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SHANE T. AHYONG & GARY C. B. POORE



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Table of Contents

| | |
|--|----|
| Abstract | 4 |
| Introduction | 4 |
| Materials and Methods | 5 |
| SYSTEMATIC ACCOUNT | 5 |
| CHIROSTYLIDAE Ortmann, 1892 | 5 |
| <i>Eumunida</i> Smith, 1883 | 5 |
| <i>Eumunida (Eumunida) australis</i> de Saint Laurent & Macpherson, 1990 | 5 |
| <i>Eumunida (Eumunidopsis) capillata</i> de Saint Laurent & Macpherson, 1990 | 6 |
| <i>Gastroptychus</i> Caullery, 1896 | 6 |
| Key to Indo-West Pacific species of <i>Gastroptychus</i> | 7 |
| <i>Gastroptychus hendersoni</i> (Alcock & Anderson, 1899) | 8 |
| <i>Gastroptychus rogeri</i> Baba, 2000 | 8 |
| <i>Gastroptychus spirostris</i> n. sp. (Fig. 1) | 9 |
| <i>Gastroptychus sternoornatus</i> (Van Dam, 1933) | 12 |
| <i>Uroptychus</i> Henderson, 1888 | 12 |
| Key to Australian species of <i>Uroptychus</i> | 13 |
| <i>Uroptychus alcocki</i> n. sp. (Fig. 2) | 15 |
| <i>Uroptychus australis</i> (Henderson, 1885) (Fig. 3) | 18 |
| <i>Uroptychus babai</i> n. sp. (Fig. 4) | 22 |
| <i>Uroptychus belos</i> n. sp. (Fig. 5) | 25 |
| <i>Uroptychus calcar</i> n. sp. (Fig. 6) | 28 |
| <i>Uroptychus cardus</i> n. sp. (Fig. 7) | 31 |
| <i>Uroptychus empheres</i> n. sp. (Fig. 8) | 34 |
| <i>Uroptychus flindersi</i> n. sp. (Fig. 9) | 37 |
| <i>Uroptychus gracilimanus</i> (Henderson, 1885) (Fig. 10) | 40 |
| <i>Uroptychus hesperius</i> n. sp. (Fig. 11) | 44 |
| <i>Uroptychus laperousazi</i> n. sp. (Fig. 12) | 47 |
| <i>Uroptychus latus</i> n. sp. (Fig. 13) | 49 |
| <i>Uroptychus litosus</i> n. sp. (Fig. 14) | 52 |
| <i>Uroptychus longicheles</i> n. sp. (Fig. 15) | 55 |

| | | |
|-----------------|---|----|
| | <i>Uroptychus longvae</i> n. sp. (Fig. 16) | 58 |
| | <i>Uroptychus multispinosus</i> n. sp. (Fig. 17) | 60 |
| | <i>Uroptychus nowra</i> n. sp. (Fig. 18) | 63 |
| | <i>Uroptychus paracrassior</i> n. sp. (Fig. 19) | 66 |
| | <i>Uroptychus patulus</i> nov. (Fig. 20) | 69 |
| | <i>Uroptychus pilosus</i> Baba, 1981 (Fig. 21) | 71 |
| | <i>Uroptychus raymondi</i> Baba, 2000 (Fig. 22) | 73 |
| | <i>Uroptychus subsolanus</i> n. sp. (Fig. 23) | 75 |
| | <i>Uroptychus thermalis</i> Baba & de Saint Laurent, 1992 (Fig. 24) | 77 |
| | <i>Uroptychus yokoyai</i> n. sp. (Fig. 25) | 79 |
| | <i>Uroptychus zeidleri</i> n. sp. (Fig. 26) | 82 |
| Discussion | | 85 |
| Acknowledgments | | 85 |
| References | | 86 |

Abstract

The deep-water squat lobsters, Chirostylidae, of southern Australia are reported, comprising 31 species in three genera, increasing the known Australian fauna from 8 to 34. Two species of *Eumunida* Smith are reported, one of which, *E. capillata* de Saint Laurent & Macpherson, is a new record for Australia. Four species of *Gastroptychus* Caullery are reported, of which *G. spirostris* is described as new, and *G. hendersoni* Alcock and *G. sternoomatus* Van Dam are new Australian records. A key to the Indo-West Pacific species of *Gastroptychus* is given. The known Australian fauna of *Uroptychus* Henderson is markedly increased from 4 to 26. Twenty-five species of *Uroptychus* are reported from the southern Australia. Twenty species of *Uroptychus* are described as new and two are reported for the first time from Australian waters. A key to the 26 known Australian species of *Uroptychus* is given. *Uroptychus latirostris* Yokoya from Japan, is removed from synonymy of *U. cavirostris* Alcock, from the Andaman Sea. The results of the present study indicate that the southern Australian chirostylid fauna is considerably more diverse than indicated by previous studies.

Key words: Crustacea, Decapoda, Anomura, Chirostylidae, *Gastroptychus*, *Uroptychus*, new species, taxonomy, Australia

Introduction

The deep-water squat lobsters of the family Chirostylidae Ortmann, 1893 typically occupy outer shelf and slope habitats. Although their biology is poorly known, species of *Uroptychus* Henderson, 1888 are frequently found living on deepwater corals such as antipatharians and gorgonians. The Australian chirostylid fauna is known from few studies: Henderson (1885, 1888), Baba (1986, 2000), de Saint Laurent & Macpherson (1990a, b), and de Saint Laurent & Poupin (1990). Davie (2002) listed eight species in four genera of Chirostylidae from Australia. The present study reports on deepwater collections from

eastern and southern Australia in the collections of the Australian Museum, Museum Victoria and the South Australian Museum. Most specimens were collected from the continental slope between southern Queensland and Bass Strait, but some were collected from Tasmanian seamounts, the Great Australian Bight, and southwestern Australia. Thirty-one species in three genera are reported below, of which 21 are described as new.

Materials and Methods

Measurements of specimens, given in millimetres, indicate the carapace length (cl.) including the rostrum unless indicated otherwise. Specimens are deposited in the Australian Museum, Sydney (AM), Museum Victoria, Melbourne (NMV), and the South Australian Museum, Adelaide (SAM). Specimens listed under material examined collected at a station prefixed by “K”, such as “K88-22-04”, “K80-07-11”, “K80-12-01” etc were collected by Ken Graham (New South Wales Fisheries) aboard the FRV *Kapala*.

SYSTEMATIC ACCOUNT

CHIROSTYLIDAE Ortmann, 1892

Eumunida Smith, 1883

Eumunida Smith, 1883: 44.

Remarks. Davie (2002) reported two species of *Eumunida* from Australia and an additional species is newly recorded herein. De Saint Laurent & Macpherson (1990a, b) and de Saint Laurent & Poupin (1996) recently revised *Eumunida*, including illustrations and keys to the species.

Eumunida (Eumunida) australis de Saint Laurent & Macpherson, 1990

Eumunida picta.— Gordon, 1930: 742 (part), fig. 1b [not *Eumunida picta* Smith, 1883].

Eumunida sp.— de Saint Laurent & Macpherson, 1990a: 249, fig. 6d.

Eumunida (Eumunida) australis de Saint Laurent & Macpherson, 1990b: 664, figs. 2d, 4d, 5d, 6d, 8d, h, 10d, 11 [type locality: Tasman Sea, 38°13'S, 168°42.5'E].— de Saint Laurent & Poupin, 1996: 342, 343, 364–365.— Davie, 2002: 30.

Material examined. NEW SOUTH WALES: AM P31514, 1 female (16.1 mm), NE of Wollongong, 34°21'S, 151°25'E, 463 m, trawl, K80-12-01, 29 Jul 1980; AM P25037, 1 male (10.8 mm), E of Brush Island, 35°44–41'S, 150°38–40'E, 300 m, trawl, K76-19-04, 10 Nov 1976.

Remarks. The two specimens agree well with the type description (de Saint Laurent & Macpherson 1990b). The smaller specimen differs only in having relatively larger eyes, a feature that varies allometrically. The two anterior spines on the sternite 4 of the small specimen are broken.

Distribution. Tasman Sea from southeastern Queensland to east of Brush Island, New South Wales, at 300–685 m depth.

Eumunida (Eumunidopsis) capillata de Saint Laurent & Macpherson, 1990

Eumunida capillata de Saint Laurent & Macpherson, 1990a: 240, 254–257, figs. 1c, 8c–d, 10a–k, 15, 17b [type locality: New Caledonia].

Material examined. NEW SOUTH WALES: AM P21120, 1 male (6.9 mm), NE of Crowdy Head, 31°48–43'S, 153°12–13'E, 366–377 m, K75-06-06, 11 Sep 1975; AM P26832, 1 male (9.3 mm), eastern New South Wales, Apr-Sep 1977.

Remarks. The two specimens agree in most respects with de Saint Laurent & Macpherson (1990a) but vary in features related to their small size. The smallest specimen lacks the ventral pad on the palm of the cheliped, though a shallow depression is present in its place. The larger specimen exhibits diagnostic characters of adults, including the distinct ventral pad on the palm of the cheliped.

Distribution. New Caledonia and now from New South Wales, Australia, at depths of 418–650 m.

Gastroptychus Caullery, 1896

Ptychogaster Milne Edwards, 1880: 63 [junior homonym of *Ptychogaster* Pomel, 1847 (fossil Reptilia: Chelonia)].

Gastroptychus Caullery, 1896: 390 [replacement name for *Ptychogaster* Pomel, 1847].

Remarks. Only one species of *Gastroptychus*, *G. rogeri* Baba, 2000, was previously known from Australia. Three species, *Gastroptychus spirostris* n. sp., *G. hendersoni* (Alcock & Anderson, 1899), and *G. sternoornatus* (Van Dam, 1933) are added to the known Australian fauna. It should be noted that *G. spirostris*, *G. chacei* and *G. ciliatus* differ from congeners, and resemble species of *Uroptychus* in the distinctly concave instead of transverse or convex anterior margin of the sternal plastron and in bearing a broadened instead of spiniform rostrum. The three species, however, agree with Baba's (1988) concept of *Gastroptychus* in having distinctly spinose walking legs and are thus retained in the genus pending ongoing revisionary studies by K. Baba.

Key to Indo-West Pacific species of *Gastroptychus*

- 1 Rostrum with two pairs of lateral spines *G. spinostris* n. sp.
 — Rostrum without lateral spines 2
- 2 Abdomen without transverse rows of spines or spinules on somites 2–5 3
 — Abdomen with transverse rows of spines or spinules on somites 2–5 9
- 3 Propodus short, about 0.15–0.20 carpus length 4
 — Propodus as long as or longer than carpus..... 5
- 4 Abdomen with dorsal spines *G. novaezealandiae* Baba, 1974
 — Abdomen without dorsal spines *G. breviproodus* Baba, 1991
- 5 Propodus of walking legs smooth, extensor margin without spines, with 2 or 3 movable spines on distal flexor margin..... *G. laevis* (Henderson, 1885)
 — Propodus of walking legs with spines along extensor margin and more than 10 movable spines on flexor margin 6
- 6 Carapace ovate, broader than long (excluding rostrum) *G. chacei* Baba, 1986
 — Carapace subquadrate, distinctly longer than broad (excluding rostrum)..... 7
- 7 Carapace with numerous spinules covering surface of carapace 8
 — Carapace with paired epigastric spines, median and lateral longitudinal row of 2–4 spines, but without numerous spinules covering surface of carapace. Ventral surface of sternum without transverse rows of spinules *G. paucispina* Baba, 1991
- 8 Abdominal somite 6 with spines on proximal dorsal surface
 *G. valdiviae* (Balss, 1913)
 — Abdominal somite 6 without spines on proximal dorsal surface
 *G. sternoornatus* (van Dam, 1933)
- 9 Rostrum with 2 dorsal spines; distinctly longer than half carapace length (excluding rostrum) *G. ciliatus* (van Dam, 1933)
 — Rostrum shorter than half remaining carapace length; without dorsal spines..... 10
- 10 Anterior half of carapace without spines along midline *G. hawaiiensis* Baba, 1977
 — Anterior half of carapace with 1–3 spines along midline..... 11
- 11 Abdominal somite 3 without spines or spinules.....
 *G. investigatoris* (Alcock & Anderson, 1899)
 — Abdominal somite 3 with spines, at least on pleura..... 12
- 12 Tergite of abdominal somite 3 not spinose; with weak spinules on pleura. Propodus and carpus of third maxilliped without spines on extensor margin.....
 *G. hendersoni* (Alcock & Anderson, 1899)
 — Tergite and pleura of abdominal somite 3 strongly spinose. Propodus and carpus of third maxilliped with spines on extensor margin *G. rogeri* Baba, 2000

***Gastroptychus hendersoni* (Alcock & Anderson, 1899)**

Ptychogaster hendersoni Alcock & Anderson, 1899a: 23 [type locality: off Travancore, Kerala State, India]; 1899b: pl. 45: figs. 2, 2a.—Alcock, 1901: 280.

Material examined. TASMANIA: SAM C6088, 2 ovigerous females (29.0–37.4 mm), 86 km SSE of South East Cape, 44°22.7'E, 147°07.3'E, 1050–1170 m, trawled, FV *Belinda*, K. L. Gowlett-Holmes, 12 Feb 1992.

Remarks. The two Australian specimens of *G. hendersoni* Alcock, 1894 are morphologically uniform in almost all respects but vary in carapace and abdominal spination. The smaller specimen (29.0 mm) bears three spines along the carapace midline (epigastric, gastric, cardiac) whereas the larger specimen (37.4 mm) bears only one median spine (epigastric). The spination of the abdominal pleura is more pronounced in the smaller specimen, as are the acute tubercles on the fifth abdominal tergite. In contrast to the figure and account of the holotype (Alcock & Anderson 1899a, b) (about 13 mm), both Australian specimens have less pronounced pleural spines and lack spines on the fourth abdominal tergite. A specimen from the Philippines figured by Baba (1988) (18.1 mm) also shows reduced tergal spination, and pleural spination intermediate between the holotype and Australian specimens. Apparently, abdominal spination becomes reduced with increasing size.

As noted by Baba (1991), the relative lengths of the proximal to distal portions of the telson in *G. hendersoni* are variable. Alcock (1901) used the relative lengths of the proximal to distal portions of the telson as one of the distinguishing characters between *G. hendersoni* (proximal lobe less than half-length of distal lobe) and *G. investigatoris* Alcock, 1894 (proximal lobe more than half-length of distal lobe). Baba (1988, 1991), however, noted that for Philippine and Loyalty Islands specimens of *G. hendersoni*, length of the proximal portion of the telson in *G. hendersoni* is longer than half that of the distal portion (0.65–0.68). In the two Australian specimens, the relative lengths of the proximal to distal portion of the telson is 0.62–0.63.

Distribution. Arabian Sea to the Philippines, the Kyushu-Palau Ridge, Loyalty Islands and now from Tasmania at depths of 787–1469 m.

***Gastroptychus rogeri* Baba, 2000**

Gastroptychus rogeri Baba, 2000: 246–250, fig. 2 [type locality: Pedra Branca, southern Tasmania]. — Davie, 2002: 31.

Material examined. NEW SOUTH WALES: AM P53251, 1 male (29.1 mm), 1 female (21.0 mm), E of Kiama, 34°41'S, 151°18'E, 801 m, trawl, K88-22-04, 15 Dec 1988; AM P25065, 1 male (damaged, cl. approx. 22 mm), 25.9 km SE of Green Cape, 476–512 m, from stomach of trevalla, 26 Jun 1976.

Remarks. In *G. rogeri*, as in *G. hendersoni*, the spines and tubercles on the dorsum of the carapace are sharper in smaller specimens.

Distribution. Southern Tasmania and now from off southern New South Wales, at depths between 476 and 1000 m.

***Gastroptychus spinirostris* n. sp. (Fig. 1)**

Type material. HOLOTYPE: AM P31418, 1 male (7.3mm), NE of Tweed Heads, Queensland, 28°02–05'S, 153°57'E, 364 m, trawl, K78-09-03, 1 Jun 1978. PARATYPES: AM P31417, 2 females (7.9–11.7 mm), type locality.

Diagnosis. Rostrum with lateral spines. Dorsal surface of carapace with evenly distributed, slender, upright spines, largest laterally and anteriorly; surface non-setose. Sternite 3 with narrow median sinus flanked by small spine; lateral margins with small spine.. Abdominal somites covered with slender, upright spines, largest on first 3 somites; sparsely setose.

Description. *Carapace:* Rostrum about three-quarters remaining carapace length, with pair of anteriorly directed spines basally and at proximal third or half; sparsely setose on distal half. Outer orbital angle with small spine. Dorsal surface with evenly distributed slender, upright spines, largest laterally and anteriorly; surface non-setose; pterygostomian region with several small spines.

Sternum: Sternite 3 (that of maxilliped 3) with narrow median sinus flanked by small spine; lateral margins with small spine. Lateral margin of sternite 4 (that of pereopod 1) with small distal and large proximal spine; with median pair of anteriorly directed spines. Sternite 5 (that of pereopod 2) with large lateral spine.

Abdomen: Somites covered with slender, upright spines, largest on first 3 somites; sparsely setose; pleura tapering to angular apex. First somite with transverse row of 4 spines. Second to sixth somites with 2 transverse rows of spines. Second somite with anterior row of 4–6 spines and posterior row of 6–8 spines. Third somite with anterior row of 4 spines and posterior row of 8 spines. Fourth somite with anterior row of 4 spines and posterior row of 6 spines. Fifth somite with anterior row of 4 spines and posterior row of 6 spines. Sixth somite with anterior row of 6 spines and posterior row of 4 spines; with small posterolateral point and 4 denticles on posterior margin. Telson comprising 2 articulating plates; proximal plate shorter and wider than distal, rounded laterally; distal plate half as long as wide, posteriorly emarginate, rounded laterally. Uropodal endopod and exopod ovate.

Eyes: Cornea subglobular, slightly wider than peduncle, reaching anteriorly almost to midlength of rostrum.

Antennule: Basal segment with small mesiodistal spine and two larger spines on laterodistal margin; peduncle not reaching rostral apex.

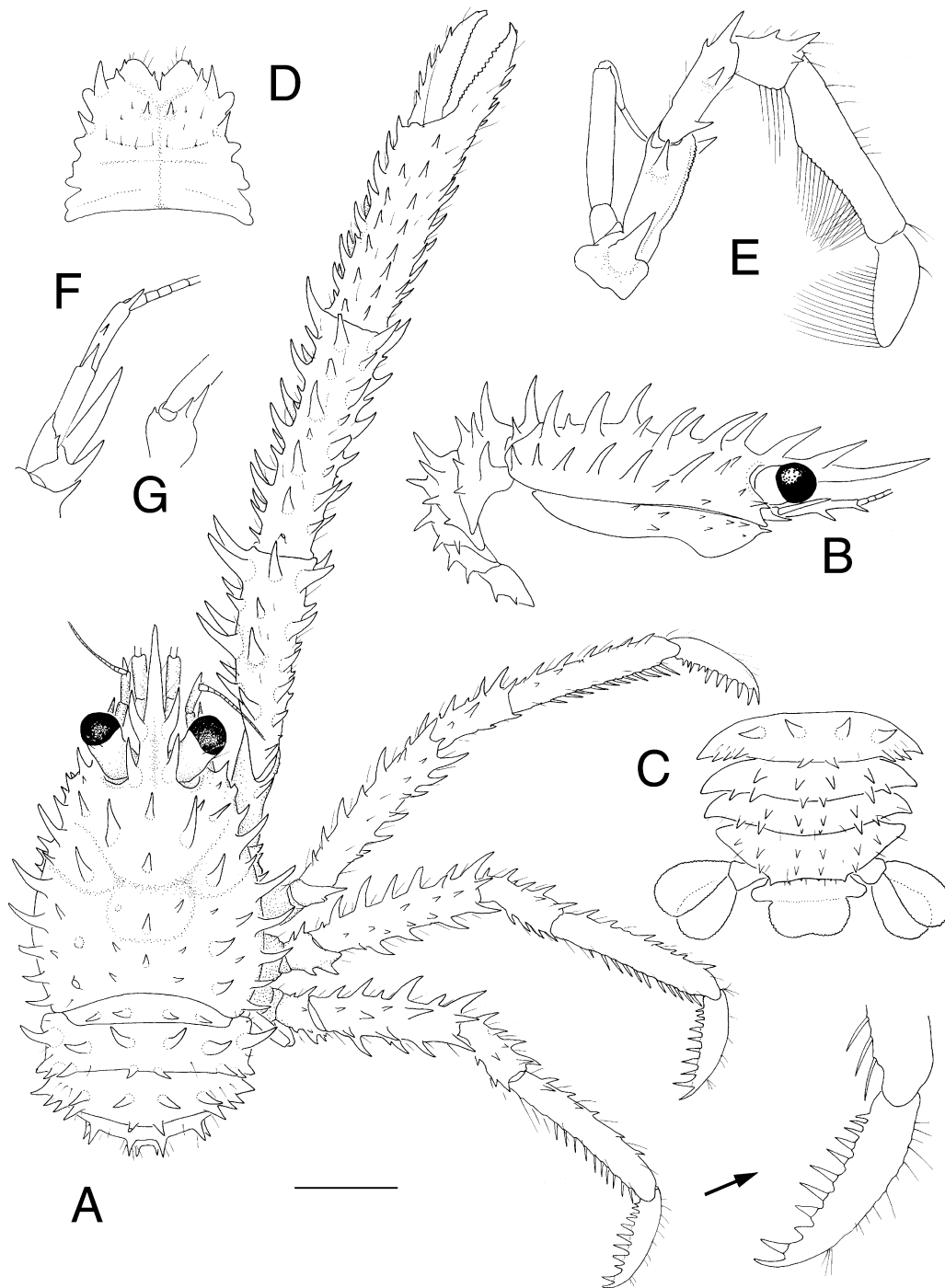


FIGURE 1. *Gastroptychus spinostris* n. sp., male holotype, 7.3 mm, AM P31418. A, dorsum. B, right lateral. C, abdomen, dorsal. D, sternum. E, maxilliped 3, right lateral. F, antennal peduncle, left ventral. G, basal antennular segment, left ventral. Scale A–D = 2 mm, E–G = 1 mm.

Antenna: Basal segment with strong lateral spine. Peduncle second segment with 2 small distal spines; penultimate segment with ventrodistal spine; ultimate segment with distal and midventral spine. Scaphocerite lanceolate, extending beyond second segment of peduncle.

Maxilliped 3: Basis with stout distal flexor spine. Endopod ischium with 2 distal spines, of which one located on crista dentata; merus and carpus with several stout spines; dactylus about half propodus length, both unarmed.

Pereopod 1 (cheliped): Subcylindrical, about 2.5 times carapace length; with few scattered setae and numerous slender anteriorly inclined spines. Propodus longer than carpus; palm about three times as long as high; pollex spinose ventrally; occlusal margin dentate. Dactylus shorter than palm; spinose dorsally; occlusal margin dentate.

Pereopods 2–4: Similar, flattened, about 1.5 times carapace length; sparsely setose. Basis spinose. Ischium, carpus and merus strongly spinose on extensor and flexor margins, with smaller spines on lateral surface. Propodus with extensor margins lined with slender fixed spines, flexor margins lined with slender movable spines. Dactylus about 0.6 propodus length, with 9–11 fixed spines on flexor margin.

Etymology. The specific epithet is derived from the Latin *spina*, meaning ‘thorn’, and *rostrum*, meaning ‘nose’, alluding to the spinose rostrum of this species.

Remarks. *Gastroptychus spinirostris* n. sp. is unique in the genus for bearing 2 pairs of lateral spines on the rostrum. In the general pattern of dorsal spination, large eyes, and carapace proportions, *G. spinirostris* most closely resembles *G. ciliatus* (Van Dam, 1933) from Indonesia. Aside from the possession of lateral rostral spines, *G. spinirostris* differs from *G. ciliatus* in having two instead of one transverse row of spines on the second to fifth abdominal tergites, markedly fewer spines on chela, a relatively shorter propodal palm on the cheliped (about 1.5 times dactyl length vs. about 3 times dactyl length), and a transverse row two instead of six spines on the surface of the sternum.

Gastroptychus spinirostris resembles *G. ciliatus* and *G. chacei* Baba, 1986, and differs from other congeners in having a distinctly concave instead of transverse or convex anterior margin of the sternal plastron, and in bearing a broadened instead of very slender, spiniform rostrum. In these characters, *G. spinirostris*, *G. ciliatus* and *G. chacei* resemble species *Uroptychus*. The three species, however, agree with Baba’s (1988) concept of *Gastroptychus* in having distinctly spinose walking legs and are retained in the genus pending revisionary studies by K. Baba.

Distribution. Known only from northeast of Tweed Heads, southern Queensland, at 364 m depth.

***Gastroptychus sternoornatus* (Van Dam, 1933)**

Chirostylus sterno-ornatus Van Dam, 1933: 15, figs. 21–23 [type locality: Kei Islands, Indonesia].

Material examined. NEW SOUTH WALES: AM P65625, 1 ovigerous female (7.0 mm), E of Broken Bay, 33°26'S, 152°06'E, 403 m, K80-11-01, 15 Jul 1980; AM P25034, 1 males (7.8–8.9 mm), SE of Broken Bay, 33°26–43'S, 151°50'–152°06'E, 329 m, trawl, K76-15-01/02-03, 5 Oct 1976; AM P25033, 1 male (12.3 mm), E of Terrigal, 33°26–28'S, 152°04–06'E, 329 m, K76-15-03, 5 Oct 1976; AM P61138, 1 ovigerous female (10.0 mm), E of Broken Bay, 33°29'S, 152°03'E, 439 m, K76-16-05/06, 27 Sep 1977; AM P31497, 1 ovigerous female (11.1 mm), E of Broken Bay, 33°31'S, 152°02'E, 403 m, K79-15-03, 3 Oct 1979; AM P28807, 3 males (5.6–9.7 mm), 1 female (10.0 mm), E of Broken Bay, 33°28'S, 152°04'E, 366 m, K79-08-05, 18 Jul 1979; AM P28810, 3 males (6.7–8.9 mm), 3 females (6.8–10.0 mm), E of Broken Bay, 33°28'S, 152°04'E, 366 m, K79-08-05, 18 Jul 1979; AM P19081, 1 female (9.1 mm), off Sydney, 34°00'S, 151°43'E, trawl, Nov 1972; AM P65624, 1 ovigerous female (8.4 mm), NE of Wollongong, 34°13'S, 151°27'E, 512 m, K79-16-01, 9 Oct 1979; AM P31421, 1 male (9.5 mm), E of Brush Island, 35°32'S, 150°46'E, 458 m, K77-21-03, 22 Nov 1977. VICTORIA: AM P42269, 1 male (12.1 mm), 1 ovigerous female (8.9 mm), S of Gabo Island, Victoria, 38°02'S, 150°02'E, 384 m, K80-07-11, 14 Jun 1980.

Remarks. The present specimens are the first to be reported from Australia. The ova of ovigerous females measure 1.2 mm in diameter.

Distribution. Philippines, Indonesia, New Caledonia and now from southeastern Australia at 265–512 m depth.

***Uroptychus* Henderson, 1888**

Diptychus Milne Edwards, 1880: 61 [junior homonym of *Diptychus* Steindacher, 1866 (Pisces)].
Uroptychus Henderson, 1888: 173 [replacement name for *Diptychus* A. Milne Edwards, 1880].

Remarks. More than 70 species of *Uroptychus* are presently known from the Indo-West Pacific, of which only four have been reported from Australia: *U. brucei* Baba, 1986, from northwestern Australia, *U. raymondi* Baba, 2000, from Tasmania, and two species described from off Port Jackson, *U. australis* (Henderson, 1885) and *U. gracilimanus* (Henderson, 1885). Twenty-five species are reported herein, of which 20 are also new to science, and two are new Australian records. Under the account of *U. yokoyai* n. sp., *Uroptychus latirostris* Yokoya, 1933, described from Japan, is removed from synonymy of *U. cavirostris* Alcock, 1899, described from the Andaman Sea. Other than *U. brucei* from the Northwest Shelf, all known Australian species of *Uroptychus* are present off southern Australia. Therefore, all species reported herein are illustrated and described or diagnosed. A key to all known Australian species is provided.

Key to Australian species of *Uroptychus*

- 1 Rostrum about as broad as long 2
 — Rostrum distinctly longer than broad 3
- 2 Anterior emargination of sternite 3 without pair of median spines. Basal antennal segment without small outer distal spine *U. yokoyai* n. sp.
 — Anterior emargination of sternite 3 with pair of median spines. Basal antennal segment with small outer distal spine *U. alcocki* n. sp.
- 3 Lateral margins of carapace smooth or crenulate 4
 — Lateral margins of carapace dentate or with distinct spines 15
- 4 Carapace distinctly broader than long (excluding rostrum) 5
 — Carapace length (excluding rostrum) as long as or longer than broad 10
- 5 Dactyli of walking legs with 2 distal spines *U. pilosus* Baba, 1981
 — Dactyli of walking legs with more than 8 spines or denticles along flexor margin 6
- 6 Ultimate and penultimate segments of antennal peduncle each with distal spine 7
 — Ultimate and penultimate segments of antennal peduncle without distal spine 8
- 7 Basal antennal segment with outer spine *U. latus* n. sp.
 — Basal antennal segment without outer spine *U. laperousazi* n. sp.
- 8 Antennal scale overreaching apex of distal peduncle segment. Basal antennal segment with small outer spine. Outer orbital angle acute *U. babai* n. sp.
 — Antennal scale reaching to about midlength of distal peduncle segment. Basal antennal segment without outer spine. Outer orbital angle rounded 9
- 9 Cheliped about 3 times carapace length; dorsal margin of propodal palm about 2.5 times as long as dactylus. Teeth lining flexor margin dactyli of the walking legs slender and longer than wide *U. longvae* n.sp.
 — Cheliped about 2 times carapace length; dorsal margin of propodal palm about 2.5 times as long as dactylus. Teeth lining flexor margin dactyli of the walking legs short, about as longer as wide *U. patulus* n.sp.
- 10 Dactyli of walking legs with 2 distal spines
 *U. thermalis* Baba & de Saint Laurent, 1992
 — Dactyli of walking legs with 7 or more spines along flexor margin 11
- 11 Spines lining flexor margin of dactyli oriented parallel to margin
 *U. australis* (Henderson, 1885)
 — Spines lining flexor margin of dactyli oriented oblique to margin 12
- 12 Cheliped robust, about 3 times carapace length. Carapace margins divergent, widest at about posterior fifth *U. litosus* n. sp.
 — Cheliped slender, about 3.5–4.0 times carapace length. Carapace margins subparallel or slightly divergent, widest at about posterior quarter 13
- 13 Merus of third walking leg about half-length of merus of second walking leg. Sternite 4 with field of granules *U. empheres* n. sp.
 — Merus of third walking leg about two-thirds length or greater than merus of second

- walking leg. Sternite 4 smooth or with transverse row of granules 14
- 14 Penultimate segment of antennal peduncle unarmed. Merus of third walking leg longer than two-thirds length of second walking leg *U. gracilimanus* (Henderson, 1885)
- Penultimate segment of antennal peduncle with distal spine. Merus of third walking leg about nine-tenths length of second walking leg *U. brucei* Baba, 1986
- 15 Lateral margin of carapace with single strong above base of first walking leg
..... *U. raymondi* Baba, 2000
- Lateral margin of carapace with more than 1 lateral spine or tooth 16
- 16 First walking leg markedly more slender than second walking leg *U. nowra* n. sp.
- First walking leg similar to second walking leg 17
- 17 Penultimate segment of antennal peduncle unarmed distally; length about one-quarter that of ultimate segment *U. flindersi* n. sp.
- Penultimate segment of antennal peduncle with distal spine; length half or greater than that of ultimate segment 18
- 18 Antennal scale reaching about to midlength of ultimate peduncle segment. Ultimate antennal peduncle segment unarmed distally 19
- Antennal scale almost reaching or exceeding apex of ultimate peduncle segment. Ultimate antennal peduncle segments with distal spine 20
- 19 Carapace with dorsal spines on anterior region; lateral margins with 7 or more strong spines *U. calcar* n. sp.
- Carapace without dorsal spines; lateral margins with 4 or 5 small spines
..... *U. longicheles* n. sp.
- 20 Lateral margins of carapace denticulate or with small spines 21
- Lateral margins of carapace with strong spines 23
- 21 Rostrum distally trifid, dorsally excavated. Anterolateral spines of carapace not overreaching outer orbital spine or angle *U. multispinosus* n. sp.
- Rostrum neither distally trifid nor dorsally excavated. Anterolateral spines of carapace overreaching outer orbital spine or angle 22
- 22 Outer orbital angle rounded. Carapace dorsum setose *U. hesperius* n. sp.
- Outer orbital angle spiniform. Carapace dorsum naked *U. subsolanus* n. sp.
- 23 Carapace with epigastric spines 24
- Carapace without epigastric spines 25
- 24 Dactylus of walking legs with 8–10 strong spines on flexor margin. Dorsum of carapace smooth (except for epigastric spines) *U. zeidleri* n. sp.
- Dactylus of walking legs with 16–20 small spines on flexor margin. Dorsum of carapace rugose, setose *U. cardus* n. sp.
- 25 Carapace with 4 lateral spines (excluding anterolateral spine). Propodi of walking legs with single distal spine on flexor margin *U. belos* n. sp.
- Carapace with 6–10 lateral spines (excluding anterolateral spine). Propodi of walking legs with row of spines on flexor margin *U. paracrassior* n. sp.

