



## DENSITY OF THE LAND CRAB, *Johngarthia lagostoma* (BRACHYURA: GECARCINIDAE), IN FUNCTION OF THE MOON PHASES AND VEGETATION, IN TRINDADE ISLAND, BRAZIL

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Trindade Island is known to harbor the most genetically isolated population of the land crab *Johngarthia lagostoma*, requiring a better understanding of their population biology. Andradas Beach is considered a reproductive site for this species, due to the predominance of adults in comparison to other places in the island. This study aims to compare the density of *J. lagostoma* in function of moon phases and vegetation during the breeding season. The samples were conducted during daytime in three established areas parallel to the sea, at different distances and dominated by distinct vegetation types, as follow: A1, presence of *Canavalia rosea* and bare soil (80 m); A2, an association between *Cyperus atlanticus*, *C. rosea* and bare soil (120 m); and A3, fully covered by *C. atlanticus* (150 m). During full and new moon, in each area, eight sampling quadrats (4m<sup>2</sup>) were randomly distributed and all crabs inside of them were counted. A two-way ANOVA was carried out to test if crab density varies according to moon phase, vegetation type, as well their interaction. No crabs were found in A1, probably due to the absence of humid shelter vegetation and because of this these quadrats were removed from statistics. The density of crabs differs in relation to moon phases ( $F=12.68$ ,  $p=0.01$ ), being higher at full moon ( $1.72\pm 0.75$  ind./m<sup>2</sup>) than at new moon ( $0.95\pm 0.70$  ind./m<sup>2</sup>), the same occurring to the vegetation ( $F=13.74$ ,  $p=0.001$ ), being higher in A2 ( $2.22\pm 0.73$  ind./m<sup>2</sup>) when compared to A3 ( $1.22\pm 0.34$  ind./m<sup>2</sup>), but not in their interaction ( $F=0.89$ ,  $p=0.35$ ). Full moon is related to a higher reproductive intensity in many crab species and seems to play a major role in *J. lagostoma*, principally in A2 due to a more complex substrate (two vegetation species), as well as the proximity to the sea. Vegetation adjacent to beaches provides protection and humidity to the crabs during daytime. We emphasize the relevance of these vegetated areas in management actions for *J. lagostoma* in Trindade Island, and not only areas nearest to the sea.

**Keywords:** breeding season, oceanic island, shelter.

**Financial support:** CNPq (Crabs Project # 404224/2016-4 and PQ # 305957/2019-8).

**Area: Ecology & Biodiversity**

