



***Minibrachium*, a new subgenus of *Rhamphobrachium* (Annelida: Onuphidae) from Australia with the description of three new species**

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Abstract

This study describes a new subgenus of miniature, progenetic *Rhamphobrachium* species from eastern Australia. *Minibrachium*, n. subg. is characterised by such paedomorphic features as lack of peristomial cirri and branchiae, possession of only two pairs of modified parapodia with spiny recurved hooks and very early onset of subacicular hooks. Three new species are described, of which at least *R. (Minibrachium) nutrix* n. sp., the type species (from Lizard Island, Great Barrier Reef), is a fully grown adult, brooding several 16- to 20-chaetiger juveniles in the parental tubes. *Rhamphobrachium (M.) talboti* n. sp. (from off Sydney) and *R. (M.) fractum* n. sp. (from Bass Strait), although twice as large as the type species, have only partially developed frontal lips, indicating either incomplete growth or presenting an additional paedomorphic character. We discuss the position of the new subgenus in the *Rhamphobrachium* complex and present a key to the subgenera of *Rhamphobrachium* and species of *R. (Minibrachium)*.

Key words: polychaetes, taxonomy, brooding, juveniles, Lizard Island, progenesis

Introduction

The genus *Rhamphobrachium* was erected by Ehlers, 1887 for his previously described *Onuphis brevibrachiatum* Ehlers, 1875 and a new species, *Rhamphobrachium agassizii* Ehlers, 1887, for onuphids with three prolonged anterior pairs of parapodia with long, spiny, distally recurved hooks. Subsequently the definition was broadened to include species with two to five pairs of modified parapodia and spineless recurved as well as spiny tridentate hooks (Monro 1937), Day (1960), Estcourt (1966) and Kucheruk (1979). In her generic revision of Onuphidae, Paxton (1986a) revised *Rhamphobrachium*, demonstrated that some species with two pairs of modified parapodia were juveniles, and that several species with four or five pairs of modified parapodia differed also in a number of additional important characters. She restricted the definition of *Rhamphobrachium* to species with three pairs of modified parapodia with hooks with moveable spines and long chaetal sacs, described two new genera *Brevibrachium* Paxton, 1986 and *Longibrachium* Paxton, 1986 to accommodate the pre-empted species, and regarded the group as a complex of related genera, the *Rhamphobrachium* complex. Furthermore, Paxton (1986b) showed that *Rhamphobrachium agassizii* (type species) and *R. chuni* Ehlers, 1908, differed in a number of characters from the remaining species and erected the subgenus *R. (Rhamphobrachium)* for the former two and *R. (Spinigerium)* for the species possessing spinigers in anterior parapodia.

Small specimens, lacking frontal lips, peristomial cirri and branchiae, possessing two pairs of modified parapodia with internal to protruding spiny hooks and peculiar wing-shaped subacicular hooks with spiny hoods, were reported as *R. (Rhamphobrachium)* sp. because of their lack of spinigers (Paxton 1986a, b). These small specimens, collected off southeast Australia in depths of 31–126 m, ranged in size from 10–22 mm in length and were regarded as juveniles, but despite continued vigilance over almost thirty years, adult *R. (Rhamphobrachium)* species have never been reported from these waters.