

INKATERRA

AUTHENTIC NATURE TRAVEL
1975

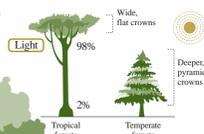
344m long | 2 towers | 8 platforms | 7 bridges

VERTICAL STRATIFICATION

In Amazonian rainforests, the average size of the tallest trees ranges from 30 to 45 meters (98.4 to 147.6 feet). A few trees grow above these limits, reaching 60 meters (199 feet), and many herbs, bushes, and small trees grow beneath them. The conditions from the forest floor to the highest treetop change noticeably as one ascends, offering a large number and variety of habitats for rainforest species. To explain its complexity, researchers have suggested the concept of vertical stratification of the rainforest.

Emergent trees

Emergent trees refers to the crowns of the tallest trees, such as the lupunas, the Brazil nut trees, and the shihuahuaco, which tower above the canopy. Numerous epiphytes and other organisms that live in these treetops have adapted to the high light availability and to the enormous climatic changes to which this stratum, or floor, is subjected.

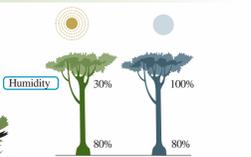


The crowns of the canopy trees can reach a diameter as large as 25 meters (82 feet), covering as many as 100 smaller trees in the 500-square-meter (5,301-square-foot) area of shade around them.

the canopy

The canopy is made up of the aggregation of continuous treetops intertwined with each other, giving the impression that the rainforest is an immense green carpet. In this layer, there is an abundance of leaves, flowers, and fruits that attract a great diversity of specialized animals. These animals develop a complex web of food relationships.

14 tons of decomposing organic material per hectare (2.7 acres) is produced in the canopy. It forms a layer that regulates fluctuations in temperature and moisture.



The understory

The understory is made up of growing trees, palms, bushes, and herbaceous plants. When one of the huge rainforest trees falls, there is a sudden growth of plants in this stratum. Fierce competition to take possession of the new clearing contributes to maintaining the dynamic of tropical rainforests, as it allows new species to become dominant.

Fork-tailed Palm-Swift
Tachornis squamata
13.5 cm (5.3 inches)

20% of the nutrients of the Amazonian forest are found in the forest floor.

The forest floor

The forest floor contains a superficial layer of organic material, from which plants obtain their nutrients. It is estimated that 550 different species of plants can develop per hectare (2.7 acres) (datum: Reserva Ecológica Inkatererra). It is the beginning of life even for the giant emergent trees, which also belonged to this stratum when they were seedlings. In this stratum intense animal life-mosely ants and termites-develops among the remains of fallen leaves and trunks. These animals accelerate the decomposition of organic material, producing natural nutrients.

THE LAST BIOLOGICAL FRONTIER. This system of bridges, platforms, and towers offers an expansive window onto the world of the tropical rainforest. It enables us to better understand life, the cycles, and the interdependent relationships among the various organisms inhabiting the canopy. Inkatererra Canopy is considered to be one of the most modern and sophisticated in the world, both due to its camouflage design and because the specialists who built it used ecological materials to prevent negative impact on the environment. The canopy walk enables visitors to enjoy an in-depth look at one of the most productive ecosystems in the rainforest: an enormous food factory where key events for the development of life come together. The Inkatererra Canopy was financed by the United Nations' Global Environment Facility (GEF) and by the World Bank's International Finance Corporation (IFC) with the support of the National Geographic Society.



Platform 1
Tree: Yellow Mombin
Spondias mombin
Height: 21.80 m

Platform 2
Tree: Yellow Mombin
Spondias mombin
Height: 21.80 m

Platform 3
Tree: Mastate
Poulsenia armata
Height: 22.20 m

Platform 4
Tree: Mastate
Poulsenia armata
Height: 23.15 m

Platform 5
Tree: Manchinga
Brosimum alicastrum
Height: 23.40 m

Platform 6
Tree: Snakewood
Clusia racemosa
Height: 22.60 m

Platform 7
Tree: Mastate
Poulsenia armata
Height: 22.80 m

Platform 8
Tree: Copacahilla
Sloanea oppenheimii
Height: 22.30 m

Bridge 1
Long: 18.50 m

Bridge 2
Long: 35.47 m

Bridge 3
Long: 29.17 m

Bridge 4
Long: 40.78 m

Bridge 5
Long: 19.59 m

Bridge 6
Long: 21.12 m

Bridge 7
Long: 28.10 m

Tower 1
28.4 m

Tower 2
29 m

Ant garden. Ant nests sustaining complete plant communities. Both ants and plants benefit from this association.

