

PINHEIRO, Marcelo A.A., FRANSOZO, Adilson. - Relative growth of the speckled swimming crab *Arenaeus cribrarius* (Lamarck, 1818) (Crustacea, Brachyura, Portunidae) in Ubatuba littoral, São Paulo, Brazil<sup>1</sup>.

*Arenaeus cribrarius* is a tropical crab that occurs only in the Western Atlantic Ocean, the Brazil being its type-locality. The species ranges from Vineyard Sound, Massachusetts, USA, to La Paloma, Uruguay. Information about this species is sparse. The relative growth of *A. cribrarius* was analyzed, based on some morphometric relations, where the carapace width, excluding lateral spines (CW), was used as an independent variable. A total of 403 specimens (189 males and 214 females), was collected in Ubatuba, State of São Paulo, Brazil, with otter-trawl nets. The animals were sexed and discriminated to maturation phase (juvenile or adult) through the inspection of the abdominal shape and its adherence to the sternum. Some measurements were made in places demarcated previously in carapace (length and width including lateral spines), abdomen (greatest width of the fifth somite in females and the sixth in males) and major chela (greatest length, width and height, beyond the dactylus length). This study was made by the application of the power function ( $Y = a.X^b$ ) which was adjusted to the data and the pattern of growth established for each parameter by the "b"-value (constant of allometry), or rather, positive allometry ( $b > 1$ ), negative allometry ( $b < 1$ ) and isometry ( $b = 1$ ). The morphometric relations of the carapace showed a tendency to isometry. In females, the abdominal width grew in positive allometry despite a greater grade in juveniles ( $b = 1.33$ ) than adults ( $b = 1.18$ ). In this case, an overlap and discontinuity was noticed between the phases with CW in interval class of 55 to 70mm, where the puberty molt occurs. The majority of relationships showed that major chela of the males grew in positive allometry, however, the greatest allometric difference between the phases was observed to the propodus length with 1.09 juvenile and 1.26 adult "b"- values. In the males, this variable showed an inflection in empirical point tendency, with CW of 45 to 55mm, where the transition of the maturation phase should occur. The relative growth of this species is similar to those previously studied. This indicates that the propodus length and the abdominal width, are the morphometric variables most appropriate to estimate the size at the beginning of the sexual maturity to males and females of this species, respectively.

<sup>1</sup> = CNPq and FUNDUNESP

Departamento de Zoologia, Instituto de Biociências UNESP Campus de Botucatu,  
Caixa Postal 502, 18 610 Botucatu SP, Brasil.

~~~~~

PINKSTER, Sjouk. - What can hybridization experiments teach us about the taxonomy of Gammarids (Amphipoda).

Due to a considerable amount of morphological variability, the systematic position of members of the *Gammarus pulex*-group for a long time has been a source of confusion. Careful morphological examination and cross-breeding experiments (summarized in Karaman & Pinkster, 1977) could solve many of the problems. However, morphologically identical forms often do not crossbreed and must be considered different species (Pinkster & Scholl, 1984). Therefore a large scale programme was started to investigate the genetic differentiation by electrophoresis; it appeared that morphologically similar populations often differ considerably (on the specific or even generic level), while on the other hand morphologically different forms are genetically identical (summarized in Scheepmaker, 1990). In a new series of cross-breeding experiments we found that these genetically very different and allopatric populations often do hybridize. In an additional series of experiments we did not just regard the final results, but also tried to understand what happens when hybridizing populations. Daily every sexual pair was followed to give answer to the following questions: 1) Do the males and females recognize each other; do they form precopulating pairs; do they really mate; and if not so, does a mechanical barrier exist (e.g. size difference); does oviposition take place (all prezygotic factors) ?