

tooth slightly isolated from remainder of dorsal rostral series, situated in line with or anterior to level of hepatic spine; carapace with supraorbital spine, hepatic spine smaller than antennal spine, arising posteroventral to latter, not extending beyond anterior margin of carapace, orbital angle not produced, not ovate; abdomen without compressed dorsal prominence on 3rd somite, 6th somite about  $1\frac{1}{2}$  times as long as 5th; telson with 2 pairs of dorsolateral spines anterior to posterior margin, anterior pair arising considerably anterior to mid-length; eye with cornea hemispherical, not ogival; antennular peduncle with 1 distolateral spine on basal segment; antennal scale about 5 times as long as wide, lateral margin somewhat concave, distolateral tooth overreaching distal margin of blade; 4th thoracic sternite with slender median process; 1st pereopod overreaching antennal scale, fingers spatulate, pectinate on opposable margins; 2nd pereopod with fingers less than  $\frac{2}{3}$  as long as palm, with sound-producing fossae on opposable margins of each finger, carpus about  $\frac{1}{4}$  as long as palm, about  $1\frac{2}{3}$  times as long as distal width, with 2 distal spines, merus with distal tooth on flexor margin; 3rd pereopod with dactyl not subdistally truncate, without denticulate lobe on flexor margin, simple, not biunguiculate, flexor margin concave, propodus with spinules on flexor margin, not segmented; 5th pereopod overreaching antennal scale; uropod overreaching extended telson; maximum postorbital carapace length about 5 mm.

**MATERIAL.**—PHILIPPINES. Marungas Island, Sulu Archipelago; [6°06'N, 120°58'E];  $1\frac{1}{4}$ – $2\frac{1}{2}$  m; scattered coral and sand; 10 Feb 1908 (1330–1500); diving, coral heads taken ashore: 3 males [1.6–3.1], 3 females [2.0–3.0], 2 ovig [2.8, 3.0].

**RANGE.**—Probably the commonest and most widely distributed pontonine shrimp in the Indo-West Pacific region, absent only from the northwestern part of the Indian Ocean and the Red Sea; free-living, frequently sheltering in coral colonies.

#### \*155. *Periclimenes tenuipes* Borradaile, 1898

*Periclimenes tenuipes* Borradaile, 1898:384 [type locality: New Britain].—Bruce and Svoboda, 1983:4, fig. 1.

*Periclimenes borradalei* Rathbun, 1904:34 [replacement name for *P. tenuipes* Borradaile, 1898].

*Periclimenes (Falciger) kolumadulensis* Borradaile, 1915:213 [type locality: Kolumadulu Atoll, Maldives Islands].

*Periclimenes (Ancylocaris) tenuipes*.—Kemp, 1922:220, pl. 8: fig. 11.

*Periclimenes (Harpilius) tenuipes*.—Holthuis, 1952c:84.

**DIAGNOSIS.**—Integument smooth, not pitted, on lateral areas of carapace and abdomen; rostrum overreaching antennal scale, shallow, directed anterodorsad in anterior  $\frac{1}{2}$ , rostral formula 1–2 + 8–10/6–9, posteriormost tooth not isolated from remainder of dorsal rostral series, situated posterior to level of hepatic spine; carapace without supraorbital or postorbital spine, hepatic spine not noticeably larger than antennal spine, arising posteroventral to latter, not extending beyond anterior margin of carapace, orbital angle not spatulate; abdomen without compressed dorsal prominence on 3rd somite, 6th

somite about  $1\frac{1}{3}$  times as long as 5th; telson with 2 pairs of dorsolateral spines anterior to posterior margin, anterior pair arising anterior to mid-length; eye with cornea hemispherical, not produced distally; antennular peduncle with 1 distolateral spine on basal segment, antennal scale  $6\frac{1}{2}$ –7 times as long as wide, lateral margin distinctly concave, distolateral tooth reaching far beyond distal margin of blade; 4th thoracic sternite with slender median process; 1st pereopod overreaching antennal scale, fingers not pectinate on opposable margins; 2nd pereopod with fingers slightly more than  $\frac{1}{2}$  as long as palm, carpus about  $1\frac{1}{3}$  times as long as palm, about 8 times as long as distal width, with 1 obscure distal spine, merus with distal tooth on flexor margin; 3rd pereopod with dactyl not subdistally truncate, without denticulate lobe on flexor margin, simple, not biunguiculate, flexor margin concave, propodus with short spinules on flexor margin, obscurely segmented, 5th pereopod overreaching antennal scale; uropod overreaching extended telson; maximum carapace length about 6 mm.

**MATERIAL.**—PHILIPPINES. Off Tawitawi, Sulu Archipelago: sta 5160; 5°12'40"N, 119°55'10"E; 22 m; sand; 22 Feb 1908 (0829–0832); 9' Johnston oyster dredge: 1 male [3.3].

**RANGE.**—Red Sea and eastern Africa to Philippines, Indonesia, Great Barrier Reef of Australia, and Palau and Marshall islands; generally free-living, sometimes associated with sea anemones.

**REMARKS.**—The *Albatross* specimen from off Tawitawi lacks both second pereopods; its positive identification is therefore questionable, but it agrees with the description and illustration by Kemp (1922) in all other particulars.

#### 156. *Periclimenes tenuis* Bruce, 1969

*Periclimenes tenuis* Bruce, 1969b:272 [type locality: Chukwani, Zanzibar; 6°15.1'S, 39°12.7'E; 1 foot, on crinoids]; 1982c:195, fig. 8c; 1983c:886.

**DIAGNOSIS.**—Integument smooth, not pitted on lateral areas of carapace and abdomen; rostrum not overreaching antennal scale, horizontal, rostral formula 0 + 5/0, posteriormost tooth not isolated from remainder of dorsal rostral series, situated anterior to level of hepatic spine; carapace without supraorbital or postorbital spine, hepatic spine robust, arising well posteroventral to latter, not extending beyond anterior margin of carapace, orbital angle acutely produced, not ovate; abdomen without compressed dorsal prominence on 3rd somite; telson with 2 pairs of dorsolateral spines anterior to posterior margin, both arising on posterior  $\frac{1}{2}$ ; eye with cornea hemispherical, not ogival; antennular peduncle with 1 distolateral spine on basal segment; antennal scale narrow, lateral margin straight or slightly concave, distolateral tooth not reaching level of distal margin of blade; 4th thoracic sternite without slender median process; 1st pereopod not overreaching antennal scale, fingers scissor-like, much longer than palm, not pectinate on opposable margins; 2nd pereopods similar, feeble, with fingers 3 times as long as palm, carpus about  $\frac{1}{2}$  as long as palm, expanded distally but unarmed, merus without distal

tooth on flexor margin; 3rd pereopod with dactyl not subdistally truncate, without denticulate lobe on flexor margin, simple, not biunguiculate, flexor margin nearly straight proximally, strongly concave on unguis, propodus with long, spinulate setae on distal part of flexor margin, not segmented; uropod slightly overreaching extended telson; maximum postorbital carapace length about  $2\frac{1}{4}$  mm.

RANGE.—Red Sea, Zanzibar, Ryukyu Islands, Indonesia, Great Barrier Reef of Australia, and Marshall Islands; associated with crinoids.

**\*157. *Periclimenes toloensis* Bruce, 1969**

FIGURE 23

*Periclimenes toloensis* Bruce, 1969b:275 [type locality: Ap Island, Tolo Channel, Hong Kong; 9–27 meters]; 1982e:258, figs. 15–18.

DIAGNOSIS.—Integument smooth, not pitted, on lateral areas of carapace and abdomen; rostrum not overreaching antennal scale, rather shallow, horizontal, rostral formula  $1-2 + 7/1$ , posteriormost tooth somewhat isolated from remainder of dorsal rostral series, situated posterior to level of hepatic spine; carapace without supraorbital or postorbital spine, hepatic spine no larger than antennal spine, arising posteroventral to latter, not extending beyond anterior margin of carapace, orbital angle produced, subovate; abdomen without compressed dorsal prominence on 3rd somite, 6th somite about twice as long as 5th; telson with 2 pairs of dorsolateral spines anterior to posterior margin, anterior pair arising at about mid-length; eye with cornea hemispherical, not produced distally; antennular peduncle with 1 distolateral spine on basal segment; antennal scale about  $3\frac{1}{2}$  times as long as wide, distolateral spine not nearly reaching level of distal margin of blade; 4th thoracic sternite without slender median process; 1st pereopod overreaching antennal scale by length of fingers, latter not pectinate on opposable margins; major 2nd pereopod with fingers slightly more than  $\frac{1}{2}$  as long as palm, carpus slightly less than  $\frac{2}{3}$  as long as palm, about  $3\frac{3}{4}$  times as long as distal width, without distal spines, merus without distal tooth on flexor margin; 3rd pereopod overreaching antennal scale by about length of dactyl, latter not subdistally truncate, without denticulate lobe on flexor margin, biunguiculate, flexor margin faintly sinuous, propodus with few spinules on flexor margin, not segmented; uropod overreaching extended telson; maximum postorbital carapace length about  $2\frac{1}{2}$  mm.

MATERIAL.—PHILIPPINES. Near Siasi, Sulu Archipelago: sta 5147;  $5^{\circ}41'40''N$ ,  $120^{\circ}47'10''E$ ; 38 m; coral sand, shells; 16 Feb 1908 (1127–1147); 12' Agassiz beam trawl, mud bag: 1 ovig female [2.2].

RANGE.—Tanzania, Hong Kong, Philippines, and Northern Territory and Great Barrier Reef of Australia; at least sometimes associated with hydroids.

REMARKS.—As the *Albatross* representative of this species was at first believed to differ from the original description, it was described and illustrated as an undescribed species. Those illustrations are reproduced here to confirm the error of that initial belief.

**158. *Periclimenes tosaensis* Kubo, 1951**

*Periclimenes (Ancylocaris) tosaensis* Kubo, 1951:268, figs. 7, 8 [type locality: Tosa Wan, off Usa, Shikoku, Japan].

*Periclimenes (Harpilius) tosaensis*.—Bruce, 1966c:15, figs. 1, 2, 3a, 4a,b.