***Uroptychus alcocki* n. sp. (Fig. 2)**

Type material. HOLOTYPE: AM P31412, female (9.0 mm), SE of Ballina, New South Wales, 29°02'S, 153°48'E, 137 m, K78-23-02, 1 Nov 1978. PARATYPES: AM P65834, 1 female (8.0 mm), type locality; AM P31411, 2 males (5.3–6.2 mm), 2 females (4.8–6.7 mm), E of Capricorn Group, Queensland, 23°19.5'S, 152°35.4'E, 320 m, HMAS *Kimbla*, Stn 23, W. Ponder *et al.*, 14 Dec 1977; AM P65836, 13 males (3.5–8.8 mm), 2 ovigerous females (7.9–8.0 mm), Britannia Seamount, E of Brisbane, Tasman Sea, 28°17.47'S, 158°37.89'E, 419 m, limestone and coarse coral sand, benthic sled, FR0589-47, J. Lowry *et al.* on RV *Franklin*, 10 May 1989; AM P65835, 1 ovigerous female (8.9 mm), E of Port Stephens, New South Wales, 32°54'S, 152°34'E, 150 m, K78-26-08, 6 Dec 1978.

Diagnosis. Carapace, excluding rostrum, slightly longer than broad; lateral margins with anterolateral spine, lateral spine at base of indistinct cervical groove and usually with small spine anterior to midlength of lateral margin; dorsum unarmed. Rostrum slightly broader than long. Sternite 3 anterior margin distinctly but shallowly concave with pair of median spines. Eyes not extending beyond rostrum. Basal antennal segment with small outer spine; ultimate segment with distal spine. Antennal scale slightly extending beyond midlength but not beyond apex of ultimate peduncle segment. Cheliped propodus palm entirely granular; carpus, merus and ischium with distinctly granular ventral surface.

Description. *Carapace:* Lateral margins subparallel, with slender anteriorly directed anterolateral spine, lateral spine at base of indistinct cervical groove and usually with small spine anterior to midlength of lateral margin. Rostrum triangular, slightly broader than long, slightly longer than half the remaining carapace length, apex acute, dorsally distinctly concave. Outer orbital angle produced to small spine, extending anteriorly beyond apices of anterolateral spines. Dorsum smooth, unarmed. Pterygostomian flap with small anterior spine.

Sternum: Plastron about as broad as long. Sternite 3 (at base of maxilliped 3) slightly depressed, anterior margin distinctly but shallowly concave with pair of median spines, anterolateral angle obtuse, irregular. Sternite 4 (at base of pereopod 1) with lateral margins anteriorly blunt, extending anteriorly to base of median spines of sternite 3.

Abdomen: Segments sparsely setose. Telson wider than long; distal portion rounded to trianguloid with rounded apex, length varying from half to two-thirds width.

Eye: Cornea slightly dilated, about half-length of peduncle, not extending beyond rostrum.

Antenna: Basal segment with small outer spine. Peduncle not extending to apex of rostrum. Flagellum about 2.5 times peduncle length. Ultimate segment 2.5 times as long as penultimate segment; with distal spine. Antennal scale slightly wider than opposite peduncular segments.

Maxilliped 3: Dactylus and propodus unarmed. Carpus with proximal and distal spinule of extensor margin. Merus with distal extensor marginal spine. Crista dentata serrate for length of ischium, extending onto basis; basis similarly serrate.

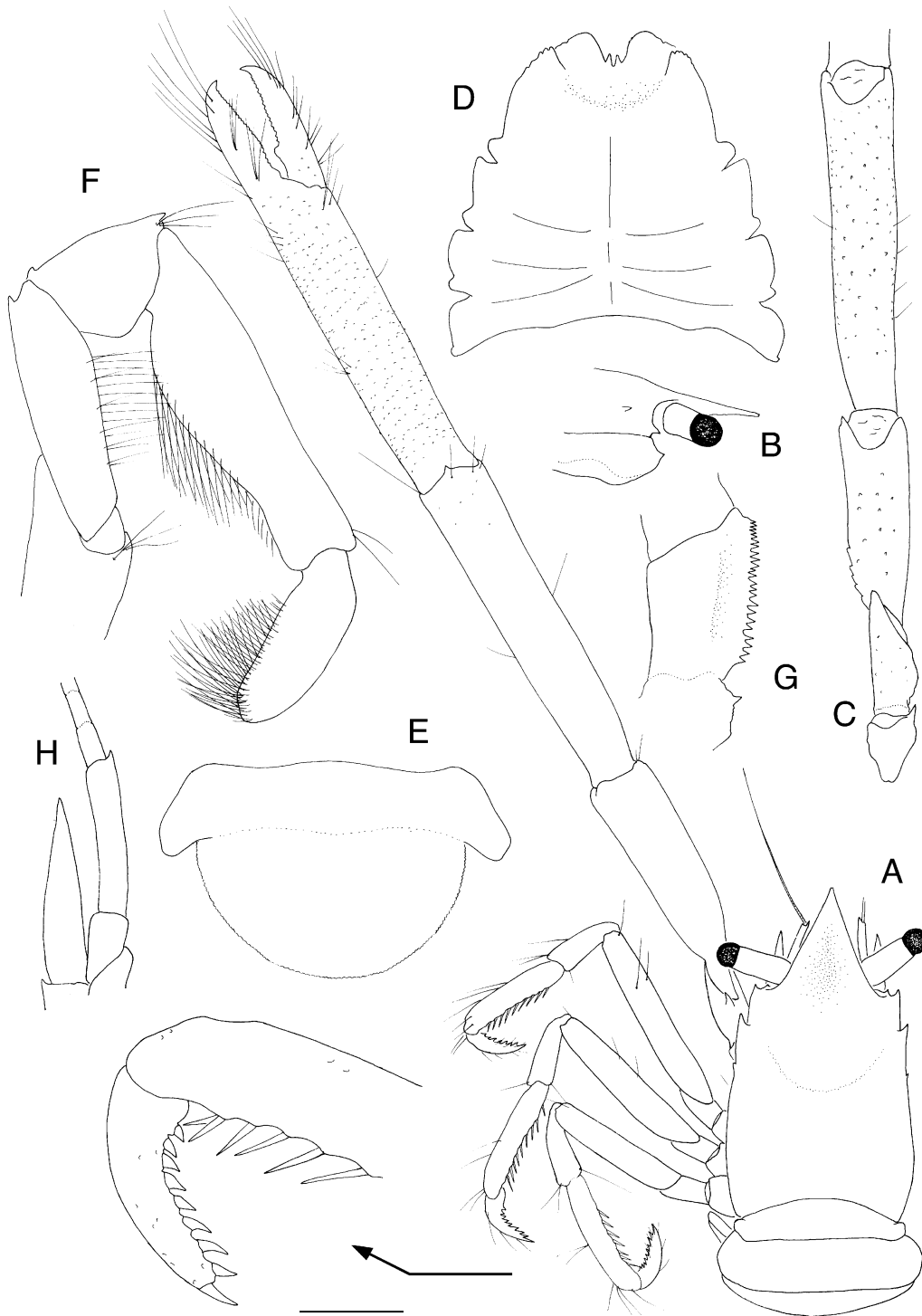


FIGURE 2. *Uroptychus alcocki* n. sp., female holotype, 9.0 mm, AM P31412. A, dorsum. B, anterior carapace, right lateral. C, cheliped, right ventral. D, sternum. E, telson. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–C = 3 mm, D = 1.5 mm, E–H = 0.8 mm.

Pereopod 1 (cheliped): Slender, subcylindrical, about 4 times carapace length, sparsely setose; propodus palm entirely granular; carpus, merus and ischium with distinctly granular ventral surface. Propodus palm 4 times as long as high, about 2 times as long as pollex. Fingers crossing, occlusal margins dentate, with obtuse proximal prominence; dactylus sparsely granular proximally. Carpus longer than merus and propodal palm, with distinct distodorsal tubercle or denticle. Merus without distinct proximal constriction, with small inner distal spine. Ischium with slender distolateral spine.

Pereopods 2–4: Sparsely setose, similar, slightly decreasing in length posteriorly. Propodi not broadened distally, with 6–10 movable spines on distal flexor margin, distalmost paired. Dactyli with 7–9 fixed, obliquely directed, spines on flexor margin, all slender. Pereopods 2–3 carpus about 0.5 merus and 0.6 propodus length. Pereopod 4 carpus 0.6 merus and propodus length.

Ovum: 1.0–1.1 mm diameter.

Etymology. Named after the late A. Alcock, who described the similar species, *U. cavirostris*, and who has made invaluable contributions to the study of the fauna of the Andaman Sea.

Remarks. *Uroptychus alcocki* n. sp. closely resembles *U. cavirostris* Alcock, 1899 from the Andaman Sea, *U. latirostris* Yokoya, 1933 from Japan, and *U. yokoyai* n. sp. from eastern Australia in the subquadrate carapace and broad, triangular rostrum.

Uroptychus alcocki and *U. cavirostris* are distinguished from *U. latirostris* and *U. yokoyai* by the presence of a pair of median spines on the anterior margin of the median concavity of sternite 3.

Uroptychus alcocki is distinguished from *U. cavirostris* by the posteriorly rounded instead of medially emarginate telson and presence of distinct granulation on the propodus and ventral surfaces of the carpus, merus and ischium of the cheliped. According to Alcock (1899), the surfaces of the chelipeds of *U. cavirostris* are smooth aside from “a few squamous granules on the underside of the base of the merus” (p. 27) and the distal spinule or denticles on the propodus and carpus.

Specimens of *U. alcocki* smaller than 6.7 mm cl. have sparse upper granulation on the propodus of the chelae; larger specimens have densely granulate chelae. Thus, the distinction between *U. alcocki* and *U. cavirostris* in cheliped granulation is not a mere artefact of size because Alcock’s holotype of *U. cavirostris* has a carapace length of about 8.3 mm.

The discovery of two new species similar to *U. cavirostris* and the recognition of *U. latirostris* (see Remarks under account of *U. yokoyai* n. sp.), suggests that published records of *U. cavirostris* outside the Andaman Sea type locality require verification. Van Dam’s (1933) records of *U. cavirostris* from Indonesia could be referable to *U. alcocki*. Tirmizi’s (1964) *U. cavirostris* from the Maldives do not conform well to the type description and figure. In particular, the rostrum as figured by Tirmizi (1964: fig. 34) appears to be too narrow, the chelae are relatively short, and the lateral spine on the carapace is small and hardly projects from the margin. Tirmizi’s (1964) specimens are probably misidenti-

fied and could be small specimens of *U. longioculus* Baba, 1990 (described from Madagascar), in which the lateral carapace spines are yet to be fully developed.

Distribution. Off central Queensland and northern New South Wales at 140–320 m.

***Uroptychus australis* (Henderson, 1885) (Fig. 3)**

Diptychus australis Henderson, 1885: 420 [type localities: Port Jackson, Kermadec Islands, and Banda, Indonesia].

Uroptychus australis.—Henderson, 1888: 179–180, pl. 21: figs. 4a–c.—Davie, 2002: 29, 31.

Material examined. NEW SOUTH WALES: AM P67835, 1 female (9.5 mm), off Newcastle, 32°49.3'E, 152°49.1'E, 951–1150 m, NZOI U223, RV *Tangaroa*, R. Springthorpe & W. Ponder, 10 Oct 1982; AM P26759, 2 males (9.5–9.7 mm), 3 females (8.6–8.9 mm), SE of Newcastle, 33°09'S, 152°25'E, 732 m, K77-23-10, 7 Dec 1977; AM P31516, 3 males (7.3–8.5 mm), 10 females (8.5–9.3 mm), E of Norah Head, 33°26'S, 152°06'E, 458–476 m, K80-20-06, 9 Dec 1980; AM P31494, 2 females (8.3–9.3 mm), E of Terrigal, NSW, 33°27'S, 152°09'E, 897 m, K77-23-13, 8 Dec 1977; AM P21071, 1 male (10.7 mm), E of Broken Bay, 33°32–38'S, 152°00–04'E, 824 m, demersal trawl, K75-05-05, 19 Aug 1975; AM P21004, 8 males (9.1–10.4 mm), 11 females (9.2–11.8 mm), E of Broken Bay, 33°32–38'S, 152°00–04'E, 824 m, demersal trawl, K75-05-05, 19 Aug 1975; AM P31492, 31 males (5.4–10.2 mm), 25 females (7.4–9.5 mm), E of Broken Bay, 33°31–34'S, 152°02–04'E, 915 m, K77-23-07, 6 Dec 1977; AM P19082, 3 males (9.9–11.7 mm), E of Port Jackson, 33°52'S, 151°50'E, 778 m, K72-07-15, 7 Dec 1972; AM P25233, 3 females (7.7–10.8 mm), NE of Wollongong, 34°24'S, 151°25'E, 768 m, K76-23-01, 13 Dec 1976; NMV J52353(part), 1 male (9.9 mm), 56 km ENE of Nowra, 34°43.95–43.98'S, 151°14.74–14.28'E, 1009–817 m, SLOPE 58, 3.5 m beam trawl, G. Poore *et al.*, 22 Oct 1988; NMV J17055(part), 1 male (10.3 mm), off Nowra, 35°00.00'S, 151°16.30'E, 1100 m, SLOPE 9, 5 m otter trawl, M. Gomon *et al.*, 15 Jul 1986; AM P67836, 1 male (11.6 mm), 5 females (8.5–10.1 mm), E of Ulladulla, 35°27'S, 150°55'E, 987–1025 m, K83-14-02, 25 Oct 1983.

VICTORIA: NMV J14229, 12 males (7.5–10.5 mm), 7 females (8.3–10.4 mm), S of Point Hicks, SLOPE 33, M. Gomon *et al.*

TASMANIA: AM P64989, 3 males (10.6–11.1 mm), 5 females (8.6–9.9 mm), off St. Patricks Head, 41°37.3–39.8'S, 148°41.4–40.5'E, 940–990 m, S05/87/06, K. Graham, 11 Jul 1987; NMV J52352, 1 ovigerous female (9.6 mm), 39 km NE of Cape Tourville, Freycinet Peninsula, 41°53.54–53.31'S, 148°39.07–38.82'E, 732–626 m, 3.5 m beam trawl, G. Poore *et al.*, 30 Oct 1988; J52354, 2 males (9.2–10.9 mm), 39 km NE of Cape Tourville, SLOPE 84, G. Poore *et al.*

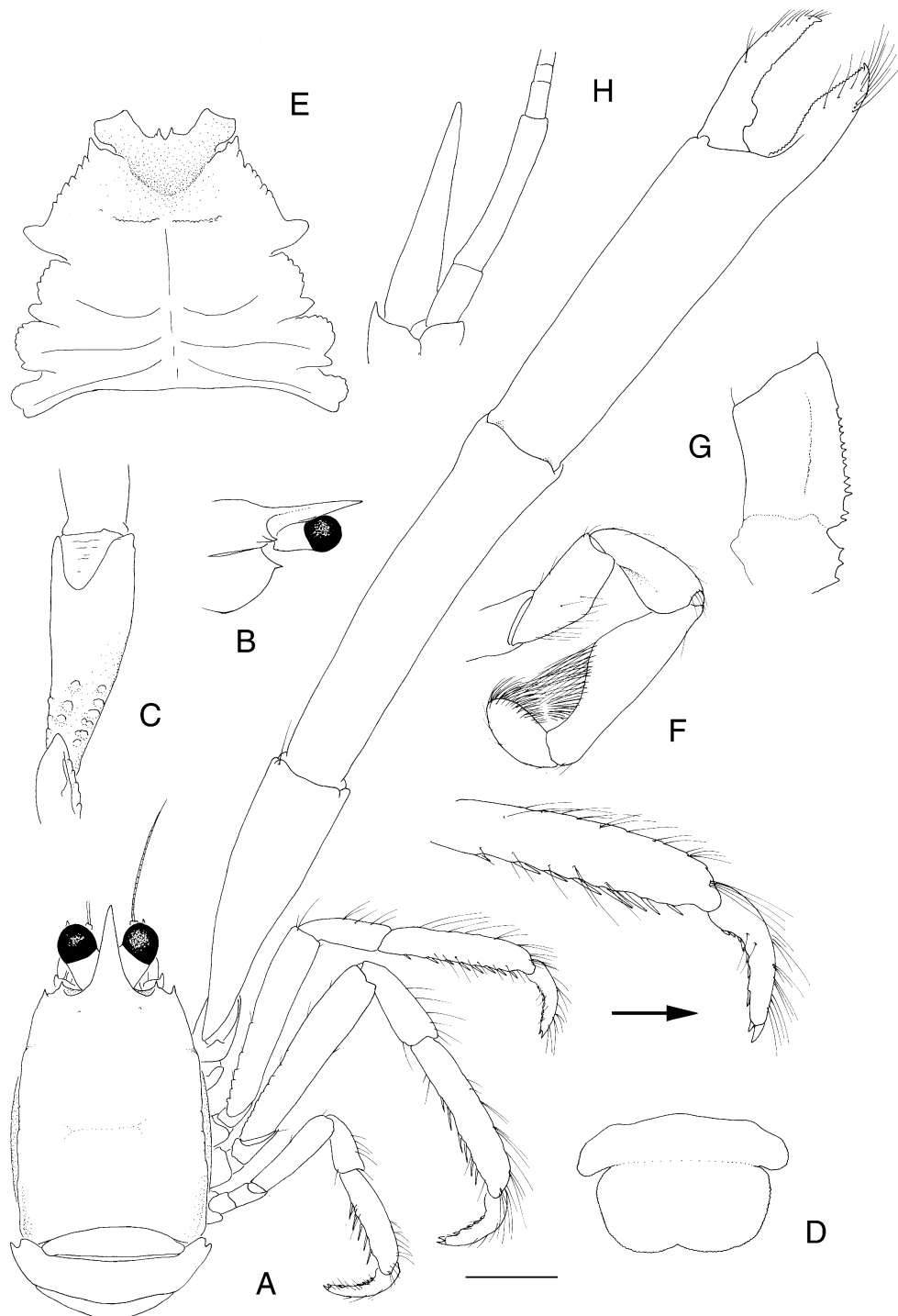


FIGURE 3. *Uroptychus australis* (Henderson, 1885), male, 11.7 mm, off Port Jackson, AM P19082. A, dorsum. B, anterior carapace, right lateral. C, cheliped, proximal right ventral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. A–C = 3.5 mm, D–F = 1.8 mm, G–H = 0.9 mm.

Diagnosis. Carapace excluding rostrum distinctly longer than broad; lateral margins unarmed; posterior quarter with low ridge; dorsum unarmed, at most with pair of small epigastric tubercles. Rostrum sharply triangular. Sternite 3 strongly depressed, anterior margin narrow, deeply emarginate, with pair of median spines. Antennal basal segment with distinct outer spine; ultimate and penultimate segments unarmed. Antennal scale slightly shorter to slightly longer than peduncle. Cheliped merus usually with cluster of tubercles on inner proximal margin. Pereopods 2–4 dactyli with spines on flexor margin oriented parallel to dactylar margin. Pereopod 4 markedly shorter than pereopod 3; length of pereopod 4 merus about half that of pereopod 3.

Description. *Carapace:* Distinctly longer than broad. Lateral margins subparallel, uneven, irregular behind base of cervical groove; posterior quarter with low ridge. Rostrum sharply triangular, exceeding one-third length of remaining carapace, margins unarmed. Anterolateral spine small; outer orbital angle produced to small acute spine extending beyond level of anterolateral spine. Dorsum smooth and unarmed, at most with pair of small epigastric tubercles. Pterygostomial flap with small anterior spine.

Sternum: Plastron broader than long, widening posteriorly. Sternite 3 (at base of maxilliped 3) strongly depressed, anterior margin narrow, deeply emarginate, with pair of median spines; outer lobes of emargination obtusely angled. Sternite 4 (at base of pereopod 1) with distinct anterolateral tooth extending anteriorly to level of base of emargination of sternite 3; margins tuberculate, irregular.

Abdomen: Segments glabrous. Telson about two-thirds as long as broad; distal portion posteriorly emarginate, about twice length of proximal portion.

Eye: Cornea moderately dilated, subequal to length of peduncle, reaching to distal quarter of rostrum.

Antenna: Basal segment with distinct outer spine. Peduncle extending to distal quarter of rostrum. Flagellum about twice as long as peduncle. Ultimate and penultimate segments unarmed; ultimate segment about 2.5 times length of penultimate segment. Antennal scale wider than opposite peduncular segments, slightly shorter to slightly longer than peduncle.

Maxilliped 3: Dactylus, propodus, carpus and merus unarmed. Crista dentata distinctly serrate on proximal two-thirds of ischium, extending onto basis.

Pereopod 1 (cheliped): Slender, cylindrical, about 3.5–4.0 times carapace length; chelae of females and juveniles usually more slender than in adult males; segments glabrous dorsally and sparsely setose distally. Propodus palm about 4 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins finely dentate and each; occlusal margin of dactylus with obtuse process proximally; occlusal margin of pollex with low prominence at about midlength. Carpus longer than merus and as long as propodal palm; glabrous. Merus usually with cluster of tubercles on inner proximal margin, less pronounced in juveniles. Ischium with triangular spine on outer margin.

Pereopods 2–4: Sparsely setose. Meri dorsal margin proximally irregular. Propodi not broadened distally, with 6–8 movable spines on distal flexor margin, distalmost paired.

Dactyli setose marginally; with 7–9 small, fixed spines on flexor margin, distal 2 most prominent, proximal spines oriented parallel to dactylar margin. Pereopods 2–3 similar, carpus about 0.5 merus length, about 0.6 propodus length. Pereopod 3 slightly longer than pereopod 2. Pereopod 4 markedly shorter than pereopod 3; length of pereopod 4 merus about half that of pereopod 3.

Ovum: 1.4 mm diameter.

Remarks. *Uroptychus australis* (Henderson, 1885) is the most common species of the genus off eastern Australia but has never been adequately described. Of the Australian species, *U. australis* most closely resembles *U. empheres* n. sp., and *U. gracilimanus* (Henderson, 1885) but differs from both in having the spines on the flexor margin of the dactyli of pereopods 2–4 oriented parallel to, instead of oblique to the dactylar margin. *Uroptychus australis* further differs from *U. empheres* in having larger tubercles on the proximal flexor margin of the cheliped merus and in lacking the field of granules on sternite 4. *Uroptychus australis* further differs from *U. gracilimanus* in having the antennal scale longer instead of distinctly shorter than the antennal peduncle, in having a shorter merus of pereopod 4 (half instead of two-thirds that of pereopod 3), and in having a deeper concavity on the anterior margin of the sternum. In his key to selected species of the *Uroptychus*, Baba (1988) used the presence of tubercles on the inner margin of the merus of the chelipeds to distinguish *U. australis* from *U. gracilimanus* and several other species. *Uroptychus empheres* and *U. gracilimanus*, however, also bear tubercles on the inner margin of the merus of the chelipeds, although smaller and usually less distinct.

As in *U. gracilimanus*, females and juveniles of *U. australis* often bear more slender chelae than adult males. Aside from the sexual dimorphism sometimes present in the chelae of *U. australis*, variation between specimens is slight. Most specimens bear a pair of minute epigastric tubercles on the carapace, and the scaphocerite varies from about as long as to longer than the antennal peduncle.

The syntypes of *U. australis* were collected at three different localities: off Port Jackson, the Kermadec Islands, and Banda, Indonesia. Davie (2002) fide Baba (pers. com.) indicated that the syntype series of *U. australis* comprises three separate species of which two are undescribed. Therefore, the identity of *U. australis* must ultimately be fixed by lectotype designation (Baba, in prep., fide Davie 2002). Our specimens, however, are referred to *U. australis* because they agree well with Henderson's (1885, 1888) accounts and figures including the tuberculate inner margins of the cheliped merus and short merus of pereopod 4. A topotypic specimen of *U. australis*, collected off Port Jackson, is illustrated (Fig. 3).

Distribution. Indonesia, the Kermadec Islands and northern New South Wales, south to Victoria and Tasmania at 458–1150 m depth.

***Uroptychus babai* n. sp. (Fig. 4)**

Uroptychus granulatus.—Baba, 1990: 923, 943–944, fig. 9 [not *U. granulatus* Benedict, 1902].

Type material. HOLOTYPE: AM P26782, male (14.1 mm), E of Broken Bay, New South Wales, 33°31–34'S, 152°02–04'E, 905–914 m, demersal trawl, K77-23-07, 6 Dec 1977. PARATYPES: AM P67834, 1 male (15.5 mm), 1 female (16.5 mm), off Newcastle, 32°49.3'S, 152°49.1'E, 951–1150 m, NZOI U223, RV *Tangaroa*, R. Springthorpe & W. Ponder, 10 Oct 1982; AM P53248, 1 male (18.2 mm), 1 female (15.4 mm), E of Broken Bay, New South Wales, 33°28–31'S, 152°12–14'E, 951–1006 m, demersal trawl, K81-15-03, 3 Nov 1983; AM P65883, 2 ovigerous females (16.8–18.2 mm), E of Shoalhaven Bight, New South Wales, 34°54'S, 151°17'E, 1115–1152 m, K83-18-02, 30 Nov 1983; NMV J17065, 1 male (13.0 mm), 1 female (17.3 mm), off Nowra, New South Wales, 35°00.00'S, 151°16.30'E, 1100 m, SLOPE 9, 5 m otter trawl, M. Gomon *et al.*, 15 Jul 1986; AM P65832, 1 female (17.0 mm), E of Ulladulla, New South Wales, 35°27'S, 150°55'E, 987–1025 m, on crinoid *Glyptometra inaequalis* (AM J18867), K83-14-02, 25 Oct 1983.

Diagnosis. Carapace excluding rostrum slightly broader than long; lateral margins irregular, crenulate, distinctly convex, broadest posterior to midlength; with distinct, anteriorly directed anterolateral spine; posterior quarter with low ridge. Rostrum sharply triangular; dorsum unarmed. Sternite 3 anterior margin with broad V-shaped emargination. Basal antennal segment with distinct outer spine; ultimate and penultimate segments unarmed. Antennal scale extending beyond apex of ultimate peduncle segment. Pereopods 2–4 propodi not broadened distally, with 1 or 2 movable spines on lower distal margin; dactyli lined with 15–20 small, close-set, obliquely inclined spines on flexor margin, penultimate markedly broader than others.

Description. *Carapace:* Slightly broader than length (excluding rostrum). Lateral margins irregular, crenulate, distinctly convex, broadest posterior to midlength; with distinct, anteriorly directed anterolateral spine; posterior quarter with low ridge. Rostrum sharply triangular, about half length of remaining carapace, margins unarmed; dorsum sparsely setose or naked. Outer orbital angle produced to triangular tooth, not extending beyond anterolateral spine. Dorsum carapace sparsely-setose, unarmed. Pterygostomian flap with triangular anterior spine.

Sternum: Plastron about as broad as long, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) not depressed, anterior margin with broad V-shaped emargination; outer lobes of emargination obtusely angled, flanked by short projection. Sternite 4 (at base of pereopod 1) with obtuse anterolateral margin, extending anteriorly to about midlength of emargination of sternite 3.

Abdomen: Segments sparsely setose. Telson about half as long as broad; distal portion posteriorly emarginate, about 1.5 times length of proximal portion.

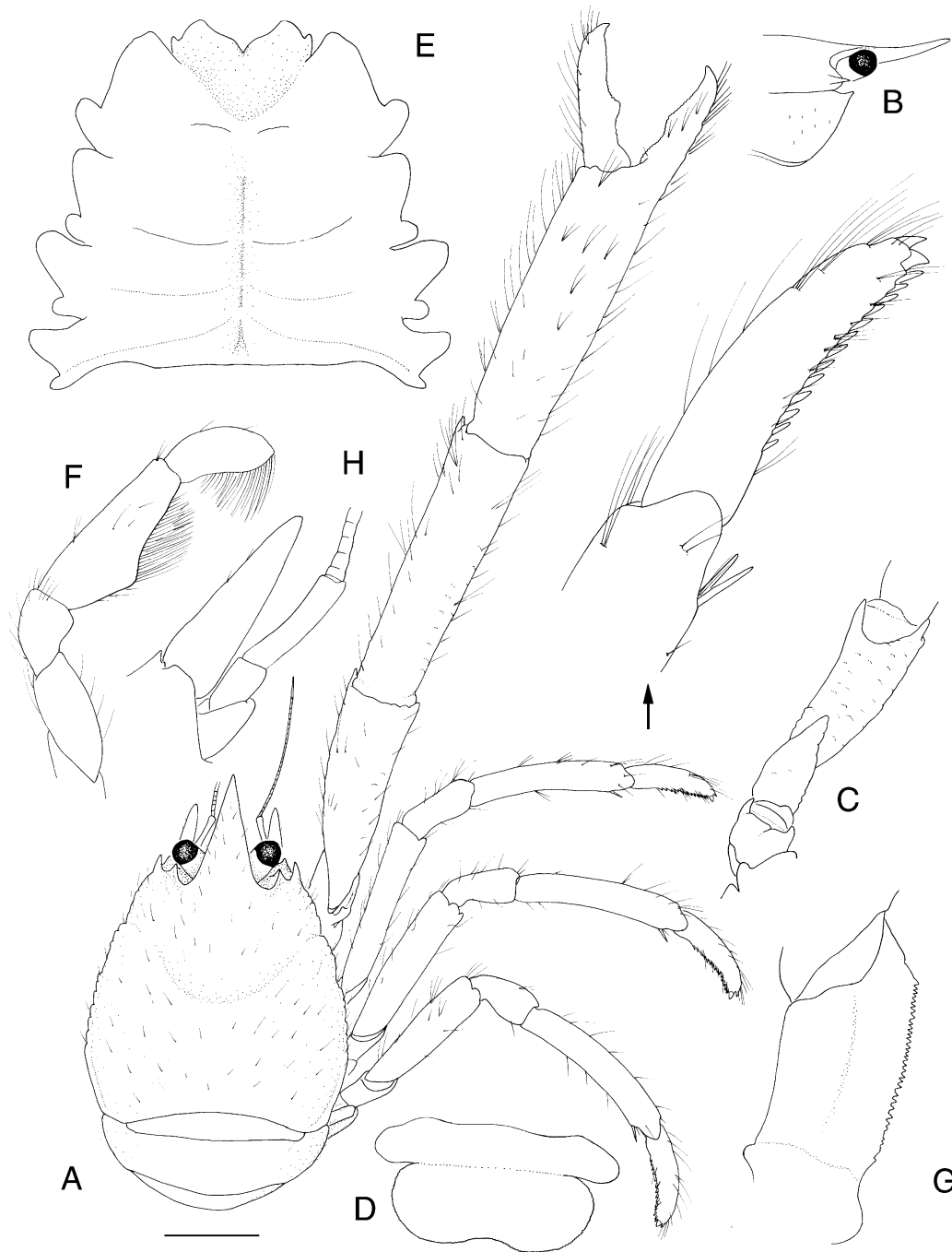


FIGURE 4. *Uroptychus babai* n. sp., holotype male, 14.1 mm, AM P26782. A, dorsum. B, anterior carapace, right lateral. C, cheliped merus, proximal right ventral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–C = 4 mm, D–F = 2 mm, G–H = 1 mm.

Eye: Cornea not dilated, about one-third length of peduncle; not reaching to proximal half of rostrum.

Antenna: Basal segment with distinct outer spine. Flagellum about twice as long as peduncle. Ultimate and penultimate segments unarmed; ultimate segment about twice length of penultimate segment. Antennal scale wider than opposite peduncular segments, extending beyond apex of ultimate peduncle segment.

Maxilliped 3: Dactylus, propodus, carpus and merus unarmed. Crista dentata evenly serrate on proximal three-quarters of ischium, not extending onto basis.

Pereopod 1 (cheliped): Slender, rugose with setose scales, subcylindrical; about 3 times carapace length. Propodus with palm about 3.5 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins finely dentate; occlusal margin of dactylus with obtuse process proximally; occlusal margin of pollex with low prominence at midlength. Carpus longer than merus and as long as propodal palm. Ischium with triangular spine on outer margin.

Pereopods 2–4: Setose, similar, becoming shorter distally. Carpi and meri unarmed. Propodi not broadened distally, with 1 or 2 movable spines on distal flexor margin. Dactyli lined with 15–20 small, close-set, obliquely inclined, fixed spines on flexor margin, penultimate markedly broader than others. Carpus of pereopods 2–3 about 0.4 merus and 0.5 propodus length; carpus of pereopod 4 about 0.5 merus length, about 0.4 propodus length.

Ovum: 1.3 mm diameter.

Etymology. Named for Keiji Baba, Kumamoto University, Japan, for his foundational work on the systematics of the Galatheidea.

Remarks. *Uroptychus babai* n. sp. closely resembles *U. granulatus* Benedict, 1902, from the Galapagos Islands. The two species agree in almost all respects, but *U. babai* differs in having crenulate or irregular instead of spinose lateral carapace margins, the basal antennal segment bears a distinct outer spine, a short median notch is present in the anterior concavity of sternite 3 and the anterolateral angles of sternite 4 are bluntly rounded instead of acute. Baba (1990) reported and figured material identified as *U. granulatus* from Madagascar in which the lateral carapace margins are irregular or crenulate but not spinose as in the holotype from the Galapagos Islands. Based on Baba's (1990) account, the specimens from Madagascar are referable to *U. babai*, and significantly extend the range of the species. *Uroptychus babai* also resembles *U. bacillimanus* Alcock & Anderson, 1899, and *U. valdiviae* Doflein & Balss, 1913, both from the eastern Indian Ocean, in the shape of the carapace, and limb proportions. *Uroptychus babai* is readily distinguished from *U. bacillimanus* in having well-developed instead of minute anterolateral spines on the carapace and in having the antennal scale longer instead of distinctly shorter than the antennal peduncle. The strong anterolateral spine and well-developed outer orbital spine of the carapace will readily distinguish *U. babai* from *U. valdiviae*.

Of the regional *Uroptychus* species, *U. babai* resembles two New Zealand species, *U. maori* Borradaile, 1916, and *U. tomentosus* Baba, 1974, in carapace shape and overall

habitus. *Uroptychus babai* is readily distinguished from *U. tomentosus* in the length of the antennal scale (longer than instead of shorter than the antennal peduncle) and in having a small triangular tooth instead of long falcate spine on the dorsal distal margin of the ischium of the cheliped. *Uroptychus babai* chiefly differs from *U. maori* in the length of the antennal scale (longer than instead of distinctly shorter than the antennal peduncle), in lacking an inner distal spine on the penultimate antennal peduncle segment, and in having 15–17 instead of 6 spines on the flexor margin of the dactyli of pereopods 2–4.

