



Nota breve | Short note

## Reptile monitoring on the natural reserve of Santa Luzia Island

Evandro P. Lopes<sup>1,\*</sup>, Paulo Vasconcelos<sup>1</sup>, António Pinto-Almeida<sup>1</sup> & Corrine T. Almeida<sup>1</sup>

<sup>1</sup> ISECMAR/UTA, Instituto de Engenharias e Ciências do Mar, Universidade Técnica do Atlântico, CP 163, Mindelo, São Vicente, Cabo Verde

\* Corresponding author e-mail: [elopes@uta.cv](mailto:elopes@uta.cv)

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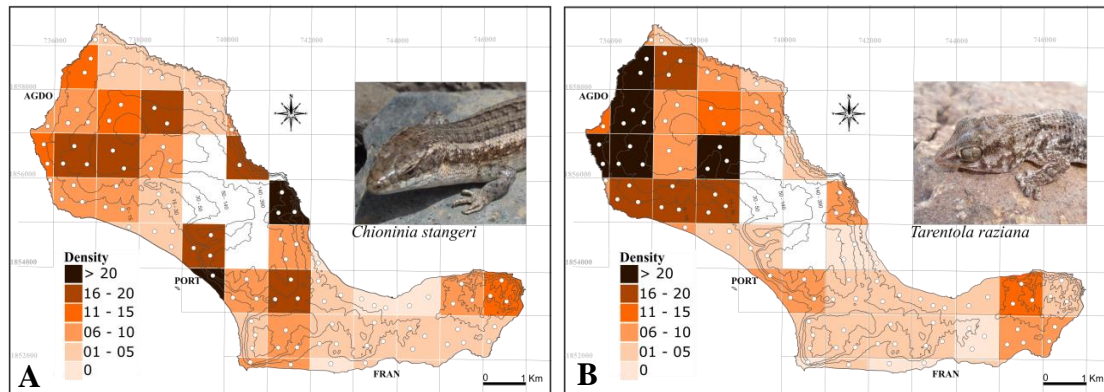
The natural reserve of Santa Luzia is presently home to three terrestrial reptile species, endemic to Cabo Verde (Vasconcelos 2015): Bouvier's leaf-toed gecko *Hemidactylus bouvieri* (Bocourt, 1870), Raso wall gecko *Tarentola raziana* Schleich, 1984, and Stanger's skink *Chioninia stangeri* (Gray 1845). In the national red list, these species were classified as Critically Endangered, Endangered and Low Risk, respectively (Schleich 1996), and internationally as threatened or near-threatened (Vasconcelos 2013a, b, c). Previous studies focused mostly on their occurrence, identification and ecology (Schleich 1984, 1987, Vasconcelos *et al.* 2012, 2013), but not on local density estimation. Monitoring species abundance on Santa Luzia may be essential to evaluate the effectiveness of conservation initiatives (Barrows *et al.* 2005). Thus, we aimed to estimate the density of reptile populations on Santa Luzia.

From 25 July to 2 August 2018 we surveyed

by day (6 am–6 pm) three random 100m-transects per 1 Km<sup>2</sup> UTM cell throughout the island except in the smaller cells bordering the ocean (check Fig. 1). We checked all favourable refugia and GPS-located all individuals found across 45 cells and 101 transects (Fig. 1).

We found only two of the three reptile species reported to the island: *C. stangeri* skinks and *T. raziana* geckos, both well distributed throughout the island. However, the dune areas south of the island showed very low densities of these species (averages per transects: 1.08±0.32 skinks; 1.12±0.45 geckos).

We found 777 skinks in 86% of transects (1–32 individuals per transect; average= 7.7±0.71), mostly in the northern and central zones (Fig. 1A). We found 968 *T. raziana* geckos (1–73 individuals per transect; average= 9.6±1.34) on 75% of transects, mostly in the north (Fig. 1B).



**Fig.1.** Map of Santa Luzia Island with average densities (individuals per transect and per cell) of two reptile species: **A)** *C. stangeri* (photo by E. Lopes) and **B)** *T. raziana* (photo by K. Delgado). The isolines represent equal elevations, the blank cells unsampled areas, and white dots points of the transects. The three fishermen's camp are mapped: Água Doce (AGADO), Portinho (PORT), and Francisca (FRAN).

Three important points on the island (Portinho, Água Doce, and Francisca) had high densities of both species, probably because they offer more refuges and/ or trophic resources. These areas are the most visited by fishermen (Melo *et al.* 2015), and are thus commensally used by the animals for food, water and artificial refuges. The dune areas showed much lower densities, unlike the rocky areas, due to the scarcity of refuges, similarly to what was previously observed (Geraldes & Melo 2016). Densities were very low or zero in some cells due to lower habitat suitability and/ or detectability. Skinks usually

hide in burrows that can be deep, making them hard to spot, and geckos can use deep crevices. The number of individuals found may also change over the time of the day, season, year, or climate conditions (Dickman *et al.* 1999). As sampling was performed during times of little rainfall, both species densities were considerable low. We recommend repeating this survey to detect seasonal/ annual variations. For monitoring the rare *Hemidactylus bouvieri*, extensive monitoring in mountainous and humid areas is also recommended.

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