*Zootaxa* 2260: 766–770 (2009)
www.mapress.com/zootaxa/


**Article**

ISSN 1175-5326 (print edition)
**ZOOTAXA**
ISSN 1175-5334 (online edition)

# Phliantidae*

CHARLES OLIVER COLEMAN
*Humboldt-University, Museum für Naturkunde Berlin, Abteilung Sammlungen, D-10099 Berlin, Germany. (oliver.coleman@mfn-berlin.de)*

* *In:* Lowry, J.K. & Myers, A.A. (Eds) (2009) Benthic Amphipoda (Crustacea: Peracarida) of the Great Barrier Reef, Australia. *Zootaxa*, 2260, 1–930.

## Abstract

*Pereionotus thomsoni* Stebbing is redescribed based on new material from the Great Barrier Reef. This phliantid amphipod has a depressed body. It can be recognized by mid-dorsal hump-like carinae and the typical shape of the basis of pereopod 7 which is constricted posterodistally.

**Key words:** Crustacea, Amphipoda, Phliantidae, Great Barrier Reef, Australia, taxonomy, *Pereionotus thomsoni*

## Introduction

Phliantids are unusual amphipods which at the first glance reminds one of isopods due to their dorsoventral depression. All phliantids have in common a dorsal keel consisting of humps and the coxal plates of pereopods 1–4 are directed laterally. Although phliantids are well known in temperate Australia, this is the first record from the tropics.

## Materials and methods

The descriptions were generated from a DELTA database (Dallwitz 2005). 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). Illustrations were made using the methods described in Coleman (2003, 2006). 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.

## Phliantidae Stebbing, 1899

### *Pereionotus* Bate & Westwood, 1863

### *Pereionotus thomsoni* Stebbing, 1899
(Figs 1, 2, Pl. 5C)

*Pereionotus thomsoni* Stebbing, 1899: 417, pl. 35A. —Barnard & Karaman, 1991: 587. —Lowry & Stoddart, 2003: 222 (catalogue).
(?) *Pallinotus thomsoni japonicus* Hirayama, 1987: 35, pl. 245–246.
*Palinnotus thomsoni*. —J.L. Barnard, 1972: 295, pl. 176–179.

 *Accepted by A.A. Myers: 15 Jun. 2009; published: 0 Oct. 2009*

**Material examined.** Male, 2.6 mm, AM P71365 (QLD 1820). Female, AM P78903 (SEL/LZI-2-3).
**Type locality.** Watsons Bay, New South Wales, Australia (~33º51'S 151º17'E).
**Description.** Based on male, 2.6 mm, AM P71365.
**Head and body.** *Body* depressed, dorsal keel, coxal plates splayed. Cuticle with pits and microtrichs. *Pereonite 1* with 2 dorsal shallow carinae, *pereonites 2-6* and *pleonites 1-2* with hump-like shallow carinae. *Head* with protruding eyes and short rostrum. *Antenna 1* peduncular article 1 dorsolaterally expanded into subacute tooth; article 2 with a shorter pointed tooth; flagellum consisting of only one article with long aesthetascs apically. *Antenna 2* with apical bundle of aesthetascs on second flagellar article; slender, reaching middle of article 2 of antenna 1 in lateral view. *Mandible* without palp, incisor multidentate, molar spine-like. *Lower lip* with wide lobes. *Maxilla 1* inner plate simple; palp short, uniarticulate. *Maxilla 2* inner and outer plates basally fused. *Maxillipeds* inner plate subrectangular with 3 nodulose setae apically; outer plate longer than palp; palp 3-articulate.
**Pereon.** Coxae 1–4 with distal row of biserrate setae. *Gnathopod 1* coxa anterior margin slightly excavate; basis shorter than coxa; ischium longer than merus; carpus slightly expanded distally; propodus medial face with transverse row of stout plumose setae and posterodistal robust setae; dactylus falcate, with simple seta on inner curvature. *Gnathopod 2* similar to gnathopod 1, but coxa with anterior margin straight and row of medial propodus setae not developed. *Pereopod 3* coxa wider than that of gnathopod 2, basis and ischium similar, but merus and to a lesser extent the carpus drawn out into an anteromarginal rounded lobe; propodus and dactylus as for gnathopod 2. *Pereopod 4* coxa with posteromarginal subacute lobe; basis to dactylus as for pereopod 3. *Pereopods 5 and 6* coxa bilobed, more than 2x longer than deep; basis expanded into rounded posterior lobe; ischium long; merus with posterodistal rounded lobe; carpus short, subrectangular; propodus and dactylus as in preceding appendages. *Pereopod 7* basis posteroproximal margin rounded, constricted and quadrate distally; ischium to dactylus similar to preceding appendages, except for a more extended merus lobe.