Distribution. Southeastern Australia at depths between 905 and 1150 m, and Madagascar at 880–920 m (Baba, 1990).

Uroptychus belos n. sp. (Fig. 5)

Type material. HOLOTYPE: AM P65830, female (5.4 mm), Britannia Seamount, SE of Brisbane, Tasman Sea, 28°17.47'S, 158°37.89'E, 419 m, limestone and coarse coral sand, benthic sled, FR0589-47, J. Lowry *et al.* on RV *Franklin*, 10 May 1989. PARATYPE: AM P65831, 1 male (5.3 mm), type locality.

Diagnosis. Carapace excluding rostrum broader than long; lateral margins with stout anteriorly directed anterolateral spine and 4 strong lateral spines; dorsum glabrous. Rostrum elongate, exceeding half remaining carapace length. Sternite 3 anterior margin shallowly concave, with U-shaped median notch. Basal antennal segment with distinct outer spine; ultimate and penultimate segments with distal spine. Antennal scale extending almost to apex of ultimate peduncle segment. Pereopods 2–4 similar; propodi not broadened distally, with movable spine on distal flexor margin; dactyli with 7 or 8 well-spaced, obliquely directed, corneous teeth on flexor margin, penultimate distinctly larger and broader than others, ultimate spiniform.

Description. *Carapace:* Breadth greater than length (excluding rostrum); broadest at about midlength. Lateral margins slightly convex, with stout anteriorly directed anterolateral spine and 4 strong lateral spines. Rostrum elongate, exceeding half remaining carapace length, apex acute, margins straight, slightly concave dorsally. Outer orbital angle produced to distinct spine, shorter than anterolateral spines. Dorsum glabrous, unarmed. Pterygostomian flap with anterior spine; lateral surface smooth.

Sternum: Plastron as long as broad. Sternite 3 (at base of maxilliped 3) slightly depressed, anterior margin shallowly concave, with U-shaped median notch, anterolateral angle obtuse, unarmed laterally. Sternite 4 (at base of pereopod 1) with lateral margins produced, angular, extending anteriorly to base of median notch of sternite 3.

Abdomen: Segments sparsely setose, otherwise glabrous. Telson about twice as wide as long; distal portion faintly emarginate, about 1.5 times length of proximal portion.

Eye: Cornea not dilated, about half length of peduncle; extending to distal quarter of rostrum.

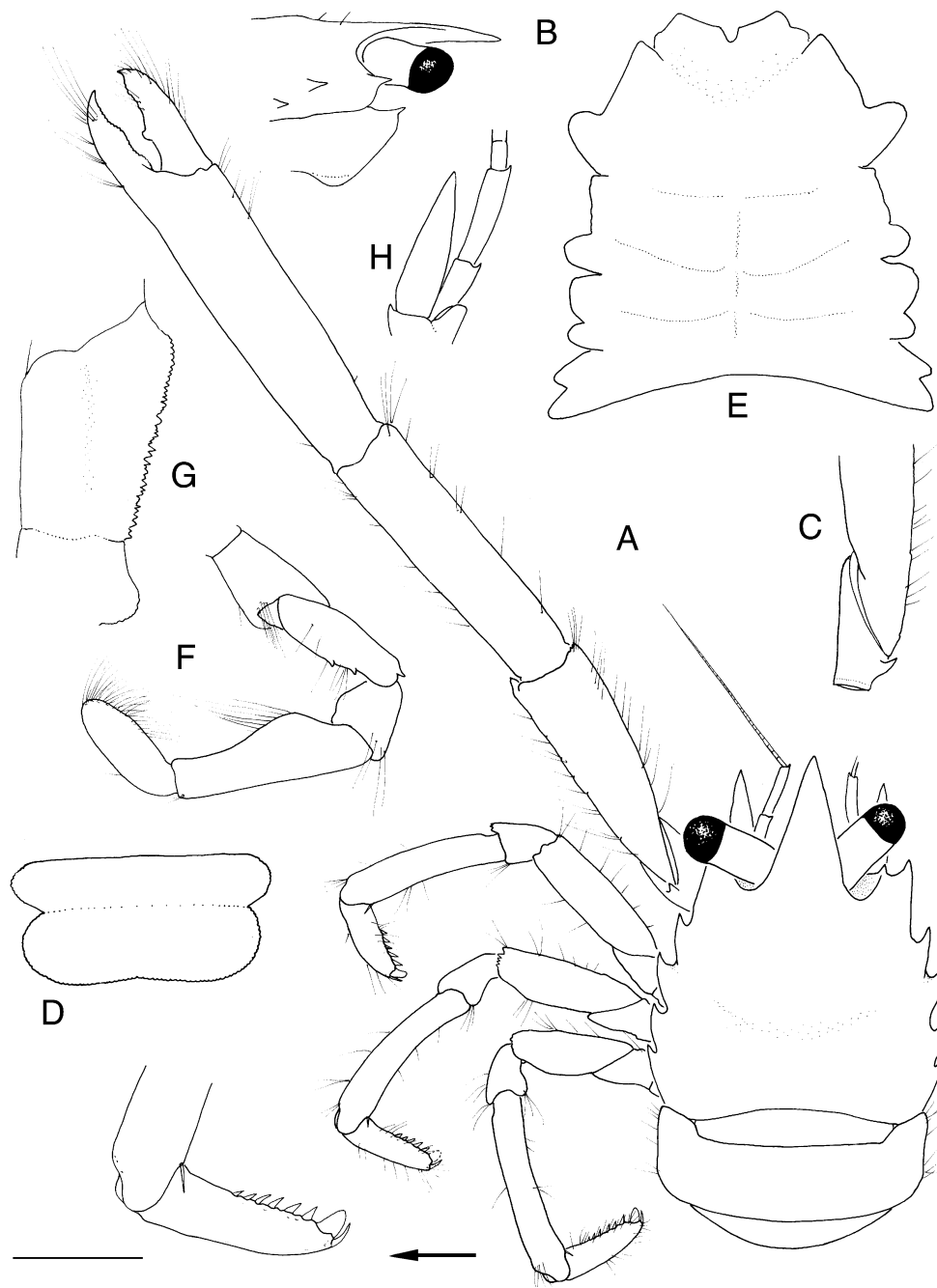


FIGURE 5. *Uroptychus belos* n. sp., holotype female, 5.4 mm, AM P65830. A, dorsum. B, anterior carapace, right lateral. C, cheliped merus, proximal left lateral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–C = 2 mm, D–F, H = 1 mm, G = 0.5 mm.

Antenna: Basal segment with distinct outer spine. Peduncle almost extending to apex of rostrum. Flagellum almost twice as long as peduncle. Ultimate segment longer than penultimate segment; both segments with distal spine. Antennal scale wider than opposite peduncular segments, extending almost to apex of ultimate peduncle segment

Maxilliped 3: Dactylus, propodus and carpus unarmed. Merus with distal extensor and 2 small flexor marginal spines. Crista dentata denticulate for almost entire length of ischium, not extending onto basis.

Pereopod 1 (cheliped): Slender, subcylindrical, sparsely setose, about 3 times carapace length. Propodus palm 4 times as long as high, about 2.5 times as long as pollex. Fingers crossing, occlusal margins dentate, irregular; dactylus with blunt tooth slightly proximal to midlength. Carpus longer than merus, slightly shorter than propodal palm. Ischium with small distolateral spine.

Pereopods 2–4: Sparsely setose, similar, slightly decreasing in length posteriorly. Propodi not strongly broadened distally, with pair of movable spines on distal flexor margin. Dactyli with 7 or 8 fixed, well-spaced, obliquely directed, corneous teeth on flexor margin, penultimate distinctly larger and broader than others, ultimate spiniform. Pereopods 2–3 carpus about 0.4 merus and propodus length. Pereopod 4 carpus about 0.5 merus length, about 0.3 propodus length.

Etymology. Named *belos*, Greek, meaning dart or arrow, in reference to the sharp lateral spines on the carapace.

Remarks. *Uroptychus belos* n. sp. resembles *U. crassipes* from Indonesia in the shape and spination of the carapace, elongate eyestalks and the shape of the anterior sternites. *Uroptychus belos* resembles *U. longicheles* n. sp. in the general carapace shape, elongate eyestalks, slender chelipeds, armature of the dactyli of the walking legs and sternal morphology. *Uroptychus belos* differs from *U. longicheles* in the following features: the rostrum has straight instead of concave margins with a sharp instead of rounded apex; the lateral carapace spines are much larger and more robust; the anterolateral carapace spine overreaches the outer orbital spine; the distal segment of the antennal peduncle is armed distally; the antennal scale is nearly as long as instead of markedly shorter than the peduncle; the branchiostegal surface lacks a field of spinules; and the penultimate spine of the flexor margin of the dactyli of the walking legs is broad and blunt instead of triangular. In the lateral spination of the carapace, *U. belos* also resembles *U. crassipes* Van Dam, 1939, from Indonesia, but is readily distinguished by its singular instead of trifid rostrum, the slender and sparsely glabrous instead robust, rugose and strongly setose cheliped, absence of a distal ventral spine on the merus of the walking legs and in having 6–8 instead 10–16 spines on the flexor margins of the dactyli of the walking legs.

Distribution. Presently known only from the type locality.

Uroptychus calcar n. sp. (Fig. 6)

Type material. HOLOTYPE: AM P65829, male (11.8 mm), E of Sydney, New South Wales, 33°42'S, 151°52'E, 380–390 m, Boris box trawl, K96-47-02, 17 Sep 1996. PARATYPES: AM P66000, 1 male (8.5 mm), 6 females (6.5–11.3 mm), E of Broken Bay, New South Wales, 403 m, K80-11-01, 15 Jul 1980; AM P26551, 8 males (8.2–11.7 mm), 4 females (10.0–11.2 mm), NE of Broken Bay, New South Wales, 33°25–27'S, 152°04–06'E, 329 m, on seapen *Anthoptilium*, K77-14-03, 13 Sep 1977; AM P28809, 1 male (10.2 mm), 2 females (8.4–9.6 mm), E of Norah Head, New South Wales, 33°24'S, 152°07'E, 366 m, K79-08-04, 18 Jul 1979; AM P28806, 8 males (3.4–11.7 mm), 6 females (8.2–11.6 mm), E of Broken Bay, New South Wales, 33°30'S, 152°02'E, 366 m, K79-08-05, 18 Jul 1979; AM P25123, 1 male (8.5 mm), E of Broken Bay, New South Wales, 33°30'S, 152°01'E, 458–461 m, K76-24-06, 21 Dec 1976; AM P25035, 3 males (7.7–9.3 mm), 4 females (9.1–11.1 mm), SE of Broken Bay, New South Wales, 33°26–43'S, 151°50–152°06'E, 329 m, K76-15-01/02/03, 5 Oct 1976; AM P26552, 5 males (9.1–9.5 mm), 5 females (9.4–10.5 mm), SE of Broken Bay, New South Wales, 33°39–41'S, 151°51–53'E, 329 m, K77-06-01, 7 Jun 1977; AM P31509, 2 males (10.0–10.5 mm), 4 females (8.5–11.8 mm), E of Broken Bay, New South Wales, 33°40'S, 151°53'E, 450 m, on hydroid, K77-09-01, 4 Jul 1977; AM P24476, 1 male (10.2 mm), E of Sydney, New South Wales, 33°36'S, 151°57'E, 202 m, K76-07-06, 27 May 1976; AM P65999, 1 male (7.6 mm), 1 ovigerous female (9.0 mm), off Sydney, New South Wales, 33°37–40'S, 151°53–55'E, 326–331 m, K96-18-04, 24 Sep 1996; AM P18009, 3 males (9.6–10.9 mm), 1 female (9.5 mm), SE of Port Hacking, New South Wales, 34°12'S, 151°28'E, 357–366 m, K71-10-03, 28 Jun 1971.

Other material examined. NEW SOUTH WALES: AM P21769, 2 males (7.4–8.7 mm), 1 female (8.7 mm), SE of Clarence River, 29°32'S, 153°47'E, 406–414 m, K75-09-04, 10 Oct 1975; AM P20800, 1 male (9.4 mm), 2 females (10.3–12.8 mm), E of Brush Island, 34°32'S, 150°45'E, 393–439 m, K75-03-01, 10 Jul 1975; AM P24398, 1 ovigerous female (9.2 mm), NE of Brush Island, 35°32'S, 150°46'E, 329 m, K76-08-01, 8 Jun 1976; AM P20807, 1 male (9.8 mm), 1 female (11.6 mm), SE of Gabo Island, 37°38'S, 150°16'E, 403–439 m, K75-03-02, 10 Jul 1975.

VICTORIA: AM P31506, 5 males (8.3–11.0 mm), 5 females (7.3–10.8 mm), S of Gabo Island, 38°00–02'S, 150°02–04'E, 384 m, K80-07-11, 14 Jun 1980; AM P31508, 1 male (8.0 mm), eastern Bass Strait, 38°08'S, 149°49'E, 347 m, K80-07-09, 14 Jun 1980; NMV J17068, 1 ovigerous female (7.9 mm), Lakes Entrance, 38°34.25'S, 148°32.25'E, 384–378 m, Marine Science Laboratories, 24 Aug 1982.

Diagnosis. Carapace excluding rostrum longer than broad; lateral margins with anterolateral spine and 7–12 lateral spines; dorsum smooth, with cluster of 3 or 4 small epigastric spines on each side. Rostrum sharply triangular, about half to two-thirds as long as remaining carapace (usually about half). Sternite 3 anterior margin deeply concave with narrow V-shaped median notch. Sternite 4 with anterolateral margins not produced beyond

base of sternite 3. Antennal basal segment with outer spine; penultimate segment with distal spine. Antennal scale extending about to distal half of ultimate segment. Pereopods 2–4 merus and carpus unarmed; propodus not broadened distally, with pair of movable spines on distal flexor margin; dactylus with 4–7 strong, widely spaced, perpendicularly (or near perpendicularly) directed corneous teeth on flexor margin.

Description. *Carapace:* Longer than broad. Lateral margins divergent; with strong anteriorly directed anterolateral spine and 7–12 lateral spines. Anterior 2 lateral spines small, third spine large, stout, at base of indistinct cervical groove, remainder stout, closely spaced, decreasing in size posteriorly. Rostrum sharply triangular, about half to two-thirds as long as remaining carapace (usually about half), lateral margins smooth. Outer orbital angle produced to small acute spine. Dorsum smooth, with cluster of 3 or 4 small epigastric spines on each side. Pterygostomial flap with strong anterior spine and small spinules on proximal surface.

Sternum: Plastron about as long as wide, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) depressed, anterior margin deeply concave with narrow V-shaped median notch, anterolateral angle blunt. Sternite 4 (at base of pereopod 1) with anterolateral margins not produced beyond base of sternite 3.

Abdomen: Segments glabrous. Telson about half as long as broad; distal portion posteriorly emarginate, longer than proximal portion.

Eye: Cornea not dilated, about half-length of peduncle; not reaching beyond midlength of rostrum.

Antenna: Basal segment with outer spine. Peduncle extending beyond distal half of rostrum. Ultimate segment about as long as penultimate segment, penultimate with distal spine. Antennal scale wider than opposite peduncular segments, extending about to distal half of ultimate segment.

Maxilliped 3: Dactylus, propodus, carpus and merus unarmed. Crista dentata finely denticulate proximally, becoming smooth on distal half of ischium.

Pereopod 1 (cheliped): About 3 times carapace length; all segments glabrous, sparsely setose. Propodus with palm 3–4 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins dentate and each with low process proximally. Carpus and merus with or without small spinules on distal margin. Ischium with triangular distolateral spine.

Pereopods 2–4: Similar, slightly decreasing in length posteriorly. Meri and carpi glabrous, unarmed, sparsely setose. Propodi over twice length of carpus, not broadened distally, with pair of movable spines on distal flexor margin. Dactyli with 4–7 strong, widely spaced, perpendicularly (or near so) directed corneous teeth on flexor margin.

Ovum: 1.0 mm diameter.

Etymology. Named *calcar*, from the Latin for ‘spur’, alluding to the distinctive arrangement of teeth on the dactyli of the walking legs that distinguish the present new species from other Australian species.

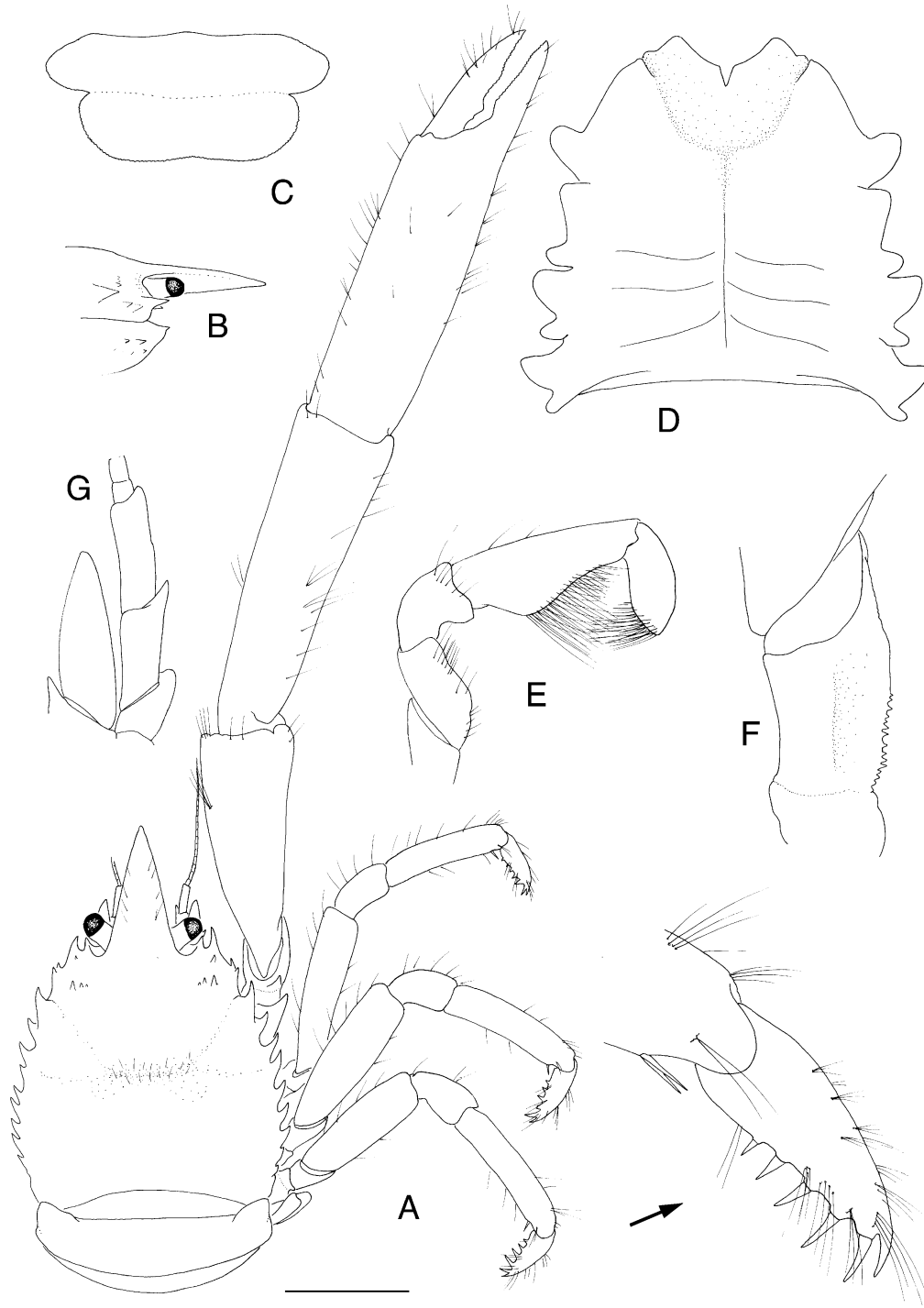


FIGURE 6. *Uroptychus calcar* n. sp., holotype male, 11.8 mm, AM P65829. A, dorsum. B, anterior carapace, right lateral. C, telson. D, sternum. E, maxilliped 3, right lateral. F, crista dentata, right. G, antenna, right ventral. Scale A–B = 4 mm, C–E = 2 mm, F–G = 1 mm.

Remarks. In bearing lateral and dorsal spines on the carapace, *U. calcar* n. sp. resembles *U. zeidleri* n. sp., *U. cardus* n. sp. and *U. nanophyes* McArdle, 1901, in the spinose lateral margins and epigastric spines on the carapace. *Uroptychus calcar* differs from each of the aforementioned species in lacking a distal spine on the ultimate segment of the antennal peduncle and in the arrangement of spines on the inner margin of the dactyli and propodus of pereopods 2–4. In *U. calcar*, the pereopods 2–4 propodi bear a pair instead of a row of movable spines on the distal flexor margin, and the dactylar spines are widely spaced and orientated perpendicularly instead of being widely spaced and oblique.

In the juvenile male (cl. 3.4 mm), the lateral carapace spines are less pronounced, and the epigastric spines on the carapace are undeveloped.

Distribution. Vicinity of Clarence River, northern New South Wales, south to eastern Bass Strait, Victoria, at 326–461 m depth.

Uroptychus cardus n. sp. (Fig. 7)

Uroptychus sp. MoV2676.– Poore, Hart, Taylor & Tudge, 1998: 69.

Type material. HOLOTYPE: NMV J44744, female (15.9 mm), J1 Seamount, 82.5 km SSE of SE Cape, Tasmania, 44°14.4'S, 147°21.6'E, 1200 m, epibenthic sled, T. Stranks *et al.*, 27 Jan 1997. PARATYPES: NMV J44743, 1 female (12.2 mm), J1 Seamount, Tasmania, 83.8 km SSE of SE Cape, 44°16.2'S, 147°19.8'E, 987 m, epibenthic sled, T. Stranks *et al.*, 27 Jan 1997; NMV J39633, 2 ovigerous females (14.1–14.7 mm), J1 Seamount, 83.8 km SSE of SE Cape, Tasmania, 44°16.2'S, 147°19.8'E, 987 m, epibenthic sled, T. Stranks *et al.*, 27 Jan 1997.

Diagnosis. Carapace excluding rostrum longer than broad; lateral margin with anterolateral spine and 7 or 8 lateral spines; dorsum rugose, with numerous setose scales or tubercles, with transverse field of 11–19 spines across epigastric region, laterally largest. Rostrum triangular. Sternite 3 anterior margin deeply concave with narrow U-shaped median notch. Antennal basal segment with outer spine; ultimate and penultimate segments with distal spine. Antennal scale extending beyond ultimate segment of peduncle. Cheliped rugose and sparsely setose. Pereopods 2–4 similar; merus with setose scales; propodus not broadened distally, with 5–7 movable spines on distal flexor margin, distalmost paired; dactylus with 16–20 small, closely spaced, obliquely directed corneous spines, penultimate markedly broader than others.

Description. *Carapace:* Length (excluding rostrum) greater than breadth. Lateral margins convex, divergent; with strong anteriorly directed anterolateral spine and 7 or 8 lateral spines. Anterior 2 lateral spines small, third spine large, stout, at base of indistinct cervical groove, remainder spines stout, decreasing in size posteriorly. Rostrum triangular, about 0.4 as long as remaining carapace, lateral margins smooth, dorsally with shallow concavity. Outer orbital angle obtuse. Dorsum rugose, with numerous setose scales or tubercles,

with transverse field of 11–19 spines across epigastric region, with largest spines either side of midline. Pterygostomian flap with acute anterior angle and small spinules or scales on proximal surface.

Sternum: Plastron about as long as wide, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) depressed, anterior margin deeply concave with narrow U-shaped median notch, anterolateral angle acute, flanked by 1 or 2 small spines. Sternite 4 (at base of pereopod 1) with anterolateral margins acute, produced anteriorly to base of spine on lateral margin of sternite 3.

Abdomen: Segments glabrous. Telson half as long wide; distal portion medially emarginate, about 1.5 times as long as proximal segment.

Eye: Cornea not dilated, about two-thirds length of peduncle; not reaching beyond midlength of rostrum.

Antenna: Basal segment with outer spine. Peduncle extending to distal third of rostrum. Ultimate segment about twice as long as penultimate segment, both with distal spine. Antennal scale wider than opposite peduncular segments, extending beyond ultimate segment of peduncle.

Maxilliped 3: Dactylus and propodus unarmed. Carpus with 2 or 3 small spines on extensor surface and distal extensor spine. Merus with 2–4 spines on distal flexor margin and larger distal flexor spine. Ischium with crista dentata denticulate along entire margin, becoming finest distally.

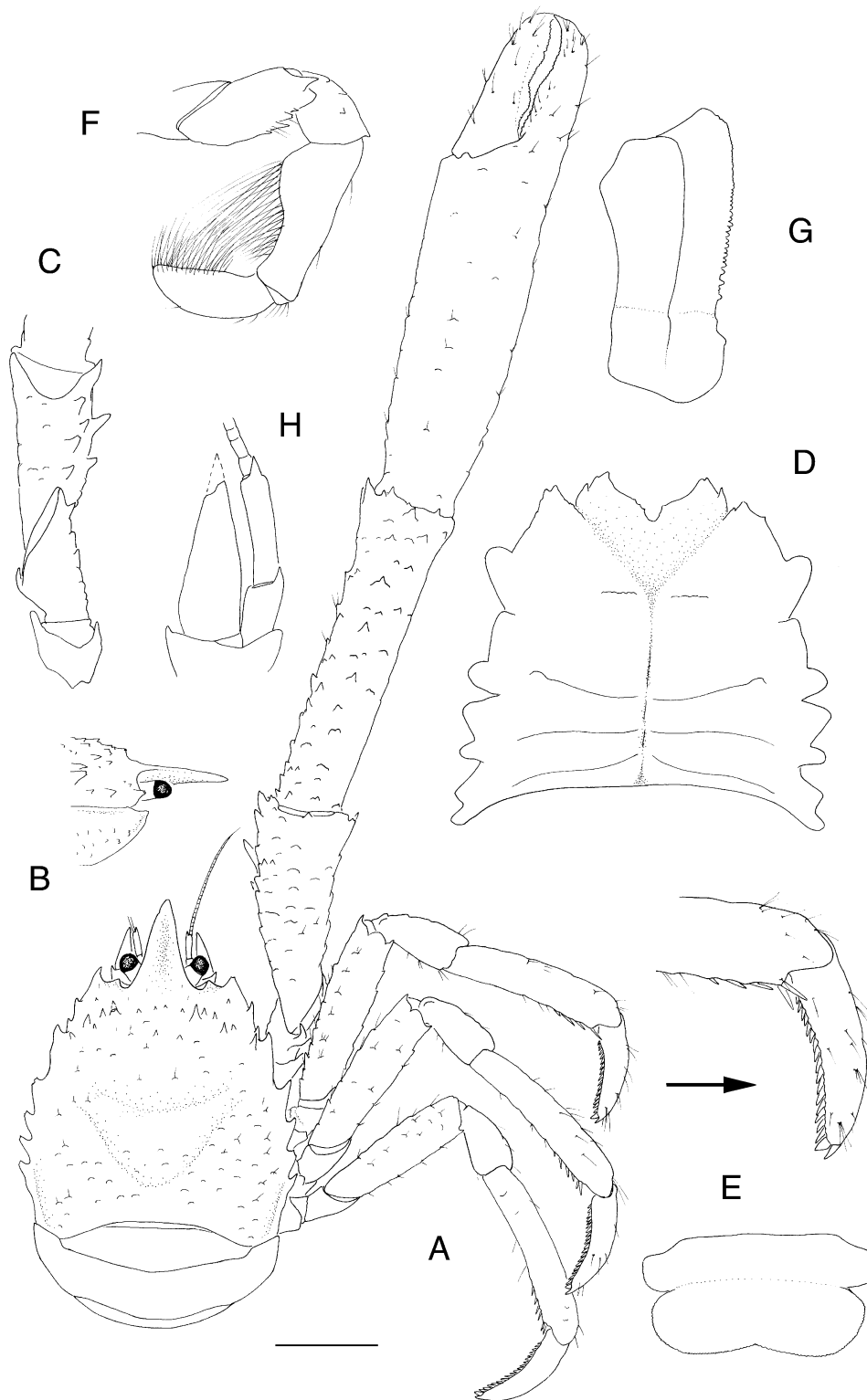
Pereopod 1 (cheliped): Sparsely setose; about 3.5 times carapace length. Propodus with irregular, setose scales; palm 3 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins dentate and each with low process proximally. Carpus and merus covered with setose scales or small spines; with larger spinules on distal margin. Inner margin of merus with 2 rows of stout spines. Ischium with slender distolateral spine.

Pereopods 2–4: Similar, slightly decreasing in length posteriorly. Meri and carpi with setose scales. Meri with upper and distal flexor spine on pereopods 2–3. Propodi about 2.5 times length of carpus, not broadened distally, with 5–7 movable spines on distal flexor margin, distalmost paired. Dactyli exceeding half propodus length; with 16–20 small, closely spaced, obliquely directed corneous spines, penultimate markedly broader than others.

Ovum: 1.4 mm diameter.

Etymology. Named *cardus*, from the Latin meaning ‘thistle’, alluding to the rugose or spiny dorsal and lateral surfaces of the carapace and chelae of the species.

FIGURE 7. *Uroptychus cardus* n. sp., holotype female, 15.9 mm NMV J44744. A, dorsum. B, anterior carapace, right lateral. C, cheliped right proximal ventral. D, sternum. E, telson. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. A–C = 5 mm, D–F = 2.5 mm, G–H = 1.3 mm.



Remarks. *Uroptychus cardus* n. sp. closely resembles *U. dentatus* Balss, 1913, described from Indonesia, and *U. occultispinatus* Baba, 1988, from Japan and the Philippines. The new species differs from *U. occultispinatus* in having a transverse field of strong spines across the gastric region of the carapace, in bearing 2 or 3 spines on the flexor margin of the merus of the third maxilliped in addition to the distal extensor and distal flexor spines, and in having 5–7 instead of 1 movable spines on distal flexor margin of the propodi of the walking legs. *Uroptychus cardus* differs from *U. dentatus* in having a transverse field of spines across the gastric region of the carapace, and in bearing spines on the carpus and merus of the third maxilliped. In contrast to *U. cardus*, *U. dentatus* bears a row of small tubercles or granules on the gastric region of the carapace and lacks spines on the carpus and merus of the third maxilliped (Baba 1990).

Uroptychus cardus differs from all other Australian congeners that have marginal carapace spines in having a rugose, tuberculate dorsum and in the higher number of spines lining the flexor margins of the dactyli of pereopods 2–4 (16–20 vs. 6–11). *Uroptychus cardus* was listed by Poore *et al.* (1998) as “*Uroptychus* sp. MoV2676”, one of numerous decapods collected from the seamounts off southeastern Tasmania by the RV *Southern Surveyor* in 1997.

Distribution. Known only from “J1” Seamount, southern Tasmania at 987–1200 m depth.

Uroptychus empheres n. sp. (Fig. 8)

Uroptychus australis.—Poore, Hart, Taylor & Tudge, 1998: 69 [part, not *U. australis* (Henderson, 1885)].

Type material. HOLOTYPE: NMV J52864, male (14.4 mm), “Andys” Seamount, Tasmania, 65.5 km SSE of SE Cape, 44°10.8’S, 147°00.0’E, 800 m, epibenthic sled, SS01/97/56, T. Stranks *et al.*, 29 Jan 1997. PARATYPES: NMV J52863, 3 males (14.1–16.5), 8 females (10.4–14.2 mm), type locality.

Diagnosis. Carapace excluding rostrum distinctly longer than broad; irregularly tuberculate behind base of cervical groove; without posterolateral ridge; anterolateral spine small. Rostrum sharply triangular. Outer orbital spine extending to level of anterolateral spine. Dorsum smooth, occasionally with pair of low epigastric scales. Sternite 3 strongly depressed, anterior margin narrow, deeply emarginate, with pair of median spines. Sternite 4 surface granulate. Basal antennal segment with lateral spine. Ultimate and penultimate segments of antennal peduncle unarmed; ultimate segment slightly exceeding twice length of penultimate segment. Antennal scale slightly shorter than to slightly longer than ultimate peduncle segment. Cheliped with inner and ventral margin of propodal palm, carpus and merus granular. Pereopod 2–4 propodus with distalmost movable flexor spines paired; dactyli with 7–10 obliquely directed spines on flexor margin. Pereopod 4 markedly shorter than pereopod 3; length of pereopod 4 merus about half that of pereopod 3.

