



Bolttsiidae*

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Abstract

The family Bolttsiidae is reported for the first time outside of Africa. *Bolttsia myersi* is described from among mangrove roots at Lizard Island on the Great Barrier Reef, Australia.

Key words: Crustacea, Amphipoda, Bolttsiidae, Great Barrier Reef, Australia, taxonomy, new species, *Bolttsia myersi*

Introduction

There are four large freshwater coastal lakes north of Richards Bay on the east coast of South Africa and south-eastern Mozambique. Allanson *et al.* (1966) reported on the “trapped” estuarine fauna of one of these lakes, Lake Sibaya. Based on these collections Griffiths (1976) described the genus and species *Bolttsia minuta*, raised to family level by Barnard & Karaman (1987). Vivier & Cyrus (1999) subsequently reported *B. minuta* from Lake Nhlabane, the southern-most of these coastal lakes.

Unexpectedly, during the Lizard Island Amphipod Workshop in February 2005, Alan Myers collected the second species of *Bolttsia* among mangrove roots in Ferriers Creek, Lizard Island on the Great Barrier Reef. This is the first record of the estuarine bolttsiids outside of Africa.

Material and methods

All material is lodged in the Australian Museum, Sydney (AM). A set of colour plates, a list of standard abbreviations and detailed station data is available in Lowry & Myers (2009). A CD (*Benthic Amphipoda (Crustacea: Peracarida) of the Great Barrier Reef: Interactive Keys*) is available with the book or the keys can be accessed at the crustacea.net website.

Bolttsiidae Barnard & Karaman, 1987

Bolttsia Griffiths, 1976

Bolttsia myersi sp. nov.

(Figs 1, 2)

Type material. Holotype, female, 1.9 mm, AM P70898 (in slides), Ferriers Creek, Lizard Island (14°39.95'S 145°27.05'E), algae from among roots at edge of red mangroves (*Rhizophora stylosa*), surface, A. Myers, 25 February 2005 (QLD 1680).

Type locality. Ferriers Creek, Lizard Island, Queensland, Australia (14°39.95'S 145°27.05'E).

Etymology. The species is named in honour of Professor Alan Myers who collected the material for this study and who has contributed so much to the description of the Australian amphipod fauna.

Description. Based on holotype, female, 1.9 mm, AM P70898.

Head. *Head* lateral cephalic lobes apically round, rostrum decurved, inserted between both antennae 1, not beyond peduncular article 1 of antenna 1. *Eyes* large, circular. *Antenna 1* longer than antenna 2, peduncular articles 1-3 with few long setae; flagellum with about 10 articles; accessory flagellum absent. *Antenna 2* flagellum with 4 articles. *Upper lip* bilobed. *Lower lip* inner lobes small, shoulders densely pubescent. *Maxilla 1* outer plate with 6 large teeth; palp biarticulate, extending beyond outer plate, distal segment apical margin with fine medium length setae. *Maxilla 2* inner plate broader than outer plate with several stiff setae apically. *Mandible*, incisor serrate; palp triarticulate, article 2 much longer than 1 with fine setae posterodistally, article 3 spatulate with fine long setae along posterior margin. *Maxilliped* inner plate margin rounded apically, with several fine and robust setae; outer plate apical margin lined with several fine and robust setae; palp article 3 longer than wide, dactylus with unguis.

Pereon. *Gnathopod 1* coxa subquadrate; basis with two medial setae along anterior margin and 6 long setae along posterior margin, posterodistal margin with one seta; carpus slightly produced posterodistally with several pectinate setae; propodus subtriangular, expanded distally, anterior margin straight and without setae, posterodistal with two robust setae; palm straight and finely pectinate; dactylus long, with nail-like process terminally. *Gnathopod 2* coxa subrectangular, lower margin with one fine seta and posterodistal tooth; basis anterodistal margin straight, posterior margin expanded distally with 6 long setae; carpus subtriangular, posterior margin not lobate with several long pectinate setae; propodus broad, gradually expanding, anterior margin with short setae on medial margin, posterior margin with sparse setae on proximal area, palm straight with fine setae along margin and defined by one robust seta; dactylus slightly stout with nail-like process. *Pereopod 3* coxa subrectangular, lower margin with one fine seta and posterodistal tooth; dactylus falcate. *Pereopod 4* coxa expanded medially; basis slender; dactylus falcate. *Pereopod 5* coxa bilobed; basis subquadrate, anterior margin with 3 robust setae, posterior with fine setae along margin; merus expanded posterodistally; carpus, propodus and dactylus lost. *Pereopod 6* coxa bilobed; basis anterior margin with 3 robust setae, posterior margin medially expanded without setae; dactylus falcate. *Pereopod 7* coxa small; basis subquadrate, anterior margin with 4 short robust setae, posterior margin with five short robust setae; dactylus falcate.

Pleon. *Uropod 1* rami subequal in length, without setae along margin; peduncle slightly shorter than rami with two fine setae on inner margin. *Uropod 2* inner ramus longer than outer ramus; peduncle shorter rami. *Uropod 3* rami subequal in length; peduncle as long as rami. *Telson* entire, longer than wide.