*Periclimenes tosaensis*.—Bruce, 1981c:196, fig. 5.

DIAGNOSIS.—Integument smooth, not pitted, on lateral areas of carapace and abdomen; rostrum not overreaching antennal scale, shallow, ventrally concave, rostral formula  $1 + 6-9/2$ , posteriormost tooth somewhat isolated from remainder of dorsal rostral series, situated slightly anterior to level of hepatic spine; carapace without supraorbital or postorbital spine, hepatic spine not noticeably larger than antennal spine, arising posteroventral to latter, not extending beyond anterior margin of carapace, orbital angle sinuously and acutely produced, not quite spatulate; abdomen with low, compressed dorsal prominence on 3rd somite, 6th somite fully twice as long as 5th; telson with 2 pairs of dorsolateral spines anterior to posterior margin, both pairs arising in posterior  $\frac{1}{2}$  of length; eye with cornea hemispherical, not produced distally; antennular peduncle with 1 small distolateral spine on basal segment; antennal scale about 4 times as long as wide, lateral margin slightly concave, distolateral tooth not nearly reaching level of distal margin of blade; 4th thoracic sternite without slender median process; 1st pereopod overreaching antennal scale by length of fingers, latter not pectinate on opposable margins; 2nd pereopod with fingers subequal to palm in length, carpus slightly longer than palm, about 5 times as long as distal width, without distal spines, merus without tooth on flexor margin; 3rd pereopod with dactyl not subdistally truncate, without denticulate lobe on flexor margin, simple, not biunguiculate, flexor margin sinuously concave, propodus with few spinules on distal  $\frac{1}{2}$  of flexor margin, not segmented; 5th pereopod reaching to about distal end of antennal scale; uropod overreaching extended telson; maximum postorbital carapace length more than 5 mm.

RANGE.—Seychelle Islands, South China Sea, southern Japan, and Philippines; to a depth of about 130 meters.

**159. *Periclimenes venustus* Bruce, 1990**

*Periclimenes venustus* Bruce, 1989b:178; 1990f:230, figs. 1–6, 7a, 8a [type locality: Port Essington, Cobourg Peninsula, northern Australia; associated with sea anemones].

DIAGNOSIS.—Integument smooth, not pitted, on lateral areas of carapace and abdomen; rostrum not overreaching antennal scale, shallow, ventrally concave, rostral formula  $1 + 5-7/0-2$ , posteriormost tooth somewhat isolated from remainder of dorsal rostral series, situated slightly posterior to level of hepatic spine; carapace without supraorbital or postorbital spine, hepatic spine not noticeably larger than antennal spine, arising posteroventral to latter, not extending beyond anterior margin of carapace, orbital angle strongly acutely produced, subovate; abdomen with low, compressed dorsal prominence on 3rd somite, slightly produced, 6th somite fully twice as long as 5th; telson with 2 pairs of dorsolateral spines anterior to posterior margin, both pairs arising on posterior  $\frac{1}{2}$  of length;

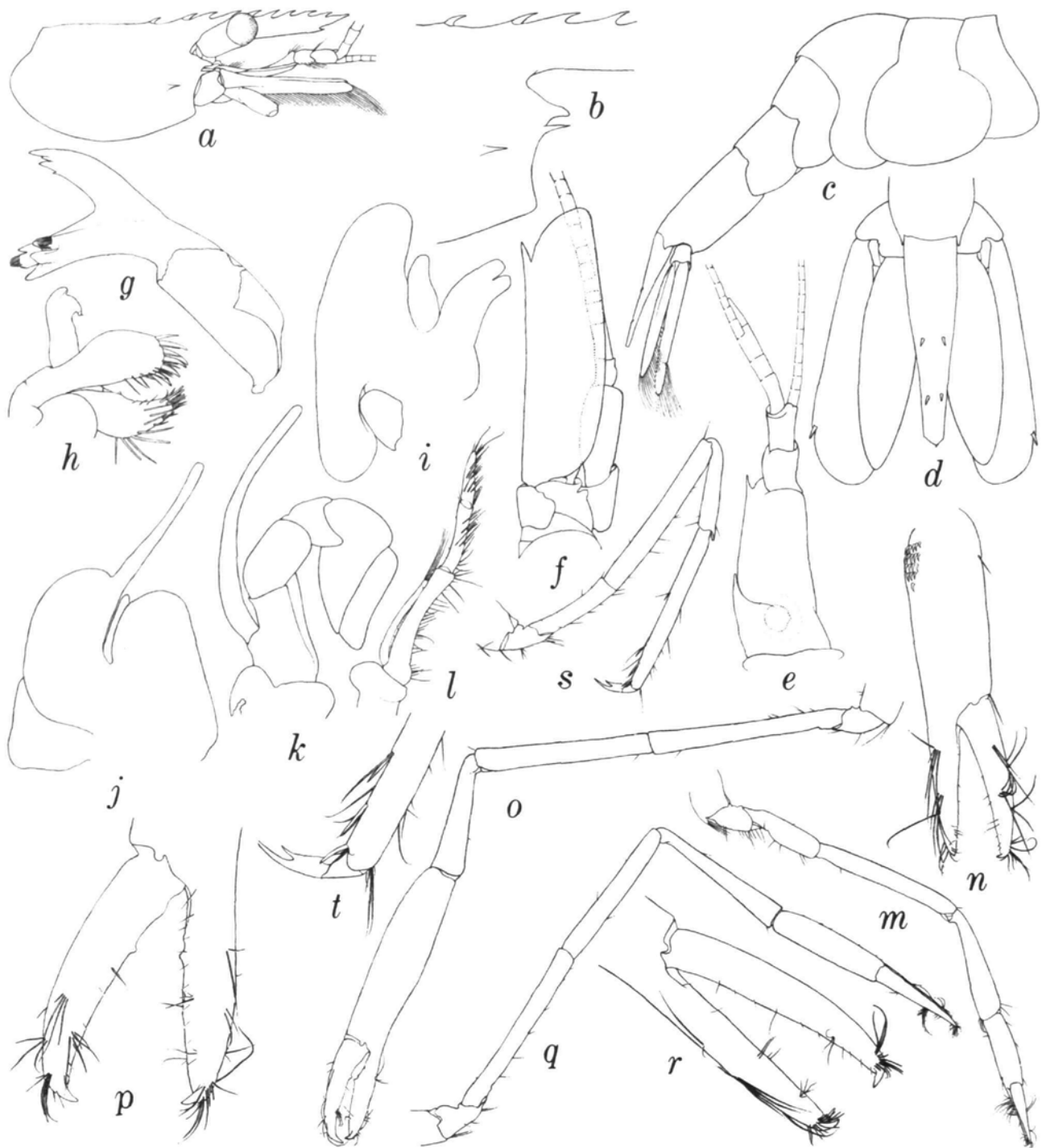


FIGURE 23.—*Periclimenes toloensis*, ovigerous female from Albatross sta 5147 (Sulu Archipelago), carapace length 22 mm: a, carapace and anterior appendages, lateral aspect; b, anterior carapace, lateral aspect; c, abdomen, lateral aspect; d, tail fan; e, left antennule, dorsal aspect; f, left antenna, dorsal aspect; g, right mandible; h, right 1st maxilla; i, right 2nd maxilla; j, right 1st maxilliped; k, right 2nd maxilliped; l, right 3rd maxilliped; m, right 1st pereopod; n, same, chela; o, left (major) 2nd pereopod; p, same, fingers; q, right (minor) 2nd pereopod; r, same, fingers; s, right 3rd pereopod; t, same, dactyl.

eye with cornea hemispherical, not produced distally; antennular peduncle with 1 small distolateral spine on basal segment; antennal scale about  $2\frac{1}{2}$  times as long as wide, lateral margin straight, distolateral tooth not nearly reaching level of distal margin of blade; 4th thoracic sternite without slender median process; 1st pereopod overreaching antennal scale by length of chela, fingers not pectinate on opposable margins; 2nd pereopod with fingers subequal to palm in length, carpus subequal to or shorter than palm, about 3–4 times as long as distal width, without distal spines, merus without tooth on flexor margin; 3rd pereopod with dactyl not subdistally truncate, without denticulate lobe on flexor margin, biunguiculate, flexor margin concave, propodus with few short spines on distal  $\frac{1}{6}$  of flexor margin, not segmented; 5th pereopod reaching to about distal end of antennal scale; uropod overreaching extended telson; maximum postorbital carapace length more than 5 mm.

RANGE.—Ryukyu Islands, Philippines, and northern and western Australia; to a depth of about 5 m.

REMARKS.—Some of the specimens referred in the earlier literature as *P. holthuisi* may well be examples of this species.

#### *Periclimenoides* Bruce, 1990

*Periclimenoides* Bruce, 1990c:616 [type species, by original designation: *Periclimenaeus odontodactylus* Fujino and Miyake, 1968b:85, figs. 1, 2; gender: masculine].

DIAGNOSIS.—Rostrum well developed, overreaching anteriorly extended eyes, compressed laterally, dorsally dentate, lateral carina not expanded into broad supraocular or postocular eave, carapace moderately compressed, dorsal profile straight, without postrostral gastric teeth, anterior margin not produced anteroventrally as prominent convex lobe and not deeply concave (notched), without longitudinal branchiostegal suture, with antennal spine, without hepatic spine, orbital margin not posteriorly interrupted; abdomen with 5th pleuron rounded, not sharp-pointed; telson not curving ventrally, posterior margin not incised, median and submedian pairs of spines not curving ventrally, dorsolateral spines not particularly robust; epistome not bearing paired, horn-like processes; antennal scale well developed; mandible without palp, incisor process bidentate; 3rd maxilliped with exopod; 4th thoracic sternite without median process; 1st pereopod with carpus entire, not subdivided; 2nd pereopods with chelae unequal, similar, opposable margins of fingers denticulate, not provided with socket and plunger closure; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl biunguiculate, not bearing hoof-shaped protuberance; uropod with lateral branch bearing teeth and mobile lateral spine.

