



IDENTIFICATION OF REPRODUCTIVE AND NURSERY AREAS OF THE LAND CRAB *Johngarthia lagostoma* IN THE TRINDADE ISLAND, BRAZIL

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Seasonal reproductive migration from high to low altitude areas is a common behavior for many insular gecarcinid crabs. Although the population structure of the yellow crab *Johngarthia lagostoma* has already been described in the Ascension Island (UK), there is no information about this fact in Brazilian oceanic islands (Rocas Atoll, Fernando de Noronha or Trindade). According to the IUCN criteria, *J. lagostoma* is considered endangered (EN) due to the high rates of habitat suppression recorded in insular environments. Here, we evaluate the structure of *J. lagostoma* in areas with different altitudes in the Trindade Island, during the reproductive season. For this purpose, we sampled crabs in two expeditions during the summer of 2019 and 2020 in four areas: Andradas and Tartarugas Beaches, Príncipe (136m) and Desejado Hills (612m). In these areas, crabs were sampled during the nocturnal period in fixed transects, with each crab being measured (CW, carapace width) and sexed. We used the sexual maturity size (mm CW) of each sex (males: 56.4; females: 56.6) to classify individuals as juvenile or adult. Next, we tested whether crab's CW varied between sexes and areas, and calculated the proportion between adult males and females, and of juvenile and adult individuals in each area. A total of 1,251 individuals (758 males and 493 females) were sampled. Male crabs are larger than females in all areas ($F=4.7$, $p=0.003$) but the smallest size difference (4mm CW) and the largest individuals of both sexes were registered in Andradas Beach. The adult proportion for each sex was similar only in Andradas Beach ($\chi^2=0.02$, $p=0.1$), with a bias towards males being registered in the remaining areas. Adult individuals were predominant in the entire island but the major frequency of juveniles occurred in the Príncipe Hill (30%). Therefore, our results indicate Andradas Beach and Príncipe Hill as reproductive and nursery areas, respectively. We suggest that these two areas need to be included in conservation actions of *J. lagostoma* in the Trindade Island.

Keywords: Gecarcinidae, migration, population structure.

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