

Marine palaemonoid shrimps of the Netherlands Seychelles Expedition 1992-1993

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An account is given of the palaemonoid shrimps collected during an expedition with R/V *Tyro* to the Seychelles. A total of 59 species is recorded of which two are new to science: *Conchodytes pteriae* and *Jocaste platysoma*. 25 species were not previously recorded from the Seychelles. A checklist of caridean shrimps known from the Seychelles is provided.

Introduction

One of the central themes of the Seychelles Expedition, carried out as part of the Netherlands Indian Ocean Programme (1992-1993) was the biogeographical status of the area. Has the western Indian Ocean its own endemic species? To contribute to the biogeographical knowledge of the area the crustacean fauna was sampled, focussing on palaemonoid shrimps.

Several authors contributed to the knowledge of the Seychelles marine palaemonoid shrimp fauna, e.g.: Borradaile 1917; Kemp 1922; Bruce, 1966b; 1969a; 1969b; 1969c; 1971b; 1972; 1973c; 1974; 1976b; 1976d; 1978a. Most information is based on collections from the Islands of Farquhar, Aldabra and Mahé. In 1984, Bruce published a checklist of the Caridea of the Seychelles known at that time. He listed 64 palaemonoid species which constitutes 48 % of the caridean shrimp fauna. Most of these species live in association with sedentary hosts like sponges, actiniarians, alcyonarians, gorgonarians, scleractinians, antipatharians, asterids, echinoids, crinoids, holothurians, bivalve molluscs, and ascidians.

Collecting was carried out during a fieldtrip around the island of Mahé from 4 to 15.xii.1992, and on board of the R/V *Tyro* from 16.xii.1992 to 8.i.1993. Several localities had never been sampled for crustaceans before, especially in the Amirantes. The following methods were used: intertidal and shallow water collecting by snorkeling and SCUBA diving down to 35 m, and by grabs, traps, trawls and dredges down to c. 500 m. An expedition report with more information on collecting methods and a list of stations is given by van der Land (1994).

Post-orbital carapace length (cl.) is given in mm. Material is registered and deposited in the collection of the Nationaal Natuurhistorisch Museum formerly named Rijksmuseum van Natuurlijke Historie (RMNH). When colour slides of specimens are available a 'Photo' registration number can be found in the list of material. Under 'restricted synonymy' the reference to the first use of a new name or erroneous spelling is given and subsequent references of relevance for this study, emphasizing literature concerning the Seychelles and the Indian Ocean.

Systematic account

Family Anchistioididae

Anchistioides willeyi (Borradaile, 1899) (pl. 1A)

Restricted synonymy:

Palaemonopsis willeyi Borradaile, 1899: 410, pls. 36, 37 fig. 7.

Anchistioides willeyi; Gordon, 1935: 344-345, figs. 23a, 24a; Holthuis, 1952: 18, 214-219, figs. 106-107; Bruce, 1971a: 22-24, fig. 8; Bruce, 1976e: 464; Bruce, 1978b: 285-286, fig. 44; Bruce, 1979: 241-242; Bruce, 1981b: 2; Bruce, 1983a: 199; Bruce, 1990a: 211; Bruce, 1991: 269-272, figs. 3g, 29, 30; Chace & Bruce, 1993: 133.

Material.— RMNH D 42800: 1 ♀ cl. 3.44; photo 15/17-19. NIOP-E, Sta. SEY.738: SE of Mahé; 4°45'S 55°33'E; depth 35-45 m; rectangular dredge; in sponge *Spirastrella inconstans* (det. R.W.M. van Soest); 24.xii.1992.— RMNH D 42823: ♂ cl. 8.13; ♀ cl. 8.13; photo 6/24-29. NIOP-E, Sta. SEY.717: Bird Island, off E coast; 3°43'S 55°13'E; edge of bank, depth c. 10 m; scuba diving; in brown sponge *Spirastrella inconstans* (det. R.W.M. van Soest); 20/21.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 45465: 1 specimen. NIOP-E, Sta. SEY.720: E of Bird Island; 3°45'S 55°14'E; sediment mainly *Halimeda*; depth 45 m; 1.2 m Agassiz trawl; in tubes of brown sponge *Spirastrella inconstans* (det. R.W.M. van Soest); 20.xii.1992.

Remarks.— The specimens have a rostral dentition of 7-8/3-4. The fingers of the second pereiopods are slightly longer than the palm which distinguishes the specimens from *A. australiensis* (Balss, 1921) which has the fingers distinctly longer than the palm.

Distribution.— Known from various localities throughout the Indo-West Pacific, associated with sponges. The species was not yet recorded from the Seychelles.

Family Gnathophyllidae

Gnathophyllum americanum Guérin, 1856 (figs. 1, 2)

Restricted synonymy:

Gnathophyllum americanum Guérin Méneville, 1856: 20; Kubo, 1940: 84-87, figs. 7-9; Holthuis, 1949: 244-250, figs. 5, 6; Manning, 1963: 58-62; Titgen, 1989: 202-203; Manning & Chace, 1990: 12-13, fig. 7; Chace & Bruce, 1993: 136.

Gnathophyllum fasciolatum Stimpson, 1860: 28.

Gnathophyllum zebra Richters, 1880: 161, pl. 17: figs. 18-20, 22.

Gnathophyllum pallidum Ortmann, 1890: 537.

Gnathophyllum tridens Nobili, 1906b: 259.

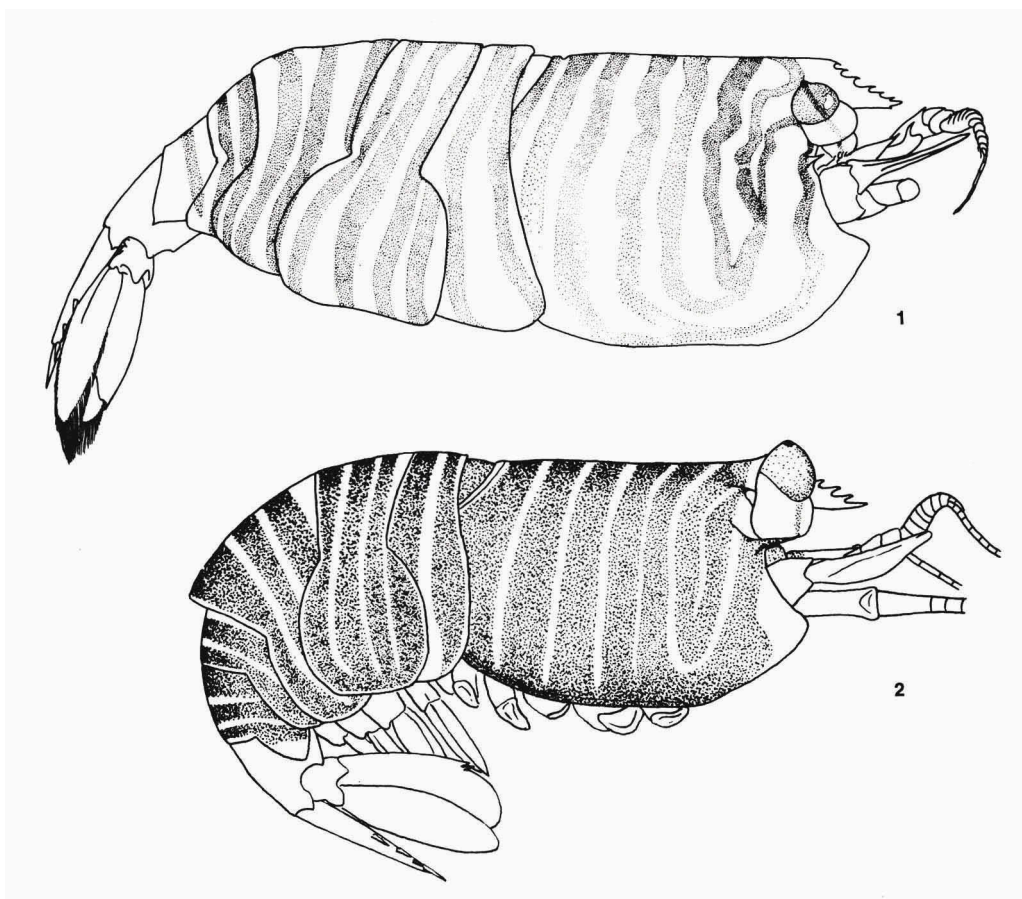
Gnathophyllum minuscularium Armstrong, 1940: 9, fig. 4C-K.

Material.— RMNH D 45508: 5 ♂♂, cl. 3.44-4.56; ♀ cl. 4.00; ovigerous ♀ cl. 4.38; photo 4CF. NIOP-E, Sta. SEY.612: Mahé, E coast, Cap Maçons /Anse de Forbans; 04°46'S 55°31'E; intertidal, tidal reef flat and slightly declining reef slope; snorkeling; under stones near echinoids; 12.xii.1992; J.C. den Hartog leg.— RMNH D 45509: 5 ♀ cl. 4.13. NIOP-E, Sta. SEY.679: Mahé Island, SE coast, Anse Marie-Louise, 4°47'N 55°31.5'E; sandy beach, reef flat with algae and loose stones; shore-collecting; 14.i.1993; leg. J. Goud.

Atlantic reference material.— RMNH D 24822: 7 specimens. U.S.A., Florida, Miami, N. point of Key

Biscayne, Bear Cut; depth 0-1 m; between Halimeda; 27.vii.1966; leg. L.B. Holthuis.— RMNH D 24823: 2 specimens. U.S.A., Florida, Miami, N. point of Key Biscayne, Bear Cut; depth 0-1 m; 12.viii.1967; leg. L.B. Holthuis.

Remarks.— The colour pattern in Indo-Pacific specimens (cf. Kubo, 1940) appears different from those of the Atlantic (cf. Holthuis, 1949; Manning, 1963). In the Atlantic the dark brown transverse bands are much broader than the alternating white or cream bands. The colour pattern on the anterior part of the carapace also differs, as is shown in figs. 1 and 2. Morphological differences are not clear. The dentition of the rostrum is usually 5/1 in both Atlantic and Indo-Pacific specimens. Some minor differences can be seen in the anterior appendages. In the Atlantic specimens the distolateral tooth on the basal segment of the antennular peduncle is more medially situated than in the Indo-Pacific specimens, and the stylocerite is more recurved in the Indo-Pacific specimens. On the basis of the minor differences found between the small number of Atlantic and Indo-Pacific specimens studied I hesitate to regard these as different species. If larger series of specimens are studied in which



Figs. 1-2. *Gnathophyllum americanum* Guérin, 1856, colour pattern. 1, female Seychelles (RMNH D 45509, cl. 4.13 mm); 2, Canary Islands, cl. 3.1 mm (from Holthuis, 1949).

the noted differences prove to be constant, *Gnathophyllum fasciolatum* Stimpson might be resurrected for the Indo-Pacific specimens.

Distribution.— Circumtropical species, associated with echinoderms. Now recorded for the first time from the Seychelles.

Family **Palaemonidae**
Subfamily **Palaemoninae**

Urocaridella antonbruunii (Bruce, 1967)
(pl. 1B)

Restricted synonymy:

Periclimenes antonbruunii Bruce, 1967: 45.

Leandrites cyrtorhynchus Fujino & Miyake, 1969: 143-149, figs. 1-3; Holzberg, 1971: 362-365, figs. 1-2; Bruce, 1991: 223, figs. 1c, 3d.

Urocaridella antonbruunii; Chace & Bruce, 1993: 42.

Urocaridella antonbruunii; Chace & Bruce, 1993: 54.

Material.— RMNH D 45501: ♀ cl. 4.75; photo 28/29-31. NIOP-E, Sta. SEY.788: Alphonse Atoll, SE part of lagoon; 7°02'S 52°44'E; reef flat and patch reef, down to 8 m; snorkeling & scuba diving; 4/6.i.93; leg. C.H.J.M. Fransen.— RMNH D 45502: ovigerous ♀ cl. 4.75. NIOP-E, Sta. SEY.753: St Joseph Atoll, NW rim; 5°24'S 53°19'E; reef slope; depth c. 15 m; scuba diving; 26.xii.1992; leg. C.H.J.M. Fransen.

Remarks.— The specimens are without elevated dentate crest at the base of the rostrum which exclude them from the genus *Leandrites*. Chace & Bruce (1993) synonymized *Leandrites cyrtorhynchus* with *Urocaridella antonbruunii*.

The mandibles of the specimen of Sta. 753 were removed and are without palp. In both specimens the rostrum has an epigastral tooth without setae in front of it, the typical closely set teeth above the orbit, two median dorsal rostral teeth, and two dorsal distal teeth; ventrally 11 teeth are present. These features separate the species from the other two species of *Urocaridella* recognized: *U. urocaridella* (Holthuis, 1950) and *U. vestigialis* Chace & Bruce, 1993.

Distribution.— Known from Comores, Kenya, Red Sea, Japan, Indonesia, Australia, Palau Island and New Caledonia. Now recorded for the first time from the Seychelles.

Subfamily **Pontoniinae**

Anchistus demani Kemp, 1922
(pl. 1C)

Restricted synonymy:

Anchistus demani Kemp, 1922: 256-259, figs. 86-88; Bruce, 1974: 200-201; Bruce, 1976a: 22; Bruce, 1976e: 464; Bruce, 1977a: 50; Bruce, 1978a: 119; Bruce, 1979: 232; Bruce, 1981b: 4; Bruce, 1983a: 200; Bruce, 1983b: 894-894; Bruce, 1984: 147; Bruce, 1991: 259-260, fig. 22; Chace & Bruce, 1993: 46, 60.

Material.— RMNH D 42791: 1 specimen cl. 1.56; photo 17/15-17. NIOP-E, Sta. SEY.754: St Joseph Atoll, NW rim, lagoon; 5°24'S 53°19'E; reef flat; depth c. 1 m, low tide; snorkeling; 26.xii.1992; In Tridacna spec. (ø 18 cm); leg. J.C. den Hartog.— RMNH D 42792: ovigerous ♀ cl. 3.44; 4 specimens cl.

1.44, 2.25, 2.94, 3.06; photo 33/5-12. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope down to 27 m depth; scuba diving; 5/6.i.1993; in *Tridacna ? maxima* (Röding, 1798); leg. C.H.J.M. Fransen.

Remarks.— All specimens agree with the description of the species by Kemp, 1922, having the upper end of the truncate rostrum armed with two teeth; no antennal spine present.

Distribution.— Known from various localities throughout the Indo-West Pacific, associated with Giant clams. In the Seychelles the species has been recorded twice, from Farquhar Island (Bruce, 1974) and from Aldabra (Bruce, 1978a), both times in *Tridacna maxima* (Röding, 1798). It is now recorded for the first time from the Amirantes.

Anchistus miersi (De Man, 1888)
(pl. 1D)

Restricted synonymy:

Harpilius Miersi De Man, 1888: 274-277, pl. 17 figs. 6-10.

Anchistus miersi; Kemp, 1922: 255-256, fig. 85; Kubo, 1940: 52-54, figs. 18-20; Holthuis, 1952: 110-111, fig. 45; Bruce, 1973c: 136; Bruce, 1976a: 22; Bruce, 1976b: 117, 147; Bruce, 1976d: 448; Bruce, 1976e: 464-465; Bruce, 1977b: 174-175, fig. 6a-d; Bruce, 1978a: 119; Bruce, 1978b: 279; Bruce, 1979: 232-233; Bruce, 1983a: 200; Bruce, 1984: 147; Chace & Bruce, 1993: 46, 60.

Material.— RMNH D 42790: ♂ cl. 2.81; ♀ cl. 3.63; photo 7/25-29. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 7 m; scuba diving; 21.xii.1992; in *Tridacna squamosa* Lamarck, 1819 (det. J. Goud); leg. C.H.J.M. Fransen.— RMNH D 42793: ovigerous ♀ cl. 5.13. NIOP-E, Sta. SEY.797: Platte Island Atoll; 05°49'S 55°21'E; lagoon of inner atoll; depth 12 m; scuba diving; 7.i.93; in *Tridacna ? maxima* (Röding, 1798) (det. J. Goud); leg. C.H.J.M. Fransen.

Remarks.— The specimens agree with the descriptions of previous authors. The rostrum has 4 or 5 dorsal distal teeth and one small or none ventrally. A distinct antennal spine is present, and the lateral pair of spines on the posterior margin of the telson is situated preterminally and submarginally.

Distribution.— The species is known from various localities throughout the Indo-West Pacific, living in association with Giant clams of the genera *Hippopus* and *Tridacna*. It was previously recorded from Curieuse Bay, Praslin, by Bruce, 1976b.

Conchodytes biunguiculatus (Paulson, 1875) sensu Kemp, 1922
(fig. 3)

Restricted synonymy:

Pontonia biunguiculatus Paulson, 1875: 111, pl. 15 fig. 1.

Conchodytes biunguiculatus; Nobili, 1906a: 67; Kemp, 1922: 279, 280-282, fig. 102; Holthuis, 1952: 17, 199-200 (full synonymy); Hipeau-Jacquotte, 1967: 156; Hipeau-Jacquotte, 1973a: 96-112, fig. 1a3-d3, 3a3-b3, 4a3-d3, 5,6c, 7a3-f3, 8a3-d3; Hipeau-Jacquotte, 1973b: 63-70, fig. 1; Hipeau-Jacquotte, 1974a: 367-382; Hipeau-Jacquotte, 1974b: 383-402; Hipeau-Jacquotte, 1974c: 403-408; Hipeau-Jacquotte, 1974d: 359-386; Bruce, 1976e: 465; Bruce, 1978b: 206, 280; Bruce, 1984: 148, 163.

Conchodytes kempii Bruce, 1990b: 183-184, fig. 3B-E.

Material.—RMNH D 42785: ♂ cl. 9.38; ovigerous ♀ cl. 13.88. NIOP-E, Sta. SEY.788: Alphonse Atoll, SE part of lagoon; 7°02'S 52°44'E; reef flat and patch reefs, down to 8 m; snorkeling & scuba diving, transects 19 & 21; 4/6.i.93; from *Atrina vexillum* (Born, 1778) (det. J. Goud); leg. J. Goud.

Reference material of *Conchodytes biunguiculatus* (Paulson, 1875) sensu Kemp, 1922.—RMNH D 41484: ♂ cl. 8.31; ovigerous ♀ cl. 9.2. Red Sea, El-Bilayim; 2.v.1970; SLR 2813, Decapoda 639.—RMNH D 41485: ♂ cl. 9.61; ♀ cl. 8.7. Eilath; autumn 1965; in *Pinna* spec.; leg. J. Friedmann, NS 1049.—RMNH D 4755: ♀ cl. 10.13. Indonesia, Moluccas, Ambon Island; 1863; in *Pinna* spec.; leg. D.J. Hoedt; published by Holthuis 1952: 200.—RMNH D 4490: 2 ovigerous ♀♀ cl. 8.31, 12.99. S. Taiwan, Takao; 15.ix.1907; in *Pinna* spec.; leg. H. Sauter.

Reference material of *Conchodytes nipponensis* (De Haan, 1844).—RMNH D 16160: ♂ cl. 9.74. Indonesia, New Guinea (=Irian Jaya), Jape Island; 14.ii.1956; in *Atrina* spec.; from local people; "Gloria Maris" Expedition.—RMNH D 26827: ♂ cl. 7.53; ovigerous ♀ cl. 7.40. Japan, Kanagawa prefecture, S of Odawara, Sagami Bay near Manazuru; 28.xii.1967; in *Pecten albicans* Schröter, 1802; leg. H. Suzuki.—RMNH D 41461: ♂ cl. 6.17; ♀ cl. 6.62. Japan, Kanagawa prefecture, Manazuru; 18.ii.1968; in *Pecten albicans* Schröter, 1802; leg. H. Suzuki.

Reference material of *Chernocaris placunae* Johnston, 1967.—♂; ovigerous ♀; RUMPHIUS BIOHISTORICAL EXPEDITION sta. 1, Indonesia, Moluccas, Ambon Island, Ambon Bay, inner bay, Hunut, basecamp; 10.xii.1990; depth 10 m; SCUBA-diving; in *Placuna ehippium* (Retzius, 1788) (det H.L. Strack); leg. C.H.J.M. Fransen.

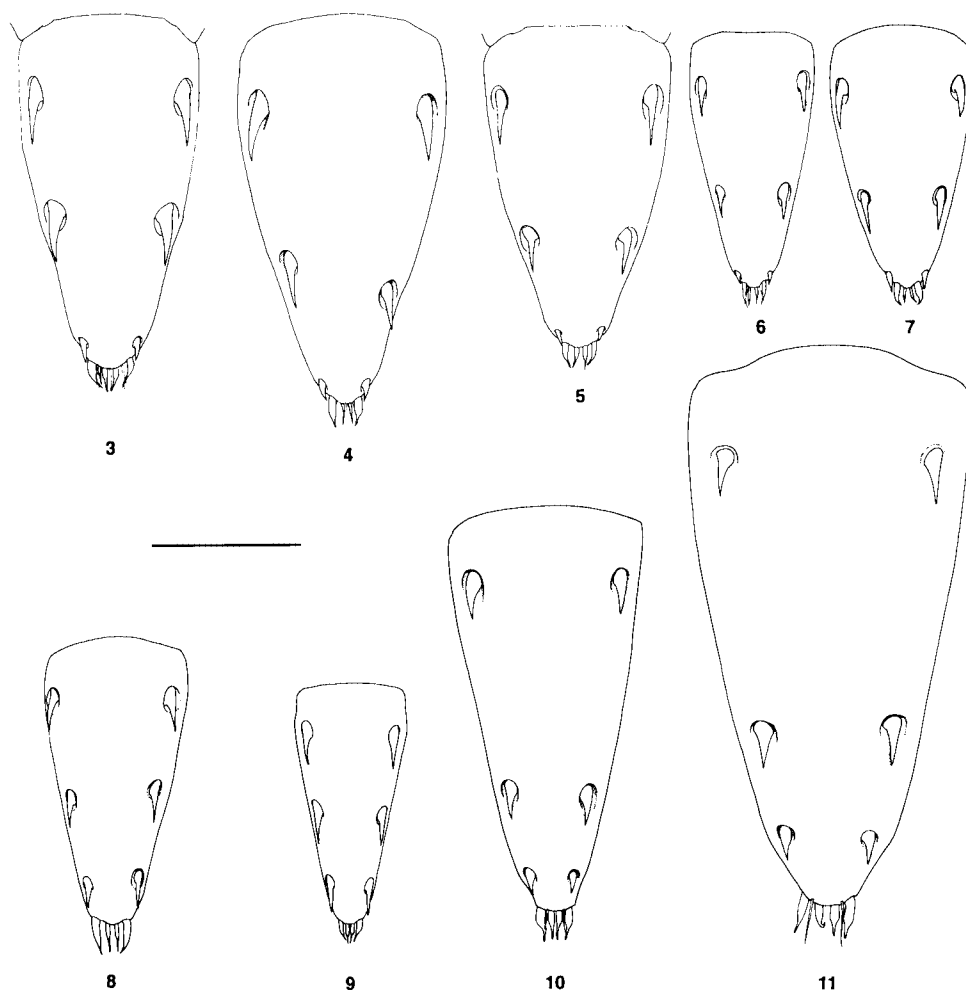
Remarks.—The specimens agree with the description of the species given by Kemp (1922). There are some doubts whether the specimens described by Kemp are conspecific with those described by Paulson, 1875 (cf. Bruce, 1990b). This problem is related to the interpretation of the drawings made by Paulson, in particular: 1. the situation of the lateral pair of spines at the distal end of the telson (Paulson, 1875: pl. 15 fig. 1n), and 2. the question whether the absence of a minute accessory tooth on the basal process of the ambulatory pereopods (Paulson, 1875: pl. 15 fig. 1m) is correct or an inaccuracy in the drawing. As the type-specimens of Paulson are lost this can not be verified.

