

Stomatopod Crustacea from the Dampier Archipelago, Western Australia

Shane T. Ahyong

Marine Biodiversity and Biosecurity, NIWA, Private Bag 14901, Kilbirnie,
Wellington, New Zealand.
email: s.ahyong@niwa.co.nz

Abstract – The stomatopod Crustacea collected principally from the Dampier Archipelago, containing 14 species from four families and nine genera, are reported. Seven species are newly recorded from the Dampier Archipelago and two species, *Gonodactylellus diana* and *Acanthosquilla melissae*, are described as new. *Anchisquilla subfasciata* (Tate, 1883), previously regarded as a synonym of *Anchisquilla fasciata* (de Haan, 1844), is removed from synonymy and recognised for all Australian records previously attributed to the latter species.

INTRODUCTION

Recent expeditions to the Dampier Archipelago in 1998 and 1999, coordinated by the Western Australian Museum, resulted in the present collection of shallow water Stomatopoda. Although the Australian Stomatopoda was recently revised (Ahyong, 2001), including material from northwestern Australia, the fauna of the Dampier Archipelago has not been specifically studied. The present series includes 14 species, divided among four families and nine genera. Two new species are described and a third is removed from synonymy.

MATERIALS AND METHODS

Terminology and size descriptors follow Ahyong (2001). Abbreviations: antennule (A1); antenna (A2); abdominal somite (AS); thoracic somite (TS); juvenile (juv.), station (stn). All measurements are in millimetres (mm). Unless otherwise indicated, measurements given for specimens indicate total length (TL), measured along the midline from the tip of the rostrum to the apices of the submedian teeth. Carapace length (CL) is measured along the midline and excludes the rostral plate. Corneal index (CI) is given as $100CL/\text{cornea width}$. Synonymies are restricted to regional, primary and major works. Propodal index (PI) is given as $100CL/\text{propodus length}$. The abdominal-width carapace-length index (AWCLI) is given as 1000 times width of AS5 divided by carapace length. Specimens are deposited in the collections of the Australian Museum, Sydney (AM), the National Natuurhistorisch Museum, Leiden (NNM), the Northern Territory Museum of Arts and Sciences, Darwin (NTM), the South Australian Museum (SAM) and the Western Australian Museum, Perth (WAM).

SYSTEMATICS

Family Gonodactylidae Giesbrecht, 1910

Gonodactylaceus falcatus (Forskål, 1775)

Cancer falcatus Forskål, 1775: 96 [type locality: Djeddah, Red Sea, by neotype selection (Manning and Lewinsohn, 1981)].

Gonodactylus graphurus. – White, 1847: 85 [part, not *G. graphurus* Miers, 1875].

Gonodactylus chiragara var. *mutatus* Lanchester, 1903: 450 [type locality: Furnadu Velu, Miladummadulu Atoll, Maldive Is, 6°00'N, 73°10'E].

Gonodactylus glaber var. *rotundus* Borradaile, 1907: 211–212, pl. 22: fig. 2 [type locality: Coetivy, Seychelle Is, 7°08'S, 56°16'E, and Zanzibar, 6°10'S, 39°12'E].

Gonodactylus glabrous. – McNeill, 1926: 316–317; Hale, 1929a: 33; Hale, 1929b: 67 [not *G. glabrous* Brooks, 1886].

Gonodactylus falcatus. – Stephenson, 1952: 11, Stephenson, 12; 1953: 47; Stephenson and McNeill, 1955: 249–250, Stephenson, 1962: 34; McNeill, 1968: 89.

Gonodactylus aloha Manning and Reaka, 1981a: 190–200, figs. 1–3 [type locality: Oahu, Hawaiian Is].

Gonodactylus siamensis Manning and Reaka, 1981b: 479–482, fig. 1 [type locality: Sattahip, Gulf of Thailand, 12°40'N, 100°52'E].

Gonodactylus insularis Manning and Reaka, 1982: 347–351, figs. 1, 2 [type locality: Kidrenen I., Enewetak, 11°22'50"N, 162°10'30"E].

Gonodactylus takedai Moosa, 1989: 227, fig. 1 [type locality: Miyanojima, Chichi-jima, Ogasawara Is].

Gonodactylaceus gravieri Manning, 1995: 42, 43, 46–48, fig. 13 [type locality: Poulo Condore, Vietnam].

Gonodactylaceus falcatus. – Ah Yong and Norrington, 1997: 98–99; Ah Yong, 2001: 35–38, fig. 17; Ah Yong and Davie, 2002: 43.

Material examined

Western Australia, Dampier Archipelago. WAM C 27592 (1 juv. male, 12 mm), stn DA3/99/38, Malus I. (20°30.63'S, 116°38.79'E), intertidal, 27.08.1999; WAM C 27595 (2 females, 39–40 mm), stn DA3/99/45, Rosemary I. (20°29.67'S, 116°35.59'E), 30.08.1999; WAM C 27596 (1 male, 32 mm), stn DA3/99/45, Rosemary I. (20°29.67'S, 116°35.59'E), 30.08.1999; WAM C 27590 (1 female, 35 mm), stn DA3/99/42, Georgeff Reefs (20°20.34'S, 116°36.80'E), 28.08.1999; WAM C 25682 (1 female, 37 mm), stn DA1/98/34, Tozer I. (20°27.684'S, 116°50.486'E), intertidal sand flat backed by mangroves, 29.10.1998; WAM C 25845 (1 male, 23 mm), stn DA1/98/29, Legendre I. (20°24.566'S, 116°53.714'E), 4.5 m, among coral sponge and brown algae, 27.10.1998; WAM C 25427 (1 male, 26 mm), stn DA1/98/01, Dolphin I. (20°25.852'S, 116°52.953'E), muddy sand, live coral and coral rubble on gentle slope, 17.10.1998; WAM C 25902 (1 juv. male, 12 mm), stn DA1/98/35, Legendre I. (20°23.620'S, 116°51.960'E), shallow subtidal, among small coral bommies (faviids), some sponges, no *Acropora*, 29.10.1998.

Remarks

In the adult specimens, the median carinule on AS6 is present but low. *Gonodactylaceus falcatus* was reported from northwestern Australia by Ah Yong (2001), although the present records are the first for the Dampier Archipelago.

Distribution

Widely distributed in the Indo-West Pacific, from the Red Sea to Australia, New Caledonia, Indonesia, the South China Sea to Japan and Hawaii (Ah Yong, 2001).

Gonodactylaceus graphurus (Miers, 1875)

Gonodactylus graphurus White, 1847: 85 [*nomen nudum*].

Gonodactylus graphurus Miers, 1875: 344 [part, White's material only; type locality: Torres Str., Qld, Australia, by lectotype designation (Ingle, 1971)]. – Kemp, 1913: 169–170. – Balss, 1921: 5. – Alexander, 1916: 9. – Stephenson, 1952: 12; 1953a: 47. – Stephenson & McNeill, 1955: 250. – Stephenson, 1962: 35. – Manning, 1966: 108–109.

Gonodactylaceus graphurus. – Manning, 1995: 19, 42–43. – Ah Yong and Norrington, 1997: 99–100. – Ah Yong, 2001: 40–42, fig. 19. – Ah Yong and Davie, 2002: 44.

Material examined

Western Australia: WAM C 25776 (1 female, 47 mm), Cleaverville, 05.08.2000; WAM C 25775 (1 female, 14 mm), 1.1 n. mls W of Bluff Pt, Enderby I. (20°37.37'S, 116°31.69'E), 20.07.1999; WAM C 27180 (1 female, 38 mm), Tish Pt, Rosemary I. (20°30.48'S, 116°36.53'E), 26.07.1999; WAM C 25773 (1 female, 34 mm), Angel I. (20°27.965'S, 116°49.692'E), 8.5 m, many sponges and soft corals on pavement with some coarse shelly sediment, some hard corals (faviids and *Turbinaria*), 29.10.1998; WAM C 27153 (1 male, 30 mm; 1 female, 22 mm), Bluff Pt, Enderby I. (20°37.05'S, 116°33.86'E), 19.07.1999; WAM C 27147 (2 males 27–38mm), Hugg I. (20°26.52'S, 117°00.50'E), 16.07.1999; WAM C 27600 (1 male), stn DA3/99/33, Nelson Rocks (20°27.99'S, 116°39.71'E), 07.09.1999; WAM C 27597 (1 female, 39 mm), stn DA3/99/19, Enderby I. (20°36.22'S, 116°33.63'E), 02.09.1999; WAM C 27184 (2 males, 30–43 mm; 2 females, 36–39 mm), stn DA2/99/95, Bluff Pt, Enderby I. (20°37.37'S, 116°31.69'E), 27.07.1999; WAM C 27169 (1 male, 37 mm), stn DA2/99/72, Rocky Head, Enderby I. (20°42.13'S, 116°26.22'E), 24.07.1999; WAM C 27149 (1 female, 78 mm), stn DA2/99/31, Courtenay Head Light, Malus I. (20°29.49'S, 116°40.61'E), 18.07.1999; WAM C 27163 (1 female, 30 mm), stn DA2/99/65, light on East Intercourse I. (20°38.31'S, 116°38.46'E), 23.07.1999; WAM C 27172 (1 male, 35 mm; 2 females, 42–44 mm), NW point on Goodwyn I. (20°32.11'S, 116°31.55'E), 25.07.1999; WAM C 25774 (2 males, 46–55 mm; 2 females, 44–45 mm), stn DA2/99/84, 2.9 n. mls E of Tish Pt, Rosemary I., (20°29.94'S, 116°38.11'E), 26.07.1999; WAM C 27148 (1 male, 43 mm; 1 female, 43 mm), stn DA2/99/14, Sloping Pt., Burrup Pen. (20°35.67'S, 116°54.97'E), 16.07.1999; WAM C 27164 (1 female, 36 mm), stn DA2/99/68, Bluff Pt, Enderby I. (20°40.93'S, 116°33.21'E), 23.07.1999; WAM C 25623 (1 female, 30 mm), stn DA1/98/33, Angel I. (20°27.965'S, 116°49.692'E), 8.5 m, many sponges and soft corals on pavement with some shelly sediment and some hard corals (faviids and *Turbinaria*), 29.10.1998; WAM C 25777 (2 females, 32–38 mm), stn DA2/99/99, ~ 1.05 n. mls WSW of Rocky Head, Enderby I. (20°37.36–37.02'S, 116°26.85–26.44'E), 17.0–19.0 m, rake box dredge, rocks and hard corals, gorgonians, hydroids, numerous sponges, 28.07.1999.

