

**BATHYNOMUS LOWRYI SP. NOV. (CRUSTACEA: ISOPODA: CIROLANIDAE), THE FIRST RECORD OF THE 'GIANT' MARINE ISOPOD GENUS, FROM THAILAND WATERS**

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ABSTRACT: The cirolanid isopod genus *Bathynomus* Milne Edwards, 1879 is reported for the first time from the Andaman Sea, Thailand. *Bathynomus lowryi* sp. nov. is described and illustrated. The new species, 29.5 cm in size, belongs to the group of large (or 'giant') species and is characterised by its large size, the posterior margin of the pleotelson provided with 7 large cylindrical upturned spines and 2 small lateral spines and the uropodal exopod having marginal setae on two-thirds of the length. *Bathynomus lowryi* sp. nov. is known only from the type locality.

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## INTRODUCTION

*Bathynomus* has long attracted attention by virtue of its great size, a true 'giant' of the Crustacea, and is one of the few isopod genera unambiguously known from the fossil record (e.g., Imiazumi, 1953; Wieder and Feldmann, 1989, 1992; Obata and Omori, 1993; see also Anonymous, 1992). In more recent times the genus has attracted the attention of both physiologists (Tsukamoto *et al.*, 2000) and biologists (Perry and Hinsch, 1991; Tso and Mok, 1991; Soong and Mok, 1994). A general account of these animals has been given by Wetzer (1986).

Bruce (1986) revised the generic diagnosis, described two species from Australian waters and listed the nine then known living species. Since that time there has been little taxonomic activity on the genus other than a review of *Bathynomus* from Brazilian waters (Magalhães and Young (2003). However, Dr. J.K. Lowry (Australian Museum, Sydney) is finalising a monographic revision of the Indo-Pacific species of the genus, describing six new species, including some from the western and northern Indian Ocean. Dr. Lowry has generously assisted in distinguishing the new species described in this paper from the species he is currently describing.

The specimen described here was obtained during sampling for the BIOSHELF and extended

BIOSHELF programs, a Scientific Cooperation Program between the Zoological Museum, Denmark and the Phuket Marine Biological Center, that ran from 1996 to 2000 (Bussarawit and Aungtonya, 2002). The project covered the west coast of Thailand, from the Burmese border in the north to the Malaysian border in the south. The objective was to expand general knowledge of benthic diversity at depths down to 1,000 m within the Thai EEZ. The program resulted in the collection of a wide variety of crustaceans, which are reported in Bruce *et al.* (2002). The *Bathynomus* specimen was discovered in the Andaman Sea, western coast of Thailand in 1999, and has been deposited at the Reference Collection of the Phuket Marine Biological Center, Phuket, Thailand.

## TAXONOMY

### Family Cirolanidae *Bathynomus* Milne Edwards

**Restricted synonymy:** Holthuis and Mikulka, 1972: 575; Bruce, 1986: 126; Kensley and Schotte, 1989: 129.

**Remarks:** Recent diagnoses of the genus have been given by Bruce (1986), Kensley and Schotte (1989) and Magalhães and Young (2003). The

species described here does not necessitate modifications to that diagnosis. The genus is represented in the northern Indian Ocean by several records of *Bathynomus giganteus* Milne Edwards 1879, summarised by Holthuis and Mikulka (1972). These are all now considered to be misidentifications since the species is restricted to the western Atlantic (Bruce, personal observation).

***Bathynomus lowryi* sp. nov.**

(Figs. 1–6)

**Holotype:** PMBC 19562, female (ovigerous, with oostegites, but no ova or manca; total length, 29.5 cm), 07°01' N, 97°20' E, Andaman Sea, depth 690 m, coll. C. Aungtonya and V. Vongpanich, 17.11.99, R.V. Chakratong Tongyai.

**Description:** Head ridge above eyes discontinuous; clypeal region with distal margins concave, apex apically truncated. Pleon with pleonite 3 extending to pleonite 5. Pleotelson 0.72 times as long as wide, dorsal surface granulated (minute denticles), with conspicuous longitudinal carina; posterior margin with 7 upwardly curved prominent and 2 small lateral spines, without setae between spines, central distal spine simple (Fig. 1).