Paulson described the species based on one male and one female. A host was not mentioned. Nobili (1906b) was the first author who referred to Paulson's species when he found a shrimp in a *Pinna* shell. Kemp (1922) gave a description and figures of an associate *Conchodytes* of *Pinna bicolor* Gmelin, 1791. He also noted the differences regarding the position of the lateral pair of terminal spines on the telson, not being subdorsal and pre-terminal as in Paulson's specimens, and the presence of a tooth on the basal protuberance on the dactyli of pereopod 3-5 in his specimens while absent in Paulson's fig. 1m. Since then other authors, who found *Conchodytes* in *Pinna* shells, more or less referred to *C. biunguiculatus* sensu Kemp. Bruce (1990b) noted the subdorsal and preterminal lateral spines in Paulson's fig. 1n which he interpreted as similar to the subdorsal preterminal pair of spines in *C. nipponensis* De Haan. The holotype of *C. nipponensis* is most probably lost. Bruce synonymized De Haan's species with that of Paulson, giving Kemp's species, which was left without a name, the name *C. kemp*. *C. nipponensis* sensu de Haan, has never been found in the Red Sea or the Indian Ocean as a whole, while *C. biunguiculatus* sensu Kemp, 1922 is quite common in the area which again raises the question about the identity of Paulson's material.

The description and figures of *C. biunguiculatus* made by Paulson are here compared with e.g. Japanese material of *C. nipponensis* sensu De Haan, *C. biunguiculatus* sensu Kemp from the Red Sea, and *Chernocaris placunae* Johnson, 1967 from Ambon

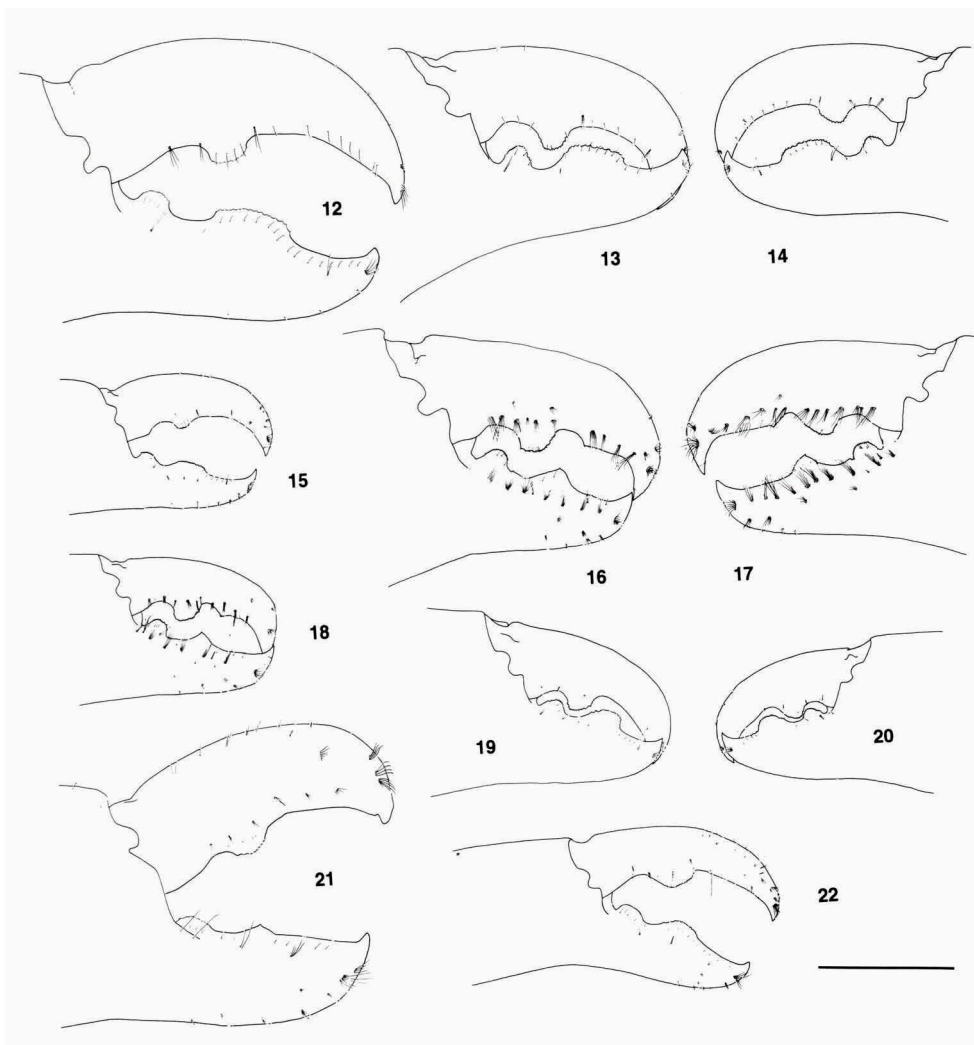
which also has the distal pair of dorsal spines on the telson subdorsal and preterminal.

1. The telson.— In Paulson's figure 1n only the distal part of the telson is shown, the subdorsal and preterminal situated lateral pair of terminal spines is about as long as the submedian pair, and shorter than the intermediate pair. The tips of the lateral pair reach the basis of the intermediate pair. In Paulson's description the position of the lateral pair is not mentioned. The telson of *C. nipponensis* (De Haan, 1844) (figs. 8-9; see also Kemp, 1922: fig. 104d; Suzuki, 1971: fig. 1; Bruce, 1977c: fig. 1f, g) has the



Figs. 3-11. Telson. 3-7, *Conchodytes biunguiculatus* (Paulson, 1875) sensu Kemp, 1922; 8-9, *Conchodytes nipponensis* (De Haan, 1844); 10-11, *Chernocaris placunae* Johnson, 1967. 3, ♂ cl. 9.38 RMNH D 42785, Seychelles; 4, ovigerous ♀ cl. 12.99 RMNH D 4490, Taiwan; 5, ♂ cl. 9.61 RMNH D 41485, Red Sea; 6, ovigerous ♀ cl. 8.31 RMNH D 4490, Taiwan; 7, ♀ cl. 10.13 RMNH D 4755, Ambon, Indonesia; 8, ♂ cl. 9.74 RMNH D 16160, Irian Jaya, Indonesia; 9, ♂ cl. 7.53 RMNH D 26827, Japan; 10, ♂, Ambon, Indonesia; 11, ovigerous ♀, Ambon, Indonesia. Scale: 3-9 = 2 mm; 10-11 = 1 mm.

lateral spines rather long, about the size of the intermediate pair. The lateral spines do usually not reach the basis of the intermediate pair with their tips. In *C. placunae* the lateral pair (figs. 10-11; see also Johnson, 1967: fig. 4) is placed much more preterminal and dorsal than in Paulson's drawing. In *C. biunguiculatus* sensu Kemp, 1922 the position of the lateral pair varies between subdorsal and preterminal and almost

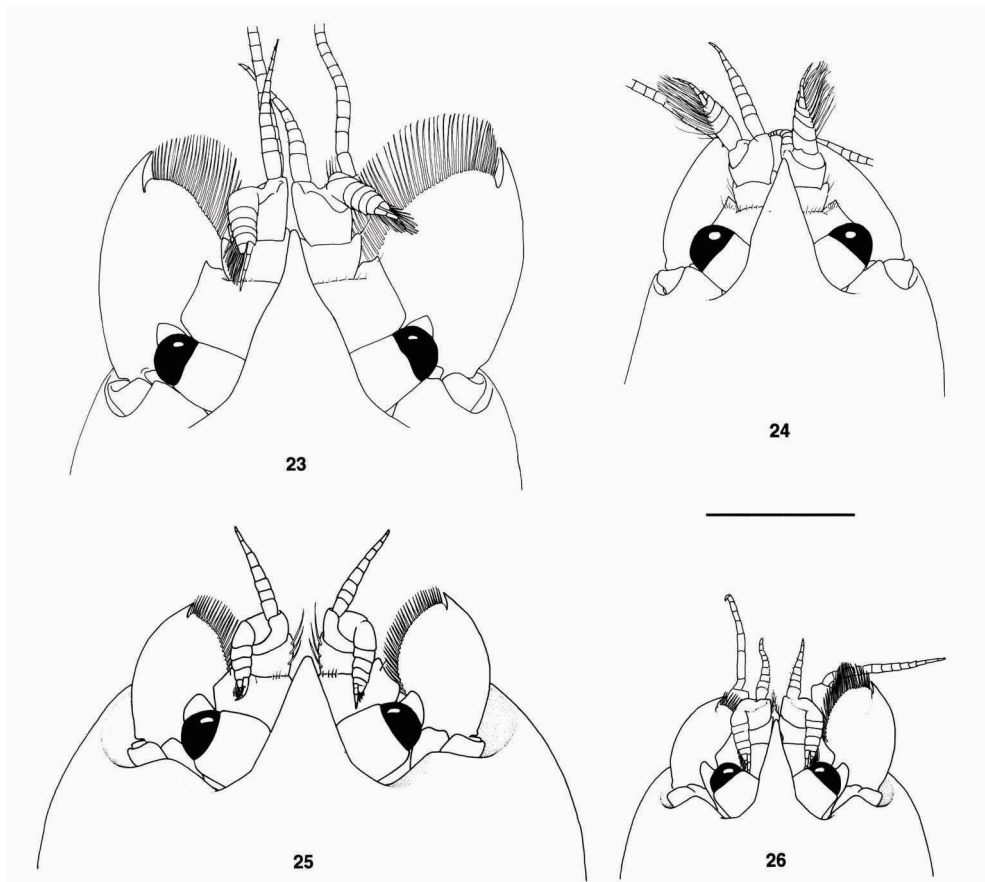


Figs. 12-22. Chela second pereiopod. 12-15, *Conchodytes biunguiculatus* (Paulson, 1875) sensu Kemp, 1922; 16-18, *Conchodytes nipponensis* (De Haan, 1844); 19-20, *Chernocaris placunae* Johnson, 1967; 21, *Conchodytes meleagrinae* Peters, 1852; 22, *Conchodytes tridacnae* Peters, 1852. 12, right chela ♂ cl. 9.38 RMNH D 42785, Seychelles; 13, right chela ♂ cl. 9.61 RMNH D 41485, Red Sea; 14, left chela ♂ cl. 9.61 RMNH D 41485, Red Sea; 15, right chela ♀ cl. 8.70 RMNH D 41485, Red Sea; 16, right chela ♂ cl. 9.74 RMNH D 16160, Irian Jaya, Indonesia; 17, left chela ♂ cl. 9.74 RMNH D 16160, Irian Jaya, Indonesia; 18, right chela ♂ cl. 6.17 RMNH D 41461, Japan; 19, right chela ♂, Ambon, Indonesia; 20, left chela ♂, Ambon, Indonesia; 21, right chela ♂ cl. 6.81 RMNH D 42765, Seychelles; 22, right chela ♂ cl. 5.38 RMNH D 42786, Seychelles. Scale: 12-21 = 2 mm; 22 = 1 mm.

marginal (figs. 3-7; see also Kemp, 1922: fig. 103d; Bruce, 1990b: fig. 3d).

2. Chela of second pereiopods.— Paulson's figure 1 clearly shows only one tooth in the proximal half of the dactylus. This feature is the same in *C. biunguiculatus* sensu Kemp, 1922 (figs. 12-15). In none of the specimens studied nor in literature any variation in this character was encountered. The same holds for *Chernocaris placunae* (figs. 19-20). In *C. nipponensis* both dactylus and fixed finger always have two teeth (figs. 16-18; see also Kemp, 1922: fig. 104b).

3. The rostrum.— In Paulson's figure 1 the rostrum of the male is triangular with a broad base. In the males of the three species compared here, this has not been found. It seems however that the rostra become relatively broader with increasing body-size, which makes the character unreliable. In *C. biunguiculatus* sensu Kemp, the rostrum is usually triangular (fig. 24), sometimes proximally swollen as in *C. nipponensis*. In *C. nipponensis* the rostrum is usually proximally swollen, not triangular (fig. 25). In *C. placunae* males, the rostrum is much smaller at the base than in Paulson's figure (fig. 27).



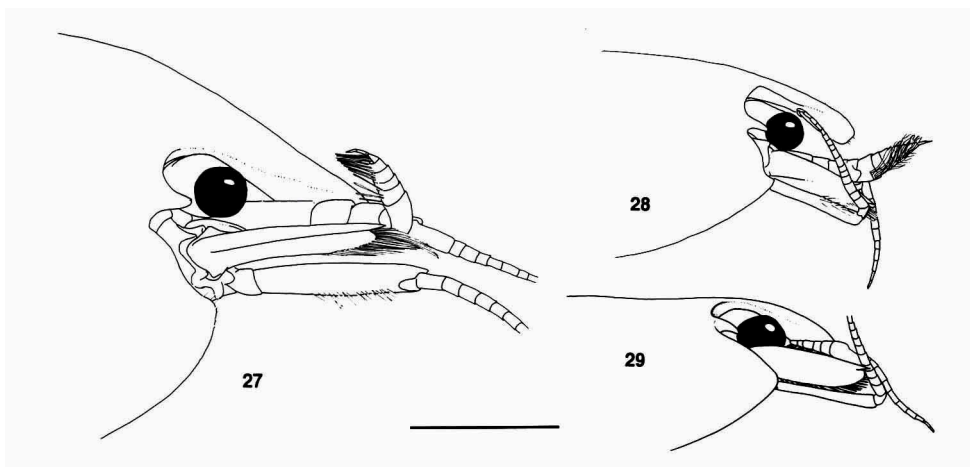
Figs. 23-26. Anterior part, dorsal view. 23, *Conchodytes biunguiculatus* (Paulson, 1875) sensu Kemp, 1922, ♂ cl. 9.38 RMNH D 42785, Seychelles; 24, *Conchodytes nipponensis* (De Haan, 1844), ♂ cl. 6.17 RMNH D 41461, Japan; 25, *Chernocaris placunae* Johnson, 1967, ovigerous ♀, Ambon, Indonesia; 26, *Chernocaris placunae* Johnson, 1967, ♂, Ambon, Indonesia. Scale = 2 mm.

4. Anterior ventral angle of carapace.— In Paulson's figure 1 the left antennula and scaphocerite are dissected. This makes it possible to see the anteroventral angle of the carapace being produced reaching halfway the rostrum. In *Chernocaris placunae* the anteroventral angle is extremely produced, reaching further than halfway the rostrum (fig. 30). In *C. biunguiculatus* sensu Kemp, 1922 the antero-ventral angle reaches about halfway the rostrum (fig. 28). In *C. nipponensis* the anteroventral angle is less produced than in *C. biunguiculatus* sensu Kemp, 1922, usually reaching the tip of the antennal spine, not halfway the rostrum (fig. 29).

5. Dactylus of ambulatory pereiopods.— Paulson's figure 1m shows the dactylus with well developed basal protuberance with many setae and without tooth. In both *C. biunguiculatus* sensu Kemp, 1922 (figs. 31-32), and *C. nipponensis* the basal protuberance is well developed (figs. 33-34). From *C. nipponensis* is known that the tooth on the basal protuberance is sometimes missing (cf. Fujino & Miyake, 1967: 291; Suzuki, 1971: 3, figs. 3, 5). In *C. biunguiculatus* sensu Kemp, 1922 a tooth is always present although sometimes minute and difficult to see between the setae. It seems the relative size of the tooth decreases with the size of the specimen. In *C. placunae* the basal protuberance is shallow, not well developed (fig. 35). Because of the difficulty in observing the tooth between the setae combined with Paulson's somewhat inaccurate drawings, these Red Sea specimens could well be conspecific with Paulson's specimens.

6. The third maxilliped.— Paulson's figure 1k shows a distinct notch between the basal and ischiomeral segment; the basal segment being produced. Only in *C. biunguiculatus* sensu Kemp, 1922, a distinct notch is present and the basal segment is as produced as in Paulson's figure 1k (fig. 36). In *C. nipponensis* the basal segment is somewhat produced but no distinct notch is present between the segments (fig. 37). In *Chernocaris placunae* both segments are almost completely fused and no notch is present between them (fig. 38).

From this comparison it may be concluded that Paulson's specimens could be



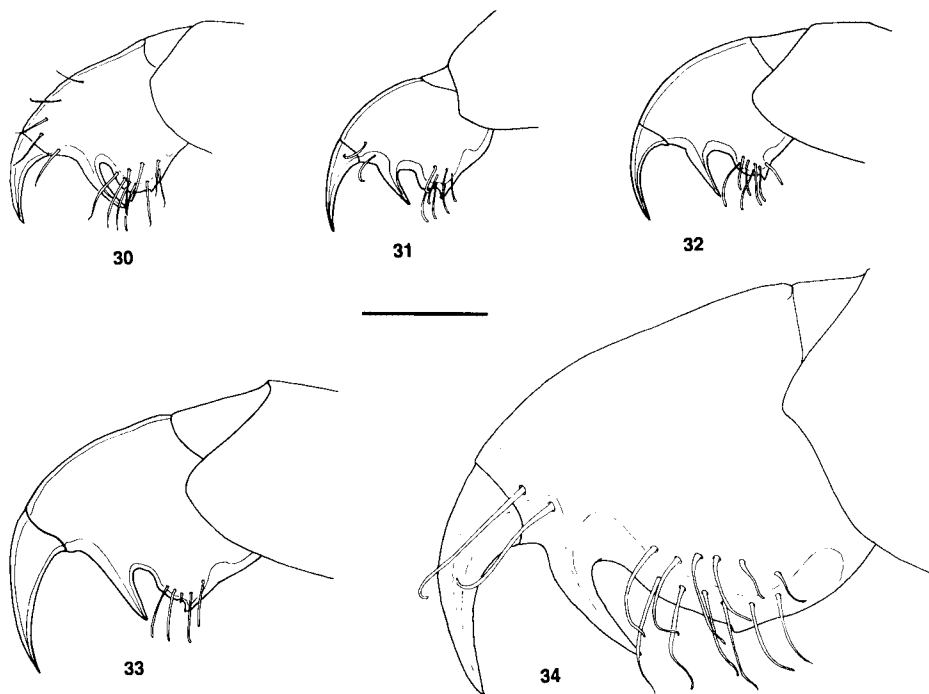
Figs. 27-29. Anterior part, lateral view. 27, *Conchodytes biunguiculatus* (Paulson, 1875) sensu Kemp, 1922, ♂ cl. 9.38 RMNH D 42785, Seychelles; 28, *Conchodytes nipponensis* (De Haan, 1844), ♂ cl. 6.17 RMNH D 41461, Japan; 29, *Chernocaris placunae* Johnson, 1967, ♂, Ambon, Indonesia. Scale = 2 mm.

conspecific with those of Kemp's *C. biunguiculatus*, but more certainly not with *C. nipponensis* nor *C. placunae*.

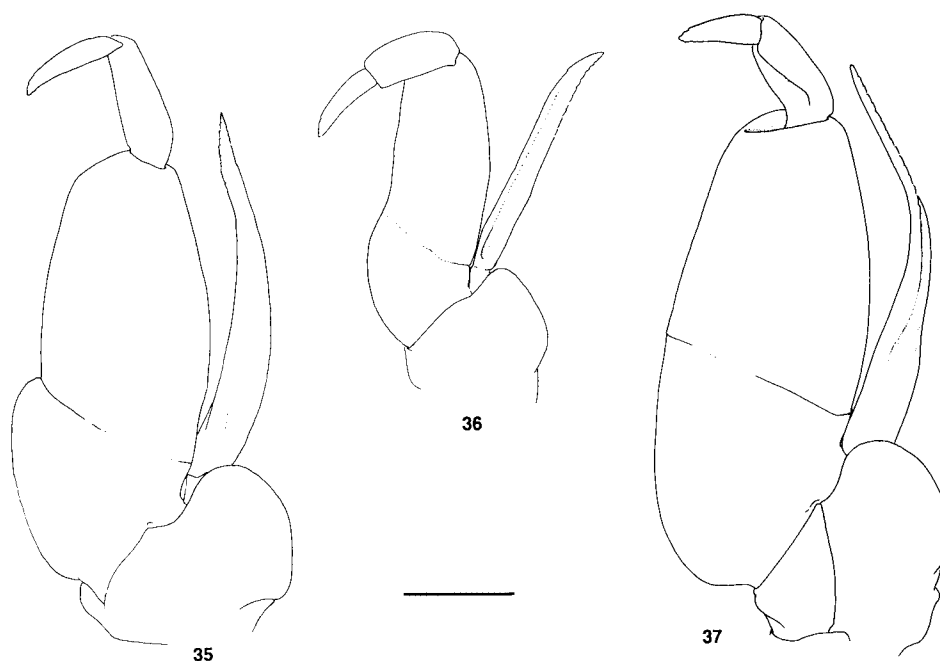
From this point of view *C. biunguiculatus* and *C. nipponensis* are not regarded synonyms. *C. kemp* Bruce, 1990 in this view becomes a junior synonym of *C. biunguiculatus*. As no type-material of *C. biunguiculatus* and *C. nipponensis* exists the identity of these species will remain problematic. Designation of neotypes might be a solution.

The type-material of *C. kemp* Bruce, 1990, (MNHN No. 1957) is part of the series of specimens from the Andamans, identified by Kemp (1922) as *C. biunguiculatus* (Paulson, 1875). The morphology of the chela shown in Kemp's figure is similar to that of *C. biunguiculatus* (Paulson, 1875).

