

Revision of the *Rhamphobrachium* Complex (Polychaeta: Onuphidae)

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ABSTRACT. The *Rhamphobrachium* complex is revised. Three species each are recognized for *Brevibrachium* and *Longibrachium*, of which *B. augeneri* and *L. longipes* are newly described. Two subgenera of *Rhamphobrachium* are established: *R. (Rhamphobrachium)* containing two species, and *R. (Spinigerium)* n. subgen., containing 10 species, of which four [*R. (S.) hutchingsae*, *R. (S.) noeli*, *R. (S.) pettiboneae* and *R. (S.) pyriforme*] are described as new. Three additional species, *R. (S.) bipes*, *R. (S.) brevicornutum* and *R. (S.) cristobalensis*, known only from juveniles, are treated as *incertae sedis*. Keys to adults and descriptions of all species are provided.

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The genus *Rhamphobrachium* was erected by Ehlers, 1887 for his previously described *Onuphis brevivibrachiatum* and a new species, *R. agassizii*. The characteristics of the genus were given as three prolonged anterior pairs of parapodia with spiny, recurved hooks. This definition was later broadened by Monro (1937), Estcourt (1966) and Kucheruk (1979a) with the inclusion of species with two pairs of prolonged parapodia (*R. bipes*), with spineless recurved hooks (*R. maculatum*), and with four pairs of prolonged parapodia (*R. quadripes*), bringing the number of nominal species to 17.

Paxton (1986) demonstrated that specimens with two pairs of modified parapodia are juveniles, and that *R. maculatum* and several species with four or five pairs of modified parapodia differ also in a number of additional important characters (types of spines, distal ends of setae, length of setal sacs, prostomial characters, etc.). She restricted the definition of *Rhamphobrachium* to species with three pairs of modified parapodia with three hooks with moveable spines each and long setal sacs (extending to setiger 30–60), and described two new genera, *Brevibrachium* and *Longibrachium*, to accommodate the pre-empted species. She regarded the group as a complex of related genera, with *Brevibrachium* and particularly *Longibrachium* representing specialized survivors of a more plastic group, and *Rhamphobrachium* the most generalized and successful of the three genera.

The aim of this paper is to provide keys and descriptions to all species of the *Rhamphobrachium* complex.

Materials and Methods

The material examined was loaned by and/or is

deposited in the following institutions:

AHF	Allan Hancock Foundation, Los Angeles, Calif., U.S.A.
AM	Australian Museum, Sydney, NSW, Australia
BMNH	British Museum (Natural History), London, U.K.
MU	Macquarie University, North Ryde, NSW, Australia
MCZ	Museum of Comparative Zoology, Cambridge, Mass., U.S.A.
MNHP	Muséum National d'Histoire Naturelle, Paris, France
NMV	Museum of Victoria, Melbourne, Vic., Australia
NZOI	New Zealand Oceanographic Institute, Wellington, New Zealand
PML	Portobello Marine Laboratory, Portobello, New Zealand
QM	Queensland Museum, Brisbane, Qld, Australia
USNM	National Museum of Natural History, Smithsonian Institution, Washington, D.C., U.S.A.
ZMB	Zoologisches Museum, Berlin, E. Germany
ZMH	Zoologisches Institut und Zoologisches Museum, Hamburg, W. Germany

Counts and measurements are of the holotype or only type specimen examined, the range for other specimens examined or reported in the literature are given in parentheses. The body length measurements and numbers of setigers of incomplete specimens are followed by plus signs. Body width (without parapodia) is of setiger 10 unless otherwise stated. Terminology follows Paxton (1986). All keys are for adults only.

Key to Genera of *Rhamphobrachium* Complex

- Three pairs of modified parapodia (with 3 setae each) with spiny shafts and distally recurved (Fig. 9a). *Rhamphobrachium*
 —Four to 5 pairs of modified parapodia (with 4 or more setae each) with spiny shafts, or 3 pairs of modified parapodia with smooth shafts. 2
- Antennae moderately long, to setiger 6–15; 4 pairs of modified parapodia with single postsetal lobes and setae with spiny shafts and distally curved (Fig. 4c). *Longibrachium*
 —Antennae short, to setiger 1; 3–5 pairs of modified parapodia with double postsetal lobes and setae with spiny shafts and distally uni- to tridentate (Fig. 1b) or smooth shafts and distally recurved (Fig. 3d). *Brevibrachium*