

# The herpetofauna of Annobon island, Gulf of Guinea, West Africa

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COMPARED to the reptiles of other Atlantic volcanic islands such as the Cape Verde and Canary islands, there is surprisingly little known about the herpetofauna of Annobon. There are no reliable recent species lists for the island. Some species were described in the 19<sup>th</sup> century, often by Portuguese herpetologists, but have not been studied since. The following report is an account of the reptile fauna recorded during a three day expedition in August 2002 by the three authors specifically to examine the reptiles of this island. Voucher specimens of each species were taken, and are stored in the collection of the University of Madeira.

Discovered by Diego Ramirez Diaz, a Spanish sailor, in 1470 and named as Isla de San António, Annobon, or as it is named locally Pagalu, is about 160 km southwest of São Tomé and 350 km westsouthwest of Cabo Lopez (Fig. 1), at 01° 26' S and 05° 37' E. It is a small island governed by Equatorial Guinea of about 8 km from north to south and 3 km wide with a total land area of approximately 17 km<sup>2</sup>. It is formed by three major peaks, Pico del Fuego (454 m) in the north, Pico del Centro, and in the south the Pico Surcado. The shallow Lake Apot, about 1 km in diameter, is situated in the crater of Pico del Centro at 270 m. With an estimated age of 4.8 million years (Lee et al. 1994) the island of Annobon is the last island of the Cameroon volcanic chain that consists also of Mount Cameroon, Bioko, São Tomé and Príncipe.

There is a single small village, San António, on the northern tip of the island. Local inhabitants are primarily fisherman, but there is also a garrison of soldiers from Equatorial Guinea. The climate is

wet tropical, although with 1000 mm of rain annually, Annobon is considerably drier than the other Gulf of Guinea islands. Mean monthly temperatures vary from 17–32°C. Lowland and submontane forests originally covered the whole island, but are now replaced in northern lowland regions by savanna grasslands and banana plantations. The woodlands are relatively dry, but with cloud forest over 500m. Introduced rats are extremely common throughout the island. There are many endemic plants, and a single endemic land bird, *Zosterops griseovirescens* Bocage 1893. There are no reports of amphibians from the island, and we did not find any evidence of them either.

In total we found seven species of reptiles. The most common and widespread reptile on this island is a medium-sized skink, *Mabuya ozorii* Bocage, 1893. It is difficult to find records of this skink in the literature, and it is not mentioned on the EMBL reptile database ([www.embl-heidelberg.de/~uetz/livingreptiles](http://www.embl-heidelberg.de/~uetz/livingreptiles)) (Table 1). *Mabuya ozorii* was described by Barboza du Bocage in the 19<sup>th</sup> century, and since then very few references to this taxon have been made. Although widespread across the island, this species was not usually found in wet and shaded places such as the dense forest that covers the upper slopes of the island.

We also found another skink, *Panapis africana annobonensis* Fuhn, 1972. Compared with *Mabuya ozorii*, this small-sized endemic subspecies (total length less than 50 mm) has a more restricted distribution. This species was usually found among leaf-litter in the forest at relatively high densities. In drier places, especially near the coast, it was very difficult to find this species.

The family Gekkonidae is represented on the island by one widespread species, *Hemidactylus mabouia* Moreau de Jonnés, 1818 one endemic species, *Hemidactylus newtonii* Ferreira 1897 and one endemic subspecies, *Lygodactylus thomensis delicatus* Pasteur 1962. Near houses and in the village, the most common gecko seems to be *H. mabouia*. Based on molecular evidence we found that *H. mabouia* from distinct islands, like Madeira (Jesus et al., 2002), Cape Verde (Jesus et al., 2001), São Tomé and Príncipe and Annobon (unpublished data) are very similar, almost certainly indicating very recent introduction by humans. The situation in Annobon is surprising as there is no large airport or harbour to facilitate such introductions. The proportion of observed individuals of *Hemidactylus mabouia* to *H. newtonii* was about 3:1. All were found only around the village of San Antonio.

*Lygodactylus thomensis* (Peters 1881) is peculiar in being diurnally active. It is endemic to Sao Tomé, Príncipe and Annobon. Unlike *Hemidactylus*, we found it only in the forest, climbing on small trees, during the day. It seemed to have a patchy distribution, being locally abundant but absent from other areas. We also found two species of snakes. The endemic species, *Philothamnus girardi* Bocage 1893, is a colubrid that is widespread on the island, mainly in large open spaces with shrubs and grasses, outside of the village. The blue specks on a light green background were quite different from the plain green coloration of the species of São Tomé, *Philothamnus thomensis* Bocage 1882. We also discovered three specimens of the Flower Pot Snake, *Ramphotyphlops braminus* (Daudin, 1803), under rocks on the outskirts of San Antonio. This tiny slender snake is originally from Asia but has been widely introduced; recent new reports include Egypt (Baha El Din, 1996), Mexico

*Mabuya ozorii*. Photograph ©James Harris.

