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Breeding of the land crab *Cardiosoma armatum* (Herklots 1851) in enclosure in Benin.

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ABSTRACT

Objective: Tests of breeding of 70 juveniles (35♂ and 35♀) and 5 berried females of *Cardiosoma armatum* (Herklots 1851) were carried out in captivity for 42 days. The aim of the present experiment was to investigate the growth performance of the land crab, the ability to domesticate (water and soil quality) traits.

Methodology and results: The experimental rearing system consisted of a series of seven rectangular pens installed in a temporary building. All experimental pens were supplied with mud and drinking tap water. The experimental pens represented three sexual treatments (two replicates each) including the control of growth in bearing on sex. The crabs were fed on palm nuts (*Elaeis guineensis*), banana leaves (*Musa sp*), Seashore paspalum (*Paspalum vaginatum*) and a pelleted feed. The results show a non-significant difference between enclosure for temperature, pH of the soil and water. The average values recorded in pens were: 31.11 ± 0.28 ° C (temperature), 77.57 ± 0.59% (air humidity), 6.55 ± 0.13 (soil pH), 6.61 ± 0.11 (pH of water basins), 0‰ (Salinity), favouring a survival rate of 94.28%. In monosex rearing, the group of males presented an average daily gain (ADG) higher than that of females: 0.13 ± 0.08 g vs. 0.09 ± 0.04 g ($p < 0.05$). In mixed farming, average daily gain (ADG) of males is significantly lower than that of females: 0.10 ± 0.05 g vs 0.12 ± 0.08 g ($p < 0.05$). Furthermore, the males in monosex farming presented an average daily gain above ($p<0.05$) that of males in mixed farming. There is no significant difference between males in mixed farming and females in monosex culture ($p < 0.05$). The carapace of males is wider than that of females: 5.2 ± 0.39 cm vs 5.1 ± 0.34 cm during the test ($p < 0.05$).

Conclusion and application of results: This species has good growth performance and can be recommended for the Benin aquaculture. These results showed the optimal conditions required for breeding of *Cardiosoma armatum* in pens.

Keywords: growth, *Cardiosoma armatum*, Benin