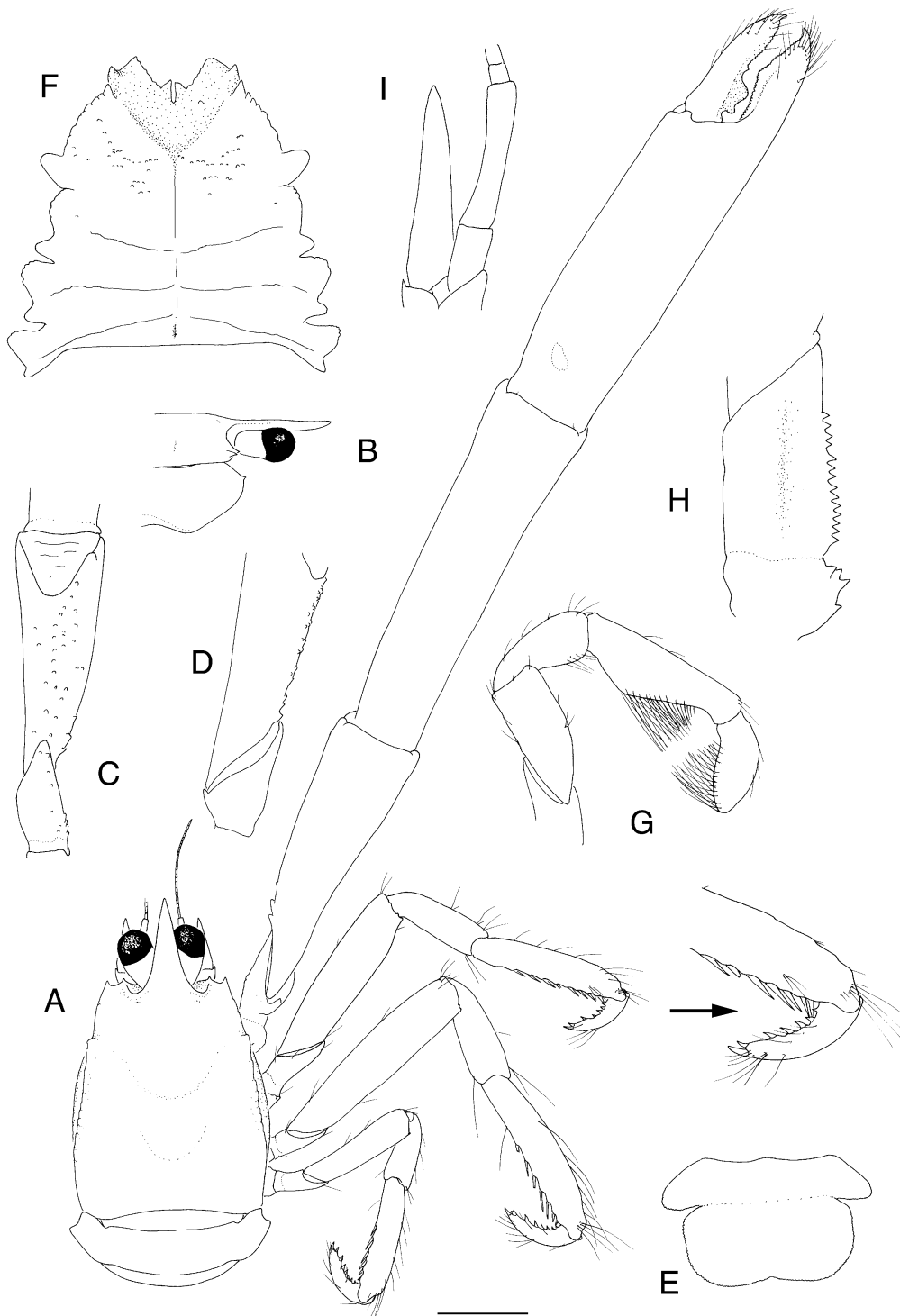


FIGURE 8. *Uroptychus empheres* n. sp., holotype male, 14.5 mm, NMV J52864. A, dorsum. B, anterior carapace, right lateral. C, cheliped, proximal right ventral. D, proximal right lateral. E, telson. F, sternum. G, maxilliped 3, right lateral. H, crista dentata, right. I, antenna, right ventral. Scale A–D = 4 mm, E–G = 2 mm, H–I = 1 mm.

Description. *Carapace:* Length (excluding rostrum) distinctly greater than breadth. Lateral margins slightly divergent, irregularly rugose behind base of cervical groove; without posterolateral ridge. Rostrum sharply triangular, exceeding one-third length of remaining carapace, margins unarmed; dorsum horizontal, apex faintly deflected dorsally. Anterolateral spine small; outer orbital angle produced to small acute spine extending to level of anterolateral spine. Dorsum smooth and unarmed, sparsely punctate, non-setose; occasionally with pair of low epigastric scales composed of transverse row of 3 or 4 minute granules. Pterygostomian flap with small anterior spine.

Sternum: Plastron broader than long, widening posteriorly. Sternite 3 (at base of maxilliped 3) strongly depressed, anterior margin narrow, deeply emarginate, with pair of median spines; outer lobes of emargination obtusely angled. Sternite 4 (at base of pereopod 1) with distinct anterolateral tooth extending anteriorly to level of base of emargination of sternite 3; surface granular; margins tuberculate, irregular.

Abdomen: Segments glabrous. Telson about two-thirds as long as broad; distal portion posteriorly emarginate, about twice length of proximal portion.

Eye: Cornea moderately dilated, subequal to length of peduncle; reaching to distal quarter of rostrum.

Antenna: Basal segment with distinct outer spine. Peduncle extending slightly beyond cornea. Flagellum about twice as long as peduncle. Ultimate and penultimate segments unarmed; ultimate segment about twice length of penultimate segment. Antennal scale slightly wider than opposite peduncular segments, slightly shorter to slightly longer than peduncle.

Maxilliped 3: Dactylus, propodus, carpus and merus unarmed. Crista dentata distinctly serrate on proximal two-thirds of ischium, extending onto basis.

Pereopod 1 (cheliped): Slender, cylindrical, about 3.5–4.0 times carapace length; chelae of adult females and juveniles usually slightly more slender than in adult males; segments glabrous dorsally and sparsely setose distally. Propodus with palm about 4 times as long as high, about 2.5 times as long as pollex. Fingers crossing, occlusal margins finely dentate; occlusal margin of dactylus with obtuse process proximally; occlusal margin of pollex with low prominence at about midlength. Carpus longer than merus and as long as propodal palm; glabrous. Inner and ventral margin of propodal palm, carpus and merus granular. Ischium with triangular spine on outer margin.

Pereopods 2–4: Sparsely setose. Meri dorsal margin proximally irregular. Propodi not broadened distally, with 6–10 movable spines on distal flexor margin, distalmost paired. Dactyli setose marginally, with 7–10 fixed, triangular spines on flexor margin, oriented oblique to dactylar margin.

Pereopods 2–3 similar, carpus about 0.5 merus length, about 0.6 propodus length. Pereopod 3 slightly longer than pereopod 2. Pereopod 4 markedly shorter than pereopod 3; length of pereopod 4 merus about half that of pereopod 3.

Ovum: 1.4–1.5 mm diameter.

Etymology. From the Greek, *empheres*, meaning ‘resembling’ or ‘like’ in reference to the strong resemblance of the present species with *U. comptus* Baba.

Remarks. *Uroptychus empheres* n. sp. closely resembles *U. comptus* Baba, 1988, from Borneo, but differs in subtle but consistent features: the carapace dorsum is glabrous, without any trace of tuberculation (except for the paired epigastric scales in some specimens); the posterolateral margin of the carapace does not bear a low ridge; the basal antennal segment bears a distinct outer spine instead of being only moderately produced as in *U. comptus*. *Uroptychus empheres* also resembles *U. nigricapillis* Alcock, 1901, described from the Andaman Sea, in most features including the spination of the dactyli of the walking legs, and form of the sternal plastron. *Uroptychus nigricapillis* differs from *U. empheres*, however, in having several small spines along the lateral margins of the carapace, epigastric spines on the carapace, singular instead of paired distal movable spines on the propodi of the walking legs and in having a shorter antennal scale that does not overreach the peduncle.

As in *U. australis*, the merus of pereopod 4 in *U. empheres* is about half the length of the merus of pereopod 3. Unfortunately, the relative lengths of the walking legs of *U. comptus* were not mentioned in the type description. The proportions of walking legs of the holotype, however, were kindly checked for us by Rafael Lemaitre (National Museum of Natural History, Smithsonian Institution) and found to agree with that of *U. empheres* and *U. australis*.

Sexual dimorphism in *U. empheres* is slight, being evident only in the slightly more robust chelae of males. Of the local species, *U. empheres* could be confused with *U. australis* and *U. gracilimanus*, but differs from both in bearing a field of granules on sternite 4. Part of the material reported by Poore *et al.* (1998) from the Tasmanian seamounts as *U. australis* is referable to *U. empheres*.

Distribution. Southern Ocean off southeastern Tasmania at 800 m depth.

Uroptychus flindersi n. sp. (Fig. 9)

Type material. HOLOTYPE: SAM C6071, ovigerous female (10.9 mm), 47 km W of Richardson Point, Tasmania, 41°14'S, 144°07'E, 520 m, demersal trawl, stn 45, FV *Soela*, W. Zeidler, 19 Oct 1984. PARATYPES: NMV J23880, 1 male (10.0 mm), off NW Tasmania, 41°32.30'S, 144°22.20'E, 556 m, trawl, S01/85/23, 29 Jan 1985; SAM C6068–6069, 1 male (8.5 mm), 2 ovigerous females (8.6–10.9 mm), 46 km W of Richardson Point, Tasmania, 500 m, demersal trawl, stn 51, FV *Soela*, W. Zeidler, 20 Oct 1984; SAM C6070, 1 male (11.6 mm), 167 km E of Cape Arid, Western Australia, 34°09'S, 124°55'E, 620–714 m, trawled, stn 12, FV *Adelaide Pearl*, K. Gowlett-Holmes *et al.*, 30 Jul 1988.

Diagnosis. Carapace excluding rostrum distinctly longer than broad; lateral margins with anterolateral spine and distinct, bifid spine at base of cervical groove followed by 7 or 8 small teeth or serrations. Rostrum sharply triangular, less than half as long as remaining

carapace. Dorsum unarmed except for cluster of minute spinules above lateral bifid spine. Sternite 3 strongly depressed, anterior margin narrow, with pair of median spines. Eye-stalks reaching beyond midlength of rostrum. Antennal basal segment with acute tooth on outer margin; ultimate peduncle segment with small distal spine; penultimate segment unarmed. Antennal scale extending to apex of ultimate peduncle segment. Merus of the third maxilliped with distolateral spine. Pereopods 2–4 propodus not broadened distally, with 9–11 movable spines on flexor margin, distalmost paired; dactylus with 9 or 10 triangular, obliquely directed, corneous teeth on flexor margin.

Description. *Carapace:* Length (excluding rostrum) distinctly greater than breadth. Lateral margins subparallel; with strong anteriorly directed anterolateral spine and distinct, bifid spine at base of cervical groove followed by 7 or 8 small teeth or serrations. Rostrum sharply triangular, less than half as long as remaining carapace, margins unarmed. Outer orbital angle produced to small acute spine extending about to level of anterolateral spines. Dorsum smooth and unarmed except for cluster of minute spinules above lateral bifid spine; rostrum with broad, shallow concavity; posterior quarter with shallow lateral ridge. Pterygostomian flap with small anterior spine.

Sternum: Plastron about as long as broad, widening posteriorly. Sternite 3 (at base of maxilliped 3) strongly depressed, anterior margin narrow, with pair of median spines; outer lobes of emargination rounded, with short tooth on outer basal margin. Sternite 4 (at base of pereopod 1) with distinct anterolateral tooth extending anteriorly to level of base of emargination of sternite 3; margins irregular.

Abdomen: Segments glabrous. Telson length exceeding half breadth; distal portion posteriorly emarginate, about 1.8 times length of proximal portion.

Eye: Cornea moderately dilated, about half-length of peduncle; reaching beyond midlength of rostrum.

Antenna: Basal segment with acute tooth on outer margin. Peduncle extending to distal quarter of rostrum. Flagellum about twice as long as peduncle. Ultimate segment about 3 times length of penultimate segment; with small distal spine. Penultimate segment unarmed. Antennal scale wider than opposite peduncular segments, extending to apex of ultimate peduncle segment

Maxilliped 3: Carpus and merus with small distal tooth of extensor margin. Crista dentata distinctly and evenly serrate, extending onto basis.

Pereopod 1 (cheliped): About 3.5 times carapace length; segments glabrous dorsally and sparsely setose. Propodus with scales; palm about 3 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins dentate and each with obtuse process proximally. Carpus longer than merus and as long as propodal palm. Carpus, merus and ischium rugose ventrally, with distinct scales. Ischium with large distolateral spine.

Pereopods 2–4: Sparsely setose, similar, slightly decreasing in length posteriorly. Meri with spinose distal margins. Carpi about two-thirds propodi lengths; that of pereopods 2–3 with small distal spines on extensor margin; that of pereopod 4 unarmed. Propodi not

broadened distally, with 9–11 movable spines on flexor margin, distalmost paired. Dactyli with 9 or 10 fixed, triangular, obliquely directed, corneous teeth on flexor margin.

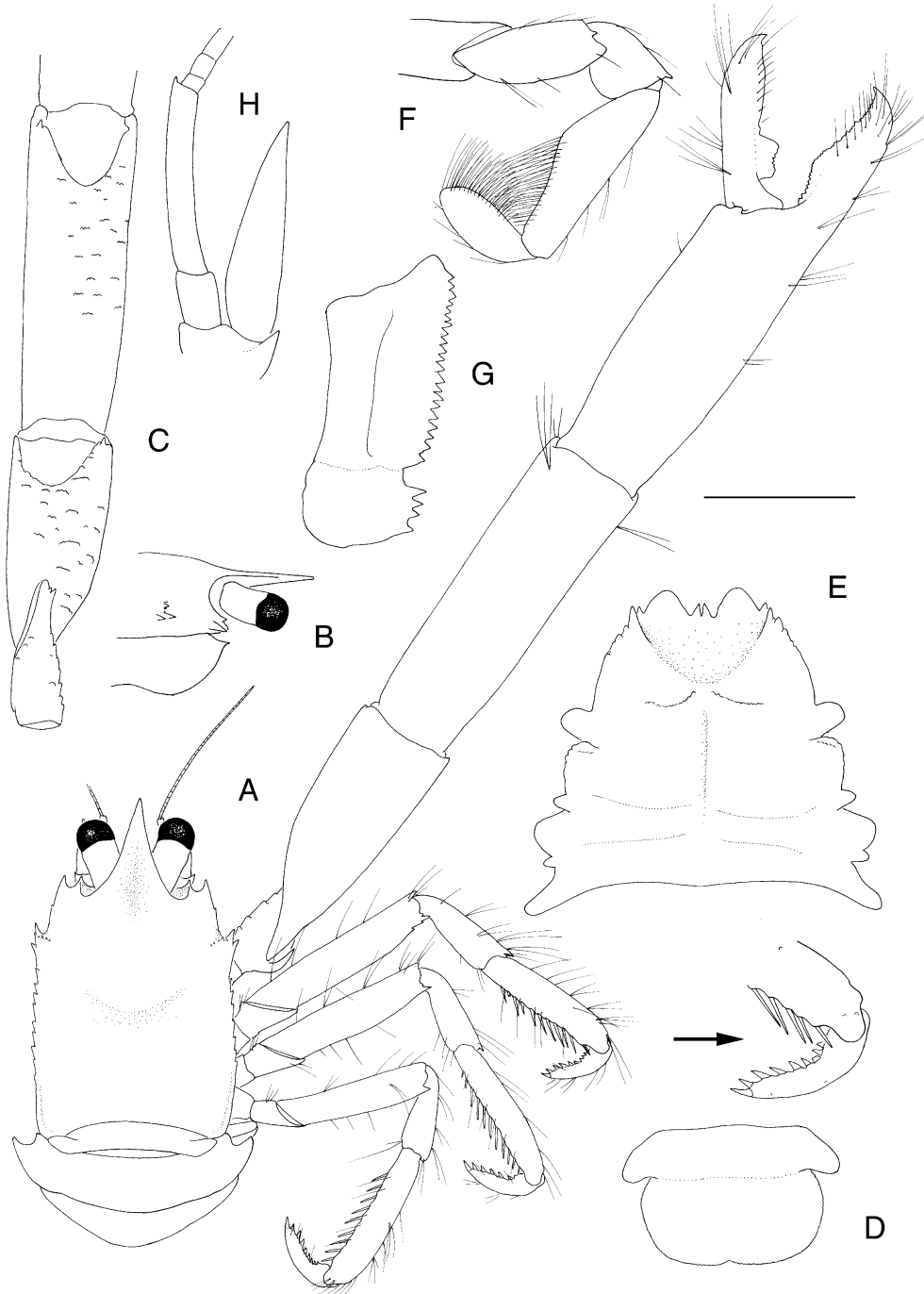


FIGURE 9. *Uroptychus flindersi* n. sp., holotype female, 10.9 mm, SAM C6071. A, dorsum. B, anterior carapace, right lateral. C, cheliped right proximal ventral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, left ventral. A–C = 5 mm, D–F = 2.5 mm, G–H = 1.3 mm.

Ovum: 1.5 mm diameter.

Etymology. Named after the English explorer, Matthew Flinders (1774–1814), the first to circumnavigate Australia, and after whom the Flindersian biogeographic subprovince (Knox 1963, Womersley 1990) was named. The distribution of *U. flindersi* generally corresponds to the Flindersian subprovince.

Remarks. *Uroptychus flindersi* n. sp. most closely resembles *U. sibogae* Van Dam, 1933, from Indonesia and *U. longiocularis* Baba, 1990, from Madagascar in having elongate eyestalks, the relatively broad and dorsally excavate rostrum, laterally spinose carapace and the arrangement of dactylar spines on the walking legs. The new species resembles *U. longiocularis* and differs from *U. sibogae* in the following: the postorbital carapace length is distinctly longer than instead of about as long as wide; the merus of the third maxilliped bears a distolateral spine; the notch between the anterior submedian spines of the third sternite is distinctly shallower; the eyes do not reach the apex of the rostrum; the basal antennal segment bears an acute outer tooth; and the ultimate segment of the antennal peduncle bears a distal spine. *Uroptychus flindersi* resembles *U. sibogae* and differs from *U. longiocularis* in the following features: the merus of the first walking leg is shorter than instead of longer than the postorbital carapace length; and the spination of the lateral margin of carapace in the posterior portion is less pronounced. *Uroptychus flindersi* differs from both *U. longiocularis* and *U. sibogae* in having scales and tubercles on the ventral surface of the carpus and merus of the cheliped, and in having a bifid instead of single lateral carapace spine at the base of the cervical groove.

Distribution. Northwestern Tasmania and the vicinity of Cape Arid, Western Australia, at 520–714 m depth.

Uroptychus gracilimanus (Henderson, 1885) (Fig. 10)

Diptychus gracilimanus Henderson, 1885: 420 [type locality: off Port Jackson, New South Wales, Australia].

Uroptychus gracilimanus.— Henderson, 1888: 181, pl. 21: fig. 5.— Tirmizi, 1964: 392, figs. 6–9.— Baba, 1969: 45, figs. 3,4; 1988: 19, 35–36; 1990: 924, 941–943, figs. 8a, b.— Davie, 2002: 31.

Material examined. NEW SOUTH WALES: AM P64924, 4 males (7.8–12.1 mm), 8 females (7.9–11.9 mm), off Newcastle, 1040–1075 m, NZOI Y222, RV *Tangaroa*, R. Sprin thorpe & W. Ponder, 9 Oct 1982; AM P67833, 2 males (10.9–12.1 mm), 6 females (9.3–11.4 mm), off Newcastle, 32°49.3'S, 152°49.1'E, 951–1150 m, NZOI U223, RV *Tangaroa*, R. Sprin thorpe & W. Ponder, 10 Oct 1982; AM P31511, 1 female (7.5 mm), E of Norah Head, 33°26'S, 152°06'E, 458–476 m, K80-20-06, 9 Dec 1980; AM P65824, 1 male (8.3 mm), 1 female (8.1 mm), E of Broken Bay, 33°31–34'S, 152°02–04'E, 915 m, K77-23-07, 6 Dec 1977; AM P65825, 1 female (9.4 mm), E of Port Jackson, 33°52'S, 151°50'E, 778 m, K72-07-15, 7 Dec 1972; NMV J52353(part), 2 females (9.8–11.6 mm),

56 km ENE of Nowra, 34°43.95–43.98'S, 151°14.74–14.28'E, 1009–817 m, SLOPE 58, 3.5 m beam trawl, G. Poore *et al.*, 22 Oct 1988; AM P65627, 1 female (11.8 mm), E of Shoalhaven Bight, 34°54–56'S, 151°15–17'E, 1115–1152 m, K83-18-02, 30 Nov 1983; NMV J17055(part), 1 male (12.2 mm), 2 ovigerous females (11.5–12.2 mm), off Nowra, 35°00.00'S, 151°16.30'E, 1100 m, SLOPE 9, 5 m otter trawl, M. Gomon *et al.*, 15 Jul 1986; AM P67837, 2 males (7.5–12.0 mm), 1 ovigerous female (11.0 mm), E of Ulladulla, 35°27'S, 150°55'E, 987–1025 m, K83-14-02, 25 Oct 1983.

VICTORIA: NMV J17060, 1 male (10.7 mm), 1 ovigerous female (9.9 mm), 63 km S of Point Hicks, Bass Strait, 38°22.66'S, 149°18.41'E, 1073 m, 3.5 m beam trawl, SLOPE 68, G. Poore *et al.*, 25 Oct 1988; NMV J52350, 1 male (9.5 mm), 2 ovigerous females (8.0–9.2 mm), 63 km S of Point Hicks, Bass Strait, 38°22.66'S, 149°18.41'E, 1073 m, 3.5 m beam trawl, SLOPE 68, G. Poore *et al.*, 25 Oct 1988.

TASMANIA: NMV J52351, 1 male (8.1 mm), 48 km ENE of Cape Tourville, SLOPE 81, G. Poore *et al.*; SAM, 1 ovigerous female (11.0 mm), 67 km SSE of Southeast Cape, 44°11.9'S, 147°04.7'E, 1025–1116 m, trawl, FV *Corvina*, K. Gowlett-Holmes, 8 Feb 1992; AM P64988, 1 female (11.1 mm), off St. Patricks Head, 41°37.3–39.8'S, 148°41.4–40.5'E, 940–990 m, S05/87/06, K. Graham, 11 Jul 1987.

Diagnosis. Carapace excluding rostrum distinctly longer than broad; lateral margins subparallel or slightly divergent, unarmed; with small anterolateral spine; posterior quarter with low but distinct ridge; outer orbital angle produced to small spine; dorsum smooth and unarmed, except for pair of small epigastric spines or tubercles. Rostrum sharply triangular. Sternite 3 strongly depressed, anterior margin shallowly emarginate, with narrow U-shaped notch and pair of median spines. Antennal basal segment with distinct outer spine; ultimate and penultimate segments unarmed. Antennal scale extending to or beyond midlength but not beyond distal two-thirds of ultimate peduncle segment. Cheliped merus with tubercles on inner proximal margin. Pereopods 2–4 propodi not broadened distally, with 6–8 movable spines on lower distal margin, none paired; dactyli flexor margin with 9–11 obliquely directed spines. Pereopod 4 distinctly shorter than pereopod 3; length of pereopod 4 merus 0.7–0.8 that of pereopod 3.

Description. *Carapace:* Length (excluding rostrum) distinctly greater than breadth. Lateral margins subparallel or slightly divergent, unarmed except for small tubercle at base of cervical groove in larger specimens; with small, anteriorly directed anterolateral spine; posterior quarter with low but distinct ridge. Rostrum sharply triangular, exceeding one-third length of remaining carapace, margins unarmed. Outer orbital angle produced to small spine extending slightly beyond level of anterolateral spines. Dorsum smooth and unarmed, except for pair of small epigastric spines or tubercles. Pterygostomial flap with small anterior spine.

Sternum: Plastron about as broad as long, widening posteriorly. Sternite 3 (at base of maxilliped 3) strongly depressed, anterior margin shallowly emarginate, with narrow U-shaped notch and pair of median spines; outer lobes of emargination obtusely angled with

short outer projection. Sternite 4 (at base of pereopod 1) with anterolateral tooth not extending anteriorly beyond level of base of median notch; margins tuberculate, irregular; surface with transverse row of tubercles.

Abdomen: Segments glabrous. Telson about two-thirds as long as broad; distal portion posteriorly emarginate, about twice length of proximal portion.

Eye: Cornea moderately dilated, subequal to length of peduncle; reaching to distal quarter of rostrum.

Antenna: Basal segment with distinct outer spine. Peduncle extending to distal third of rostrum. Flagellum about twice as long as peduncle. Ultimate and penultimate segments unarmed; ultimate segment about 2 times length of penultimate segment. Antennal scale wider than opposite peduncular segments, extending to or beyond midlength but not beyond distal two-thirds of ultimate peduncle segment.

Maxilliped 3: Dactylus, propodus, carpus and merus unarmed. Crista dentata distinctly serrate on proximal two-thirds of ischium, extending onto basis.

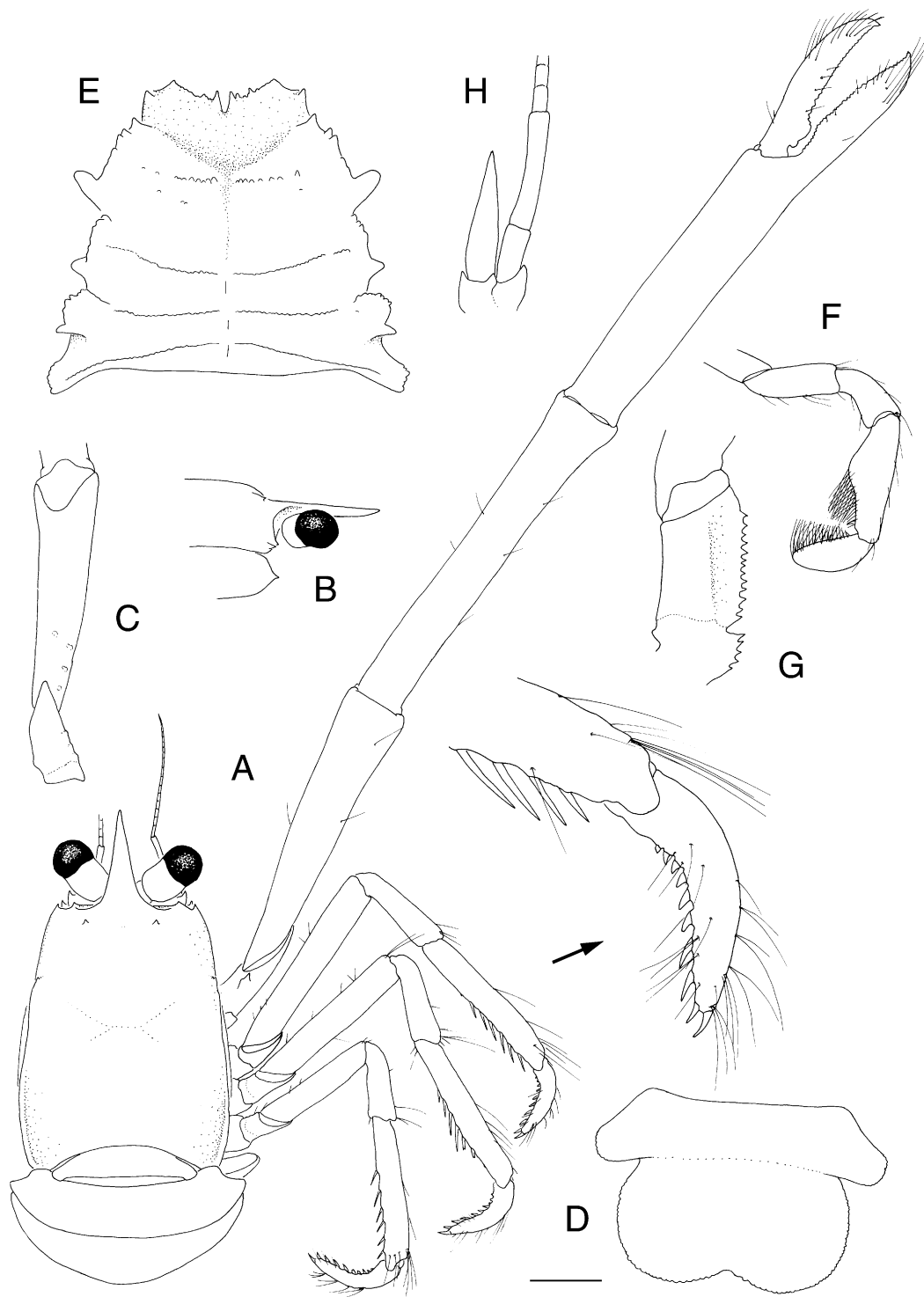
Pereopod 1 (cheliped): Slender, cylindrical, 3.5–4.0 times carapace length; chelae of females and juveniles usually more slender than in adult males; segments glabrous dorsally and sparsely setose distally. Propodus palm about 3 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins finely dentate and each; occlusal margin of dactylus with obtuse process proximally; occlusal margin of pollex with low prominence at about midlength. Carpus longer than merus and as long as propodal palm; glabrous. Merus with distinct tubercles on inner proximal margin, less pronounced in juveniles. Ischium with triangular spine on outer margin.

Pereopods 2–4: Sparsely setose. Meri and carpi with smooth margins. Propodi not broadened distally; with smooth extensor margin; with 6–8 movable spines on distal flexor margin, none paired. Dactyli setose marginally, with 9–11 fixed, obliquely directed spines on flexor margin. Pereopods 2–3 carpus about 0.5 merus length, about 0.6 propodus length. Pereopod 2 slightly longer than pereopod 3. Pereopod 4 distinctly shorter than pereopod 3; length of pereopod 4 merus 0.7–0.8 that of pereopod 3.

Ovum: 1.8 mm diameter.

Remarks. *Uroptychus gracilimanus* (Henderson, 1885) is most similar to *U. australis* (Henderson, 1885) and *U. comptus* Baba, 1988. Characters distinguishing the three species are outlined under the account of *U. australis*. *Uroptychus gracilimanus* also resembles *U. nigricapillis* in general habitus including the armature and proportions of the antennal peduncle, antennal scale, walking legs and sternal plastron. *Uroptychus nigricapillis* is readily distinguished from *U. gracilimanus*, however, by the presence of several small spines along the lateral carapace margins.

FIGURE 10. *Uroptychus gracilimanus* (Henderson, 1885), female, 9.4 mm, off Port Jackson, AM P65825. A, dorsum. B, anterior carapace, right lateral. C, cheliped, proximal right ventral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. A–C, F = 2 mm, D–E, G–H = 1 mm.



The slenderness of the chelae of *U. gracilimanus*, the basis for its specific name, is sexually dimorphic as in *U. australis*, being more robust in adult males. The tubercles on the inner proximal margin of the chelae are also most distinct in adult males. Although not mentioned by Henderson (1885, 1888), a pair of small epigastric spines or tubercles is present on the carapace in *U. gracilimanus*. *Uroptychus gracilimanus* has not been adequately described or figured. Therefore, the species is redescribed above and a specimen from the type locality, off Port Jackson (AM P65825), is illustrated in Figure 10.

Distribution. East Africa, Indonesia, the East China Sea, Japan, eastern Australia and now Tasmania at depths of 421–1668 m.

***Uroptychus hesperius* n. sp. (Fig. 11)**

Type material. HOLOTYPE: SAM C6083, female (11.5 mm), 231 km E of Cape Arid, Western Australia, 34°03'S, 125°31'E, 1011–1020 m, trawled, stn 15, K. Gowlett-Holmes *et al.*, 31 Jul 1988.

Diagnosis. Carapace excluding rostrum broader than long; lateral margins serrated, convex, divergent, broadest posterior to midlength; with strong anteriorly directed anterolateral spine; outer orbital angle rounded; dorsum finely setose; sparsely granulate proximally. Rostrum triangular, about two-thirds remaining carapace length. Sternite 3 depressed, anterior margin deeply concave with short, U-shaped median notch. Ultimate and penultimate segments of antennal peduncle with distal spine. Antennal scale extending to apex of ultimate segment of peduncle. Cheliped propodal palm about about 3 times as long as pollex. Pereopods 2–4 merus with spinous extensor and flexor margins; propodus distinctly broadened distally, bearing 7–9 movable spines on distal flexor margin, distal-most paired; dactylus with 8 or 9 slender, corneous, obliquely directed spines on flexor margin.

Description. *Carapace:* Breadth greater than length (excluding rostrum). Lateral margins serrated, convex, divergent, broadest posterior to midlength; with strong anteriorly directed anterolateral spine. Rostrum triangular, about two-thirds remaining carapace length; lateral margins with 2 spinules. Outer orbital angle rounded. Dorsum finely setose; sparsely granulate proximally; lateral margins sparsely setose. Pterygostomian flap with strong anterior spine and small spinules on upper proximal surface.

Sternum: Plastron broader than long, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) depressed, anterior margin deeply concave with short, U-shaped median notch, anterolateral angle acute, outer margin irregular and tuberculate. Sternite 4 (at base of pereopod 1) with anterolateral margins acute and serrated, not produced anteriorly beyond outer base of sternite 3.

Abdomen: Segments finely setose. Telson about half as long as broad; distal portion posteriorly emarginate, about 1.5 times length of proximal portion.

