

Salvator merianae (black and white tegu) scavaging around the nests of *Fregata magnificens* (frigatebird)

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The black and white tegu *Salvator merianae* is a sizable lizard (120-140 cm TL, 2.5-7 kg) with the largest range in its genus, occurring in the north of Argentina, Uruguay, Paraguay and in most of Brazil outside of the Amazon (Péres Jr., 2003). Adaptable, it occupies most of the South American biomes, both in forest and in open habitats (Péres Jr., 2003).

Tegus are generalists that feed on a wide variety of invertebrates and vertebrates, carrion, fruit and fungi (e.g. Sazima & D'Angelo, 2013). The adults are hunters capable of capturing mammals and birds, and are known predators of nests (Sazima & Haddad, 1992; 1996; Cicchi, 2006).

S. merianae occurs naturally in several coastal islands in the south-southeast Brazilian seaboard, where it can cohabit with some species of marine birds. Here we report the first observations of *S. merianae* individuals foraging in a breeding colony of frigatebirds *Fregata magnificens* and the interactions between these species.

Alcatrazes island (135 ha) and associated islets are located 35 km off the coast of São Paulo, around 24°06'03" S, 45°41'25" W. With steep topography, Alcatrazes is partially covered by forest dominated by palm trees and has extensive areas of exposed rock (Muscat et al., 2014). Alcatrazes is considered one of the main marine bird reproductive areas in this part of the Brazilian coast. A *F. magnificens* breeding colony is situated in an area dominated by the small tree *Guapira opposita* (Nyctaginaceae) and the liana *Capparis decilnata* (Capparaceae), in the northwest side of the island.

Observations of individuals of *S. merianae* associated with the *F. magnificens* breeding colony were made opportunistically during visits to Alcatrazes on 19 November 2012 and 17 September 2013. In the 13 August 2015 expedition, observations were carried out in a planned form, during a 2-hour period, with three observers in strategic points around the colony.

On 19 November 2012, during an expedition to Alcatrazes island in which *F. magnificens* nestlings were banded, one *S. merianae* was observed, motionless and alert, under the nests. The disturbance caused by the capture of the birds for ringing made one of the nestlings regurgitate a mass of semi-digested fish. The lizard ran to the location as soon as it heard the sound of the food hitting the ground and immediately ate it.

On 17 September 2013 we again observed the same behaviour. A lizard was motionless under the nests but



Figure 1. *S. merianae* scavaging on fish that have been regurgitated by *F. magnificens*. Photograph, Edelcio Muscat

quickly ran to catch a mass of fish regurgitated by *F. magnificens* as soon as it hit the ground. On this occasion a photographic record of the specimen in the breeding colony was made (Fig. 1).

On 13 August 2015, several *S. merianae* were observed foraging and thermoregulating on the fringe and in the interior of the nesting colony, but they were never close to each other. Every so often one individual would penetrate the colony and forage there consuming regurgitated food. The regurgitated material was geotagged at 24°06'04" S, 45°41'48" W.

Corroborating these observations, an adult male *S. merianae* (325 + 585mm TL, 940g) who was found dead in the nesting colony on 09 September 2013 by Dr. Karina Nunes was preserved in the herpetology collection of Instituto Butantan (catalogue number IBSPCR. 657). On dissection, its stomach contents revealed fish remains, suggesting it had fed on the material regurgitated by the birds.

S. merianae is an adaptable species that will consume dead fish when given the opportunity (Sazima & D'Angelo, 2013). Thus, is not unexpected that lizards have learned to use fish that birds have dropped. The relation between *S. merianae* and *F. magnificens* seems to benefit solely the lizards, which, in the breeding colony, have a food source that demands very little effort.

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