaf in the male’s territory.
STRAWBERRY POISON DART FROG  
(Dendrobates pumilio)

RANGE: Caribbean slope, low and some middle elevation wet forests, found on ground or low vegetation (LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Up to 2.5 cm (1 in); small, bright red, black flecks; limbs red, green, blue, or black; rare all-blue form.

RELATED SPECIES: Green poison-arrow frog (Dendrobates auratus), lovely poison-dart frog (Phyllobates lugubris)

NATURAL HISTORY: Also known as blue jeans frog; found in humid lowlands; alkaloids in ants contribute to the frog’s toxicity; males call females; females lay eggs and males fertilize them; court by rubbing and touching; a parent guards eggs; hatchling carried on back of parent to pool; develop in pools; females give unfertilized eggs to feed young; poisonous; territorial.
SPECTACLED CAIMAN  
(Caiman crocodilus)

RANGE: Central and South America; in Costa Rica, lives in a range of wetland and riverine habitats (LSBR, ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Males generally 1.8–2 m long, females generally 1.2–1.4 m. Typically has gray-green coloration, high bony ridge between eyes, large flat scales along back; skin pigment turns darker in winter.

RELATED SPECIES: Yacare caiman (Caiman yacare)

NATURAL HISTORY: Males reach maturity at 4–7 years, females lay up to 40 eggs at one time, eat invertebrates, fish, water snails, and small mammals; females have extreme maternal instincts.

AMERICAN CROCODILE  
(Crocodylus acutus)

RANGE: Central America; in Costa Rica, on coastal areas, less commonly in rivers, brackish lakes, lagoons, and small islands (LSBR, ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Vulnerable

SIZE/MORPHOLOGY: Males average 4.1–4.8 m long; females are around 3.8 m; gray-green backs with lighter coloring on undersides; light and dark banding on tails; elongated snout, nostrils, and ears atop head.

RELATED SPECIES: Orinoco crocodile (Crocodylus intermedius)

NATURAL HISTORY: Diet consists of mainly fish, less commonly birds, crabs, turtles, snails, and frogs; females lay up to 70 eggs per nest, which hatch after 75–80 days; generally hunt after nightfall; breed in fall or early winter.
CENTRAL AMERICAN MUD TURTLE
(Kinosternon angustipons)

RANGE: Central America; in Costa Rica, slow-moving rivers or still lakes or ponds (LSBR)

NATIVE STATUS: Endemic

CONSERVATION STATUS: Vulnerable

SIZE/MORPHOLOGY: 10–15 cm; three keels run the length of the shell; two distinct cusps on upper jaws; generally light to dark brown in coloration; females generally bigger than males. Species of mud turtle look very similar perhaps due to interbreeding.

RELATED SPECIES: Common mud turtle (Kinosternon subrubrom)

NATURAL HISTORY: Estivate (go into their shells for long periods of time) in the mud during dry seasons, egg deposition varies between individuals—sometimes placed in nests and sometimes buried. Sightings are rare due to coloration.
EYELASH VIPER
(Bothriechis schlegelii)

RANGE: Central America, northern South America (LSBR, ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Grow to 18–32 in. (45–81 cm) in length, but females are longer than males; color is variable (yellow, green, red, brown, grey with speckled markings); wide, triangular-shaped head; enlarged scales over their eyes that resemble eyelashes.

RELATED SPECIES (OR SUBGROUPS): Side-striped palm pit viper (Bothriechis lateralis)

NATURAL HISTORY: Small, but one of most dangerous venomous snakes in Central America; possess large needle-like fangs that emit a strong toxin; arboreal (found in shrubs, trees, low-lying branches near water); have rough scales to protect against branches; are nocturnal, hunting after dusk; sit on branch and wait to ambush prey, then inject with venom and swallow; eat frogs, lizards, birds, small mammals; use their sense of smell to find mates; young either hatch out of egg, then “born” or hatch after mother “lays” eggs.

JESUS CHRIST LIZARD, COMMON BASILISK
(Basiliscus basiliscus)

RANGE: Central and northern South America (LSBR, ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Not threatened

SIZE/MORPHOLOGY: Adult basilisks are 28–32 in. long; tails amount to 70–75% of total length; both males and females are brown to olive in color; have whitish stripe on upper lip and another stripe on either side of body; possess high finlike crests down back, long toes, and sharp claws; males also have crests on head and tail and a colored dewlap.