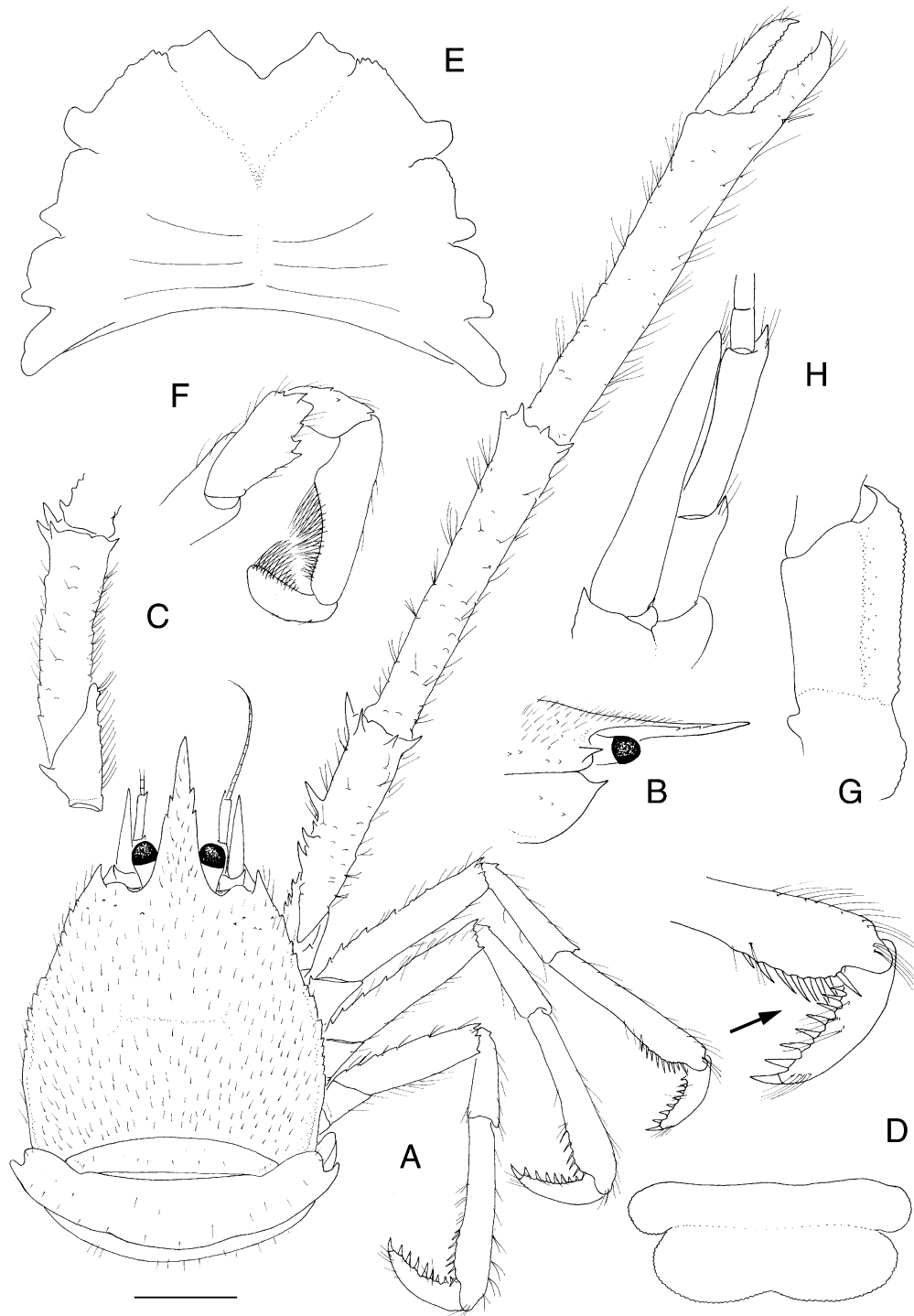


FIGURE 11. *Uroptychus hesperius* n. sp., holotype female, 11.5 mm, SAM C6083. A, dorsum. B, anterior carapace, right lateral. C, cheliped merus, proximal right lateral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–C = 3 mm, D–F = 1.5 mm, G–H = 0.8 mm.

Eye: Cornea not dilated, about one-third length of peduncle; not extending beyond proximal third of rostrum.

Antenna: Ultimate segment of peduncle about twice as long as penultimate segment, both with distal spine. Antennal scale about as wide as penultimate peduncular segment, extending to apex of ultimate segment of peduncle.

Maxilliped 3: Dactylus and propodus unarmed. Carpus with small distal and 2 small proximal spines on extensor margin. Merus with 2 distal spines and 3 or 4 spines on distal flexor margin. Ischium with crista dentata finely and evenly denticulate along entire length of ischium, not extending onto basis.

Pereopod 1 (cheliped): Slender, cylindrical, more than 2.5 times carapace length; all segments rugose and sparsely setose. Propodus with palm about 6 times as long as high, about 3 times as long as pollex. Fingers crossing, occlusal margins dentate and each with low process proximally. Carpus longer than merus, as long as palm, upper distal margin spinose. Merus distal and inner margin spinous; dorsal margin lacking spines. Ischium with serrated inner and spinous outer distal margin.

Pereopods 2–4: Sparsely setose, similar, decreasing in length posteriorly. Meri with spinous extensor and flexor margins. Carpi about 0.6 merus length and 0.6 propodus length. Propodi distinctly broadened distally, bearing 7–9 movable spines on distal flexor margin, distalmost paired. Dactyli with 8 or 9 fixed, slender, corneous, obliquely directed spines on flexor margin.

Ovum: 1.5 mm diameter.

Etymology. From the Latin, *hesperius*, meaning ‘western’, alluding to the Western Australian type locality.

Remarks. *Uroptychus hesperius* n. sp. closely resembles *U. xipholepis* Van Dam, 1933 from Indonesia, *U. hamatus* Zarenkov & Khodina, 1981 from the Marcus-Necker Rise, and *U. subsolanus* n. sp. in carapace shape, the serrated or spinous carapace margins and in the distally broadened propodus margins on the first three walking legs. *Uroptychus hesperius* differs from each of the aforementioned species in having a rounded instead of spinous outer orbital margin, in bearing fine setae on the dorsum of the carapace and abdomen, in having spines on the extensor margin of the merus of the walking legs and in having the fingers of the chelae almost one third instead of about one half the palm length. *Uroptychus hesperius* also resembles *U. edisonicus* Baba & Williams, 1998 from the Bismark Archipelago, in carapace shape and in the broadened propodi of the walking legs. *Uroptychus edisonicus* differs from *U. hesperius* in having spinular instead of rounded outer orbital angles, smooth instead of serrated carapace margins, and in lacking terminal spines on the distal two segments of the antennal peduncle.

Distribution. Known only from the type locality: 231 km east of Cape Arid, Western Australia at 1011–1020 m depth.

***Uroptychus laperousazi* n. sp. (Fig. 12)**

Type material. HOLOTYPE: SAM C6084, ovigerous female (8.4 mm), 231 km S of Eucla, Great Australian Bight, South Australia, 33°45'S, 129°17'E, 999–1110 m, Stn 28, FV *Adelaide Pearl*, K. Gowlett-Holmes, 1 Aug 1988. PARATYPES: SAM C6085, 1 male (10.9 mm), type locality; SAM C6073, 9 males (6.8–10.1 mm), 13 females (5.5–10.0 mm), 222 km S of Eucla, Great Australian Bight, South Australia, 33°39'S, 129°50'E, 984–1015 m, from black coral, FV *Longva*, K. Gowlett-Holmes, 12 Dec 1989.

Diagnosis. Carapace excluding rostrum distinctly broader than long; lateral margins slightly crenulate, distinctly convex, broadest posterior to midlength; with short, anteriorly directed anterolateral spine. Rostrum triangular, about half length of remaining carapace. Outer orbital angle produced to small tooth, not extending anteriorly beyond anterolateral spine. Dorsum unarmed. Sternite 3 not depressed, anterior margin with deep V-shaped emargination. Basal antennal segment without outer spine; ultimate and penultimate segments armed; antennal scale extending almost to apex of ultimate peduncle segment. Pereopods 2–4 similar; propodi not broadened distally, with 8 or 9 movable spines on distal flexor margin, distalmost paired; dactyli lined with 6–9 triangular, obliquely directed teeth on flexor margin.

Description. *Carapace:* Breadth exceeding length (excluding rostrum). Lateral margins slightly crenulate, distinctly convex, broadest posterior to midlength; with short, anteriorly directed anterolateral spine; posterior fifth with low, indistinct ridge. Rostrum triangular, apex sharp, about half length of remaining carapace, margins with 1 or 2 minute spines. Outer orbital angle produced to small tooth, not extending anteriorly beyond anterolateral spine. Dorsum minutely punctate, finely but sparsely-setose, unarmed. Pterygostomian flap with anterior spine.

Sternum: Plastron broader than long, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) not depressed, anterior margin with deep V-shaped emargination; outer lobes of emargination obtusely angled, crenulate. Sternite 4 (at base of pereopod 1) with obtuse, crenulate anterolateral margin, extending anteriorly to about midlength of emargination of sternite 3.

Abdomen: Segments minutely punctate. Telson about one-third as long as broad; distal portion posteriorly emarginate, about twice length of proximal portion.

Eye: Cornea not dilated, about one-third length of peduncle; not reaching to proximal half of rostrum.

Antenna: Basal segment without outer spine. Peduncle not reaching apex of rostrum. Flagellum about 1.5 times as long as peduncle. Ultimate and penultimate segments armed; ultimate segment about 1.5 times length of penultimate segment. Antennal scale wider than opposite peduncular segments, extending almost to apex of ultimate peduncle segment.

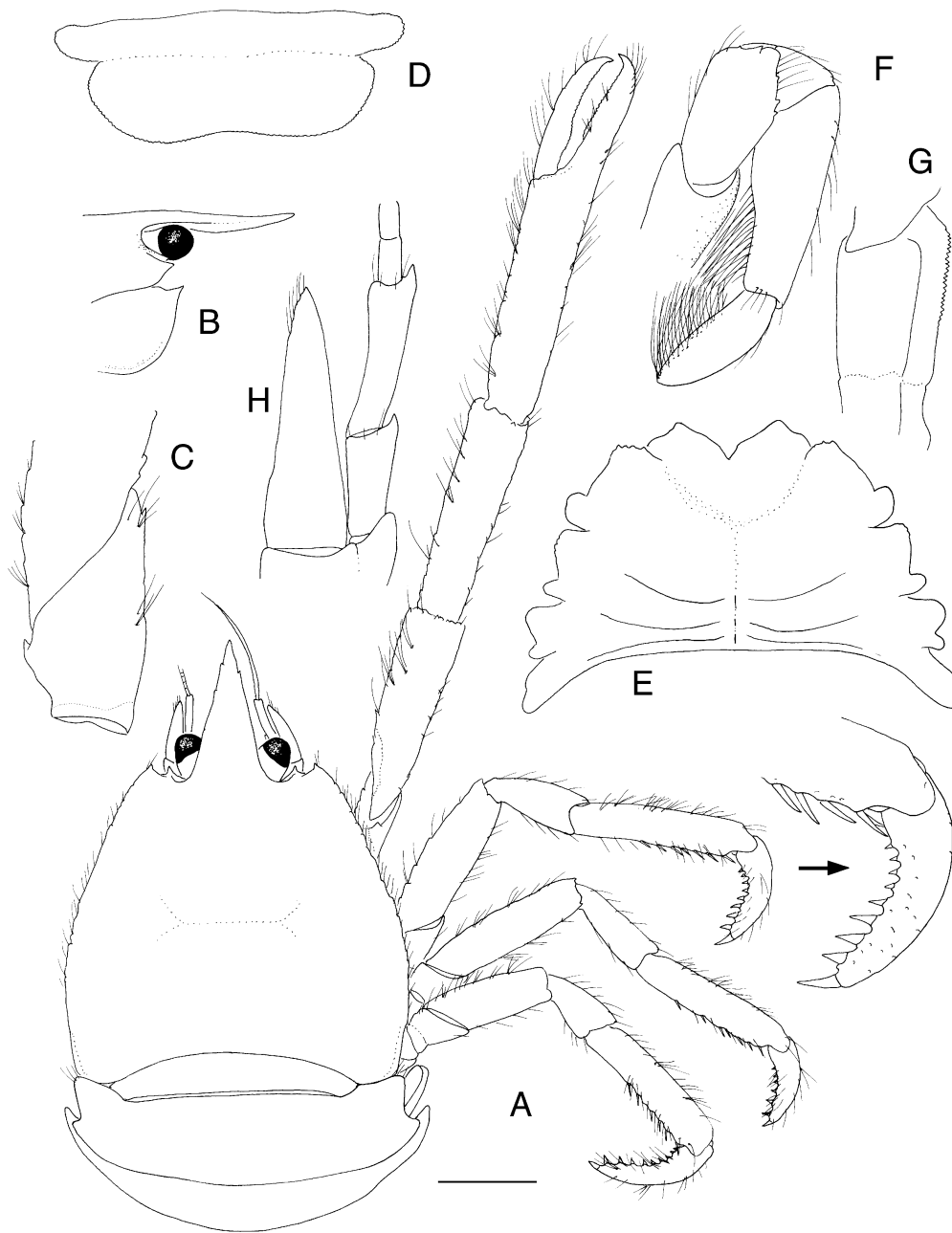


FIGURE 12. *Uroptychus laperousazi* n. sp., holotype female, 8.4 mm, SAM C6084. A, dorsum. B, anterior carapace, right lateral. C, cheliped ischium, proximal right lateral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–B = 2 mm, C–F = 1 mm, G–H = 0.5 mm.

Maxilliped 3: Dactylus and propodus unarmed. Extensor margin of carpus with small distal tubercle. Merus with 1 or 2 small spines on distal extensor margin and 2 or 3 small

spines on distal flexor margin. Crista dentata finely serrate for almost full length of ischium, not extending onto basis.

Pereopod 1 (cheliped): Slender, subcylindrical; about twice carapace length; setose. Propodus with palm about 3.5 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins finely dentate. Carpus slightly longer than merus and shorter than propodal palm. Merus and ischium without tubercles on inner proximal margin; ischium with small spine on outer margin.

Pereopods 2–4: Setose, becoming shorter distally; carpi and meri unarmed. Propodi not broadened distally, with 8 or 9 movable spines on distal flexor margin, distalmost paired. Dactyli lined with 6–9 triangular, obliquely directed teeth on flexor margin. Carpi of pereopods 2–3 about 0.6 merus length and 0.6 propodus length. Carpus of pereopod 4 about 0.7 merus length, about 0.5 propodus length.

Ovum: 1.3 mm diameter.

Etymology. Named after Thierry Laperousaz, South Australian Museum, Adelaide, for his hospitality during many visits to the museum.

Remarks. *Uroptychus laperousazi* n. sp. strongly resembles *U. latus* n. sp. but differs in lacking the outer spine on the basal antennal segment. *Uroptychus laperousazi* also differs from *U. latus* in having a sharp instead of rounded rostral apex, but that character should be treated with caution until further specimens become available. The apex of the rostrum is may have been damaged.

Uroptychus laperousazi and *U. latus* also resemble *U. patulus* n. sp. in the short, broad carapace and broad V-shaped anterior sternal emargination, but differ in having well spaced, upright spines, instead of short, triangular serrations on the inner margins of the dactyli of pereopods 2–4.

Distribution. Presently known only from the Great Australian Bight, south of Eucla, South Australia at 984–1110 m depth.

Uroptychus latus n. sp. (Fig. 13)

Type material. HOLOTYPE: NMV J17059, ovigerous female (9.3 mm), 63 km S of Point Hicks, Bass Strait, Victoria, 38°22.66'S, 149°18.41'E, 1073 m, 3.5 m beam trawl, SLOPE 68, G. Poore *et al.*, 25 Oct 1988.

Diagnosis. Carapace excluding rostrum distinctly broader than long; lateral margins smooth or slightly irregular, distinctly convex, broadest posterior to midlength; with short, anteriorly directed anterolateral spine; outer orbital angle produced to small tooth, not extending anteriorly beyond anterolateral spine; dorsum unarmed. Rostrum trianguloid, apex rounded, about one-third length of remaining carapace, margins unarmed. Sternite 3 not depressed, anterior margin with deep V-shaped emargination; outer lobes of emargination obtusely angled, crenulate. Basal antennal segment with outer spine; ultimate and penultimate segments armed; antennal scale extending almost to apex of ultimate peduncle

segment. Pereopods 2–4 propodi not broadened distally, with 7–9 movable spines on distal flexor margin, distalmost paired; dactyli lined with 8–10 triangular, obliquely directed teeth on flexor margin.

Description. *Carapace*: Breadth greater than length (excluding rostrum). Lateral margins smooth or slightly irregular, distinctly convex, broadest posterior to midlength; with short, anteriorly directed anterolateral spine; posterior fifth with low, indistinct ridge. Rostrum trianguloid, apex rounded, about one-third length of remaining carapace, margins unarmed. Outer orbital angle produced to small tooth, not extending anteriorly beyond anterolateral spine. Dorsum minutely punctate, finely but sparsely-setose, unarmed. Pterygostomian flap with anterior spine.

Sternum: Plastron broader than long, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) not depressed, anterior margin with deep V-shaped emargination; outer lobes of emargination obtusely angled, crenulate. Sternite 4 (at base of pereopod 1) with obtuse, crenulate anterolateral margin, extending anteriorly to about midlength of emargination of sternite 3.

Abdomen: Segments minutely punctate. Telson about half as long as broad; distal portion posteriorly emarginate, about 1.5 times length of proximal portion.

Eye: Cornea not dilated, about one-third length of peduncle; not reaching to proximal half of rostrum.

Antenna: Basal segment with outer spine. Peduncle extending almost to apex of rostrum. Flagellum about 1.5 times as long as peduncle. Ultimate and penultimate segments armed; ultimate segment about 1.5 times length of penultimate segment. Antennal scale wider than opposite peduncular segments, extending almost to apex of ultimate peduncle segment.

Maxilliped 3: Dactylus and propodus unarmed. Extensor margin of carpus with small distal tubercle. Merus with small spine on distal extensor margin and 1 or 2 small spines on distal flexor margin. Crista dentata finely serrate for almost full length of ischium, not extending onto basis.

Pereopod 1 (cheliped): Slender, subcylindrical; about 3 times carapace length; setose. Propodus with palm about 3.5 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins finely dentate; occlusal margin of dactylus with obtuse process proximally; occlusal margin of pollex with low prominence distal to midlength. Carpus longer than merus and shorter than propodal palm. Merus and ischium without tubercles on inner proximal margin; ischium low triangular projection on outer margin.

Pereopods 2–4: Setose, similar, becoming shorter distally; carpus and merus unarmed; carpus of pereopods 2–3 about 0.5 merus length and 0.6 propodus length; carpus of pereopod 4 about 0.6 merus length, about 0.5 propodus length. Propodi not broadened distally, with 7–9 movable spines on distal flexor margin, distalmost paired. Dactyli lined with 8–10 fixed, triangular, obliquely directed teeth on flexor margin.

Ovum: 1.3 mm diameter.

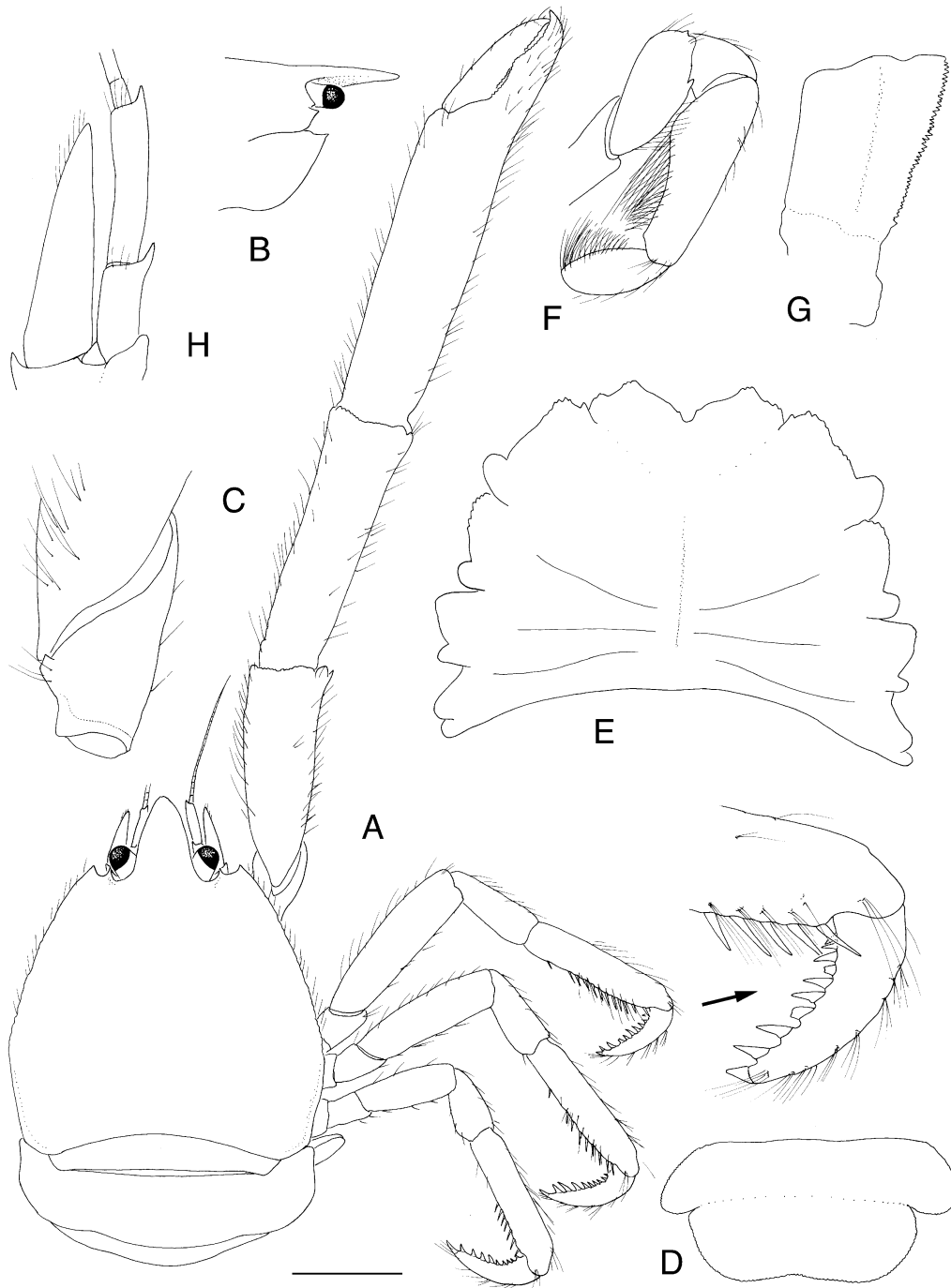


FIGURE 13. *Uroptychus latus* n. sp., holotype female, 9.3 mm, NMV J17059. A, dorsum. B, anterior carapace, right lateral. C, cheliped ischium, proximal right lateral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–B = 3 mm, C–F = 1.5 mm, G–H = 0.8 mm.

Etymology. Named *latus*, from the Latin for ‘broad’, alluding to the broad carapace of the species.

Remarks. *U. latus* n. sp. resembles *U. laperousazi* n. sp. and *U. patulus* n. sp. in the short, broad, carapace and broad V-shaped anterior sternal emargination. Characters distinguishing the three species are outlined under the account of *U. laperousazi* n. sp.

Distribution. Known only from eastern Bass Strait, Victoria, at 1073 m depth.

***Uroptychus litosus* n. sp. (Fig. 14)**

Uroptychus australis.—Poore, Hart, Taylor & Tudge, 1998: 69 [part, not *U. australis* (Henderson, 1885)].

Type material. HOLOTYPE: NMV J52862, male (17.8 mm), “Andys” Seamount, 65.5 km SSE of SE Cape, Tasmania, 44°10.8’S, 147°00.0’E, 800 m, epibenthic sled, SS01/97/56, T. Stranks *et al.*, 29 Jan 1997; PARATYPES: NMV J39631, 2 males (18.2–19.0 mm), 1 ovigerous female (16.1 mm), “Andys” Seamount, Tasmania, 65.5 km SSE of SE Cape, 44°10.8’S, 147°00.0’E, 800 m, epibenthic sled, SS01/97/56, T. Stranks *et al.*, 29 Jan 1997; NMV J44742, 3 males (13.9–19.8 mm), 11 females (7.9–17.1 mm), “Andys” Seamount, Tasmania, 65.5 km SSE of SE Cape, 44°10.8’S, 147°00.0’E, 800 m, epibenthic sled, SS01/97/56, T. Stranks *et al.*, 29 Jan 1997; SAM C6062, 3 males (11.1–17.5 mm), 1 female (15.8 mm), 81 km SSE of Southeast Cape, Tasmania, 44°15.2’S, 147°21.2’E, 1050–1120 m, clinging to coral, FV *Belinda*, K. Gowlett-Holmes, 12 Feb 1992; SAM C6060, 1 male (18.2 mm), 86 km NE of Babel Island, Tasmania, 39°15.94’S, 148°49.55’E, 1017–1042 m, demersal trawl, S03/89/43, FV *Soela*, 20 Apr 1989; SAM C6059, 2 females (14.8–15.7 mm), 70 km SSE of Southeast Cape, Tasmania, 800–950 m, off gold bamboo coral with base 8–10 inches in diameter, FV *Belinda*, K. Gowlett-Holmes, 10 Feb 1992; SAM C6061, 1 male (18.4 mm), 67 km SSE of Southeast Cape, Tasmania, 44°11.9’S, 147°04.7’E, 1025–1116 m, trawl, FV *Corvina*, K. Gowlett-Holmes, 8 Feb 1992.

Diagnosis. Carapace excluding rostrum as long as broad; lateral margins distinctly convex, broadest posterior to midlength; with irregular tubercles along margin; with anterolateral spine; outer orbital angle produced to small spine; dorsum unarmed, except for short row of small epigastric tubercles behind each orbit (in adults). Rostrum sharply triangular, about one-third length of remaining carapace. Sternite 3 strongly depressed, anterior margin shallowly emarginate, with narrow U-shaped notch and pair of median spines. Basal segment with distinct outer spine; ultimate and penultimate segments unarmed; ultimate segment about twice length of penultimate segment; antennal scale extending about to or slightly beyond apex of ultimate peduncle segment. Cheliped robust; merus and ischium with distinct tubercles on inner proximal margin. Pereopods 2–4 propodi not broadened distally, with movable spines on distal flexor margin, distalmost paired; dactyli with

10–12 obliquely directed spines on flexor margin. Pereopod 4 shorter than pereopod 3; length of pereopod 4 merus about 0.75 that of pereopod 3.

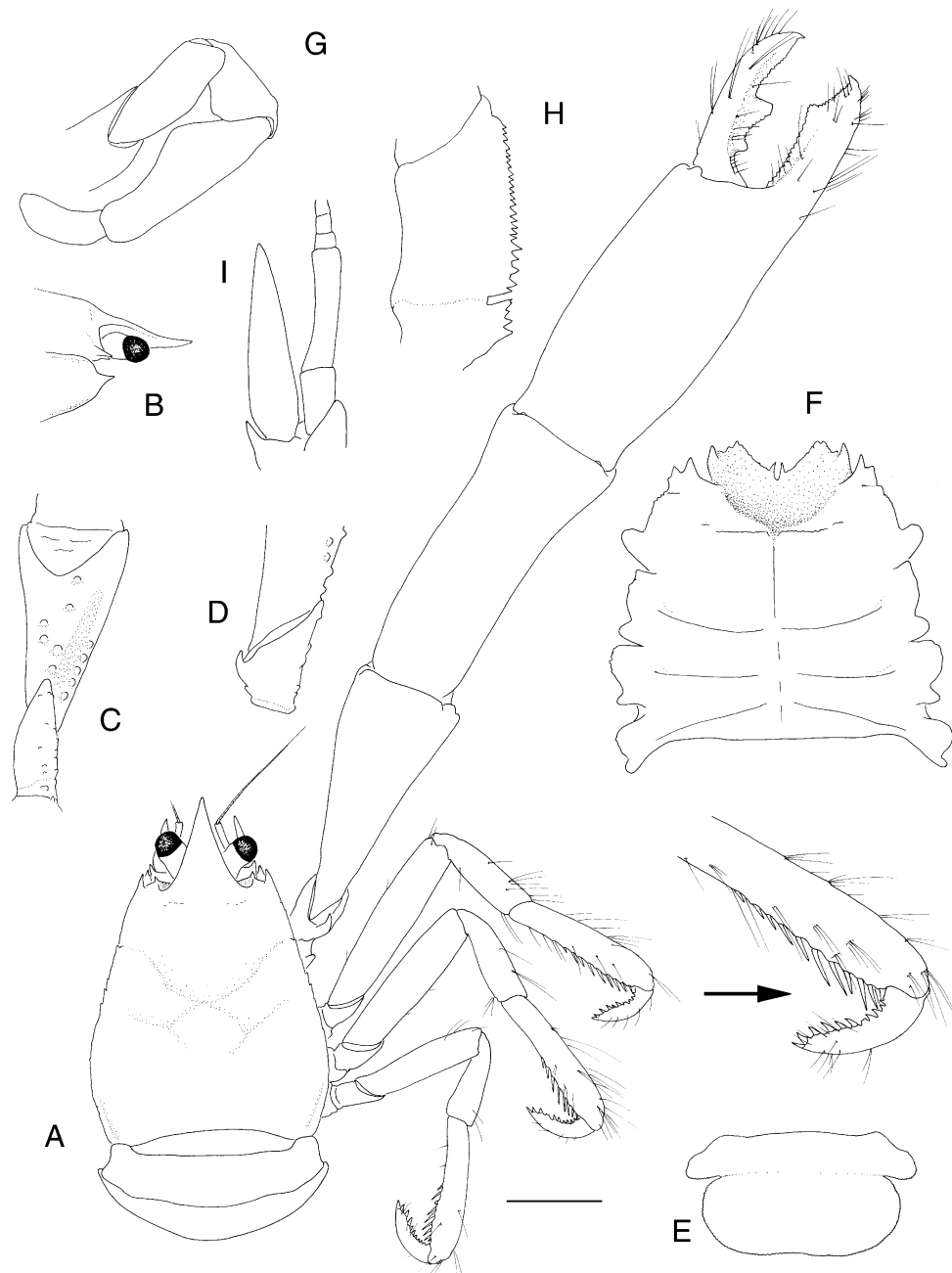


FIGURE 14. *Uroptychus litosus* n. sp., holotype male, 17.8 mm, NMV J52862. A, dorsum. B, anterior carapace, right lateral. C, cheliped merus, right ventral. D, cheliped merus, right lateral. E, telson. F, sternum. G, maxilliped 3, right lateral. H, crista dentata, right. I, antenna, right ventral. A–B = 5 mm, C–G = 2.5 mm, H–I = 1.3 mm.

Description. *Carapace:* Carapace excluding rostrum as long as broad. Lateral margins distinctly convex, broadest posterior to midlength; with irregular tubercles along margin; with distinct, anteriorly directed anterolateral spine; posterior fifth with low but distinct ridge. Rostrum sharply triangular, about one-third length of remaining carapace, margins unarmed. Outer orbital angle produced to small spine not extending slightly beyond level of anterolateral spines. Dorsum smooth and unarmed, except for short row of small epigastric tubercles behind each orbit (in adults). Pterygostomial flap with distinct anterior spine.

Sternum: Plastron about as broad as long, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) strongly depressed, anterior margin shallowly emarginate, with narrow U-shaped notch and pair of median spines; outer lobes of emargination obtusely angled with short outer projection. Sternite 4 (at base of pereopod 1) with anterolateral tooth not extending anteriorly beyond level of apices of median spines; margins tuberculate, irregular.

Abdomen: Segments glabrous. Telson length about 0.6 breadth; distal portion posteriorly emarginate, about twice length of proximal portion.

Eye: Cornea moderately dilated, subequal to length of peduncle; reaching to distal quarter of rostrum.

Antenna: Basal segment with distinct outer spine. Peduncle extending to distal third of rostrum. Flagellum about twice as long as peduncle. Ultimate and penultimate segments unarmed; ultimate segment about twice length of penultimate segment. Antennal scale wider than opposite peduncular segments, extending about to or slightly beyond apex of ultimate peduncle segment.

Maxilliped 3: Dactylus, propodus, carpus and merus unarmed. Crista dentata distinctly serrate on proximal four-fifths of ischium, extending onto basis.

Pereopod 1 (cheliped): Robust, slightly compressed; about 3 times carapace length; segments glabrous dorsally and sparsely setose distally. Propodus palm about twice as long as high, about twice as long as pollex. Fingers crossing, occlusal margins finely dentate and each; occlusal margin of dactylus with 2 obtuse processes proximally; occlusal margin of pollex with low prominence distal to midlength. Carpus longer than merus and as long as propodal palm; glabrous. Merus and ischium with distinct tubercles on inner proximal margin, less pronounced in juveniles; ischium with curved spine on outer margin.

Pereopods 2–4: Sparsely setose. Propodi not broadened distally, with 10–13 movable spines on distal flexor margin, distalmost paired. Dactyli setose marginally, with 10–12 fixed, obliquely directed spines on flexor margin. Pereopods 2–3 similar; carpus and merus dorsal unarmed; carpus about 0.6 merus length, about 0.7 propodus length. Pereopod 2 slightly longer than pereopod 3. Pereopod 4 shorter than pereopod 3; length of pereopod 4 merus about 0.75 that of pereopod 3; carpus about 0.7 merus and propodus length.

Ovum: 1.5 mm diameter.

Etymology. The specific name is derived from the Greek word *litos*, meaning plain, alluding to the relatively simple, nondescript features of the species.

Remarks. *Uroptychus litosus* n. sp. resembles *U. nitidus occidentalis* Faxon, 1893, in carapace shape, presence of tubercles on the inner proximal margin of the merus of the cheliped, armature of the dactyli of pereopods 2–4, and the shape of the anterior sternites as figured by Baba (1973). *Uroptychus litosus* differs from *U. nitidus occidentalis* in having the ultimate antennal segment about twice as long instead of being as long as the penultimate segment, and the antennal scale is as long as or longer than the antennal peduncle instead of being distinctly shorter. *Uroptychus litosus* also resembles *U. australis* and *U. gracilimanus* in bearing distinct tubercles on the inner proximal margin of the merus of the cheliped and paired submedian spines on the anterior margin of the third sternite. The new species differs in numerous features including the carapace shape, being distinctly broadened posteriorly, and the distinctly more robust chelae. *Uroptychus litosus* further differs from *U. australis* and resembles *U. gracilimanus* in having the merus of pereopod 4 distinctly longer than half that of pereopod 3, and in having the spines on the flexor margins of the pereopod 2–4 dactyli upright instead of aligned parallel to the dactylar margins. Part of the material reported by Poore *et al.* (1998) from the Tasmanian seamounts as *U. australis* is referable to *U. litosus*.

Distribution. Southern Tasmania in the vicinity of “Andys” Seamount at depths of 800–1120 m.

Uroptychus longicheles n. sp. (Fig. 15)

Type material. HOLOTYPE: AM P65826, ovigerous female (3.0 mm), Gifford Guyot, Tasman Sea, 26°44.27'S, 159°28.93'E, 306 m, on *Subergorgia* coral, beam trawl, FR0589-39, J. Lowry *et al.* on RV *Franklin*, 8 May 1989.

Diagnosis. Carapace excluding rostrum broader than long; broadest at about midlength; lateral margins convex, with anterolateral spine and 4 or 5 lateral spines; dorsum unarmed. Rostrum elongate, about half as long as remaining carapace, apex rounded, margins concave, dorsally with shallow concavity. Outer orbital angle produced to distinct spine. Sternite 3 slightly depressed, anterior margin shallowly concave, with narrow V-shaped median notch. Basal antennal segment with distinct outer spine; ultimate segment unarmed; penultimate with distal spine. Antennal scale extending to midlength of ultimate peduncle segment. Cheliped about 4.5 times carapace length. Pereopods 2–4 similar; propodi not broadened distally, with movable spine on distal flexor margin; dactyli with 7 or 8 widely spaced, obliquely directed, corneous teeth on flexor margin, penultimate distinctly larger and broader than others.