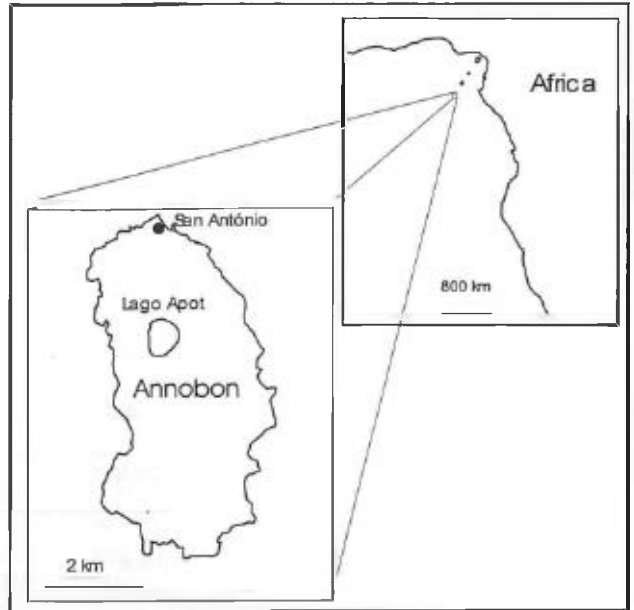
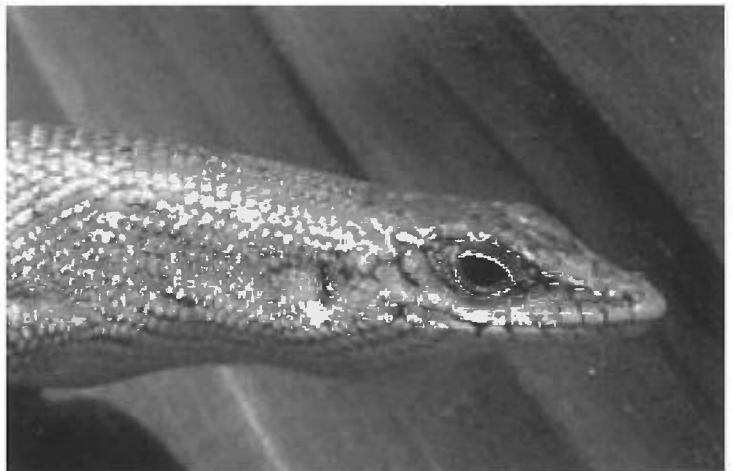


Figure 1. Map of Annobon Island

(Vázquez-Díaz & Quintero-Díaz, 2001) and the Cayman Islands (Echternacht & Burton, 2003) Its parthenogenetic reproductive strategy almost certainly has played a role in its extensive colonisation of islands.

The number of species of reptiles on this very small island is high when compared with the other two islands of the gulf of Guinea, São Tomé and Príncipe, yet Annobon is the youngest, smallest, and most geographically isolated. Of these seven



Species	Family	Our expedition	EMBL reptile database
<i>Mabuya ozorii</i>	Scincidae	+	
<i>Panaspis africana</i>	Scincidae	+	+
<i>Lygodactylus thomensis</i>	Gekkonidae	+	+
<i>Hemidactylus mabouia</i> *	Gekkonidae	+	
<i>Hemidactylus newtonii</i>	Gekkonidae	+	+
<i>Philothamnus girardi</i>	Colubridae	+	+
<i>Ramphotyphlops braminus</i> *	Typhlopidae	+	

Table 1. List of reptiles found in Annobon Island.

\* Indicates first record of these species on the island.

species, two are introduced. All non-introduced taxa are endemic species or sub-species. High species density may be due to their different ecological requirements. The geckos have different periods of activity (one is active during the day, the other at night) and different distributions (one lives mainly in rocky habitats, the other on trees in the forest). The two skinks also have distinct habitat requirements. The introduction of *Hemidactylus mabouia* to the island could pose a serious threat to *H. newtonii* - in the Mascarene islands, *Nactus* geckos have probably been eliminated from some islands by introduced *H. frenatus* (Arnold, 2000). It is also unknown if these two species could hybridise. It is therefore important to determine the exact distribution and possible spread of *H. mabouia* on the island and its affect on or interaction with this endemic species.

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