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Totally Tropical Rainforest

In our area of the country, we live in a deciduous forest biome. If you think about the plant and animal life found here, there are literally thousands of different species. Did you know, though, that there is another biome where over 15 million species of plants and animals exist?

This biome is the tropical rainforest! Since there are no tropical rainforests found near us for you to explore, you have a few other options. You can surf the Internet to find sites that will give you information and photos of the rainforest biome. If that doesn't satisfy your curiosity, you can call a travel agent and take a trip. Or, you can visit the tropical rainforest display at the Atlantic City Aquarium! Our display will allow you to see several species found in this tropical biome, such as several types of lizards, geckos, and iguanas, as well as touch freshwater rays that are found in this habitat.

Where are Tropical Rainforests Found?

Tropical Rainforests are very warm, wet areas that contain the greatest biodiversity in the world. While covering less than six percent of Earth's surface, rainforests are home to more than 50 percent (over 15 million) of the world's plant and animal species. These important biomes are extremely important in the ecology of the Earth. The combination of constant warmth and abundant moisture (they receive from 60 to 160 inches of precipitation throughout the year) makes the tropical rainforest a suitable environment for many plants and animals.

between the North and South Poles. High temperatures in the rainforest cause excessive evaporation that results in frequent rain. There are only two seasons here: the wet season and the dry season. This is why this 3,000 mile wide area is called the "tropics."

Tropical rainforests are found in South America, West Africa, Australia, Southern India, and Southeast Asia, with the world's largest tropical rainforest found in the Amazon.

Tropical rainforests are located around the equator, mostly in the area between the Tropic of Cancer (23.5° N latitude) and the Tropic of Capricorn (23.5° S latitude). The equator circles the earth midway



Photo by Kelly Hunt, 2009

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Photo by Kelly Hunt, 2009

ATLANTIC CITY AQUARIUM

Fish Tales

The Layers of the Rainforest

The Tropical Rainforest is divided into five different parts, each with different plants and animals adapted for life in that particular area. These are: the floor layer, the shrub layer, the understory layer, the canopy layer and the emergent layer. Only the emergent layer is unique to tropical rainforests, while the others are also found in temperate rainforests.

The emergent layer contains a small number of very large trees which grow above the general canopy, reaching heights of over 150 feet, although, on occasion, a few species will grow to 250 feet tall! They need to be able to withstand the hot temperatures and strong winds.

The canopy is host to the largest percentage of animals, such as tree frogs, monkeys, birds, orangutans and insects. The canopy is the layer containing many trees just underneath the emergent layer.

Below the canopy are the young trees and shrubs that make up the understory. The plants in this layer rarely grow to large sizes because the canopy blocks most of the sunlight.

The forest floor is almost bare because very little sunlight can get through the canopy and understory to reach the ground. This is where fallen leaves and branches rot quickly to release nutrients for other plants to grow. Large mammals who are too heavy to climb up into the canopy layer live in the dim light of the understory and forest floor.

Critters of the Rainforest

The Aquarium display for the Tropical Rainforest is ever changing. The staff rotates a variety of species into the display, including geckos, iguanas, skinks, fish, turtles, and frogs.

One gecko you may see is the Giant Day Gecko. There are over 65 known species of Giant Day Geckos. Many of them are from the Madagascar region. These geckos are **diurnal**, as is indicated by their name, where as most other members of the gecko species are nocturnal.

Day geckos are bright green. They have a red stripe that extends from the nostril to the eye, and there are red colored dots or bars on the back. They also have a clear plate covering their eyes, and they do not have eyelids. All day geckos also have flattened toe pads. This helps them to climb things like trees, where they are often seen basking.

In the wild, Giant Day Geckos eat insects, other invertebrates, nectar and pollen. Most Day Geckos come from habitats with humidity levels of 50-85%. However since Giant Day Geckos from Madagascar, they prefer it dry and hot.