Description. *Carapace:* breadth greater than length (excluding rostrum); broadest at about midlength. Lateral margins convex, with slender anteriorly directed anterolateral spine and 4 or 5 lateral spines, first and fourth largest. Rostrum elongate, about half as long

as remaining carapace, apex rounded, margins concave, dorsally with shallow concavity. Outer orbital angle produced to distinct spine, extending anteriorly beyond apices of anterolateral spines. Dorsum sparsely setose, unarmed. Pterygostomial flap with strong anterior spine and scattered spinules over lateral surface.

Sternum: Plastron as long as broad, subquadrate. Sternite 3 (at base of maxilliped 3) slightly depressed, anterior margin shallowly concave, with narrow V-shaped median notch, anterolateral angle obtuse, flanked laterally by low tooth. Sternite 4 (at base of pereopod 1) with lateral margins produced, angular, extending anteriorly to outer base of sternite 3.

Abdomen: Segments sparsely setose. Telson slightly almost twice as wide as long; distal portion faintly emarginate, less than twice length of proximal portion.

Eye: Cornea not dilated, about half-length of peduncle; extending to distal quarter of rostrum.

Antenna: Basal segment with distinct outer spine. Peduncle extending to distal quarter of rostrum. Flagellum almost 2 times as long as peduncle. Ultimate segment about as long as penultimate segment; penultimate with distal spine. Antennal scale wider than opposite peduncular segments, extending to midlength of ultimate peduncle segment

Maxilliped 3: Dactylus, propodus and carpus unarmed. Merus with distal extensor spine and smaller spine distal to midlength of flexor margin. Crista dentata denticulate for proximal four-fifths of ischium, not extending onto basis.

Pereopod 1 (cheliped): Slender, subcylindrical, with setose scales, about 4.5 times carapace length. Propodus palm 5 times as long as high, about 3 times as long as pollex. Fingers crossing, occlusal margins dentate, irregular. Carpus longer than merus, slightly shorter than propodal palm. Ischium with slender distolateral spine.

Pereopods 2–4: Setose, similar, slightly decreasing in length posteriorly. Propodi not broadened distally, with pair of movable spines on distal flexor margin. Dactyli with 7 or 8 widely spaced, obliquely directed, corneous teeth on flexor margin, penultimate distinctly larger and broader than others. Pereopods 2–3 carpus about 0.4 merus and propodus length. Pereopod 4 carpus about 0.4 merus length, 0.3 propodus length.

Etymology. The specific epithet alludes to the greatly elongate chelipeds of the species in comparison to the similar species *U. amabilis* Baba, 1979.

Remarks. *Uroptychus longicheles* n. sp. closely resembles *U. amabilis* Baba, 1979, from New Caledonia, in carapace shape with narrow, excavated rostrum, deeply concave orbits, the long ocular peduncles and the similar shape of the sternum. The new species is readily distinguished from *U. amabilis* in the following features: carapace margins are spinose, the distal segment of the antennal peduncle is unarmed, the antennal scale reaches almost to the midlength instead of near the apex of the distal peduncle segment, the chelipeds are about five instead of three times carapace length, and the spines on the flexor margin of the dactyli of the walking legs are more slender and oriented obliquely instead of perpendicular to the dactylar margins.

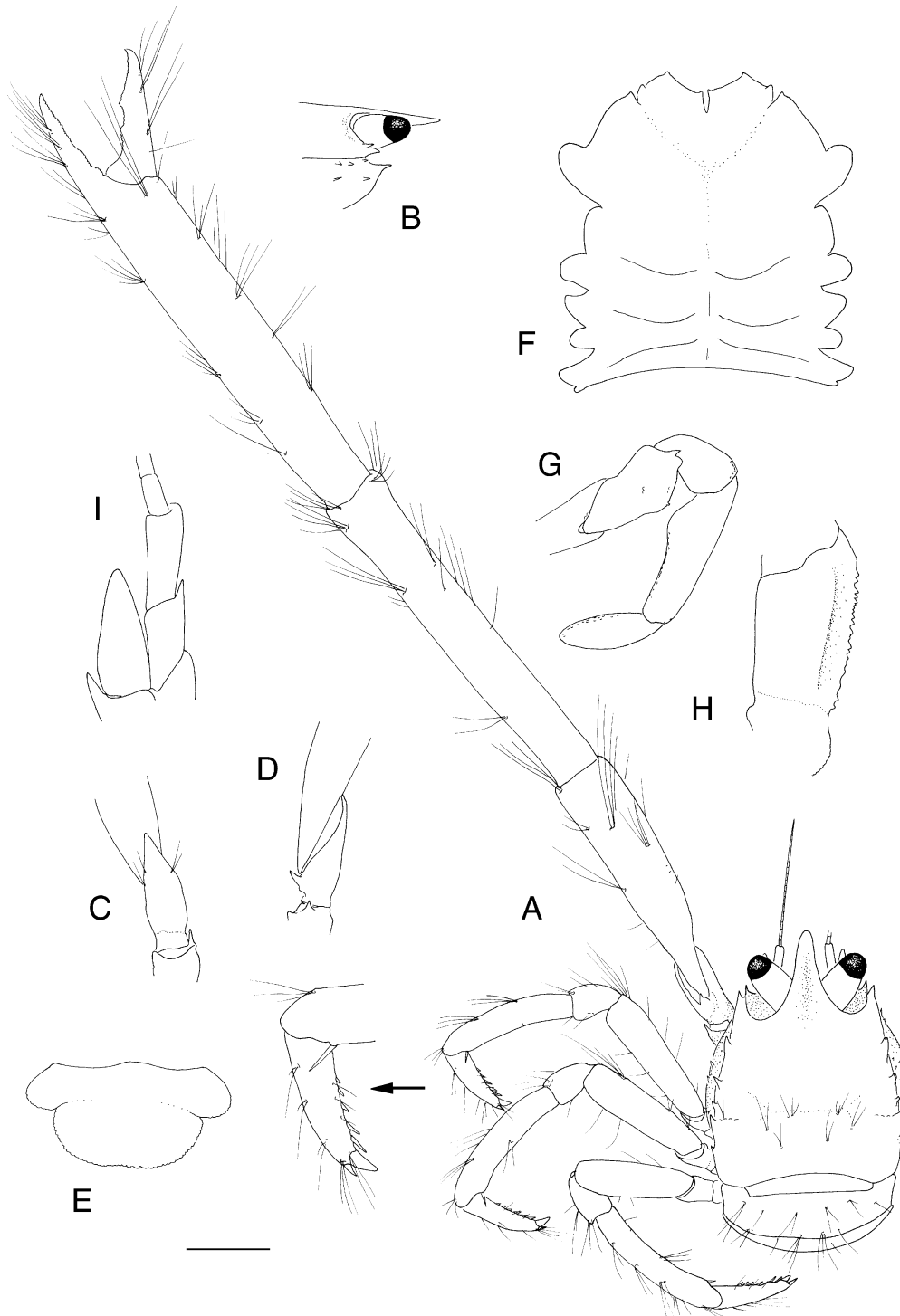


FIGURE 15. *Uroptychus longicheles* n. sp., holotype female, 3.0 mm, AM P65826. A, dorsum. B, anterior carapace, right lateral. C, cheliped merus, left ventral. D, cheliped merus, right lateral. E, telson. F, sternum. G, maxilliped 3, right lateral. H, crista dentata, right. I, antenna, right ventral. A–D = 1 mm, E–G = 0.5 mm, H–I = 0.3 mm.

The single known specimen of *U. longicheles* is an ovigerous female collected from the coral *Subergorgia*. It was carrying three advanced embryos of large size: 1.0 x 0.85 mm vs. 3.0 mm carapace length of the holotype. The advanced stage of the embryos suggests that the species might undergo direct development limiting dispersal ability.

Distribution. Presently known only from the type locality.

***Uroptychus longvae* n. sp. (Fig. 16)**

Type material. HOLOTYPE: SAM C6064, ovigerous female (13.7 mm), 342 km west of Cape Wiles, Great Australian Bight, South Australia, 34°56'S, 133°20'E, 805–816 m, FV *Longva III*, K. Gowlett-Holmes, 10 Nov 1989.

Diagnosis. Carapace excluding rostrum distinctly broader than long; lateral margins smooth, distinctly convex, broadest posterior to midlength; with distinct anterolateral spine; outer orbital angle rounded, unarmed; dorsum unarmed. Rostrum sharply triangular, slightly shorter than half-length of remaining carapace, margins unarmed. Sternite 3 anterior margin with deep V-shaped emargination. Basal antennal segment without outer spine; ultimate and penultimate segments unarmed. Antennal scale extending about to midlength of ultimate peduncle segment. Cheliped about 3 times carapace length; propodus palm about 2.5 times dactylus length. Pereopods 2–4 similar, propodi not broadened distally, unarmed; dactyli with 18–20 small, slender teeth on flexor margin.

Description. *Carapace:* Carapace excluding rostrum distinctly broader than long. Lateral margins slightly irregular, distinctly convex, broadest posterior to midlength; with distinct, anterolateral spine; posterior fifth with low, indistinct ridge. Rostrum sharply triangular, slightly less than half-length of remaining carapace, margins unarmed but sparsely setose. Outer orbital angle rounded, unarmed. Dorsum minutely punctate, finely but sparsely-setose, unarmed. Pterygostomian flap without anterior spine.

Sternum: Plastron broader than long, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) not depressed, anterior margin with deep V-shaped emargination; outer lobes of emargination obtusely angled. Sternite 4 (at base of pereopod 1) with blunt anterolateral margins, extending anteriorly to about midlength of emargination of sternite 3.

Abdomen: Segments glabrous. Telson about half as long as broad; distal portion posteriorly emarginate, about 1.5 times length of proximal portion.

Eye: Eystalks not reaching to proximal half of rostrum; cornea not dilated, about one-third length of remaining stalk.

Antenna: Basal antennal segment unarmed. Peduncle extending to distal third of rostrum. Flagellum about 1.5 times as long as peduncle. Ultimate and penultimate segments unarmed; ultimate segment about 1.5 times length of penultimate segment. Antennal scale wider than opposite peduncular segments, extending about to midlength of ultimate peduncle segment.

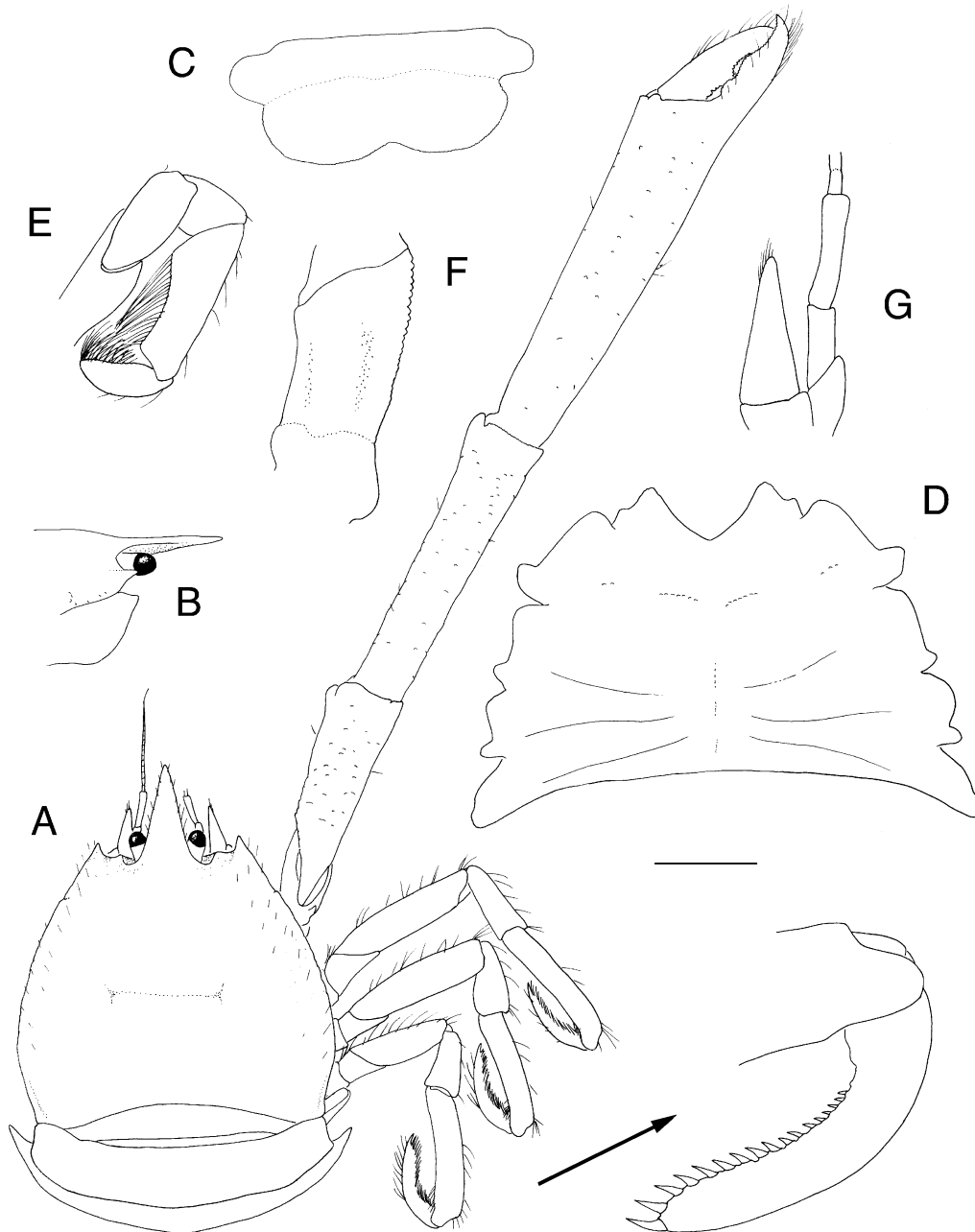


FIGURE 16. *Uroptychus longvae* n. sp., holotype female, 13.7 mm, SAM C6064. A, dorsum. B, anterior carapace, right lateral. C, telson. D, sternum. E, maxilliped 3, right lateral. F, crista dentata, right. G, antenna, right ventral. A–B = 4 mm, C–E = 2 mm, F–G = 1.3 mm.

Maxilliped 3: Dactylus, propodus, carpus and merus unarmed. Crista dentata distinctly serrate on proximal half of ischium, not extending onto basis.

Pereopod 1 (cheliped): Slender, subcylindrical to ovate in cross-section; about 3 times carapace length; rugose, sparsely setose. Propodus palm about 3.5 times as long as high, about 2.5 times as long as dactylus; lower distal margin slightly concave. Fingers crossing, occlusal margins finely dentate; occlusal margin of dactylus with obtuse process proximally; occlusal margin of pollex with low prominence distal to midlength. Carpus longer than merus and shorter than propodal palm; ischium with low triangular projection on outer margin.

Pereopods 2–4: Sparsely setose, similar, becoming shorter distally; propodus, carpus and merus unarmed. Propodi not broadened distally, unarmed, but setose distally. Dactyli lined with 17–20 small, slender teeth on flexor margin, but obscured by dense setae. Pereopods 2–3 carpus about half merus and propodus length. Pereopod 4 carpus about 0.7 merus length, about 0.5 propodus length.

Ovum: Diameter 1.2 mm.

Etymology. Named after the vessel from which the holotype was collected, FV *Longva III*.

Remarks. *Uroptychus longvae* n. sp. most closely resembles *U. patulus* n. sp., but also resembles *U. onychodactylus* Tirmizi, 1964, from the Maldives and *U. setosidigitalis* Baba, 1977, from Midway Island in the broad carapace, broad V-shaped anterior emargination of sternite 3, and elongate, curved, setose dactyli of pereopods 2–4. *Uroptychus longvae* resembles *U. patulus* and differs from *U. onychodactylus* and *U. setosidigitalis* in having a rounded instead of acute outer orbital margin. *Uroptychus longvae* n. sp differs from *U. patulus* in the relative length and proportions of the cheliped segments and in the spination of the dactyli of the walking legs. In *U. longvae*, the cheliped is about three instead of two times as long as the carapace, the dorsal margin of the cheliped palm is about 2.5 instead of less than twice as long as the dactylus, and the teeth lining the inner margin of the dactyli of the walking legs are slender and longer than wide instead of being about as long as wide.

Distribution. Known only from the type locality, 342 km west of Cape Wiles, Great Australian Bight, South Australia; 805–816 m.

Uroptychus multispinosus n. sp. (Fig. 17)

Type material. HOLOTYPE: AM P31415, female (5.2 mm), E of Southport, Queensland, 27°55–58'S, 153°55'E, 318 m, demersal trawl, K78-09-06, 2 Jun 1978. PARATYPES: AM P31413, 1 male (4.4 mm rostrum), 1 female (4.9 mm), NE of Tweed Heads, 28°02–05'S, 153°57'E, 364 m, demersal trawl, K78-09-03, 1 Jun 1978; AM P31414, 2 females (4.6–4.7 mm), NE of Tweed Heads, 28°02–05'S, 153°57'E, 364 m, demersal trawl, K78-09-03, 1 Jun 1978.

Diagnosis. Carapace excluding rostrum longer than broad; broadest posterior to midlength; lateral margins divergent; with anterolateral spine and 5–7 small spines lateral spines; outer orbital angle produced to small spine; dorsum unarmed. Rostrum narrow,

about half as long as remaining carapace, usually with trifold apex, dorsally with shallow concavity. Sternite 3 slightly depressed, anterior margin shallowly concave, with U-shaped median notch. Basal antennal segment with distinct outer spine; ultimate and penultimate segments with distal spine. Antennal scale extending well beyond apex of ultimate peduncle segment. Pereopods 2–4 propodi not broadened distally, with 6–8 movable spines on distal flexor margin; dactyli with 6 or 7 strong, widely spaced, obliquely directed, corneous teeth on flexor margin.

Description. *Carapace:* Length (excluding rostrum) greater than breadth; broadest posterior to midlength. Lateral margins divergent, with slender anteriorly directed anterolateral spine and 5–7 small spines lateral spines. Rostrum elongate, narrow, about half as long as remaining carapace, usually with trifold apex, dorsally with shallow concavity. Outer orbital angle produced to small spine, not extending anteriorly beyond apices of anterolateral spines. Dorsum sparsely setose, unarmed. Pterygostomian flap with small anterior spine and scattered spinules over lateral surface.

Sternum: Plastron slightly broader than long, widening posteriorly. Sternite 3 (at base of maxilliped 3) slightly depressed, anterior margin shallowly concave, with U-shaped median notch, anterolateral angle usually bifid, flanked laterally by short tooth. Sternite 4 (at base of pereopod 1) with lateral margins produced, angular, extending anteriorly to or slightly beyond U-shaped notch of sternite 3.

Abdomen: Segments sparsely setose. Telson less than half as long as broad; distal portion faintly emarginate, slightly longer than proximal portion.

Eye: Cornea not dilated, about one-third length of peduncle; extending beyond midlength of rostrum.

Antenna: Basal segment with distinct outer spine. Peduncle extending beyond midlength of rostrum. Flagellum almost 2 times as long as peduncle. Ultimate segment about as long as penultimate segment, both with distal spine. Antennal scale wider than opposite peduncular segments, extending well beyond apex of ultimate peduncle segment.

Maxilliped 3: Dactylus and propodus unarmed. Carpus with 2 distal extensor spines. Merus with 2 distal flexor spines and 1 distal flexor spine. Crista dentata denticulate for three-quarters ischium length, not extending onto basis.

Pereopod 1 (cheliped): Stout, subcylindrical, with setose scales, about 3 times carapace length. Propodus palm 3 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins dentate, sinuous. Carpus longer than merus, as long as propodal palm. Merus with setose scales and acute tubercles on inner margin. Ischium with triangular distolateral spine.

Pereopods 2–4: Setose, similar, slightly decreasing in length posteriorly. Propodi not broadened distally, with 6–8 movable spines on distal flexor margin, distalmost paired. Dactyli with 6 or 7 fixed, strong, widely spaced, obliquely directed, corneous teeth on flexor margin. Pereopods 2–3 carpus about 0.6 merus and propodus length. Pereopod 4 carpus about 0.6 merus length, 0.5 propodus length.

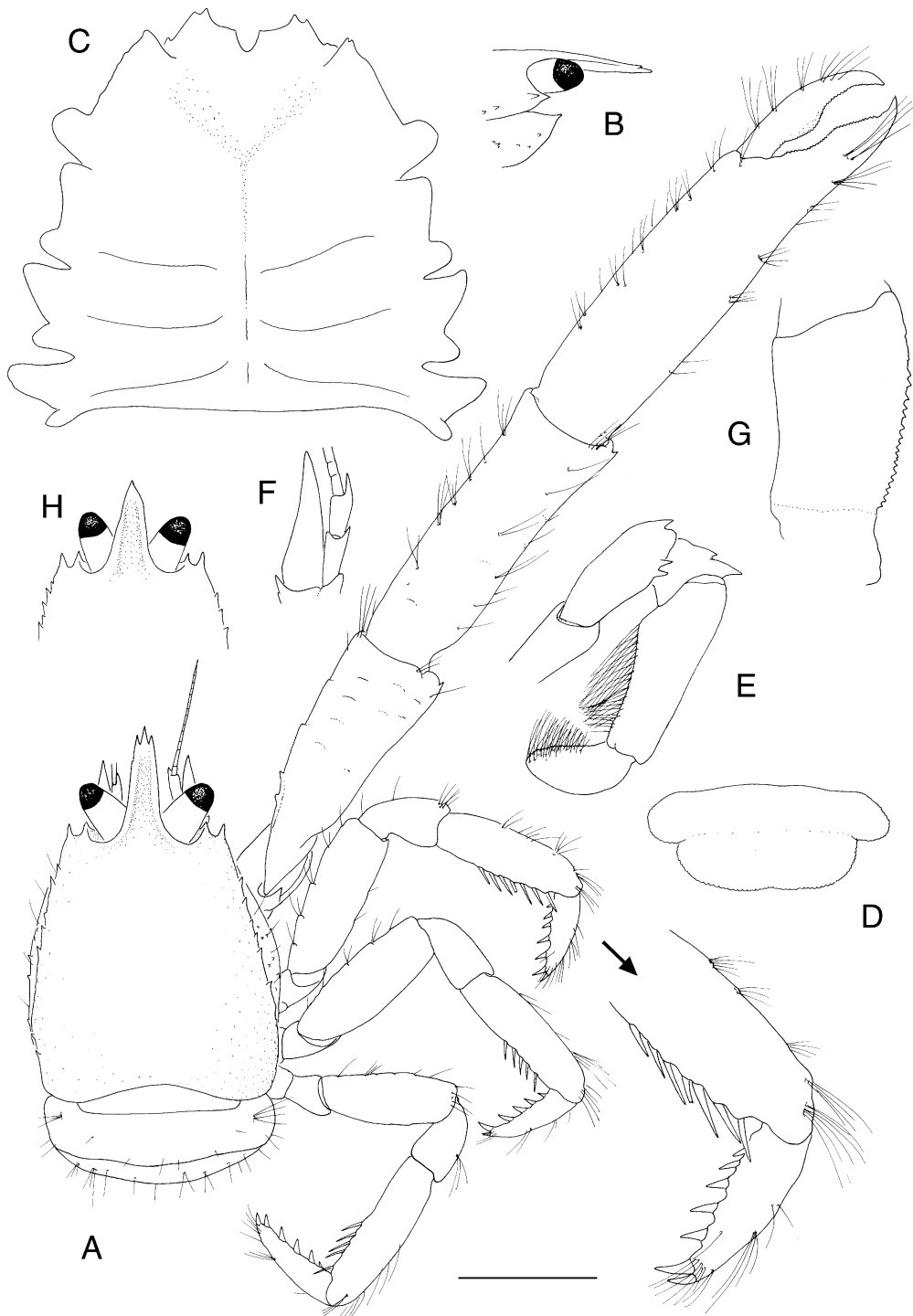


FIGURE 17. *Uroptychus multispinosus* n. sp., A–G, holotype female, 5.2 mm, AM P31415. H, paratype female, 4.6 mm, AM P31414. A, dorsum. B, anterior carapace, right lateral. C, sternum. D, telson, E, maxilliped 3, right lateral. F, antenna, right ventral. G, crista dentata, right. H, anterior, dorsal. A–B, H = 2 mm, C–F = 1 mm, G = 0.5 mm.

Etymology. The specific epithet is derived from the Latin *multi*, meaning ‘many’, and *spinus*, meaning ‘thorny’, alluding to the large number of lateral carapace spines in comparison to the very similar species *U. joloensis* Van Dam, 1939.

Remarks. *Uroptychus multispinosus* n. sp. most closely resembles *U. joloensis* Van Dam, 1939, from Indonesia, sharing the trifid rostral apex, similar carapace outline with small lateral spines, elongate ocular peduncles, and U-shaped median notch in the anterior margin of sternite 3. *Uroptychus multispinosus* differs from *U. joloensis* in the following features: the lateral carapace margins bear 6 or 7 instead of 2 spines, the antennal scale is longer than instead of distinctly shorter than the antennal peduncle, the chelipeds are shorter and more robust, and the spines on the inner margins of the dactyli walking legs are directed obliquely instead of perpendicular to the dactylar margin. The rostrum in one specimen is not trifid (Fig. 17H), but appears to be regenerating from damage.

Distribution. Presently known only from southern Queensland between Southport and Tweed Heads at 318–364 m.

***Uroptychus nowra* n. sp. (Fig. 18)**

Type material. HOLOTYPE: NMV J17064, female (rostrum broken; orbital carapace length 6.4 mm), off Nowra, New South Wales, 35°00.00’S, 151°16.30’E, 1100 m, SLOPE 9, 5 m otter trawl, M. Gomon *et al.*, 15 Jul 1986.

Diagnosis. Carapace excluding rostrum broader than long; lateral margins convex, divergent; with strong anteriorly directed anterolateral spine and 9 lateral spines; anterior 2 lateral spines small, third spine large, stout, at base of indistinct cervical groove, followed by 2 small spines and 4 large spines. Rostrum triangular, distinctly exceeding half remaining carapace length; ventrally carinate; lateral margins with at least 1 or 2 spinules. Outer orbital angle produced to a small spine. Dorsum minutely granular, sparsely setose laterally, unarmed except for a minute spine above each anterolateral spine. Sternite 3 anterior margin deeply concave with narrow median notch flanked either side by a small spine. Basal antennal segment with inner and outer spine. Ultimate segment of antennal peduncle about twice as long as penultimate segment, both with distal spine. Antennal scale extending almost to midlength of ultimate segment of peduncle. Pereopod 2 distinctly more slender than pereopod 4. Pereopod 4 dactylus with 12 small, closely spaced, obliquely directed corneous spines, penultimate markedly broader than others.

Description. *Carapace:* Breadth greater than length (excluding rostrum). Lateral margins convex, divergent; with strong anteriorly directed anterolateral spine and 9 lateral spines. Anterior 2 lateral spines small, third spine large, stout, at base of indistinct cervical groove, followed by 2 small spines and 4 large spines. Rostrum triangular, broken but distinctly exceeding half the remaining carapace length; ventrally carinate; lateral margins with at least 1 or 2 spinules. Outer orbital angle produced to a small spine. Dorsum minutely granular, sparsely setose laterally, unarmed except for a minute spine above each

anterolateral spine. Pterygostomian flap with slender anterior spine and small spinules on proximal surface.

Sternum: Plastron about as long as wide, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) depressed, anterior margin deeply concave with narrow median notch flanked either side by a small spine, anterolateral angle acute, outer margin irregular. Sternite 4 (at base of pereopod 1) with anterolateral margins acute, not produced anteriorly, margins irregular with 2 or 3 small spines.

Abdomen: Segments setose. Telson about half as long as broad; distal portion posteriorly emarginate, about twice length of proximal portion.

Eye: Cornea not dilated, about two-thirds length of peduncle; partially concealed by rostrum.

Antenna: Basal segment with inner and outer spine; ultimate segment about twice as long as penultimate segment, both with distal spine. Antennal scale with outer spine at midlength, wider than opposite peduncular segments, extending almost to midlength of ultimate segment of peduncle.

Maxilliped 3: Dactylus and propodus unarmed. Carpus with small distal extensor tooth. Merus with 2 spines on distal flexor margin and distal extensor spine. Ischium with crista dentata finely and evenly denticulate along proximal three-quarters.

Pereopod 1 (cheliped): Slender, at most 3.5 times carapace length; all segments rugose and sparsely setose. Propodus with irregular, setose scales; palm about eight times as long as high, about three times as long as pollex. Fingers crossing, occlusal margins dentate and each with low process proximally. Carpus as long as propodal palm, sparsely covered with setose scales; upper distal margin with distinct spine flanked on either side by smaller spine. Merus sparsely covered with setose scales; distal margins spinous. Ischium with serrated inner and spinous outer distal margin.

Pereopods 2–4: Pereopod 3 unknown. Pereopod 2 distinctly more slender than pereopod 4; merus extensor margin denticulate; carpus unarmed, slightly exceeding half length of merus, longer than propodus; propodus smooth, with 3 movable spines on distal flexor margin, distalmost paired; dactylus about two-thirds as long as propodus, with 2 distal spines and fine distal setae. Pereopod 4 merus with denticulate extensor and flexor margins, most pronounced dorsally; carpus slightly exceeding one-third merus length about half propodus length, with 3 spines on extensor margin; propodus with 3 movable spines on distal flexor margin, distmost paired; dactylus exceeding half propodus length, with 12 small, closely spaced, obliquely directed corneous spines, penultimate markedly broader than others.

Ovum: 1.4 mm diameter.

Etymology. Nowra is an Aboriginal word meaning black cockatoo; this species is named for the city of that name, owing to its proximity to the type locality; noun in apposition.

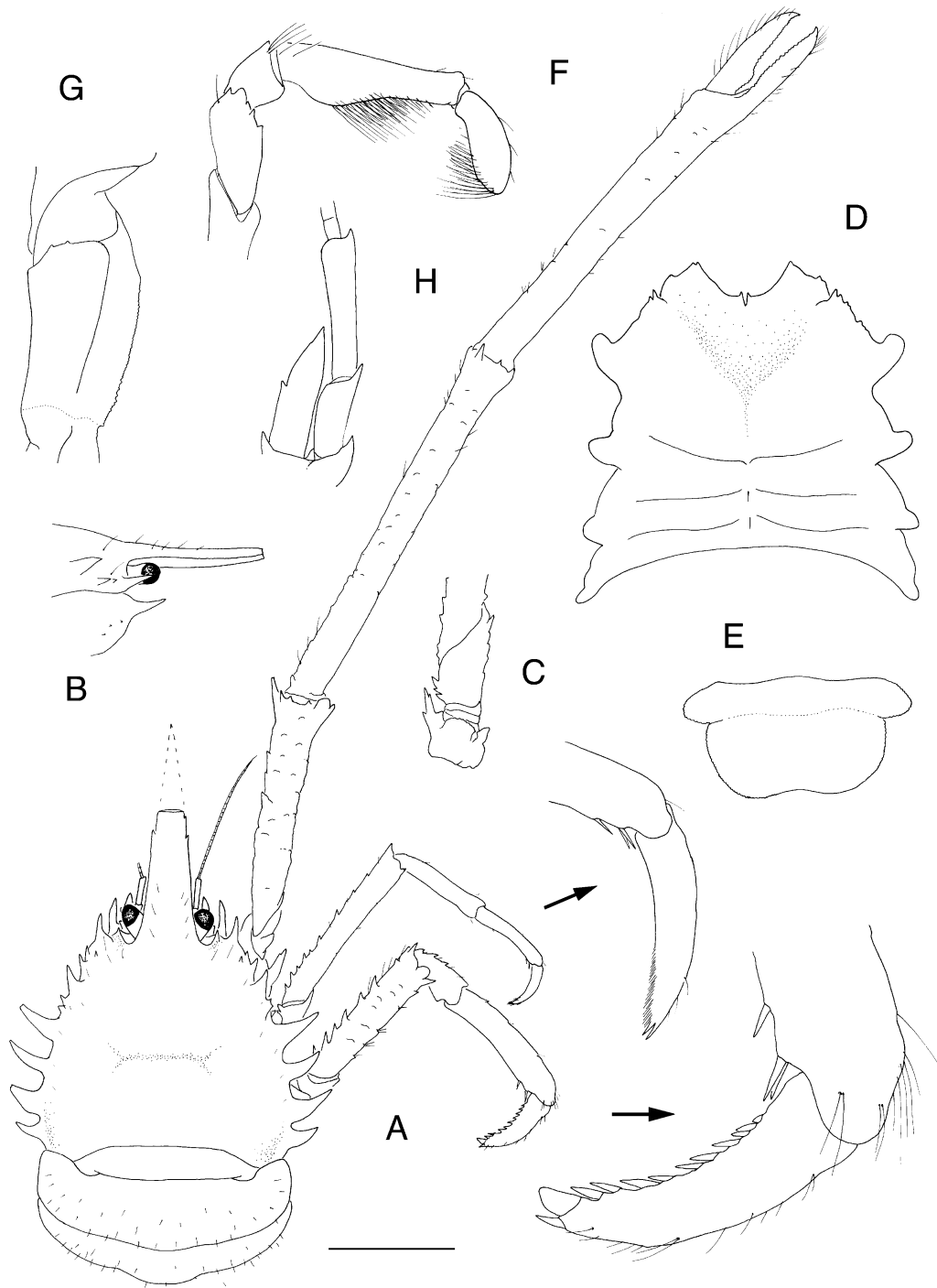


FIGURE 18. *Uroptychus nowra* n. sp., holotype female, orbital carapace length 6.4 mm, NMV J17064. A, dorsum. B, anterior carapace, right lateral. C, cheliped, proximal right lateral. D, sternum. E, telson. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–C = 4 mm, D–F = 2 mm, G–H = 1 mm.

