



Rainforest's Variety

Amazing Rainforest Animals

From slithering anacondas to fluttering blue morpho butterflies, rainforests teem with life.

Gorgeous House Plants

You can create a tiny rainforest in your very own home with these tropical house plants.

TROPICAL RAIN FORESTS

These precious ecosystems are home to 80 percent of the world's terrestrial biodiversity.

Tropical forests are some of the richest, most exciting areas on earth. They are home to gigantic trees, colourful birds and a huge variety of fascinating mammals. About 80% of the world's documented species can be found in tropical rain forests, even though they cover only about 6% of the Earth's land surface – less than half the area they covered not so very long ago.

What is a tropical forest?

Tropical forests are closed canopy forests growing within 28 degrees north or south of the equator. They are very wet places, receiving more than 200 cm rainfall per year, either seasonally or throughout the year. Temperatures are uniformly high – between 20°C and 35°C. Such forests are found in Asia, Australia, Africa, South America, Central America, Mexico and on many of the Pacific Islands.

Rain forest trees are quite different from trees of temperate forests. In the rain forest, trees grow to gigantic size, supported by strong, strut-like buttresses at the base of the trunk that help to stabilize them in shallow forest soils.

Huge creepers twine themselves around

A mature lowland tropical forest consists of several layers. The top layer of vegetation consists of scattered tall trees that tower above



a closed canopy layer formed by the crowns of other trees. The canopy is the most exciting part of the rain forest; it is here that most of the flowering and fruiting of the trees takes place, attracting a variety.

Below the canopy is a third layer, formed by smaller trees whose crowns do not meet. Below that is a layer that's composed of woody and herbaceous shrubs. Finally, there is the ground layer, which receives very little sunlight.

Conservation concern

Tropical forests have the largest living biomass and boast some of the highest rates of terrestrial biodiversity. But rain forests are perhaps the most endangered habitat on earth and most vulnerable to deforestation. Each year, some 140,000 sq km of rain forests are destroyed. Rain forests are being felled for timber by logging companies and cleared by people for farming. The most endangered rain forests are those in West Africa, where human populations are doubling every 20 years, and in Central America and South-East Asia. Although

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large areas of rain forest remain in Central Africa and South America, they, too, are disappearing at an alarming rate.

Forest degradation and deforestation in tropical countries is a major environmental, social and economic problem, and will continue to be so unless action is taken. Time is short if we are to save the remaining rain forests for future generations and preserve the beautiful biodiversity that these rain forests harbour.

Tropical rain forests have more kinds of trees than any other forests in the world. The richest in plant species are Amazon forests, but in general all tropical forests have an incredible variety of trees.

WFF is committed to conserving the world's rain forests, not only because of the incredible wealth of plants and animals, but for the benefit of the indigenous peoples who call these forests home.

WFF has been working to save rain forests for more than 35 years. Today, work continues in key areas like Peru's Menu Biosphere Reserve and the Koppell National Park in Cameroon. Assisting tropical countries to save their rain forests – through creating protected areas, exploring ways to use forests wisely and promoting purchasing of responsible forest products – is a priority for WFF.



The widespread destruction of tropical rain forest ecosystems and the consequent extinction of numerous plant and animal species is happening before we know even the most basic facts about what we are losing.

Medicinal Treasure

Covering only 6 percent of the Earth's surface, tropical moist forests contain at least half of all species. The abundant botanical resources of tropical forests have already provided tangible medical advances; yet only 1 percent of the known plant and animal species have been thoroughly examined for their medicinal potentials. Meanwhile, 2 percent of the world's rain forests are irreparably damaged each year. Scientists estimate that, at the accelerating rate at which rain forests are now being destroyed, as much as 20 or 25 percent of the world's plant species will be extinct by the year 2000.

Approximately 7,000 medical compounds prescribed by Western doctors are derived from



“Medicinal Treasures of the Rain forest. A look at the botanical treasures, both known and undiscovered, that exist within tropical rain forests.”

plants. These drugs had an estimated retail value of US\$43 billion in 1985. Seventy percent of the 3000 plants identified by the United States National Cancer Institute as having potential anti-cancer properties are endemic to the rain forest. Tropical forest species serve Western surgery and internal medicine in

three ways. First, extracts from organisms can be used directly as drugs. For maladies ranging from nagging headaches to lethal contagions such as malaria, rain forest medicines have provided modern society with a variety of cures and pain relievers.

Quinine, an aid in the cure of malaria, is an alkaloid extracted from the bark of the cinchona tree found in Latin America and Africa.