Antenna 2 flagellum extending to within pereonite 2 (Fig. 1).

Mouthparts conforming to generic diagnosis (Fig. 2).

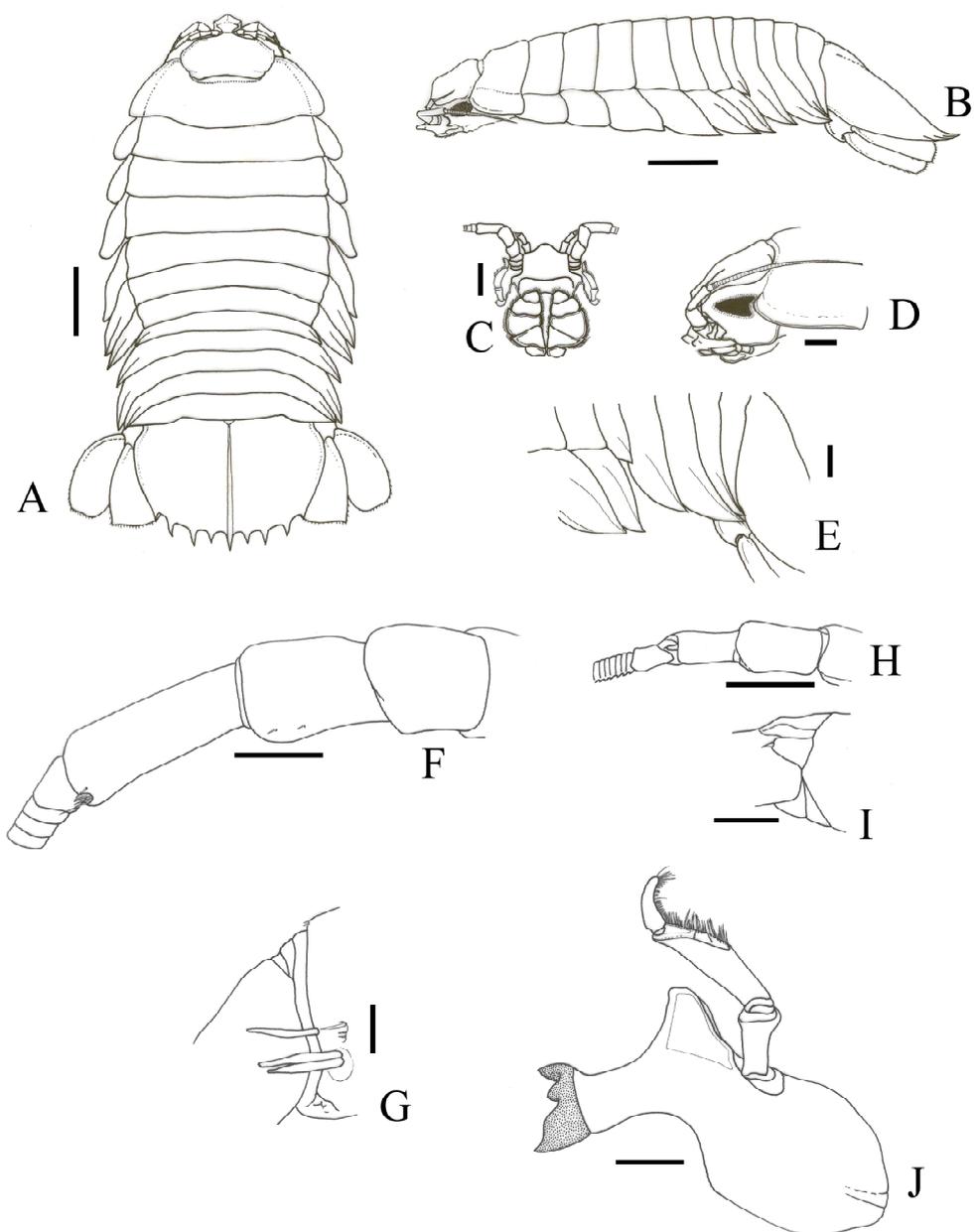
Pereopod 1 ischium with 3 posteroproximal robust setae and 2 robust setae on posterodistal margin; merus with 4 short robust setae on anterodistal angle, posterior margin with 4 robust setae in proximal row and 2 robust setae in distal row; propodus 1.3 times as long as wide, posterior margin with 5 robust setae. Pereopod 2 ischium posterior margin with 4 robust setae and 3 robust setae on posterodistal margin; merus with 5 short robust setae on anterodistal angle, posteromedial margin with 4 robust setae in proximal row; propodus with 4 robust setae on posterior margin (Fig. 2). Pereopod 7 coxa distally broad and slightly curved posteriorly (Fig. 3).

