



A new fairy shrimp *Phallocryptus tserensodnomi* (Branchiopoda: Anostraca) from Mongolia

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Abstract

A new species of *Phallocryptus* Biraben 1951 (Branchiopoda, Anostraca) from Mongolia is described. *Phallocryptus tserensodnomi* **sp. nov.** is close to *P. spinosa* (Milne-Edwards 1840), but both morphological and molecular analyses (Cytochrome Oxidase I, COI) indicate that they represent separate species. Most relevant differential features of the new species include: (1) frontal appendage provided with small ventral conical outgrowths; (2) second antennamere evenly curved, sickle-shaped; (3) distal fleshy process on labrum evenly curved forwards and tapering; (4) short stout acute spine-like projections present at each side of basal portion of gonopods; (5) female second antennae shorter and wider than in *P. spinosa*, tapering. Based on morphological comparisons the new species appears to be a Mongolian endemic, although some genotypes of presumed *P. spinosa* from Africa are similar to the new species, suggesting *P. tserensodnomi* might have a wider distribution.

Key words: Anostraca, Thamnocephalidae, *Phallocryptus tserensodnomi*, *Phallocryptus spinosa*, new species, Mongolia

Introduction

Mongolia harbours a vast array of lakes and wetlands scattered over a huge undisturbed territory. Ten limnological expeditions conducted all over the country during the last eight years in the framework of the project “Biodiversity of Crustacea Entomostraca in the Palaearctic” in collaboration with the Water Research Center of the National University of Mongolia, have lead to the accumulation of an important collection of aquatic crustaceans, including large Branchiopoda. The Mongolian species of this group have been dealt with previously by several authors (Sars 1901; Brtek *et al.* 1984; Naganawa *et al.* 2001, 2002; Naganawa & Zagas 2002, 2003), but as Rogers (2005) pointed out, new records and the discovery of new species should be expected after extending the surveys to unexplored areas. Until now, there were nine fairy shrimp taxa reported from the country, two of them recently described as new species (Rogers 2005; Alonso 2008), whereas the ninth is a not yet described member of the genus *Phallocryptus* collected in saline lakes (Alonso 2010).

The genus *Phallocryptus* is one of the few members of the anostracan family Thamnocephalidae currently embracing three different species (Rogers 2003). They are halobionts living in arid and semiarid areas. Amongst them, *P. spinosa* is the only species showing a wide distribution, being present in western Eurasia and Africa, whereas the other two species are limited to the American continent, *P. wrighti* being widespread in Argentina while *P. sublettei* is a relict species from Texas, USA (Rogers 2003). In this study we describe a new species of *Phallocryptus* from Mongolia as *P. tserensodnomi* **sp. nov.** This taxon was initially reported by Alonso (2010) as *Phallocryptus* sp. and is closely related to *P. spinosa* (Milne-Edwards 1840). Both morphological and molecular analyses indicate nevertheless that they represent different species that probably originated by allopatric speciation.