Remarks

Gonodactylaceus graphurus was reported from the Dampier Archipelago by Ah Yong (2001). The transverse abdominal grooves, diagnostic for the species, are developed in all specimens. In the 14

mm female (WAM C 25775), the anterolateral corners of the rostral plate are rounded instead of angular, and the median carinule on AS6 is undeveloped instead of distinct, features related to its small size.

Distribution

Tropical Australia, Southern Indonesia and New Hebrides (Ahyong, 2001).

Gonodactylellus affinis (de Man, 1902)

Gonodactylus chiragra var. *affinis* de Man, 1902: 912 [type locality: Ternate, Molucca Is, Indonesia, 0°48'N, 127°20'E].

Gonodactylus chiragra var. *confinis* de Man, 1902: 912, pl. 27, fig. 66 [type locality: Ternate, Molucca Is, Indonesia, 0°48'N, 127°20'E].

Gonodactylus chiragra var. *segregatus* Lanchester, 1903: 448, pl. 23, figs. 6, 7 [type locality: Minikoi, Laccadive Is, restricted by lectotype designation (Ahyong, 2001)].

Gonodactylellus affinis.—Ahyong, 2001: 46–48, fig. 21.—Ahyong and Davie, 2002: 46–47.

Material examined

Western Australia, Dampier Archipelago. WAM C 27139 (1 male, 21 mm; 1 female, 27 mm), stn DA2/99/04, Cohen I. (20°19.64'S, 116°45.75'E), 14.07.1999; WAM C 27158 (2 juv. females, 9 mm), stn DA2/99/50, Rocky Head, Enderby I. (20°37.10'S, 116°20.99'E), dredge, 20.07.1999; WAM ex C 27594 (1 female, 24 mm), stn DA3/99/53, Enderby I. (20°34.53'S, 116°34.58'E), from rock, 01.01.1999; WAM C 25783 (1 male, 23 mm), stn DA2/99/84, ~ 2.9 n. mls E of Tish Pt. (20°29.94'S, 116°38.11'E), 26.07.1999; WAM C 25782 (1 male, 22 mm; 1 female, 23 mm), stn DA2/99/13, ~ 2.25 n. mls E of Haüy I. (20°26.52'S, 117°00.50'E), 16.07.1999; WAM C 25779 (1 female, 20 mm), stn DA2/99/10, NE corner of Delambre I. (20°23.97'S, 116°04.82'E), 15.07.1999; WAM C 27159 (1 female, 13 mm), stn DA2/99/51, SW point of Goodwyn I. (20°32.40'S, 116°24.19'E), 21.07.1999; WAM C 25780 (1 male, 22 mm), stn DA2/99/33 (20°27.41'S, 116°42.57'E), 18.07.1999; WAM ex C 27178 (1 male, 10 mm), W point of Brigadier I., stn DA2/99/88, (20°26.04'S, 116°36.77'E), 26.07.1999; WAM C 25624 (1 broken female), stn DA1/98/33, Angel I. (20°27.965'S, 116°49.692'E), 8.5 m, many sponges and soft corals on pavement with some shelly sediment and some hard corals (faviids and *Turbinaria*), 29.10.1998; WAM C 27179 (1 female, 9 mm), stn DA2/99/91, Tish Pt, Rosemary I. (20°30.48'S, 116°36.53'E), dredge, 26.07.1999; WAM C 25781 (2 males, 24 mm; 3 females; 21–23 mm), stn DA2/99/76, NW point of Goodwyn I. (20°32.11'S, 116°31.55'E), 25.07.1999; WAM C 27144 (1 female,

11 mm), NE corner of Delambre I., stn DA2/99/09 (20°20.38'S, 117°05.22'E), dredge, 15.07.1999; WAM C 27141 (1 male, 21 mm; 1 female, 28 mm), stn DA2/99/06, C. Legendre (20°21.69'S, 116°52.40'E), 14.07.1999; WAM C 27146 (1 male, 21 mm), stn DA2/99/10, NE corner of Delambre I. (20°23.97'S, 117°04.82'E), dredge, 15.07.1999; WAM C 27173 (1 female, 27 mm), stn DA2/99/76, NW point of Goodwyn I. (20°32.11'S, 116°31.55'E), 25.07.1999; WAM C 27160 (1 female, 11 mm), stn DA2/99/57, Roly Rock (20°29.03'S, 116°30.45'E), 21.07.1999.

Remarks

Ahyong (2001) reported *G. affinis* from the Dampier region. In the present series, sexual dimorphism in the degree of telson inflation resembles that reported by Moosa and Cleva (1984a) and Ahyong (2001). The posterior spine on the median carina of the telson is present on all individuals, though the posterior spine on the accessory median and anterior submedian carinae is present only in specimens exceeding 10 mm TL. An incipient granule is usually evident on the posterior margin of the accessory median carinae of specimens of 10 mm TL or smaller. In several adult specimens, the posterior spines on the accessory median and anterior submedian carinae are indicated by a shallow pit, having probably been damaged in agonistic encounters.

Distribution

Western Pacific Ocean to the Philippines, Macclesfield Bank, South China Sea, Vietnam, Thailand, Indonesia and Australia (Ahyong, 2001).

Gonodactylellus rubriguttatus Erdmann and Manning, 1998

Gonodactylellus rubriguttatus Erdmann and Manning, 1998: 619–620, fig. 1d [type locality: Tanjung Torosie, Komodo/Rinca, Indonesia].—Ahyong, 2001: 60–61, fig. 29.—Ahyong and Davie, 2002: 46.

Material examined

Western Australia, Dampier Archipelago. WAM C 27591 (1 male, 11 mm), stn DA3/99/21, Eaglehawk I. (20°38.98'S, 116°26.21'E), 2.0–3.0 m, 03.09.1999.

Remarks

Gonodactylellus rubriguttatus was reported from northwestern Australia, as far south as the Abrolhos Islands (Ahyong, 2001). The petasma is well developed in the single specimen examined.

Distribution

Indonesia, Australia, and New Caledonia (Ahyong, 2001).

Gonodactylellus diana sp. nov.

Figure 1

Gonodactylellus snidsvongi. —Ahyong, 2001: 61–63, fig. 30. —Ahyong and Davie, 2002: 46 [misspelling; Australian specimen, not *G. snidsvongi* (Naiyanetr, 1987)].

Material examined**Holotype**

Western Australia, Dampier Archipelago. WAM C 27599 (male, 19 mm), stn DA3 (precise station uncertain).

Paratypes

Western Australia. WAM C 25414 (1 female, 9 mm), stn DA1/98/06, Haüy I. (20°25.725'S, 116°57.580'E), low relief limestone pavement with shallow sandy gullies, few loose rocks, very little coral cover, very silty, 19.10.1998; WAM C 25620 (2 juv. males, 10–12 mm), stn DA1/98/09, Angel I. (20°28.692'S, 116°47.950'E), 2–3 m, limestone platform with sand cover and protruding pavement, scattered flat rocks, patchy algal growth, strong current and surge, 20.10.1998; WAM C 29365 (1 juv. male, 8 mm), stn DA1/98/09, Angel I. (20°28.692'S, 116°47.950'E), 2–3 m, 20.10.1998; NTM (1 male, 11 mm), Pt Samson (20°38'S, 117°11'E), shore reef, 09.02.1988.

Diagnosis

Ocular scales low, fused, anterior margin transverse. Rostral plate with transverse or slightly concave anterior margins; anterolateral corners angular; lateral margins divergent anteriorly; median spine longer than base. Mandibular palp 2-segmented. Raptorial claw dactylus with proximal notch. AS6 with posterolateral spine. Telson with spiniform submedian denticles; intermediate teeth slender, elongate, apices extending posteriorly well beyond mid length of submedian teeth; lateral teeth sharp, projecting well off margin of telson. Telson median carina and accessory median carinae, together with a group of 6 posterior spines (2 spines on median, lower longest; 2 spines on each accessory median); anterior submedian carina terminating in 2 distal conical spines; submedian tooth with 2 large dorsal spines in transverse row, outer spine conical, longer than half length of tooth; intermediate carina with large, conical dorsal spine, longer than half length of tooth; submedian and intermediate teeth with ventral carina. Uropodal exopod proximal margin with non-setose inner margin; distal margin with ventral spine. Exopod distal segment with setose outer margin and smooth, non-setose inner margin. Uropodal endopod length 2.48–2.87 breadth; distal half of outer margin setose, remainder smooth, non-setose.