Distribution.— Because of confusion concerning the identity of *C. biunguiculatus*, *C. nipponensis* (De Haan, 1844), and *C. kemp* Bruce, 1990, the distributional picture is not clear. Old records of *C. tridacnae* Peters, 1852, and *C. meleagrinae* Peters, 1852, from Pinnidae might also refer to *C. biunguiculatus*. With certainty the species has been recorded from various localities in the Indian Ocean, from Indonesian waters and South Taiwan (Holthuis, 1952). The species was recorded from Mahé by Bruce



Figs. 30-34. Dactylus left third pereiopod. 30, *Conchodytes biunguiculatus* (Paulson, 1875) sensu Kemp, 1922, ♂ cl. 9.38 RMNH D 42785, Seychelles; 31, *Conchodytes biunguiculatus* (Paulson, 1875) sensu Kemp, 1922, ♀ cl. 10.13 RMNH D 4755, Ambon, Indonesia; 32, *Conchodytes nipponensis* (De Haan, 1844), ♂ cl. 7.53 RMNH D 26827, Japan; 33, *Conchodytes nipponensis* (De Haan, 1844), ♂ cl. 9.74 RMNH D 16160, Irian Jaya, Indonesia; 34, *Chernocaris placunae* Johnson, 1967, ♂, Ambon, Indonesia. Scale 30-33 = 0.4 mm; 34 = 0.1 mm.



Figs. 35-37. Left third maxilliped, ventral view. 35, *Conchodytes biunguiculatus* (Paulson, 1875) sensu Kemp, 1922, ovigerous ♀ cl. 9.22 RMNH D 41484, Red Sea; 36, *Conchodytes nipponensis* (De Haan, 1844), ♂ cl. 7.53 RMNH D 26827, Japan; 37, *Chernocaris placunae* Johnson, 1967, ovigerous ♀, Ambon, Indonesia. Scale = 1 mm.

(1984). This is the first record of the species from the Amirantes. The species is known to be associated with pinnid bivalves.

Conchodytes meleagrinae Peters, 1852
(fig. 21, pl. 1E)

Restricted synonymy:

Conchodytes meleagrinae Peters, 1852: 594; Borradaile, 1917: 393, pl. 57 fig. 26; Kemp, 1922: 285-286; Bruce, 1973c: 139; Bruce, 1976e: 465; Bruce, 1977a: 73, fig. 14c-d; Bruce, 1978a: 120; Bruce, 1978b: 279-280; Bruce, 1979: 233; Bruce, 1981b: 3; Bruce, 1983a: 200; Bruce, 1984: 148; Holthuis, 1986: 271; Bruce, 1991: 262, fig. 25a-d; Chace & Bruce, 1993: 47, 74.

Material.— RMNH D 42765: 9 ♂♂ cl. 5.13-6.81; 2 ♀♀ cl. 5.75, 6.13; 6 ovigerous ♀♀ cl. 6.38-8.13. RMNH D 42767: 2 ♂♂ cl. 3.25, 6.53; 2 ovigerous ♀♀ cl. 7.50, 9.75. RMNH D 42778: ♂ cl. 6.44; ovigerous ♀ cl. 6.69. RMNH D 42782: ♂ cl. 5.95; ovigerous ♀ cl. 7.25. NIOP-E, Sta. SEY.788: Alphonse Atoll, SE part of lagoon; 7°02'S 52°44'E; reef flat and patch reefs, down to 8 m; snorkeling & scuba diving, transects 19 & 21; 4/6.i.93; in *Pinctada margaritifera* (L., 1758).— RMNH D 42766: ♂ cl. 3.33; ovigerous ♀ cl. 4.46; photo 5CF. RMNH D 42771: ♂ cl. 4.06; ovigerous ♀ cl. 4.88. NIOP-E, Sta. SEY.612: Mahé, E coast, Cap Maçons/Anse de Forbans; 04°46'S 55°31'E; depth 3-5 m; tidal reef flat and slightly declining reef slope; snorkeling; 12.xii.1992; in *Pinctada margaritifera* (L., 1758); leg. B.W. Hoeksema.— RMNH D 42768: ♂ cl. 4.00; ovigerous ♀♀ cl. 6.56. Photo 4CF. NIOP-E, Sta. SEY.609: Mahé, NW coast,

Vista Do Mar; 04°34'S 55°26'E; depth 4 m; beach with beachrock and granitic boulders, sandy bottom at 4-9 m, scuba diving; 11.xii.1992; pair in *Pinctada margaritifera* (L., 1758); leg. C.H.J.M. Fransen.— RMNH D 42769: 2 specimens cl. 2.19, 2.50; in *Pinctada margaritifera* (L., 1758) (ø 5 cm). RMNH D 42770: ♂ cl. 3.19; ovigerous ♀ cl. 4.25; in *Pinctada margaritifera* (L., 1758) (ø 7 cm). NIOP-E, Sta. SEY.619: Mahé, NW coast, Beau Vallon; 04°37'S 55°26'E; rocky coast, bottom with patches of coral; depth 4-6 m; scuba diving; 14.xii.1992; leg. H. ten Hove.— RMNH D 42772: ♂ cl. 5.88; ovigerous ♀ cl. 7.50. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope down to 27 m depth; scuba diving; 5/6.i.93; in *Pinctada margaritifera* (L., 1758); leg. C.H.J.M. Fransen.— RMNH D 42773: ♂ cl. 2.38; ovigerous ♀ cl. 3.06. NIOP-E, Sta. SEY.741: Mahé, SE coast, Anse Royale bay, off Ile Souris; 4°44'S 55°32'E; outside of reef barrier; depth to 10 m; snorkeling; 24.xii.1992; in *Pinctada margaritifera* (L., 1758); leg. J.C. den Hartog.— RMNH D 42774: ♂ cl. 2.25. NIOP-E, Sta. SEY.703: Praslin Island, NW coast, Chevalier bay; 4°17'S 55°42'E; rocky shore; depth c. 10 m; scuba diving; 17.xii.1992; in *Pinctada margaritifera* (L., 1758).— RMNH D 42775: ♂ cl. 5.50; ovigerous ♀ cl. 8.13; in *Pinctada margaritifera* (L., 1758) (ø 23 cm). RMNH D 42779: ♂ cl. 4.25; ovigerous ♀ cl. 5.50; in *Pinctada margaritifera* (L., 1758) (ø 15 cm). NIOP-E, Sta. SEY.786: Alphonse Atoll, NW edge; 7°00'S 52°43'E; steep slope; depth 15 m; scuba diving; 3.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42776: ♂ cl. 3.31; ovigerous ♀ cl. 3.44. NIOP-E, Sta. SEY.753: St Joseph Atoll, NW rim; 5°24'S 53°19'E; reef slope; depth 4 m; scuba diving; 26.xii.1992; in *Pinctada margaritifera* (L., 1758) (ø 10 cm); leg. C.H.J.M. Fransen.— RMNH D 42777: ♂ cl. 4.69; ovigerous ♀ cl. 7.25. NIOP-E, Sta. SEY.745: E of Mahé, off Victoria; 4°35'S 55°33'E; depth 27-30 m; rectangular dredge; 25.xii.1992; in *Pinctada margaritifera* (L., 1758).— RMNH D 42780: ♂ cl. 4.44; ovigerous ♀ cl. 6.06. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 20 m; scuba diving; 21.xii.1992; in *Pinctada margaritifera* (L., 1758); leg. C.H.J.M. Fransen.— RMNH D 42781: ovigerous ♀ cl. 4.06. NIOP-E, Sta. SEY.717: Bird Island, off E coast; 3°43'S 55°13'E; edge of bank; depth c. 10 m; scuba diving; 20/21.xii.1992; host unknown.— RMNH D 42783: ♂ cl. 4.19; ovigerous ♀ cl. 6.88. NIOP-E, Sta. SEY.677: Mahé Island, between Villa Carol and L'Ilot; 4°33.5'N 55°26'E; large rocks, patches of coral and many *Lophu's*; scuba diving, depth 13 m; 13.i.1993.— RMNH D 42784: ♂ cl. 4.19; ovigerous ♀ cl. 6.88. Seychelles, N coast of Mahé, between l'Ilot and Villa Carol; depth 9 m; on pearl-oyster collectors; 24.vii.1992; leg. D. Boullé.

Remarks.— The specimens fit the previous descriptions of the species. The basal process of the ambulatory dactylus is without accessory tooth. The carpus of the first pereopod is distinctly shorter than the merus. The specimens are sprinkled with many orange chromatophores when alive.

Distribution.— The species is distributed throughout the Indo-West-Pacific, generally associated with the Pearl oyster, *Pinctada margaritifera* (L., 1758). It has been recorded from Bird Island (Borradaile, 1917), Mahé and Farquhar (Bruce, 1973c). It is now recorded for the first time from several localities in the Amirantes Archipelago.

Conchodytes pteriae spec. nov.
(figs. 38-58)

Material.— RMNH D 42763: 2 ♂♂, cl. 3.13, 3.44; 2 ovigerous ♀♀ cl. 4.06, 4.00. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 25 m; scuba diving; 22.xii.1992; leg. C.H.J.M. Fransen; in small *Pteria loveni* (Dunker, 1872) on Antipatharia.— RMNH D 42764: ♂ cl. 2.44. NIOP-E, Sta. SEY.764: S of d'Arros Island; 5°29'S 53°18'E; depth 50-55 m; 1.2 m Agassiz trawl; 28.xii.1992; in *Pteria loveni* (Dunker, 1872).— RMNH D 45469: ovigerous ♀ (holotype) cl. 4.69; ♂ (allotype) cl. 3.75. NIOP-E, Sta. SEY.752: N of d'Arros Island; 5°24'S 53°19'E; depth 45-55 m; rectangular dredge; in small *Pteria loveni* (Dunker, 1872) which were attached to black coral; 26.xii.1992.

Diagnosis.— The first pereopods have the carpus and merus of equal length. The fixed finger of the second pereopod has a broad proximal serrate and a median

acute tooth; the dactylus has a broad serrate tooth in the proximal part.

Description of female holotype.— Body subcylindrical. Carapace smooth. Rostrum short, stout, thickened, toothless; anterior border bluntly rounded, reaching intermediate segment of antennular peduncle; depressed, almost triangular in dorsal view, without dorsal carina. Supraorbital, hepatic and antennal spines absent; inferior orbital angle produced, angular; anterolateral angle of carapace slightly produced, bluntly subrectangular.

Abdomen smooth. Pleura of first three segments large, broadly rounded; fourth segment small and rounded, fifth very small and rounded. Telson almost twice as long as sixth abdominal segment, slightly more than twice its width; posterior border without median process; two pairs of large submarginal dorsal spines at 0.25 and 0.71 of the telson length; posterior margin with three pairs of spines, lateral spines small, marginal, arising slightly proximally of intermediate spines, intermediate spines large, slightly shorter and more slender than dorsal spines, submedian spines slightly shorter and more slender than intermediate spines; slender setae present along posterior border.

Eyes with globular, well pigmented cornea, without accessory pigment spot, diameter subequal to width of cylindrical stalk.

Antennule with peduncle and flagella short; basal segment with distolateral tooth, stylocerite large, broad, distally acute; intermediate segment short, twice as wide as long; distal segment about as wide as long; upper flagellum short, biramous, with four proximal segments fused bearing aesthetascs, short free ramus unsegmented, longer free ramus with four segments; lower flagellum short with 9 segments.

Antenna with basicerite short, laterally unarmed, obscured by anterolateral angle of carapace, with conspicuous papilliform process medially; carpocerite extending beyond lamella of scaphocerite; lamella short, 9-segmented; scaphocerite with lamella about 1.6 times longer than central width, medial border broadly rounded, lateral margin convex with large distal tooth, extending well beyond anterior edge of lamella.

Epistome normal. Mandible without palp; molar process stout, minutely denticulate, with distal end truncate, with strong acute teeth, tessellate protuberance and dense setal brushes; incisor process slender, with four distal teeth on right and five distal teeth on left mandible. Maxillula with bilobed palp without setae; upper lacinia broad with about 12 spines medially; lower lacinia densely setose distoventrally and marginally, without spines. Maxilla with well developed broad palp, proximal lateral border with row of four plumose setae; basal endite simple, distally produced and narrow, exceeding tip of palp, medial border with a dense fringe of long, slender, finely plumose setae; coxal endite obsolete; scaphognathite about three times longer than wide with well developed broad anterior and posterior lobes. First maxilliped with well developed simple palp with one subdistal plumose setae; basal endite large and broad, fringed with many simple and finely serrulate setae; coxal endite obsolete; exopod with well developed caridean lobe, flagellum broad with several long plumose setae distally, epipod bilobed, lower lobe larger than upper lobe. Second maxilliped with dactylar segment narrow, with numerous finely serrulate spiniform setae medially; distomedial lobe of propod produced, rounded with simple marginal setae; carpus distomedially angular; merus, ischium, and basis not fused; exopod well developed, with small lateral lobe proximally bearing few plu-

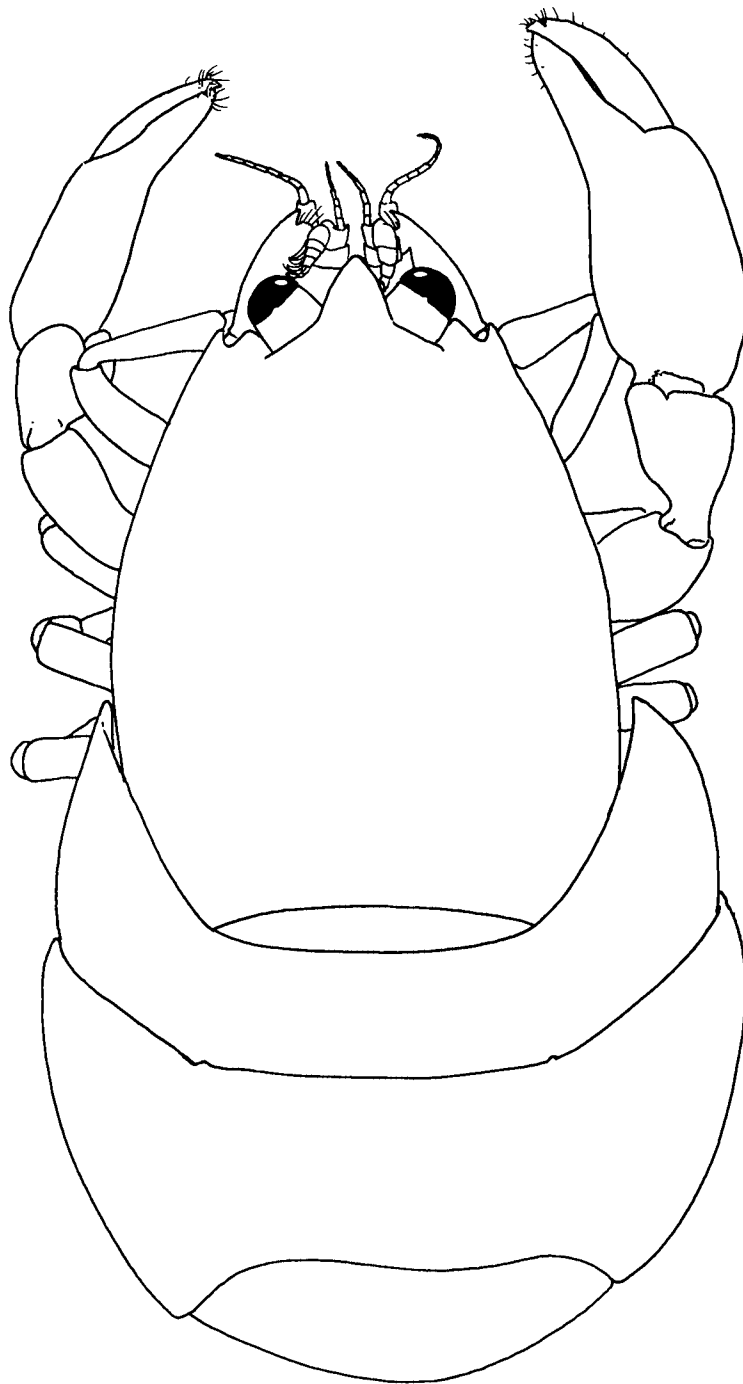
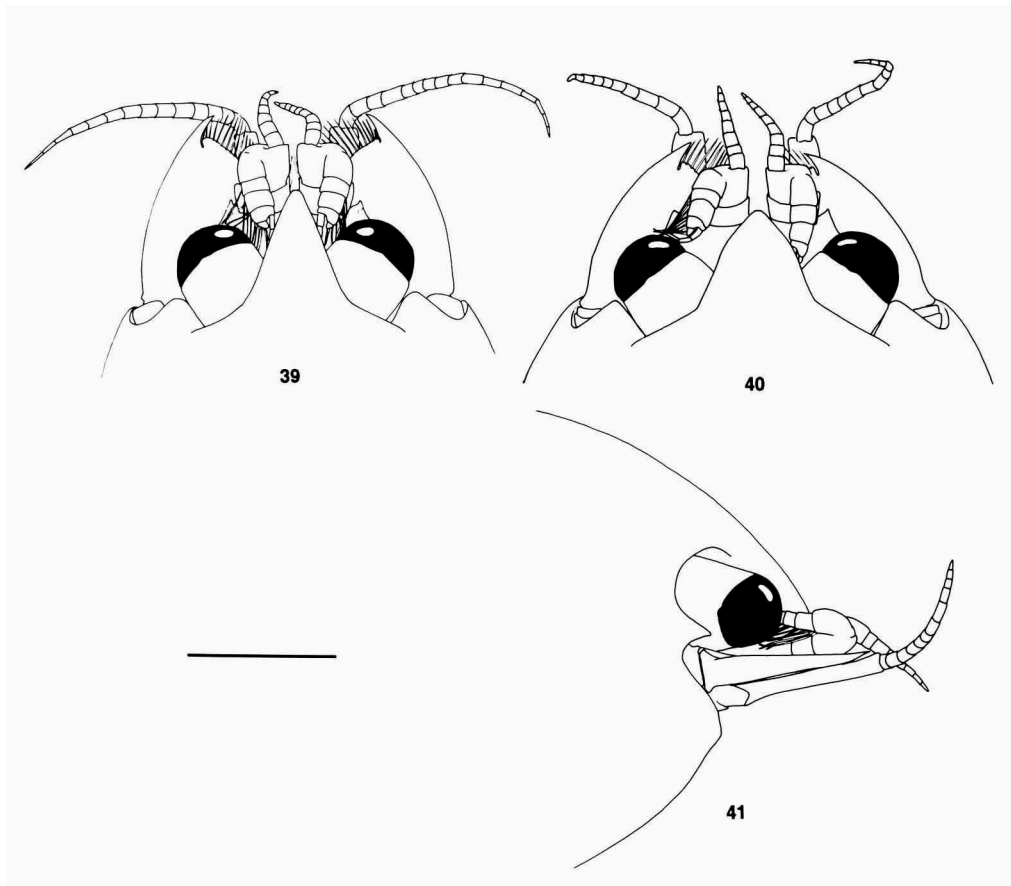


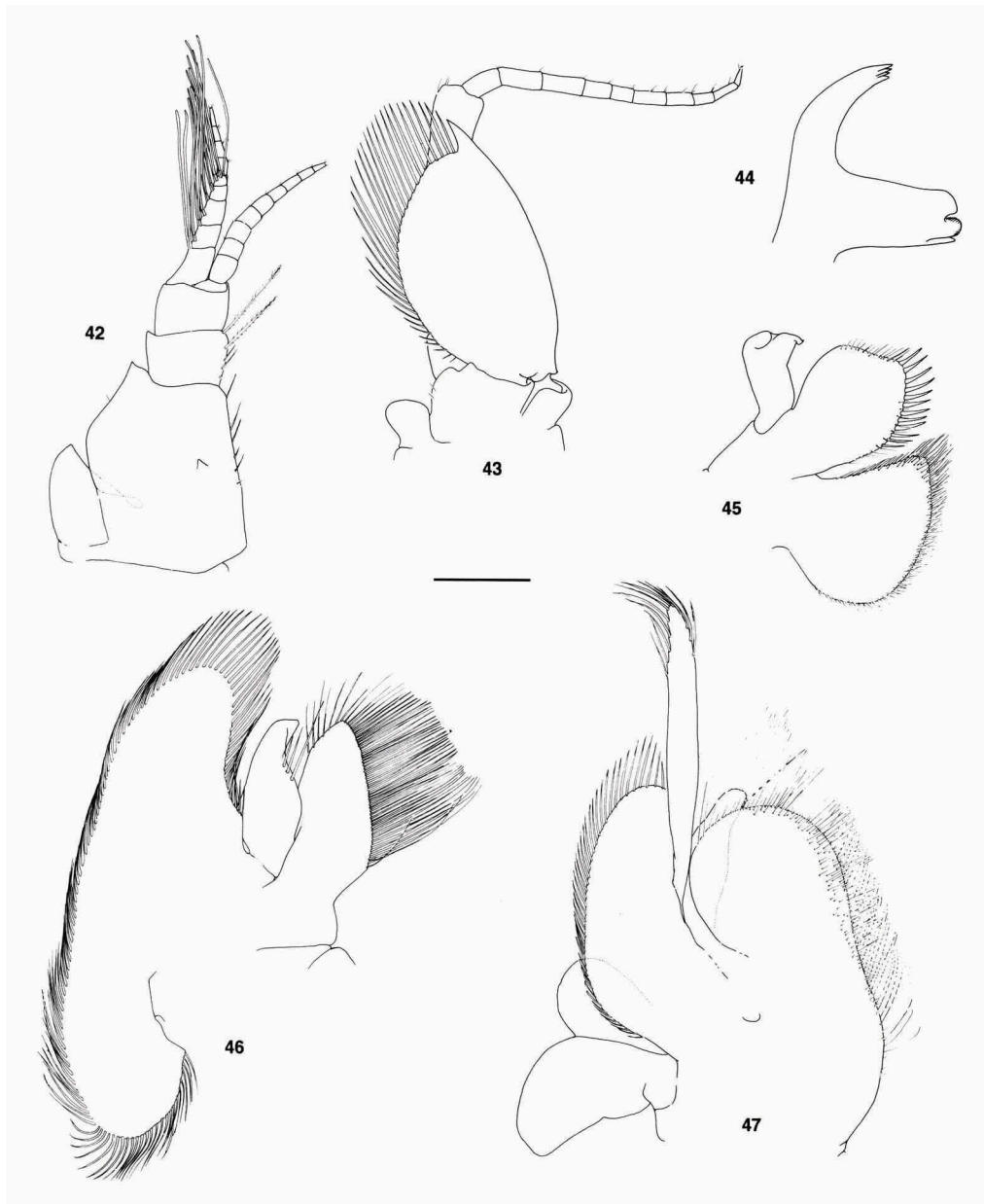
Fig. 38. *Conchodytes pteriae* spec. nov., ovigerous ♀, cl. 4.69 mm, holotype RMNH D 45469.