Climbing plant. *Mangifera uncinata*.

Black-billed Nighthawk
Thryothorus granivorus
24 cm

THE STRANGLERS

Strangler figs are an important source of food for rainforest animals. While bearing fruit, they attract many creatures from several kilometers, or miles, around. When the fruits are digested by monkeys and birds, the seeds are dispersed and fall on the branches of a tree (the host tree). Once the seed germinates, the descending growth of the roots begins, using the trunk of the host tree for support.

When the roots reach the forest floor, they swell and unite with each other, capturing the host trunk in a mortal embrace. In the final step, the rapid growth of the strangler fig crown begins, covering the top of the host. The competition for nutrients from the soil, and for light, causes the death of the host tree, which is then consumed by fungi and termites.

Pern. *Asplenium* sp.

Liana. *Celtis iguanae*

Moss. *Bryophyta*

Orchid. *Pleurothallis* sp.

Epiphyte. *Anthurium* sp.

LOFTY GARDENS

The rainforest canopy provides the necessary conditions for most vegetal life to develop. The flora of this layer includes simple forms, such as fungi, mosses, and ferns; as well as more complicated flora, such as cactus, bromeliads, and orchids. Canopy plants that grow and develop all their lives without having contact with the ground are called epiphytes, while those whose roots manage to touch the ground at some stage of their lives are called hemiepiphytes. Both fulfill a wide variety of essential functions.

For example, they regulate the moisture in the canopy, especially during the dry seasons. The mosses retain water that comes from rain, which causes them to develop like a moist carpet on the branches of the canopy, making a rich substratum for the growth of other plants. Some bromeliads act as small ecosystems known as phytotelmata, where they provide water to different organisms (microorganisms, algae, insect larvae, and amphibians), making up small communities.

135 species of mammals
375 species of birds
153 species of herpetological fauna

INKATERRA CANOPY IN FIGURES

Research and inventories of Inkatererra's Ecological Reserve have been conducted since 1978. Among the highlights are the inventory of insects by Professor Edward O. Wilson of Harvard University (who certified that Reserva Ecológica Inkatererra is the area with the greatest richness of ants in the world); the inventory of plants carried out by Dr. Alwyn Gentry of the Missouri Botanical Garden (with a registry of 1,070 species of vascular plants); the study of amphibians and reptiles by Dr. William Duellman (published by Cornell University Press in a 433-page book); the recording of the songs of the birds of the canopy carried out by the Peruvian biologist Edwin Salazar; and several studies published by the University of Kansas. Wildlife studies are still carried out for the purpose of establishing a continuing plan for tourism.

365 species of ants
315 species of butterflies
322 species of homopterous insects
457 species of spiders
30 species of mollusks

ANTS AND PLANTS, INC.

In the course of almost 200 million years of rainforest evolution, the organisms that live there have developed diverse survival strategies. For example, certain vines and trees possess substances that attract ants. The queen uses the interior of the plant to lay her eggs and form a colony. Later, the ants patrol the plant, protecting it from animal predators and other plants that try to develop close by. The ants help the plant by preventing competition, and they obtain food and protection in return.



THE ANIMALS HIGH IN THE CANOPY

The animals of the canopy play a very important role in rainforest ecology. They are the great pollinators and seed dispersers and their contribution to the development of the rainforest is fundamental. Thanks to them, other animals of the understory and forest floor have easier access to the fruit that falls from up above, a product of the activity of the canopy animals in the treetops.



THE ABUNDANCE OF LIFE

The fight for life in the rainforest is very intense. For plants, their fruit assures their survival. Animals come to eat the calorie-rich fruit. The seeds in the fruit pass through the animals' digestive systems, which the animals, owing to their constant movement, disperse far from the mother plant. This results in the colonization of these plants in new places, thus avoiding competition.

Among the most efficient seed scatterers are birds such as orioles, trogons, tanagers, and toucans; primates and rodents. On the other hand, many insects, birds, and bats feed on flower nectar, and, while doing so, they harvest the pollen. They then propagate this during their constant search for nectar, fostering plant reproduction.