Description

Eyes elongate; cornea subconical. Ocular scales low, fused, anterior margin transverse. A1 peduncle length 0.61–0.68 CL. Dorsal and ventral distal teeth of A2 protopod with acute apices; scale length 0.38–0.44 CL. Rostral plate as long as or slightly longer than broad; basal portion with transverse or slightly concave anterior margins; anterolateral corners angular except in juveniles 10 mm TL or smaller; lateral margins divergent anteriorly; median spine longer than base, laterally flattened, with obtusely angular ventral keel. Raptorial claw dactylus with proximal notch; propodus with proximal movable spine, opposable margin sparsely pectinate proximally. Mandibular palp 2-segmented. Maxillipeds 1–5 with epipod. TS6–7 lateral processes subequal to or slightly broader than that of TS6; lower margins subtruncate. TS8 anterolateral margin rounded; sternal keel obsolete. Pleopod 1 endopod with lateral lobe on posterior endite. AS1–5 posterolateral angles unarmed. AWCLI 792–846. Submedian, intermediate and lateral bosses of AS6 with posterior spine. Telson slightly broader than long; with 10–14 spiniform submedian denticles; intermediate teeth slender, elongate, apices extending posteriorly well beyond midlength of submedian teeth; lateral teeth with sharp apex, projecting well off margin of telson, indicated by a wide, V-shaped notch. Telson median carina tumid in males, but not obscuring accessory median carinae, together with a group of 6 posterior spines in adults (2 spines on median, lower longest; 2 spines on each accessory median); anterior submedian carina flanked by low rounded carina and terminating in 2 distal conical spines, upper largest; submedian tooth with 2 large, conical, dorsal spines in transverse row, outer spine longer than half length of tooth; intermediate tooth with large, conical, dorsal spine, longer than half length of tooth; knob absent; submedian and intermediate teeth with ventral carina. Uropodal protopod terminal spines with length subequal; upper proximal surface with obtuse swelling behind dorsal carina. Uropodal exopod proximal segment outer margin with 9–11 (usually 10) movable spines, distal-most slightly exceeding apex of distal segment; inner margin smooth, non-setose; distal margin with ventral spine; exopod distal segment with outer margin setose, inner margin smooth, non-setose. Uropodal endopod length 2.48–2.87 breadth; distal half of outer margin setose, remainder smooth, non-setose.

Colour in alcohol

Faded to dull green; with scattered black spots on median surface of TS6, AS1, 4 and 5.

Measurements of the holotype

TL 19 mm, CL 3.60 mm, A1 peduncle length 2.30 mm, A2 scale length 1.50 mm, AS5 width 2.85 mm.

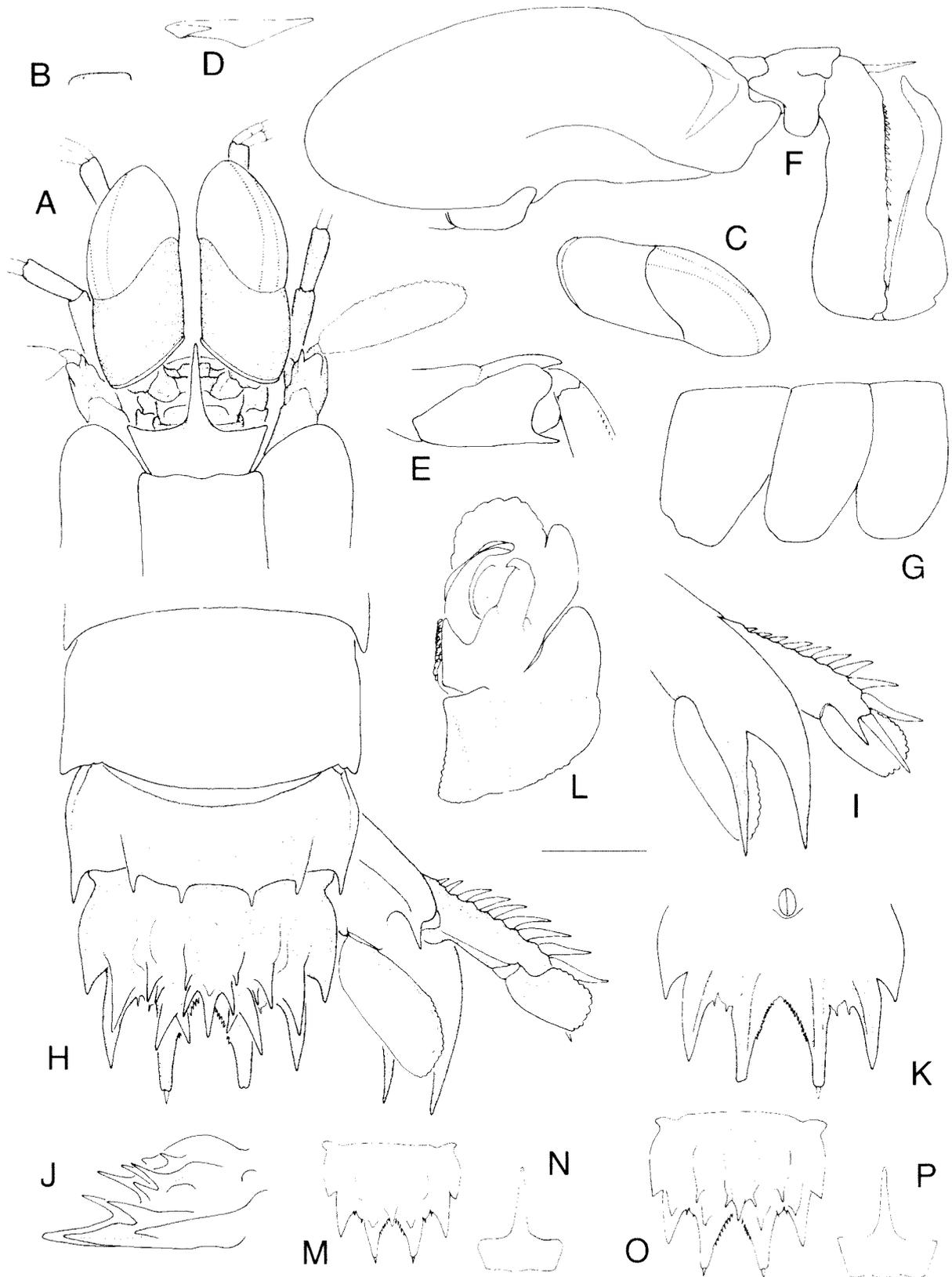


Figure 1 *Gonodactylus diana* sp. nov., Dampier Archipelago. A-L, male holotype TL 19 mm (WAM C 27599); M, N, male paratype TL 10 mm (WAM C 25620); O, P, male paratype TL 12 mm (WAM C 25620). A, anterior; B, ocular scales; C, eyes, right lateral view; D, rostral plate, right lateral view; E, right A2 protopod; F, right raptorial claw, lateral view; G, TS6-8, right lateral view; H, AS5, 6, telson and uropod; I, left uropod, ventral view; J, telson, right lateral view; K, telson, ventral view; L, right pleopod endopod, anterior view; M, O, telson; N, P, rostral plate. Scale A-D, F-K, M-P = 1.0 mm. E, L = 0.5 mm.

Etymology

Named for Diana Jones, Western Australian Museum, for her central role in coordinating the study of the Dampier marine fauna.

Remarks

Gonodactylellus diana sp. nov. (Figure 1) most closely resembles *G. snidvongsi* (Naiyanetr, 1987) (Figure 2, type locality: Ko Kangkao, Chonburi Province, Thailand) differing in subtle aspects of the ocular scales, telson shape and spination. The ocular scales in adult *Gonodactylellus diana* are fused medially with a transverse margin, whereas in *G. snidvongsi*, the ocular scales, whilst low, are separated by a shallow but distinct emargination. The telson of *G. diana* has a less triangular general outline than *G. snidvongsi* owing to the proportionally more elongate and more slender primary teeth (compare Figures 1H, K and Figure 2C). Notably, the apices of the lateral teeth on the telson of *G. diana* reach posteriorly to a level slightly beyond the base of the sinus between the submedian teeth. In contrast, the apices of the lateral teeth in *G. snidvongsi* fall distinctly short of the sinus between the submedian teeth. The most obvious differences between adult *G. diana* and *G. snidvongsi*, however, are in overall telson spination, in which the dorsal spines are larger but fewer in number in the new species. In *G. diana* the submedian primary teeth of the telson bear two proximal dorsal teeth, of which the outer exceeds half the length of the submedian tooth. In *G. snidvongsi* of 16 mm or larger, a cluster of occasionally two, but usually three or more spines is present at the base of each submedian primary tooth; none of the dorsal spines approach half the length of the submedian primary teeth. Similarly, the single dorsal spine on the anterior intermediate

carina in *G. diana* exceeds half the length of the intermediate primary tooth. In *G. snidvongsi* of 16 mm or larger, however, two or more spines are present on the intermediate primary teeth and none approach half the length of the intermediate tooth.

The telson and rostral plate of the 10 mm and 12 mm paratypes (WAM C 25620) are shown in Figure 1M–P. At 10 mm, the corners of the rostral plate are rounded and telson spination is rudimentary, with only the posterior spine on the median carina and dorsal spine on each submedian tooth developed. By 12 mm, the rostral corners are angular as in adults, the intermediate primary teeth also bear a dorsal spine, and the anterior submedian and accessory median carinae are posteriorly armed. In the juvenile specimens, telson spination is not fully developed and the intermediate primary telson teeth have not reached full length. The telson outline in juvenile *G. diana* resembles that of *G. snidvongsi*. As such, small specimens of *G. diana* could presumably be confused with similarly size *G. snidvongsi* as with the 11 mm specimen reported by Ahyong (2001) as the latter. Unfortunately, juvenile *G. snidvongsi* are yet to be studied. Owing to the differences in telson spination between adults of *G. snidvongsi* and *G. diana*, however, differences in juvenile spination will likely be found when small specimens of both species can be compared. It should be noted that the ocular scales in the figure of this 11 mm specimen (Ahyong, 2001: fig. 30) were incorrectly rendered as separate rather than fused and anteriorly transverse, confirmed by reexamination of the specimen.

Gonodactylellus diana was collected from shore or near-shore reef habitats to a depth of 2–3 m. Reefs consisted of silted, low relief, limestone pavement or platforms with rubble, rocks and patchy coral or algal cover.

