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A new species of *Oxyrhynchaxius* (Decapoda: Axiidea: Axiidae) from the Northwest Shelf of Australia

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Abstract

Oxyrhynchaxius dampieri sp. nov. is described and compared to other species in *Oxyrhynchaxius* Parisi, 1917, particularly *O. manningi* Lin, Kensley and Chan, 2000 which was described from almost the same locality on the Northwest Shelf of Australia. *Oxyrhynchaxius dampieri* differs from *O. manningi* in several respects most noticably by having a tapered straight rostrum rather than a down-turned rostrum and the cornea is elongate and not pigmented rather than short and pigmented.

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Introduction

Oxyrhynchaxius Parisi, 1917 differs from all other axiid genera by having very long eyestalks with elongate tapering cornea, a styliform rostrum and the carapace covered with squamiform tubercles. Only three species are known, all rare and confined to the Indo-West Pacific: *O. japonicus* Parisi, 1917 from Japan; *O. manningi* Lin, Kensley & Chan, 2000 from northwestern Australia and *O. tricarinatus* Lin, 2006 from New Caledonia. The type species was redescribed and another erected by Lin et al. (2000) and a third by Lin (2006). In this contribution a fourth species is erected coincidentally not far from the Western Australia type locality of *O. manningi*. This brings to 19 the species of Axiidae known from offshore Western Australia (Poore and Collins, 2009).

Methods

Carapace length (cl.) is measured dorsally from the orbital margin to the posterior margin of the carapace. Illustrations were prepared in pencil using a camera lucida and converted to publishable figures using Adobe Illustrator®. Type material was accessed at Museums Victoria, Melbourne (NMV) and the holotype of the new species is lodged in the Australian Museum, Sydney (AM).

Taxonomy

Family Axiidae Huxley, 1879

Oxyrhynchaxius Parisi, 1917

Oxyrhynchaxius Parisi, 1917: 17–18. – De Man, 1925: 2 (key), 7 (list). – Sakai, 1987: 303 (list). – Sakai and de Saint Laurent, 1989: 65. – Poore, 1994: 98 (key). – Lin et al., 2000: 199. – Poore and Collins, 2009 : 223, 263. – Sakai, 2011: 150. – Poore and Ahyong, 2023: 201 (diagnosis).

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Type species

Oxyrhynchaxius japonicus Parisi, 1917 (by monotypy).

Remarks

Oxyrhynchaxius contains three species: the type species *O. japonicus* from around 300 m depth in the temperate Northern W Pacific, *O. tricarinatus* Lin, 2006 from 253–600 m depth near New Caledonia, and *O. manningi* Lin, Kensley and Chan, 2000 from 134 m depth on the Australian Northwest Shelf. A recent diagnosis in the context of other Axiidae can be found in Poore and Ahyong (2023).

Oxyrhynchaxius manningi Lin, Kensley and Chan, 2000

Oxyrhynchaxius manningi Lin et al., 2000: 203–205, figs 3E, 4. – Davie, 2002: 453. – Poore and Collins, 2009: 266. – Sakai, 2011: 151.

Material examined. Australia, Western Australia, Northwest Shelf between Port Hedland and Dampier, 18.6833°S, 118.65°E, WHOI sled, 134 m, 4 Jun 1983 (stn NWA 21), NMV J15419 (holotype female, cl. 7.7 mm; NMV J15419 (paratype female, cl. 5.1 mm).

Remarks

Characters were confirmed to distinguish this species from *O. dampieri* sp. nov., some not noted by Lin et al. (2000). The rostrum is anteriorly downturned. Pleonites 1–5 have a sharp median carina and two soft sublateral broad ridges. Pleonite 6 is dorsally scaly. The corneas are spherical and pigmented black. Article 3 of the antenna has a simple spine. The lower margin of the merus of each cheliped has a double row of c. 20 tubercles with six spines on the intermediate flat surface. The upper margin of the palm of the major cheliped has seven prominent sharp spines plus a mesial row of numerous denticles: palm of the minor cheliped has four prominent sharp spines plus a mesial row of numerous denticles; the carpus and propodus of the chelipeds are without dense setae on the upper mesial face.

Distribution

Australia, WA, Northwest Shelf, 134 m depth.

Oxyrhynchaxius dampieri sp. nov.