Remarks. *Uroptychus nowra* n. sp. is a member of the *spinimarginatus* group (Baba 1977a) characterised by the laterally directed carapace spines and strongly elongate rostrum. The first walking leg in *U. nowra* is distinctly more slender than the second walking leg, with the dactylus unarmed on its flexor margin indicating a close relationship to *U. albatrossae* Baba, 1988, *U. benedicti* Baba, 1977a, *U. grandirostris* Yokoya, 1933, *U. mortenseni* Van Dam, 1939 and *U. spinulifer* Van Dam, 1940. *Uroptychus nowra* differs from *U. mortenseni* in lacking the dense covering of fine setae on the carapace and legs, from *U. spinulifer* and *U. benedicti* in lacking the covering of dorsal spinules on the carapace, and from *U. albatrossae* and *U. grandirostris* in the short antennal scale which reaches almost to the midlength instead of beyond the apex of the distal peduncle segment.

Distribution. Known only from off Nowra, New South Wales, at 1100 m depth.

***Uroptychus paracrassior* n. sp. (Fig. 19)**

Type material. HOLOTYPE: AM P31408, ovigerous female (7.0 mm), NE of Tweed Heads, Queensland, 28°02–05'S, 153°57'E, 364 m, demersal trawl, K78-09-03, 1 Jun 1978. PARATYPES: AM P31409, 1 male (4.9 mm), NE of Tweed Heads, Queensland, 28°02–06'S, 153°56'E, 368 m, trawl, from antipatharian, K78-17-06, 16 Aug 1978; AM P31410, 2 males (3.5–5.4 mm), NE of Tweed Heads, Queensland, 28°02–06'S, 153°56'E, 368 m, trawl, from antipatharian, K78-17-06, 16 Aug 1978; AM P31416, 5 males (4.0–5.8 mm), 5 females (4.6–6.7 mm), NE of Tweed Heads, Queensland, 28°04'S, 153°56'E, 380 m, K78-17-06, from antipatharian, 16 Aug 1978.

Diagnosis. Carapace excluding rostrum broader than long; broadest posterior to midlength; lateral margins divergent, with strong anterolateral spine and 6–10 lateral spines; outer orbital angle produced to distinct spine; dorsum unarmed. Rostrum sharply triangular, about half as long as remaining carapace, margins unarmed. Sternite 3 slightly depressed, anterior margin deeply concave, with V-shaped median notch and pair of median spines. Basal antennal segment with distinct outer spine; ultimate and penultimate segments with distal spine. Antennal scale extending to or beyond apex of ultimate peduncle segment. Maxilliped 3 carpus with distal extensor spine; merus with 2–4 distal flexor spines and 1 or 2 distal extensor spines. Pereopods 2–4 similar; propodi slightly broadened distally, with 6–9 movable spines on distal flexor margin, distalmost paired; dactyli with 9–11 strong, obliquely directed, corneous teeth on flexor margin.

Description. *Carapace:* Breadth greater than length (excluding rostrum); broadest posterior to midlength. Lateral margins divergent, with strong anteriorly directed anterolateral spine and 6–10 lateral spines. First and third lateral spine largest; first usually with small spine mesially. Rostrum sharply triangular, about half as long as remaining carapace, margins unarmed, dorsally with shallow concavity. Outer orbital angle produced to distinct spine, not extending anteriorly beyond apices of anterolateral spines. Dorsum with short, very fine setae, unarmed. Pterygostomial flap with strong anterior spine and two subterminal dorsal spines.

Sternum: Plastron broader than long, widening posteriorly. Sternite 3 (at base of maxilliped 3) slightly depressed, anterior margin deeply concave, with V-shaped median notch and pair of median spines, anterolateral angle obtuse, flanked laterally by 1 or 2 short teeth. Sternite 4 (at base of pereopod 1) with serrated lateral margin, anteriorly reaching about to level of median spines of sternite 3.

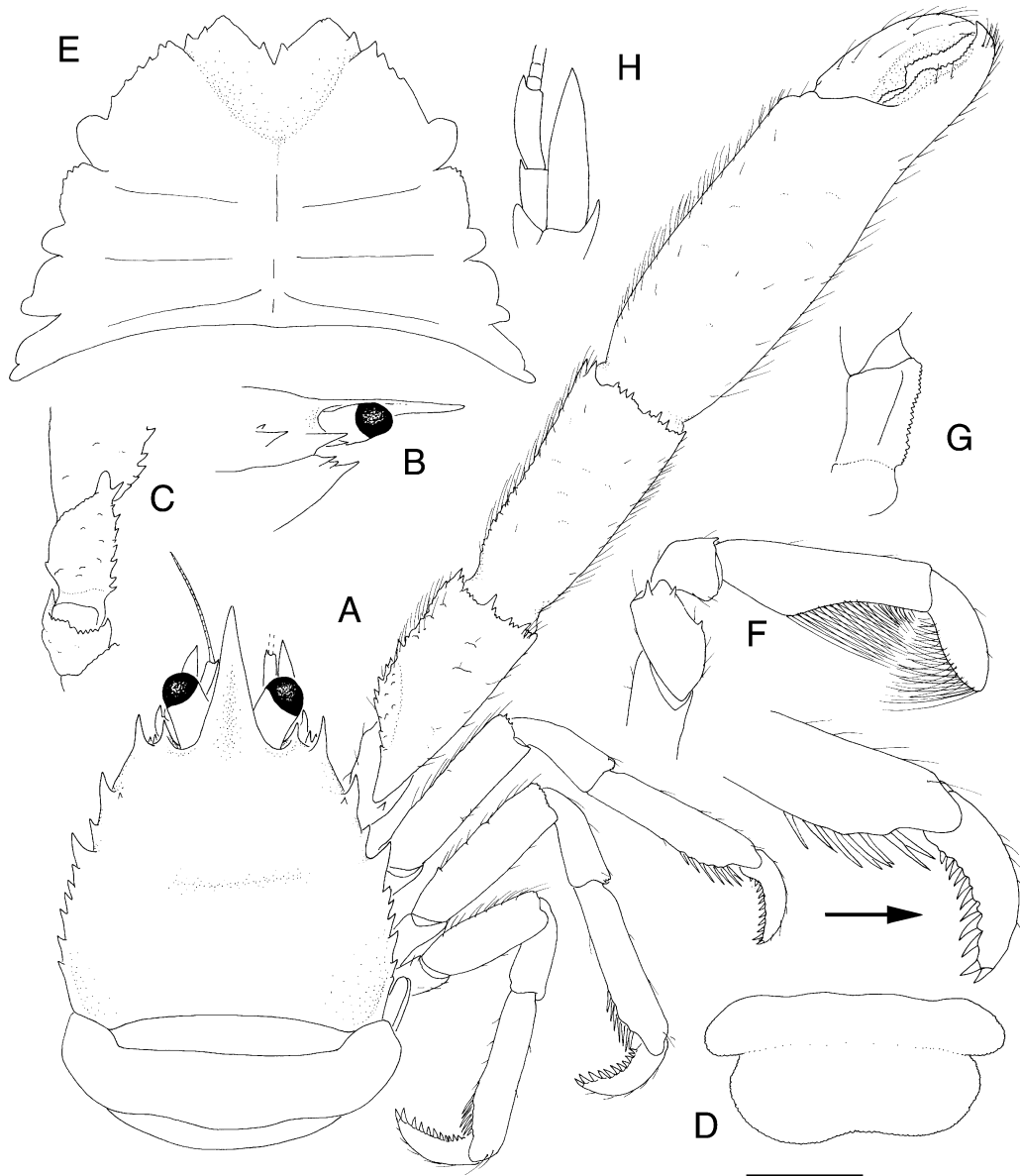


FIGURE 19. *Uroptychus paracrassior* n. sp., holotype female, 7.0 mm, AM P31408. A, dorsum. B, anterior carapace, right lateral. C, cheliped, proximal right ventral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. A–C = 2 mm, D–H = 1 mm.

Abdomen: Segments smooth. Telson about half as long as broad; distal portion posteriorly emarginate, longer than proximal portion.

Eye: Cornea not dilated, about one-third length of peduncle; extending beyond midlength of rostrum.

Antenna: Basal segment with distinct outer spine. Peduncle extending beyond midlength of rostrum. Flagellum about 1.5 times as long as peduncle. Ultimate segment about 1.5 times as long as penultimate segment, both with distal spine. Antennal scale wider than opposite peduncular segments, extending to or beyond apex of ultimate peduncle segment.

Maxilliped 3: Dactylus and propodus unarmed. Carpus with distal extensor spine. Merus with 2–4 distal flexor spines and 1 or 2 distal extensor spines. Crista dentata evenly denticulate for entire length of ischium, not extending onto basis.

Pereopod 1 (cheliped): Stout, subcylindrical, setose, about 2.5 times carapace length. Propodus almost glabrous; palm 2.5 times as long as high, about twice as long as pollex. Fingers crossing, occlusal margins dentate and each with low process proximally. Carpus longer than merus, shorter than propodal palm; with small spinules distally; serrate on inner margin. Merus with setose scales and acute tubercles on inner margin, distal margin spinose. Ischium with small distolateral spine.

Pereopods 2–4: Setose, similar, slightly decreasing in length posteriorly. Propodi slightly broadened distally, with 6–9 movable spines on distal flexor margin, distalmost paired. Dactyli with 9–11 fixed, strong, obliquely directed, corneous teeth on flexor margin. Pereopods 2–3 carpus about two-thirds merus and propodus length. Pereopod 4 carpus about 0.8 merus length, 0.6 propodus length.

Ovum: 1.2 mm diameter.

Etymology. Named *paracrassior* alluding to the strong similarity to *U. crassior* Baba, 1990.

Remarks. *Uroptychus paracrassior* n. sp. and *U. crassior* Baba, 1990, from Madagascar, closely resemble each other, particularly in the elongate eyestalks, spination of the maxillipeds and antennal peduncles, the robust, setose chelipeds, the shape of sternites 3 and 4, and spination of the dactyli of the walking legs. *Uroptychus paracrassior* is readily distinguished from *U. crassior* by its shorter antennal scale. In *U. paracrassior*, the antennal scale reaches slightly beyond the apex of the distal peduncle segment, but in *U. crassior*, the antennal scale exceeds the distal peduncle segment by about half the length of the peduncle.

Uroptychus paracrassior, *Uroptychus calcar* n. sp., and *U. zeidleri* n. sp. resemble each other superficially in the glabrous carapace with strong marginal spines. The former is readily distinguished from the latter two in lacking epigastric spines on the carapace and in bearing a pair of small median spines flanking the median notch of sternite 3.

Distribution. Presently known only from northeast of Tweed Heads, southern Queensland, at depths of 364–380 m.

***Uroptychus patulus* nov. (Fig. 20)**

Type material. HOLOTYPE: NMV J21045, 1 ovigerous female (12.3 mm), 80 km SSW of Point Hicks, Bass Strait, Victoria, 38°20.91'S, 149°38.33'E, 1030 m, engels high-lift trawl, M. Norman, 14 May 1988. PARATYPES: SAM C6065, 1 ovigerous female (12.6 mm), 76 km SSE of Southeast Cape, Tasmania, 44°12.0–12.1'S, 147°20.1–20.5'E, 955–1190 m, FV *Corvina*, K. Gowlett-Holmes, 8 Feb 1992; SAM C6063, 10 males (7.4–12.7 mm), 9 females (8.0–15.1 mm), 7.3 km SSE of Southeast Cape, Tasmania, 41°15.8'S, 147°05.3'E, 970–1190 m, trawled, FV *Belinda*, K. Gowlett-Holmes, 7 Feb 1992.

Diagnosis. Carapace excluding rostrum distinctly broader than long; lateral margins smooth, distinctly convex, broadest posterior to midlength; with distinct, slightly incurved anterolateral spine; outer orbital angle rounded, unarmed; dorsum unarmed. Rostrum sharply triangular. Sternite 3 anterior margin with deep V-shaped emargination; outer lobes of emargination obtusely angled. Basal antennal segment without outer spine; ultimate and penultimate segments unarmed. Antennal scale extending about to midlength of ultimate peduncle segment. Cheliped about twice carapace length; propodus palm slightly less than twice as long as dactylus. Pereopods 2–4 similar, propodi not broadened distally, unarmed; dactyli lined with 20–30 small triangular teeth on flexor margin.

Description. *Carapace:* Breadth greater than length (excluding rostrum). Lateral margins smooth, distinctly convex, broadest posterior to midlength; with distinct, slightly incurved anterolateral spine; posterior fifth with low, indistinct ridge. Rostrum sharply triangular, about half length of remaining carapace, margins unarmed. Outer orbital angle rounded, unarmed. Dorsum minutely punctate, finely but sparsely-setose, unarmed. Pterygostomian flap without anterior spine.

Sternum: Plastron broader than long, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) not depressed, anterior margin with deep V-shaped emargination; outer lobes of emargination obtusely angled. Sternite 4 (at base of pereopod 1) with obtuse anterolateral margin, extending anteriorly to about midlength of emargination of sternite 3.

Abdomen: Segments glabrous. Telson about half as long as broad; distal portion posteriorly emarginate, about 1.5 times length of proximal portion.

Eye: Cornea not dilated, about one-third length of peduncle; not reaching to proximal half of rostrum.

Antenna: Basal segment without outer spine. Peduncle extending to distal third of rostrum. Flagellum about 1.5 times as long as peduncle. Ultimate and penultimate segments unarmed; ultimate segment about 1.5 times length of penultimate segment. Antennal scale wider than opposite peduncular segments, extending about to midlength of ultimate peduncle segment.

Maxilliped 3: Dactylus, propodus, carpus and merus unarmed. Crista dentata distinctly serrate on proximal half of ischium, not extending onto basis.

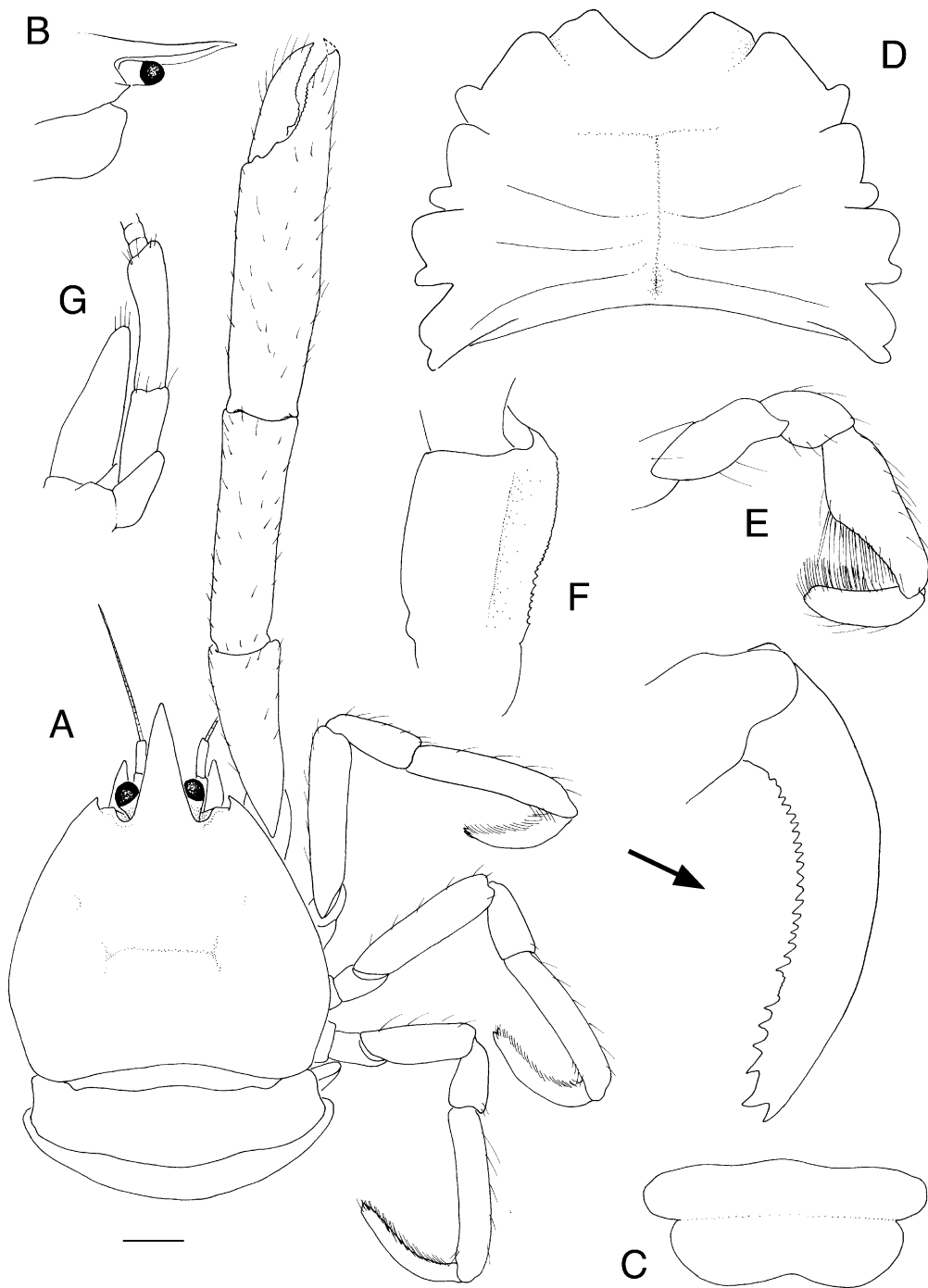


FIGURE 20. *Uroptychus patulus* n. sp., holotype female, 12.3 mm, NMV J21045. A, dorsum. B, anterior carapace, right lateral. C, telson. D, sternum. E, maxilliped 3, right lateral. F, crista dentata, right. G, antenna, right ventral. A–B = 2 mm, C–E = 1 mm, F–G = 0.5 mm.

Pereopod 1 (cheliped): Slender, subcylindrical; about twice carapace length; setose. Propodus with palm less than three times as long as high, slightly less than twice as long as dactylus; lower distal margin straight to slightly concave. Fingers crossing, occlusal margins finely dentate; occlusal margin of dactylus with obtuse process proximally; occlusal margin of pollex with low prominence distal to midlength. Carpus longer than merus and as long as propodal palm; setose. Merus and ischium without tubercles on inner proximal margin; ischium with low triangular projection on outer margin.

Pereopods 2–4: Setose, similar, becoming shorter distally; propodi, carpi and meri unarmed. Carpus of pereopods 2–3 about half merus and propodus length. Carpus of pereopod 4 about 0.6 merus length, about 0.4 propodus length. Propodi not broadened distally, unarmed. Dactyli lined with 20–30 fixed, small triangular teeth on flexor margin, but obscured by setae.

Ovum: 2.0 mm diameter.

Etymology. Named *patulus*, from the Latin meaning 'broad', alluding to the broad carapace of the species.

Remarks. *Uroptychus patulus* n. sp. closely resembles *U. longvae* n.sp., *U. onychodactylus* Tirmizi, 1964 from the Maldives and *U. setosidigitalis* Baba, 1977b from Midway Island in the broad carapace, broad V-shaped anterior emargination of sternite 3, and elongate, curved, minutely toothed dactyli of pereopods 2–4. Differences between *U. patulus* and *U. longvae* are outlined under the account of the latter. *Uroptychus patulus* differs from *U. onychodactylus* and *U. setosidigitalis* having a rounded instead of pointed outer orbital margin. *Uroptychus patulus* further differs from *U. setosidigitalis* in lacking an outer spine on the basal antennal segment and in lacking the dense covering of fine setae on the pereopods.

Of the Australian species, *U. patulus* also resembles *U. laperousazi* n. sp. and *U. latus* n. sp. in the in the short, broad, carapace and broad V-shaped anterior sternal emargination. *Uroptychus patulus* differs from both *U. laperousazi* and *U. latus* in having short, triangular teeth instead of well spaced, upright spines on the flexor margins of the dactyli of pereopods 2–4.

Distribution. Eastern Bass Strait and off southeastern Tasmania at 955–1190 m.

***Uroptychus pilosus* Baba, 1981 (Fig. 21)**

Uroptychus pilosus Baba, 1981: 126–129, figs. 10–11 [type locality: Kumanonada, off E coast of Kii Peninsula, Japan].

Material examined. NEW SOUTH WALES: AM P65626, 1 male (8.2 mm), E of Ulladulla, 35°27'S, 150°55'E, K83-14-02, 987–1025 m, 25 Oct 1983.

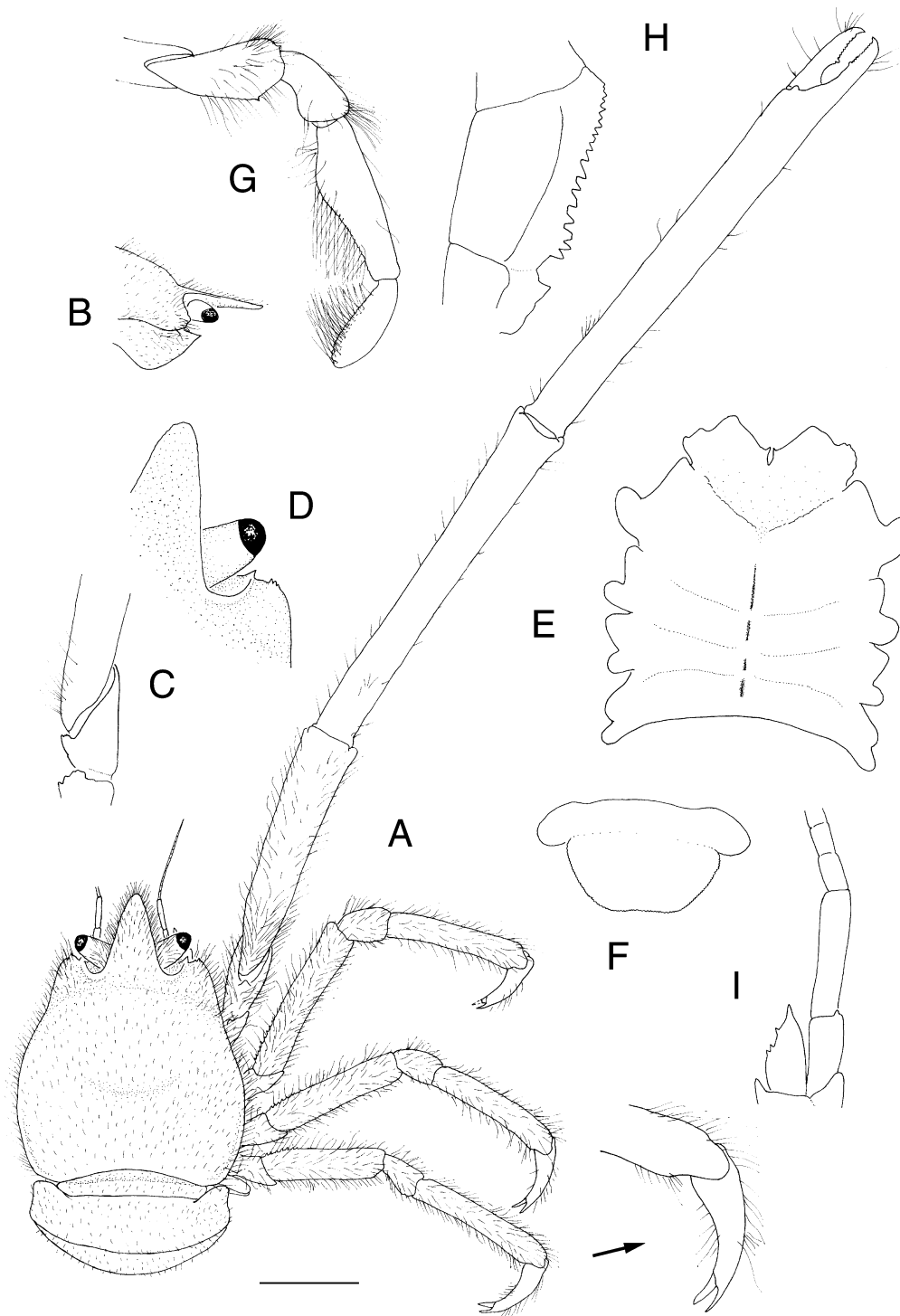


FIGURE 21. *Uroptychus pilosus* Baba, 1981, male, 8.2 mm, off Ulladulla, AM P65626. A, dorsum. B, anterior carapace, right lateral. C, cheliped, proximal right lateral. D, anterior carapace, right dorsal. E, sternum. F, telson. G, maxilliped 3, right lateral. H, crista dentata, right. I, antenna, right ventral. A–C = 3 mm, D–G = 1.5 mm. H–I = 0.8 mm.

Diagnosis. Body entirely covered with fine setae. Carapace excluding rostrum slightly wider than long, widest near midlength; with small anterolateral spinules; dorsum and lateral margins unarmed. Anterior margin of sternite 3 with broad concavity and narrow median notch; laterally unarmed. Eyes elongate; cornea not dilated. Basal antennal segment with outer spine; antennal scale as long as or slightly longer than penultimate peduncle segment. Cheliped slender, subcylindrical; 4–5 times carapace length; setose. Pereopods 2–4 similar, slender, relative lengths 2>3>4; dactylus with 2 distal spines (terminal calcareous, subterminal corneous); propodi not distinctly widened distally, unarmed; merus with series of spines on proximal extensor margin.

Remarks. The Australian specimen differs from Baba's (1981) account of the holotype in the following features: the rostrum is broader, with straight instead of concave margins; the chelae are considerably less setose, with dense setae only on the proximal half of the merus instead of the entire chela; the outer orbital angle is spinose instead of rounded; and the median anterior notch in sternite 3 is slit-like instead of U-shaped. The latter two differences were also noted by Baba (1981) for the male paratype of *U. pilosus*. The differences noted above might represent polymorphism or indicate the presence of more than one species. Further study of additional Australian specimens and the Japanese material is required to better evaluate the matter. At present we refer the specimen to *U. pilosus*.

Distribution. Japan and now from southeastern Australia at depths of 987–1160 m.

Uroptychus raymondi Baba, 2000 (Fig. 22)

Uroptychus raymondi Baba, 2000: 250–252, fig. 3 [type locality: off St. Helens, Tasmania, Australia].—Davie, 2002: 32.

Material examined. VICTORIA: NMV J21038, 1 male (7.8 mm), 65 km SE of Point Hicks, Bass Strait, 38°11.7'S, 149°48.7'E, 644–650 m, Engel high-rise trawl, S01/85/40, 3 Feb 1985. TASMANIA: SAM C6086, 1 ovigerous female (13.7 mm), Cascade Plateau, 287 km E of Southeast Cape, 43°51'S, 150°22'E, FV Labrador, K. Gowlett-Holmes, 21 Feb 1990.

Diagnosis. Carapace excluding rostrum slightly broader than long; lateral margins convex, irregularly tuberculate, with strong midlateral spine; anterolateral spine stout; outer orbital angle triangular. Rostrum sharply triangular, about half length of remaining carapace. Carapace dorsum setose and sparsely tuberculate. Sternite 3 (at base of maxilliped 3) depressed, anterior margin deeply concave, with U-shaped median notch; outer lobes of emargination angular. Sternite 4 (at base of pereopod 1) with triangular anterolateral projection. Abdominal segments setose. Eyestalks not exceeding distal half of rostrum. Antennal basal antennal segment with lateral tooth; ultimate and penultimate segments with distal tubercle. Antennal scale extending beyond midlength of ultimate peduncle segment. Maxilliped 3 carpus with blunt distolateral tubercle; merus with 2 tubercles on flexor margin. Cheliped setose, not more than 5 times carapace length, carpus

and merus distally dentate. Pereopods 2–4 similar, setose; merus irregular tuberculate or with low, widely spaced teeth on extensor margin; propodi with pair of movable spines on distal flexor margin; flexor margin of dactyli with sharp, slender distal spine, broad, blunt penultimate spine, and about 10 obliquely directed, movable spines.

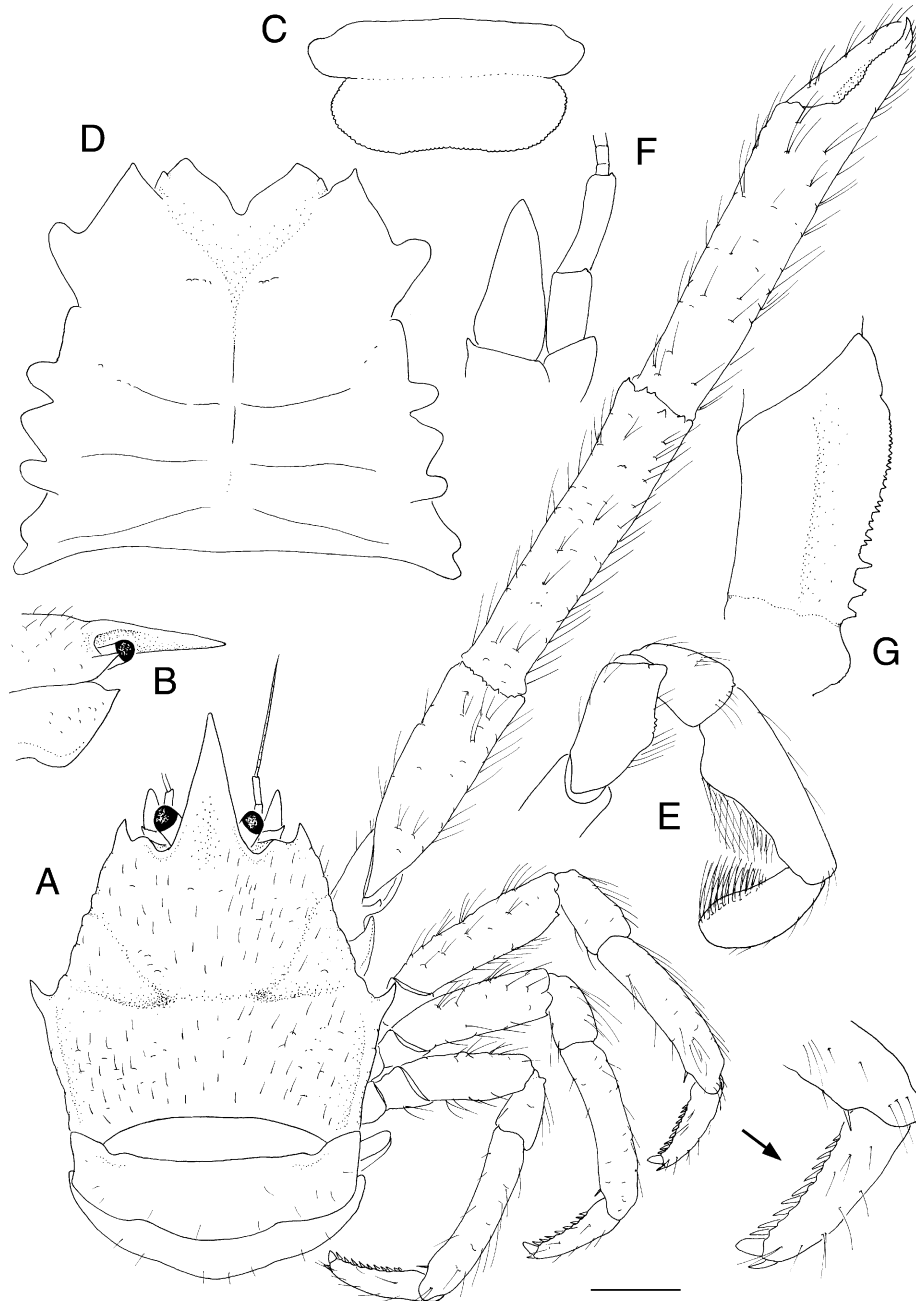


FIGURE 22. *Uroptychus raymondi* Baba, 2000, female, 13.7 mm, Tasmania, SAM C6086. A, dorsum. B, anterior carapace, right lateral. C, telson. D, sternum. E, maxilliped 3, right lateral. F, antenna, right ventral. G, crista dentata, right. A–B = 3 mm, C–F = 1.5 mm, G = 0.8 mm.

Remarks. The single, strong midlateral spine on the margins of the carapace will distinguish *U. raymondi* from all other congeners known from Australian waters.

Distribution. Bass Strait and eastern Tasmania at 644–650 m.

***Uroptychus subsolanus* n. sp. (Fig. 23)**

Type material. HOLOTYPE: NMV J17067, 1 ovigerous female (10.3 mm), 63 km S of Point Hicks, Bass Strait, Victoria, 38°22.66'S, 149°18.41'E, 1073 m, 3.5 m beam trawl, SLOPE 68, G. Poore *et al.*, 25 Oct 1988. PARATYPES: SAM C6072, 1 male (7.0 mm), 1 female (7.9 mm), 231 km S of Eucla, South Australia, 33°45'S, 129°17'E, 999–1110 m, trawled, stn 28, FV *Adelaide Pearl*, K. Gowlett-Holmes *et al.*, 1 Aug 1998.

Diagnosis. Carapace excluding rostrum broader than long; lateral margins serrated, convex, divergent, broadest posterior to midlength; with strong anteriorly directed anterolateral spine and distinct spine at base of cervical groove; outer orbital angle produced to a small spine not reaching beyond midlength of anterolateral spine; dorsum minutely punctate. Rostrum triangular, about two-thirds remaining carapace length; lateral margins with 3–5 spinules. Sternite 3 depressed, anterior margin deeply concave with short, U-shaped median notch, anterolateral angle acute, outer margin irregular and tuberculate. Ultimate and penultimate segment of antennal peduncle with distal spine. Antennal scale extending beyond apex of ultimate segment of peduncle. Cheliped propodus with straight distoventral margin. Pereopods 2–4 merus unarmed dorsally; spinose distally; propodus distinctly broadened distally, bearing 6–8 movable spines on distal flexor margin, distalmost paired; dactylus with 7 or 8 triangular, corneous, obliquely directed spines on flexor margin.