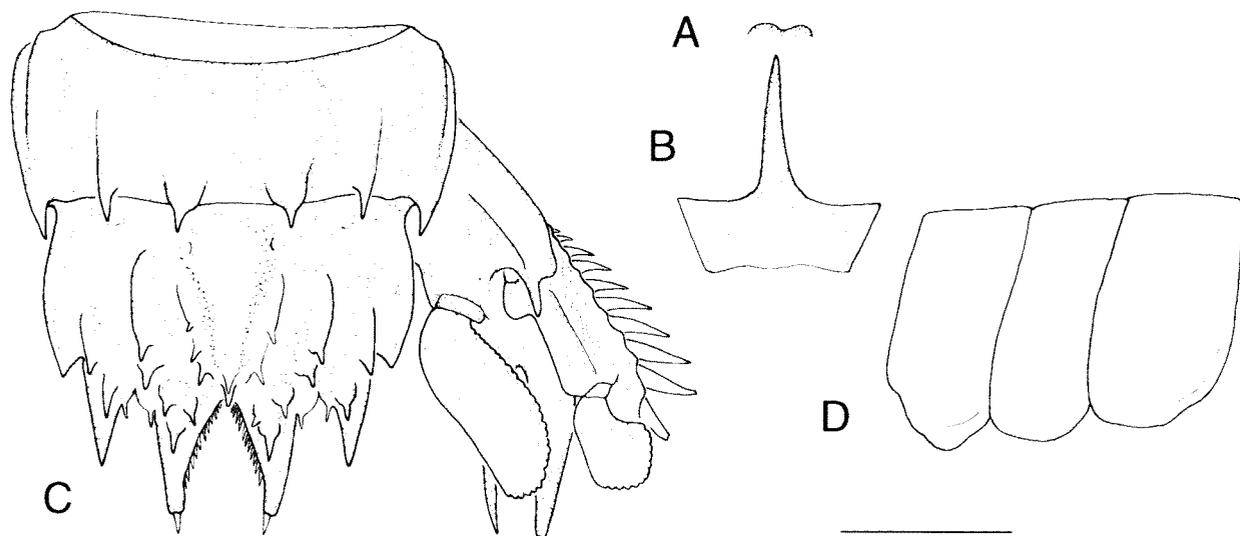


Figure 2 *Gonodactylellus snidvongsi* (Naiyanetr, 1987). NNM S1041, female holotype TL 16 mm, Ko Kangkao, Chonburi Province, Thailand. **A**, ocular scales; **B**, rostral plate; **C**, AS6, telson and uropod; **D**, TS6–8, right lateral. Scale = 1.0 mm.

Distribution

Presently known only from the Dampier Archipelago.

***Gonodactylus chiragra* (Fabricius, 1781)**

Squilla chiragra Fabricius, 1781: 515 [type locality: restricted to Ambon, Indonesia, 3°43'S, 128°12'E, by neotype selection (Manning, 1981: 217)].

Gonodactylus chiragra.—White, 1847: 84.—Kemp, 1913: 4, 11, 147, 155, fig. 2, pl. 9, fig. 107 [part].—McNeill, 1926: 316 [part].—Hale, 1929a: 34.—Stephenson, 1952: 11.—Stephenson and McNeill, 1955: 250–252 [part].—Stephenson, 1962: 34.—Manning, 1966: 108, 113–114 (part).—McNeill, 1968: 89.—Ahyong and Norrington, 1997: 100–101.—Ahyong, 2001: 67–70, fig. 34.—Ahyong and Davie, 2002: 42, 47.

Material examined

Western Australia, Dampier Archipelago. WAM C 25316 (1 female, 31 mm), stn DA1/98/14, Unnamed I. (20°26.58'S, 116°48.79'E), 2–3 m, 20.10.1998; WAM C 25622 (1 male, 33 mm), Searipple Passage (20°31.230'S, 116°51.182'E), intertidal, 21.10.1998.

Remarks

Gonodactylus chiragra was reported from northwestern Australia by Ahyong (2001). The present specimens, however, constitute the first records of *G. chiragra* from Dampier and the southernmost confirmed records from Western Australia. White (1847) listed *G. chiragra* along with two other tropical species, *Haptosquilla trispinosa* (Dana, 1852) and a species of the brachyuran decapod *Uca* (as *Gelasimus*), from Swan River from the collection of Mr Dring. None of these species have since been reported from the Swan River and *H. trispinosa* is a Pacific species. As suggested by Ahyong (2001) under the account of *H. trispinosa*, the Swan River record is almost certainly from northeastern Australia and is perhaps an error for Swan Island, Queensland.

Distribution

French Polynesia to Japan, Australia, the Indo-Malayan region and possibly from the western Indian Ocean.

***Gonodactylus smithii* Pocock, 1893**

Gonodactylus Smithii Pocock, 1893: 475, pl. 20B [type locality: Arafura Sea].

Gonodactylus chiragra var. *anancyrus* Borradaile, 1900: 395, 397, 401 [type localities: Talili Bay, New Britain (4°12'S, 152°08'E) and Lifu, Loyalty

Is (20°53'S, 167°13'E)].

Gonodactylus chiragra (Fabricius) var. *smithii* Pocock.—Rathbun, 1914: 664.

Gonodactylus smithii.—Manning, 1966: 112–113.—Ahyong and Norrington, 1997: 101–102.—Ahyong, 2001: 72–75, fig. 36.—Ahyong and Davie, 2002: 48.

Gonodactylus chiragra.—Stephenson and McNeill, 1955: 250–252 [part, not *G. chiragra* (Fabricius, 1781)].

Gonodactylus minikoiensis Ghosh, 1990: 201, 202, fig. 1 [type locality: Minikoi, 8°17'S, Lakshadweep, 73°02'E].

Gonodactylus arabica Ghosh, 1990: 201, 205, figs. 2, 3e [type locality: Kavaratti, Lakshadweep, 10°33'N, 72°38'E].

Material examined

Western Australia, Dampier Archipelago. WAM C 25325 (1 male, 8 mm), Legendre I. (20°23.620'S, 116°51.960'E), shallow subtidal, small faviid coral bommies without *Acropora*, some sponges, 29.10.1998; WAM C 25396 (1 male, 33 mm), stn DA1/98/13, Hamersley Shoal (20°23.203'S, 116°46.691'E), 8.5–17 m, from limestone base of *Acropora*, low relief patchy coral over limestone pavement with shallow layer of sand, shallow gullies, 21.10.1998.

Remarks

Ahyong (2001) reported *G. smithii* from the Dampier Archipelago and the present specimens agree well those already reported. In both specimens, the inner margin of the uropodal endopod is convex. As indicated by Ahyong (2005), however, *G. smithii* as presently understood is heterogeneous and presently subject of further study (in prep.). The 33 mm male (WAM C 25396) is parasitized on TS8 by the gastropod, *Caledoniella*.

Distribution

Reported from South Africa to Australia, the South China Sea, Japan and New Caledonia (Ahyong, 2005).

Protosquillidae Manning, 1980***Haptosquilla corrugata* Ahyong, 2001**

Protosquilla trispinosa.—Rathbun, 1914: 663–664, fig. 11 [not *P. trispinosa* (stn na, 1852)].

Gonodactylus pulchellus.—Stephenson, 1962: 35 [not *G. pulchellus* Miers, 1880].

Gonodactylus trispinosus.—Alexander, 1916: 9.—

Balss, 1921: 5.—Stephenson, 1962: 35 [not *G. trispinosus* Dana, 1852].

Haptosquilla corrugata Ah Yong, 2001: 102–103, fig. 49 [type locality: off Gantheaume Pt, Broome].—Ah Yong & Davie, 2001: 66.

Material examined

Western Australia, Dampier Archipelago. WAM C 29366 (1 juv. male, 8 mm), stn DA2/99/56, Roly Rock (20°30.10–29.88'S, 116°28.27–27.93'E), 33–34.5 m, 21.07.1999; WAM C 27594 (1 male, 24 mm), stn DA3/99/53, Enderby I. (20°34.53'S, 116°34.58'E), from rock, 01.09.1999; WAM C 27601 (2 females, 17–20 mm), stn DA3/99/64, West Lewis I. (20°36.66'S, 116°36.96'E), 33–34.5 m, from rock, 06.09.1999; WAM C 27140 91 juv. male, 12 mm), stn DA2/99/06, C. Legendre (20°21.69'S, 116°52.40'E), dredge, 14.07.1999; WAM C 27175 (1 male, 31 mm; 3 females, 27–35 mm), stn DA2/99/84, 2.9 n. mls E of Tish Pt, Rosemary I. (20°29.94'S, 116°38.11'E), 26.07.1999; WAM C 27176 (1 female, 30 mm), stn DA2/99/84, 2.9 n. mls E of Tish Pt, Rosemary I. (20°29.94'S, 116°38.11'E), 26.07.1999; WAM C 27150 (female, 28 mm), stn DA2/99/33, Courtenay Head Light, Malus I. (20°27.41'S, 116°4.57'E), 18.07.1999; WAM C 27157 (1 female, 16 mm), stn DA2/99/50, Rocky Head, Enderby I. (20°37.10'S, 116°20.99'E), dredge, 20.07.1999; WAM C 27177 (1 male, 30 mm), stn DA2/99/85, E point of Brigadier I. (20°26.38'S, 116°39.76'E), 26.07.1999; WAM C 27152 (1 male, 25 mm), stn DA2/99/96, Bluff Pt, Enderby I. (20°37.05'S, 116°31.56'E), 27.07.1999; WAM C 25618 (1 male, 14 mm; 1 female, 15 mm), stn DA1/98/06, Haüy I., Dampier (20°25.725'S, 116°57.580'E), low relief limestone pavement with shallow sandy gullies, few loose rocks, very little coral cover, very silty, 19.10.1998; WAM C 27186 (1 female, 27 mm), stn DA2/99/98, Bluff Pt, Enderby I. (20°39.81'S, 116°31.92'E), 28.07.1999; WAM C 27155 (1 female, 28 mm), stn DA2/99/42, SE point of Goodwyn I. (20°34.16'S, 116°30.11'E), 20.07.1999; WAM C 27171 (2 females, 13–25 mm), stn DA2/99/76, NW point of Goodwyn I. (20°32.11'S, 116°31.55'E), 25.07.1999; WAM C 27187 (1 female, 28 mm), stn DA2/99/99, ~ 1.05 n. mls WSW of Rocky Head, Enderby I. (20°37.3–37.02'S, 116°26.85–26.44'E), 17.0–19.0 m, rake box dredge, rocks and hard corals, gorgonians, hydroids, numerous sponges, 28.07.1999; WAM C 27145 (1 female, 25 mm), stn DA2/99/10, NE corner of Delambre I. (20°23.97'S, 116°04.82'E, 15.07.1999); WAM C 27183 (1 male, 17 mm), stn DA2/99/95, Bluff Pt, Enderby I. (20°37.37'S, 116°31.69'E), 27.07.1999; WAM C 27168 (1 female, 28 mm), stn DA2/99/72, Rocky Head, Enderby I. (20°42.13'S, 116°26.22'E), 24.07.1999; WAM C 27170 (1 female, 26 mm), stn DA2/99/75, NW point of Goodwyn I. (20°32.16'S, 116°33.70'E), 25.07.1999; WAM C 27167 (1 female, 31 mm), stn DA2/99/70, Bluff Pt, Enderby I. (20°41.45'S, 116°30.78'E), 24.07.1999.

