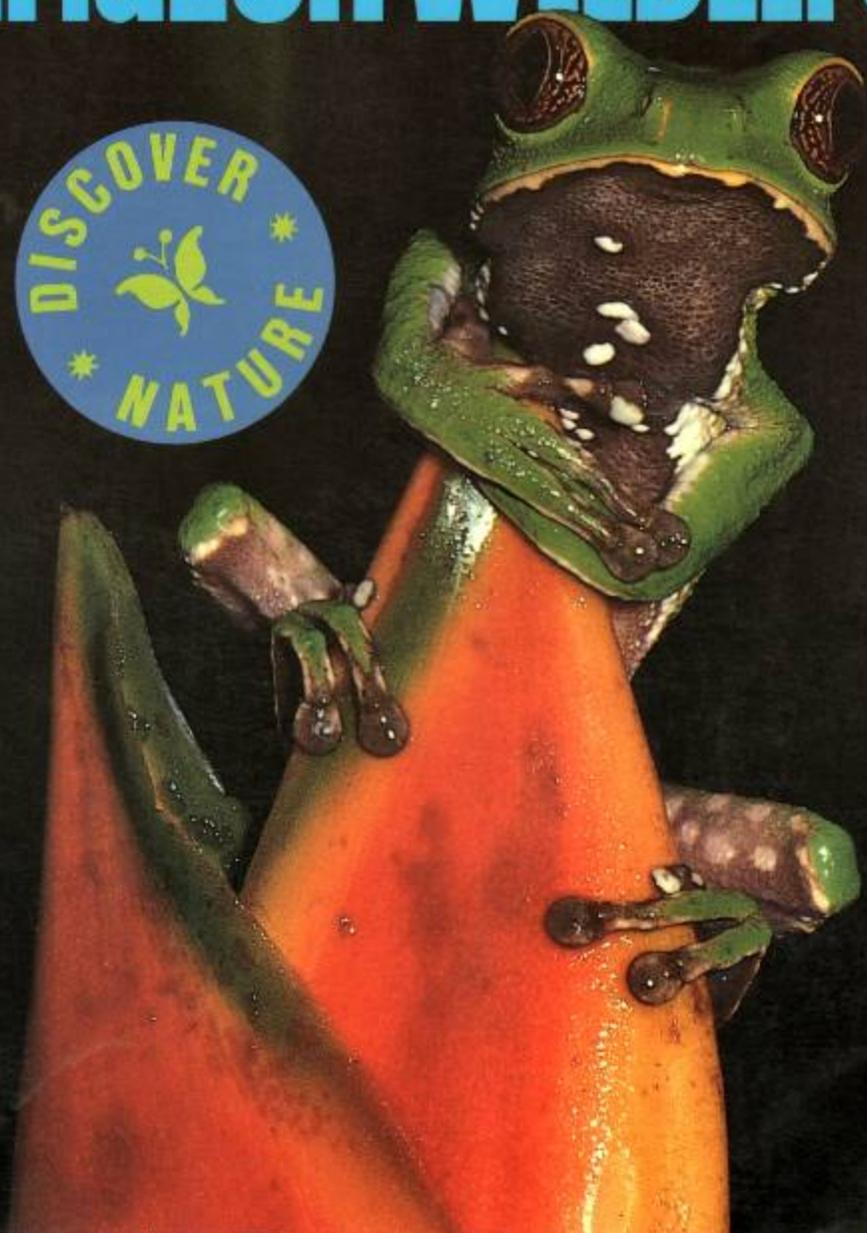


INSIGHT
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TRINIDAD

Trinidad, the southernmost island of the Caribbean, supports a unique wild-life link between the Amazonian and the Caribbean biotic regions. Trinidad lies only 12 km from the South American mainland at its closest point. However, 10,000 years ago a great deal of the Earth's water was locked up in ice, and sea levels were much lower than they are now.

Trinidad was at that time connected to the Paria Peninsula of Venezuela. Wildlife of all kinds invaded Trinidad, and many species flourish there to this day. The rugged peaks of the **Boca Islands**, submerged mountains that dot the channel between the two islands, are remnants of that connection.

Trinidad's biogeography is still profoundly influenced by South America. The lack of an effective isolating mechanism between the two lands gives Amazonian species a reasonably easy opportunity to colonize the island. Competition between Amazonian and Caribbean species is intense, with new invaders recorded annually as others decrease and vanish.

A powerful agent aiding immigration by Amazonian species is the Rio Orinoco, whose outflow swirls northward like an immense muddy river past eastern Trinidad, depositing debris of all kinds on the beaches. Flood-borne trees from Venezuela serve as life rafts for wildlife, and they often root themselves once ashore.

As in the *tepui* region of Amazonia, elevation in Trinidad dictates the dominant vegetation. With increased elevation comes greater rainfall. The

highest and thus wettest areas are the mountains of the **Northern Range**, which reach a height of 940 m and are believed to be an extension of the **Andean Cordillera**. Some peaks receive more than 400 cm of rainfall annually, in sharp contrast to the low-lying areas in the west and southwest, areas of rain shadow that receive only 150 cm annually. The difference in available moisture results in lush rain forests carpeting the mountains while thorn-covered scrub struggles to survive in parts of the west and on islands. At low to moderate elevations, there are grasslands, wet savannas, and semi-deciduous woodlands to be found. These habitats prevail where they have not been destroyed for sugarcane or rice cultivation or for the ever increasing spread of housing construction.