RANGE.—Japan, Hong Kong, Philippines, Australian Northwest Shelf and Great Barrier Reef; associated with sponges, *Ircinia fasciculata*.

REMARKS.—Only one species has been recognized.

#### \*160. *Periclimenoides odontodactylus* (Fujino and Miyake, 1968)

*Periclimenaeus odontodactylus* Fujino and Miyake, 1968b:85, figs. 1, 2 [type locality: Ushitaka, Amakusa Island, Japan].

*Periclimenoides odontodactylus*.—Bruce, 1990c:617, figs. 2, 3.

DIAGNOSIS.—Characters of genus; maximum postorbital carapace length about 4 mm.

MATERIAL.—PHILIPPINES. Off Jolo Island, Sulu Archipelago; sta 5142;  $6^{\circ}06'10''N$ ,  $121^{\circ}02'40''E$ ; 38 m; coral sand and shells; 15 Feb 1908 (1033–1044); 12' Agassiz Beam trawl, mud bag; 1 ovig female [3.9].

RANGE.—See "Range" of genus.

REMARKS.—This specimen agrees with the original description of *P. odontodactylus* in most particulars, including the unusual telson and the chelae of the first and second pereopods. The rostrum is armed with eight dorsal teeth, compared with six in the holotype and seven in the specimen from Hong Kong.

#### \**Philarius* Holthuis, 1952

*Philarius* Holthuis, 1952c:5, 15, 151 [type species, by original designation: *Harpilius Gerlachei* Nobili, 1905b:160; gender: masculine].

DIAGNOSIS.—Rostrum overreaching anteriorly extended eyes, compressed laterally, armed at least dorsally throughout length, lateral carina not expanded into broad supraocular or postocular eave; carapace somewhat depressed, dorsal profile straight or slightly convex, with or without 1 or more teeth of dorsal rostral series continuing onto gastric region, anterior margin not produced anteroventrally as prominent convex lobe and not deeply concave (notched), without longitudinal branchiostegal suture, with antennal spine, without hepatic spine, orbital margin not interrupted posteriorly; abdomen with pleuron of 5th somite blunt or acute; telson not curving ventrad, posterior margin not incised, median and submedian pairs of posterior spines not curving ventrad, dorsolateral spines not particularly robust; epistome not bearing paired, horn-like processes; antennal scale well developed; mandible without palp; 3rd maxilliped with exopod; 4th thoracic sternite with short stout median process; 1st pereopod with carpus entire, not subdivided; 2nd pereopods similar, chelae not borne in vertical plane, movable finger not ventrad, fingers not provided with socket and plunger closure, movable finger normal, not semicircular; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl not bearing hoof-shaped protuberance, simple, uncinat; uropod with lateral branch bearing 1 movable lateral spine.

RANGE.—Red Sea and eastern Africa to Indonesia, Australia, and the Marshall, Gilbert, and Samoan islands; associated with acroporid corals.

REMARKS.—Bruce (1982d:171) has provided a key to the three species currently assigned to *Philarius*. *Periclimenes brevinaris* Nobili, 1906b:42—still known only from the

disintegrating holotype from the Persian Gulf—was provisionally transferred to *Philarius* by Bruce (1967b:568), but that author subsequently (1982d:172) stated that it is “probably not truly congeneric with the three other species [of that genus] and must still be considered incertae sedis.”

**\*161. *Philarius gerlachei* (Nobili, 1905)**

*Harpilius Gerlachei* Nobili, 1905b:160 [type locality: southern Persian Gulf off Trucial Coast]; 1906b:45, pl. 4: fig. 10.

*Philarius gerlachei*—Holthuis, 1952c:152 [part], fig. 69.—Bruce, 1982d, fig. 7C.—Fransen, 1989:145.

**DIAGNOSIS.**—Rostral formula 0 + 3–6/1; carapace without supraorbital spines; 2nd pereopod without distal spine on flexor margin of carpus; maximum postorbital carapace length about 6 mm.

**MATERIAL.**—PHILIPPINES. Marungas Island (south side), Sulu Archipelago; [6°06'N, 120°58'E.]; 1<sup>1</sup>/<sub>4</sub>–2<sup>1</sup>/<sub>2</sub> m; scattered coral and sand; 10 Feb 1908 (1330–1500); diving, coral heads taken ashore: 1 male [2.5].

**RANGE.**—Red Sea and eastern Africa to Ryukyu Island, Philippines, Indonesia, Great Barrier Reef of Australia, and eastward to Solomon, Marshall, and Samoan islands; associated with acroporid corals.

**162. *Philarius imperialis* (Kubo, 1940)**

*Harpilius imperialis* Kubo, 1940c:1, figs. 1–3 [type locality: Nankin-Hama, Haha-Jima, Bonin Islands].

*Philarius gerlachei*.—Holthuis, 1952c:152 [part].

*Philarius imperialis*.—Bruce, 1982d, fig. 7B.

**DIAGNOSIS.**—Rostral formula 1–3 + 6–8/1–3; carapace without supraorbital spines; 2nd pereopod with distinct distal spine on flexor margin of carpus; maximum postorbital carapace length about 6 mm.

**RANGE.**—Red Sea and eastern Africa to Indonesia, Great Barrier Reef of Australia, and eastward to Bonin, Caroline, and Marshall islands; associated with acroporid corals.

***Platycaris* Holthuis, 1952**

*Platycaris* Holthuis, 1952c:5, 16, 172 [type species, by monotypy: *Platycaris latirostris* Holthuis, 1952c:173; gender: feminine].

**DIAGNOSIS.**—Rostrum not overreaching anteriorly extended eyes, depressed dorsally, unarmed, with apically acute tooth, expanded laterally into broad supraocular eave; carapace strongly depressed, dorsal profile nearly straight, unarmed, anterior margin strongly produced anteriorly as prominent convex lobe below orbital notch, without longitudinal branchiostegal suture, without antennal, hepatic, or supraorbital spines, orbital margin strongly recessed posteriorly; abdomen with pleuron of 5th somite rounded; telson not curving ventrad, posterior margin not incised, median and submedian pairs of spines not curving ventrad, dorsolateral spines not robust; antennal scale well developed; mandible without palp; 3rd maxilliped with exopod; 4th thoracic sternite without slender

median process; 1st pereopod with carpus entire, not subdivided; 2nd pereopods similar, subequal, chela not borne in vertical plane, movable finger not ventrad, fingers not provided with socket and plunger closure, movable finger normal, not semicircular; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl without prominent protuberance on flexor margin; uropod with lateral branch bearing movable lateral spine.

**RANGE.**—Eastern Africa to Okinawa, Indonesia, Great Barrier Reef of Australia, and Fiji Islands; associated with oculinid coral *Galaxea*.

**REMARKS.**—Only one species has been recognized.

**163. *Platycaris latirostris* Holthuis, 1952**

*Platycaris latirostris* Holthuis, 1952c:173, figs. 85, 86 [type locality: Ende, Flores, Indonesia].—Bruce, 1966d:1, figs. 1–5; 1985c:5, figs. 4, 5.

**DIAGNOSIS.**—Characters of genus; maximum postorbital carapace length about 3 mm.

**RANGE.**—See “Range” of genus.

***Platypontonia* Bruce, 1968**

*Platypontonia* Bruce, 1968b:289 [type species, by original designation: *Pontonia? brevisrostris* Miers, 1884:562; gender: feminine].

**DIAGNOSIS.**—Rostrum not overreaching anteriorly extended eyes, depressed dorsally, unarmed except for apical and subapical teeth in *P. hyotis*, not expanded laterally into broad supraocular eave; carapace strongly depressed, dorsal profile faintly convex, with strong antennal spine, without supraocular or hepatic spines, orbital margin strongly recessed posteriorly; abdomen with pleuron of 5th somite rounded; telson not curving ventrad; posterior margin not incised, median and submedian pairs of spines not curving ventrad, dorsolateral spines long or robust or both; antennal scale well developed; mandible without palp; 3rd maxilliped with exopod; 4th thoracic sternite without slender median process; 1st pereopod with carpus entire, not subdivided; 2nd pereopods similar, subequal, chela not borne in vertical plane, movable finger not ventrad, fingers not provided with socket and plunger closure, movable finger normal, not semicircular; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl without prominent protuberance on flexor margin; uropod with lateral branch bearing minute movable lateral spine.

**RANGE.**—Madagascar, Seychelles, Japan, and Indonesia; in bivalve mollusks.

**REMARKS.**—A key to the two species of the genus was published by Hipeau-Jacquotte (1971:139).

**164. *Platypontonia hyotis* Hipeau-Jacquotte, 1971**

*Platypontonia hyotis* Hipeau-Jacquotte, (March) 1971:126, figs. 1–7 [type locality: near Tuléar, southwestern Madagascar; in bivalve *Pycnodonta*].—Bruce, 1983c:895, figs. 7J [as “*Pycnodonta hyotis*”], 10B,C.

*Platypontonia pterostreae* Suzuki, (July) 1971:5, figs. 3, 4, pl. 3 [type locality: Hatsu-shima, Sagami wan, Honshu, Japan; in bivalve *Pterostrea*].

**DIAGNOSIS.**—Rostrum with strong, anteriorly dentate median ventral carina in distal  $1/2$ ; maximum postorbital carapace length 5.3 mm.

**RANGE.**—Madagascar, Japan, and Indonesia, and eastern Australia.

### *Plesiopontonia* Bruce, 1985

*Plesiopontonia* Bruce, 1985b:248 [type species, by monotypy: *Plesiopontonia monodi* Bruce, 1985b:250; gender: feminine].

**DIAGNOSIS.**—Rostrum overreaching anteriorly extended eyes, compressed laterally, armed both dorsally and ventrally, lateral carina not expanded laterally into broad supraocular or postocular cave; carapace subcylindrical, dorsal profile faintly and sinuously convex, none of teeth of dorsal rostral series extending onto gastric region, anterior margin not produced posteroventrally as prominent convex lobe, not deeply concave (notched), without longitudinal branchiostegal suture, with antennal spine, without hepatic spine, orbit not sharply defined; abdomen with pleuron of 5th somite subquadrangular; telson not curving ventrad, posterior margin not incised, median and submedian spines not curving ventrad, dorsolateral spines not robust; antennal scale well developed; mandible without palp; 3rd maxilliped with exopod; 4th thoracic sternite without slender median process; 1st pereopod with carpus entire, not subdivided; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl not bearing hoof-shaped protuberance, not clearly biunguiculate; uropod with lateral branch probably bearing 1 movable spine flanked by acute tooth.