**Pleon.** *Urosomite 1* longest. *Uropod 1* outer ramus slightly shorter than inner, both rami with one short rounded robust seta apically. *Uropod 2* peduncle very short, inner ramus surpasses outer ramus, both rami with one terminal rounded robust seta. *Uropod 3* hidden below telson, rami lacking. *Telson* wider than long, subtriangular with rounded apex.

**Female** (sexually dimorphic characters). Based on female, AM P78903. Wider body. Processes on peduncular articles 1–2 of antenna weakly developed.

**Habitat.** Found in between sponges.

**Remarks.** The description agrees well with that of J.L. Barnard (1972) who discussed the differences of his specimen from the west coast of Australia from Stebbing´s (1899) original description. The only deviations from Barnard´s description concern antenna 2, which appears longer in relation to antenna 1, and the telson, which is shorter in the material studied herein compared to Barnard´s and Stebbing´s illustrations. Hirayama (1987) described the subspecies *P. t. japonicus,* however, due to many differences to the Australian material, it seems very probable that it is a separate species.

**Distribution.** *Australia*. Queensland: Lizard Island (current study); New South Wales: Watsons Bay (Stebbing 1899); Western Australia: Cheyne Beach (J.L. Barnard 1972).

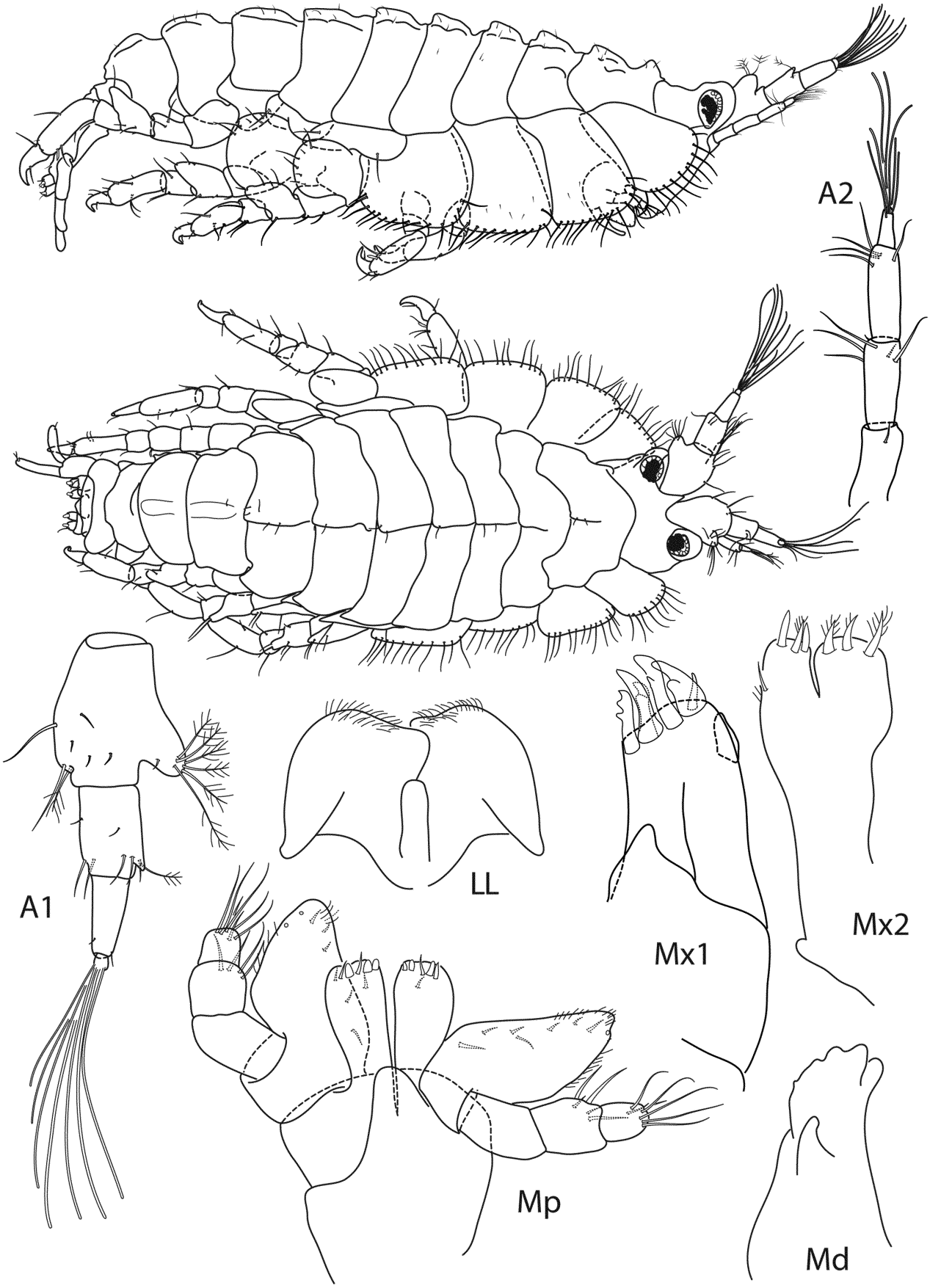


**FIGURE 1.** *Pereionotus thomsoni* Stebbing, 1899, male, 2.6 mm, AM P71365, Lizard Island, Great Barrier Reef.

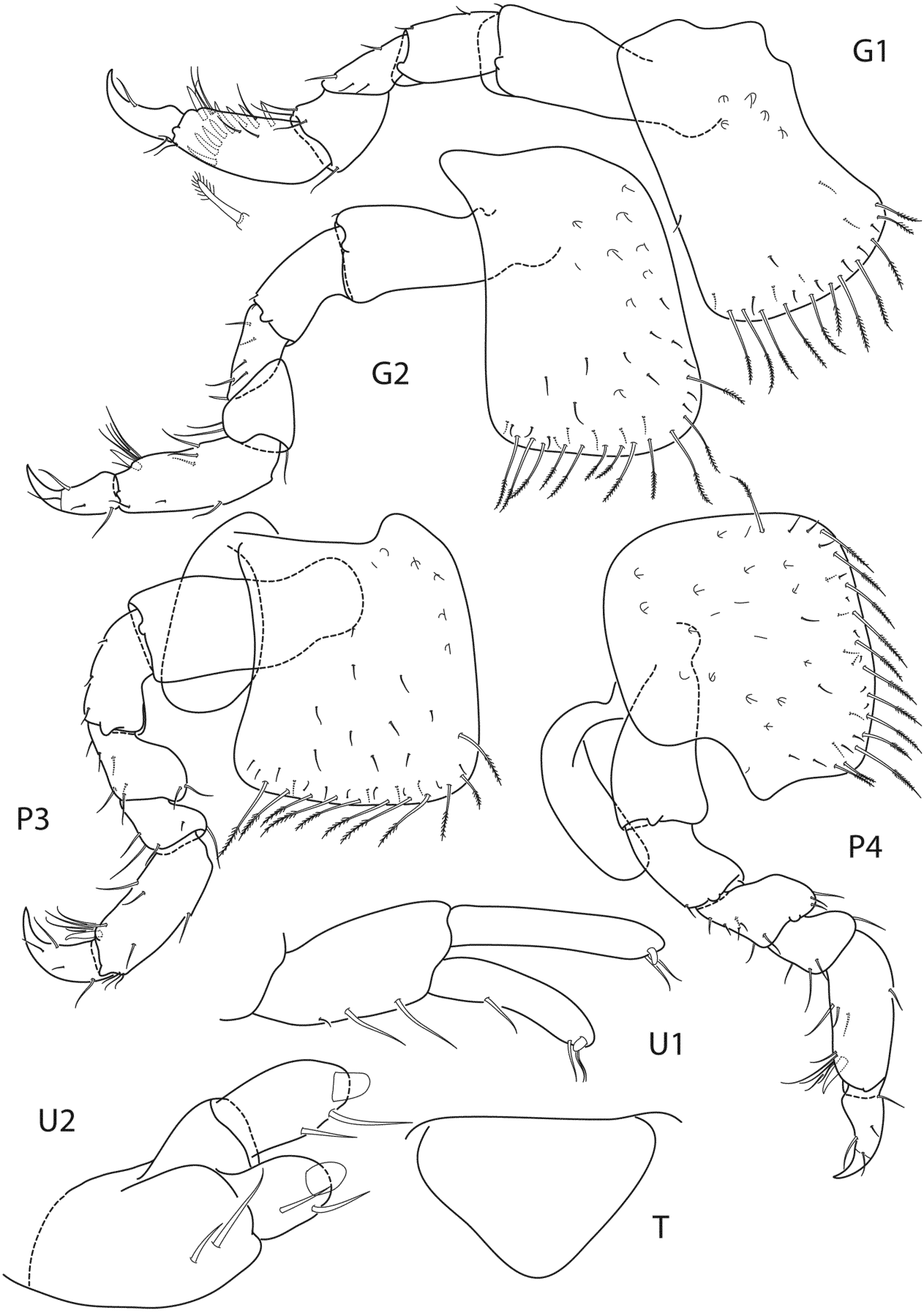


**FIGURE 2.** *Pereionotus thomsoni* Stebbing, 1899, male, 2.6 mm, AM P71365, Lizard Island, Great Barrier Reef.

## References


Barnard, J.L. (1972) Gammaridean Amphipoda of Australia, Part I. *Smithsonian Contributions to Zoology*, 103, 1–333.

Barnard, J.L. & Karaman, G.S. (1991) The families and genera of marine gammaridean Amphipoda (except marine gammaroids). *Records of the Australian Museum, Supplement* 13, 1–866.

Bate, C.S. & Westwood, J.O. (1863) *A History of the British Sessile-Eyed Crustacea 1*, London: John van Voorst, 507 pp.

