

## THE HERPETOFAUNA OF THE DOC THOMAS HOUSE IN SOUTH MIAMI, FLORIDA

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Thirty-nine species of exotic reptiles and amphibians are established in Florida (Butterfield et al. 1997; Meshaka et al. 1999), 34 of which are found in Dade County. Nearly all of these exotics inhabit buildings and disturbed habitat. The Doc Thomas House (DTH), built in 1931 by Dr. Arden Hayes Thomas in what is now the city of South Miami, represents one such site. The property is a remnant parcel of the once extensive rockland pine/tropical hardwood hammock mosaic of the Atlantic coastal ridge (Lodge 1998). One year before his death in 1974, Dr. Thomas donated his house and approximately 1.2 ha of land to the Tropical Audubon Society for environmental and education purposes. The property was poorly tended from the mid 1950s until the early 1990s, when efforts were made to restore the site to pineland and two hammocks by removing unwanted exotic species and replacing them with native flora. However, some exotic plants were retained for historical reasons. The area north and west of the property is the commercial district of the City of South Miami. Urban residential areas surround DTH to the south and east. Consequently, the house grounds represent a small, semi-natural island within an ocean of human commerce and habitation. DTH thus provides an opportunity to measure the response of the southern Florida herpetofauna to the restoration of a fragment of once natural and expansive habitat that is now imbedded in an urban setting.

Six visits were during March-October 1997 and 1998. A single nocturnal visit was made in April 1998. Animals found in the open by scanning the surfaces of buildings, fences and trees. Animals were uncovered from their retreats by searching under rocks and logs and searching through leaf-litter by hand. Approximately two hours were spent during each visit. Reports by staff of DTH supplemented my records. Perch heights of anoles were recorded during a single walk through the grounds on 8 August 1997 from 1030-1105 hrs. to provide a measure of relative abundance and degree of spatial separation. Voucher specimens are stored in the Everglades Regional Collection Center of Everglades National Park, Homestead, Florida. Scientific and common names follow the standard of Collins (1997).

Ten reptile and three amphibian species were recorded from the Doc Thomas House. Seventy-seven percent ( $n = 10$ ) of the species are non-indigenous to Florida; five of these are of Cuban origin. Lizards are the most diverse segment of the herpetofauna with anoles being the dominant family: Brown anole (*Anolis sagrei*), bark anole (*A. distichus*), Cuban green anole (*A. porcatius*), knight anole (*A. equestris*). Perch heights of the four anoles at DTH (Table 1) agreed with observations of Williams (1969, 1983) and Collette (1961) with respect to occupation of the trunk-ground (brown anole), trunk (bark anole), the trunk-crown (Cuban green anole), and the crown giant (knight anole) structural niches in their native ranges.

The brown anole was clearly the most abundant anole as it is at the Kampong, another altered habitat in southern Florida (Meshaka 1999). This largely terrestrial and ubiquitous species is eaten by a wide range of native species, including the Everglades racer, *Coluber constrictor paludicola* (Meshaka et al. 1999). At both sites, the maintenance of sunny open habitat is conducive to the brown anole as is an abundance

**Table 1. Perch heights (cm) of anoles at the Doc Thomas House in South Miami, Dade County, Florida.**

| Species                 | Perch height (cm) |        |         |      | Total |
|-------------------------|-------------------|--------|---------|------|-------|
|                         | 0-60              | 60-105 | 105-180 | 180+ |       |
| <i>Anolis distichus</i> | 0                 | 0      | 4       | 5    | 9     |
| <i>A. equestris</i>     | 1                 | 0      | 0       | 5    | 6     |
| <i>A. porcatius</i>     | 0                 | 0      | 0       | 5    | 5     |
| <i>A. sagrei</i>        |                   |        |         |      |       |
| male                    | 9                 | 11     | 4       | 2    | 26    |
| female                  | 6                 | 3      | 2       | 0    | 11    |
| juvenile                | 32                | 0      | 0       | 0    | 32    |

of leaf-litter and mulch that harbored an abundance of invertebrate prey free from on-site insecticide treatments. The extensive ground cover also provides habitat for the southern ringneck snake (*Diadophis punctatus punctatus*), a native species, and the exotic braminy blind snake (*Ramphotyphlops braminus*) at both sites. The abundance of invertebrate prey may also contribute to the persistence of the rough green snake (*Ophedryx aestivus*) at DTH, a noteworthy native species record in an urban setting. The fossorial and insectivorous Florida brown snake (*Storeria dekayi victa*) was not recorded from DTH or the Kampong (Meshaka 1999) but may also occur at DTH despite not being found in the present survey.

Two exotic geckos, the Indo-Pacific gecko (*Hemidactylus garnotii*) and tropical gecko (*H. mabouia*), recorded at DTH are primarily nocturnal insectivores that live among the trees and artificial structures on the property. Although I did not record the tokay gecko (*Gekko gecko*) from DTH, its presence in nearby neighborhoods and the apparent suitability of the habitat of DTH lead me to predict its future colonization of the site if indeed it is currently absent.

The absence of native amphibians from DTH may reflect the site's distance (60 km) from any natural wetlands. Not surprisingly, the greenhouse frog (*Eleutherodactylus planirostris*) uses the moist, abundant leaf litter, and both the Cuban treefrog (*Osteopilus septentrionalis*) and cane toad (*Bufo marinus*) have access to artificial breeding sites at and nearby DTH.

The findings at this site and at the Kampong (Meshaka 1999) demonstrate the abilities of many non-indigenous species of amphibians and reptiles to survive in altered mesic upland habitats in southern Florida. The diminished native fauna of disturbed sites, and a transitional but dominant exotic community in the urban landscape, typify the changing biota of disturbed, even if protected, sites in southern Florida.

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