**RANGE.**—Philippines.

**REMARKS.**—Only one species is known.

### 165. *Plesiopontonia monodi* Bruce, 1985

*Plesiopontonia monodi* Bruce, 1985b:250, figs. 13–17 [type locality: Balayan Bay, southwestern Luzon, Philippines; 13°49.6'N, 120°51.0'E; 299–320 m].

**DIAGNOSIS.**—Characters of genus; postorbital carapace length 4.4 mm.

**RANGE.**—Known only from the unique male holotype from Balayan Bay, Luzon, Philippines; possibly associated with bivalve mollusk *Acesta*.

### *Pliopontonia* Bruce, 1973

*Pliopontonia* Bruce, 1973b:97 [type species, by original designation: *Pliopontonia furtiva* Bruce, 1973b:99; gender: feminine].

**DIAGNOSIS.**—Rostrum barely overreaching anteriorly extended eyes, if at all, compressed, dentate dorsally, unarmed ventrally, not expanded laterally into broad supraocular cave; carapace somewhat depressed, dorsal profile nearly straight, anterior margin strongly produced anteriorly as prominent convex lobe separated by sinus from suborbital angle, without longitudinal branchiostegal suture, with strong submarginal antennal spine overreaching suborbital angle, without supraorbital or hepatic spines, orbital margin indistinct posteriorly;

abdomen with pleuron of 5th somite rounded; telson not curving ventrad, posterior margin not incised, median and submedian pairs of spines not curving ventrad, dorsolateral spines small; mandible without palp; 3rd maxilliped with exopod; 4th thoracic sternite without slender median process; 1st pereopod with carpus entire, not subdivided; 2nd pereopods similar, unequal, chela not borne in vertical plane, movable finger not ventrad, fingers not provided with socket and plunger closure, movable finger normal, not semicircular; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl without prominent protuberance on flexor margin; uropod with lateral branch armed with small fixed tooth and movable spine mesial to it.

**RANGE.**—Kenya, Philippines, Indonesia, and Great Barrier Reef of Australia; associated with sea anemones (Actiniaria).

**REMARKS.**—Only one species is known.

### 166. *Pliopontonia furtiva* Bruce, 1973

*Pliopontonia furtiva* Bruce, 1973b:99, figs. 1–5, pl. 1 [type locality: Ras Iwetine, Mombasa, Kenya; 4°00.55'S, 39°44.17'E; associated with actinodiscid *Rhodactis rhodostoma* in 1 meter]; 1981e:22.—Bruce and Svoboda, 1984:97, fig. 7.—Fransen, 1989:144, fig. 8.

**DIAGNOSIS.**—Characters of genus; postorbital carapace length 4.8 mm.

**RANGE.**—See "Range" of genus.

### \**Pontonia* Latreille, 1829

*Alcioppe* Rafinesque, 1814:24 [type species, by monotypy: *Alcioppe heterochelus* Rafinesque, 1814:24 (= *Pontonia flavomaculata* Heller, 1864:51); gender: masculine; name suppressed by plenary action of the International Commission on Zoological Nomenclature, Opinion 522 (1958)].

*Pontonia* Latreille, 1829:96 [type species, designated by plenary action of the International Commission on Zoological Nomenclature, Opinion 378 (1956): *Palaemon pinnophylax* Otto, 1821:12; gender: feminine].

**DIAGNOSIS.**—Rostrum usually flattened dorsally, armed dorsally only near tip, if at all, often expanded laterally into supraocular cave; carapace depressed, dorsal profile slightly convex, dorsally unarmed, anterior margin usually produced anteriorly, without longitudinal branchiostegal suture, with or without antennal spine, orbital margin not clearly interrupted posteriorly; abdomen with pleuron of 5th somite rounded, not acute; telson not curving ventrad, posterior margin not incised, median and submedian spines not curving ventrad, dorsolateral spines variable; antennal scale well developed; mandible with palp; 3rd maxilliped with exopod; 4th thoracic sternite without slender median process; 1st pereopod with carpus entire, not subdivided; 2nd pereopods similar and subequal or not; chelae not borne in vertical plane, movable finger not ventrad, fingers not provided with socket and plunger closure, movable finger normal, not semicircular; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl not bearing hoof-shaped protuberance, usually biunguiculate or multiunguiculate; uropod with lateral branch usually bearing 1 mobile lateral spine.

RANGE.—Pantropical and warm temperate waters; living in mollusks and ascidians.

REMARKS.—Of the 22 or 24 currently recognized species of *Pontonia*, only five are known from the Philippines and/or Indonesia. All but one of those have been found in ascidians and are included in the key published by Bruce (1972c:185).

#### 167. *Pontonia ascidicola* Borradaile, 1898

*Pontonia ascidicola* Borradaile, 1898:389 [type locality: Blanche Bay, New Britain, in ascidian].—Holthuis, 1952c:165, figs. 79–81.

DIAGNOSIS.—Rostrum not overreaching anteriorly extended eyes, dorsally flattened, with faint median carina on dorsal surface but unarmed dorsally and ventrally; carapace with antennal spine, lateral margin somewhat produced anteriorly; telson bearing 2 pairs of conspicuous dorsolateral spines, anterior pair not overreaching bases of posterior pair; antennal scale with distolateral spine curving around lateral margin of blade; 3rd maxilliped with penultimate slightly longer than terminal segment; 2nd pereopods unequal; 3rd pereopod with dactyl biunguiculate, elongate, bearing 7 teeth on flexor margin; maximum postorbital carapace length fully 2 mm.

RANGE.—Red Sea, Madagascar, Indonesia and Bismarck Archipelago, in ascidians.

#### 168. *Pontonia katoi* Kubo, 1940

*Pontonia katoi* Kubo, 1940b:55, figs. 21–23 [type locality: off Shimoda, Shizuoka Prefecture, Japan, in branchial chamber of ascidian *Halocynthia*].—Holthuis, 1952c:158 [part], figs. 73c,d, 74a, 75c, 76a,b,d,e, 77b,d only.

DIAGNOSIS.—Rostrum overreaching anteriorly extended eyes, dorsally flattened, with faint median carina on dorsal surface, unarmed dorsally but with small, subterminal ventral tooth; carapace with antennal spine, lateral margin somewhat produced anteriorly; telson bearing 2 pairs of conspicuous dorsolateral spines, anterior pair not nearly reaching bases of posterior pair; antennal scale with long distolateral spine closely appressed to lateral margin of blade; 3rd maxilliped with penultimate slightly longer than terminal segment; 2nd pereopods unequal; 3rd pereopod with dactyl biunguiculate, short and stout, bearing 3 teeth on flexor margin; maximum postorbital carapace length fully 2 mm.

RANGE.—Tanzania, Japan, Indonesia, Australia, and New Caledonia; in ascidians.

#### \*169. *Pontonia okai* Kemp, 1922

*Pontonia okai* Kemp, 1922:261, figs. 89–92 [type locality: off Cape Negrais, Burma; 15°25'N, 93°45'E; 73–126 m, in ascidian *Ascidia*].—Holthuis, 1952c:164, fig. 78.

DIAGNOSIS.—Rostrum not overreaching anteriorly extended eyes, dorsally flattened, with strong median carina on dorsal surface but unarmed dorsally and ventrally; carapace with

antennal spine, lateral margin produced anteriorly; telson bearing 2 pairs of conspicuous dorsolateral spines, anterior pair reaching nearly to bases of posterior pair; antennal scale with short distolateral spine overreaching distal margin of blade; 3rd maxilliped with penultimate about twice as long as terminal segment; 2nd pereopods unequal; 3rd pereopod with dactyl biunguiculate, elongate, bearing 11–13 teeth on flexor margin; maximum postorbital carapace length 2.8 mm.

MATERIAL.—PHILIPPINES. Off Jolo Island, Sulu Archipelago; sta 5558; 5°51'33"N, 121°01'00"E; 27 m; 18 Sep 1909 (1517–1520); 6' McCormick trawl: 1 male [2.0] 1 ovig female [2.8], in branchial sac of *Ascidia depressiuscula* Heller.

RANGE.—Kenya, Burma, South China Sea, Philippines, Indonesia, and Australia; in ascidians.

REMARKS.—The pair of specimens from the Sulu Archipelago agrees well with the description in Kemp (1922), except that the tip of the rostrum is slightly less acute and the stylocerite slightly wider in the *Albatross* specimens.

#### 170. *Pontonia sibogae* Bruce, 1972

*Pontonia katoi*.—Holthuis, 1952c:158 [part], figs. 73a,b, 74b, 75a,b,d-f, 76c,f,g, 77a,e,f [not *P. katoi* Kubo].

*Pontonia sibogae* Bruce, 1972c:182, fig. 1 [type locality: Curtis Channel, Port Curtis, Queensland, Australia; 42 meters].

DIAGNOSIS.—Rostrum overreaching anteriorly extended eyes, dorsally flattened, without median carina on dorsal surface, unarmed dorsally, with subapical tooth ventrally; carapace with antennal spine, lateral margin angularly produced anteriorly; telson bearing 5 pairs of conspicuous dorsolateral spines; antennal scale with distolateral spine curving around lateral part of blade; 3rd maxilliped with penultimate slightly longer than terminal segment; 2nd pereopods subequal; 3rd pereopod with dactyl biunguiculate, short and stout, bearing 3 teeth on flexor margin; maximum postorbital carapace length 5.9 mm.

RANGE.—Oman, Madagascar, Queensland, Australia, and Indonesia; 25–45 meters, in ascidians.

#### 171. *Pontonia stylirostris* Holthuis, 1952

*Pontonia stylirostris* Holthuis, 1952c:169, figs. 82–84 [type locality: between Pulau Misool and New Guinea; 1°42.5'S, 47.5°47.5'E; 32 m].

