



A new bomolochid copepod parasitic on bullseye puffer *Sphoeroides annulatus* (Jenyns) from Mexico, with reassignment of some species of *Acantholochus* Cressey and *Hamaticolax* Ho & Lin

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Abstract

A new bomolochid copepod species, *Acantholochus zairae* (Cyclopoida: Bomolochidae), was found on the bullseye puffer fish *Sphoeroides annulatus* (Jenyns). It is the ninth species belonging to *Acantholochus* Cressey around the world and the third from the Mexican Pacific. Females of *A. zairae* **sp. n.** can be distinguished from *Acantholochus* spp. mainly by the presence of one seta (instead of two) on the second endopodal segment of leg 2 and by the strong, large claw of the maxilla. *Acantholochus zairae* **sp. n.** is attributable either to *Acantholochus* or to *Hamaticolax* Ho & Lin since no useful character to distinguish the genus *Acantholochus* from the genus *Hamaticolax* was found in the literature. We therefore suggest that species of the genus *Acantholochus* can only be distinguished from those of the genus *Hamaticolax* by the absence of the accessory process of the maxillipedal claw. Due to the above, three species of bomolochids hitherto placed in the genus *Acantholochus* [*H. galeichthyos* (Luque & Bruno) comb. nov., *H. paralabraxis* (Luque & Bruno) comb. nov. and *H. unisagittatus* (Tavares & Luque) comb. nov.] are transferred to *Hamaticolax* and three species hitherto placed in the genus *Hamaticolax* [*A. albidus* (Wilson) comb. nov., *A. australiensis* (Byrnes) comb. nov. and *A. venustus* (Kabata) comb. nov.] are transferred to *Acantholochus*. In addition, keys to the females of both genera are provided.

Key words: *Acantholochus zairae*, fish parasite, Cyclopoida, Bomolochidae, taxonomy

Introduction

The bullseye puffer *Sphoeroides annulatus* (Jenyns) is an economically important fish and some studies have been done to assess its feasibility for large-scale aquaculture (Chávez-Sánchez *et al.* 2008). Parasites from several taxa, including copepods, are responsible for widespread diseases and mortality in finfish aquaculture (Ogawa 2005; Guo & Woo 2009). The best treatment against the copepod parasites of *S. annulatus* can be achieved through their accurate identification and more detailed investigation especially during the establishment of fish farms. Thus, a short-term study to describe temporal composition and variation in the parasite copepod community of the wild bullseye puffer was performed. Five species of copepods were found parasitizing the bullseye puffer. Of these, one bomolochid species turned out to be attributable either to *Acantholochus* Cressey or to *Hamaticolax* Ho & Lin.

The original diagnosis for *Acantholochus* was based on five species [*A. asperatus* (Cressey & Cressey), *A. crevalleus* (Cressey), *A. divaricatus* (Cressey & Cressey), *A. nasus* (Cressey) and *A. nudiusculus* (Cressey & Cressey)], whose females are mainly characterized by the presence of a pair of hooks on the rostrum, a 5-, 6- or 7-segmented antennule without modified setae on first segment, by the accessory process of the claw of the maxilliped being reduced or absent, by long and heavily sclerotized outer spines of the exopod of leg 3, and by the endopod of leg 4 being longer than the exopod (Cressey 1984). Later, three more species were added to the genus (*A. galeichthyos* Luque & Bruno; *A. paralabraxis* Luque & Bruno; and *A. unisagittatus* Tavares & Luque). However, these three species does not fit the generic diagnosis by Cressey (1984), since they possess