RELATED SPECIES (OR SUBGROUPS): Green basilisk, also known as plumed basilisk (Basiliscus plumifrons)

NATURAL HISTORY: Make habitat along bodies of water; get their name because when threatened, “walk” on water; younger basilisks can run for longer distances (10–20 m), while adults can only run about 4.5 m before sinking; once they sink, swim away from predator; females lay eggs in a shallow trench, and eggs left to hatch alone.
GREEN IGUANA
(Iguana iguana)

RANGE: Southern Mexico, Central America, and most of South America (LSBR, ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Threatened

SIZE/MORPHOLOGY: Reach up to 6.5 ft in length; males are larger than females; can be green, gray-brown; females and young males are brighter green; row of spines along its back and tail; scaly beard or “dewlap” under its chin; long tail.

RELATED SPECIES (OR SUBGROUPS): Lesser Antillean iguana (Iguana delicatissima)

NATURAL HISTORY: Mostly stays high in canopy; usually near water so if threatened, can leap into water; becomes reproductive at 3–4 years of age; both males and females pair with multiple mates; females can store sperm for several years after mating, using it to fertilize eggs later; incubation takes 90 to 120 days; due to brownish-green color, camouflages well into trees.
ROADSIDE HAWK  
*(Buteo magnirostris)*

**RANGE:** From northern Mexico to southern Argentina; in Costa Rica, they can be found in the lowlands at the edges of most forests.

**NATIVE STATUS:** Native  
**CONSERVATION STATUS:** Least concern  
**SIZE/MORPHOLOGY:** Wingspan is about 72.6 cm and length is about 33.02–40.64 cm. The wings are a dark brown and the body and head of the bird is light beige.  
**RELATED SPECIES (OR SUBGROUPS):** Broad-winged hawk *(Buteo platypterus)*, red-shouldered hawk *(Buteo lineatus)*, and copper’s hawk *(Accipiter cooperii)*  
**NATURAL HISTORY:** The roadside hawk does not fly very much. It eats a variety of small animals, including large insects, small mammals, rodents, birds, lizards, snakes, and small fish. The roadside hawk searches for prey from low branches or short trees. Once spotted, the prey is caught by surprise as the roadside hawk swoops from above. Sometimes they will use fire to catch their prey. They will corner the animal against a wall of flame, and then take it to a nearby tree to eat.

CRESTED CARACARA  
*(Polyborus plancus)*

**RANGE:** Florida, Arizona, Texas, Cuba, Isle of Pines; in Costa Rica, they are found in dry forests and savannah habitats  
**NATIVE STATUS:** Native  
**CONSERVATION STATUS:** Near threatened  
**SIZE/MORPHOLOGY:** The crested caracara has a 1.2 m wingspan and is 51–56 cm in length. They have long yellow legs and a bare throat and cheeks that are red. The wings, back, and underparts of the crested caracara are dark brown.  
**RELATED SPECIES (OR SUBGROUPS):** Northern caracara *(Caracara cheriway)*, southern caracara *(Caracara plancus)*  
**NATURAL HISTORY:** Eats carrion, birds, reptiles, and amphibians. They are expected to live about 37.6 years in captivity and about 17.7 years in their natural habitat. Eggs are laid in groups of 2–3 within 3 days of each other.
ANIMALS: BIRDS I

TURKEY VULTURE
(Cathartes aura)

RANGE: North America (excluding northern Canada), Central America, and South America; in Costa Rica, found in tropical forests in both open and wooded areas

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Wingspan of 1.8 m, 75 cm in length, female is slightly larger than male; dark plumage, white beak and legs, red heads (immature birds have black heads) covered with white bumps or spots.