DIAGNOSIS.—Rostrum overreaching anteriorly extended eyes, subcylindrical, armed dorsally with 2 subapical teeth, unarmed ventrally; carapace with antennal spine, lateral margin not distinctly produced anteriorly; telson bearing 2 pairs of conspicuous dorsolateral spines, anterior pair reaching nearly to bases of posterior pair; antennal scale with short distolateral spine reaching about to level of distalmost margin of blade; 3rd maxilliped with penultimate distinctly longer than terminal segment; 3rd pereopod with dactyl biunguiculate, elongate, bearing 4–6 teeth on flexor margin; maximum postorbital carapace length about 4 mm.

RANGE.—Oman, Tanzania, Indonesia, and Queensland, Australia; 32–45 m, not known to be associated with ascidiaceans.

**\**Pontonides* Borradaile, 1917**

*Pontonides* Borradaile, 1917:387 [type species, by monotypy: *Pontonia maldivensis* Borradaile, 1915:213; gender: masculine].

DIAGNOSIS.—Rostrum not overreaching anteriorly extended eyes, unarmed dorsally, lateral carina expanded into broad supraocular eave; carapace about as wide as high, dorsal profile somewhat convex, anterior margin produced anteriorly as convex lobe, without longitudinal branchiostegal suture, with antennal spine, without hepatic spine, orbital margin incomplete posteriorly; abdomen with pleura of 5th somite rounded or acute; telson not curving ventrad, posterior margin not incised, median and submedian pairs of posterior spines not curving ventrad, dorsolateral spines small; antennal scale well developed; mandible without palp; 3rd maxilliped without exopod; 4th thoracic sternite without slender median process; 1st pereopod with carpus entire, not subdivided; 2nd pereopod with chela not borne in vertical plane, fingers not provided with socket and plunger closure, movable finger not ventrad, not semicircular; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl simple, not bearing hoof-shaped protuberance; uropod with lateral branch bearing at least 1 movable lateral spine.

RANGE.—Red Sea and eastern Africa to Japan, Philippines, Indonesia, Great Barrier Reef of Australia, and Caroline and Galápagos islands; associated with alcyonarian, scleractinian, and antipatharian corals.

REMARKS.—The true identity of the Indo-Pacific species referred by Holthuis (1952c) and Fujino and Miyake (1969d) to *Pontonides unciger*—an apparent representative of which was collected at Albatross Station 5147—must await the revision of the genus suggested by Bruce (1978a:284).

***Pontoniopsis* Borradaile, 1915**

*Pontoniopsis* Borradaile, 1915:207 [type species, by monotypy: *Pontoniopsis comanthi* Borradaile, 1915:213; gender: feminine].

DIAGNOSIS.—Rostrum sometimes overreaching anteriorly extended eyes, flattened dorsally, unarmed, lateral carina slightly expanded laterally but not forming broad supraocular eave; carapace with dorsal profile nearly straight, not lobate or dentate, anterior margin very slightly produced anteroventrally, not deeply concave (notched), without longitudinal branchiostegal suture, with antennal spine, without hepatic spine, orbital margin obscurely interrupted posteriorly, abdomen with pleuron of 5th somite narrowly rounded; telson not curving ventrad, posterior margin not incised, median and submedian pairs of posterior spines not curving ventrad, dorsolateral spines not robust; antennal scale well developed; mandible without palp; 3rd maxilliped with exopod; 4th thoracic sternite without

slender median process; 1st pereopod with carpus entire, not subdivided; 2nd pereopods dissimilar, unequal, movable finger not semicircular; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl not bearing hoof-shaped protuberance, biunguiculate; uropod with lateral branch bearing 1 movable spine flanked by immovable tooth.

RANGE.—Indo-Pacific from the Red Sea to the Gilbert, Marianna, and Fiji islands, and the Florida Keys in the western Atlantic.

REMARKS.—The two nominate species assigned to this genus are quite distinct (see Gore, 1981, table 3) and are apparently associated with two different classes of echinoderms.

**172. *Pontoniopsis comanthi* Borradaile, 1915**

*Pontoniopsis comanthi* Borradaile, 1915:213 [type locality: Mabuag, Torres Straits, on *Comanthus*].—Holthuis, 1952c:153, figs. 70, 71.—Bruce, 1981h:396, figs. 3D, 4, 5.

DIAGNOSIS.—Rostrum lanceolate, compressed; antennal scale with distolateral tooth not reaching level of distal margin of blade; 3rd maxilliped without arthrobranch; 3rd pereopod distinctly biunguiculate; maximum postorbital carapace length about 1.2 mm.

RANGE.—Gilbert, Marianna, and Fiji islands.

**\**Thaumastocaris* Kemp, 1922**

*Thaumastocaris* Kemp, 1922:244 [type species, by monotypy: *Thaumastocaris streptopus* Kemp, 1922:244; gender: feminine].

DIAGNOSIS.—Rostrum overreaching anteriorly extended eyes, compressed laterally, armed dorsally throughout length and ventrally, lateral carina not expanded into broad supraocular or postocular eave; carapace slightly compressed laterally, dorsal profile nearly straight, 3 teeth of dorsal rostral series arising from gastric region, anterior margin not produced anteroventrally as prominent convex lobe and not deeply concave (notched), without longitudinal branchiostegal suture, with antennal spine, without hepatic spine, orbital margin not interrupted posteriorly; abdomen with pleuron of 5th somite rounded; telson not curving ventrad, posterior margin not incised, median and submedian pairs of posterior spines not curving ventrad, dorsolateral spines long and strong; epistome not bearing paired, horn-like processes; antennal scale well developed; mandible without palp; 3rd maxilliped with exopod; 4th thoracic sternite without slender median process; 1st pereopod with carpus subdivided; 2nd pereopods subsimilar but usually unequal, fingers not provided with socket and plunger closure, movable finger normal, not semicircular; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl biunguiculate but not bearing hoof-shaped protuberance; uropod with lateral branch bearing 1 movable spine flanked by immovable tooth.

RANGE.—Red Sea and eastern Africa, Philippines, Indone-



sia, New Caledonia, and Caroline and Marshall islands; associated with sponges.

REMARKS.—Only one species is known.

**\*173. *Thaumastocaris streptopus* Kemp, 1922**

*Thaumastocaris streptopus* Kemp, 1922:244, figs. 78–80 [type locality: Nouméa, New Caledonia].—Holthuis, 1952c:111, figs. 46, 47.—Bruce and Svoboda, 1983:25, fig. 9.

DIAGNOSIS.—Characters of genus; maximum carapace length 8.4 mm.

MATERIAL.—PHILIPPINES. Off Jolo Island, Sulu Archipelago: sta 5136; 6°04'20"N, 120°59'20"E; 40 m; sand, shells; 14 Feb 1908 (0907–0927); 12' Agassiz beam trawl, 2 mud bags: 1 male [7.1]; sta 5145; 6°04'30"N, 120°59'30"E; 42 m; coral sand, shells; 15 Feb 1908 (1344–1359); 12' Agassiz beam trawl, mud bag: 1 ovig female [8.4].—Near Siasi, Sulu Archipelago; 5°41' 40"N, 120°47'10"E; 38 m; coral sand, shells; 16 Feb 1908 (1127–1147); 12' Agassiz beam trawl, mud bag: 1 female [5.2].

RANGE.—See "Range" of genus.

REMARKS.—The first pereopods seem to be unusually variable in this species. In the male from *Albatross* station 5136, both members of the pair are virtually identical, are more robust than the stouter one illustrated by Holthuis (1952c, fig. 46b), overreach the antennal scale by the length of the chela and about one-half of the carpus, and have only one distinct carpal articulation. In the ovigerous female from station 5145, they are very unequal: the right overreaches the antennal scale by slightly more than the length of the chela, is a little more robust than the one depicted by Holthuis (1952c, fig. 46b), and has two distinct carpal articulations; the left overreaches the antennal scale by the length of the chela and most of the carpus, is very like the one shown by Kemp (1922, fig. 80a), and has five carpal articulations. In the smaller female from station 5147, they are also very dissimilar: the right overreaches the antennal scale by the length of the chela and most of the carpus, agrees fairly well with the one illustrated by Holthuis (1952c, fig. 4c), and has five carpal articulations; the left overreaches the antennal scale by the length of the chela and about two-thirds of the carpus, resembles the one in Holthuis (1952c, fig. 46b), and has two and one-half carpal articulations. In an ovigerous female with a carapace length of 4.8 mm collected in Oyster Pass, Iwayama Bay, Palau Islands by F.M. Bayer and identified by L.B. Holthuis (USNM 155130), the first pereopods are only slightly unequal and dissimilar, and both have four carpal articulations. In one of two males associated with a blue trumpet sponge at the same locality (USNM 155131) with a carapace length of 4.3 mm, the first pereopods are subequal in length, but the right member of the pair is distinctly more slender than the left and has four distinct carpal articulations, in contrast with only one articulation on the left side. The other male, with a carapace length of only 3.0 mm, has the first pereopods subequal in length, but the right is

slightly more robust and has only three distinct carpal articulations, as compared with four on the left side.

Eyed eggs, apparently nearly ready to hatch, in the female, measure about 0.6 mm in major diameter.

**\**Vir* Holthuis, 1952**

*Vir* Holthuis, 1952c:4, 8, 29 [type specimen, by monotypy: *Palaemonella orientalis* Dana, 1852a:26; gender: masculine.]

DIAGNOSIS.—Rostrum overreaching anteriorly extended eyes, compressed laterally, armed at least dorsally throughout length, lateral carina not expanded into broad supraocular or postocular eave; carapace subcylindrical, dorsal profile nearly straight, with or without 1 tooth of dorsal rostral series on gastric region, anterior margin not produced anteroventrally as prominent convex lobe and not deeply concave (notched), without longitudinal branchiostegal suture, with antennal spine, without hepatic spine, orbital margin not interrupted posteriorly; abdomen with pleuron of fifth somite rounded; telson not curving ventrad, posterior margin not incised, median and submedian pairs of posterior spines not robust; antennal scale well developed; mandible with inconspicuous palp; 3rd maxilliped with exopod; 4th thoracic sternite with slender median process; 1st pereopod with with carpus entire, not subdivided; second pereopods similar, fingers not provided with socket and plunger closure, movable finger normal, not semicircular; 3rd pereopod composed of 7 segments, merus and ischium not fused, dactyl simple, not bearing hoof-shaped protuberance; uropod with lateral branch bearing 1 movable lateral spine flanked by immovable tooth.

