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Two new species of Lysianassidae Dana, 1849 from Australia: *Riwo zeidleri* and *Socarnella delectabilis* (Crustacea: Peracarida: Amphipoda)

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Abstract

The new species *Riwo zeidleri* and *Socarnella delectabilis* are described. Prior to this study *Riwo* Lowry & Stoddart, 1995 was a monotypic genus, while *Socarnella* Walker, 1904 consisted of only two described species. The distribution of *Riwo* is expanded southwards from northern Papua New Guinea and the Great Barrier Reef to the south coast of Australia and the distribution of *Socarnella* is expanded further southward from Sri Lanka and the South China Sea, to the west coast of Australia.

Key words: Amphipoda, Lysianassidae*, Riwo, Socarnella*, taxonomy, Australia

Introduction

Riwo mizeui Lowry & Stoddart, 1995 was described from the Madang Lagoon on the north coast of Papua New Guinea. Lowry & Stoddart (2009) subsequently reported the species from Ashmore Reef, at the northern end of the Great Barrier Reef. In this paper we describe the second species in the genus, *Riwo zeidleri* **sp. nov.**, from South Australia.

Socarnella bonnieri Walker, 1904 was described from Galle on the south coast of Sri Lanka. Recently Ren (2012) recorded a second species, *S. cavipalmata* from Hainan Provence in the South China Sea. We describe a third species in the genus, *Socarnella delectabilis* **sp. nov.** from the north-western coast of Australia, expanding the distribution of the genus to the southeastern Indian Ocean.

Material and methods

Material is lodged in the Australian Museum, Sydney (AM), Museum Victoria (NMV) South Australian Museum (SAMA), the British Museum of Natural History (BMNH) and Institute of Oceanology, Chinese Academy of Sciences at Qingdao (CA). Setal terminology follows Watling (1989). Diagnoses are provided in **bold** text within the descriptions. Standard abbreviations on the plates are: A, antenna; EP, epimeron; G, gnathopod; H, head; Md, mandible; Mx, maxilla; Mxp, maxilliped; P, pereopod; T, telson; U, uropod; l, left; r, right.

Systematics

Lysianassidae Dana, 1849

Riwo Lowry & Stoddart, 1995

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subrectangular, length 1.9 × width, tapering distally, **posterior margin** smooth, straight, posterior margin lined with short robust setae, **without long robust setae,** palm absent; dactylus weakly recurved, without subterminal spine. ***Gnathopod 2*** subchelate; coxa large, 0.9 times coxa 3 length; ischium length 2.5 × width; **carpus long, length 3 × width,** posterior margin straight; **propodus** subovate, **short, length 1.8 × width, palm subacute, excavate, 0.5 × propodus posterior margin,** defined by posterodistal corner without robust setae; dactylus reaching corner of palm, posterior margin smooth. *Pereopod 3* coxa large; merus weakly expanded anteriorly; merus and carpus posterior margin lined with slender setae; propodus with 3 long slender setae and 2 distal locking setae along posterior margin; dactylus weakly recurved. *Pereopod 4* coxa deeper than wide, with large posteroventral lobe, anterior margin subquadrate, posterior margin straight; merus weakly expanded anteriorly; merus and carpus posterior margin lined with slender setae; propodus with 1 distal locking seta along posterior margin; dactylus weakly recurved. *Pereopod* 5 coxa equilobate; basis expanded with posterior margin smooth. *Pereopod 6* coxa small, not lobate posteriorly; basis expanded posteriorly with posterior margin weakly concave, smooth; merus expanded; propodus with 1 distal locking seta; dactylus weakly recurved. *Pereopod 7* basis expanded posteriorly, posterior margin weakly tapering distally, smooth, posteroventral corner rounded.

Pleon. *Pleonites 1–3* dorsally smooth. *Epimeron 1–2* subquadrate. *Epimeron 3* broadly rounded. *Urosomites 1–3* dorsally smooth. *Uropod 1* without long fine setae; peduncle with 7 dorsolateral and 2 apicomedial robust setae; outer ramus subequal to inner ramus length; outer ramus with 4 lateral robust seta; inner ramus with 2 robust setae. *Uropod 2* without fine setae; peduncle with 1 dorsolateral and 2 apicomedial robust setae; rami subequal in length, outer ramus with 4 dorsal robust setae; inner ramus with 1 robust setae, without constriction. *Uropod 3* peduncle long, length 2 × width, with 3 robust setae, without dorsolateral flange; rami lanceolate, inner ramus reduced, 0.7 × outer ramus; outer ramus 1-articulate; outer ramus with 1 dorsolateral robust seta, inner rami without robust setae. ***Telson*** length 1.4 × width, **cleft (40%), lobes divergent,** with 2 apical robust setae, 2 short dorsal slender setae, and 2 marginal penicillate setae.

Remarks. *Socarnella delectabilis* **sp. nov**. has a 4-articluate accessory flagellum on antenna 1 and a 40% cleft in the telson while *S. bonnieri* and *S. cavipalmata* both have a 5-articulate accessory flagellum and a telson which is apically notched to only 10%. *Socarnella delectabilis* is most similar to *S. cavipalmata* with both species having subacute gnathopod 2 propodus with an excavate palm while in *S. bonnieri* the palm is parachelate and entire. The palm margin is 50% of the propodus posterior margin in *S. delectabilis* with the propodus 1.8 times as long as broad, while in *S. cavipalmata* the palm is only 33% with a much longer propodus, being 2.5 times as long as broad.

Distribution. Western Australia: North West Shelf. Northern Territory: Port Essington, Lee Point and McCluer Island (current study).

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