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## A new species of *Macrobrachium* Spence Bate, 1868 (Decapoda, Palaemonidae), *M. pantanalense*, from the Pantanal, Brazil

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### Abstract

The neotropical species *Macrobrachium amazonicum* (Heller, 1862) is considered a particularly successful species, showing an extremely wide range of distribution (ca 4.000 km across). Populations assigned to this species live in estuaries along the northern and northeastern coasts of South America as well as in fresh water habitats in the Amazon, Orinoco and Paraná-Paraguay river basins. Following recent comparative studies that showed differential ecological, reproductive, developmental and physiological traits in geographically separated populations from the Amazon delta and the Pantanal region, Brazil, we examined the morphology of adult shrimps from these two regions. Based on significant differences, we conclude that the Pantanal population constitutes a new species, which is described here as *Macrobrachium pantanalense*. The main differences between *M. amazonicum* and the new species have been found in the morphology of the second pereopod, the telson, and in the color patterns of both males and females. A modification on the key of American species of *Macrobrachium* is provided to accommodate the new species.

**Key words:** *Macrobrachium*, new species, freshwater shrimp, Pantanal, Brazil

### Introduction

*Macrobrachium* Bate, 1868 is the most speciose genus in the caridean shrimp family Palaemonidae (De Grave and Fransen 2011). Among these, the neotropical species *Macrobrachium amazonicum* (Heller 1862) is considered as a particularly successful invader of freshwater habitats, showing an extremely wide range of geographic distribution (ca 4.000 km across). Populations assigned to this species live in estuaries along the northern and northeastern coasts of South America as well as in fully limnic inland habitats in the Amazon, Orinoco and Paraná-Paraguay river basins (Holthuis 1952).

*Macrobrachium amazonicum* was first described by Heller (1862) as *P.[alaemon] amazonicus* based on a specimen collected in the Amazon River (without providing further information on the precise location or habitat). Subsequently, Smith (1869) provided another description for the same species based on specimens from the coastal region of Pará, Brazil, which he called *Palaemon ensiculus*. Eventually, Holthuis (1952) provided a complete description of both male and female morphology of specimens from various locations along their distributional range, including individuals from the Amazon and Paraguay River basins. The type locality for this species is the “Amazon River”, and the type specimen is the one first described by Heller in 1862 (Holthuis 1952).

In recent years, it has been recognized that, within *M. amazonicum*, at least two different kinds of populations exist: (1) those living in the northern and northeastern coastal regions of Brazil (e.g. in the Amazon Delta); they all depend on brackish water to complete their live cycle; and (2) others living in landlocked inland waters such as the wetlands of the Pantanal region, southwestern Brazil (for review, see Anger 2013). A third group may live in central and western Amazonia (Porto 2004); however, this group is hydrologically connected to the first one, so that gene flow with it remains, in principle, possible.

Comparative studies have shown differences in reproductive traits of different populations, with higher fecundity and smaller egg size in estuarine as compared to Amazonian inland populations (Odinetz-Collart and