Figures 1–3

http://zoobank.org/urn:lsid:zoobank.org:act:D2E129C1-51B3-4CD7-8C5B-89C57BF4FC3E

Material examined. **Holotype**. Australia, Western Australia, Northwest Shelf, 19°28.9'S, 116°29.4'E–19°29.0'S, 116°29.0'E, WHOI sled, 110 m, 26 Oct 1983, CSIRO RV *Soela*, Australian Museum P.102723 (intersex, cl. 8.8 mm).

Description

Carapace covered with squamiform tubercles and setae, especially dorsally posterior to cervical groove; bearing 5 strong carinae: median carina starting from base of rostrum and terminating at cervical groove, part anterior to median tubercle sharply granular while posterior part having low notches; anterior half of submedian carina with 8 sharp erect teeth, posterior half with longer sharp spines; lateral carina with 5 elongate spines of which second is displaced laterally; small postantennal spine present; cervical groove about halfway along carapace, well-marked, deep; with postcervical middorsal median sharp carina.

Rostrum styliform, straight, about quarter carapace length, extending to end of antennule and to end of article 4 of antennal peduncle, lateral margins upturned, minutely dentate. Eyestalk cylindrical, swollen about midlength, tapering beyond, 4 times as long as wide, 1.2 times length of rostrum; cornea not pigmented.

Pleon not setose; pleonites 2–6 evenly rounded dorsally, without carinae or squamae; pleura delimited by obscure lateral ridge; pleuron 1 rounded-triangular; pleuron 2 ventrally convex, rounded anteriorly and posteriorly; pleura 3–6 asymmetrically rounded-triangular, without teeth. Telson 1.2 times as long as wide, bearing 2 pairs of submedian and 2 pairs of lateral spines; posterolateral angles each with 3 spiniform setae; posterior margin convex, armed with a median spine.

Antennular peduncle not reaching end of eyestalk; flagella as long as carapace length. Antennal peduncle article 1 with strong spine on lower margin: article 2 carinate above, with strong triangular distal spine; article 3 with strong bifid spine; scaphocerite sharp, exceeding article 4; article 4 with distal spine on lower margin; article 5 one-third of length of article 4; flagellum 2.4 times carapace length.

Maxilliped 3 ischium inner margin with 1 tooth, crista dentata with 18 spines, overlapping merus; merus inner margin with 3 distal spines; carpus inner margin with 1 distal tooth; exopod almost reaching end of merus.

Chelipeds (pereopods 1) similar in structure and length, palm of major cheliped 1.2 times as wide as that of minor cheliped; each with dense clusters of setae on upper lateral faces of carpus, palm and dactylus. Major cheliped (left) ischium lower margin spinulose, with 1 sharp mesial spine; merus 2.5 times as long as wide; merus upper margin with 6 spines and small tooth along distal half; merus lower margin doubly carinate, with spinules along lateral carina, mesial carina smooth, with 2 sharp long spines on intermediate surface; carpus lateral surface granular; carpus upper margin with 7 erect curved spines, increasing in size distally; carpus lower margin with 3 curved distolaterally-directed spines; palm as wide as length of upper margin, lateral surface granular; palm upper margin with 3 erect spines