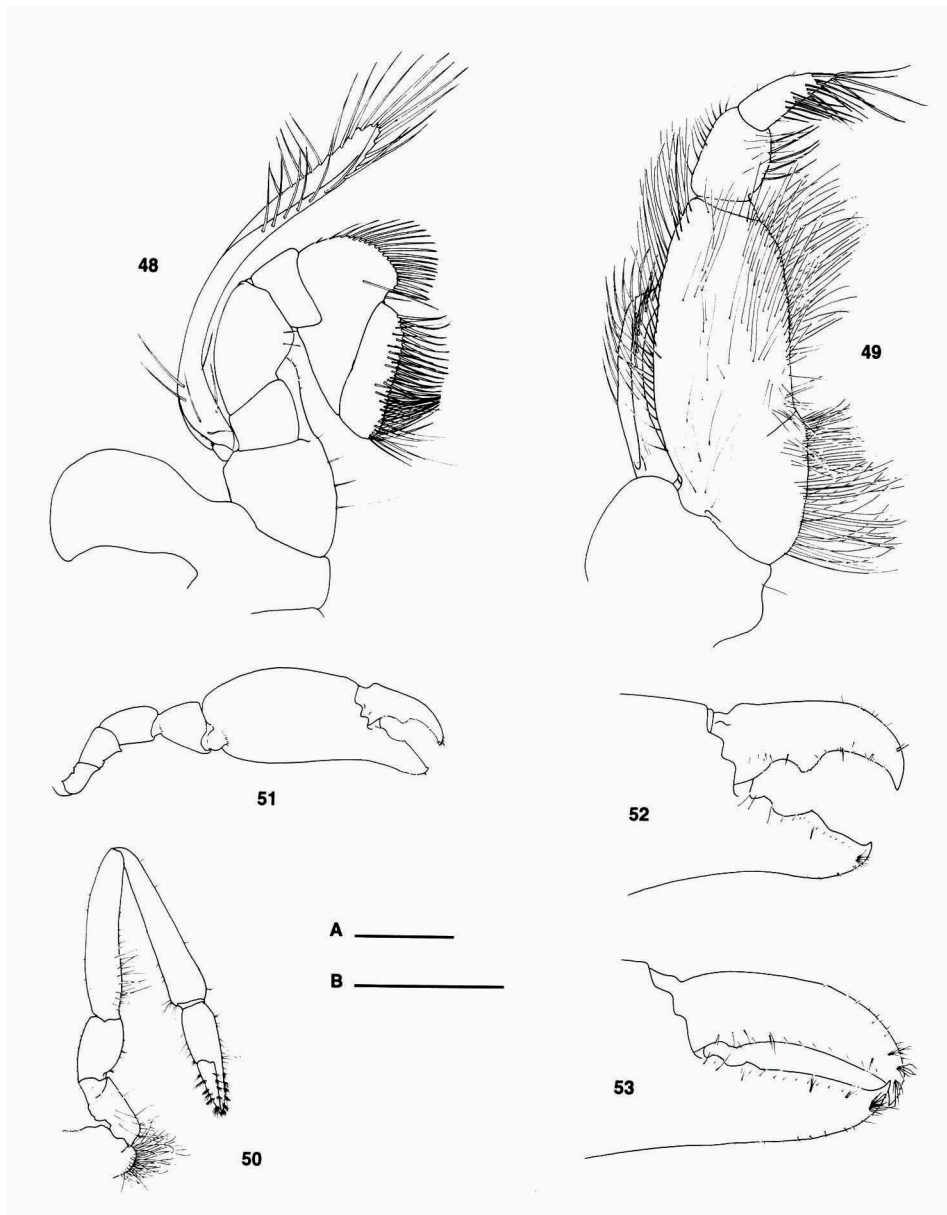
Figs. 39-41. *Conchodytes pteriae* spec. nov., RMNH D 45469. 39, ♂ allotype, anterior region, dorsal view; 40, ovigerous ♀ holotype, anterior region, dorsal view; 41, ovigerous ♀ holotype, anterior region, lateral view. Scale = 1 mm.

mose setae; coxae not produced medially, with subrectangular epipod not bearing a podobranch. Third maxilliped with ischiomerus semi-fused with basis; ischiomerus about twice as long as wide, basal segment triangular, both segments with dense cover of long slender simple setae ventrally and medially; penultimate segment slightly longer than wide, about 0.3 times ischiomerus length; distal segment as long as penultimate segment, tapering distally, with several rows of serrulate setae medially; exopod well developed, slightly longer than ischiomerus segment; coxal segment not produced medially, with well developed oval lateral plate, without epipod or arthrobranch. First four thoracic sternites broad and unarmed, fifth with transverse ridge with median notch posterior to second pereopods, remainder moderately broad, unarmed.

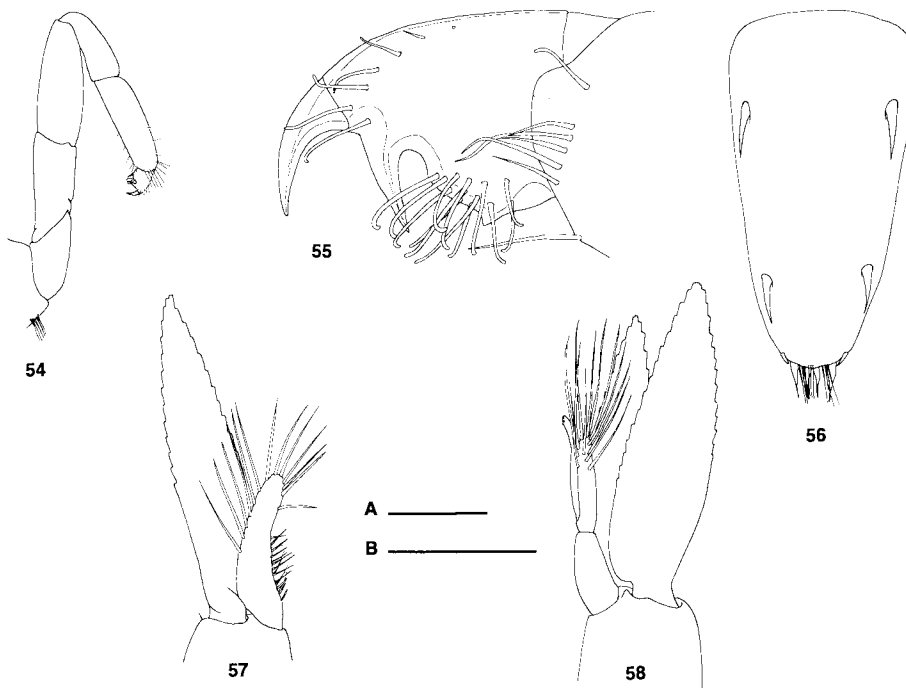
First pereopods slender, extending beyond scaphocerite; chela with palm as long as fingers; fingers slender, with several rows of finely serrulate setae, cutting edges entire, tips of fingers hooked; carpus almost twice as long as chela, distally wider than proximally; merus as long as carpus, slightly bent, with long simple setae medi-



Figs. 42-47. *Conchodytes pteriae* spec. nov., ovigerous ♀ holotype RMNH D 45469. 42, right antennula, ventral view; 43, right antenna, dorsal view; 44, right mandible; 45, right maxillula; 46, right maxilla; 47, right first maxilliped. Scale = 0.4 mm.



Figs. 48-53. *Conchodytes pteriae* spec. nov., RMNH D 45469. 48-52, ovigerous ♀ holotype. 48, right second maxilliped; 49, right third maxilliped; 50, right first pereopod; 51, right second pereopod; 52, chela right second pereopod. 53, ♂ allotype, chela right second pereopod. Scale A: 48-49 = 0.4 mm; 50 = 1 mm. Scale B: 51 = 4 mm; 52 = 2 mm; 53 = 1 mm.



Figs. 54-58. *Conchodytes pteriae* spec. nov., RMNH D 45469. 54-56, ovigerous ♀ holotype. 54, right third pereiopod; 55, dactylus right third pereiopod; 56, telson. 57-58, ♂ allotype. 57, right first pleopod; 58, right second pleopod. Scale A: 54 = 1 mm; 55 = 0.1 mm; 57-58 = 0.4 mm. Scale B: 56 = 1 mm.

ally; ischium short, about 0.4 times merus length; basis slightly longer than ischium; coxa robust with conspicuous setose ventromedial process.

Second pereiopods similar, right slightly larger than left; palm 1.75 times longer than deep, compressed; dactylus 0.6 times palm length, with blunt denticulated tooth in proximal part, distal part entire, tip strongly hooked; fixed finger with blunt denticulate tooth just proximal of tooth on dactylus and acute tooth just distal of tooth on dactylus, distal part of cutting edge entire, tip strongly hooked; carpus short and stout, expanding distally, 1.4 times longer than distal breadth, unarmed, about 0.4 times chela length; merus short and stout, about as long as carpus; ischium short and stout, with distomedial protuberance, slightly shorter than merus; basis and coxa stout, without armature.

Ambulatory pereiopods robust. Dactylus of third pereiopod with strongly curved, simple unguis; corpus strongly compressed, ventral border with large acute strongly recurved distal accessory tooth, dorsal border with row of simple short setae, basal protuberance well developed with proximal acute tooth and rows of short simple setae; propodus about 3 times longer than wide, unarmed; carpus 0.75 propodus length, unarmed; merus 1.25 times propodus length, unarmed; ischium, basis and coxa without special features. Fourth and fifth pereiopod similar.

Uropods with protopod postolaterally blunt; exopod with lateral border convex,

with small mobile spine posteriorly, without posterolateral tooth; endopod extending well beyond exopod, as long as telson.

Ova numerous, length about 0.6 mm.

Male allotype.— Smaller in size than females, with relatively larger second pereopods and a more slender rostrum. The chela are unequal in size. The major chela has the teeth on the fingers more pronounced and positioned farther distally. First pleopod with endopod half the exopod length, medially concave, distally rounded with long plumose setae on distal half of lateral and distal fourth of medial border, concave medial border with double row of short simple setae. Endopod of second pleopod slightly shorter than exopod, with appendix masculina subcylindrical, slightly shorter than appendix interna, with about 12 long simple setae in distal third. Appendix interna slender with few distal cincinnuli.

Colour.— Transparent with dense cover of orange chromatophores.

Etymology.— Named for the mollusc host genus *Pteria*, in which the specimens were found.

Remarks.— Six species of *Conchodytes* are recognized at present: *C. biunguiculatus* (Paulson, 1875) sensu Kemp, 1922; *C. maculatus* Bruce, 1989; *C. meleagrinae* Peters, 1852; *C. monodactylus* Holthuis, 1952; *C. nipponensis* (De Haan, 1844); and *C. tridacnae* Peters, 1852. The new species has the tooth on the basal protuberance of the ambulatory dactyli in common with *C. biunguiculatus* and *C. nipponensis*.

Conchodytes pteriae can be distinguished from *C. biunguiculatus* sensu Kemp, 1922, by the following features; 1) *C. biunguiculatus* sensu Kemp, 1922, has the median tooth of the fixed finger very broad and serrate while it is acute in *C. pteriae*; 2) in *C. biunguiculatus*, the rostrum reaches halfway the ultimate segment of the antennular peduncle; in *C. pteriae* it reached the penultimate segment of the antennular peduncle; 3) in *C. biunguiculatus*, the lateral terminal spines on the telson are relatively large and situated just behind the intermediate and medial spines; in *C. pteriae* the lateral spines are small and situated more terminally.

The new species differs from *C. nipponensis* in having: 1) the chela of the second pereopods without a second acute median tooth on the dactylus; 2) the lateral terminal spines of the telson close to the intermediate and medial spines, while pre-terminal, dorsal and submarginal in *C. nipponensis*.

In all specimens the right second chela is larger than the left second chela.

Conchodytes tridacnae Peters, 1852
(fig. 22, pl. 1F)

Restricted synonymy:

Conchodytes tridacnae Peters, 1852: 594; Kemp, 1922: 283-285, fig. 105; Kubo, 1940: 62-64, figs. 26-27; Bruce, 1973c: 138-139; Bruce, 1974: 201; Bruce, 1976e: 465; Bruce, 1977a: 71, fig. 14a-b; Bruce, 1977b: 176-177, fig. 7A-E; Bruce, 1978a: 120; Bruce, 1979: 234; Bruce, 1981b: 4; Bruce, 1983a: 201; Bruce, 1991: 262-263, fig. 25E-F; Chace & Bruce, 1993: 47, 76.

Material.— RMNH D 42786: ♂ cl. 5.38; ovigerous ♀ cl. 8.50; photo 32/19-25. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope down to 27 m depth; scuba diving; 5/6.i.1993; from *Tridacna* ? *maxima* (collected); leg. C.H.J.M. Fransen.— RMNH D 42787: ♂ cl. 6.38; ovigerous ♀ cl. 8.38; photo 17/18-26. NIOP-E, Sta. SEY.754: St Joseph Atoll, NW rim, in lagoon; 5°24'S 53°19'E; reef flat; depth 1 m; snorkeling; 26.xii.1992; in *Tridacna* spec. (ø 20 cm); leg. J.C. den Hartog.

Remarks.— The specimens fit the description of previous authors. The basal process of the ambulatory dactyli is without an accessory tooth. The merus and carpus of the first pereopod are of equal length. The lateral pair of posterior spines on the telson is minute, not subterminal. The specimens are sprinkled with white chromatophores.

Distribution.— Widely distributed throughout the Indo-West Pacific, generally associated with Giant clams, *Tridacna maxima* (Röding, 1798). Recorded from Bird Island (Bruce, 1973c), Farquhar and Aldabra (Bruce, 1973c, 1974; 1978). Now for the first time recorded from the Amirantes.

Coralliocaris superba (Dana, 1852)

Restricted synonymy:

Oedipus superbus Dana, 1852a: 25; Dana, 1852b: 573; Dana, 1855: 12, pl. 37 fig. 2.

Oedipus dentirostris Paulson, 1875: 112, pl. 14 fig. 7.

Coralliocaris superba; Borradaile, 1917: 383; Kemp, 1922: 272-274, figs. 98-99; Kubo, 1940: 67-70, figs. 30-32; Miyake & Fujino, 1968: 424-425, fig. 7b, d; Bruce, 1974: 199-200; Bruce, 1976a: 32; Bruce, 1976d: 451; Bruce, 1976e: 466; Bruce, 1977a: 67; Bruce, 1978a: 131; Bruce, 1978b: 281; Bruce, 1981a: 393-395; Bruce, 1981b: 4; Bruce, 1981c: 89-90, fig. 9; Bruce, 1983a: 201; Bruce, 1991: 264-265, fig. 26; Chace & Bruce, 1993: 47, 77.

Material.— RMNH D 42719: ♂ cl. 3.81; ovigerous ♀ cl. 4.38. RMNH D 42724: 4 ♀♀ cl. 1.25, 1.44, 1.75, 2.19. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; on branching *Acropora* spec., with *Jocaste japonica* (Ortmann, 1890); depth c. 10 m; scuba diving; 29/31.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Widespread in the tropical Indo-West Pacific, associated with scleractinian corals, common on species of the genus *Acropora*. Recorded from Praslin by Bruce, 1976b. Now recorded for the first time from the Amirantes.

Coralliocaris viridis Bruce, 1974

Restricted synonymy:

Coralliocaris viridis Bruce, 1974: 222-224, fig. 1A,B; Bruce, 1976d: 452; Bruce, 1976e: 467; Bruce, 1977a: 68; Bruce, 1978b: 283; Bruce, 1981b: 4-5; Bruce, 1983a: 201; Bruce, 1983b: 896, fig. 10H; Chace & Bruce, 1993: 47, 78.

Material.—RMNH D 42816: ♂ cl. 2.38. RMNH D 42725: ♂ cl. 2.63; ovigerous ♀ cl. 2.94. RMNH D 42726: ♂ cl. 3.63; ovigerous ♀ cl. 3.56. NIOP-E, Sta. SEY.612: Mahé, E coast, Cap Maçons /Anse de Forbans; 04°46'S 55°31'E; depth 5 m; tidal reef flat and slightly declining reef slope; snorkeling; between branches of *Acropora* coral; 12.xii.1992; leg. C.H.J.M. Fransen.—RMNH D 42717: ovigerous ♀ cl. 3.19 mm. RMNH D 42720: ♂ cl. 3.06 mm; ovigerous ♀ cl. 2.94. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope; on branching *Acropora* spec., together with *Jocaste japonica* (Ortmann, 1890) and *J. lucina* (Nobili, 1901); depth 10 m; scuba diving; 28.xii.1992; leg. C.H.J.M. Fransen.—RMNH D 42727: ♂ cl. 2.63; ovigerous ♀ cl. 2.50. NIOP-E, Sta. SEY.604: Mahé, NE coast, North East Point; 04°35'S 55°28'E; intertidal to 4 m; reef flat and slope with many corals; between branches of *Acropora* spec.; snorkeling; 8.xii.1992; leg. B.W. Hoeksema.

Remarks.— All specimen have a rostral dentition of 4/1 which is typical for *C. viridis*. The rostral lamina is generally shallow, but some variation in this character occurs. The dorsal rostral teeth are situated in the distal 1/2 to 2/3. The species is closely related to *C. graminea* with which it has often been recorded together on the

same coral host. *C. graminea* has a rostral dentition of 4-5/2.

Distribution.— Because of the taxonomic confusion between *C. viridis* and *C. graminea* the distributional pattern is not clear. The species probably occurs throughout the tropical Indo-West Pacific, associated with scleractinian corals. It was recorded from Cerf Island and Mahé (Bruce, 1984). The species is now recorded for the first time from the Amirantes.

Hamodactylus boschmai Holthuis, 1952

Restricted synonymy:

Hamodactylus boschmai Holthuis, 1952: 18, 209-212, figs. 102-104; Bruce, 1970a: 538, fig. 1; Bruce, 1976: 467-468; Bruce, 1978b: 283-284; Bruce, 1980: 272-275, figs. 25-26; Bruce, 1981b: 5; Bruce, 1983a: 202; Chace & Bruce, 1993: 49, 80.

Material.— RMNH D 42884: 2 ovigerous ♀♀ cl. 1.44; 6 ♂♂ cl. 1.00-1.31; 6 juveniles cl. 0.81-1.00. NIOP-E, Sta. SEY.618: Mahé, NE coast, North East Point; 04°35'S 55°28'E; depth 12 m; reef flat, exposed reef slope with sparse coral cover merging into sandy bottom; scuba diving; on white gorgonian together with *Hamodactylus noumeae* Bruce, 1970, and *Periclimenes ? brucei*; 14.xii.1992; leg. C.H.J.M. Fransen.

Remarks.— The rostral dentition is 3-7/0. In large adult specimens the number of dorsal rostral teeth is 5 or 6, while 3-5 in juveniles and small adults. The number of distolateral teeth of the basal segment of the antennular peduncle is always 1. In small specimens the supraorbital spine is less developed, forming an obtuse knob.

Distribution.— Known from several localities in Indonesia and the Indian Ocean, associated with gorgonian hosts. This is the first record of the species for the Seychelles.

Hamodactylus noumeae Bruce, 1970
(pl. 2A)

Restricted synonymy:

Hamodactylus boschmai var. ? Holthuis, 1952: 212-213, fig. 105.

Hamodactylus noumeae Bruce, 1970a: 539-451, fig. 2; Bruce, 1976: 467; Bruce, 1981b: 6; Bruce, 1983a: 202; Bruce & Svoboda, 1983: 34; Chace & Bruce, 1993: 49, 81.

Material.— RMNH D 42873: ovigerous ♀ cl. 2.63; photo 21/16-21; on gorgonid *Rumphella aggregata* (Nutting, 1910) (det. L.P. van Ofwegen). RMNH D 42990: 4 ♂♂ cl. 2.69, 2.88, 3.38, 3.56 (+bopyrid); photo 22/7-11; on gorgonian. NIOP-E, Sta. SEY.772: Desroches Atoll, W rim; 5°41'S 53°35'E; outer reef slope; depth 10 m; scuba diving; leg. C.H.J.M. Fransen. RMNH D 42874: 1 juvenile cl. 0.69; on gorgonid *Rumphella aggregata* (Nutting, 1910) (det. L.P. van Ofwegen). RMNH D 42877: 2 ♀♀ cl. 0.88, 1.25; 1 juv. cl. 0.63; on gorgonian. NIOP-E, Sta. SEY.753: St Joseph Atoll, NW rim; 5°24'S 53°19'E; reef slope; depth 15 m; scuba diving; 26.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42875: 2 juveniles cl. 0.63, 0.94. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope; depth 10 m; scuba diving; on gorgonid *Rumphella aggregata* (Nutting, 1910) (det. L.P. van Ofwegen); 28.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42876: 3 ovigerous ♀♀ cl. 1.69(2x), 1.75; 6 ♀♀ cl. 1.06-1.50; 1 ♂ cl. 1.23; 4 juveniles cl. 0.69-0.94. NIOP-E, Sta. SEY.797: Platte Island Atoll; 05°49'S 55°21'E; lagoon of inner Atoll; depth 12 m; scuba diving; on gorgonid *Rumphella aggregata* (Nutting, 1910) (det. L.P. van Ofwegen); 7.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42878: 1 specimen cl. 0.94. NIOP-E, Sta. SEY.786: Alphonse Atoll, NW edge; 7°00'S 52°43'E; steep slope; depth 12 m; scuba diving; on gorgonian with *Periclimenes psamathe* (De Man, 1902); 3.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42881: 2 ovigerous ♀♀ cl. 1.06,

1.38; 5 ♂♂ cl. 1.00-1.25; 1 juvenile cl. 0.81. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth c. 10 m; scuba diving; 29/31.xii.1992.— RMNH D 42885: ♂ cl. 1.13. NIOP-E, Sta. SEY.618: Mahé, NE coast, North East Point; 04°35'S 55°28'E; depth 14 m; reef flat, exposed reef slope with sparse coral cover merging into sandy bottom; scuba diving; on white gorgonian together with *Hamodactylus boschmai* Holthuis, 1952, *Periclimenes watamuae* Bruce, 1976, and *Periclimenes ? brucei*; 14.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 45493: ovigerous ♀ cl. 1.38; photo 13/4-6. NIOP-E, Sta. SEY.735: La Digue island, S coast; 4°23'S 55°50'E; rocky shore, depth: 8-16 m; scuba diving; 23.xii.1992.