Male. Unknown.

Habitat. Among the roots at the edge of mangroves.

Remarks. *Bolttsia* looks most like an amphilochid, but can be separated from members of this family by the well developed antenna 1 (longer than 2), the well developed coxa 1 (as large as 2) and by the lack of a carpal lobe on gnathopod 2. *Bolttsia myersi* differs from the only other species in the genus, *B. minuta* Griffiths, 1976, by the longer first antenna, by the setose inner margin of maxillipedal palp article 3 and by the more slender uropods.

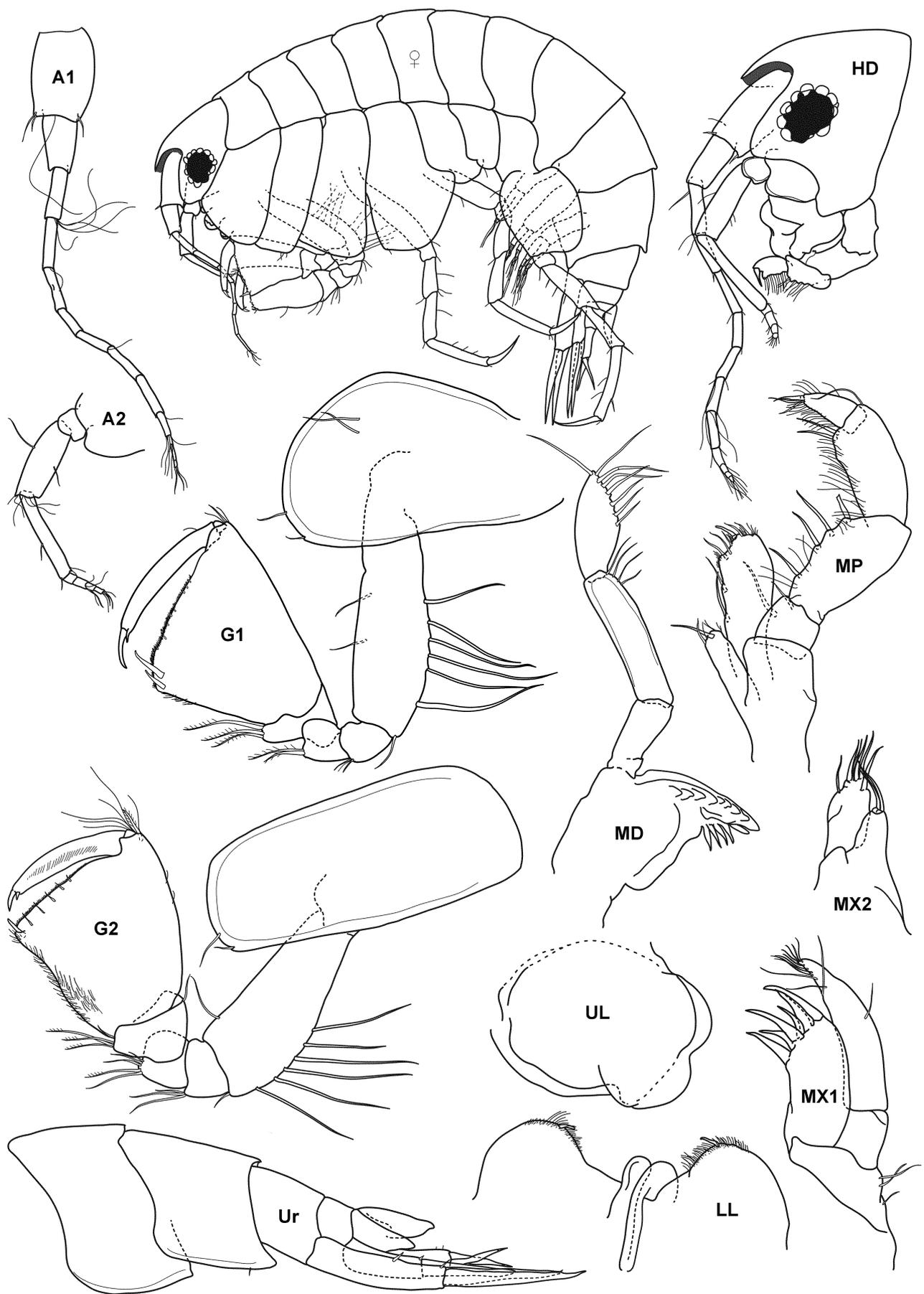


FIGURE 1. *Bolttsia myersi* sp. nov., holotype, female, 1.9 mm, AM P70898, Ferriers Creek, Lizard Island, Great barrier Reef.