RELATED SPECIES: Lesser yellow-headed vulture (Cathartes burrovianus), greater yellow-headed vulture (Cathartes melambrotus), American black vulture (Coragyps atratus), king vulture (Sarcoramphus papa), California condor (Gymnogyps californianus), Andean condor (Vultur gryphus)

NATURAL HISTORY: In the wild, the life expectancy of the turkey vulture is 16 years; in captivity, it can live up to 30 years; uses accurate sense of smell to locate carrion; eats mostly carrion; lives in crude nests; eggs are lain in groups of 2–3, they are white with small brown spots, hatching occurs in 5–6 weeks.
**MEALY PARROT**  
*Amazon farinosa*

**RANGE:** Southern Mexico to northern Bolivia, southeastern Brazil, and western Ecuador (ARVL)

**NATIVE STATUS:** Native

**CONSERVATION STATUS:** Least concern

**SIZE/MORPHOLOGY:** 38–40 cm in length; less vibrant than other parrots, powdery appearance, mostly green with a crown of blue and violet feathers on head; few spots of red, yellow, and blue; white featherless ring around eye; gray-brown beak; distinct green-yellowish tail; young are same but iris brown; males and females are monomorphic.

**RELATED SPECIES:** Yellow-crowned Amazon (*Amazona orchocephala*)

**NATURAL HISTORY:** Found in dense humid lowland rainforests but also wooded areas in savannas; prefers forested areas; generally keeps to canopy but sometimes descends to middle levels or understory to feed; travels in pairs or flocks (10–20) outside the breeding season; during breeding season, communal flocks can contain up to 100; noisy when flying, silent while eating; eats fruits, seeds of palms, figs, brosimum, various green legume pods, and some buds and flowers; nests in natural cavities, often dead wood; usually three eggs per season; four weeks’ time to hatch.

**ORANGE-FRONTED PARAKEET**  
*Anatinga canicularis*

**RANGE:** Western Mexico to Costa Rica (ARVL)

**NATIVE STATUS:** Native

**CONSERVATION STATUS:** Least concern

**SIZE/MORPHOLOGY:** Medium-sized; long-tailed; adults are mostly green, but paler and yellower below; breast tinged with olive; wing linings are yellowish-olive; regimes mostly blue; tail tipped with blue; orange forehead; dull blue crown; iris yellow eye-ring; whitish to pale horn; feet are dull grayish; young are similar, but orange of forehead is less extensive.

**RELATED SPECIES:** Pacific parakeet (*Aratinga strenua*)

**NATURAL HISTORY:** Frequently found in savannas with scattered trees, second growth and forest edge, as well as canopy of deciduous and evergreen forest; usually in flocks of 30 birds outside of breeding season, up to 100 in breeding season; nomadic outside breeding season; eats fruits and nuts; sometimes a pest to crops; nests in a cavity in an arboreal termite nest that they excavate themselves, but sometimes uses old woodpecker holes and natural cavities; lays three to five eggs.
SCARLET MACAW
(Ara macao)

RANGE: Southern Mexico to South America (ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concerned

SIZE/MORPHOLOGY: Brightly colored: scarlet on head and shoulders, yellow on back and mid-wing feathers, blue on wing tips and tail feathers, short white feathers on face, light yellow eyes; young are similar, but iris brown; black feet and legs; long thick beak, light brown on top, dark black on bottom, longer for males; body length of 89 cm, tail is 1/3–1/2 of body; long pointed tail.

RELATED SPECIES: Red-and-green macaw (Ara chloropterus)

NATURAL HISTORY: Average life span of 75 years in captivity, 40–50 years in the wild; forms monogamous pair that bonds for life; two to four white eggs; young stays with parents for one to two years; tends to gather in flocks to sleep, nests in hollowed-out trees; excellent vision and hearing; eats fruit and nuts but sometimes nectar and flowers, can eat premature fruit and tough nuts due to large beak; is prey to monkeys, toucans, snakes, and other large mammals; predator to large tree fruits; influences the generation of forest tree species.
ANIMALS: BIRDS III

COLLARED ARACARI
(Pteroglossus torquatus)

RANGE: Southern Mexico to Panama, Ecuador, Colombia, Venezuela, and Costa Rica, not above elevations of 1,500 m (LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: The adults are typically 39–41 cm long and weigh 230 g. Female and male are alike in appearance except that the female has a slightly shorter bill. Otherwise, both have a long tail, short and rounded wings, a black head and chest, green legs, and a red collar around the neck. The upper mandible is dull yellow with a black tip and pattern around the cutting edge. The lower mandible is black.