RANGE.—Eastern Africa, Andaman Islands, South China Sea, Ryukyu Islands, Philippines, Great Barrier Reef of Australia, Marianna and Fiji islands and Hawaii; associated with corals.

REMARKS.—Both known species of *Vir* have Philippine type localities.

**\*174. *Vir orientalis* (Dana, 1852)**

*Palaemonella orientalis* Dana, 1852a:26 [type locality: Sulu Sea].—Kemp, 1922:131, figs. 9–11.

*Vir orientalis*.—Holthuis, 1952c:30.

DIAGNOSIS.—Dorsal antennular flagellum with branches fused for about 6 articles; 2nd pereopod with palm about 2½ times as long as wide and carpus 0.6 as long as palm; 3rd pereopod with propodus 7 times as long as wide; maximum postorbital carapace length about 3.3 mm.

MATERIAL.—PHILIPPINES. Rapu Rapu Island, Lagonoy Gulf; [13°12'N, 124°09'E]; 3–4½ m; sand, coral; 22 Jun 1909 91300–1800) dynamite: 1 male [2.1].

RANGE.—Eastern Africa, Andaman Islands, South China Sea, Philippines, Marianna and Fiji islands, and Hawaii.

REMARKS.—The single male specimen from the *Albatross* collections differs from Kemp's figures in having eight, rather

than seven, dorsal rostral teeth, with the posteriormost tooth situated immediately above, rather than posterior to, the posterior orbital margin, and each finger of the 2nd pereopod armed with two low but distinct teeth.

#### 175. *Vir philippinensis* Bruce and Svoboda, 1984

*Vir philippinensis* Bruce and Svoboda, 1984:87, figs. 1–4 [type locality: Cebu, Philippines; associated with scleractinian coral *Plerogyra*].

DIAGNOSIS.—Dorsal antennular flagellum with branches fused for 12 or 13 articles; 2nd pereopod with palm about 3½ times as long as wide and carpus 0.8 as long as palm; 3rd pereopod with propodus 11½ times as long as wide; maximum postorbital carapace length 3.0 mm.

RANGE.—Ryukyu Islands, Philippines, and Great Barrier Reef of Australia; associated with corals.

#### \*ANCHISTIOIDIDAE Borradaile, 1915

ANCHISTIOIDIDAE Borradaile, 1915:205.

ANCHISTIOIDINAE Gurney, 1938:2, 41.—Bruce, 1986a:467–469.

DIAGNOSIS.—Carapace without lateral suture; telson typically with 1 pair of stout posterior spines; antennule with 2 completely separate flagella, 1 with accessory branch; mandible with incisor process, without palp; 1st maxilla with mesial coxal lobe not unusually large; 2nd maxilla without endites; 2nd maxilliped with marginal setae on distal segment not unusually stout or dense; 3rd maxilliped with antepenultimate segment neither articulated with nor much wider than next proximal segment; 4th thoracic sternite without slender median process; fingers of chelipeds not pectinate; 2nd pereopod with dactyl not distinctly serrate on extensor margin; all pleopods with appendices internaе, at least in male; 2nd pleopod with appendix masculina in male.

RANGE.—Red Sea and Madagascar to Japan, Philippines, Indonesia, Australia, and Tuamotu Archipelago.

REMARKS.—There is little doubt that recognition of this family is justified by the larval characters described by Gurney (1936) and by the typical dentition of the telson and the form of the endopod of the first pleopod of the adult.

Only one genus is recognized.

#### \**Anchistioides* Paulson, 1875

*Anchistioides* Paulson, 1875:115 [type species, by monotypy: *Anchistioides compressus* Paulson, 1875:115; gender: masculine].

*Palaemonopsis* Borradaile, 1899:410 [type species, by monotypy: *Palaemonopsis willeyi* Borradaile, 1899:410; gender: feminine. Invalid junior homonym of *Palaemonopsis* Stimpson, 1871 (Crustacea)].

*Amphipalaemon* Nobili, 1901a:5 [substitute name for *Palaemonopsis* Borradaile, 1899; gender: masculine].

DIAGNOSIS.—Characters of the family.

RANGE.—See "Range" of family.

REMARKS.—Because of persistent uncertainty about the

validity and variability of the following nominal species of *Anchistioides*, the compilation of a useful key to the valid species is nearly as difficult today as it was when it was last attempted by Gordon (1935:345):

*Periclimenes antiguensis* Schmitt, 1924b:84

Type locality: English Harbour, Antigua, Lesser Antilles; surface

*Amphipalaemon australiensis*

See below

*Periclimenes barbadensis* Schmitt, 1924b, pl. 3

Type locality: English Harbour, Antigua, Lesser Antilles; surface

= *P. antiguensis* Schmitt, 1924

*Anchistioides compressus* Paulson, 1875:115

Type locality: Red Sea

*Amphipalaemon cooperi* Borradaile, 1915:209

Type locality: South Nilandu Atoll, Maldives Islands

? = *Palaemonopsis willeyi* Borradaile, 1899

*Amphipalaemon gardineri* Borradaile, 1915:209

Type locality: North Male Atoll, Maldives Islands

? = *Palaemonopsis willeyi* Borradaile, 1899

*Amphipalaemon Seurati* Nobili, 1906a:259

Type locality: "Tearia," Tuamotu Archipelago; 22 meters

*Palaemonopsis willeyi*

See below.

#### 176. *Anchistioides australiensis* (Balss, 1921)?

*Amphipalaemon australiensis* Balss, 1921b:11, figs. 3–6 [type locality: 45 miles west-southwest of Cape Jaubert, Western Australia; 20 meters].

*Anchistioides australiensis*.—Bruce, 1971g:24, fig. 6.

DIAGNOSIS.—Rostrum with 7 or 8 dorsal and 3 ventral teeth; carapace with sharp postorbital tooth; antennal scale with blade tapering to base of distolateral tooth, not angularly produced; 2nd pereopod with fingers distinctly longer than palm; maximum postorbital carapace length 13 mm.

RANGE.—The specimen assigned to *A. australiensis* by Bruce (1971g) came from a depth of 9 meters in the Arafura Sea off Sungai Buaja, West New Guinea, while the type specimens of *A. australiensis* were found in 20 meters in the extreme eastern part of the Indian Ocean off Cape Jaubert, Western Australia.

REMARKS.—There is a possibility that the specimen from the Arafura Sea represents an undescribed species, rather than the one described by Balss. It is fully three times as large as the Australian specimens, having a postorbital carapace length of 13.0 mm, as opposed to 4 mm. It is armed postorbitally with a sharp tooth directed anteriorly, which seems to be obsolescent in Australian specimens. The telson is unarmed dorsally and bears a pair of "short, stout, intermediate" posterior spines, whereas Balss (1921b, fig. 4) shows two pairs of rather long dorsolateral spines in the anterior half of the telson and a pair of long, slender, intermediate posterior spines. Perhaps most significant is the fact that the blade of the antennal scale tapers

to the base of the distolateral tooth (Bruce, 1971g, fig. 9c), instead of forming an angular distal projection, as in all other described species of the genus. Such a projection seems to be indicated by Balss, 1921b, fig. 3) and distinctly by Gordon (1935, fig. 23d), presumably from one of the type specimens of *A. australiensis*.

**\*177. *Anchistioides willeyi* (Borradaile, 1899)**

*Palaemonopsis willeyi* Borradaile, 1900:410, pls. 36, 37: fig. 7.

*Anchistioides willeyi*.—Gordon, 1935:344, figs. 23a, 24a.—Holthuis, 1952c:214, figs. 106, 107.—Bruce, 1971g:22, fig. 8; 1978a:285, fig. 44.

**DIAGNOSIS.**—Rostrum typically with 6–8 dorsal and 3 or 4 ventral teeth; carapace with blunt postorbital tooth; antennal scale with blade angularly produced, not overreaching distolateral tooth; 2nd pereopod with fingers slightly longer than palm; maximum postorbital carapace length 10.5 mm.

**MATERIAL.**—PHILIPPINES. Off Romblon Island, Sibuyan Sea; sta 5179; 12°38'15"N, 122°12'30"E; 68 m; hard sand; 24.3°; 25 Mar 1908 (1049–1104); 12' Agassiz beam trawl, 3 mud bags: 1 male [7.8] 1 ovig female [9.2].—Western Basilan Strait, southwest of Zamboanga Peninsula, Mindanao; sta 5134; 6°44'45"N, 121°44'45"E, 121°48'E; 46 m; fine sand; 7 Feb 1908 (0722–0742); 9' Tanner beam trawl, mud bag: 1 male [10.5].—Off Tawitawi, Sulu Archipelago; sta 5151; 5°24'40"N, 120°27'15"E; coarse sand, shells; 18 Feb 1908 (1307–1327); 12' Agassiz beam trawl, mud bag: 2 males [7.9, 9.4].—Tumindao Reef (south end), Sulu Archipelago; [4°42'N, 119°19'E]; scattered clumps of coral; 26 Feb 1908; electric light; 1 male [5.2] 1 female [6.4].