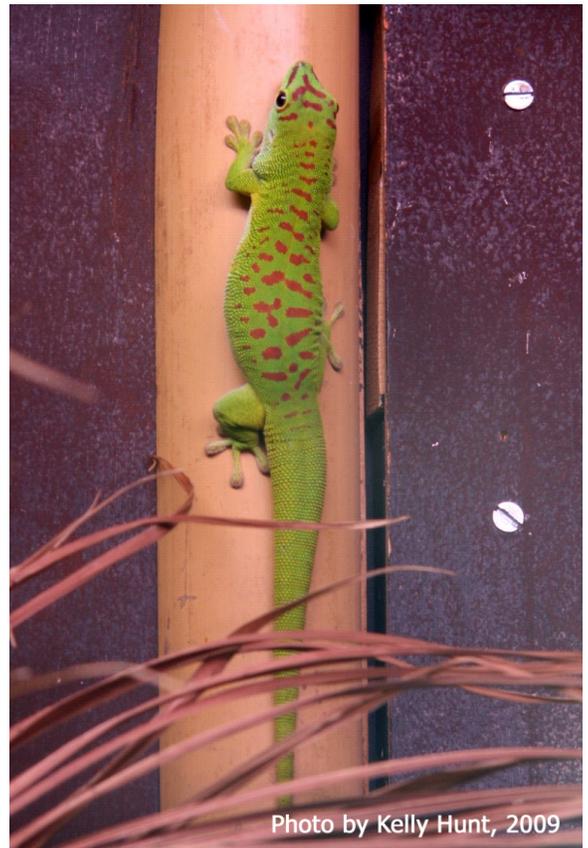


Photo by Kelly Hunt, 2009

Critters of the Rainforest

The Tokay and Vorax Geckos (see photo at right) are also found in the Tropical Rainforest. The Tokay Gecko is the second largest Gecko species, with males growing to 11–15 inches, and females growing from 7–11 inches. They are unique in appearance, with a bluish or grayish body, and spots ranging from light yellow to bright red. Their eyes are large with a vertical slit pupil.

Males are very territorial, and will attack other male Tokays as well as other gecko species. This species is considered to be very fierce due to the fact that when they bite, they often won't let go for up to several hours at a time or even several days.

The natural habitat of the Tokay Gecko is the trees and cliffs of the Tropical Rainforest. They have a huge appetite and will eat many different kinds of insects.



Photo by Kelly Hunt, 2009

Tortoises of the Rainforests



Photo by Kelly Hunt, 2009

Several types of tortoises are found in the Aquarium's Rainforest display. The Sulcata Tortoise, above, is native to portions of northern Africa, and they like dry arid areas. These tortoises can grow to 30 inches in length and close to 110 pounds. The **carapace** of the Sulcata Tortoise is broad and flattened, and is brown to

yellowish in color. These tortoises graze for hours during the day, and they eat plant fibers from grasses.

The Red-footed Tortoise and Yellow-footed Tortoise are found in regions of South America. These species have many similarities, but a distinct difference is the color of their leg scales, thus giving them their names. The Yellow-footed Tortoise is distinctly larger than the Red-footed Tortoise, growing to 15 inches. It is also strictly a rainforest species, whereas the Red-footed can be found in rainforests, temperate forests and savanna areas.

The Red-footed Tortoise is primarily an **herbivore**, but it sometimes has been known to eat **carion**. They eat a variety of things such as fallen fruit,

mushrooms, grasses, leaves, and flowers, especially red and yellow in color. The Yellow-footed Tortoise also eats a wide variety of things. They mainly eat **foliage** because they are too slow to catch any fast animals. Like the Red-footed Tortoise, they also eat fallen fruit, mushrooms and grasses, but they also eat slow moving animals like snails and worms.

Rainforest Field Guide

The next two pages contain information about additional Tropical Rainforest species found in the Atlantic City Aquarium.

Blue Tongue Skink (Right)

Description: brown with darker patches, with short, stocky legs and a blunt, triangular head. Its tongue is blue and easily visible in its pink or red mouth.

Habitat: desert savannah, woodlands and tropical jungles

Notes: This skink is omnivorous. They eat berries, flowers, insects, spiders, and snails.



Barking Tree Frog (left)

Description: green, brown, yellow or gray with dark spots on its body and yellow stripes that run from its jaw down its sides. Its throat, belly and the inside of the hind legs are bright yellow.

Habitat: spends warm months in treetops and burrows seeking moisture in winter or dry periods.

Notes: It eats insects and worms.

Green Iguana (Below)

Description: green to blue-gray with short spikes down its back and tail. It also has dark bands on the tail and shoulder.

Habitat: arboreal, living in trees with dense canopies, in humid locations

Notes: this diurnal reptile is primarily an herbivore. It has sharp claws, and its tail is used as a weapon.



Northern Brown Basilisk (Above)

Description: brown or olive brown with large back feet with flaps of skin between toes and black stripes. They have three crests on their head, body, and tail, with a white stripe from their eyes to the rear legs. Males can reach nearly 30 inches, with females being slightly smaller.

Habitat: native to Central America

Notes: this reptile is very fast and can actually run across water when fleeing a predator. This is due to its webbed toes. Because of this, it is sometimes called the "Jesus Lizard".



Veiled Chameleon (Left)

Description: this brightly colored reptile is famous for being able to change its color. They have eyes that can move independently and look in two directions at once, as well as swivel nearly 180 degrees.

Habitat: dry plateaus, river valleys, and mountains. They are also arboreal.

Notes: It changes color for camouflage, but also to signify emotional state. Green and brown are the colors when it is at rest.

