



## ***Aegla manuinflata*, a new species of freshwater anomuran (Decapoda: Anomura: Aegliidae) from Brazil, determined by morphological and molecular characters**

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### **Abstract**

A new species of freshwater anomuran, *Aegla manuinflata* n. sp. (Decapoda: Anomura: Aegliidae), is described from the Ibicuí River basin, a tributary of the Uruguay River, from the central region of the state of Rio Grande do Sul, Brazil. It can be distinguished from its congeners based on both morphological and molecular (mitochondrial gene — COII) evidence. Morphologically, the new species partly resembles *A. inermis* and *A. uruguayana*, but differs in having an inflated cheliped propodus and more elongated dactyls, besides other features. Our molecular results showed a high degree of genetic divergence between *A. manuinflata* and its sister group (composed of *A. singularis*, *A. uruguayana*, *A. rossiana* and *A. platensis*), an indication of species distinctness within the Aegliidae.

**Key words:** Aegliidae, Anomuran crab, biogeography, COII, mtDNA sequence, Uruguay basin

### **Introduction**

Fossil records of *Protaegla miniscula* Feldmann *et al.*, 1998 (~150 Mya) and *Haumuriaegla glaessneri* Feldmann, 1984 (~75 Mya) support the marine origin of the family Aegliidae, the only anomuran group now living exclusively in continental waters. Based on the geological history of South America, the formation of its hydrographic basins, and the phylogenetic analysis of Aegliidae, Pérez-Losada *et al.* (2004) estimated the age of the root of the Aegliidae tree as 74 Mya. According to these authors, this suggests that the colonization of southern South America and hence the origin of freshwater Aegliidae is post-Andean and occurred during the Late Cretaceous marine transgression (~70 Mya).

From that time to the present, the drainage basins of South America have undergone considerable shifts (Potter 1997). According to the records, the last great transformation was the final uplift of the Coastal Range (Serra do Mar) in southern Brazil. This uplift altered the upper courses of east-flowing tributaries of rivers in paleo-Paraná and paleo-Uruguay, so that some short montane rivers were diverted eastward. This configuration is particularly remarkable in the state of Rio Grande do Sul in southern Brazil, where the drainages were split into two hydrographic basins, the Uruguay and the Southeast. The former basin is located to the west, formed by the Pelotas, Erechim and Turvo rivers in the northern region of the state and the Ijuí, Ibicuí and Quaraí in the western region, all of them draining into the Uruguay River. The latter basin is formed by the Jacuí, Sinos, Caí and Camaquã rivers, all of them draining into the Patos Lagoon, which has its mouth at the city of Rio Grande (Fig. 1).