



REVEALING THE RECRUITMENT OF THE LAND CRAB *Johngarthia lagostoma* (BRACHYURA: GECARCINIDAE), IN THE TRINDADE ISLAND, BRAZIL

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Johngarthia lagostoma inhabits four oceanic islands in the Atlantic, three of them belonging to Brazil (Fernando de Noronha, Rocas Atoll and Trindade). This is a threatened species, categorized as Endangered (EN) species in Brazilian territory, though poorly studied. Some parameters of the *J. lagostoma* recruitment were evaluated in Andradas beach (Trindade Island, Brazil), inspecting 30 galleries of adult's specimens by lunar phase (n=128) in January 2020. Galleries were carefully examined to registered recruits, whose were counted to calculate their density (ind./gallery). In laboratory, juveniles were submitted to image analysis system (0.001 mm) for recording measurements of the carapace (CW, width; and CL, length), chelar propodus (PL, length) and abdomen (AW, width). Individual wet weight (WT) was registered by an analytical scale (0.0001 g). Recruits were distributed in size classes (1mm CW) and the asymmetry coefficient (sk) was calculated. Density and size (CW) were also compared among lunar phases (ANOVA). The biometric relationships (CLxCW, PLxCW and AWxCW) were submitted to regression analysis (power function) to check for isometric or allometric growth (b=1 or b≠1, respectively); the same established to WTxCW relationship but using b=3 or b≠3, respectively. We obtained 79 recruits in 49% of adult galleries, with CW ranging from 2.2 to 7.5mm CW (4.9±0.8mm CW). Recruits' density and size showed an inverse pattern, with a higher density (2.1±2.5 ind./gallery) of smaller recruits (2.2±5.7mm CW) in full moon, with reduced density in the subsequent moon phases and attaining a lower density (0.2±0.4 ind./gallery) of bigger crabs (5.4±7.5mm CW) in crescent moon (F=11.2, p<0.01). The recruits' size frequency was symmetric (sk=-0.17), with a little specimen >7mm CW. This size increase of the recruits inside the galleries can promote an expulsion behavior or predation by adult co-inhabiting crab. All biometric relationships showed a negative allometric growth, while the weight relation showed a positive growth that means the main energy allocation goes to somatic growth. These results are pioneers and extremely relevant for the management and conservation of this species.

Keywords: biometry, endangered, Gecarcinidae, recruit.

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