Costa Rica: The Rainforest

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What is a rainforest?

A thick forest comprised of evergreen trees that receives 71 or more inches of rain annually. Rain forests are largely found in tropical areas, but also occur in subtropical and even temperate regions of the world. A few examples of rainforests in the US (located in the subtropical & temperate zones) are rainforests in Hawaii, the Olympic Peninsula (Washington State), and the Great Smoky Mountains.
- Elongated tips of some leaves.

- Help the drainage of lamina off leaves.

- Reduce the risk of colonization of epiphytic organisms.
-Protrude high above and only just below the ground, increasing the area where nutrients can be absorbed from the surface of the soil.

Buttress Roots
Stilt Roots

- Anchor tree to ground in shallow water
- Stabilize tree
- Gather nutrients from the bottom of the water
- Protect tree from high tides & flooding
Aerial Roots

- Grow above ground.
- Help support plant.
- Attach themselves to other structures.
- Absorb water and nutrients.
Tendrils

- Climbing mechanism used by climbing plants.
- Uses friction to climb.
- Does not hold great weight but is good for clinging during strong winds.
Lianas - Climbing vine found in the rainforest. - Climb by attaching themselves with “sucker roots” or “tendrils.” - In canopy, they spread out and form networks with other Lianas.
Epiphytes

-Grow on host plant like parasites, but take nutrients from the air, rain, sunlight, and compost gathered on branches of the host (unlike true parasites which rely on the host for nutrients).

-Have an advantage over other plant life in rainforests because they have more direct access to sunlight from living on the canopies of host trees, they have access to canopy pollinators (birds, insects), and they therefore disperse seeds easily.
Defensive Mechanisms

- Defensive mechanisms are present to protect plants from herbivores.
- Vary from tough bark to toxic chemicals.
Different Forest Types in Costa Rica

1. Tropical Rainforest
2. Cloud Forest
3. Tropical Dry Forest
4. Mangrove Forest
5. Lowland Rainforest
6. Riparian Forest
Tropical Rainforest

- Can be found mainly in the southwest region of the country, and to an extent, at places near the Caribbean Coast of the country.
- Found from low to middle elevations - Receive upwards of 71 inches of rain per year.
- Possess towering, up to 200-foot high trees.
- May very well be the most biodiverse habitat in the country, providing a home for everything from tree frogs to toucans to Tamarin monkeys.
Cloud Forest

-Forests that naturally cover the higher elevations in the country, typically found in mountainous settings.
-Extremely biodiverse places with towering trees, abundant butterflies, 6 species of wild cat, and Resplendent Quetzals.
-Typically receive just as much rainfall as lowland rainforests and have humid conditions year-round due to their mountainous location.
-Differentiated from rainforests by their greater diversity of trees (not just evergreens) and their milder temperatures (50-79 degrees compared to 70-100 degrees) due to their location in higher elevations and mountains.
Tropical Dry Forest

- Drier than rainforests.
- Located on Pacific Coast of Costa Rica.
- Less dense than rain and cloud forests.
- Unique trees, flowers, monkeys, cats, birds, and other wildlife abound in this type of habitat.
- May be compared to sparse oak savannas of the USA.
Mangrove Forest

-Grow on the shallow shorelines of water bodies in Costa Rica
-Consist solely of mangrove trees, which have unique roots that extend both in the water to gain the nutrients on the bottom of the water, and also slightly out of the water in order to protect the tree trunk from damage during high tides and flooding.
-Provide imperative habitats for unique marine and terrestrial animals, ranging from fish to toucans.
Lowland Rainforest

- Occur in elevations below 1,000 feet
- High temperatures and high amounts of precipitation year-round
- Contain tall evergreen trees
- Differentiate from other rain forests by their low elevation
Riparian Forest

- Adjacent to bodies of water
- Do not reside underwater like mangrove forests
- Not made up solely by evergreen trees, like rainforests.
- Receive high amounts of precipitation
- Found in many places of the country
Rainforest vs. Jungle

A jungle is a widely-used term relating to thick vegetation that can halt progression towards development (not necessarily having large amounts of annual precipitation). The primary makeup of a jungle is mainly based on heavy, dense trees, ground plants, and some flowers.

Rainforests, a more specific environmental term, are also thick forests that are mainly set by their high concentration of annual rain fall. These forests are comprised solely of evergreen trees with high densities of plants and annual rainfall totals of over 71 inches.

So, a rainforest is a jungle - but a jungle is not necessarily always a rainforest.


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