From the deadly poisonous bark of various curare lanais, used by generations of indigenous peoples in Latin America, has been isolated the alkaloid

d-turbocharger, which is used to treat such diseases as multiple

sclerosis, Parkinson's disease and other muscular disorders. It also permits tonsillectomies, eye, abdominal and other kinds of surgery due to its aesthetic qualities.

From Africa, Madagascar's rosy periwinkle provides two important anti-tumour agents. One provides for a 99 percent chance

For thousands of years, indigenous groups have made extensive use of the materials contained in the rain forest to meet their health needs

of remission in cases of lymphocyte leukemia. The other offers a life in remission to 58 percent of Hodgkin's Disease sufferers. In 1960, only 19 percent had a chance for survival. Commercial sales of drugs derived from this one plant are about US\$160 million a year.

Without wild yams from Mexico and Guatemala,

society would be without ingenious and cortisone, the active ingredients in birth control pills. Until recently this plant provided the world with its entire supply of ingenious.

Secondly, chemical

structures of forest organisms sometimes serve as templates from which scientists and researchers can chemically synthesize drug compounds. For example, the blueprint for aspirin is derived from extracts of willow trees found in the rain forest. Minestrone, a chemical derived from the Malabar bean and used to treat glaucoma in West Africa, also provides the blueprint for synthetic insecticides. However, the chemical structures of most natural drugs are very complex, and simple

extraction is usually less expensive than synthesis. Ninety percent of the

prescription drugs that are based on higher plants include direct extractions.

Finally, rain forest plants provide aids for research. Certain plant compounds enable scientists to understand how cancer cells grow, while others serve as testing agents for potentially harmful food and drug products. Tropical forests offer hope



for safer contraceptives for both women and men. The exponential growth of world population clearly demonstrates the need for more reliable and effective birth control methods. Worldwide, approximately 4,000 plant species have been shown to offer contraceptive possibilities. The rain forest also holds secrets for safer pesticides for farmers. Two species of potatoes have leaves that produce a sticky substance that traps and kills predatory insects. This natural self-

defense mechanism could potentially reduce the need for using pesticides on potatoes. Who knows what other tricks the rain forest might have up its leaves?

Shamans Peoples

The chemical components of plants that medicine men use in healing rites could conceivably be building blocks for new drugs or even cures for such scourges as cancer or AIDS.

For thousands of years, indigenous groups have made extensive use of the materials contained in the rain forest to meet their health needs. Forest dwellers in Southeast Asia, for example, use around 6,500 different plants to treat their ills. Shamans were the first medical specialists in indigenous communities, and their traditional methods are known to be effective in treating both physical and psychological ailments. The World Health Organization estimates that 80 percent of the people in developing countries still rely on traditional medicine for their primary health

care needs. Without money, access to, or faith in modern facilities, indigenous people depend on shamans, herbal healers, and rain forest plants for their survival. Shamans also play a crucial role in helping scientists to discover the potentials of plants. As one scientist has said, "Each time a medicine man dies, it is as if a library has been burned down. There is much yet to be learned from local shamans, yet their individual and cultural survival is seriously threatened as modern loggers, miners, multinational corporations, and landless farmers invade and decimate the forest.

Brimming with life

With closed eyes, the moist warmth of the air feels heavy in your lungs and your clothes feel sticky with sweat against your

skin. Bird calls, monkey howls, and insect buzzing surround you. Opening your eyes, you find that you are under the shade of a tall forest canopy.



You look up the long trunk of an emergent, a tree that stands nearly 300 feet tall and breaks through the top of the canopy. As you keep looking into the dense vegetation, you start seeing more life—birds, butterflies, and monkeys. You look down where some tree roots have broken through the moist

ground. There you see the ants. They crawl over the tree's roots, over the leaf litter, and across the path, letting nothing stop them as they carry bits of leaves back to their nest. You are in a tropical rain forest.

When you think of the tropical rain forest, you may think of a towering forest dripping wet and full of life. Although most of these rain forests have short dry seasons, aside from lakes, rivers, and oceans, they represent the wettest biometry on Earth.

Rain forests have an extraordinarily large number of animals and plants. You can create a tiny rain forest in your very own home with these tropical house plants. Over half of all the species of plants and animals on Earth are found in tropical rain forests, but these forests only make up 6% of the Earth's land surface. So, why are these forests so special?

What you can do?

Tropical forest plants serve as vital resources for the eradication of disease, but we could easily lose these plants as well as the traditional knowledge that can unlock their potential if tropical ecosystems and indigenous cultures are not preserved intact. The future health and welfare of humanity will be determined, to a great extent, by the fate of the rain forests. There are no easy answers to the social and environmental crises facing the rain forest.





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