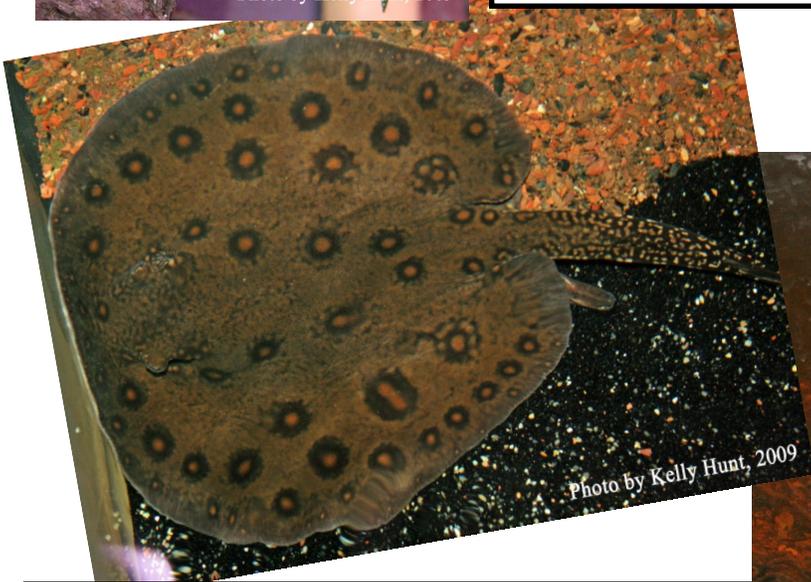


Marine Toad (Above)

Description: the skin of this toad is dry and warty. Their color varies from gray to brown, to red-brown, to olive. The pupil of the eye is horizontal, and the iris is golden.

Habitat: tropical and semi-dry areas in the Americas

Notes: It is also known as the Cane Toad.



Motoro Ray (Above)

Description: brown with circular orange spots ringed in brown or black. It can grow to 39 inches in length.

Habitat: South American river basins, especially the basins of the Amazon and Orinoco Rivers

Notes: this ray is a freshwater species.



Mata Mata Turtle (Above)

Description: this turtle has a rough carapace with skin fringes on the chin and neck. The neck is flattened and the head triangular. Also, the nose is snorkel-like.

Notes: this turtle is a poor swimmer. It likes the water, but it cannot be too deep. It eats fish.



Red-bellied Pacu (Left)

Description: similar to the Red-bellied Piranha in appearance. Gray or silver with a red belly and lower body fins. It can grow from two to three feet in length.

Habitat: basins of the Amazon and Orinoco Rivers

Notes: They eat vegetation, especially when decayed, and have also been known to eat insects.

Key Vocabulary

Arboreal—living in trees

Carapace—Shell

Carion—dead and decaying flesh

Diurnal—active during the day

Foliage—plants and plant life

Herbivore—eats plants

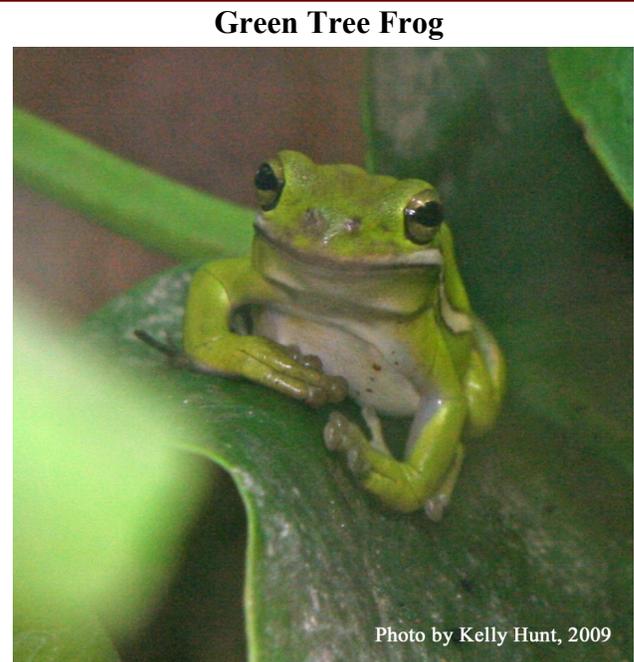


Internet Resources

http://www.globio.org/glossopedia/article.aspx?art_id=6 - interactive site with information about the Tropical Rainforest biome.

http://www.rainforest-alliance.org/education.cfm?id=coloring_book - this site provides coloring sheets on a variety of species in this biome.

<http://www.rainforest-alliance.org/education.cfm?id=curriculum> - curricular ideas for grades K-8



References - <http://www.oceanlifecenter.com/aquarium.asp>; <http://daygecko.com/>;
http://en.wikipedia.org/wiki/Madagascar_giant_day_gecko;
<http://www.elasmodiver.com/MotoroStingray.htm>; <http://en.wikipedia.org/>; www.enature.com;
http://en.wikipedia.org/wiki/Gekko_gecko