Remarks.— In the larger specimens the rostral formula is 4-5/0, occasionally 2-3/0 in the smaller specimens. The number of disto-lateral teeth on the basal segment of the antennular peduncle is 3 in large specimens and 2 in smaller specimens. The fingers of the second pereopods are of equal form and length.

Distribution.—Recorded from East Africa, Indonesia, Australia and New Caledonia, associated with a variety of gorgonian hosts. Now recorded for the first time from the Seychelles.

Harpiliopsis beaupresii (Audouin, 1825)

Restricted synonymy:

Palaemon Beaupresii Audouin, 1825: 91.

Pontonia (Harpilius) dentata Richters, 1880: 165, pl. 17 figs. 36-38.

Harpilius beaupresii; Kemp, 1922: 229-231, figs. 67-68; Kemp, 1925: 327; Barnard, 1950: 799-800, fig. 151f-h.

Harpiliopsis beaupresii; Bruce, 1972: 401, 403-405, 408, 413; Bruce, 1974: 194, fig. 3; Bruce, 1976: 468

Harpiliopsis beaupresii; Bruce, 1976a: 35-36; Bruce, 1976d: 448; Bruce, 1978a: 128; Bruce, 1979: 238; Bruce, 1981b: 6; Bruce, 1983a: 202; Fransen, 1987: 510, fig. 6; Chace & Bruce, 1993: 49, 82.

Material.— RMNH D 42819: 2 ♂♂ cl. 2.50, 2.94; ♀ cl. 1.75. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope; depth 10 m; scuba diving; between branches of *Pocillopora* coral; 5/6.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42820: ovigerous ♀ cl. 2.13. NIOP-E, Sta. SEY.612: Mahé, E coast, Cap Maçons/Anse de Forbans; 04°46'S 55°31'E; depth 4-5 m, tidal reef flat and slightly declining reef slope; snorkeling; between branches of *Pocillopora verrucosa* (Ellis & Solander, 1786) (det. B.W. Hoeksema); 12.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Distributed throughout the tropical Indo-West Pacific as far east as Easter Island, associated with scleractinian corals. Previously recorded from the Seychelles by: Kemp, 1922 (Mahé); Bruce, 1972 (Mahé); Bruce, 1974 (Farquhar); Bruce, 1978a (Farquhar, Mahé, Resource Island and Aldabra).

Harpiliopsis depressa (Stimpson, 1860) (figs. 59, 61)

Restricted synonymy:

? *Anchistia gracilis* Dana, 1852a: 25.

Harpilius depressus Stimpson, 1860: 38; Kemp, 1922: 231-234, figs. 69-70; Kemp, 1925: 327.

Periclimenes pusillus Rathbun, 1906: 921, fig. 71, pl. 24 fig. 7.

Harpiliopsis depressus; Holthuis, 1951: 70-75, pls. 21-22 (full synonymy); Holthuis, 1952: 182-184, fig. 90; Bruce, 1972: 401, 403-405, 408, 413; Bruce, 1973c: 139-140; Bruce, 1976d: 448-449; Bruce, 1976: 468.

Harpiliopsis depressa; Bruce, 1976a: 36; Bruce, 1977a: 65-67, fig. 12a-c; Bruce, 1978a: 128; Bruce, 1978b: 283; Bruce, 1979: 238-239; Bruce, 1981b: 6; Bruce, 1983b: 895-896, fig. 10D-F; Bruce, 1983a: 202; Wicksten, 1983: 15; Bruce, 1985a: 125; Bruce, 1985b: 241; Bruce, 1990b: 180-181, fig. 4; Bruce, 1991: 263-264; Chace & Bruce, 1993: 49, 82.

Material.— RMNH D 42817: ovigerous ♀♀ cl. 3.25. RMNH D 42821: 1 juvenile cl. 1.13. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope; depth 10 m; scuba diving; between branches of *Pocillopora* coral 5/6.i.1993; together with *H. beaupresii* (Audouin, 1825) and *H. spinigera* (Ortmann, 1890); leg. C.H.J.M. Fransen.— RMNH D 42818: ♂ cl. 3.38; ovigerous ♀ cl. 3.38. NIOP-E, Sta. SEY.783: Ile Desnoeufs, Northern slope of platform; 6°12'S 53°02'E; reef slope; depth 12 m; scuba diving; between branches of *Pocillopora* coral together with *H. spinigera*; 2.i.1993; leg. C.H.J.M. Fransen.

Remarks.— This species is similar to *H. spinigera* (Ortmann, 1890). Kemp (1922) noted differences in the relative length and width of the scaphocerite, merus and palm of the second pereopods, and merus and propodus of the third pereopods. An other difference was found in the position of the dorsal spines on the telson. In *H. depressa* the distal margin of the palm near the dactylus is produced; this feature is absent in *H. spinigera*.

Distribution.— Due to the confusion with *H. spinigera*, the distributional pattern is not clear. The species is probably distributed throughout the tropical Indo-West Pacific and along the East Pacific coast of America from the Gulf of California to Colombia, associated with scleractinian corals. Recorded from Mahé, Praslin and Aldabra (Bruce, 1973c; 1976b; 1978a). Now recorded for the first time from the Amirantes.

Harpiliopsis spinigera (Ortmann, 1890)
(figs. 60, 62, pl. 2B))

Restricted synonymy

Anchistia spinigera Ortmann, 1890: 511, pl. 36 fig. 23.

Harpilius depressus var. *gracilis* Kemp, 1922: 228, 234-235, fig. 71.

Harpiliopsis depressus var. *spinigerus*; Holthuis, 1952: 16, 184-185.

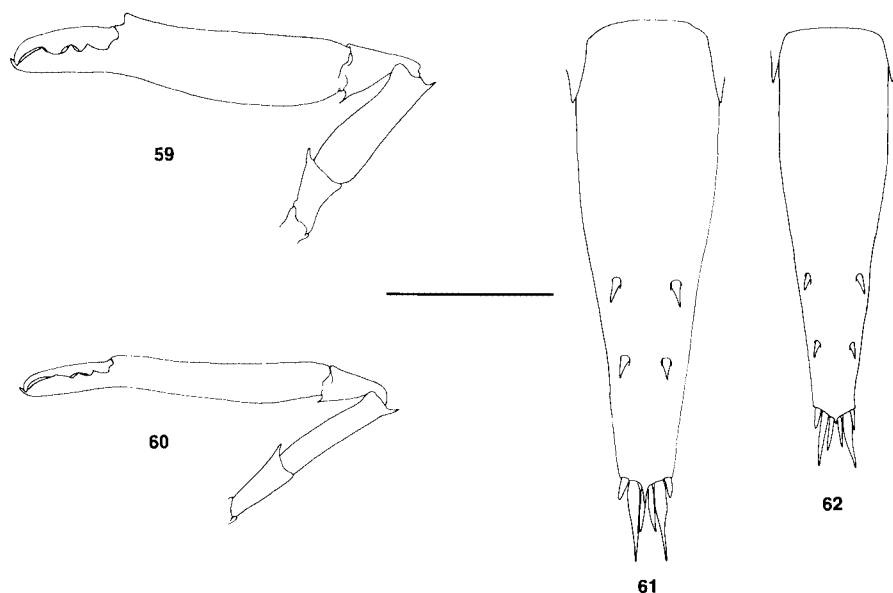
Harpiliopsis sp.; Bruce, 1974: 194.

Harpiliopsis spinigerus; Bruce, 1976b: 127-128; Bruce, 1976d: 449.

Harpiliopsis spinigera; Bruce, 1976a: 36; Bruce, 1978a: 129; Bruce, 1981b: 7; Bruce, 1981c: 86, fig. 7, corrigenda; Bruce, 1983a: 203; Chace & Bruce, 1993: 49, 82-83.

Material.— RMNH D 45494: 7 ♂♂ cl. 1.63-2.94; ovigerous ♀ cl. 2.50; 3 ♀♀ cl. 2.13-2.94. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope; depth 10 m; scuba diving; between branches of *Pocillopora* coral 5/6.i.1993; leg. C.H.J.M. Fransen.— RMNH D 45495: 1 ♂ cl. 2.25. NIOP-E, Sta. SEY.783: Ile Desnoeufs, Northern slope of platform; 6°12'S 53°02'E; reef slope depth 12 m; scuba diving; between branches of *Pocillopora* coral; 2.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42868: 2 ♀♀ cl. 2.25, 3.75; 2 juveniles cl. 1.31; photo 15/11-16. NIOP-E, Sta. SEY.741: Mahé, SE coast, Anse Royale bay, off Ile Souris; 4°44'S 55°32'E; outside of reef barrier; depth 10 m; scuba diving; 24.xii.1992.; on *Pocillopora verrucosa* (Ellis & Solander, 1786) (det. B.W. Hoeksema), with *Periclimenes mahei* Bruce, 1969.

Remarks.— The two small specimens of sta. 741 and one of sta. 792 exactly match the description of *Periclimenes pusillus* Rathbun, 1906, which is thought to be based on juvenile specimens of *Harpiliopsis depressa* (see Bruce, 1970a). The specimens lack the hepatic spine, the rostral formula is 0+5-6/2. The merus of the second pereopods has two distal teeth while the carpus has none. The chelae are spatulate and have entire cutting edges. The dactylus of the ambulatory pereopods possess a median carina. The two large females have rostral formula 7/4. As the adults of both *H. depressa* and *H. spinigera* are so similar this could also be the case for the juvenile specimens.



Figs. 59-62. 59, 61, *Harpiliopsis depressa* (Stimpson, 1860), ovigerous ♀, cl. 3.38 mm, RMNH D 42818. 60, 62, *Harpiliopsis spinigera* (Ortmann, 1890), ♀, cl. 2.94 mm. 59-60, right second pereiopod; 61-62, telson. Scale: 59-60 = 4 mm; 61-62 = 1 mm.

Distribution.— Due to confusion with *H. depressa* the distribution of the species is not clear. It is probably distributed throughout the Indo-West Pacific, associated with scleractinian corals. Reported from Farquhar (Bruce 1974; as *Harpiliopsis* sp.), Astove, Aldabra, Remire and Praslin Islands (Bruce, 1976b; 1978a).

Ischnopontonia lophos (Barnard, 1962)

Restricted synonymy:

Philarius lophos Barnard, 1962: 242-243, fig. 2.

Ischnopontonia lophos; Bruce, 1966b: 584-589, figs. 1-5; Bruce, 1971a: 19-20; Bruce, 1976a: 30-31; Bruce, 1976b: 120; Bruce, 1976e: 469; Bruce, 1977a: 65; Bruce, 1978a: 127; Bruce, 1979: 237; Bruce, 1981a: 390-391; Bruce, 1981b: 7; Bruce, 1983a: 203; Bruce, 1983c: 44; Bruce, 1985c: 1-5, figs. 1-3.

Material.— RMNH D 42801: ovigerous ♀ cl. 2.63. RMNH D 42802: ♀ cl. 1.75; 2 juveniles cl. 1.13, 1.88. NIOP-E, Sta. SEY.601: Mahé, NE coast, Anse Nord D'Est; 04°34'S 55°28'E; outer reef flat, slightly sloping down; depth c. 3 m; snorkeling; between corallites of *Galaxea fascicularis* (Linnaeus, 1767); 5.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42803: 2 ovigerous ♀♀ cl. 2.06, 2.00; 2 ♂♂ cl. 2.00, 2.06; ♀ cl. 1.75. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope; depth 10 m; scuba diving; between corallites of *Galaxea fascicularis* (Linnaeus, 1767); 28.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Widely distributed in the tropical Indo-West Pacific; associated with the scleractinian coral *Galaxea fascicularis* (Linnaeus, 1767), often together with *Platycaris latirostris* Holthuis, 1952, and the alpheid *Racilius compressus* Paulson, 1875.

In the Seychelles the species has been reported from Aldabra, Farquhar, Mahé, Praslin and Cerf Island (Bruce, 1966b; 1976b; 1978a).

Jocaste japonica (Ortmann, 1890)
(fig. 63)

Restricted synonymy:

Coralliocaris superba var. *japonica* Ortmann, 1890: 509.

Coralliocaris japonica; Borradaile, 1917: 324: 384, pl. 56 fig. 23.

Jocaste japonica; Bruce, 1973c: 140; Bruce, 1974: 198-199, fig. 7; Bruce, 1976a: 31; Bruce, 1976b: 128-131, figs. 23, 24; Bruce, 1976d: 450; Bruce, 1976e: 469; Bruce, 1977a: 68-69; Bruce, 1978a: 130; Bruce, 1978b: 281; Bruce, 1979: 239; Bruce, 1981a: 394-395, fig. 3C; Bruce, 1981b: 7; Bruce, 1983b: 897; Fransen, 1989: 146.

Material.— RMNH D 42713: ♂ cl. 2.00; ovigerous ♀ cl. 2.63. RMNH D 42716: ♂ cl. 2.38. RMNH D 42721: ovigerous ♀ cl. 2.69. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope; on branching *Acropora* spec., together with *Jocaste lucina* (Nobili, 1901) and *Coralliocaris viridis* Bruce, 1974; depth 10 m; scuba diving; 28.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42722: 8 ♂♂. cl. 2.25-3.00, 2.63 (with abdominal bopyrid); 2 ♀♀ cl. 2.50, 2.63; 10 ovigerous ♀♀. cl. 2.56-3.13. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; on branching *Acropora* spec., with *Coralliocaris superba* (Dana, 1852); depth c. 10 m; scuba diving; 29/31.xii.1992.; leg. C.H.J.M. Fransen.— RMNH D 42723: ♂ cl. 1.88; ovigerous ♀ cl. : 2.38. NIOP-E, Sta. SEY.612: Mahé, E coast, Cap Maçons/Anse de Forbans; 04°46'S 55°31'E; intertidal 5 m, tidal reef flat and slightly declining reef slope; on *Acropora* spec., with *Coralliocaris viridis* Bruce, 1974; snorkeling and shore-collecting; 12.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Widely distributed in the tropical Indo-West Pacific, associated with branching *Acropora* corals. Recorded from the Seychelles by Borradaile (1917). It was previously recorded from Coëvity, Remire, Praslin and Aldabra (Bruce 1976b, 1978a).

Jocaste lucina (Nobili, 1901)
(fig. 64)

Restricted synonymy:

Coralliocaris lucina Nobili, 1901: 5; Kemp, 1922: 276-278.

Coralliocaris lamellirostris Stimpson, 1860: 38.

Jocaste lucina; Bruce, 1974: 199-200, fig. 8; Bruce, 1976a: 31-32; Bruce, 1976b: 131, fig. 23C-D; Bruce, 1976d.: 450-451; Bruce, 1977a: 69-71, fig. 13a-c, f, i; Bruce, 1978a: 130; Bruce, 1979: 239-240; Bruce, 1981a: 395, fig. 3B; Bruce, 1981b: 7; Bruce, 1983a: 203; Bruce, 1983b: 897; Chace & Bruce, 1993: 84.

Material.— RMNH D 42712: ♂ cl. 1.69. RMNH D 42715: ♂ cl. 1.56. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope; on branching *Acropora* spec., together with *Jocaste japonica* and *Coralliocaris viridis*; depth 10 m; scuba diving; 28.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42815: 2 ♂♂ cl. 2.19, 2.50; 2 ovigerous ♀♀ cl. 2.50, 2.68. NIOP-E, Sta. SEY.612: Mahé, E coast, Cap Maçons/Anse de Forbans; 04°46'S 55°31'E; depth 5 m; tidal reef flat and slightly declining reef slope; snorkeling; between branches of *Acropora* coral; 12.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Widely distributed in the tropical Indo-West Pacific, usually associated with branching *Acropora* corals. Reported from Aldabra, Mahé, Farquhar and Remire Islands by Bruce (1969b; 1976b; 1976d; 1978a).

Jocaste platysoma spec. nov.
(figs. 65-84, pl. 2C)

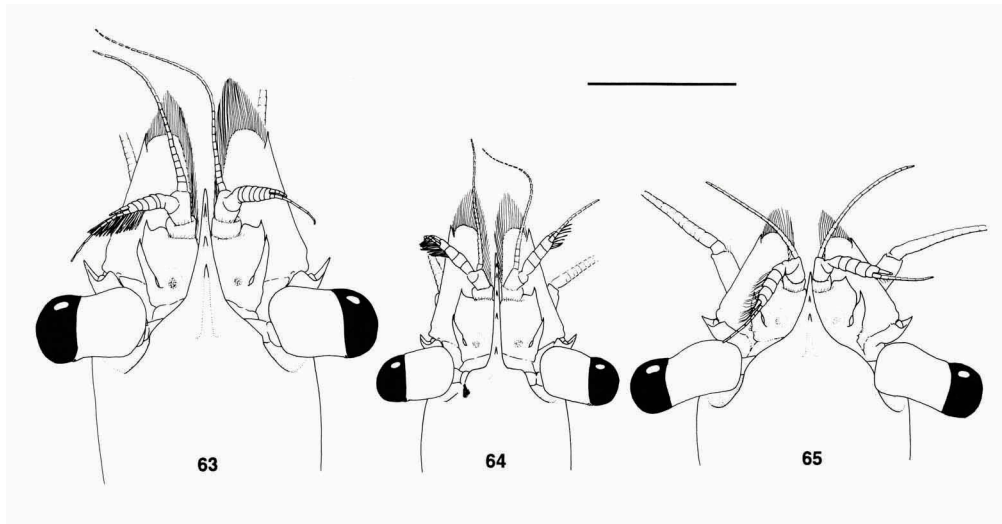
Material.— RMNH D 42714: ovigerous ♀ cl. 2.13 (holotype); photo 19/1-2. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope; on tabular *Acropora*; depth 10 m; scuba diving; 28.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42718: ♂ cl. 1.38 (allotype); ovigerous ♀ cl. 1.50. NIOP-E, Sta. SEY.780: Poivre Atoll, W rim; 5°46'S 53°18'E; reef slope; on branching *Acropora* spec.; depth 10 m; scuba diving; 1.i.1993; leg. C.H.J.M. Fransen.

Description of female holotype.— Body strongly depressed. Carapace smooth, with, shallow posterior broad rostrum, extending beyond intermediate segment of antennular peduncle; feebly developed dorsal lamina with two shallow teeth on the rostrum proper; no ventral teeth; the rostral midrib is well developed, broadly sinuous, and continuous with the dorsal orbital margin. Inferior orbital margin rounded. Antennal spine robust, submarginal. Hepatic spine small, situated just below the level of the antennal spine. Anterolateral angle of carapace rounded.

Abdominal segments smooth. Pleura of first five segments broadly rounded, of sixth blunt. Pleura of fourth and fifth abdominal segments small. Telson slender, 2.5 times longer than proximal width; dorsal pairs of spines at 0.5 and 0.8 of telson length; three pairs of posterior spines present, lateral spines short, intermediate spines long, submedian spines slightly smaller than intermediate spines.

Eyes large. Eyestalk 1.5 times longer than wide, proximally produced.

Antennular peduncle well developed. Basal segment broad; lateral border strongly convex, distolateral tooth present; stylocerite well developed, slender, acute, almost reaching intermediate antennular segment; statocyst large, with several granules. Intermediate segment short half as long as wide. Distal segment about as long as wide. Upper flagellum biramous, with proximal five segments fused; shorter



Figs. 63-65. Anterior region, dorsal view. 63, *Jocaste japonica* (Ortmann, 1890), ♂ RMNH D 42716; 64, *Jocaste lucina* (Nobili, 1901), ♂ RMNH D 42712; 65, *Jocaste platysoma* spec. nov., ovigerous ♀ holotype, RMNH D 42714. Scale = 2 mm.

ramus consists of two segments of which distal segment short; longer ramus consists of seven or eight segments; aesthetascs on fused segments and shorter ramus. Lower flagellum slender with 17 or 18 segments.

Antenna with robust basicerite with lateral spine. Scaphocerite with straight lateral en convex median border; distal lamina exceeding distolateral tooth. Carpocerite long and slender, slightly longer than antennular peduncle; flagellum well developed, about as long as body.

Mandible without palp. Molar process slender with few teeth and bristles distally. Incisor process slender, feebly tapering, with four acute distal teeth on right and five on left mandible.

Maxillula with slender upper lacinia, bearing five strong, short, simple setae and several slender simple setae distally. Lower lacinia slender with few simple slender setae. Palp short, bilobed, with a small curved simple seta on anterior lobe.

Maxilla with slender, non-setose, seemingly two-segmented, palp. Endite single and simple, with few distal setae. Scaphognathite very broad and rounded.

First maxilliped with relatively short non-setose palp. Basal endite triangular with indistinct separation from coxal endite; median border with fringe of simple and of serrulate setae. Coxal endite with few simple setae. Exopod strongly developed, twice as long as basal endite, with distal plumose setae; caridean lobe well developed, short and broad. Epipod large, bilobed.

Second maxilliped of normal form. Dactylar segment broad, with serrulate median and simple ventral setae. Propodal segment not produced anteriorly, with few long simple setae. Carpal segment with lower angle produced. Ischiomeral and basal segments without special features. Coxa with few simple setae. Exopod well developed with distal plumose setae. Epipod large, subrectangular, without podobranch.

Third maxilliped with slender endopod. Basal and ischiomeral segments almost completely fused, about three times as long as proximal width; medial border with long slender setae; distolateral short articulating spine present. Carpal segment half as long as ischiomeral segment, with few slender long setae medially. Distal segment as long as carpal segment, with several rows of finely serrate setae. Basal segment with exopod not reaching beyond carpal segment, with long plumose setae distally. Epipod large and rounded. Rudimentary arthrobranch with about six lamellae present.

First pereopod slender, with merus reaching distal end of scaphocerite. Chela 0.6 times carpus length. Dactylus 0.6 times palm length. Fingers with simple cutting edges and several rows of short recurved serrate setae. Serrate cleaning setae present on distal end of carpus and proximal part of palm. Merus as long as carpus, unarmed. Ischium, basis and coxa without special features.

