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Ontogeny of the mandible of *Aegla uruguayana* (Decapoda, Anomura): A geometric morphometric approach

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The analysis of mouthparts addresses one of the most interesting lines of research within the field of study of the morphology of crustaceans, due to its complexity (GARM & HOEG, 2000). According to CARTES (1993), this complexity has played a fundamental role in the colonization success of this group, showing a remarkable range of food options. *Aegla uruguayana* is a freshwater anomuran crab that lives in lotic and lenitic freshwater environments of the southern state of Rio Grande do Sul in Brazil, in Uruguay and in central and northwest Argentina (BOND-BUCKUP & BUCKUP, 1994). This decapod belongs to the unique family of anomurans that colonized freshwater environments (SCHMITT, 1942). The aim of this work is to analyze the shape patterns of the mandible of *A. uruguayana* in specimens of various sizes, in order to determine if juveniles and adults may have different food options. Digital pictures of all specimens were taken using a Moticam 1000

digital microscope camera. Seven landmarks and three semi-landmarks were recorded on the dorsal view of the cephalothorax through the tpsDig program (ROHLF, 2004). Configurations were superimposed through the Generalized Procrustes Analysis (ROHLF & SLICE, 1999) in the tpsRelw program (ROHLF, 2005). Shape variation in samples was first explored through Relative Warp Analysis. The mandible shape differed according to stages of development (juveniles, sub-adults and adults). The RW 1 showed that the smooth molar process exhibited the most outstanding differences, as seen from the deformations of the grids. The RW2 reflected shape variation in the mandible associated with molt cycle stage. A MANCOVA revealed significant shape differences ($P < 0,05$) among juveniles, sub-adults and adults. Thus, the temporal proximity to the phenomenon of moulting and the degree of wear of the incisor process could both explain this pattern. The inci-

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tor process characteristics may be due to natural diets. Juveniles showed lower frequency of consumption of plant debris than adults. It may also be argued that mechanical destruction of this item would accelerate the erosion of the mandible. In addition, a longer period of time between ecdysis events may also be an alternative explanation for these results.

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