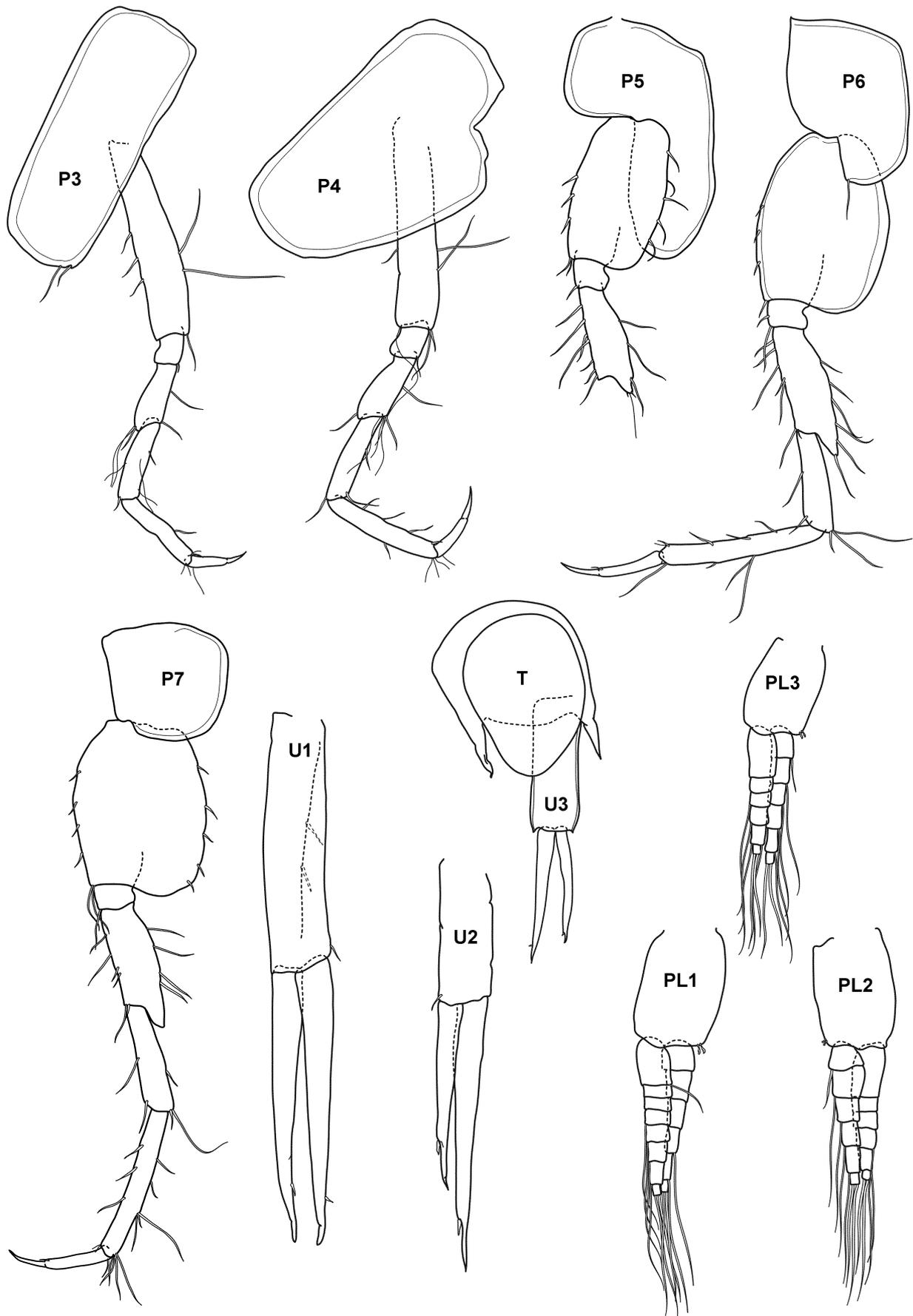


FIGURE 2. *Boltsia myersi* sp. nov., holotype, female, 1.9 mm, AM P70898, Ferriers Creek, Lizard Island, Great barrier Reef.

The extraordinarily disjunct distribution of this family may indicate a common ancestor that reaches back to the splitting of East Gondwana from Africa at least 120 Ma.

Distribution. *Australia.* Queensland: Lizard Island (current study).

References

- Allanson, B.R., Hill, B.J., Bolt, R.E. & Schultz, V. (1966) An estuarine fauna in a freshwater lake in South Africa. *Nature*, 209, 532–533.
- Barnard, J.L. & Karaman, G.S. (1987) Revisions in the classification of gammaridean amphipods (Crustacea) part 3. *Proceedings of the Biological Society of Washington*, 100, 856–875.
- Griffiths, C.L. (1976) Some new and notable Amphipoda from southern Africa. *Annals of the South African Museum*, 72(2), 11–35.
- Lowry, J.K. & Myers, A.A. (2009) Foreword. *In*: Lowry, J.K. & Myers, A.A. (Eds), Benthic Amphipoda of the Great Barrier Reef, Australia. *Zootaxa*, 2260, 17–108.
- Vivier & Cyrus, D.P. (1999) The zoobenthic fauna of the Nhlabane coastal lake system, KwaZulu-Natal, South Africa, 20 years after construction of a barrage. *Water SA*, 25(4), 533–542.