RELATED SPECIES (OR SUBGROUPS):
Fiery-billed aracari (Pteroglossus frantzii), chestnut-eared aracari (Pteroglossus castanotis), black-necked aracari (Pteroglossus aracari), many-banded aracari (Pteroglossus pluricinctus)

NATURAL HISTORY: Born blind with no feathers, fly in flocks of 6–15 birds, and their diet primarily consists of fruits. Many consume eggs, insects, lizards, and other small prey. They roost in woodpecker holes or natural cavities from 6–30 m off the ground. This species breeds once a year from January to May, with three eggs per clutch. Parents incubate eggs for approximately 16 days. Both parents feed offspring. After six weeks, offspring are prepared to leave the nest. Collared aracari are endothermic (they generate heat to regulate their body temperature), homoeothermic (they maintain their body temperature at a constant level), and have bilateral symmetry (their bodies are symmetrical). Their approximate lifespan is 20 years. Collared aracari disperse seeds to benefit the ecosystem.
CHESTNUT-MANDIBLED TOUCAN
(Ramphastos swainsonii)

RANGE: Central America to northwestern coast of South America (LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Sexes are separate—male is about 56 cm long, while female is about 52 cm long. Both weigh from 1.3 to 1.6 lbs. Males and females are alike in appearance, each has a black/maroon streak at the top of their head, and they have a maroon upper back and lower breast. The face and upper breast are bright yellow, the upper tail is white, the lower abdomen is red, and the legs of the toucan are blue. Both sexes have a long bill, which is diagonally split in color, with bright yellow on top to the tip, and maroon on the bottom. A thick, bright green/yellow border surrounds the olive iris of the eye.

RELATED SPECIES (OR SUBGROUPS): Black-mandibled toucan (Ramphastos ambiguous), black-banded barbet (Megalaima javensis), great barbet (Megalaima virens)

NATURAL HISTORY: Move smoothly in pairs or in flocks of 3–12. They prefer to stay in the trees during the hottest parts of the day and become active around sunset. These toucans are chemical (communication by smells and chemicals), acoustic (communication by sound), tactile (communication by touch), and visual (communication by sight). Their diet primarily consists of fruits. Breeding season is from April to early June; in this time 2–4 offspring are produced. Incubation lasts from 17–19 days, while the fledging period is 5–6 weeks. Offspring are able to feed themselves at nine weeks of age. Toucans disperse seeds to help the ecosystem.
EMERALD TOUCANET  
(Aulacorhynchus prasinus)

RANGE: Eastern coast of Central America and South America (ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Sexes are alike in appearance, but they are different in size. The male is slightly larger than the female, but they are both about 30–33 cm. A male typically weighs 5.7 oz, while a female weighs 5.3 oz. Males and females are covered mostly in a vibrant, light-green color. The vent and tail of the toucanet is rusty red or brown. The upper mandible of the bill is bright yellow, and the lower mandible of the bill is black with a white band around the base. The color of the throat varies depending on the group. The throat can be white, grey, blue, or black. Blue or red rings border a dark iris. The legs of the bird are dark grey.

RELATED SPECIES (OR SUBGROUPS): It is being debated whether the emerald should be broken up into seven species (including the emerald toucanet), the species being (not including the emerald toucanet), Wagler’s toucanet (Aulacorhynchus wagleri), blue-throated toucanet (Aulacorhynchus caeruleogularis), violet-throated/Nelson’s toucanet (Aulacorhynchus cognatus), Santa Marta toucanet (Aulacorhynchus laitus), north Andean toucanet (Aulacorhynchus albivitta), black-throated/Peruvian toucanet (Aulacorhynchus atrogularis)

NATURAL HISTORY: Small flocks of 5–10 fly together, following one leader. They are endothermic, meaning that they independently generate heat to maintain their temperature. Birds mate March to July, depending on weather. The female produces three to four white eggs, which are incubated for 16 days. Both parents help to feed the offspring, but only one is present each time. The offspring are blind for 16 days and may not gain sight for 27 days. Feathers do not fully develop for 35 days. After 40 days, the offspring leave the nest, nearly undeveloped, and feeding primarily ceases. They live approximately 10 years in the wild and 12–14 years in captivity.
SUNBITTERN
(Eurypyga helias)

RANGE: Central and South America, southern and western Ecuador, Caribbean, west of Andes; riparian areas, near streams

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: 18–21 inches in length and 6.3–7.8 ounces in weight. They are usually grey and brown with skinny black stripes on the feathers. When they spread their wings, a magnificent spread of red, yellow, and black eyespots are shown, like a “sunburst,” therefore the name sunbittern. The feathers are mainly used to scare off predators, but also for courtship. They have a long pointed bill used to spear their prey, red eyes, and red and orange feet. The birds west of the Andes have orange-yellow feet; the ones in Central America have red feet. Sunbitterns are not sexually dimorphic, the males and females will be similar.

