GENETIC DIVERSITY AND CONNECTIVITY OF ISOLATED POPULATIONS OF THE LAND CRAB *JOHNGARTHIA LAGOSTOMA* (BRACHYURA: GECARCINIDAE): IMPLICATIONS FOR ITS CONSERVATION IN THE TROPICAL ATLANTIC

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The yellow land crab *Johngarthia lagostoma* (H. Milne Edwards, 1837) is of paramount ecological importance since it lives on the top of the terrestrial food webs in the islands that it inhabits. The species is endangered and endemic into oceanic islands from Tropical Atlantic. In this study, 84 specimens of *J. lagostoma* were sampled from Fernando de Noronha (FN), Rocas Atoll (AR), Trindade (TR) and Ascension (AS). Fragments of 651 base pairs from the control region of mtDNA were sequenced. High levels of haplotype diversity (0.99) and nucleotide diversity (0.04) were recorded. A high gene flow scenario was detected among specimens from FN, RA, and AS by several evolutionary and population genetics methods. Conversely, a geographic isolation phenomenon was detected in the sample from TR (Φ_{ST} and $F_{ST} > 0.30$). Zonal currents and sea level changes during glacial cycles may explain the connectivity between the equatorial islands (FN, RA and AS) and the extreme geographic isolation of TR. In spite of the high degrees of genetic variation and gene flow among populations of *J. lagostoma* at equatorial islands, its current conservation status (endangered) must be maintained given their endemism in tropical Atlantic islands as in FN and RA. Indeed the TR population must be treated as a separate conservation unit and it requires an intense monitoring. This study provides new insights for the conservation of this species, providing subsidies for the challenges faced in the context of the management of oceanic MPAs.

Keywords: Decapoda, Brachyura, tropical oceanic islands, D'Loop.