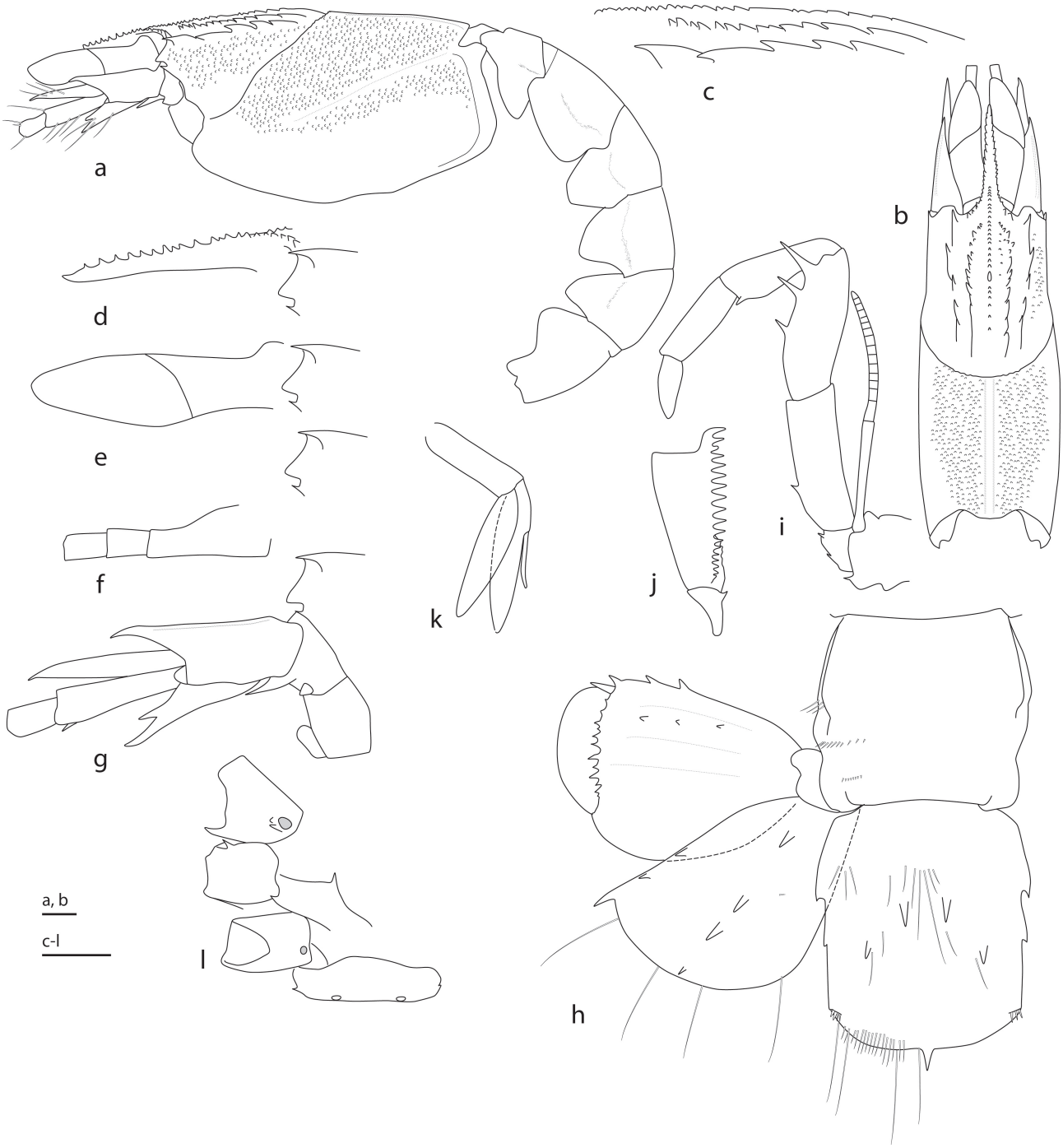

Figure 1. *Oxyrhynchaxius dampieri* sp. nov. Holotype, AM P.102723. a, habitus (without limbs, telson, uropods) lateral view; b, carapace, eyestalks, antennal peduncles, dorsal view; c, median carina, left sublateral and lateral carinae, lateral view; d, rostrum; e, eyestalk; f, antennular peduncle; g, antennal peduncle (d–g, left lateral views with anterior carapace margin); h, pleonite 6, telson, left uropod, dorsal view; i, left maxilliped 3, lateral view; j, maxilliped 3 merus, mesial view; k, pleopod 2; l, pereopodal coxae 3–5, pleonite 1 sternite, pleopods 1, oblique view. Scale bars: 1 mm.

plus tuberculate mesial ridge with larger proximal tooth; propodus lower margin with 10 curved distolaterally-directed spines; fingers about as long as palm upper margin; cutting edge of fixed finger crenulate, bearing 1 large triangular tooth; dactylus upper margin with 3 major spines and small distal tooth, cutting edge crenulate, with 1 triangular tooth near midpoint.

