Conservation of the herpetofauna of the Dominican Republic

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Abstract
The herpetofauna of the Dominican Republic consists of 39 frogs (two of which are introduced), 110 squamates (one possibly extinct and three or four introduced), one crocodilian, three turtles (one introduced), plus four species of sea turtles. Reflecting the recent “Global Amphibian Assessment”, 32 of 37 (86%) native species of amphibians are included on the IUCN Red List. Reptilian species given formal recognition as being in need of protection include the sea turtles (listed in CITES appendices and the IUCN Red List), the two native species of pond turtles (Trachemys spp.; IUCN, although one as being at “lower risk” of extinction), both species of rock iguanas (Cyclura spp.; CITES and IUCN), two giant galliwasps (Celestus spp., IUCN), three boids (Epicrates spp., CITES), a ground boa (Tropidophis haetianus, CITES), and the American crocodile (Crocodylus acutus; CITES and IUCN). However, at least some additional squamate species appear to meet criteria for inclusion on the IUCN Red List. Four factors largely responsible for the status of these species are: (1) small ranges, habitat specialization, and encroachment by human activities (many amphibians); (2) large size and economic value (turtles, iguanas, crocodile); (3) persecution by people who fear them (galliwasps and snakes); and (4) diurnally active, terrestrial, and vulnerable to predation by mongoose and other introduced mammalian predators (some snakes, Mabuya). Although protection for a few species and for national parks in critical habitats is legislated, enforcement is sporadic and threats, mostly associated with exploitation and development, remain. Specific recommendations for the conservation of the herpetofauna are listed.

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Key words
Amphibians, conservation, Dominican Republic, Hispaniola, reptiles.

Introduction
The Dominican Republic covers the eastern two-thirds of the island of Hispaniola (the western third is the Republic of Haiti). Hispaniola (ca. 76 500 km²) is characterized by a rugged topography (fig. 1), which results in a mosaic of mesic highlands and often very xeric lowlands, creating a complex of varied habitats that support a remarkably diverse herpetofauna. Albert Schwartz once described Hispaniola as “an island of islands”, in reference to the myriad pockets of dramatically differ-
ent habitats often separated by only a few kilometers (Powell et al., 1999). Because conservation issues often are addressed at the political rather than the biogeographic level, we treat the Dominican Republic as an entity independent of Haiti.

**Physiography of Hispaniola**

The diversity of the herpetofauna may be attributed primarily to three factors: (1) a rugged and mountainous terrain of which the dominant relief features are parallel ranges that run primarily from the northwest and west in a generally easterly direction (Weil et al., 1982; Lewis and Draper, 1990); (2) satellite islands of varying sizes and exceedingly different topographies and habitats; and (3) the peculiar geological history of the island.

The island’s major mountain ranges isolate often extensive intervening valleys, and satellite ranges create narrow and often broken coastal lowlands. A lowland plain covers much of the eastern end of the island. Such structural complexity, composed of high elevations and resultant rainshadows, results in a juxtapositioning of harsh deserts, dry scrub forests, rainforests, cloud forests, and high-elevation pine savannas.

Satellite islands, many of which support endemic taxa, range in size from approximately 650 km² and a maximum elevation > 600 m (Île de la Gonâve; Schwartz,