

ISSN 0067-1975

Published by the Australian Museum, Sydney
**Biremia ambocerca** n. gen., n. sp., the First Record of the Marine Isopod Crustacean Family Bathynataliidae from Australian Waters

**NIEL L. BRUCE**
Australian Museum, P.O. Box A285, Sydney South, NSW 2000, Australia

**ABSTRACT.** *Biremia ambocerca* n. gen., n. sp. is described and figured; it is distinguished from other bathynataliid genera by lacking operculate first pleopods, and in having biramous uropods. The genus is unique within the Isopoda in having a second endite on the maxilliped. The single specimen was taken off Lady Elliot Island, southern Great Barrier Reef, and is the first record of the family from beyond the south-western Indian Ocean. A new family diagnosis is provided, and a key is given for the 3 monotypic genera of the Bathynataliidae.


**KEYWORDS:** taxonomy, marine Isopoda, Bathynataliidae, Great Barrier Reef.

The family Bathynataliidae Kensley, 1978 was previously known from two monotypic genera recorded only from South Africa (Kensley, 1978, 1979). The occurrence of the family in eastern Australia greatly expands its known range. There are many morphological differences between the Australian specimen and the South African genera, and a new genus is established to accommodate the species. The new genus differs from the other genera in possessing a second endite on the maxilliped, pleonite 1 not visible in dorsal view and uropods with reduced rami. The family diagnosis is here emended.

**Family Bathynataliidae** Kensley, 1978

**Diagnosis.** Body dorsoventrally flattened. Cephalon, anterolateral margins expanded; posterior margin fused with pereonite 1. Pereonites 2 to 7 distinct, coxae present on at least pereonites 2 to 6. Pleon with 4 or 5 visible pleonites and large pleotelson; at least 2 pleonites with free lateral margins. Mandible with molar process absent (*Bathynatalia, Biremia* n. gen.) or vestigial (*Naudea*), lacinia present on left (*Biremia* n. gen., *Naudea*) or right (*Bathynatalia*) mandible. Maxillule with 10 or 11 stout spines. Maxilla, inner ramus uni- or bilobed. Maxilliped palp 3-articled, endite with distinct basal suture and single large coupling hook. Pereopod 1 robust, subchelate; pereopods 2 to 6 or 2 to 7 slender. Pleopods lying in chamber formed by thickening of ventrolateral margins of pleotelson; pleopods 1 to 3 with large peduncles, rami setose; pleopods 4 and 5 with small peduncles, rami setation reduced. Uropod insertion subterminal, rami small (smaller than peduncle) or absent.

**Type-species.** *Bathynatalia gilchristi* Barnard, 1957.

**Remarks.** The family Bathynataliidae now consists of three genera: *Bathynatalia* Barnard, 1957, *Naudea* Kensley, 1979 and *Biremia* n. gen. As indicated by Kensley (1978, 1979) the family is most closely allied to the Serolidae. The serolid genus *Basserolus* Poore, 1985 further emphasises the similarity of the two families. *Basserolus*, whilst having reduced mouthparts that differ markedly to those of *Serolis* (see Harrison & Poore, 1984), has pereopods and pleopods that are essentially the same as those of *Biremia*.

All serolid genera are easily identified by the fourth pair of pleopods being operculate (Harrison & Poore, 1984; Poore, 1985). In the Bathynataliidae the pleopods are all lamelliform, or the first pair is operculate. In *Biremia* there is an abrupt change in the morphology of pleopods 1 to 3 and 4 and 5, with pleopods 4 and 5 being larger and broader than 1 to 3, a condition approaching that shown by the serolids. Most serolids have a pleon of 3 visible segments and the uropods...
lateral in position. However, in _Serolis elliptica_ Sheppard, and _Serolis scytchei_ Lütken (see Moreira, 1974, 1977) the uropods are subterminal, a position similar to that found in bathynataliids. The monotypic serolid genus _Ceratoserolis_ Cals has uniramous uropods, while some species of _Serolis_ have reduced rami (Menzies, 1962), again a condition similar to that of bathynataliids.

