REPRODUCTIVE POTENTIAL OF THE LAND CRAB, *Johngarthia lagostoma* (H. MILNE EDWARDS, 1837), IN TRINDADE ISLAND, BRAZIL

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Johngarthia lagostoma is an endemic land crab widely regarded in ecological terms and found in four Atlantic Ocean islands. Within Brazilian territory, *J. lagostoma* is considered an 'endangered '(EN) species, due to habitat suppression and wildlife introduced to these islands. This project evaluates the reproductive potential of *J. lagostoma* in Trindade Island, Brazil, based on their reproductive efforts and fecundity. Ovigerous females had their size (CW, carapace width) measured with precision calipers (0.05mm) and their wet weight registered on a digital scale. Afterwards, the egg mass was removed and the specimens were weighed again. The difference between total ovigerous female weight and their weight without eggs (WNE) represents the egg mass wet weight (EMw). Reproductive effort (RE) was quantified through the percentage in which egg weight corresponds to the total female weight and represented by the following equation: RE=(EMw/WNE)x100. Fecundity was estimated through a volumetric method. Each egg mass was transferred to a container with water (5L) and submitted to constant aeration, where five subsamples (2mL) were taken. Egg number (NE) was quantified through the volume of each subsample, with subsequent extrapolation towards the total volume. The RE and NE values were used as dependent variables in regression analyses and CW as an independent variable. A total of 43 females were analyzed, in which CW and RE ranged from 55.3 to 100.1mm CW (75.8±12.6 mm CW) and from 7.3 to 14.2 RE% (10.5±1.5 RE%), respectively. The RExCW relationship ($RE=124,71LC^{-0,57}$) has a negative correlation ($r=-0.59$; $p<0.001$), with the decrease in reproductive effort in relation to increasing size. However, this function did not fit properly ($R^2=0.34$). For fecundity analysis ($n=42$) the variables CW and NE ranged from 50.4 and 95.7mm CW (74.0±12.5 mm CW) and from 17,500 to 160,000 eggs (77,866±42,122 eggs). The NExCW relationship ($NE=0.35CW^{2.83}$) shows a positive correlation ($r=0.85$; $p<0.0001$) and fits properly ($R^2=0.72$). These obtained mathematical models will expand the information regarding J. lagostoma and their reproduction. Furthermore, they can be used to improve how this species is handled in Trindade Island.

Keywords: conservation, egg, ocean island, reproduction.

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