Remarks

Haptosquilla corrugata was reported from the Dampier Archipelago by Ah Yong (2001).

Distribution

Australia, from Gove, Northern Territory to northwestern Australia (Ah Yong, 2001).

Haptosquilla glyptocercus (Wood-Mason, 1875)

Gonodactylus glyptocercus Wood-Mason, 1875: 232 [type locality: Nicobar Is, 8°00'N, 93°30'E].—Stephenson, 1952: 12; 1953a: 47, 48.—Stephenson and McNeill, 1955: 253.

Protosquilla cerebralis Brooks, 1886: 22, 72, pl. 14: figs. 2, 3, pl. 16: figs. 2, 3 [type locality: Levuka, Fiji, 17° 42'S, 178°50'E].

Gonodactylus stoliurus.—McNeill, 1926: 317–318, fig. 2 [not *G. stoliurus* Müller, 1886].

Haptosquilla glyptocercus.—Ah Yong, 2001: 104–105, fig. 50.—Ah Yong and Davie, 2002: 66.

Material examined

Western Australia, Dampier Archipelago. WAM C 27598 (1 female, 12 mm), stn DA2/99/16, Enderby I. (20°35.20'S, 116°30.91'E), from rock, 01.09.1999; WAM C 25619 (1 female, 12 mm), stn DA1/98/06, Haüy I. (20°25.725'S, 116°57.580'E), low relief limestone pavement with shallow sandy gullies, few loose rocks, very little coral cover, very silty, 19.10.1998.

Remarks

Haptosquilla glyptocercus was reported as far south as Northwest Cape, Western Australia, by Ah Yong (2001), although the present specimens are the first records for the Dampier Archipelago.

Distribution

Andaman Sea to Japan, Vietnam, the Philippines, Australia, New Caledonia, Guam, the Marshall Islands and Fiji (Ah Yong and Erdmann, 2003).

Nannosquillidae Manning, 1980

Acanthosquilla melissae sp. nov.

Figure 3

Acanthosquilla derijardi.—Ah Yong, 2001: 144.—Ah Yong and Davie, 2002: 55 [Shelburne Bay specimens only; not *A. derijardi* Manning, 1970].

Material examined

Holotype

Western Australia, Dampier Archipelago. WAM C 27142 (male, 33 mm), stn DA2/99/07, C. Legendre (20°20.90'S, 116°57.04'E), 15.07.1999.

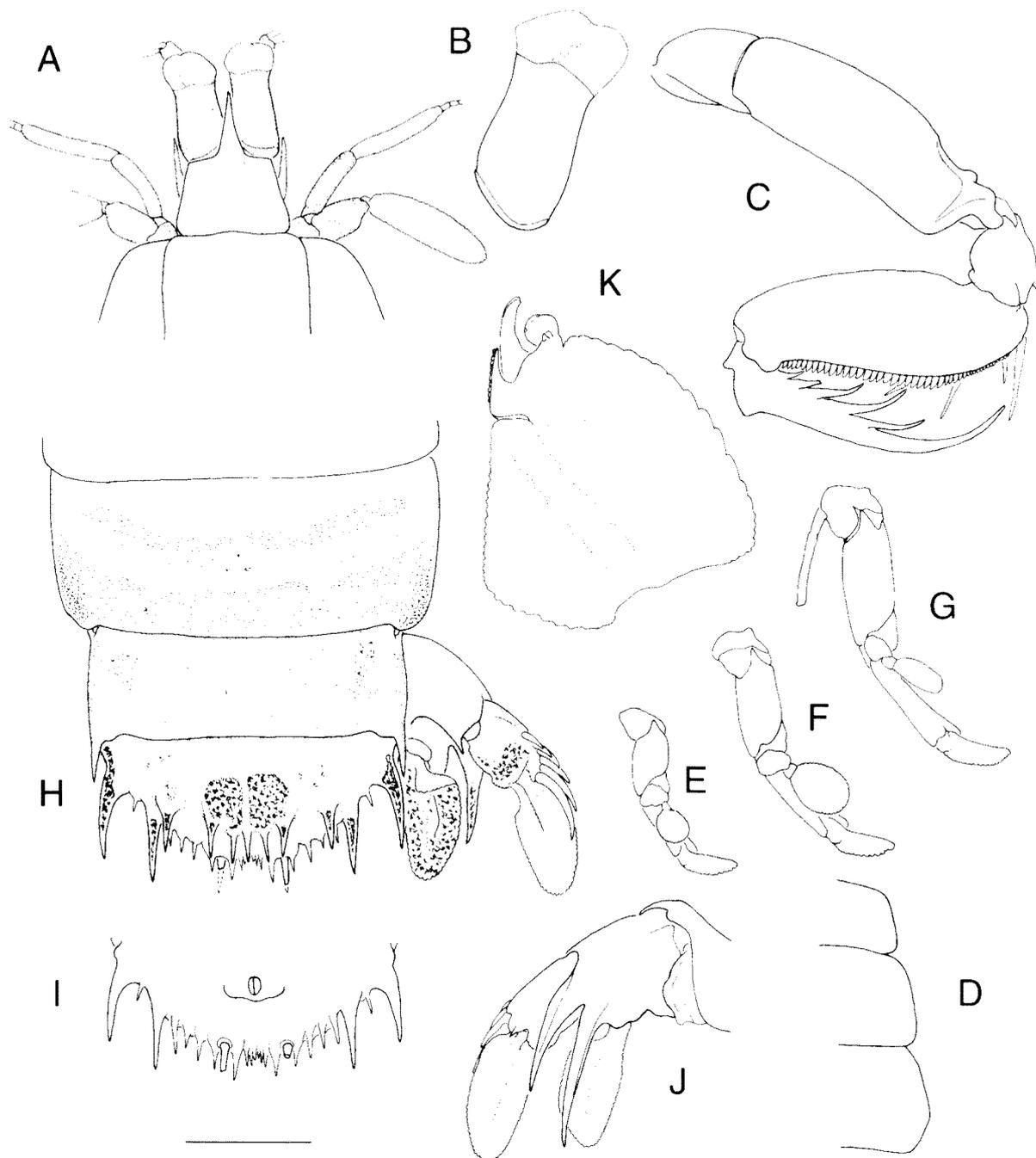


Figure 3 *Acanthosquilla melissae* sp. nov., male holotype TL 33 mm (WAM C 27142), Cape Legendre, Dampier Archipelago. A, anterior; B, right eye; C, right raptorial claw, lateral view; D, TS6-8, right dorsal view; E, right pereopod 1; F, right pereopod 2; G, right pereopod 3; H, AS5, 6, telson and uropod; I, telson, ventral; J, right uropod, ventral view; K, right pleopod 1 endopod, anterior view. Scale A, C-J = 2.0 mm, B, K = 1.0 mm.

Paratypes

Queensland. AM P 54463 (1 female, 46 mm), Shelburne Bay (11°41.4'S, 143°00.4'E), 33 m, 01.1993; AM P 54464 (1 male, 38 mm), near Jardine I., East Is, Shelburne Bay (11°23.4'S, 143°55.8'E), 12.1991.

Diagnosis

Mesial lobe of cornea conical. Rostral plate with trapezoid proximal portion and long apical; trapezoid proximal portion half total rostral length.

Raptorial claw dactylus with 6 teeth; outer proximal margin with small proximal lobe and larger, triangular distal lobe reaching distally only as far as base of first occlusal tooth; PI 115 (male), 113 (female). Telson with 2 pairs of slender, fixed primary teeth; with 4 spiniform intermediae denticles in same plane; with 1 spiniform lateral denticle; dorsal surface with pair of mid-dorsal pits and 7 well spaced posteriorly directed spines in transverse row above marginal armature.

Description

Eye with cornea slightly inclined laterally on stalk, mesial lobe conical; stalk elongate, extending almost to end of antennular peduncle segment 3. Ophthalmic somite anterior margin rounded. Ocular scales rounded, separate, inclined anteriorly. A1 peduncle 0.45–0.48CL. A2 protopod with 1 ventral papilla; A2 scale 0.34–0.40CL. Rostral plate longer than broad, with trapezoid proximal portion and long apical; trapezoid proximal portion half total rostral length; dorsal and ventral surfaces smooth. Raptorial claw dactylus with 6 teeth; penultimate tooth slightly shorter than adjacent teeth; outer proximal margin with small proximal lobe and larger, triangular distal lobe reaching distally only as far as base of first occlusal tooth. PI 115 (male), 113 (female). Mandibular palp 3-segmented. Maxillipeds 1–5 each with epipod. TS6–7 with lateral margins truncate, rounded anterolaterally and posterolaterally. TS8 rounded; sternal keel obsolete. Endopod of male pleopod 1 with elongate tube process and short, blunt hook process. AS6 posterior margin smooth; posterolateral spine long, slender; with slender ventrolateral spine and short blunt angular lobe anterior to uropodal articulation; sternum posterior margin unarmed. Telson with 2 pairs of slender, fixed primary teeth; with 3 or 4 submedian denticles either side of midline forming inverted V-shaped row; with 4 spiniform intermediate denticles in same plane; with 1 spiniform lateral denticle. Dorsal surface with pair of mid-dorsal pits and 7 well spaced posteriorly directed spines in transverse row above marginal armature; spine either side of posteromedian spine on slightly lower plane than other spines of transverse row. Uropodal protopod inner margin unarmed adjacent to endopod articulation; exopod proximal segment outer margin with 6 movable spines, most distal exceeding midlength of distal segment; distal margin with short ventral spine; exopod distal segment pale; endopod with median dorsal carina.