**RANGE.**—Madagascar to Philippines, Indonesia, New Britain, and Great Barrier Reef of Australia.

**REMARKS.**—There seems to be good likelihood that Gordon (1935:344, 345), who compared type specimens of *A. willeyi*, *A. cooperi*, *A. gardineri*, and *A. australiensis*, was correct in believing that these four species are conspecific, but complete confirmation must await the availability of additional collections. Somewhat less certain is the possibility that the four Madagascar specimens with long rostra, rostral formulae of 8–13/6, and unusually long fingers of the second pereopod (Bruce, 1978a:286, 287), belong to that species, and the *Albatross* material does little to clarify the situation. Both specimens of the pair collected at Station 5179, in the Sibuyan Sea, seem to be typical of *A. willeyi*, with a rostral formula of 6/3 and the fingers of the second chela 1.1 times as long as the palm. The male from Basilan Strait (Station 5134) has a rostral formula of 9/4, but the fingers of the second chela are barely as long, comparatively, as those of the typical form. The smaller male from off Tawitawi (Station 5151), has a rostral formula of 9/3, but the second chelipeds are missing; the larger male has a rostral formula of 10/3 but the fingers and palm of the second cheliped are subequal. The male from Tumindao Reef has a rostral formula of 9/4 but the second chelipeds are lacking; the female has a rostral formula of 6/3 and the fingers of the second

cheliped very slightly longer than the palm. In other words, four of the seven Philippine specimens have nine or ten dorsal rostral teeth, but in none of the four do the fingers of the second cheliped approach the length of nearly one and one-half times the length of the palm illustrated by Bruce (1978a, fig. 44B).

**GNATHOPHYLLIDAE Dana, 1852**

GNATHOPHYLLINAE Dana, 1852a:16.

**DIAGNOSIS.**—Carapace without longitudinal suture; telson with 2 or 3 pairs of spines on posterior margin; antennule with 2 completely separate flagella, 1 with accessory branch; mandible without palp, with incisor process vestigial or absent; 1st maxilla with mesial coxal lobe unusually large, mesial basal lobe reduced; 2nd maxilla without endites; 1st maxilliped with exopodal lash; 2nd maxilliped with distal segment bearing dense marginal row of stout setae; 3rd maxilliped with antepenultimate segment broad, at least proximally; fingers of chelipeds not pectinate; 2nd pereopod with dactyl not distinctly serrate on extensor margin; 1st pleopod without appendix interna on endopod; 2nd pleopod with appendix masculina in male.

**RANGE.**—Panropical and subtropical; sometimes associated with sea urchins.

**REMARKS.**—Comparison of the 12 species representing four genera currently assigned to the family Gnathophyllidae reveals a homogeneity, especially in the anterior mouthparts, that seems to deny the proposed absorption of the heterogeneous palaemonid pontoniines into the family. The mandible is devoid of a palp in *Gnathophylloides mineri* and *Levicaris mammilata* (Edmondson, 1931); a vestigial incisor process is indicated in *Gnathophylloides robustus*, *Gnathophyllum*, and *Pycnocaris*. The first maxilla displays a very large mesial coxal lobe and a reduced mesial basal lobe in the two species of *Gnathophylloides*, in *Gnathophyllum*, and in *Levicaris*, with slightly less massive proportions in *Pycnocaris*. In all four genera, the second maxilla lacks endites. The first maxilliped is provided with a well-developed exopodal lash, and the caridean lobe is unusually produced in *Gnathophylloides*, *Gnathophyllum*, and *Levicaris*, being somewhat more broadly rounded in *Pycnocaris*. In the second maxilliped, on the other hand, disparity is rampant, reaching an extreme in the compact, five-segmented second maxilliped of *Gnathophyllum*; even in this appendage, however, there is structural similarity between the example in *Levicaris*—which is proportionately longer than the second maxilliped of any other decapod—and the tiny counterpart in *Gnathophylloides mineri*. There is discrepancy, also, between the operculate third maxillipeds of *Gnathophylloides mineri*, *Gnathophyllum*, and *Pycnocaris* and the more slender antepenultimate segments of that appendage in *Gnathophylloides robustus* and *Levicaris*.

The following key may serve to distinguish these four genera.

## Key to Genera of Gnathophyllidae

1. Third pereopod with dactyl biunguiculate . . . . . 2  
 Third pereopod with dactyl basally broad, subtriangular, armed with single  
 extensodistal spine . . . . . 3
2. Rostrum dentate dorsally; telson bearing 2 or 3 pairs of spines on posterior margin;  
 3rd pereopod with extensor tooth of dactyl longer than flexor tooth . . . . .  
 . . . . . *Gnathophyllum*  
 Rostrum unarmed; telson bearing 1 pair of stout, downcurved spines on posterior  
 margin; 3rd pereopod with flexor tooth of dactyl longer than extensor tooth  
 . . . . . *Pycnocaris* Bruce, 1972g:50  
 (Chagos Archipelago, Indian Ocean; seaward  
 flats, associated with holothurians)
3. Second maxilliped conventional, not elongate . . . . . *Gnathophylloides*  
 Second maxilliped remarkably elongate, overreaching 1st pereopod . . . . .  
 . . . . . *Levicaris* Bruce, 1973f:28  
 (Ryukyu and Marshall islands, and Hawaii;  
 associated with echinoids *Heterocentrotus*)

*Gnathophylloides* Schmitt, 1933

*Gnathophylloides* Schmitt, 1933:5 [type species, by monotypy: *Gnathophylloides mineri* Schmitt, 1933:7; gender: masculine].

DIAGNOSIS.—Rostrum with dorsal teeth; telson with 3 pairs of spines on posterior margin; 2nd maxilliped not unusually elongate; 3rd pereopod with dactyl composed of subtriangular lamina bearing extensodistal spine.

RANGE.—Zanzibar, Seychelles, Western Australia, Hawaii, and western Atlantic; associated with echinoids.

REMARKS.—Neither of the two currently recognized species of *Gnathophylloides* has been recorded from the Philippine-Indonesian region, but it is probable that they will eventually be found there. They are comparatively characterized in Bruce (1973f:27).

178. *Gnathophylloides mineri* Schmitt, 1933

*Gnathophylloides mineri* Schmitt, 1933:7, fig. 3 [type locality: Ensenada, Puerto Rico]; 1935:167, fig. 31.—Bruce, 1974e:313, fig. 1.

DIAGNOSIS.—Rostrum not overreaching eyes; carapace rounded anteroventrally; telson with lateral margin convex, posterior margin not bilobed, without posteromedian carina; eyestalk not extending distally beyond cornea; antennal scale widest in proximal 1/2, lateral margin distinctly concave; mandible without trace of incisor process; 2nd maxilliped with 2 distal segments, together, subquadrate; 3rd maxilliped with antepenultimate segment 1 3/4 times as long as wide in proximal 1/2, lateral margin slightly convex, exopod longer than endopod; 1st pereopod without acute distal prolongation on basis; 2nd pereopod with chela about 3 times as long as wide, movable finger unarmed on opposable margin; color pattern of single wide longitudinal stripe of dark brown or black; maximum postorbital carapace length 2.3 mm.

RANGE.—Zanzibar, Seychelles, New South Wales, Australia, Tonga Islands, Hawaii, and western Atlantic from Florida

to Yucatan and Grenadines; associated with echinoids *Tripaneustes*.

179. *Gnathophylloides robustus* Bruce, 1973

*Gnathophylloides robustus* Bruce, 1973f:17, figs. 1–7 [type locality: off Point Moore, Geraldton, Western Australia; associated with echinoid *Centrostephanus* in 3 meters].

DIAGNOSIS.—Rostrum overreaching eyes; carapace acute anteroventrally; telson with lateral margins nearly straight, posterior margin bilobed, with short posteromedian carina; eyestalk produced distally beyond cornea; antennal scale with margins subparallel, lateral margin nearly straight; mandible with vestige of incisor process; 2nd maxilliped with 2 distal segments, together, elongate triangular; 3rd maxilliped with antepenultimate segment 3 3/4 times as long as wide, lateral margin distinctly concave, exopod shorter than endopod; 1st pereopod with acute distal prolongation on basis; 2nd pereopod with chela about 5 times as long as wide, movable finger with single tooth on opposable margin; color pattern of fine longitudinal red stripes; maximum postorbital carapace length 6.2 mm.

RANGE.—Known only from the type locality off Western Australia; associated with echinoid, *Centrostephanus*.

REMARKS.—Because of the numerous differences, especially in the second and third maxillipeds, between the two species assigned to *Gnathophylloides*, *G. robustus* may qualify as a distinct genus, unless intermediate forms eventually appear.

*Gnathophyllum* Latreille, 1819

*Gnathophyllum* Latreille, 1819:72 [type species, selected by H. Milne Edwards in Cuvier, 1837, pl. 52: fig. 2: *Alpheus elegans* Risso, 1816:92; gender: neuter].

*Gnathophyllum* Desmarest, 1823:322–324 [emendation of *Gnathophyllum* Latreille, 1819].

*Primo* Risso, 1827:70 [type species, by monotypy: *Alpheus Elegans* Risso, 1816:92; gender: masculine].

DIAGNOSIS.—Rostrum with dorsal teeth; telson with 2 or 3 pairs of spines on posterior margin; 2nd maxilliped short and broad; 3rd maxilliped operculate; 3rd pereopod biunguiculate.

RANGE.—Pantropical and subtropical; sometimes associated

with echinoids.

REMARKS.—Eight currently recognized species of *Gnathophyllum*, covered in the following key, are remarkably similar morphologically but most display diagnostic color patterns.