RELATED SPECIES (OR SUBGROUPS):
Kagu (Rhynochetos jubatus)

NATURAL HISTORY: Lifespan is about 15 years. Their population is global but not evenly distributed. They are usually alone when not breeding. Usually have two to three eggs, incubation lasts for 27–28 days. Both parents build nest and feed young. They eat fish, amphibians, insects, and sometimes crustaceans.
RINGED KINGFISHER
(Megaceryle torquata)

RANGE: Most of South America (except for the west coast), a little of Mexico, Central America, usually 900 m in elevation (ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: 40–41 cm long, and 290 g in weight. Ringed kingfishers have reverse sexual dimorphism. The males have a red breast and belly, a white collar, and a blue-gray plumage and crest. Females have a blue-gray breast and a red belly with a white strip separating the two colors, their plumage is also blue-gray.

RELATED SPECIES (OR SUBGROUPS): Belted kingfisher (Megaceryle alcyon), green kingfisher (Chloroceryle americana)

NATURAL HISTORY: Their lifespan is about 15 years. They hunt in fresh or saltwater for fish, crustaceans, and berries. They will perch on a very high perch and dive into the water, catching things much bigger than they are sometimes, and return immediately to their perch. They do not hover over the water like other birds. Ringed kingfishers are solitary when not breeding. When they do breed, they build a burrow for nesting in a sand bank near a river. The female lays about three to six eggs, both parents incubate and feed. In Costa Rica, they nest between January and March. The birds leave the nest after 35–38 days. They are very vocal.
ANIMALS: BIRDS IV

RESPLendent QUetzAL
(Pharomachrus mocinno)

RANGE: Southern Mexico to Panama, Central America; they live in the cloud forests (ARVL, LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Near threatened

SIZE/MORPHOLOGY: 36–40 cm, males have 65 cm of tail plumage and weigh 210 g. These birds are sexually dimorphic; the males have a green crest, a red breast, long gold, green, blue, and violet feathers, very long tail feathers, and a yellow beak. Females do not have a crest, their feathers are dull green, and they have a pale green yellow breast, a short tail with black and white stripes, and a dark beak.

RELATED SPECIES (OR SUBGROUPS):
White-tipped quetzal (Pharomachrus fulgidus), javan trogon (Apalharpactes reinwardtii)

NATURAL HISTORY: Lifespan is 3–10 years, was unknown before because until now, it was impossible to raise a resplendent quetzal in captivity because it would kill itself. They became a symbol of liberty. Usually they are cautious and wary. They are mainly frugivorous, but occasionally will eat insects and lizards, especially for their young. Birds will mate when fruit and prey is abundant. They carve a nest in a decaying tree. Females lay two eggs and the males and females take turns feeding and incubating. The chicks are born with shut eyes, no downy feathers, and there is a high chick mortality. Females have been observed to feed and incubate less and less until they completely abandon the nest. They are usually alone when not breeding.
ANIMALS: MAMMALS I

COMMON VAMPIRE BAT
(Desmodus rotundus)

RANGE: Most of South America, Central America (Costa Rica), and southern Mexico; warm climates, tropical, terrestrial (LSBR, ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE AND MORPHOLOGY: Averages about 9 cm with a wingspan of 18 cm; has a “leaf nose”; nose appears swollen; ears are pointy; dark fur on its back with silvery gray fur on its underside; large clawed thumb on each wing; strong hind legs to climb prey; has no tail; rostrum (beak) is reduced to accommodate large and very sharp teeth; two lateral grooves in tongue that contract as bat feeds; females tend to be larger than males.

