ONTOGENETIC COLOR VARIATION AND CAMOUFLAGE OF THE INSULAR LAND CRAB *Johngarthia lagostoma* (H. MILNE EDWARDS, 1837)

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Although many crab species exhibit intraspecific color variation, there are few reports about this trait in species with high degree of terrestriality. The insular land crab *Johngarthia lagostoma* (Gecarcinidae family) is variable in color and occupy areas under lower predation pressure, but the function of this variation remains unstudied. Here, image analyses were used to describe *J. lagostoma* chromatic types in the Trindade Island, and to test whether they are selected by sexual, ontogenetic and/or ecological purposes. We explored four areas with distinct altitude – Andradas and Tartarugas Beaches, Príncipe Hill (136m) and Desejado Peak (612m) – where crabs were sampled, sexed and measured (CW, carapace width). We took digital photographs of crab's carapace and the main substrates of each area, from which we obtained normalized reflectance values to calculate different color metrics. We tested whether the occurrence of each color type differed between sexes and areas, and compared crab's CW and color metrics (brightness, saturation and hue) between sex and chromatic types. Finally, we evaluated the color background matching between crab chromatic types and the different substrates. Three color types were observed for the species, being black and yellow/purple individuals restricted for small (CW<30mm) and large crabs, respectively, indicating an ontogenetic color change. All types occurred in similar proportions between sex, with yellow crabs being predominant in the population and exhibiting larger CW, brightness, saturation and hue than the other color types. Black crabs exhibited higher color matching with sand and ground substrates, which are characteristic of recruitment and hill areas, respectively, where this chromatic type is more frequent, suggesting effective camouflage against these backgrounds. However, while yellow and purple crabs matched hill and beach substrates, respectively, this variation is probably maintained in the population by neutral selection due to the low predation pressure that adult crabs are exposed. Future studies with other insular crabs are necessary to understand whether the pattern described here for *J. lagostoma* is widespread in the Gecarcinidae family.

Keywords: background matching, coloration, Gecarcinidae.

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