**Key to Species of *Gnathophyllum***

1. Posterior tooth of dorsal rostral series situated on rostrum, proper, anterior to level of posterior orbital margin; nearly uniformly dark colored with or without pale transverse stripes . . . . . 2
  - Posterior tooth of dorsal rostral series situated directly above or posterior to level of posterior orbital margin; color pattern consisting of spots, either few large, discretely distributed, and encircled with dark pigment or numerous small, crowded, not peripherally accentuated . . . . . 3
2. Cornea of eye distinctly ogival; 3rd pereopod usually more slender, merus 3.2–6.5 times as long as wide; carapace and abdomen, except for 6th somite and telson, dark brown with whitish transverse stripes—6 on carapace, 10 on 5 anterior abdominal somites; ovigerous females with portorbital carapace length 2.3–4.4 mm . . . . . 180. *G. americanum*
  - Cornea of eye with or without distinct distal papilla; 3rd pereopod usually stouter, merus 2.9–4.0 times as long as wide; carapace and abdomen usually uniformly blackish, fading on posterior 1/2 of telson; ovigerous females with postorbital carapace length 1.8–2.3 mm . . . . .
    - . . . . . *G. ascensione* Manning and Chace, 1990:11, figs. 5, 6, 8  
(Ascension Island, South Atlantic; probably associated with echinoids)
3. Telson with posterior pair of lateral spines situated so far posteriorly as to be hardly distinguishable from true posterior spines; color pattern consisting of few large spots encircled with dark pigment . . . . . 4
  - Telson with posterior pair of lateral spines variably but distinctly removed anteriorly from posterior spines; color pattern consisting of numerous small, crowded spots not bounded by dark color . . . . . 5
4. Pereopods slender, dactyl of 3rd pair with accessory tooth on flexor margin sharply acute, propodus more than 12 times as long as wide; color brown marked with discrete darker reddish brown circles . . . . .
  - . . . . . *G. circellum* Manning, 1963:54, figs. 3, 4  
(Florida Keys and Bahamas, western Atlantic; cryptic in coral heads to depth of 6 meters)
  - Pereopods stouter, dactyl of 3rd pair with accessory tooth on flexor margin broadly rather than sharply acute, propodus less than 8 times as long as wide; color orange marked with cream-colored spots outlined in dark brown or black . . . . .
    - . . . . . *G. splendens* Chace and Fuller, 1971:493, figs. 1–5  
(Puerto Rico, western Atlantic)
5. Antennular peduncle with stylocerite overreaching distal margin of 1st segment . . . . . 6
  - Antennular peduncle with stylocerite not reaching level of distal margin of 1st segment . . . . . 7
6. Rostrum armed with 4 or more dorsal teeth; principal color pattern consisting of light spots on dark brown background . . . . . *G. panamense* Faxon, 1893:198  
(Gulf of California, Panama, Galapagos Islands; tidepools to 20 meters)
  - Rostrum armed with only 2 dorsal teeth; principal color pattern consisting of brown spots on light yellow background . . . . . *G. precipuum* Titgen, 1989:203  
(Hawaii; 9–12 meters)

7. Brown color not extending as far as anterior margin of carapace ventral to antennal spine . . . . . *G. elegans* (Risso, 1816:92, pl. 2: fig. 4)  
(Mediterranean and Azores, Madeira, and Canary islands; 2–10 meters)
- Brown color extending to entire anterior margin of carapace ventral to antennal spine . . . . . *G. modestum* Hay, 1917:395, fig. 14  
(North Carolina and Florida Keys, western Atlantic; to a depth of 27 meters)

### 180. *Gnathophyllum americanum* Guérin-Méneville, 1855

*Gnathophyllum americanum* Guérin-Méneville, 1855:viii, pl. 2: fig. 14 [type locality: Cuba].—Holthuis, 1949b:244, figs. 5, 6.—Manning, 1963:58, figs. 5, 6.—Bruce, 1975f:25, fig. 12 [color].—Manning and Chace, 1990:12, 13, fig. 7.

*Gnathophyllum fasciolatum* Stimpson, 1860:28 [type locality: Port Jackson, Australia].

*Gnathophyllum zebra* Richters, 1880:161, pl. 17: figs. 18–20, 22 [type locality: Ilot Fouquets, Mauritius].

*Gnathophyllum pallidum* Ortmann, 1890:537 [type locality: Tahiti].

*Gnathophyllum tridens* Nobili, 1906a:259 [type locality: Rikitea, Tuamotu Archipelago; outer reef].

*Gnathophyllum minuscularium* Armstrong, 1940:9, fig. 4C–K [type locality: The Reach, St. George Island, Bermuda; surface].

**DIAGNOSIS.**—Rostrum armed with 3–5 dorsal teeth, posterior tooth of series situated on rostrum, proper, anterior to level of posterior orbital margin; telson with posterior pair of lateral spines variably but distinctly removed anteriorly from posterior spines; cornea of eye distinctly papillate distally; antennular peduncle with stylocerite reaching about to level of articulation with 2nd segment; 3rd pereopod slender, merus  $3\frac{1}{4}$ – $6\frac{1}{2}$  times as long as wide; carapace and abdomen, except for 6th somite and telson, dark brown with whitish transverse stripes—6 on carapace, 10 on 5 anterior abdominal somites; ovigerous females with postocular carapace length of 2.3–4.4 mm.

**RANGE.**—Red Sea to South Africa and eastward through Indo-Pacific region to Tuamotu Archipelago, western Atlantic from Bermuda and southern Florida throughout Gulf of Mexico and Caribbean Sea, eastern Atlantic from Canary Islands; to a depth of 50 meters, occasionally associated with echinoderms

and has even “been observed browsing on the papulae of several asteroids by means of the highly modified outer maxillipeds.” (Bruce, 1975f:27).

### \*HYMENOCERIDAE Ortmann, 1890

HYMENOCERIDAE Ortmann, 1890:511.

**DIAGNOSIS.**—Carapace without longitudinal suture; telson with 2 pairs of spines on posterior margin; antennule with 2 completely separate flagella, 1 with accessory branch, sometimes foliaceous; mandible without palp or incisor process; 1st maxilla with mesial coxal lobe not unusually large, mesial basal lobe not reduced; 2nd maxilla with vestigial endite; 1st maxilliped with exopodal lash; 2nd maxilliped with marginal setae on distal segment not especially stout or dense; 3rd maxilliped with antepenultimate segment articulated with and distinctly wider than next proximal segment; 2nd pereopod with chela compressed toward flexor margin, sometimes foliaceous so, dactyl sometimes serrate on extensor margin; 1st pleopod without appendix interna on endopod; 2nd pleopod with appendix masculina in male.

**RANGE.**—Red Sea to South Africa and eastward through Indonesia and entire Pacific to Panama.

**REMARKS.**—The fact that the three foliaceous distal segments of the third maxilliped are articulated, rather than fused, with the next proximal segment seems sufficient reason to resurrect Ortmann’s familial designation of the three remarkable species in two genera recognized herein and characterized in the following key.

### Key to Genera and Species of Hymenoceridae

1. Antennule with lateral (fused) flagellum greatly expanded into foliaceous form; 3rd maxilliped with penultimate segment wider than antepenultimate; 2nd pereopod with flexor margin of chela greatly expanded foliaceously . . . . . \*181. *Hymenocera picta*
- Antennule with both flagella conventional, not foliaceous; 3rd maxilliped with penultimate segment narrower than antepenultimate; 2nd pereopod with chela compressed and serrate on flexor margin but not foliaceous . . . . . *Phyllognathia* Borradaile, 1915 . . . . . 2

2. Rostrum slender, not expanded ventrally; eye slightly ogival; antennular peduncle with margins of basal segment subparallel, stylocerite overreaching midlength of segment; antennal scale with subparallel margins; 3rd maxilliped with antepenultimate segment longer than wide; 2nd pereopod with dactyl serrate on extensor margin; 3rd pereopod with dactyl biunguiculate . . . . .

. . . . . *P. ceratophthalma* (Balss, 1913:234)

(Maldive Islands, Japan, and  
Great Barrier Reef of Australia)

- Rostrum deeply expanded ventrally; eye strongly and sharply produced distally; antennular peduncle with basal segment tapering distally, stylocerite not nearly reaching midlength of segment; antennal scale tapering distally; 3rd maxilliped with antepenultimate segment wider than long, 2nd pereopod with dactyl unarmed on extensor margin; 3rd pereopod with dactyl simple . . . . .

. . . . . *P. simplex* Fujino, 1973b:90, figs. 1-3

(Papua New Guinea, Japan, and Great  
Barrier Reef of Australia; 40-50 meters)

#### \**Hymenocera* Latreille, 1819

*Hymenocera* Latreille, 1819:71 [type species, designated under plenary powers of International Commission on Zoological Nomenclature: *Hymenocera picta* Dana, 1852b:593; gender: feminine].

*Nematophyllum* Bleeker, 1856:37 [type species, selected by Holthuis, 1952d:345: *Hymenocera picta* Dana, 1852b:593; gender: neuter].

DIAGNOSIS.—Antennule with lateral flagellum greatly expanded foliaceously; 3rd maxilliped with penultimate segment wider than antepenultimate; 2nd pereopod with flexor margin of chela greatly expanded foliaceously.

RANGE.—Red Sea to Zululand and eastward through Philippines and Indonesia to Hawaii, Tuamotus, and Panama; preying on starfishes.

REMARKS.—Debelius (1984:53) is the most recent author to recognize two species of harlequin shrimps. He based that conclusion on the fact that the Indian Ocean form is spotted with brown encircled with bright blue, while the Pacific form has wine-red spots. In the absence of apparent morphological differences and even of dissimilarities in the configuration of the spots in illustrations by Debelius and others—except for a sexual difference in “the second color patch on the side of the

abdomen” (Wickler, 1973:225), we are disposed to treat those populations as representing color phases of a single species until there is evidence of more definitive taxonomic distinctions. Such evidence might be no more noticeable than minor but consistent disparity in the color pattern, as in *Lysmata amboinensis* (De Man, 1888) and *L. grabhami* (Gordon, 1935) (see Manning and Chace, 1990:23).

#### \*181. *Hymenocera picta* Dana, 1852

*Hymenocera picta* Dana, 1852b:593; 1855, pl. 39: fig. 3 [type locality: Raraka, Tuamotu Archipelago].—Wickler, 1973:225, figs. 1-3.—Debelius, 1984:53, 54 [color photos].

*H[ymenocera] elegans* Heller, 1861:25 [type locality: Tor (Gulf of Suez)]; 1962c:264, pl. 3: figs. 9-14.—Debelius, 1984:53-55 [color photos].

*H[ymenocera] latreillii* Sharp, 1893:119 [Indian region; Guérin-Méneville nomen nudum].

DIAGNOSIS.—Characters of genus; maximum postorbital carapace length nearly 10 mm.

MATERIAL.—PHILIPPINES. Tataan, Simalac, off Tawitawi, Sulu Archipelago; 19 Feb 1908: 1 male [3.7].

RANGE.—See “Range” of genus.

REMARKS.—See “Remarks” on genus.

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