Colour in alcohol

Overall with light and dark transverse bands. Anterior carapace dark anterior and posterior transverse band, darkest at posterolateral angles. Carpus and distal quarter of merus with dark mottling. Thoracic somites with mottled transverse band anteriorly. AS1–5 each with 2 transverse bands: anterior band narrow and not reaching margins; posterior broader and reaching margins. AS6 with dark mottling. Telson dark with pale pair of dark posteromedian 'ocelli'; spines dark. Uropodal protopod with dark terminal spines. Uropodal exopod proximal segment and movable lateral spines dark; distal segment pale; endopod dark.

Measurements of holotype

TL 33 mm, CL 6.25 mm, A1 peduncle length 2.90 mm, A2 scale length 2.10 mm, raptorial claw propodus length 5.45 mm.

Etymology

Named for Melissa Titelius, Western Australian Museum, who collected most of the specimens used in this study.

Remarks

In reporting *A. derijardi* from Australia, Ahlyong (2001) noted two specimens from Shelburne Bay, Queensland, that were atypical in the size of the distal lobe on the outer proximal margin of the dactylus of the raptorial claw, and in having an unusual rostral plate in which the basal trapezoid portion was proportionately short, with a long apical spine. The distal lobe on the outer proximal margin of the dactylus of the raptorial claw in *A. derijardi* sensu stricto is massive, extending distally as far as the base of the fourth or fifth occlusal tooth whereas in the Shelburne Bay specimens, the lobe is considerably smaller, extending only to the base of the first occlusal tooth. The rostral plate in *A. derijardi* sensu stricto comprises a long proximal trapezoid portion and short rostral spine (not exceeding one-quarter of the total rostral length). In contrast, the proximal trapezoid portion of rostral plate in the Shelburne Bay specimens is only half the total rostral length, with the median spine comprising the other half. Those specimens from Shelburne Bay and the present Dampier specimen are herein referred to a new species, *Acanthosquilla melissae* sp. nov. *Acanthosquilla melissae* further differs from *A. derijardi* in having only seven spines on the upper posterior margin of the telson whereby the 'typical' five spines in other species of *Acanthosquilla* are present as well as a single spine on either side of (and slightly lower than) the median spine. In *A. derijardi* sensu stricto, two clusters of two or more spines are present either side of the median spine. The propodi of the raptorial claws in *A. melissae* are also proportionally longer than in *A. derijardi* with PI 113–115 vs 122–141 respectively, and the distal segment of the uropodal exopod is pale instead of black on the inner half.

Three nominal species are presently in the synonymy of *A. derijardi* (type locality: Grand Recif, Tuléar, Madagascar): *A. multispinosa* Blumstein, 1974 (type locality: Vietnam), *A. manningi* Makarov, 1978 (type locality: Vietnam), and *A. sirindhorn* Naiyanetr, 1995 (type locality: Pattani, Gulf of Thailand). *Acanthosquilla sirindhorn* corresponds to *A. derijardi* sensu stricto, but the two Vietnamese species appear to be valid. *Acanthosquilla manningi* is characterised by the presence of a field of numerous small spines

on the upper posterior surface of the telson, instead of a transverse row of spines, and *A. multispinosa* bears telson spination as in *A. derijardi*, but only a small outer distal lobe on the proximal margin of the raptorial dactylus. *Acanthosquilla melissae* is not referable to any of the synonyms of *A. derijardi*.

Under the account of *A. derijardi*, Ahyong (2001) also reported on a specimen from Sandakan,

Borneo, with a similar raptorial claw to *A. melissae* but with telson spination resembling *A. derijardi* sensu stricto. The Sandakan specimen is possibly referable to *A. multispinosa*. The species of the *A. derijardi* complex are presently under study.

Distribution

Shelburne Bay, Queensland, and Dampier Archipelago, Western Australia.

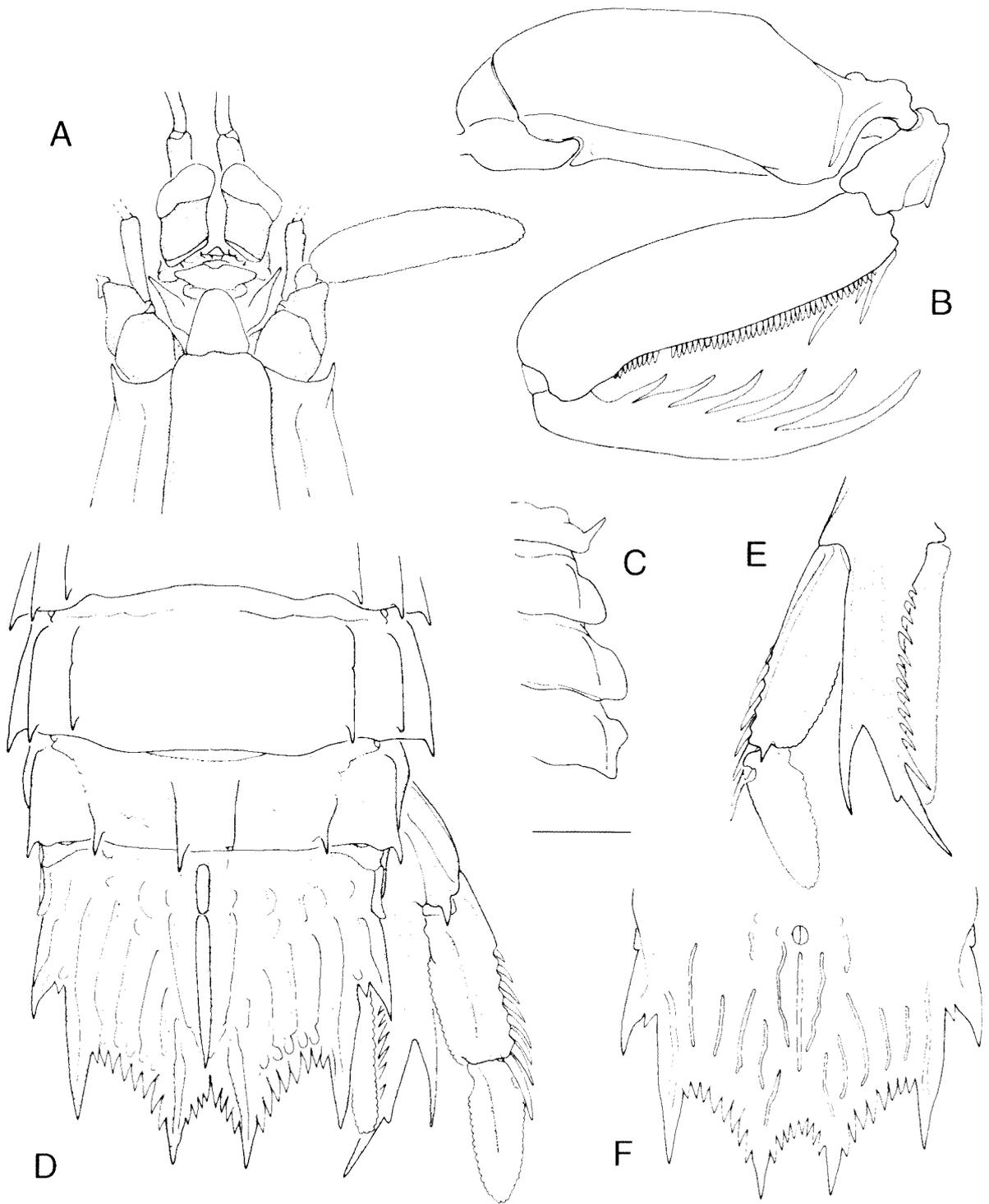


Figure 4 *Anchisquilla subfasciata* (Tate, 1883), male holotype TL 56 mm (SAM C 182), Gulf Saint Vincent, South Australia. Scale = 3 mm.

Squillidae Latreille, 1802

***Anchisquilla subfasciata* (Tate, 1883) comb. nov.**

Figure 4

Squilla subfasciata Tate, 1883: 52, pl. 2, figs 1a–d [type locality: Gulf St. Vincent, S Australia].

Squilla fasciata.—Hale, 1924: 496; 1927: 30, 32, fig. 21.—Stephenson, 1952: 5.—Stephenson and McNeill, 1955: 240–241, 258, 261 [not *S. fasciata* de Haan, 1844].

Anchisquilla fasciata.—Ahyong, 2001: 196–198, fig. 96.—Ahyong and Davie, 2002: 72–73 [not *A. fasciata* (de Haan, 1844)].

Material examined

Western Australia, Dampier Archipelago. WAM C 27151 (1 male, 54 mm), DA2/99/34, 20°32.65'S (116°39.14'E, 19.07.1999); WAM C 27156 (1 female, 56 mm), stn DA2/99/48, Rocky Head, Enderby I. (20°37.43'S, 116°24.08'E), 20.07.1999.