RELATED SPECIES: Hairy-legged vampire bat (Diphylla ecaudata)

NATURAL HISTORY: Nocturnal; sleep and live in colonies of about 100 bats; live in hollow trees and caves; jumps to take flight from a horizontal surface; heat sensor on its nose to point to where blood is flowing right under victim’s skin; feed entirely on blood; feed by making a small incision and lap up blood; males compete for space in roosting places containing females; mating behavior begins with a male climbing onto a female’s back, grasping her folded wings with his wings, and holding the back of her neck in his mouth, this lasts three to four minutes; most females have one pregnancy per year.
SHORT-TAILED FRUIT BAT
(Carollia perspicillata)

RANGE: Central and South America, southern Mexico to Bolivia, Paraguay, and southeast Brazil, Costa Rica; humid tropical forests (ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Wingspan of about 14 in; weighs about 15 g; bilateral symmetry (equivalent right and left sides); pointy ears; long pointed nose; grayish-brown fur.

RELATED SPECIES: Sowell’s short tailed bat (Carollia sowelli)

NATURAL HISTORY: Fruit is their main resource, turn to insects, pollen, and nectar during seasons of low fruit availability; live in colonies of dozens to hundreds of bats in caves or hollow trees; nocturnal; leave roost to search for fruit in understory; bats have a high metabolism to be able to excrete seeds from fruits fast, which will eventually help the forest regrow; reproduce soon after first birthday; most live fewer than five years; males cannot reproduce until they gain access to a harem or a bunch of female bats; use touch and smells or chemicals to communicate.
ANIMALS: MAMMALS I

GREATER FISHING BAT, GREATER BULLDOG BAT
(Noctilio leporinus)

RANGE: Mexico to the Guianas, Suriname, Brazil, northern Argentina, Paraguay, Bolivia, Ecuador, and Peru; Trinidad; Greater and Lesser Antilles; southern Bahamas, Costa Rica; moist forests near streams (LSBR)

NATIVE SPECIES: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Produce an oily fluid from a gland under the wings; males are 78 g, females are 60 g; males have reddish to brownish fur while females have slightly gray or dull-brown fur; fur is extremely short; pointed muzzle; lips are large and swollen; cheeks are elastic to be able to expand; long hind legs to hold fish; long talons to grab prey; pale lines running across back; males are larger than females, sexes are differently colored.

RELATED SPECIES: Lesser bulldog bat (Noctilio albiventris)

NATURAL HISTORY: Eat aquatic insects as well as fish; roost near streams or moist places in hollow trees and caves; live in colonies of larger than 30 bats; within roosts, there are smaller groupings containing two to nine adult females and one adult male, this resident male copulates with females in his group; females bear a single bat every pregnancy; pregnancies occur from September to January; nocturnal; use echolocation to detect ripples in water made by fish; members of the same roosting group coat one another with the odiferous secretions for individual identification, as well as to communicate reproductive readiness.
WHITE-FACED CAPUCHIN
(Cebus capucinus)

RANGE: Central America, Europe, South America, Caribbean coast, Pacific Northwest, and Costa Rica; wet lowland forests and deciduous dry forests (ARVL, LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Not threatened, least concern

SIZE/MORPHOLOGY: Dorsum is black (solid), upper chest is white, forearms white, and face white with black “cap on head”; males weigh 3–4 kg and females weigh 2–3 kg; male is larger than the female (sexual dimorphism).

RELATED SPECIES: Howler monkey (Alouatta palliata), spider monkey (Ateles geoffroyi)

NATURAL HISTORY: Lifespan in captivity can be up to 55 years. Lifespan in the wild can be up to 30 years. Females become sexually mature at 4 years but don’t reproduce until 7, and males become sexually mature at 7–10 years. Mating season is from January to April. Eat eggs, fruit, insects, lizards, and oysters. Active during the day and dormant at night. These monkeys are very social.

MANTLED HOWLER MONKEY
(Alouatta palliata)

RANGE: Central America, Costa Rica, southern Mexico, Honduras, Columbia, southern Guatemala; lowland rainforests (ARVL, LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Endangered

SIZE/MORPHOLOGY: Large and stocky, black to fur with golden brown spots, face black and bearded, tail has naked spot at base, adults weigh 4–5 kg; male is larger than female (sexual dimorphism).