Uropod not extending beyond pleotelson; peduncle with 2 ventral robust setae; exopod and endopod with smooth lateral and distal margins; exopod lateral margin convex, setal fringe of medium length (67%), with 9 robust setae, medial margin straight, distomedial corner rounded, distal margin straight with 6 robust setae, distolateral corner slightly produced, acute; endopod lateral margin straight, medial margin straight, distomedial corner rounded, distal margin slightly sinuate, with 11 robust setae, distolateral corner not produced, subacute (Fig. 4).

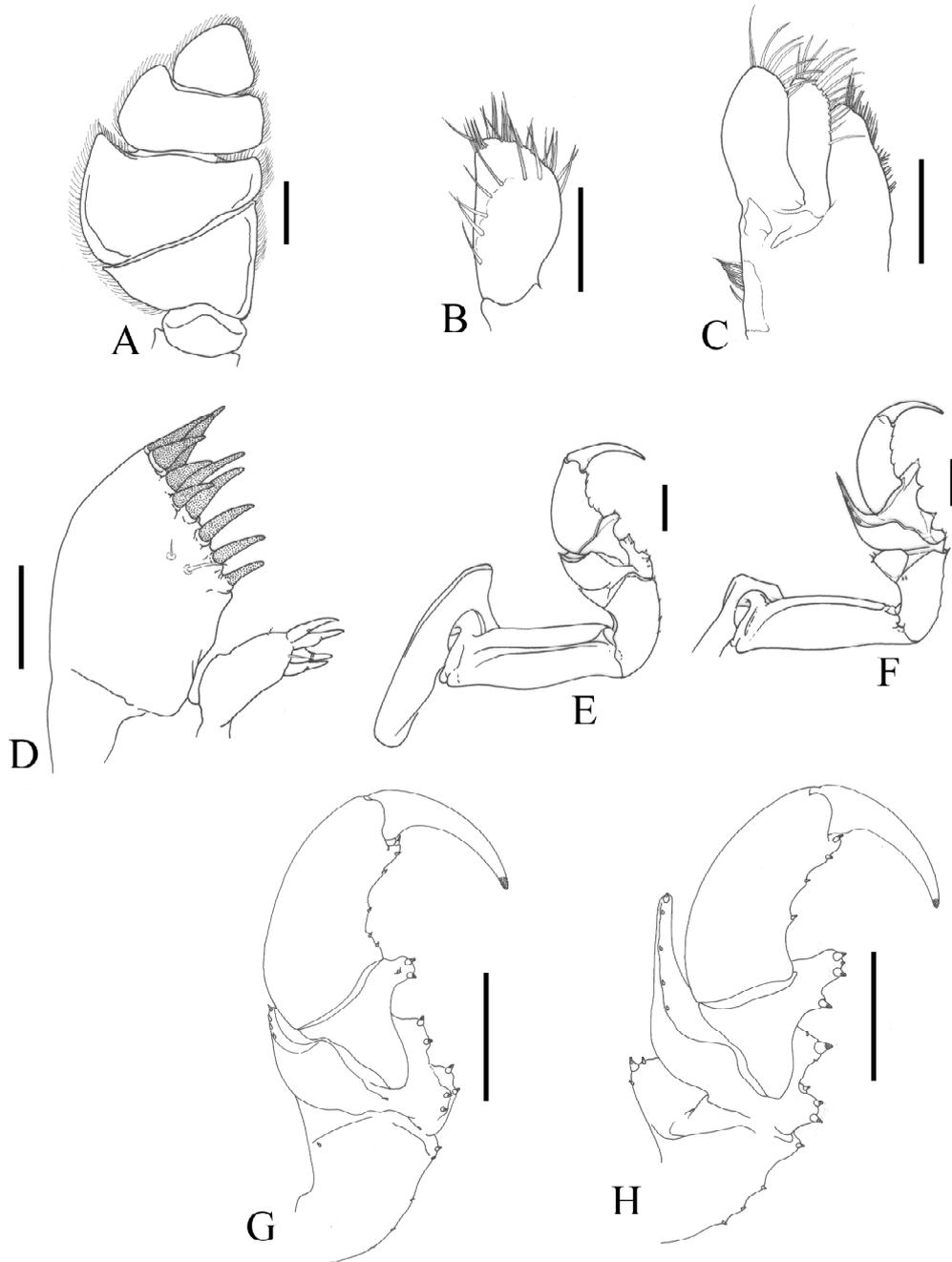
**Remarks:** *Bathynomus lowryi* sp. nov. is distinguished from all other Indo-Pacific species by the presence of upwardly-directed cylindrical curved spines on the posterior margin of the pleotelson (Figs. 5–6). All other described species have the pleotelson spines flat (as in *Bathynomus doederlini* Ortmann, 1894 and *B. immanis* Bruce, 1986) or in the same plane as the pleotelson (in *Bathynomus giganteus*). However, there are several species currently being described that also have this character (N.L. Bruce, pers. obs.; J.K. Lowry, pers. comm.), including a species from Taiwan misidentified as *B. giganteus* by Soong (1992). *Bathynomus lowryi* differs from those as yet undescribed species in the number of pleotelsonic spines (7 major instead of 9 major), the setal fringe on the lateral margin of the uropodal exopod being of medium length, which is similar to the undescribed Philippines and Swains Reef material but different to the undescribed species from the Sulu Sea and Flynn Reef which have a continuous fringe of setae. The uropodal exopod of *B. lowryi* has a convex, slightly expanded margin, unlike any other species, and the pleotelson is significantly broader than long.