Second pereopods very unequal. Left second pereopod short and slender; fingers strongly spatulate, with entire cutting edges and several rows of short setae; palm 1.5 times length of fingers, more than twice as long as broad; carpus short and stout, widening distally, without teeth on distal margin; merus 1.3 times longer than palm, proximally slightly swollen, with strong distolateral tooth; ischium, basis and coxa without special features. Major right second pereopod large and robust; palm subcylindrical, slightly compressed, proximally swollen, more than three times long-

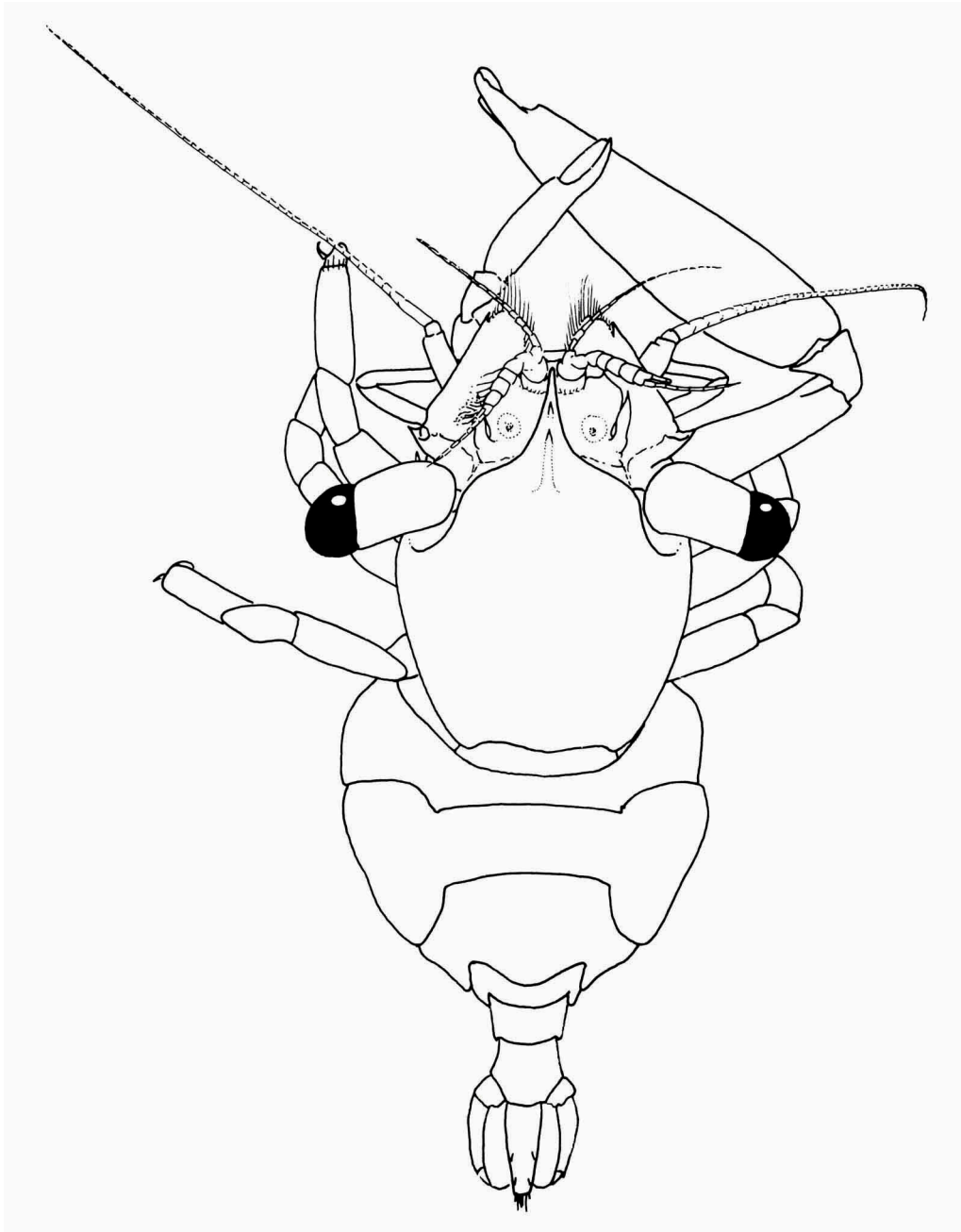
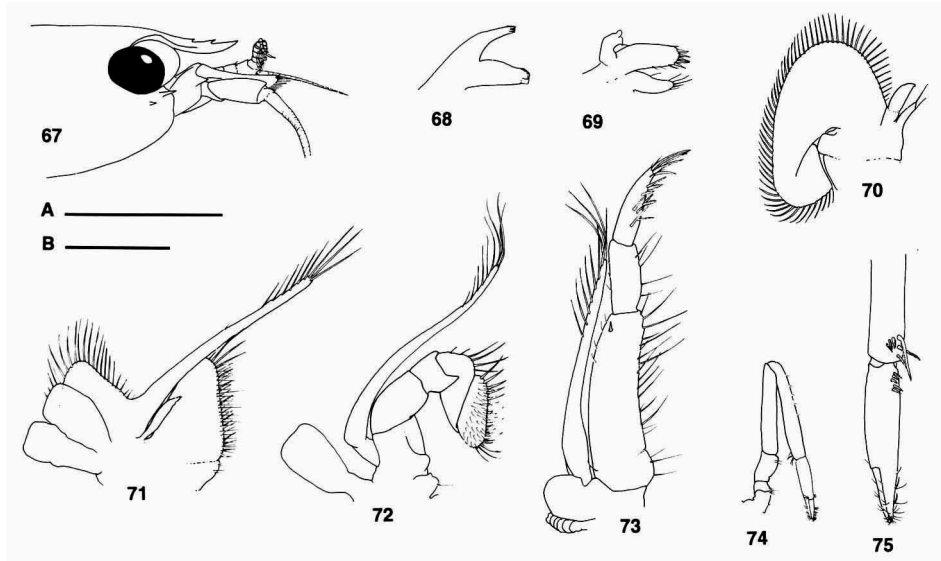


Fig. 66. *Jocaste platysoma* spec. nov., ovigerous ♀, cl. 2.13 mm, holotype, RMNH D 42714.



Figs. 67-75. *Jocaste platysoma* spec. nov., ovigerous ♀, holotype, RMNH D 42714. 67, anterior region, lateral view; 68, right mandible; 69, right maxillula; 70, right maxilla; 71, right first maxilliped; 72, right second maxilliped; 73, right third maxilliped; 74, right first pereopod; 75, chela right first pereopod. Scale A: 67 = 2 mm. Scale B: 68-73, 75 = 0.4 mm; 74 = 1 mm.

er than greatest width; fingers short, less than one fourth of palm length; dactylus with very stout hooked tip, two acute teeth present in proximal half of cutting edge, lateral margin strongly carinate distally, distolateral and ventral swellings present; fixed finger with stout, hooked tip, cutting edge with two proximal teeth; carpus very short, widening distally, unarmed; merus half the palm length, slightly swollen proximally, with strong distolateral tooth; ischium, basis and coxa without special features.

Ambulatory pereopods similar, robust. Dactylus with well developed hoof-shaped basal process with carinate lateral borders, bordering a central depression with many rounded shallow knobs; unguis distinct, long and slender. Propodus about three times longer than wide, with several rows of long slender setae in distal part; distal margin strongly sinuous. Carpus short, about half the propodus length. Merus slightly longer than propodus, unarmed. Ischium, basis and coxa without special features.

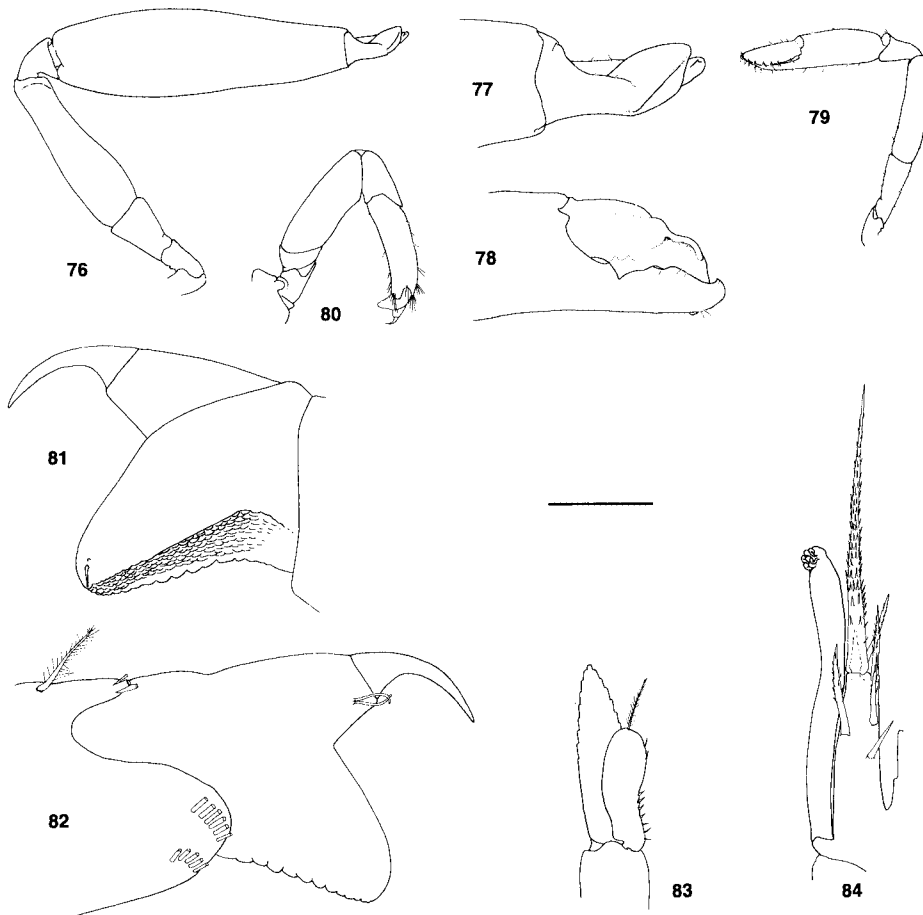
Thoracic sternites unarmed.

Pleopods without special features.

Uropods normal. Posterolateral angle of basipodite rounded. Lateral margin of exopod convex, with acute tooth distally and mobile spine medially. Exopod and endopod exceeding telson.

Few (about 40), relatively large ova present, measuring 0.56 mm along longer axis.

Male allotype.— Rostrum with three dorsal teeth. First pleopod with median margin proximally concave with seven short stout spines, distal lobe with two medial short spines and one apical long plumose seta. Second pleopod with slender appen-



Figs. 76-84. *Jocaste platysoma* spec. nov., RMNH D 42714. 77-83, ovigerous ♀ holotype. 76, right second pereiopod; 77, chela right second pereiopod, ventral view; 78, chela right second pereiopod, lateral view; 79, left second pereiopod; 80, right third pereiopod; 81, dactylus right third pereiopod, anterior view; 82, dactylus right third pereiopod, posterior view. 83-84, ♂ allotype. 83, first left pleopod; 84, appendix interna and appendix masculina on second left pleopod. Scale 76, 79-80 = 1 mm; 77-78, 83 = 0.4 mm; 81-82, 84 = 0.1 mm.

dix interna; appendix masculina slightly more than half the length of the appendix interna, with five serrate stout spines in distal half and one very stout spinulate spine apical spine of about the length of the appendix interna.

Colour.— The species is translucent with a red tinge.

Etymology.— Combination of the Greek words 'platys' meaning 'flat' and 'soma' meaning 'body'.

Remarks.— The differences with the other two species of *Jocaste*, *J. japonica* (Ortmann, 1890) and *J. lucina* (Nobili, 1901) are summarized in the following table:

<i>J. platysoma</i>	<i>J. japonica</i>	<i>J. lucinia</i>
1. Rostral formula 2-3/0.	Rostal formula 3-5/1-2.	Rostral formula 4-7/1-4.
2. Dactylus chela of second leg with 1 tooth.	Dactylus chela of second leg with 1 tooth.	Dactylus chela of second leg with 2-3 teeth.
3. Rostrum not exceeding antennular peduncle.	Rostrum exceeding antennular peduncle.	Rostrum exceeding antennular peduncle.
4. Body strongly depressed.	Body depressed.	Body depressed.
5. Lateral rostral carina proximally broadly sinuous.	Lateral rostral carina proximally almost straight oblique.	Lateral rostral carina proximally bluntly rectangular.

The specimens were observed hiding between the reticulate branches of large tabular *Acropora* corals, most probably *Acropora clathrata* (Brook, 1891). By going with the hand along the underside of the coral the shrimps were forced to come to the upper surface of the coral where they were trapped in plastic tubes. The other two species of *Jocaste* were found on branching *Acropora* corals. It seems that the new species has other host preferences than the two known species of *Jocaste* which are often found on the same *Acropora* colony.

Metapontonia fungiacola Bruce, 1967

Synonymy:

Metapontonia fungiacola Bruce, 1967: 23-32, figs. 10-12; Bruce, 1972: 1-5, fig. 1, pls. 1-2; Bruce, 1974: 196-197, fig. 5; Bruce, 1976e: 469; Bruce, 1978a: 131-132; Bruce, 1985c: fig. 6.

Material.— RMNH D 45488: ovigerous ♀, cl. 2.50. NIOP-E, Sta. SEY.609: Mahé, NW coast, Vista Do Mar; 04°34'S 55°26'E; intertidal to 9 m, beach with beachrock and granitic boulders, sandy bottom at 4-9 m; depth 3-5 m; snorkeling & scuba diving; in coral; 11.xii.1992.

Distribution.— Known from several localities in the western Indian Ocean and from Japanese waters. Associated with fungid and faviid corals. Previously reported from Farquhar Island (Bruce, 1974).

Onycocaris aualitica (Nobili, 1904)

Restricted synonymy:

Coralliocaris (*Onycocaris*) *aualitica* Nobili, 1904.

Onycocaris aualitica; Bruce, 1973b: 961-968, figs. 1-3; Bruce, 1983d: 165.

Material.— RMNH D 45481: ovigerous ♀, cl. 2.31. NIOP-E, Sta. SEY.602: Mahé, SW coast, Baie Lazare/Anse Gaulettes; 04°46'S 55°29'E; sandy bay with calcareous barrier; snorkeling; depth 2-4 m; 6.xii.1992.

Remarks.— The single specimen collected in Mahé differs from Nobili's description of the species in the chela of the second pereopods. The major, left second pereopod has the laminar flange on the distolateral part of the fixed finger not extending to the tip. The fixed finger has two and the dactylus one large, rounded, serrate tooth in the proximal half. The distal half of both fingers is faintly dentate except for

a prominent median sharp simple tooth.

Distribution.— Known from the Red Sea, Gulf of Aden, and La Réunion, probably associated with sponges. This is the first record of the species from the Seychelles.

Palaemonella rotumana (Borradaile, 1898)

Restricted synonymy:

Periclimenes (Falciger) rotumanus Borradaile, 1898: 1005, pl. 63 figs. 5-5b.

Palaemonella vestigialis Kemp, 1922: 123-126, figs. 1-2, pl. 3 fig. 2; Holthuis, 1952: 8, 24, fig. 3.

Palaemonella rotumana; Bruce, 1970b: 276-279, fig. 2, pl. 1e-f; Bruce, 1971b: 4; Bruce, 1976b: 93-94, fig. 4; Bruce, 1991: 229-232, figs. 5, 6a-e; Chace & Bruce, 1993: 51, 89.

Material.— RMNH D 42870: ovigerous ♀ cl. 3.31. NIOP-E, Sta. SEY.755: N of St Joseph Atoll; 5°23'S 53°19'E; sandy bottom; depth 60 m; 1.2 m Agassiz trawl; 26.xii.1992.— RMNH D 42871: ♀ cl. 2.88. NIOP-E, Sta. SEY.705: NW of Praslin Island; 4°16'S 55°40'E; depth 25 m; rectangular dredge; 17.xii.1992.— RMNH D 42995: ovigerous ♀ cl. 4.75; ♂ cl. 5.63. NIOP-E, Sta. SEY.797: Platte Island Atoll; 05°49'S 55°21'E; lagoon of inner atoll; depth 12 m; scuba diving; 7.i.1993; leg. C.H.J.M. Fransen.— RMNH D 45474: 1 juvenile cl. 1.13. NIOP-E, Sta. SEY.707: Praslin Island, SW coast; 4°18'S 55°41'E; outlying rock; depth 10-12 m; scuba diving; 17.xii.1992.— RMNH D 45475: ♀ cl. 1.81. NIOP-E, Sta. SEY.711: Aride Island, S coast; 4°13'S 55°40'E; sandy and rocky shore, calcareous reef and slope; depth c. 10 m; scuba diving; 19.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 45476: ♂ cl. 2.63. NIOP-E, Sta. SEY.716: N of Aride Island; 4°11'S 55°40'E; calcareous nodules; depth 40 m; rectangular dredge; 19.xii.1992.

Remarks.— Rostral formula 1-2+5-6/2. The specimen from Sta. 755 (RMNH D 42870) has a faintly developed postorbital ridge without a supraorbital tubercle. The second pereopods have the cutting edges of the chela with teeth in the proximal third.

Distribution.— Distributed throughout the tropical Indo-West Pacific. Also recorded from the eastern Mediterranean Sea (Bruce, 1984). Free-living and occurring among corals. Recorded from Mahé (Kemp, 1922) and from Mahé, Cerf and Praslin Islands (Bruce, 1971b; 1976b).

Paranchistus ornatus Holthuis, 1952
(pl. 2D)

Restricted synonymy:

Paranchistus ornatus Holthuis, 1952: 13, 97, figs. 39-40; Hipeau-Jaquotte, 1967: 153-166, figs. 1-2; Bruce, 1978a: 119; Bruce, 1978b: 279; Bruce, 1980: 178-180, fig. 1a, pl. 1 fig. a-c.

Material.— RMNH D 42794: ovigerous ♀ cl. 7.81; photo 16/31-36. NIOP-E, Sta. SEY.748: E of Mahé, E coast of Sainte Anne Island; 4°37'S 55°31'E; depth 10 m; scuba diving; 25.xii.1992; in *Atrina vexillum* (Born, 1778) (det. J. Goud); leg. C.H.J.M. Fransen.

Distribution.— Recorded in the western part of the Indian Ocean from the Red Sea south to Moçambique, Madagascar and the Comores. Associated with pinnid bivalves, usually *Atrina vexillum* (Born, 1778). This is the first record of the species from the Seychelles.

Periclimenaeus gorgonidarum (Balss, 1913)

Restricted synonymy:

Periclimenes gorgonidarum Balss, 1913: 236; Balss, 1914: 51-53, figs. 31-32.

Periclimenes (Periclimenaeus) gorgonidarum; Kubo, 1940: 38-41, figs. 6-7.

Periclimenaeus gorgonidarum; Holthuis, 1952: 14, 129; Miyake & Fijino, 1967: 286-290, figs. 6-7; Hipeau-Jacquotte, 1972: 7; Bruce, 1981b: 11.

Material— RMNH D 45483: 1 specimen, cl. 1.13. NIOP-E, Sta. SEY.753: St Joseph Atoll, NW rim; 5°24'S 53°19'E; reef slope; depth 15 m; scuba diving; on species of Melithaeidae with *Periclimenes galene* Holthuis, 1952; leg. C.H.J.M. Fransen; 26.xii.1992.

Remarks.— The specimen lacks the major second pereiopod. It has 5 dorsal and no ventral teeth on the rostrum; all dorsal teeth are situated in front of the orbit. A supraorbital tubercle is present. The dactyli of the ambulatory pereiopods are slender as in *P. arabicus* (Calman, 1939), with only few denticles on the flexor margin. The dactylus of the fifth pereiopods is almost devoid of denticles except for two small ones proximally. The dorsal spines on the telson are serrate as has been noted for *P. uropodialis* Barnard, 1958. The uropods are laterally dentate. Bruce (1981) noted that *P. uropodialis* might be synonymous with *P. gorgonidarum*.

Distribution.— Known from Japan, East Africa, and Heron Island (Queensland, Australia), associated with Gorgonaria and sponges. This is the first record of the species from the Seychelles.

Periclimenes aff. *batei* (Borradaile, 1888)

Material.— RMNH D 42993: 4 juveniles. NIOP-E, Sta. SEY.618: Mahé, NE coast, North East Point; 04°35'S 55°28'E; depth 14 m; reef flat, exposed reef slope with sparse coral cover merging into sandy bottom; scuba diving; on white gorgonian with *Periclimenes ? brucei*; 14.xii.1992; leg. C.H.J.M. Fransen.

Remarks.— The specimens agree with the redescription of Holthuis (1959). All six dorsal teeth are situated on the rostrum proper; one ventral tooth is present. Dactyli of the ambulatory pereiopods with an accessory tooth slightly more robust than in Holthuis (1959: fig. 1c) specimen, but not as broad as in *P. incertus*. First and second pereiopods as in fig. 1a-b of Holthuis, 1959. First pereiopods short; carpus shorter than merus. Carpus of second pereiopods without small distal tooth.

The four specimens are juveniles, as the type specimen of *P. batei* is. Holthuis noted a striking similarity with *P. incertus* Borradaile, from which *P. batei* only differs in not having a postorbital dorsal rostral tooth and a more slender accessory tooth on the dactylus of the ambulatory pereiopods. Pending the collection of adult specimens of *P. batei* its systematic position remains unclear.

P. batei s.s. is only known from the Philippine Islands; its host is unknown.

Periclimenes brevicarpalis (Schenkel, 1902)
(pl. 2E)

Restricted synonymy:

Ancylocaris brevicarpalis Schenkel, 1902: 563, pl. 13 fig. 12.

Periclimenes (Ancylocaris) brevicarpalis; Kemp, 1922: 185-191, figs. 40-42, pl. 67.

Periclimenes (Harpilius) brevicarpalis; Holthuis, 1952; 69-73, fig. 27 (full synonymy).

Periclimenes brevicarpalis; Bruce, 1971b: 7-8; Bruce, 1973c: 133-134; Bruce, 1976d: 439-440; Fransen, 1989: 133-136, fig. 1a-c; Bruce, 1991: 236.