Minor cheliped (right) ischium lower margin spinulose, with 1 sharp mesial spine; merus 2.5 times as long as wide; merus upper margin with 6 uneven spines along distal half; merus lower margin doubly carinate, with spinules along lateral carina, mesial carina smooth, with 3 sharp long spines on intermediate surface; carpus lateral surface granular; carpus upper margin with 6 curved spines; carpus lower margin with 3 curved distolaterally-directed spines; palm as wide as length of

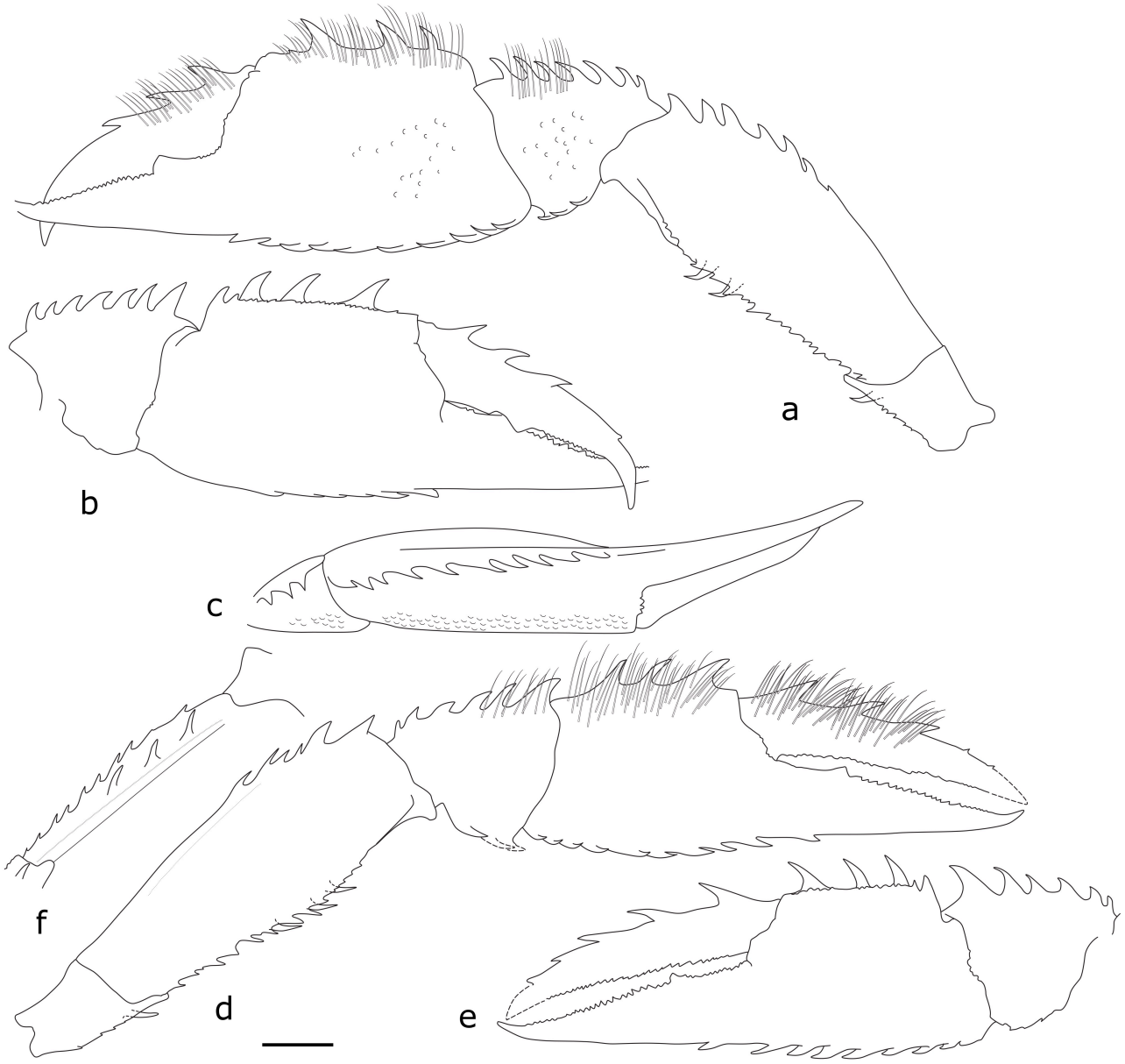

Figure 2. *Oxyrhynchaxius dampieri* sp. nov. Holotype, AM P.102723. a, left cheliped (pereopod 1), lateral view; b, left cheliped (pereopod 1), carpus–dactylus, mesial view; c, left cheliped (pereopod 1), carpus–dactylus, lower view; d, right cheliped (pereopod 1), lateral view; d, right cheliped (pereopod 1), carpus–dactylus, mesial view; f, right cheliped (pereopod 1), distal ischium, merus, lower view. Scale bar: 1 mm.

upper margin, lateral surface granular; palm upper margin with 3 erect spines plus obsolete tuberculate mesial ridge with larger proximal tooth; propodus lower margin with 9 curved distolaterally-directed spines; fingers 1.8 times as long as palm upper margin; cutting edge of fixed finger crenulate, bearing 1 triangular tooth; dactylus upper margin with 3 major spines and 2 small teeth, cutting edge crenulate, without tooth.