**Distribution:** Andaman Sea, Indian Ocean, off Phuket Island, western Thailand at a depth of 690 m.

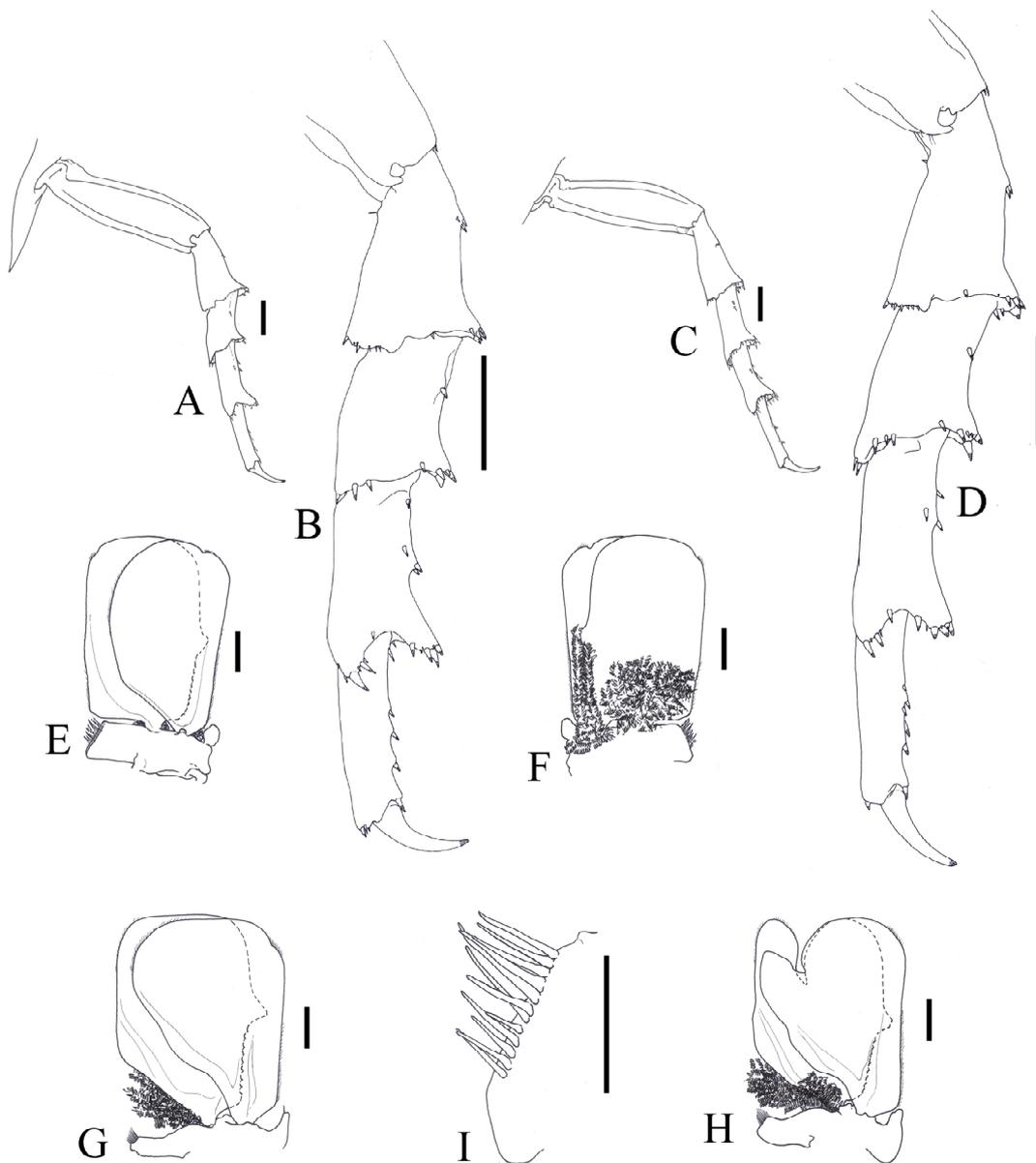
**Etymology:** We take pleasure in naming this species after Jim Lowry of the Australian Museum, Sydney, recognising his contribution to the knowledge of the Crustacea.