RELATED SPECIES: White-faced capuchin (Cebus capucinus), spider monkey (Ateles geoffroyi)

NATURAL HISTORY: Average life span in the wild is 20–25 years. These monkeys are very energetic. They are always looking for food and stay within their groups. Females become sexually mature at the age of three. Males become sexually mature at the age of three and a half years. The mating season is year-round for these monkeys. Eat mostly leaves, fruit, and flowers. Rarely set foot on the ground. Don’t stand under a family—they might pee as a way to keep unwanted visitors away.
CENTRAL AMERICAN SPIDER MONKEY

(Ateles geoffroyi)

RANGE: Central America, Costa Rica, coasts of Mexico from Tamaulipas to Jalisco, and Colombia; canopy rainforests and forests (ARVL, LSBR)

NATIVE STATUS: Native

CONSERVATION STATUS: Endangered

SIZE/MORPHOLOGY: Extremely long limbs and tail, with a small head. Blackish-brown or reddish upper fur, and face is masked with a section of uncolored skin. Upper parts of the arms and legs are darker than the lower parts. Average weight for an adult is 9–11 kg. Males are larger than females (sexual dimorphism).

RELATED SPECIES: White-faced capuchin (Cebus capucinus), howler monkey (Alouatta palliate)

NATURAL HISTORY: The average life span is 46–48 years. These monkeys are very social and stick in groups of 30. In rare cases, groups can go up to 100 monkeys. Females become sexually mature at the age of four and males at the age of five. The average number of offspring is one. Mating season only lasts two to three days for these monkeys. They eat fruits and sometimes flowers and leaves. Some of these spider monkeys eat nuts, seeds, insects, and eggs. These monkeys will “bark” when they feel threatened.
NORTHERN TAMANDUA  
(Tamandua mexicana)

RANGE: Neotropical; Central America (includes Costa Rica), South America, and Mexico, (LSBR, ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Full body length approximately 3–4 ft; pale brown coat with black “V” going down back; long, narrow head, with small eyes and mouth; tongue can extend 40 cm; no teeth; small ears protruding from head; tail approximately 1–2 ft; front two limbs have four claws on each hand, back two limbs have five claws on each hand.

RELATED SPECIES: Southern tamandua (Tamandua tetradactyla), giant anteater (Myrmecophaga tridactyla)

NATURAL HISTORY: Northern tamandua is related to the anteater; eats termites and ants; diet keeps ant population from growing out of hand, protects many plants because of it; detect prey by scent; they face jaguars, large snakes, and eagles as predators; spend most of time in trees, eat and rest on forest floor; travel alone instead of in groups; average lifespan of 9.5 years; can be nocturnal or diurnal; active for eight hours at a time.

BROWN-THROATED THREE-TOED SLOTH  
(Bradypus variegatus)

RANGE: Tropical rainforest; South America, Costa Rica, southern Central America (LSBR, ARVL)

NATIVE STATUS: Native

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Brown fur covering throat and head; pale brown fur covering rest of body; fur can appear greenish because of algae imbedded in coat; three clawed toes on both of their two long front limbs; round head with short snout; small eyes and ears; males have patch of orange/yellow fur between shoulders, but females do not; average length of 2 ft.

RELATED SPECIES: Pygmy three-toed sloth (Bradypus pygmaeus), maned three-toed sloth (Bradypus torquatus)

NATURAL HISTORY: Sleep 15–18 hours a day; spend most of time in treetops; face jaguars, eagles, and humans as predators; among slowest animals on earth; can swim, have difficulty walking; use green fur—caused by algae growing in it—for camouflage; feed on leaves, fruit, flowers; descend to forest floor once a day to defecate; have lifespan of 30–40 years; females make shrill screeching noise to attract males.
MEXICAN HAIRY PORCUPINE
(Coendou mexicanus)

RANGE: Tropical areas; Mexico, Panama, Costa Rica, South America, Brazil (LSBR, ARVL)

NATIVE STATUS: Endemic

CONSERVATION STATUS: Least concern

SIZE/MORPHOLOGY: Body length of approximately 2–2.5 ft; covered in brown fur; solid yellow tipped quills; prehensile tail with no fur; four limbs with four claws on each; small ears and eyes; small round snout with whiskers.

RELATED SPECIES: Bahia hairy dwarf porcupine (Sphiggurus insidiosus), streaked dwarf porcupine (Sphiggurus ichillus)

NATURAL HISTORY: Is an arboreal species; lives in canopy of the rainforest; uses prehensile tail to hang on branches; primarily nocturnal; lifespan of 11–15 years; feeds on leaves and fruit; prey of ocelot, raptors, humans, and snakes, but otherwise well defended by sharp quills; breeds year round; slow but agile climber.