Material.— RMNH D 42824: 4 ♂♂ cl. 1.88-5.94; ovigerous ♀ cl. 7.13; photo film 3CF. NIOP-E, Sta. SEY.606: Mahé, W coast, Port Launay National Park; 04°38'S 55°23'E; shallow subtidal, reefslope; snorkeling; depth 5 m; on *Stichodactyla mertensii* Brandt, 1835 (det. J.C. den Hartog); 9.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42825: ovigerous ♀ cl. 4.88; photo 15/20-26. NIOP-E, Sta. SEY.741: Mahé, SE coast, Anse Royale Bay, off Ile Souris; 4°44'S 55°32'E; outside reef barrier; depth to 10 m; scuba diving; on sea anemone; 24.xii.1992.— RMNH D 42826: ♀ cl. 2.56. NIOP-E, Sta. SEY.786: Alphonse Atoll, NW edge; 7°00'S 52°43'E; steep slope; depth 5 m; scuba diving, on *Cryptodendrum adhesivum* Klunzinger, 1877 (regnr. COEL.18702, det. J.C. den Hartog); 3.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42827: 2 ovigerous ♀♀ cl. 3.19, 7.75; 2 ♀♀ cl. 1.63, 3.06; 3 ♂♂ cl. 2.19, 4.25, 5.75. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope; depth 4 m; scuba diving & snorkeling; on *Cryptodendrum adhesivum* Klunzinger, 1877 (regnr. COEL.18690, det. J.C. den Hartog); 5/6.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42828: 1 ovigerous ♀ cl. 7.38; 2 ♀♀ cl. 3.13, 4.25; on *Cryptodendrum adhesivum* Klunzinger, 1877 (regnr. COEL.18705, det. J.C. den Hartog). RMNH D 42829: ♂ cl. 4.13; on *Stichodactyla mertensii* Brandt, 1835 (det. J.C. den Hartog). NIOP-E, Sta. SEY.797: Platte Island Atoll; 05°49'S 55°21'E; lagoon of inner Atoll; depth 12 m; scuba diving; 7.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42865: ♂ cl. 3.31. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth c. 10 m; scuba diving; on *Heterodactyla hemprichii* Ehrenberg, 1834 (regnr. COEL.18706, det. J.C. den Hartog); 31.xii.1992; leg. B.W. Hoeksema.

Remarks.— The specimen from Sta. 767 (RMNH D 42865) lacks the dorsal spines on the telson.

Distribution.— Distributed throughout the tropical Indo-West Pacific; associated with giant sea anemones. Previously reported from Mahé and Cosmoledo (Bruce, 1971b; 1973c).

Periclimenes ? brucei Duris, 1990
(figs. 85-86)

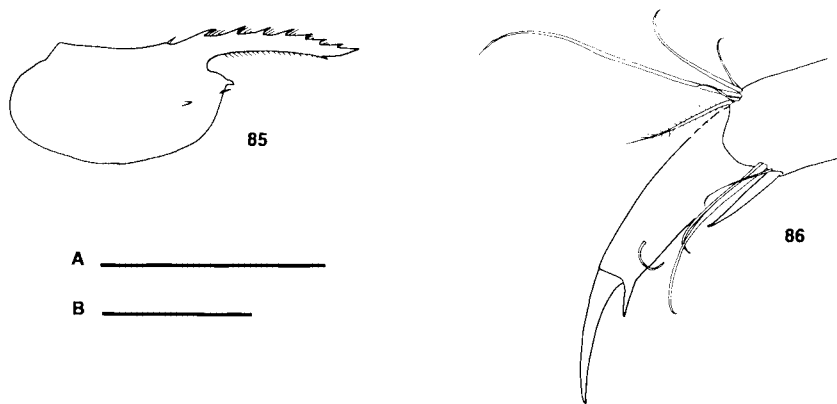
[?] *Periclimenes brucei* Duris, 1990: 1-4, figs. 1-2.

[?] *Periclimenes* sp. Bruce, 1976b: 255, fig. 27.

Material.— RMNH D 42886: 19 specimens cl. 0.75-1.56; on white gorgonian with *Periclimenes* aff. *batei*; 14.xii.1992. RMNH D 42889: ♀ cl. 1.38; on white gorgonian with *Periclimenes watanuuae*, *Hamodactylus noumeae* and *H. boschmai*. NIOP-E, Sta. SEY.618: Mahé, NE coast, North East Point; 04°35'S 55°28'E; depth 14 m; reef flat, exposed reef slope with sparse coral cover merging into sandy bottom; scuba diving; leg. C.H.J.M. Fransen.

Remarks.— The rostral formula is 0-1+4-7/0-2. The epigastral spine is small or absent in small specimens. The ambulatory pereopods have biunguiculate dactyli; the accessory tooth is very small, the unguis long and slender. The fourth thoracic sternite is unarmed.

The specimens resemble *P. brucei* Duris, 1990. This species is only known from the ovigerous female holotype. None of the Seychelles specimens seems to be full-grown. The specimens differ from the holotype of *P. brucei* in having the second pereopods much shorter, and the length of the fingers equal to the length of the palm, while the fingers are much shorter in *P. brucei*. This however, can be due to the developmental



Figs. 85-86. *Periclimes ? brucei* Duris, 1990, ♀ RMNH D 42889. 85, carapace, lateral view; 86, dactylus right third pereiopod. Scale A: 85 = 2 mm. Scale B: 86 = 0.1 mm.

stage of the Seychelles specimens. The same is known from *Periclimes psamathe*, a related species. The specimens are therefore provisionally assigned to *P. brucei*.

Distribution.— So far *P. brucei* s.s. is only known from the Maldives, associated with gorgonians.

Periclimes ceratophthalmus Borradaile, 1915
(pl. 2F)

Restricted synonymy:

Periclimes (Corniger) ceratophthalmus Borradaile, 1915: 211; Borradaile, 1917: 324, 365, pl. 54 fig. 9.

Periclimes (Ancylocaris) ceratophthalmus; Kemp, 1922: 172.

Periclimes (Periclimes) ceratophthalmus; Kemp, 1925: 324, fig. 18; Holthuis, 1952: 8, 56, fig. 20.

Periclimes ceratophthalmus; Bruce, 1974: 192-193, fig. 2; Bruce, 1983b: 880-883, figs. 4A-D, 5, 6A-C, 7F.

Material.— RMNH D 42847: ovigerous ♀ cl. 2.00; 1 specimen cl. 1.19. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope; depth 10 m; scuba diving; on crinoids; 5/6.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42848: ovigerous ♀ cl. 2.69; 2 ♂♂ cl. 1.88, 2.06; 3 juveniles cl. 0.75-1.06; photo 28/15-18/25-28. NIOP-E, Sta. SEY.788: Alphonse Atoll, SE part of lagoon; 7°02'S 52°44'E; reef flat and patch reefs; depth 5 m; scuba diving; on crinoids together with *Pontoniopsis comanthi* Borradaile, 1915; 4/6.i.1993; leg. C.H.J.M. Fransen.

Remarks.— Rostral dentition from 2/0 in the smallest specimen to 6/0 in the larger specimen.

Distribution.— Occurring throughout tropical the Indo-West Pacific, associated with crinoids. Reported from Farquhar Island by Bruce (1974). Now recorded for the first time from the Amirantes.

Periclimes difficilis Bruce, 1976
(pl. 3A)

Restricted synonymy:

Periclimes difficilis Bruce, 1976b: 111-117, figs. 15-17; Bruce, 1984: 147.

Material.— RMNH D 45471: juvenile. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 21 m; scuba diving; on ? *Nephthea* spec. (collected) with *Periclimenes kemp* Bruce, 1969; 21.xii.1992.— RMNH D 45473: ♂, juvenile. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope, depth 10 m; scuba diving; on Alcyonaria (collected), with *Periclimenes kemp* Bruce, 1969; leg. C.H.J.M. Fransen; 28.xii.1992.— RMNH D 45492: 1 specimen cl. 1.06; photo 13/4-6. NIOP-E, Sta. SEY.735: La Digue Island, S coast; 4°23'S 55°50'E; rocky shore; depth c. 10 m; scuba diving; on tabular *Acropora* coral; leg. C.H.J.M. Fransen; 23.xii.1992.— RMNH D 45478: 4 specimens. NIOP-E, Sta. SEY.717: Bird Island, off E coast; 3°43'S 55°13'E; edge of bank; depth 10-12 m; scuba diving; on *Lemnalina* spec. (Alcyonaria, det. L.P. van Ofwegen), together with *Periclimenes kemp* Bruce, 1969; 20.xii.1992; leg. C.H.J.M. Fransen.

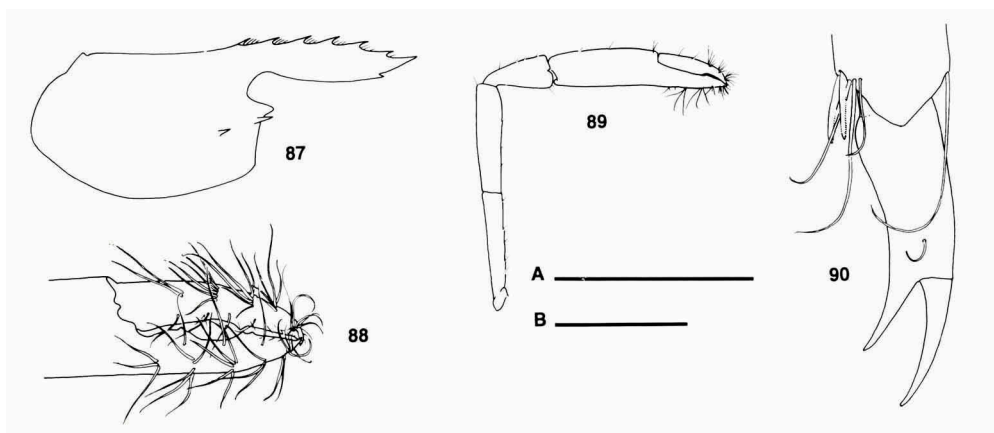
Remarks.— Rostral dentition 5-7/1. Triangular laminar process on the fourth thoracic sternite present between the coxae of the first pereopods. Chelae of second pereopods as illustrated by Bruce (1976b: fig. 16b).

Distribution.— Only known from the Seychelles, Praslin (Bruce, 1976b), associated with the scleractinian coral *Porites nigrescens* Dana, 1848. Now recorded from Bird Island, La Digue and St Josephs Atoll (Amirantes) for the first time. The Alcyonaria and *Acropora* are new host records.

Periclimenes ? difficilis Bruce, 1976
(figs. 87-90, pl. 3B)

Material.— RMNH D 45482: ovigerous ♀, cl. 1.69; photo 5/4-7. NIOP-E, Sta. SEY.717: Bird Island, off E coast; 3°43'S 55°13'E; edge of bank; depth c. 10 m; scuba diving and snorkeling; on *Porites* spec.; leg. C.H.J.M. Fransen; 20.xii.1992.— RMNH D 45477: ♂ cl. 1.31. NIOP-E, Sta. SEY.717: Bird Island, off E coast; 3°43'S 55°13'E; edge of bank; depth 10-12 m; scuba diving; on *Lemnalina* spec. (Alcyonaria, det. L.P. van Ofwegen); leg. C.H.J.M. Fransen; 20.xii.1992.

Remarks.— Belonging to the *Periclimenes incertus* species-group. Rostrum with dentition 6/1. No epigastral tooth, posteriormost tooth articulating. Processes on basis and ischium of first pereopod present as in *P. difficilis*, *P. incertus* and *P. zevinae*.



Figs. 87-90. *Periclimenes ? difficilis* Bruce, 1976, ovigerous ♀ RMNH D 45482. 87, carapace, lateral view; 88, left second pereopod; 89, chela right second pereopod; 90, dactylus left third pereopod. Scale A: 87 = 2 mm. Scale B: 88 = 1 mm; 89 = 0.4 mm; 90 = 0.1 mm.

Lamina on fourth thoracic sternite entire, without median notch. Dactyli of ambulatory pereopods biunguiculate, with the accessory tooth and unguis equally developed; ventral margin entire. Chela of first pereopods simple. Second pereopods subequal in size and form.

The specimens match the description of *P. difficilis* Bruce, 1976, except for the dactyli of the ambulatory pereopods. Bruce however, described an abnormal dactylus of a third pereopod (Bruce, 1976b: fig. 17b) of *P. difficilis* which is similar to the dactylus of the present species. It seems possible that in this species both simple and biunguiculate dactyli on the ambulatory pereopods may be present.

Periclimenes elegans (Paulson, 1875)

Restricted synonymy:

Anchistia elegans Paulson, 1875: pl. 17 fig. 1.

Periclimenes (Ancylocaris) elegans; Kemp, 1922: 215-218, fig. 60-62.

Periclimenes (Harpilius) elegans; Holthuis, 1952: 81-82, fig. 31.

Periclimenes elegans; Bruce, 1971b: 6-7; Chace & Bruce, 1993: 56, 110-111.

Material.—RMNH D 42863: 2 ♂♂ cl. 3.81, 4.06; photo film 5CF. RMNH D 42864: 2 ♂♂ cl. 3.31, 3.75; ovigerous ♀ cl. 3.06. NIOP-E, Sta. SEY.612: Mahé, E coast, Cap Maçons/Anse de Forbans; 04°46'S 55°31'E; intertidal, tidal reef flat and slightly declining reef slope; depth 0.5 m; snorkeling; under stones; 12.xii.1992; leg. C.H.J.M. Fransen.—RMNH D 42867: ♂ cl. 5.06. NIOP-E, Sta. SEY.717: Bird Island, off E coast; 3°43'S 55°13'E; edge of bank, on reef flat; scuba diving and snorkeling; depth 0.5-2 m; 22.xii.1992; leg. C.H.J.M. Fransen.

Remarks.—Rostral dentition 1+5-7/3-4. As pointed out by Bruce (1971b) *P. elegans* and *P. grandis* could be synonyms. According to Kemp the two species differ in the dentation of the carpus of the second pereopods. One distal tooth is present in *P. grandis*, two in *P. elegans*.

Distribution.—Distributed throughout the tropical Indo-West Pacific, free-living. Recorded from Farquhar by Bruce (1971b). Now recorded for the first time from Mahé and Bird Island.

Periclimenes galene Holthuis, 1952

Restricted synonymy:

Periclimenes (Harpilius) galene Holthuis, 1952: 62-64, fig. 24.

Periclimenes galene; Bruce, 1976a: 12-15, figs. 3, 4; Bruce, 1981b: 15-16.

Material.—RMNH D 42851: 2 ♂♂ cl. 1.50-1.56; ♀ cl. 1.19; on hydroids. RMNH D 42879: ♀ cl. 1.50; on gorgonian. NIOP-E, Sta. SEY.753: St Joseph Atoll, NW rim; 5°24'S 53°19'E; reef slope; depth 10 m; scuba diving; 26.xii.1992; leg. C.H.J.M. Fransen.

Distribution.—Known from Ambon and Manado (Indonesia), Kenya, Zanzibar, Tanganyika, and Heron Island (Queensland, Australia); associated with hydroids. Now recorded for the first time from the Seychelles; the gorgonian host is a new host record.

Periclimenes grandis (Stimpson, 1860)

Restricted synonymy:

Anchistia grandis Stimpson, 1860: 39.

Periclimenes (Ancylocaris) grandis; Kemp, 1922: 210-214, figs. 58-59, pl. 7 fig. 10.

Periclimenes grandis; Bruce, 1971b: 6; Bruce, 1973c: 132-133; Bruce, 1978b: 217.

Material.— RMNH D 42882: ♂ cl. 2.06; juvenile cl. 1.38. NIOP-E, Sta. SEY.603: Mahé, SE coast, just south of Pointe au Sel and Ile Souris; 04°44'S 55°32'E; intertidal; depth 1 m; sandy reef flat with isolated granitic rock and intertidal beach rock; snorkeling; 7.xii.1992; leg. C.H.J.M. Fransen.

Remarks.— See under *P. elegans*.

Distribution.— Widely distributed in the tropical Indo-West Pacific, free-living. Bruce (1971b, 1973c) reported the species from Mahé and St Joseph Atoll, Amirantes.

Periclimenes imperator Bruce, 1967
(pl. 3C)

Restricted synonymy:

Periclimenes imperator Bruce, 1967: 53-62, figs. 23-25; Bruce, 1971b: 10-11; Bruce, 1973c: 135-136; Bruce, 1976a: 16; Bruce, 1977b: 170; Bruce, 1978b: 230; Strack, 1993: 55, 61, pl. 3 fig. 1.

Material.— RMNH D 42857: ovigerous ♀ cl. 5.00; 2 ♂♂ cl. 2.00, 4.38; on holothurian (Stichopodidae), *Thelenota ananas* (Jaeger, 1833); leg. C.H.J.M. Fransen. RMNH D 42861: ♂ cl. 1.63; on holothurian (Stichopodidae), *Thelenota ananas* (Jaeger, 1833); leg. C.H.J.M. Fransen. RMNH D 42862: 2 ♂♂ cl. 1.81, 1.88; ♀ cl. 1.81; on nudibranch mollusc *Hexabranthus* sp.; leg. J. Goud. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope; depth 25 m; scuba diving; 5/6.i.1993.— RMNH D 42858: ♂ cl. 1.63; 2 ♀♀ cl. 1.56, 2.06; photo 17/27-31; on holothurian (Stichopodidae), *Thelenota ananas* (Jaeger, 1833) and an other holothuroid. RMNH D 42860: ♂ cl. 1.50; 3 ♀♀ cl. 1.56, 1.69, 1.75; on holothurian (Stichopodidae), *Thelenota ananas* (Jaeger, 1833). NIOP-E, Sta. SEY.753: St Joseph Atoll, NW rim; 5°24'S 53°19'E; reef slope; depth 6 m; scuba diving; 26.xi.1992; leg. C.H.J.M. Fransen.— RMNH D 42859: ♂ cl. 2.94; ♀ cl. 1.88; photo 8/33-36, 9/1-2. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 10 m; scuba diving; on holothurian (Stichopodidae), *Thelenota ananas* (Jaeger, 1833); 21.xii.1992; leg. C.H.J.M. Fransen.

Remarks.— In table 1 some variable characters are enumerated for the specimens collected.

Table 1. Variation in *Periclimenes imperator* Bruce, 1967

Station	sex	cl.	drt. ¹⁾	tap. ²⁾	host
SEY.723	♂	2.94	25	2	<i>Thelenota ananas</i>
SEY.723	♀	2.94	19	1	<i>Thelenota ananas</i>
SEY.753	♀	1.56	23	1	<i>Thelenota ananas</i> /holothuroid spec.
SEY.753	♀	2.06	23	1	<i>Thelenota ananas</i> /holothuroid spec.
SEY.753	♂	1.63	26	1	<i>Thelenota ananas</i> /holothuroid spec.
SEY.753	♂	1.50	20	1	<i>Thelenota ananas</i>
SEY.753	♀	1.56	23	1	<i>Thelenota ananas</i>
SEY.753	♀	1.69	24	1	<i>Thelenota ananas</i>
SEY.753	♀	1.75	27	1/2*	<i>Thelenota ananas</i>

SEY.792	♂	2.00	22	1	<i>Thelenota ananas</i>
SEY.792	♂	4.38	26	2	<i>Thelenota ananas</i>
SEY.792	♀ ov.	5.00	27	2	<i>Thelenota ananas</i>
SEY.792	♂	1.63	24	1	<i>Thelenota ananas</i>
SEY.792	♂	1.81	26	1	<i>Hexabranchnus</i> sp.
SEY.792	♂	1.88	21	1	<i>Hexabranchnus</i> sp.
SEY.792	♀	1.81	21	1	<i>Hexabranchnus</i> sp.

* left/right

¹⁾ Number of dorsal rostral teeth.

²⁾ Number of distolateral teeth on basal segment antennular peduncle.

The number of dorsal rostral teeth is positively correlated with carapace length. The same holds for the occurrence of one or two distolateral teeth on the basal segment of the antennular peduncle.

Distribution.— The species is distributed throughout the tropical Indo-West Pacific, associated with the nudibranchs *Hexabranchnus* and *Dendrodoris*, and holothurians of the genera *Bohadschia*, *Thelonota*, *Stichopus*, *Enapta*, *Actinipyga*, and *Opheodossoma*. The species was recorded from Mahé (Bruce, 1973c). It is now recorded for the first time from Bird Island, St François Atoll and St Joseph Atoll.

Periclimenes inornatus Kemp, 1922

Restricted synonymy:

Periclimenes (Anchycylocaris) inornatus Kemp, 1922: 170, 191-194, figs. 43-46.

Periclimenes inornatus; Bruce, 1971b: 10; Bruce, 1976b: 103-106, figs. 10-11; Bruce, 1979: 224; Bruce, 1981a: 390; Bruce, 1981b: 17.

Material.— RMNH D 42840: 3 ovigerous ♀♀ cl. 1.19, 2.38(2x); 3 ♂♂ cl. 1.63, 1.69, 1.88. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 12 m; scuba diving; on *Stichodactyla mertensii* Brandt, 1835 (regnr. COEL.18703, det. J.C. den Hartog); 21.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42841: ♂ cl. 1.19. NIOP-E, Sta. SEY.606: Mahé, W coast, Port Launay National Park; 04°38'S 55°23'E; reef slope; depth 5 m; scuba diving; on *Stichodactyla mertensii* Brandt, 1835 (det. J.C. den Hartog); 9.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42842: ♂ cl. 2.25; ♀ cl. 3.38; 3 juveniles cl. 1.31-1.56; photo 3CF. NIOP-E, Sta. SEY.605: Mahé, W coast, Port Launay National Park; 04°38'S 55°23'E; shallow subtidal, cove with sandy beach and beach rock; snorkeling; on *Heteractis magnificus* (Quoy & Garmard, 1833) (det. J.C. den Hartog); 9.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42843: 5 ovigerous ♀♀ cl. 2.50-2.75; ♀ cl. 1.63. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope; depth 18 m; scuba diving; on *Stichodactyla mertensii* Brandt, 1835 (regnr. COEL.18711, det. J.C. den Hartog); 5/6.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42844: 2 ovigerous ♀♀ cl. 1.88 (with bopyrid), 2.25; ♀ cl. 1.88; 6 ♂♂ cl. 1.19-1.88; 3 juveniles cl. 1.00-1.06. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth 10 m; scuba diving; on *Heteractis magnifica* (Quoy & Garmard, 1833) (regnr. COEL.18708, det. J.C. den Hartog); 29/31.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42872: 2 ♂♂ cl. 1.63, 1.81; ovigerous ♀ cl. 2.75; 2 ♀♀ cl. 1.56, 1.69; 1 juvenile cl. 1.13. NIOP-E, Sta. SEY.739: Mahé, SE coast, near Pointe Cocos; 4°45'S 55°32'E; rocky shore; depth 15 m; scuba diving; on *Heteractis magnifica* (Quoy & Garmard, 1833) (det. J.C. den Hartog); 24.xii.1992.

Distribution.— Distributed throughout the tropical Indo-West Pacific; associated with giant sea anemones. Previously reported from Cerf Island and Praslin (Bruce, 1971b; 1976b).