Remarks

Ahyong (2001) reported Australian specimens referable to *A. fasciata* to differ from material from Thailand, Taiwan and Japan (topotypic) in having more numerous ventral telson carinae. Although the Australian specimens might be referable to a separate species, Ahyong (2001) further noted that study of specimens from intermediate localities was required. Specimens reported as *A. fasciata* from Indonesia by Holthuis (1941) in the Zoological Museum, Amsterdam, and Moosa and Cleva (1984b) in the Muséum national d'Histoire Naturelle, Paris (MNHN), were studied and proved referable to *A. chani* Ahyong, 2001. Specimens reported by Moosa (1991) from New Caledonia (MNHN) are also referable to *A. chani*. Material from Singapore reported by Tweedie (1934) in the Raffles Museum of Biodiversity Research, Singapore, and those reported by Moosa (1986) from the Philippines proved referable to *A. fasciata* sensu stricto. Hence, *A. fasciata* sensu stricto is not known south of the equator, and records of *Anchisquilla* from localities immediately adjacent to Australia are based on *A. chani*. Australian specimens consistently differ from other species of *Anchisquilla* and are herein regarded as distinct from *A. fasciata* sensu stricto. *Squilla subfasciata* Tate, 1883 (type locality Gulf St. Vincent, South Australia), presently a synonym of *A. fasciata*, is herein removed from synonymy and recognised for Australian '*A. fasciata*'. *Anchisquilla subfasciata* is distinguished from *A. fasciata* by the presence of 4 or 5 instead of 1 or 2 carinae flanking the postanal carina. The holotype of *Anchisquilla subfasciata* is illustrated in Figure 2.

The present specimens constitute the first records of the species from Western Australia. Meristic

counts are within the reported range (Ahyong, 2001) with 11 or 12 spines on the inner margin of the uropodal protopod, eight movable spines on the outer margin of the proximal segment of the uropodal exopod, telson denticles (submedian 4, intermediate 7–8, lateral 1) and abdominal spination: submedian 6, intermediate 3–6, lateral 1–6, marginal 1–5.

Distribution

Australia, from Queensland north to Western Australia and Gulf Saint Vincent, South Australia.

***Carinosquilla carita* Ahyong, 2001**

Squilla multicaudata.—Stephenson, 1962: 35, 38.

Carinosquilla carita Ahyong, 2001: 210–212, fig. 102 [type locality: 43 km NNE of Dampier, Western Australia].—Ahyong and Davie, 2002: 74.

Material examined

Western Australia, Dampier Archipelago. WAM C 27178 (1 male, 29 mm), stn DA2/99/88, W point of Brigadier I. (20°26.04'S, 116°36.77'E), 26.07.1999; WAM C 27185 (1 female [broken], stn CL 12.3 mm), DA2/99/96, Bluff Pt, Enderby I. (20°37.50'S, 116°31.56'E), 27.07.1999.

Remarks

Carinosquilla carita was first described from the vicinity of Dampier by Ahyong (2001).

Distribution

Northwestern Australia and the Gulf of Carpentaria, Queensland (Ahyong, 2001).

***Clorida obtusa* Ahyong, 2001**

Squilla granti.—Stephenson, 1962: 33 [not *Squilla granti* Stephenson, 1953b].

Clorida obtusa Ahyong, 2001: 226, fig. 110 [type locality: SE Gulf of Carpentaria, Queensland].—Ahyong and Davie, 2002: 75.

Material examined

Western Australia, Dampier Archipelago. WAM C 25784 (1 male, 22 mm), DA2/99/61 (20°35.33'S, 116°42.78'E), 22.07.1999; WAM C 27166 (1 male, 21 mm), stn DA2/99/69, SE point of Goodwyn I. (20°34.34'S, 116°34.67'E), 24.07.1999.

Remarks

Clorida obtusa was reported from northwestern Australia by Ahyong (2001), though the present specimens constitute the first records of the species from the Dampier Archipelago and a southern record for Western Australia. The specimens agree

well with the type description and meristic counts are within the range reported: the dactyli of the raptorial claws bear four teeth, the inner margin of the uropodal protopod is armed with five spines, the outer margin of the distal uropodal exopod segment bears six movable spines and the abdominal spine formula is submedian 6, intermediate 5–6, lateral 5–6, marginal 5.

Distribution

Mackay, Queensland, the Gulf of Carpentaria, and the Northwest Shelf, Western Australia (Ahyong, 2001).

Levisquilla jurichi (Makarov, 1979)

Clorida jurichi Makarov, 1979: 40, fig. 1 [type locality: Tonkin Bay, Vietnam, 21°13.5'N, 109°45.8'E].

Squilla fallax.—Stephenson and McNeill, 1955: 241, 258, 261 [not *Squilla fallax* Bouvier, 1914].

Levisquilla jurichi.—Ahyong, 2001: 271–274, fig. 133.—Ahyong and Davie, 2002: 81.

Material examined

Western Australia, Dampier Archipelago. WAM C 27161 (1 female, 25 mm), stn DA2/99/61, Philip Pt, Burrup Pen. (20°35.33'S, 116°42.78'E), dredge, 22.07.1999; WAM C 27181 (1 female; 18 mm), stn DA2/99/93, King Pt, East Lewis I. (20°38.29'S, 116°38.39'E), 27.07.1999; WAM C 27182 (1 male, 21 mm), stn DA2/99/94, King Pt, East Lewis I. (20°38.37'S, 116°38.41'E), 27.07.1999; WAM C 25778 (1 female, 24 mm), stn DA2/99/88 (20°26.04'S, 116°36.77'E), 27.07.1999.

Remarks

Levisquilla jurichi was recorded from northwestern Australia by Ahyong (2001) and the present specimens agree well with those already reported. Abdominal spination is as follows: submedian 6, intermediate 6, lateral 6, marginal 5. The inner margin of the uropodal protopod bears seven spines, and the outer margin of the proximal segment of the uropodal exopod bears seven to 10 movable spines. The present specimens represent the first records from the Dampier Archipelago and the southernmost records for Western Australia.

Distribution

New Caledonia, Vietnam, the Andaman Sea and Australia (Ahyong, 2001).

ACKNOWLEDGEMENTS

Thanks are due to Diana Jones and Melissa Titelius for collecting and making the present series

available for study, Charles Fransen (NNM) for the loan of the holotype of *Gonodactylellus snidvongsi*, Thierry Laperousaz (SAM) for the loan of the holotype of *Anchisquilla subfasciata* and Peter Ng (National University of Singapore) and Alain Crosnier (MNHN) for their generous hospitality over numerous visits to Singapore and Paris, respectively. Financial support provided by a Sydney Grammar School Fellowship is gratefully acknowledged.

REFERENCES

- Ahyong, S.T. (2001). Revision of the Australian Stomatopod Crustacea. *Records of the Australian Museum*, Supplement 26: 1–326.
- Ahyong, S.T. (2005). Coral reef mantis shrimps from the vicinity of Sodwana Bay, South Africa (Crustacea: Stomatopoda). *Proceedings of the Biological Society of Washington* 118: 158–164.
- Ahyong, S.T. and Davie, P.J.F. (2002). Hoplocarida. In Davie, P.J.F. (ed.), *Crustacea: Malacostraca: Phyllocarida, Hoplocarida, Eucarida (Part 1)*, *Zoological Catalogue of Australia* Vol. 19.3A: 31–90. Melbourne: CSIRO Publishing.
- Ahyong, S.T. and Erdmann, M.V. (2003). The stomatopod Crustacea of Guam. *Micronesica* 35–36: 315–352.
- Ahyong, S.T. and Norrington, S.F. (1997). Stomatopod Crustacea in the Macleay Museum, University of Sydney. *Proceedings of the Linnean Society of New South Wales* 118: 97–110.
- Alexander, W.B. (1916). On a stomatopod new to Australia, with a list of the Western Australian species of the order. *Journal and Proceedings of the Royal Society of Western Australia* 1: 8–9.
- Balss, H. (1921). Results of Dr. E. Mjoberg's Swedish Expeditions to Australia 1910–13, XXIX. Stomatopoda, Macrura, Paguridea und Galatheaidea. *Kongliga Svenska Vetenskapsakademiens Handlingar* 61: 1–24.
- Blumstein, R. (1974). Stomatopod crustaceans from the Gulf of Tonkin with the description of new species. *Crustaceana* 26: 112–126.
- Borradaile, L.A. (1900). On the Stomatopoda and Macrura brought by Dr Willey from the South Seas. In Willey, A. (ed.), *Zoological Results based on the material from New Britain, New Guinea, Loyalty Islands and elsewhere, collected during the years 1895, 1896, and 1897*, 4: 395–428, pls. 36–39. Cambridge University Press.
- Borradaile, L.A. (1907). Stomatopoda from the western Indian Ocean. The Percy Sladen Trust Expedition to the Indian Ocean in 1905, under the leadership of J. Stanley Gardiner. *Transactions of the Linnean Society of London (2, Zoology)* 12: 209–216.
- Bouvier, E.-L. (1914). Sur la faune carcinologique de l'île Maurice. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences, Paris* 159: 698–704.
- Brooks, W.K. (1886). Report on the Stomatopoda collected by H.M.S. *Challenger* during the years 1873–76. *The Voyage of the H.M.S. Challenger, Zoology* 16: 1–116.