Characters which separate the two families are: pleopods 1 to 3 separated by pleonal tubercles in serolids, while in bathynataliids they are mutually adjacent; pleopods laterally enclosed by the pleotelson in the bathynataliids, in serolids they are unenclosed; and mouth parts in the bathynataliids having a large mushroom shaped coupling hook on the maxilliped endite and a large lacinia, both of these being absent from serolids.

**Key to Genera of Bathynataliidae**

1. Pleopod 1 lamelliform .......... _Biremia_ n. gen.
   —Pleopod 1 operculate, indurate .......... 2
2. Pleonite 7 with free lateral margins and coxae .......................... _Bathynatalia_
   —Pleonite 7 without free lateral margins and coxae .......................... _Naudea_

**Biremia_ n. gen.**

**Diagnosis.** Pleonite 7 small, lateral margins overlapped by pleonite 6. Pleonite 1 not visible; pleonites 3 and 4 with free lateral margins. Maxilliped with second endite. Pereopod 7 present. Uropods biramous, with reduced rami.

**Type-species.** _Biremia ambocerca_ n. sp.

**Etymology.** The name is derived from the Latin word _remus_ (oar) combine with the prefix _bi-_, and alludes to the biramous uropods. Gender is feminine.

**Remarks.** The genus is easily distinguished from other families by the first pair of pleopods not being operculate and indurated, in having biramous uropods and in being the only genus with eyes.

Of the other two genera _Biremia_ is most similar to _Naudea_ in somatic morphology, both genera being similar in appearance to serolids. _Bathynatalia_ differs from _Biremia_ and _Naudea_ in having a nodulose body surface and strongly produced acute coxae. Both _Bathynatalia_ and _Naudea_ share the apomorphic characters of operculate first pleopods, uniramous uropods and lack of eyes. In _Biremia_ these characters show the pleiosomorphic condition. It is apparent therefore that _Biremia_ occupies a place apart within the family.

The single specimen of _Biremia_ was taken at a depth of 150 m, substantially shallower than the other two genera which have been recorded from depths between 800 and 900 m (Kensley, 1978, 1979).
Fig 1. *Biremia ambocerca* n. gen., n. sp., holotype. A, dorsal view; B, lateral view; C, clypeal region; D, antennule; E, setae from antennule peduncle article 3; F, ventral view of posterior pereonites, pleon and pleotelson, showing points of insertion of pereopods and thickened margins of pleotelson; G, antenna; H, pereopod 1; I, spines from pereopod 1 palm; J, antennal flagellum, terminal articles; K, antennule flagellum, terminal articles. Scale line represents 2.0 mm.
transverse suture and 2 setae on lateral margin. Pleopod 5 similar to 4 but without setae. Uropod peduncle about 3 times as long as wide; rami short, endopod about half as long as exopod.

**Etymology.** The specific name is derived from the Greek words *ambon* (ridge) and *kerkos* (tail).

**Remarks.** The shape and sculpture of the pleotelson together with vestigial uropod rami prevents confusion with the other genera and similar looking serolid isopods. The second endite arising from the dorsal side of the maxilliped basis (present on both maxillipeds) is unique within the family, and also appears unique within the Isopoda.

The single specimen of *B. ambocerca* was taken from a sample rich in isopods that included *Serolis* spp., sphaeromatids, *Gnathia* spp. and valviferans.

**ACKNOWLEDGEMENTS.** This work was completed while in receipt of a Queen’s Fellowship in Marine Science.
BRUCE: *Biremia ambocerca* n. gen., n. sp.

Fig. 3. *Biremia ambocerca* n. gen., n. sp., holotype. A-E, pleopods 1–5 respectively; F, uropod.

**References**


Accepted 8 August 1985