Description. *Carapace:* Breadth greater than length (excluding rostrum). Lateral margins serrated, convex, divergent, broadest posterior to midlength; with strong anteriorly directed anterolateral spine and distinct spine at base of cervical groove. Rostrum triangular, about two-thirds remaining carapace length; lateral margins with 3–5 spinules. Outer orbital angle produced to a small spine not reaching beyond midlength of anterolateral spine. Dorsum minutely punctate, devoid of setae; lateral margins sparsely setose. Pterygostomial flap with small anterior spine and small spinules on upper proximal surface.

Sternum: Plastron broader than long, slightly widening posteriorly. Sternite 3 (at base of maxilliped 3) depressed, anterior margin deeply concave with short, U-shaped median notch, anterolateral angle acute, outer margin irregular and tuberculate. Sternite 4 (at base of pereopod 1) with anterolateral margins acute and serrated, not produced anteriorly beyond outer base of sternite 3.

Abdomen: Segments minutely punctate. Telson about half as long as broad; distal portion posteriorly emarginate, about 1.5 times length of proximal portion.

Eye: Cornea not dilated, about one-third length of peduncle; not extending beyond distal third of rostrum.

Antenna: Ultimate segment of peduncle about twice as long as penultimate segment, both with distal spine. Antennal scale about as wide as penultimate peduncular segment, extending beyond apex of ultimate segment of peduncle.

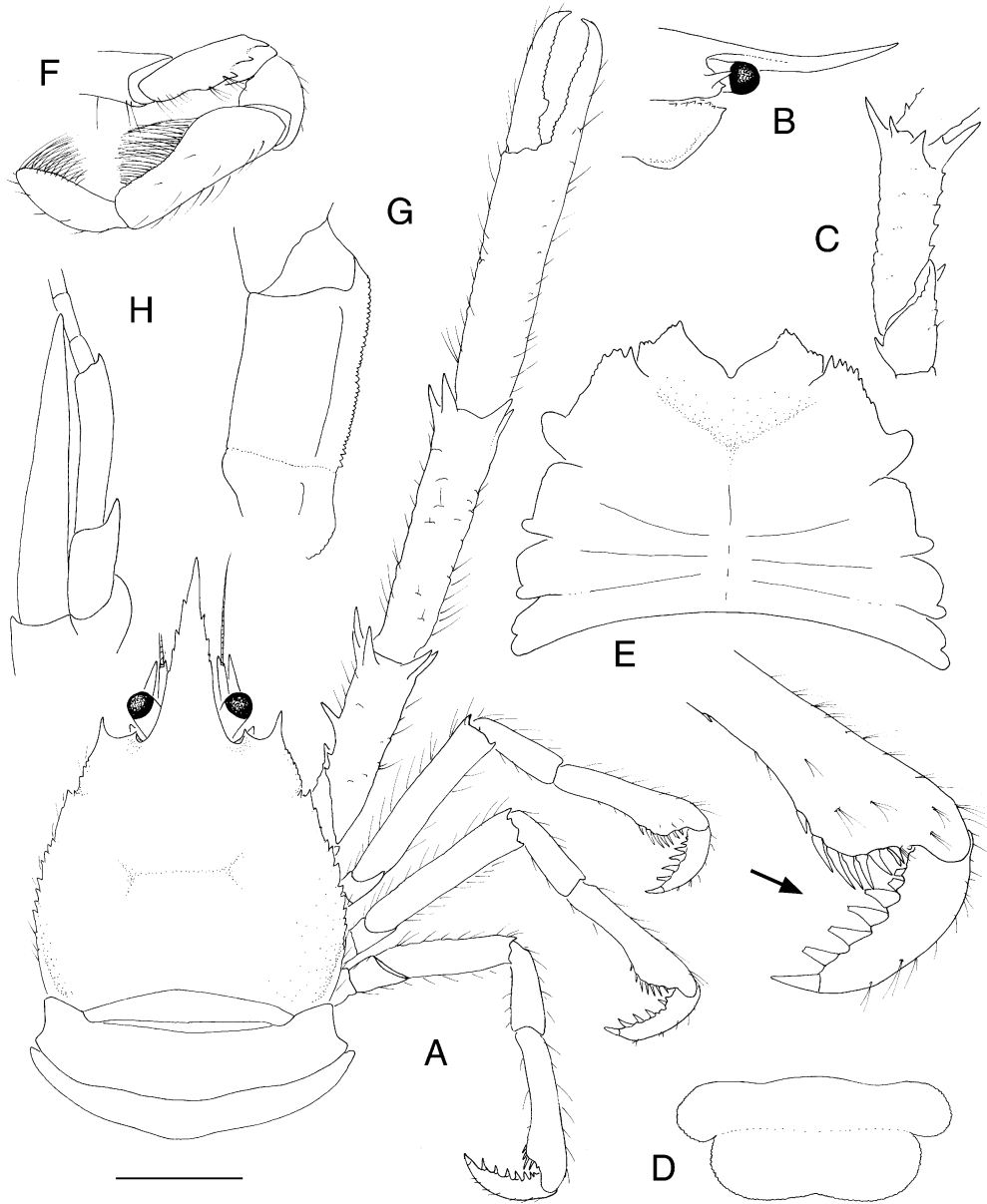


FIGURE 23. *Uroptychus subsolanus* n. sp., holotype female, 10.3 mm, NMV J17067. A, dorsum. B, anterior carapace, right lateral. C, cheliped, proximal right lateral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–C = 3 mm, D–F, H = 1.5 mm, G = 0.8 mm.

Maxilliped 3: Dactylus and propodus unarmed. Carpus with small distal extensor spine. Merus with 3 or 4 spines on distal flexor margin. Ischium with crista dentata finely and evenly denticulate along entire length of ischium, not extending onto basis.

Pereopod 1 (cheliped): Slender, cylindrical, about twice carapace length; all segments rugose and sparsely setose. Propodus with palm about 4 times as long as high, about 2 times as long as pollex. Fingers crossing, occlusal margins dentate and each with low process proximally. Carpus longer than merus, as long as propodal palm, upper distal margin spinose. Merus distal and inner margin spinous; dorsal margin lacking spines. Ischium with serrated inner and outer spinous distal margin.

Pereopods 2–4: Similar, decreasing in length posteriorly. Meri unarmed proximally; spinose distally. Carpi about 0.5 merus length and 0.6 propodus length. Propodi distinctly broadened distally, bearing 6–8 movable spines on distal flexor margin, distalmost paired. Dactyli with 7 or 8 fixed triangular, corneous, obliquely directed spines on flexor margin.

Ovum: 1.4 mm diameter.

Etymology. From the Latin, *subsolanus*, meaning ‘eastern’, alluding to the eastern distribution of the species relative to *U. hesperius* n. sp.

Remarks. *Uroptychus subsolanus* n. sp., as with *U. hesperius* n. sp., closely resembles *U. xipholepis* Van Dam, 1933 from Indonesia and *U. hamatus* Zarenkov & Khodina, 1981 from the Marcus-Necker Rise, in carapace shape, in having serrated or spinous carapace margins and in having distally broadened ventral propodus margins on the first three walking legs. Distinguishing characters of *U. hesperius* are discussed above. *Uroptychus subsolanus* differs from *U. xipholepis* chiefly in having a longer antennal scale. The apex of the antennal scale of *U. subsolanus* distinctly overreaches the apex of the distal antennal segment instead reaching slightly beyond the midlength of the distal antennal segment. Additionally, the distoventral margin of the propodus of the chelae in *U. subsolanus* is straight instead of concave as in *U. xipholepis*. *Uroptychus subsolanus* differs from *U. hamatus* in having the antennal scale distinctly overreaching instead of reaching the apex of the distal antennal segment, and in lacking the dorsal longitudinal row of spines on the carpus of the chelipeds.

Distribution. Known from Bass Strait and the vicinity of Eucla, South Australia at depths of 999–1110 m.

***Uroptychus thermalis* Baba & de Saint Laurent, 1992(Fig. 24)**

Uroptychus thermalis Baba & de Saint Laurent, 1992: 324–326, fig. 2 [type locality: North Fiji Basin].

Material examined. QUEENSLAND: AM P64922, 1 male (14.5 mm), Argo Bank, 23°22.34'S, 159°38.73'E, 1497 m, soft sandy limestone, FR0888-D4, RV *Franklin*, 9 Oct 1988.

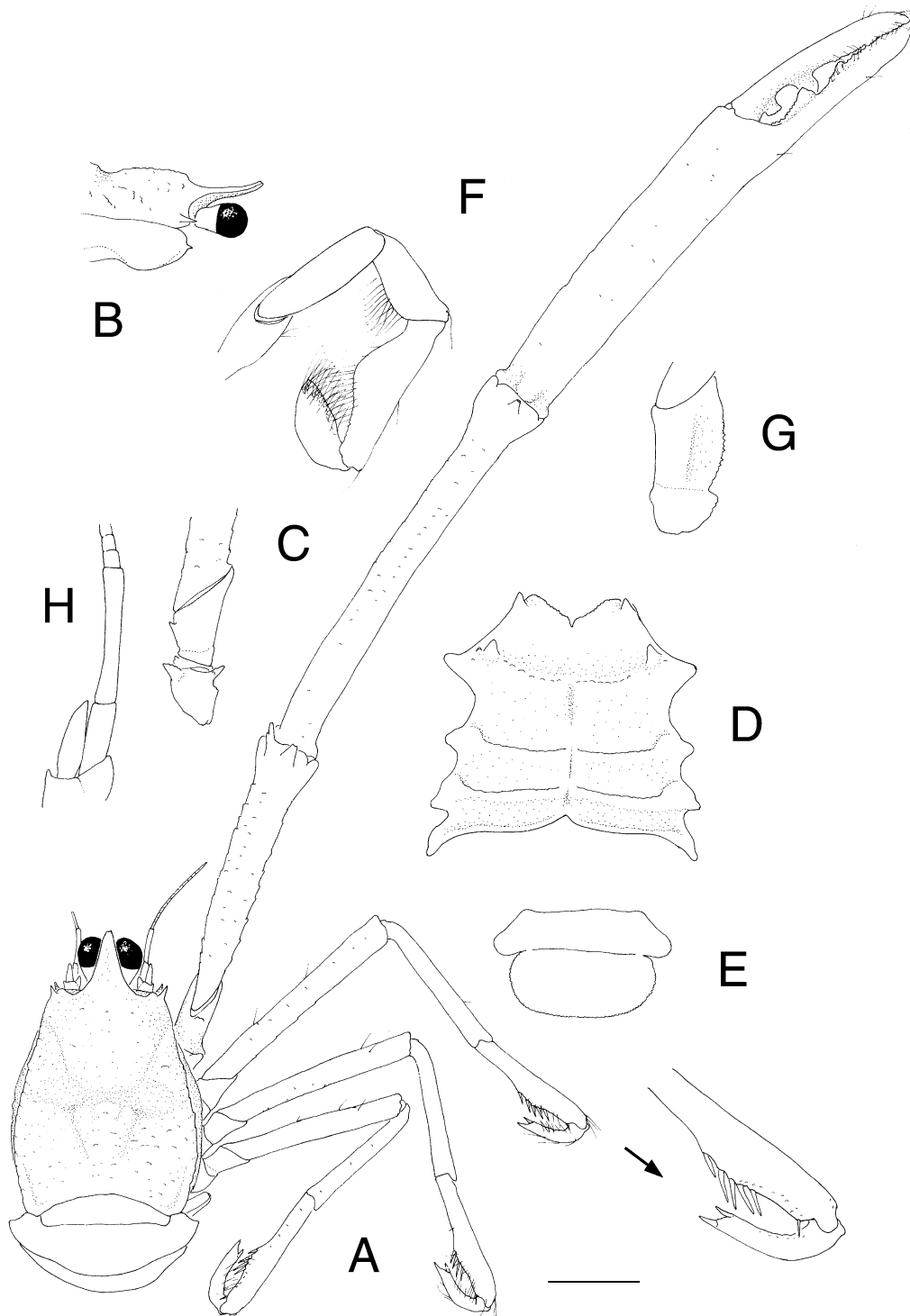


FIGURE 24. *Uroptychus thermalis* Baba & de Saint Laurent, 1992, male, 14.5 mm, Argo Bank, Queensland, AM P64922. A, dorsum. B, anterior carapace, right lateral. C, cheliped, proximal right lateral. D, sternum. E, telson. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–C = 5 mm, D–H = 2.5 mm.

Diagnosis. Carapace excluding rostrum longer than wide, widest posterior to midlength; with distinct anterolateral spine; lateral margins irregular but unarmed; dorsum without spines but with scattered scales and rugosities. Anterior margin of sternite 3 with broad concavity and narrow median notch; laterally with distinct tooth. Eyes with cornea dilated. Basal antennal segment with outer spine; ultimate and penultimate peduncle segments unarmed distally. Maxilliped 3 with segments unarmed. Cheliped slender, subcylindrical; about 5 times carapace length; with scattered scales or tubercles. Pereopods 2–4 similar, slender, relative lengths 2>3>4; dactylus with 2 distal spines; propodi widened on medial flexor margin bearing group 4 or 5 spines and single distal spine.

Remarks. The present specimen represents the first record of the species since it was described from from the North Fiji Basin. The Australian specimen differs from the type description in having larger anterolateral projections on the third and fourth sternites, slightly longer anterolateral spines on the carapace, in having a distal spine on the carpus of the cheliped, and two instead of one distal spines on the merus of the cheliped. The differences between the two specimens (11.6 mm cl. for the holotype vs. 14.5 mm in the Australian specimen) appear to be size related;

The holotype was collected from the vicinity of an active hydrothermal vent at 2000 m depth.

Distribution. Fiji and now from eastern Australia at depths of 1497–2000 m.

Uroptychus yokoyai n. sp. (Fig. 25)

Type material. HOLOTYPE: AM P65827, male (4.0 mm), Gifford Guyot, E of Brisbane, Tasman Sea, 26°44.27'S, 159°28.93'E, 306 m, on *Subergorgia* coral, beam trawl, FR0589-39, J. Lowry *et al.* on RV *Franklin*, 8 May 1989. PARATYPES: AM P65828, 2 ovigerous females (4.9–5.3 mm), Gifford Guyot, E of Brisbane, Tasman Sea, 26°43.39'S, 159°28.54'E, 295 m, beam trawl, FR0589-38, J. Lowry *et al.* on RV *Franklin*, 8 May 1989.

Diagnosis. Carapace excluding rostrum slightly broader than long; broadest at about midlength; lateral margins convex; with anterolateral spine lateral spine at base of indistinct cervical groove; outer orbital angle produced to distinct spine; dorsum unarmed. Rostrum slightly broader than long. Sternite 3 anterior margin shallowly concave, anterolateral angle obtuse. Eyestalks extending slightly beyond rostrum. Basal antennal segment unarmed; penultimate segment unarmed; ultimate with distal spine. Antennal scale extending beyond midlength but not beyond apex of ultimate peduncle segment. Cheliped propodus, carpus and distal portion of merus with granular ventral surface. Pereopods 2–4 similar; propodi not broadened distally, with 6–8 movable spines on distal flexor margin; dactyli with 8 or 9, obliquely directed spines on flexor margin, distal 3 slender, others quadrate to trapezoid.

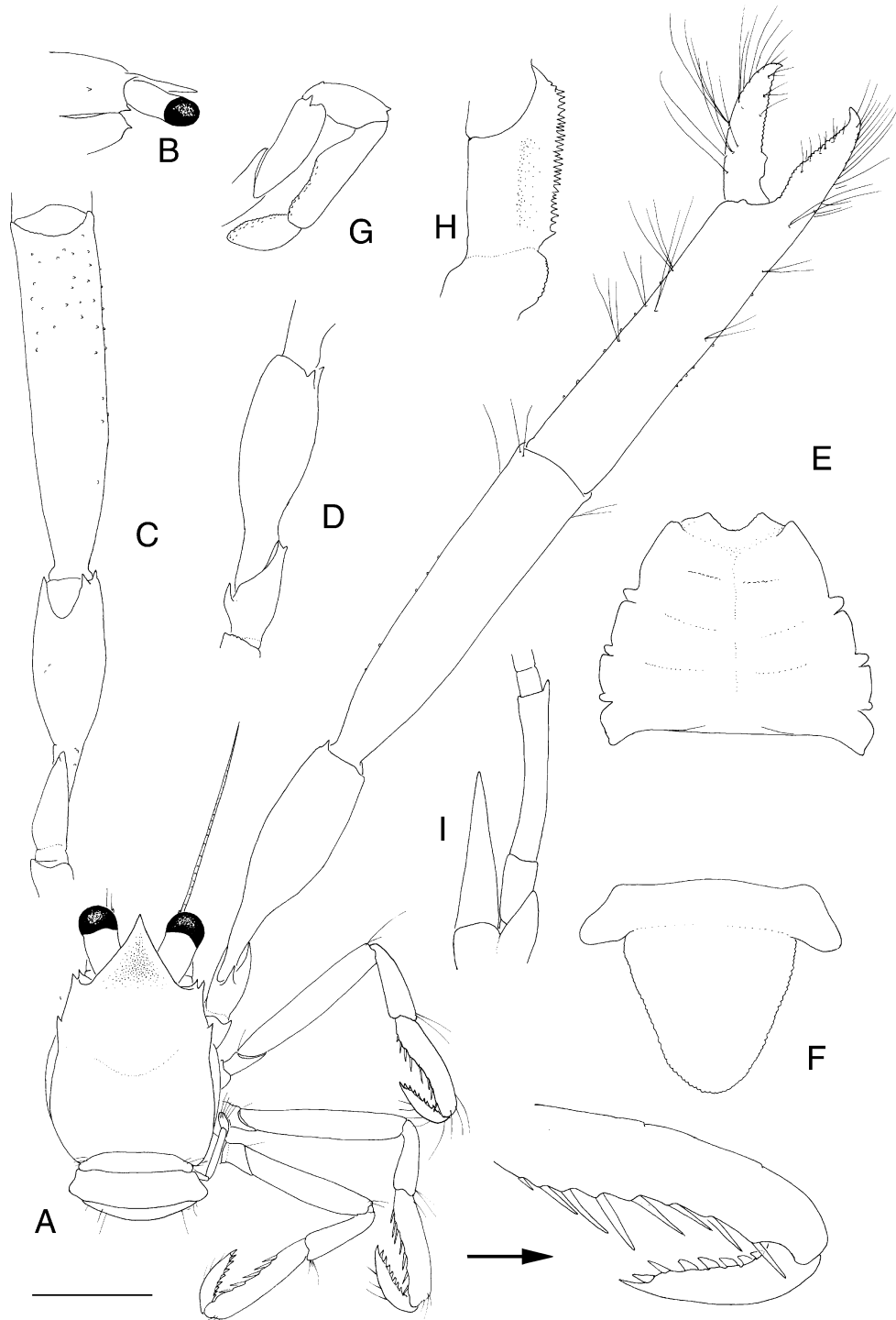


FIGURE 25. *Uroptychus yokoyai* n. sp., holotype male, 4.0 mm, AM P65827. A, dorsum. B, anterior carapace, right lateral. C, cheliped, right ventral. D, cheliped, proximal right lateral. E, sternum. F, telson. G, maxilliped 3, right lateral. H, crista dentata, right. I, antenna, right ventral. Scale A–D = 2 mm, E, G = 1 mm, F, H–I = 0.5 mm.

Description. *Carapace*: Breadth slightly greater than length (excluding rostrum); broadest at about midlength. Lateral margins convex, with slender anteriorly directed anterolateral spine lateral spine at base of indistinct cervical groove. Rostrum triangular, slightly broader than long, less than half as long as remaining carapace, apex acute, dorsally distinctly concave. Outer orbital angle produced to distinct spine, extending anteriorly beyond apices of anterolateral spines. Dorsum smooth, unarmed. Pterygostomian flap with small anterior spine.

Sternum: Plastron slightly broader than long. Sternite 3 (at base of maxilliped 3) slightly depressed, anterior margin shallowly concave, anterolateral angle obtuse. Sternite 4 (at base of pereopod 1) with lateral margins anteriorly blunt, extending anteriorly to midlength of emargination of sternite 3.

Abdomen: Segments sparsely setose. Telson four-fifths as long as wide; distal portion trianguloid, apex rounded, about 4 times length of proximal portion.

Eye: Cornea slightly dilated, about half length of peduncle; extending slightly beyond rostrum.

Antenna: Basal segment unarmed. Peduncle extending to apex of rostrum. Flagellum about 3 times as long as peduncle. Ultimate segment 2.5 times as long as penultimate segment; ultimate with distal spine. Antennal scale wider than opposite peduncular segments, extending beyond midlength but not beyond apex of ultimate peduncle segment.

Maxilliped 3: Dactylus and propodus unarmed. Extensor margin of carpus with proximal and distal spinule. Merus with distal spine. Crista dentata serrate for length of ischium, extending onto basis; serrations of basis smaller than that of ischium.

Pereopod 1 (cheliped): Slender, subcylindrical, about 5 times carapace length, sparsely setose; propodus, carpus and distal portion of merus with granular ventral surface. Propodus palm 4 times as long as high, about 2.5 times as long as pollex. Fingers crossing, occlusal margins dentate, with obtuse proximal prominence. Carpus longer than merus and propodal palm. Merus distinctly constricted proximally, inner and outer distal spine. Ischium with slender distolateral spine.

Pereopods 2–4: Sparsely setose, similar, slightly decreasing in length posteriorly. Carpus about 0.5 meral and 0.7 propodal length. Propodi not broadened distally, with 7–9 movable spines on distal flexor margin, distalmost paired. Dactyli with 8 or 9 fixed, obliquely directed spines on flexor margin, distal 3 slender, others quadrate to trapezoid.

Ovum: 1.0 mm diameter.

Etymology. Named for Yu Yokoya, who described the similar species, *U. latirostris* from Japan; noun in apposition.

Remarks. Although Baba (1988) regarded *U. latirostris* Yokoya, 1933 as a synonym of *U. cavirostris* Alcock & Anderson, 1899, study of the present series of *Uroptychus* from Australia in combination with published accounts (Baba 1973, Van Dam 1933) indicates that Yokoya's species is distinct. Baba (1973) redescribed and illustrated *U. latirostris* from Japanese material, including topotypes. His account shows that the Japanese form

differs from *U. cavirostris* as figured by Van Dam (1933) in lacking the paired median spines on the anterior margin of sternite 3 and lacks spines on the merus of the third maxilliped. Therefore, we regard *U. latirostris* as a distinct species and remove it from the synonymy of *U. cavirostris*.

Uroptychus yokoyai n. sp. most closely resembles *U. latirostris*, *U. cavirostris* and *U. alcocki* n. sp. in the subquadrate carapace with broad, triangular rostrum. *Uroptychus yokoyai* resembles *U. latirostris* and differs from *U. cavirostris* and *U. alcocki* n. sp. in bearing the broad, U-shaped emargination in sternite 3, without a pair of median spines. The new species further differs from *U. cavirostris* in having a rounded instead of medially emarginate telson. *Uroptychus yokoyai* differs from *U. latirostris* (based on Baba 1973) in bearing a distal spine on the carpus and merus of the third maxilliped, and in bearing numerous tubercles on the ventral surface of propodus and carpus of the chelipeds. According to Yokoya (1933) and Baba (1973), the chelae of *U. latirostris* are smooth.

Distribution. Known only from the type locality on *Subergorgia* coral at 295–306 m.

***Uroptychus zeidleri* n. sp. (Fig. 26)**

Type material. HOLOTYPE: SAM C6066, ovigerous female (10.4 mm), 46 km W of Richardson Point, Tasmania, 41°15'S, 144°08'E, 520 m, scampi trawl, stn 51, FV *Soela*, W. Zeidler, 20 Oct 1984. PARATYPE: SAM 6082, 1 female (7.0 mm), type locality.

Diagnosis. Carapace excluding rostrum broader than long; lateral margins divergent; with anterolateral spine and 11–15 lateral spines; anterior 2 lateral spines small, third spine large, stout, at base of indistinct cervical groove, remainder stout, closely spaced, decreasing in size posteriorly; outer orbital angle produced to small acute spine; dorsum smooth, with transverse row of 9 or 10 epigastric spines. Rostrum sharply triangular, with 1 or 2 minute lateral spinules. Sternite 3 anterior margin deeply concave with U-shaped median notch, anterolateral angle crenulate, flanked laterally by short angular projection. Basal antennal segment with 1 or 2 small outer spines; ultimate and penultimate segments with distal spine. Antennal scale extending almost to apex of ultimate peduncle segment. Cheliped segments with setose scales or small spinules. Pereopods 2–4 similar; merus with small spines on extensor margin; propodus broadened distally, with 6 or 7 movable spines on flexor margin; dactylus with 8–10 strong, obliquely directed, corneous teeth on flexor margin.

Description. *Carapace:* Breadth greater than length (excluding rostrum). Lateral margins divergent; with strong anteriorly directed anterolateral spine and 11–15 lateral spines. Anterior 2 lateral spines small, third spine large, stout, at base of indistinct cervical groove, remainder stout, closely spaced, decreasing in size posteriorly. Rostrum sharply triangular, about half as long as remaining carapace, with 1 or 2 minute lateral spinules. Outer orbital angle produced to small acute spine. Dorsum smooth, with transverse row of 9 or 10 epigastric spines. Pterygostomian flap with strong anterior spine and small spinules of proximal surface.

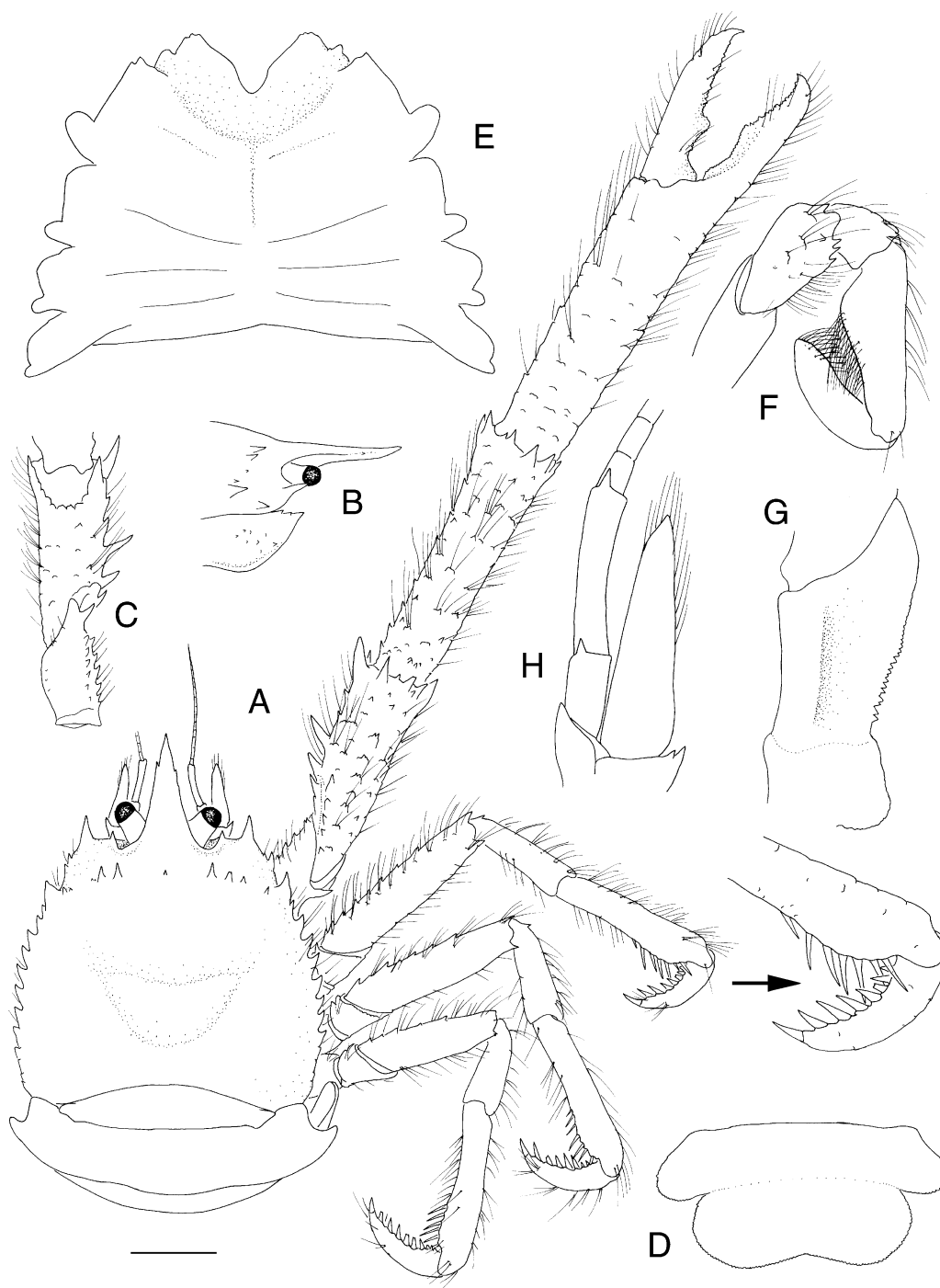


FIGURE 26. *Uroptychus zeidleri* n. sp., holotype female, 10.4 mm, SAM C6066. A, dorsum. B, anterior carapace, right lateral. C, cheliped, proximal right ventral. D, telson. E, sternum. F, maxilliped 3, right lateral. G, crista dentata, right. H, antenna, right ventral. Scale A–C = 5 mm, D–F = 2.5 mm, G–H = 1.3 mm.

Sternum: Plastron broader than long, widening posteriorly. Sternite 3 (at base of maxilliped 3) depressed, anterior margin deeply concave with U-shaped median notch, anterolateral angle crenulate, flanked laterally by short angular projection. Sternite 4 (at base of pereopod 1) with short, triangular anterolateral margins.

Abdomen: Segments glabrous. Telson about half as long as broad; distal portion posteriorly emarginate, longer than proximal portion.

Eye: Cornea not dilated, about half-length of peduncle; not reaching beyond midlength of rostrum.

Antenna: Basal segment with 1 or 2 small outer spines. Peduncle extending to distal quarter of rostrum. Flagellum about twice as long as peduncle. Ultimate segment twice as long as penultimate segment, both with distal spine. Antennal scale wider than opposite peduncular segments, extending almost to apex of ultimate peduncle segment

Maxilliped 3: Dactylus and propodus unarmed. Merus with 3 or 4 distal flexor spines and 1 distal extensor spine. Crista dentata finely denticulate proximally, becoming smooth on distal half of ischium.

Pereopod 1 (cheliped): Setose, about 3 times carapace length. Propodus with scales; palm 3–4 times as long as high, less than twice as long as dactylus. Fingers crossing, occlusal margins dentate and each with low process proximally. Carpus with setose scales or small spinules, distal margin spinose. Merus with setose scales or small spinules, distal margin spinose; inner margin with row of 2 or 3 large spines. Ischium with large distolateral spine and 2 rows of small spines on inner margin.

Pereopods 2–4: Setose, similar, slightly decreasing in length posteriorly. Meri with spinulose extensor margin and distal flexor spine. Carpi about two-thirds propodal length; that of pereopods 2–3 with small proximal spine on extensor margin; that of pereopod 4 unarmed. Propodi broadened distally, with 6 or 7 movable spines. Dactyli with 8–10 fixed, strong, obliquely directed, corneous teeth on flexor margin.

Ovum: 1.2 mm diameter.

Etymology. Named for Wolfgang Zeidler, formerly South Australian Museum, who collected the type material.

Remarks. *Uroptychus zeidleri* n. sp. closely resembles *U. ensirostris* Parisi, 1917, from Japan (see redescription by Froglija 1987) in the shape of the carapace and rostrum, presence of a transverse row of epigastric spines, sternal morphology, armature of the chelae dactyli of the walking legs, and distally broadened propodi of the walking legs. The new species is readily distinguished from *U. ensirostris* in having distinctly more spinose lateral carapace margins, in bearing an outer spine on the basal antennal segment and in bearing a distal spine on the distal two antennal peduncle segments.

Of the known Australian species, *U. zeidleri* resembles *U. calcar* n. sp. and *U. paracrassior* n. sp. from New South Wales and Victoria in the lateral armature of the carapace and shape of sternites 3 and 4. *Uroptychus zeidleri* differs from *U. calcar* in having tuberculate instead of glabrous chelae, serrate instead of smooth dorsal margins of the pereopod

2–4 meri, in having a row of movable spines on the distal flexor margins of the pereopod 2–4 propodi, and in having obliquely instead of perpendicularly oriented dactylar spines on pereopods 2–4. *Uroptychus zeidleri* differs from *U. paracrassior* in having a transverse row of epigastric spines, in having more slender and more rugose chelae and in lacking the small paired median spines on the anterior margin of sternite 3.

Distribution. Presently known only from off Richardson Point, northwestern Tasmania at 520 m.

Discussion

Prior to the present study, eight chirostyloid species in four genera were known from Australia (Davie 2002). The present study, based only on temperate or subtemperate water collections, reports 31 species arrayed in three genera, more than quadrupling the known Australian chirostyloid fauna to a total of 34 species. Of the two species of *Eumunida* reported herein, *E. capillata* is a new record for Australia. Of the four species of *Gastropptychus* reported herein, one species, *G. spinirostris*, is newly described, and *G. hendersoni* and *G. sternoornatus* are new Australian records. Previously, only four species of *Uroptychus* were known from Australia. Twenty-five species of *Uroptychus* are reported from the study area increasing the known Australian fauna to 26. Of the species of *Uroptychus* reported herein, 20 are new to science and two are new records for the region. That the vast majority of new records are also new species suggests not only that the fauna is underestimated, but that a high level of endemism possibly exists. Whether such apparent endemism reflects reality or is an artefact of inadequate sampling must be determined by future studies. Clearly, the southern Australian chirostyloid fauna, particularly that of *Uroptychus*, is considerably more diverse than indicated by previous studies. Unfortunately, the deepwater chirostyloids from northern Australia have not been comprehensively studied. In view of the present results, the northern Australian chirostyloid fauna will likely also be found to be highly speciose.

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