Pereopods 2 and 4 missing. Pereopod 3 ischium lower margin spinulose; merus lower margin with 1 distal tooth: carpus and propodus unarmed; dactylus 0.40 length of propodus, acute. Pereopod 5 ischium–carpus unarmed; propodus elongate, microchelate; dactylus flattened, with 6 spiniform setae close to mesial edge. Gonopores on both coxae of pereopods 3 and 5.

Pleopod 1 button-like in only specimen. Pleopod 2 with rami 1.5 times as long as peduncle, each about 4 times as long as wide; appendix interna one-third as long as exopod; appendix masculina absent.

Uropod endopod with rib along anterior margin bearing 2 spines on surface and terminal tooth; with central rib bearing 4 spines; exopod 2-articled, with rib along anterior margin bearing 2 marginal teeth and 1 terminal tooth; with submarginal rib bearing 3 small spines; suture unevenly denticulate, with spiniform seta next to tooth at end of anterior margin.

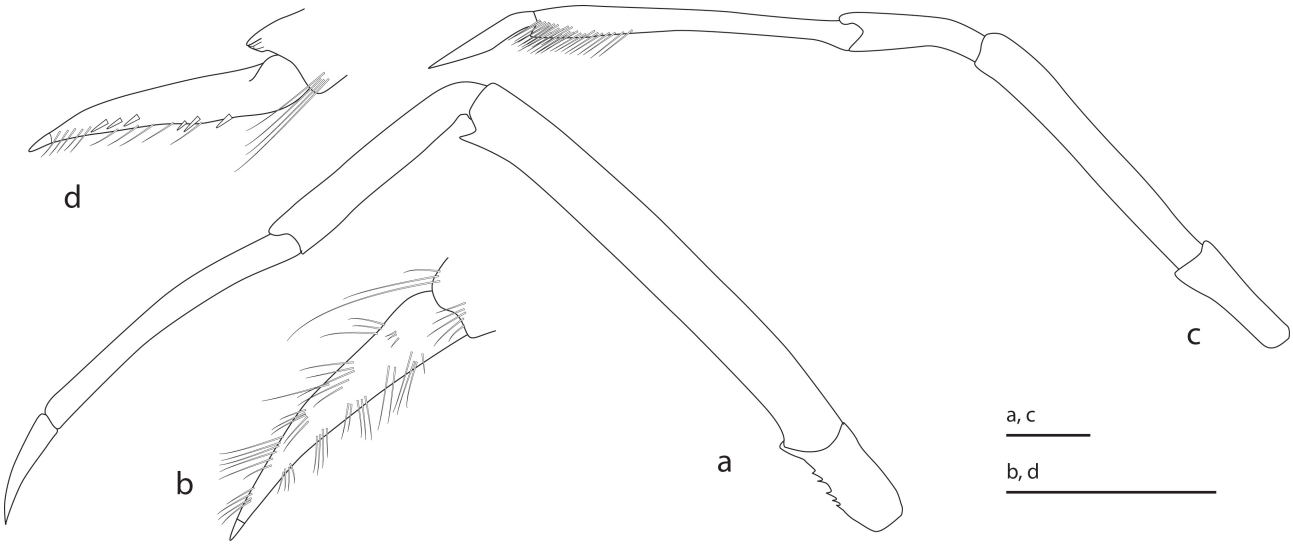

Figure 3. *Oxyrhynchaxius dampieri* sp. nov. Holotype, AM P.102723. a, left pereopod 3; b, left pereopod 3 dactylus; c, left pereopod 5; d, left pereopod 5 dactylus. Scale bars: 1 mm.

Size. Carapace length, 8.8 mm; total length 31 mm.

Etymology

For William Dampier (1651–1715), the first European naturalist to visit Western Australia in 1688 and 1699 and for the Dampier Archipelago 120 km south of the type locality.

Distribution

Western Australia, Northwest Shelf, offshore from Dampier Archipelago, 110 m depth (known only from type locality).