The "edge" effects, a phenomenon in which more species are found along interfaces between habitats than within habitats, is partly responsible for the diversity of Trinidad's wildlife. Trinidad lies at the northern edge of Amazonia and at the southern edge of the Caribbean. There are two thus "edges" at work, the first derived from interfaces between diverse habitats in Trinidad, the second derived from the interface between the Amazonian and Caribbean faunal regions. The combined effect yields a greater diversity of species in Trinidad than would normally be expected.

For a small island, the types and extent of habitats is remarkable, with montane elfin forest, montane rain forest, lowland rain forest, savannah, freshwater and saltwater swamps, freshwater impoundments, ocean beaches, and open ocean, as well as a variety of cultivated areas. Perennially available fruits, flowers, and seeds from

both Amazonian and Caribbean plants provide sustenance for resident species and for migrant birds from North and South America.

An examination of the wildlife in Trinidad reveals that the birdlife is astonishingly diverse. Amazonian families are strongly represented, along with a large number of Caribbean families and a few exotics. About 25% of the South American species present on Trinidad are found nowhere else in the Caribbean. The presence of Amazonian as well as Caribbean species results in the number of bird species in Trinidad being nearly twice that of any other Caribbean island.

Insect diversity, tremendous in Amazonia, is reduced on most Caribbean islands. With few niches to fill, competition quickly eliminates potential colonizers that are poorly suited for the environment and which lack adaptivity. Most studies of island biogeography find only about 10% the number of species on islands as on similar mainland areas. Fierce competition among species in the few available habitats renders islands depauperate of insects. Insect species that survive and eventually colonize islands often are larger and heavier than their counterparts on the mainland, a phenomenon resulting from the negative survival value of being easily windblown out to sea.

In contrast to the reduced diversity of insects on other Caribbean islands, Trinidad's insect fauna closely resembles that of Amazonia, being among the richest in the world. For example, some 650 species of butterflies have been cataloged from Trinidad.

Many Trinidadian insects, such as giant katydids and iridescent orchid

bees, show unmistakable links to their Amazonian counterparts. Yet certain biogeographical anomalies confound biogeographers. For example, despite geologically recent connections with the mainland, Trinidad has many endemic species.

One striking aspect of Amazonian biology, more conspicuous on Trinidad than on any other Caribbean island, is the association between ants, birds, and a few species of mammals. Ant-following birds such as antbirds, antshrikes, ant-tanagers, antthrushes, antvireos, and antwrens glean arthropods from the forest floor as columns of army and leafcutter ants scour the jungle. The fact that army ants are lacking from other Caribbean islands may result from a lack of tracts of rain forest large enough to host viable populations, or perhaps better adapted species immigrate but in numbers too small to become established.

Amazonia is clearly the origin of the larger mammals in Trinidad. Large mammals are uncommon anywhere in the Caribbean; in fact, howler monkeys, agoutis, prehensile-tailed porcupines, silky anteaters, and crab-eating raccoons are found nowhere else in the Caribbean except in Trinidad. Large mammals, unlike insects, plants, and small rodents, are unlikely to drift on a log, later to be washed ashore on some distant island. Many rodents, however, especially mice and rats, may have originated farther north in the Caribbean as they bear close affinity to Caribbean species.

Fogging up the analysis, the reptiles and amphibians in Trinidad are difficult to characterize as either Amazonian or Caribbean. Lizards are abundant throughout the Caribbean, particularly

on drier islands. Similarly, iguanas, which are chiefly arboreal herbivores, are also distributed throughout the Neotropics wherever favorable habitat is found but are far more abundant in Amazonia. Other widespread groups that defy characterization as either Amazonian or Caribbean include anoles, basilisks, and geckos. Most snakes also are widely distributed, except for the anaconda, which in the Caribbean inhabits only Trinidad.

Trinidad has a higher human population density than most other regions of tropical South America. Along with a high human population comes the concomitant disturbance of natural habitats. For the tourist, this negative aspect is more than offset by the accessibility of many habitats and the

availability of accommodation situated in or near productive rain forests with environmentally conscious staffs that cater to the nature tourist.

The two excellent hotels found in the Northern Range are the **Asa Wright Nature Centre**, 12 km north of the city of **Arima**, and the **Mount St. Benedict Guest House**, close to the monastery above the town of **Tunapuna**. Excellent observation of rain forest wildlife is possible in the estates surrounding these hotels and in particular along the nearby road from **Arima** to **Blanchisseuse**, which cuts through the rain forests of the Northern Range. For observation of wildlife of wetland habitats such as Scarlet Ibis, the place to go is the **Caroni Swamp**, south of **Port-of-Spain**.



This juvenile Tropical Screech-Owl has just left its nest for the first time.



A Rufescent Tiger-Heron fishing at the edge of a lake.



This Pauraque, a species of goatsucker, is nearly invisible as it incubates its eggs.