*Bathynomus lowryi* sp. nov. from Thailand waters

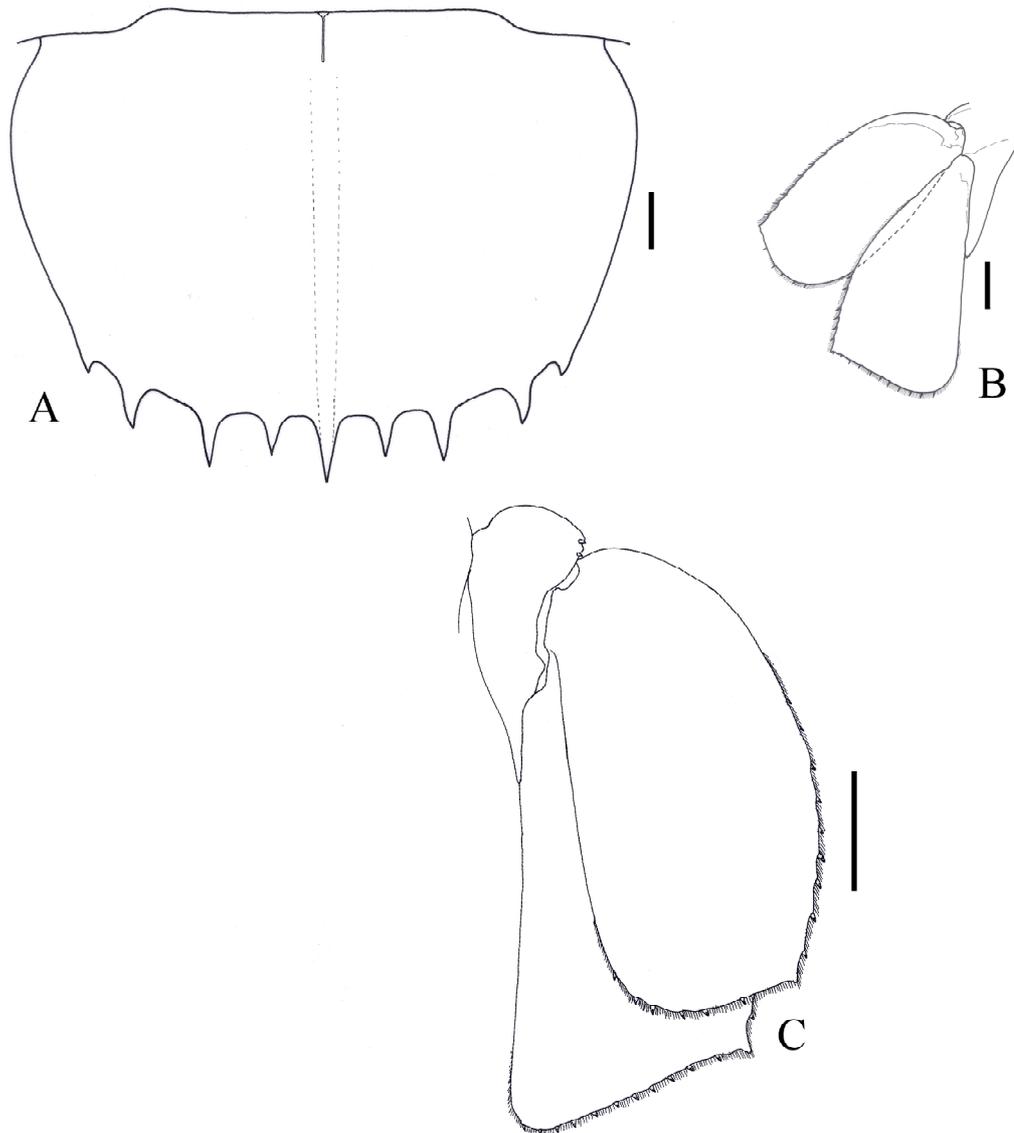
**Figure 1.** *Bathynomus lowryi* sp. nov. A, dorsal view; B, lateral view; C, frons; D, eye lateral view; E, pleonites lateral detail; F, antennal peduncle; G, antennal peduncle article 4; H, antennule; I, antennule peduncle article 3; J, right mandible. Scale A, B : 20 mm; C, D, E : 10 mm; F, H, J : 5 mm; G, I : 1 mm.



**Figure 2.** *Bathynomus lowryi* sp. nov. A, maxilliped palp; B, maxilliped endite; C, maxilla; D, maxilla lateral lobe; E, pereopod 1; F, pereopod 2; G, pereopod 1; H, pereopod 2. Scale A, B, C, D : 5 mm; E, F, G, H : 10 mm.

*Bathynomus lowryi* sp. nov. from Thailand waters

**Figure 3.** *Bathynomus lowryi* sp. nov. A–B, pereopod 6; C–D, pereopod 7; E, pleopod 1 dorsal view; F, pleopod 1 ventral view; G, pleopod 2; H, pleopod 3; I, medial margin of peduncle. Scale A–H : 10 mm; I : 5 mm.



**Figure 4.** *Bathynomus lowryi* sp. nov. A, pleotelson; B, uropod dorsal view; C, uropod ventral view. Scale A–C: 10 mm.

*Bathynomus lowryi* sp. nov. from Thailand waters



**Figure 5.** *Bathynomus lowryi* sp. nov., dorsal view.



**Figure 6.** *Bathynomus lowryi* sp. nov., ventral view.

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