Remarks

The only specimen (carapace length, 8.8 mm) is probably a juvenile intersex; both male and female gonopores are present, pleopods 1 are button-like and there is no appendix masculina on pleopod 2. Females of *Oxyrhynchaxius japonicus* can attain a carapace length of 22.5 mm when ovigerous; the two specimens of *O. manningi*, 5.1 and 7.7 mm, were treated as females (Lin et al., 2000). The largest male of *O. tricarinatus* was 14.9 mm (Lin, 2006). Intersexes have not been recorded for these three species.

Oxyrhynchaxius dampieri differs substantially from *O. manningi* found nearby in the same year. Comparing the characters listed for *O. manningi* above: the rostrum is not anteriorly downturned; pleonites 1–5 do not have a sharp median carina nor two soft sublateral broad longitudinal ridges; pleonite 6 is not dorsally scaly; the cornea is elongate and not pigmented; article 3 of the antenna has a bifid spine; the lower margin of the merus of each cheliped has a lateral tuberculate carina, a smooth mesial carina, with two or three spines on the intermediate flat surface; and the carpus and propodus have dense setae on the upper mesial face. *Oxyrhynchaxius dampieri* is more similar to *O. japonicus* in having a straight rostrum but differs in the following ways. *Oxyrhynchaxius japonicus* has pigmented cornea occupying one-quarter of the eyestalk (unpigmented, occupying half in *O. dampieri*) and a much shorter telson than in *O. dampieri. Oxyrhynchaxius tricarinatus* has similar sculpture on the pleon as *O, manningi* but pigmented eyestalks similar in shape to those of *O. dampieri.*

Acknowledgments

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References

Davie, P.J.F. 2002. *Crustacea: Malacostraca: Phyllocarida, Hoplocarida, Eucarida (Part 1).*Vol. 19.3A. CSIRO Publishing: Melbourne. xii, 551 pp.

Lin, F.-J. 2006. Two new axioids (Decapoda: Thalassinidea) from New Caledonia. *Journal of Crustacean Biology* 26: 234–241. https://doi.org/10.1651/C-2592.1

Lin, F.-J., Kensley, B., and Chan, T.-Y. 2000. The rare axiid genus *Oxyrhynchaxius* Parisi, 1917 (Decapoda: Thalassinidea), with a description of a new species from Australia. *Journal of Crustacean Biology* 20 (Special Number 2): 199–206. https://doi.org/10.1163/1937240X-90000021

De Man, J.G. 1925. The Decapoda of the Siboga-Expedition. Part VI. The Axiidae collected by the Siboga-Expedition. *Siboga-Expéditie* 39a5: 1–127. http://decapoda.nhm.org/pdfs/15372/15372.pdf

Parisi, B. 1917. Decapoda giapponesi del Museo di Milano. V. Galatheidea e Reptantia. *Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano* 56: 1–24. https://research.nhm.org/pdfs/20919/20919.pdf

Poore, G.C.B. 1994. A phylogeny of the families of Thalassinidea (Crustacea: Decapoda) with keys to the families and genera. *Memoirs of the Museum of Victoria* 54: 79–120. https://doi.org/10.24199/j.mmv.1994.54.03

Poore, G.C.B., and Ahyong, S.T. 2023. *Marine decapod Crustacea. A guide to families and genera of the world.* CSIRO Publishing, Melbourne and CRC Press, Boca Raton. 928 pp.

Poore, G.C.B., and Collins, D.J. 2009. Australian Axiidae (Crustacea: Decapoda: Axiidea). *Memoirs of Museum Victoria* 66: 221–287. http://doi.org/10.24199/j.mmv.2009.66.20

Sakai, K. 1987. Two new Thalassinidea (Crustacea: Decapoda) from Japan, with the biogeographical distribution of the Japanese Thalassinidea. *Bulletin of Marine Science* 41: 296–308.

Sakai, K. 2011. Axioidea of the world and a reconsideration of the Callianassoidea (Decapoda, Thalassinidea, Callianassida). *Crustaceana Monographs* 13: 1–616. https://doi.org/10.1163/9789047424185

Sakai, K., and de Saint Laurent, M. 1989. A check list of Axiidae (Decapoda, Crustacea, Thalassinidea, Anomula), with remarks and in addition descriptions of one new subfamily, eleven new genera and two new species. *Naturalists, Publications of Tokushima Biological Laboratory, Shikoku University* 3: 1–104.