- Dana, J.D. (1852-1855). *Crustacea, Part I. United States Exploring Expedition during the years 1838, 1839, 1840, 1841, 1842, under the command of Charles Wilkes, U.S.N.* 13: 1-685 [1852]. Atlas: 1-27, pls. 1-96 [1855]. C. Sherman, Philadelphia.
- Erdmann, M.V. and Manning, R.B. (1998). Preliminary descriptions of nine new stomatopod crustaceans from coral reef habitats in Indonesia and Australia. *Raffles Bulletin of Zoology* 46: 615-626.
- Fabricius, J.C. (1781). *Species Insectorum Exhibentes Eorum Differentias Specificas, Synonyma Auctorum, Loca Natalia, Metamorphosin Adiectis, Observationibus, Descriptionibus* 1: vii + 552pp. Hamburgii et Kilonii.
- Forskål, P. (1775). *Descriptiones Animalium, Avium, Amphibiorum, Piscium, Insectorum, Vermium* 19 + xxxii + 164 pp. Hauniae (Copenhagen).
- Ghosh, H.C. (1990). Stomatopoda: Crustacea. *Fauna of Lakshadweep. State Fauna Series* 2: 199-212.
- Giesbrecht, W. (1910). Stomatopoden, Erster Theil. *Fauna und Flora des Golfes von Neapel Monographie* 33: i-vii, 1-239.
- Haan, W. de (1844). *Crustacea. Fauna Japonica sive descriptio animalium, quae in itinere per Japoniam, jussu et auspiciis superiorum, qui summum in India Batavia imperium tenent, suscepto, annis 1823-1830 collegit, notis observationibus et adumbrationibus illustravit.* P. F. de Siebold. *Conjunctis studiis* C.J. Temminck et H. Schlegel pro *Vertebratis atque W. de Haan pro Invertebratis elaborata Regis auspiciis edita.* I. P. F. v. Siebold. Leiden. Lugduni-Batavorum. Decas VI + VII: pls 38, 43-46, 48, 51-55, I-N.
- Hale, H.M. (1924). Notes on Australian Crustacea. No. 1. *Records of the South Australian Museum* 2: 491-502.
- Hale, H.M. (1927). *The Crustaceans of South Australia. Part 1. Handbook of the Flora and Fauna of South Australia*, pp. 1-201. Adelaide.
- Hale, H.M. (1929a). Crustacea from Princess Charlotte Bay, north Queensland. The Isopoda and Stomatopoda. *Transactions of the Royal Society of South Australia* 53: 33-36.
- Hale, H.M. (1929b). Notes on the fauna of Dirk Hartog Island, Western Australia. No.4. Crustacea. *Transactions of the Royal Society of South Australia* 53: 67-70.
- Holthuis, L.B. (1941). The Stomatopoda of the Snellius Expedition. Biological Results of the Snellius Expedition XII. *Temminckia* 6: 241-294.
- Ingle, R.W. (1971). On the nomenclature of *Gonodactylus graphurus* White, 1847 (nomen nudem), Miers, 1875 (Stomatopoda, Gonodactylidae). *Crustaceana* 21: 220-221.
- Kemp, S. (1913). An account of the Crustacea Stomatopoda of the Indo-Pacific region, based on the collection in the Indian Museum. *Memoirs of the Indian Museum* 4: 1-217.
- Lanchester, W.F. (1903). Stomatopoda, with an account of the varieties of *Gonodactylus chiragra*. Marine Crustaceans VIII. In Gardiner, J.S. (ed.), *The fauna and geography of the Maldive and Laccadive Archipelagoes: being the account of the work carried on and of the collections made by an expedition during the years 1899 and 1900* 1: 444-459.
- Latreille, P.A. (1802). *Histoire naturelle, générale et particulière, des Crustacés et des Insectes* 3: 467 pp. F. Dufart, Paris.
- Makarov, R.R. (1978). New data on crustaceans of the families Lysiosquillidae and Gonodactylidae (Crustacea, Stomatopoda) from Tonkin Bay (Vietnam). *Zoologicheskij zhurnal, Moscow* 57: 176-189. [In Russian].
- Makarov, R.R. (1979). A collection of stomatopod crustaceans of the genus *Clorida* Eydoux & Souleyet, 1842, from Tonkin Bay, Vietnam. *Crustaceana* 37: 39-56.
- Man, J.G. de. (1902). Die von Herrn Professor Kükenthal im Indischen Archipel gesammelten Dekapoden und Stomatopoden. In Kükenthal, W., *Ergebnisse einer zoologischen Forschungsreise in den Molukken und Borneo. Abhandlungen der Senckenbergischen naturforschenden Gesellschaft* 25: 467-929.
- Manning, R.B. (1966). Notes on some Australian and New Zealand stomatopod Crustacea, with an account of the species collected by the Fisheries Investigation Ship *Endeavour*. *Records of the Australian Museum* 27: 79-137.
- Manning, R.B. (1970). Some stomatopod crustaceans from Tuléar, Madagascar. *Bulletin du Muséum National d'Histoire Naturelle, Paris*, series 2, 41: 1429-1441. [Dated 1969, published 1970].
- Manning, R.B. (1980). The superfamilies, families, and genera of Recent Stomatopod Crustacea, with diagnoses of six new families. *Proceedings of the Biological Society of Washington* 93: 362-372.
- Manning, R.B. (1981). Neotype selection for the stomatopod *Squilla chiragra* Fabricius, 1781. *Crustaceana* 40: 217-219.
- Manning, R.B. (1995). Stomatopod Crustacea of Vietnam: the legacy of Raoul Serène. *Crustacean Research, Special No. 4*: 1-339.
- Manning, R.B. and Lewinsohn, Ch. (1981). Selection of a neotype for *Cancer falcatus* Forskål, 1775 (Stomatopoda). *Crustaceana* 41: 314-316.
- Manning, R.B. and Reaka, M.L. (1981a). *Gonodactylus aloha*, a new stomatopod crustacean from the Hawaiian Islands. *Journal of Crustacean Biology* 1: 190-200.
- Manning, R.B. and Reaka, M.L. (1981b). *Gonodactylus siamensis*, a new stomatopod crustacean from Thailand. *Proceedings of the Biological Society of Washington* 94: 479-482.
- Manning, R.B. and Reaka, M.L. (1982). *Gonodactylus insularis*, a new stomatopod crustacean from Enewetak Atoll, Pacific Ocean. *Proceedings of the Biological Society of Washington* 95: 347-351.
- Moosa, M.K. (1986). Stomatopod Crustacea. Résultats du Campagnes MUSORSTOM I & II Philippines, 2. *Mémoires du Muséum National d'Histoire Naturelle, Paris*, series A, Zoologie 133: 367-414. [Dated 1985, published 1986].
- Moosa, M.K. (1989). Some stomatopods (Crustacea: Stomatopoda) from Japanese waters, with description of a new species. *Bulletin of the National Science Museum, Tokyo*, series A (Zoology) 15: 223-229.
- Moosa, M.K. (1991). The Stomatopoda of New Caledonia

- and Chesterfield Islands. In Richer de Forges (ed.), *Le benthos des fonds meubles des lagons de Nouvelle-Calédonie* 1: 149-219. Editions de l'ORSTOM, Paris.
- Moosa, M.K. and Cleva, R. (1984a). Sur une collection de Stomatopodes (Crustacea: Hoplocarida) provenant des îles Seychelles. *Bulletin du Museum National d'Histoire Naturelle, Paris*, series 4, 6(section A, no. 2): 421-429.
- Moosa, M.K. and Cleva, R. (1984b). Stomatopod Crustacea collected by the mission *Corindon II* in the Makassar Strait, Indonesia. *Marine Research in Indonesia* 24: 73-82.
- McNeill, F.A. (1926). The biology of North-West Islet, Capricorn Group, (J) Crustacea. *Australian Zoologist* 4: 299-318.
- McNeill, F.A. (1968). Crustacea, Decapoda & Stomatopoda. *Scientific reports of the Great Barrier Reef Expedition 1928-29* 7: 1-98. British Museum (Natural History), London.
- Miers, E.J. (1875). On some new or undescribed species of Crustacea from the Samoa Islands. *Annals and Magazine of Natural History*, series 4, 16: 341-344.
- Miers, E.J. (1880). On the Squillidae. *Annals and Magazine of Natural History* 5: 1-30, 108-127.
- Müller, F. (1886). Zur Crustaceenfauna von Trincomali. *Verhandlungen der Naturforschenden Gesellschaft in Basel* 8: 470-479.
- Naiyanetr, P. (1987). Two new stomatopod crustaceans from Thailand with a key to the genus *Manningia* Serène, 1962. *Crustaceana* 53: 237-242.
- Naiyanetr, P. (1995). *Acanthosquilla sirindhorn* n.sp., a new mantis shrimp from Thailand (Stomatopoda, Nannosquillidae). *Crustaceana* 68: 409-417.
- Pocock, R.I. (1893). Report upon the stomatopod crustaceans obtained by P. W. Bassett-Smith, Esq., Surgeon R. N., during the cruise, in the Australian and China seas, of H.M.S. "Penguin," Commander W. U. Moore. *Annals and Magazine of Natural History*, series 6, 11: 473-479.
- Rathbun, M.J. (1914). Stalk-eyed Crustaceans collected at the Monte Bello Islands. *Proceedings of the Zoological Society of London* 3: 653-664.
- Stephenson, W. (1952). Faunistic records from Queensland. Part I. - General Introduction. Part II. - Adult Stomatopoda (Crustacea). *Zoology Papers of the University of Queensland* 1: 1-15.
- Stephenson, W. (1953a). Notes on the Australian Stomatopoda (Crustacea) in the collections of the Queensland Museum. *Memoirs of the Queensland Museum* 13: 40-49.
- Stephenson, W. (1953b). Three new Stomatopoda (Crustacea) from eastern Australia. *Australian Journal of Marine and Freshwater Research* 4: 201-218.
- Stephenson, W. (1962). Some interesting Stomatopoda - mostly from Western Australia. *Journal of the Royal Society of Western Australia* 45: 33-43.
- Stephenson, W. and McNeill, F. (1955). The Australian Stomatopoda (Crustacea) in the collections of the Australian Museum, with a check list and key to the known Australian species. *Records of the Australian Museum* 23: 239-265.
- Tate, R. (1883). Descriptions of some new species of *Squilla* from South Australia. *Transactions and Proceedings of the Royal Society of South Australia* 6: 48-53.
- Tweedie, M.W.F. (1934). Notes on Stomatopoda in the Raffles Museum. *Bulletin of the Raffles Museum, Singapore* 9: 33-41.
- White, A. (1847). *List of the species of Crustacea in the collection of the British Museum, London*, viii + 143 pp.
- Wood-Mason, J. (1875). [On some new species of stomatopod Crustacea]. *Proceedings of the Asiatic Society of Bengal* 1875: 231-232 [untitled].