Coleman, C.O. (2003) "Digital inking": How to make perfect line drawings on computers. *Organism, Diversity and Evolution, Electronic Supplement*, 14, 1–14, *http://senckenberg.de/odes/03-14.htm*

Coleman, C.O. (2006) Substituting time-consuming pencil drawings in arthropod taxonomy using stacks of digital photographs. *Zootaxa*, 1360, 61–68.

Dallwitz, M.J. (2005) Overview of the DELTA System. http://delta-intkey.com/www/overview.htm

Hirayama, A. (1987) Taxonomic studies on the shallow water gammaridean Amphipoda of West Kyushu, Japan. VII. Melitidae (Melita), Melphidippidae, Oedicerotidae, Phliantidae and Phoxocephalidae. *Publications of the Seto Marine Biological Laboratory*, 32, 1–62.

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.

Lowry, J.K. & Stoddart, H.E. (2003) Crustacea: Malacostraca: Peracarida: Amphipoda, Cumacea, Mysidacea. *In* Beesley, P.L. & Houston, W.W.K. (Eds), *Zoological Catalogue of Australia*, Vol. 19.2B, 531 pp, Melbourne: CSIRO Publishing, Australia.

Stebbing, T.R.R. (1899) Amphipoda from the Copenhagen Museum and other sources. Part II. *Transactions of the Linnean Society*, London, 2. Series, Zoology Vol. 7, pp. 395–432.