Periclimenes kempi Bruce, 1969

Restricted synonymy:

Periclimenes kempi Bruce, 1969c: 260; Bruce, 1976a: 16; Bruce, 1979: 224-225; Bruce, 1981b: 17; Bruce, 1981c: 80-81, fig. 2.

Material.— RMNH D 42883: ♀ cl. 1.38; juvenile cl. 1.00; on white gorgonian. RMNH D 45491: ♂, cl. 1.25; on *Alveopora* coral (det. B.W. Hoeksema). NIOP-E, Sta. SEY.605: Mahé, W coast, Port Launay National Park; 04°38'S 55°23'E; depth 4-5 m; cove with sandy beach and beachrock; scuba diving & snorkeling; 9.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 45497: 4 specimens. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 21 m; scuba diving; on ? *Nephthea* spec. (collected), with *Periclimenes difficilis* Bruce, 1976; 21.xii.1992.— RMNH D 45472: 2 specimens. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth 10 m; scuba diving; on Alcyonaria; leg. C.H.J.M. Fransen; 29/31.xii.1992.— RMNH D 45496: 5 specimens. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope; depth 10 m; scuba diving; on Alcyonaria (collected), with *Periclimenes difficilis* Bruce, 1976; 28.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 45498: 1 specimen. NIOP-E, Sta. SEY.717: Bird Island, off E coast; 3°43'S 55°13'E; edge of bank, depth 10-12 m; scuba diving; on *Lemmalia* spec. (Alcyonaria, det. L.P. van Ofwegen), with *Periclimenes difficilis* Bruce, 1976; leg. C.H.J.M. Fransen; 20.xii.1992.

Remarks.— The specimens agree with the description of Bruce, 1969c. Rostral dentition is 5-6/0-1.

Distribution.— The species has been reported from the Red Sea, Kenya, Zanzibar, Andaman Islands, Singapore, Heron Island (Queensland, Australia), and Fiji, associated with various alcyonarian and gorgonarian hosts. This is the first record of the species from the Seychelles; *Alveopora* is a new host record.

Periclimenes lepidus Bruce, 1978

Restricted synonymy:

Periclimenes lepidus Bruce, 1978b: 244-252, figs. 20-24; Bruce & Svoboda, 1983: 34, 42.

Material.— RMNH D 42855: 6 ovigerous ♀♀ cl. 1.31-2.00; 6 ♂♂ cl. 1.56-1.81; 11 specimens cl. 0.75-1.38. NIOP-E, Sta. SEY.774: Desroches Atoll, SW rim; 5°43'S 53°37'E; outer reef slope; depth 20 m; scuba diving; on *Antipatharia* together with *Periclimenes psamathe* (De Man, 1902); 30.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Known from Madagascar, Kenya and the Red Sea, associated with gorgonians and antipatharians. Here reported for the first time from the Seychelles.

Periclimenes longirostris (Borradaile, 1915)
(figs. 91-92, pl. 3D)

Restricted synonymy:

Palaemonella longirostris Borradaile, 1915: 210 (pro parte).

Periclimenes (Falciger) affinis Borradaile, 1915: 211.

Periclimenes (Ancyllocaris) proximus Kemp, 1922: 171, 201-204, figs. 51-53.

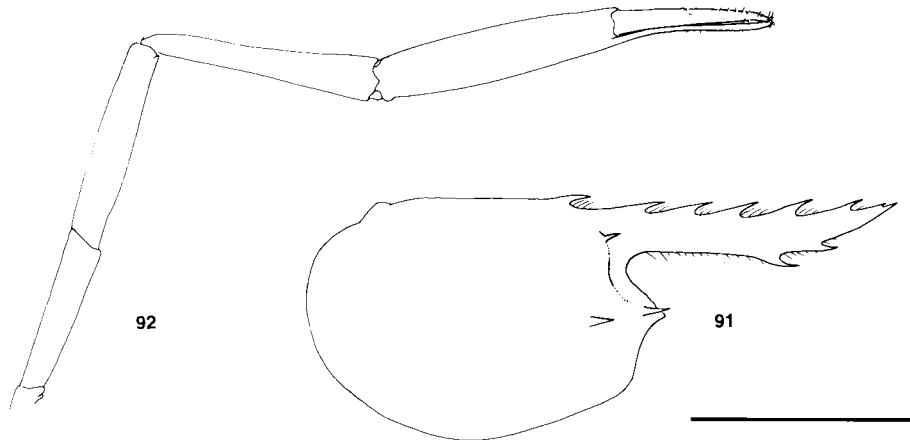
Periclimenes (Harpilius) longirostris; Holthuis, 1958: 3-6, fig. 1.

Periclimenes longirostris; Bruce, 1974: 191-192; Bruce, 1979: 216-218, fig. 2; Bruce, 1981d: 193-196, fig. 4.

Material.— RMNH D 45485: cl. 2.25. NIOP-E, Sta. SEY.717: Bird Island, off E coast; 3°43'S 55°13'E; edge of bank; depth 10-12 m; scuba diving; leg. C.H.J.M. Fransen; 20.xii.1992.— RMNH D 45486: ovigerous ♀ cl. 1.69. NIOP-E, Sta. SEY.720: E of Bird Island; 3°45'S 55°14'E; sediment mainly *Halimeda*; depth 45 m; 1.2 m Agassiz trawl; 20.xii.1992.— RMNH D 45479: ♂ cl. 2.63. NIOP-E, Sta. SEY.716: N of Aride Island; 4°11'S 55°40'E; calcareous nodules; depth 40 m; rectangular dredge; 19.xii.1992.— RMNH D 45480: ovigerous ♀, cl. 2.50. NIOP-E, Sta. SEY.713: S of Aride Island; 4°13'S 55°40'E; calcareous nodules; depth 35 m; rectangular dredge; 19.xii.1992.— RMNH D 45499: 2 ♂ cl. 1.56, 1.69; photo 13/13-14. NIOP-E, Sta. SEY.735: La Digue Island, S coast; 4°23'S 55°50'E; rocky shore; depth 10 m; scuba diving; on Alcyonaria; 23.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 45487: ovigerous ♀, cl. 2.25, ♂ cl. 1.94. NIOP-E, Sta. SEY.780: Poivre Atoll, W rim; 5°46'S 53°18'E; reef slope; depth 10 m; scuba diving; under stones; 1.i.1993.

Remarks.— The specimens match the redescription given by Holthuis, 1958. Supraorbital spines are present. The rostral dentition is 1+5-7/2. The second pereopod has a small distoventral tooth on the merus, and two distal lobes on the carpus. In the small male specimen from sta. 780 (RMNH D 45487) the distoventral tooth on the merus is absent, in the larger female it is present but indistinct. The purplish band on the chela is present like in Holthuis' figure 1c. The first pereiopods have the carpus distinctly longer than the merus.

Distribution.— Widely distributed in the tropical Indo-West Pacific. Recorded from Farquhar by Bruce (1974). Now recorded for the first time from Bird Island and Aride. Not before found associated with alcyonarians.



Figs. 91-92. *Periclimes longirostris* (Borradaile, 1915), ♂ RMNH D 45487. 91, carapace, lateral view; 92, right second pereopod. Scale = 2 mm.

Periclimes mahei Bruce, 1969

Restricted synonymy:

Periclimes mahei Bruce, 1969c: 263; Bruce, 1971b: 11; Bruce, 1976b: 108, 146, fig. 14; Bruce, 1976e: 479; Bruce, 1989: 153-155, fig. 4B; Bruce, 1990c: 12, 17, 18.

Material.— RMNH D 45470: 2 ♂ cl. 1.06, 1.25. NIOP-E, Sta. SEY.707: Praslin Island, SW coast; 4°18'S

55°41'E; outlying rock; depth 10-12 m; scuba diving; from yellow *Dendronephthya* spec.; 17.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42869: 2 ♂♂ cl. 0.94, 1.00; 2 ovigerous ♀♀ cl. 1.31; juvenile cl. 0.69. NIOP-E, Sta. SEY.741: Mahé, SE coast, Anse Royale bay, off Ile Souris; 4°44'S 55°32'E; outside of reef barrier; depth 10 m; scuba diving; 24.xii.1992; on *Pocillopora verrucosa* (Ellis & Solander, 1786) (det. B.W. Hoeksema), with *Harpiliopsis depressa* (Stimpson, 1860).— RMNH D 42997: ovigerous ♀, cl. 2.64. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth c. 10 m; scuba diving; on *Acropora* sp.; 29/31.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42998: ovigerous ♀ cl. 2.50. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope; depth 10 m; scuba diving; on *Pocillopora* coral; 5/6.i.1993; leg. C.H.J.M. Fransen.

Remarks.— The specimens agree with the description by Bruce, 1969c. The fourth thoracic sternite bears the typical laminar process with a median notch, as figured by Bruce (1976b: fig. 14a) The rostral formula is 5-8/1-2. In some specimens the hepatic spine is minute.

Distribution.— Known from the Seychelles, Zanzibar, and Australia, associated with scleractinian corals. *Dendronephthya* is a new host record.

Periclimenes perlucidus Bruce, 1969
(figs. 93-95)

Periclimenes perlucidus Bruce, 1969c: 268-270; Bruce, 1978b: 230-237, figs. 12-15; Bruce, 1979: 227; Bruce & Svoboda, 1983: 34, 42.

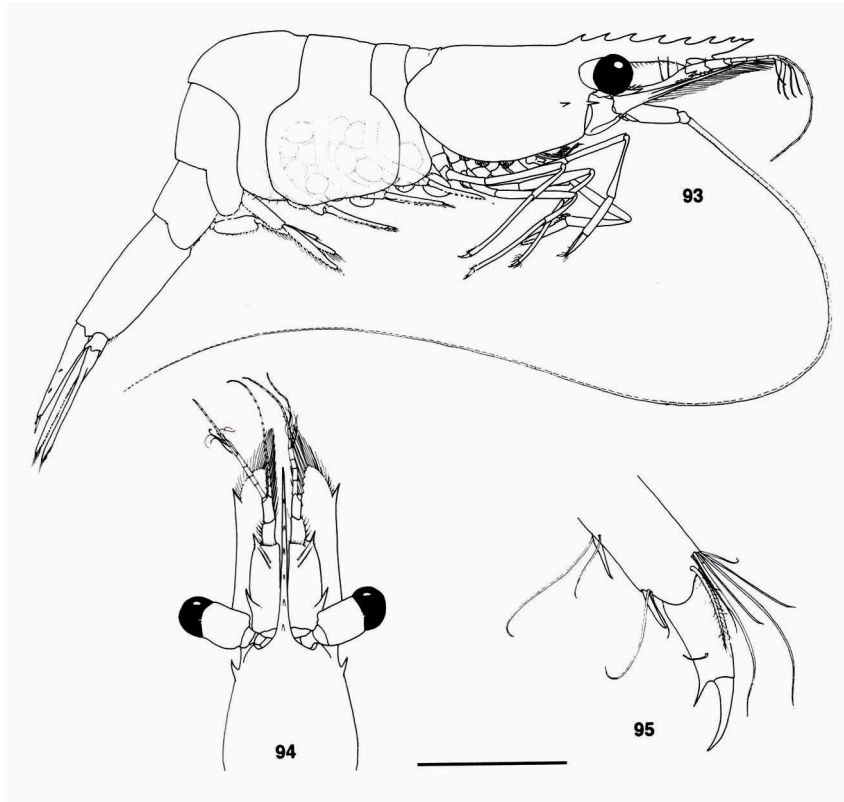
Material.— RMNH D 42887: 2 ♂♂ cl. 1.06, 1.19; 2 ovigerous ♀♀ cl. 1.63, 1.81. NIOP-E, Sta. SEY.786: Alphonse Atoll, NW edge; 7°00'S 52°43'E; steep slope; depth 30 m; scuba diving; on gorgonian, *Villogorgia* spec. (det. L.P. van Ofwegen); 3.i.1993; leg. C.H.J.M. Fransen.

Remarks.— Rostrum straight; rostral dentition 6-8/0-2; dorsal teeth placed anteriorly of the orbit, no epigastral tooth. Antennal and hepatic spine robust, at the same level. Antennular peduncle with typical transverse row of stout long setae on basal segment. Antepenultimate segment of third maxilliped with three stout distolateral spines. First pereopods shorter but more robust than second pereopods; cutting edges entire. In one ovigerous female and one male both second pereopods are present; they are of equal size and form, very slender like the minor second cheliped described for *P. perlucidus*. Ambulatory pereopods with biunguiculate dactyli. Pleurae of first five abdominal segments rounded.

Bruce (1978b) noted that part of his Madagascar material lacks the epigastral tooth like in the present material. Only one of his specimens has both second pereopods, which are unequal in form and size. Although in none of the Seychelles specimens the larger second cheliped is present, all other characters strongly indicate conspecificity with *P. perlucidus*.

Another related species, also known from gorgonid hosts, is *P. latipollex* Kemp, 1922. Bruce (1969c) discussed the differences between this species and *P. perlucidus*.

Distribution.— Known from the South China Sea (type-locality) and Madagascar, associated with Gorgonaria: *Verrucella sanguinolenta* (Gray, 1859), and Alcyonaria: *Dendronephthya (Roxasia) speciosa* (Kükenthal, 1905), *Dendronephthya (Morchellana) gilva* (Henderson, 1909) and *Dendronephthya (Morchellana) nova* (Tixier-Durivault, 1966). Now recorded for the first time from the Seychelles. *Villogorgia* is a new host record.



Figs. 93-95. *Periclimenes perlucidus* Bruce, 1969, ovigerous ♀ RMNH D 42887. 93, habitus, lateral view; 94, anterior region, dorsal view; 95, dactylus right third pereiopod. Scale 93-94 = 2 mm; 95 = 0.1 mm.

Periclimenes psamathe (De Man, 1902)
(pl. 3E)

Restricted synonymy:

Urocaris psamathe De Man, 1902: 816-822, pl. 25 fig. 51.

Periclimenes (Harpilius) psamathe; Holthuis, 1952: 12, 61, fig. 23.

Periclimenes psamathe; Bruce, 1978b: 218-221, fig. 7; Bruce, 1979: 227-228; Bruce, 1981b: 19; Chace & Bruce, 1993: 59-120.

Material.— RMNH D 42845: ovigerous ♀ cl. 2.50; ♀ cl. 1.94; 2 ♂♂ cl. 2.13; photo 13/7-10. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 25 m; scuba diving; on *Antipatharia*; 21.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42846: ovigerous ♀ cl. 2.12; 2 ♀♀ cl. 1.63; 2 ♂♂ cl. 1.31, 2.00. NIOP-E, Sta. SEY.774: Desroches Atoll, SW rim; 5°43'S 53°37'E; outer reef slope; depth 20 m; scuba diving; on *Antipatharia* together with *Periclimenes lepidus* Bruce, 1978; 30.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42880: ♀ cl. 1.56. NIOP-E, Sta. SEY.786: Alphonse Atoll, NW edge; 7°00'S 52°43'E; steep slope; depth 12 m; scuba diving; on gorgonian with *Hamodactylus noumeae* Bruce, 1970; 3.i.1993; leg. C.H.J.M. Fransen.

Remarks.— The specimen of Sta. 786 (RMNH D 42880) has the second pereiopods short compared to the specimens of the other stations.

Distribution.— Widely distributed in the tropical Indo-West Pacific, associated with hydroids, antipatharians and gorgonians. Now reported for the first time from the Seychelles.

Periclimenes soror Nobili, 1904
(pl. 3F)

Restricted synonymy:

Periclimenes soror Nobili, 1904: 232; Nobili, 1906a: 50, pl. 2 fig. 6; Bruce, 1971b: 8; Bruce, 1973c: 135; Bruce, 1976a: 145; Bruce, 1977b: 168-169; Bruce, 1978b: Bruce, 1978c: 299-306, figs. 1-6; Bruce, 1990b: 176-177, figs. 2.

Material.— RMNH D 42830: 46 specimens cl. 0.93-3.25; photo 7/11-21. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off, depth 16 m; scuba diving; on single specimen of *Acanthaster*; 21.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42831: 2 ovigerous ♀♀ cl. 1.88; photo 4CF. NIOP-E, Sta. SEY.609: Mahé, NW coast, Vista Do Mar; 04°34'S 55°26'E; depth 6 m, beach with beach rock and granitic boulders, sandy bottom at 4-9 m, scuba diving; on *Culcita schmideliana* (Retzius, 1805); 11.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42832: 23 specimens cl. 1.00-1.75. NIOP-E, Sta. SEY.739: Mahé, SE coast, near Pointe Cocos; 4°45'S 55°32'E; rocky shore; depth 15 m; scuba diving; on *Culcita schmideliana* (Retzius, 1805); 24.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42833: ovigerous ♀ cl. 1.50; 1 specimen cl. 0.88; on green starfish. RMNH D 42834: 1 specimen cl. 1.06; on starfish. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope; depth 10 m; scuba diving; 28.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42835: 1 specimen cl. 1.50. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth 10 m; scuba diving; on starfish; 29/31.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42836: 7 specimens cl. 0.81-1.44. NIOP-E, Sta. SEY.772: Desroches Atoll, W rim; 5°41'S 53°35'E; outer reef slope; depth 10 m; scuba diving; on *Culcita* spec.; 30.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42837: 7 specimens cl. 0.93-1.65. NIOP-E, Sta. SEY.780: Poivre Atoll, W rim; 5°46'S 53°18'E; reef slope; depth 10 m; scuba diving; on starfish; 1.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42838: 7 specimens cl. 0.93-1.56. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope down to 27 m depth; scuba diving; on starfish; 5/6.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42839: 7 specimens cl. 1.75. NIOP-E, Sta. SEY.797: Platte Island Atoll; 05°49'S 55°21'E; lagoon of inner atoll; depth 12 m; scuba diving; on starfish; 7.i.1993; leg. C.H.J.M. Fransen.

Distribution.— Widely distributed in the tropical Indo-Pacific, from the East Africa to tropical western America, associated with shallow water starfish. Reported from Aldabra, Cerf Island and Mahé (Bruce, 1971b; 1973c).

Periclimenes tenuipes Borradaile, 1898
(pl. 4A)

Restricted synonymy:

Periclimenes tenuipes Borradaile, 1898: 384; 1899: 406, pl. 36 fig. 2; Bruce, 1983c: 42-43; Bruce & Svoboda, 1983: 4, fig. 1

Periclimenes borraidailei Rathbun, 1904: 34.

Periclimenes (Falciger) kolumadulensis Borradaile, 1915: 213.

Periclimenes (Ancylocaris) tenuipes; Kemp, 1922: 171, 173, 220-224, pl. 8 fig. 11.

Periclimenes (Harpilius) tenuipes; Holthuis, 1952: 13, 85, 87; Chace & Bruce, 1993: 60, 123.

Material.— RMNH D 42852: ♀ cl. 5.63. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope down to 27 m depth; scuba diving; under stone 5/6.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42853: ovigerous ♀ cl. 5.44; 2 ♂♂ cl. 3.31, 5.75. RMNH D 42854: ovigerous ♀ cl. 5.75; 2 ♂♂

cl. 4.40, 6.56; photo 17/36, 18/1-3. NIOP-E, Sta. SEY.753: St Joseph Atoll, NW rim; 5°24'S 53°19'E; reef slope; depth 15 m; scuba diving; free-living; 26.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Widely distributed in the tropical Indo-West Pacific, free-living. Reported from Mahé by Kemp (1922). Now recorded for the first time from the Amirantes.

Periclimenes watamuae Bruce, 1976

Restricted synonymy:

Periclimenes watamuae Bruce, 1976a: 16-20, figs. 5, 6; Bruce, 1989: 153-155.

Material.— RMNH D 42890: ♀ cl. 1.13. NIOP-E, Sta. SEY.618: Mahé, NE coast, North East Point; 04°35'S 55°28'E; depth 12 m; reef flat, exposed reef slope with sparse coral cover merging into sandy bottom; scuba diving; on white gorgonian with *Hamodactylus noumeae* Bruce, 1970, *H. boschmai* Holthuis, 1952, and *Periclimenes* ? *brucei*; 14.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42994: ♂, cl. 1.88. NIOP-E, Sta. SEY.788: Alphonse Atoll, SE part of lagoon; 7°02'S 52°44'E; reef flat and patch reef; depth 10 m; scuba diving; on *Fungia* spec.; 4/6.i.93; leg. C.H.J.M. Fransen.

Remarks.— Rostral dentition 5/1. This species is closely related to *P. goniopora* Bruce, 1989. Females of *P. goniopora* have a larger cheliped with the fingers non-spatulate, dentate, and about half the palm length. In *P. watamuae* the larger cheliped is spatulate, has entire cutting edges, and palm and fingers of about the same length. Males of both species are similar. In both specimens the fourth thoracic sternite bears a laminar process with a broad median notch, as do the holotype and allotype of the species (RMNH D 30945). In *P. goniopora* the lamina is broader with a smaller median notch.

Distribution.— So far only known from Kenya, associated with Alcyonaria. This is the first record of the species from the Seychelles. The unidentified gorgonian and *Fungia* spec. are new host records.

Periclimenes zanzibaricus Bruce, 1967

Restricted synonymy:

Periclimenes zanzibaricus Bruce, 1967: 62-72, figs. 26-29; Bruce, 1971b: 11; Bruce, 1976a: 16; Bruce, 1976b: 107-108, fig. 13; Bruce, 1983a: 200.

Material.— RMNH D 45467: 2 juveniles cl. 0.75, 1.25. NIOP-E, Sta. SEY.602: Mahé, SW coast, Baie Lazare/Anse Gaulettes; 04°46'S 55°29'E; sandy bay with calcareous barrier; snorkeling; depth 2-4 m; on spines of dark red to black diademid sea-urchin together with *Athanas* ? *indicus*; 6.xii.1992.— RMNH D 45468: 3 ♂ cl. 1.13-1.56; ♀, cl. 1.44; photo 1/4-10. NIOP-E, Sta. SEY.707: Praslin Island, SW coast; 4°18'S 55°41'E; outlying rock; depth 10-12 m; scuba diving; on diademid sea-urchin; 17.xii.1992; leg. C.H.J.M. Fransen.

Remarks.— Rostrum with 3-4 dorsal teeth, none postorbital, and 0-1 ventral teeth. Supraorbital tooth distinct. Hepatic and antennal spine present. Two distolateral teeth present on basal segment antennular peduncle. Dactylus of ambulatory pereiopods with large accessory tooth.

Colour.— Uniformly dark-red to black.

Distribution.— Known from Kenya, Seychelles and western Australia, associated with echinoids. Previously reported from Mahé and Praslin (Bruce, 1971b; 1976b).

Periclimenes ? *zevinae* Duris, 1990
(figs. 96-102)

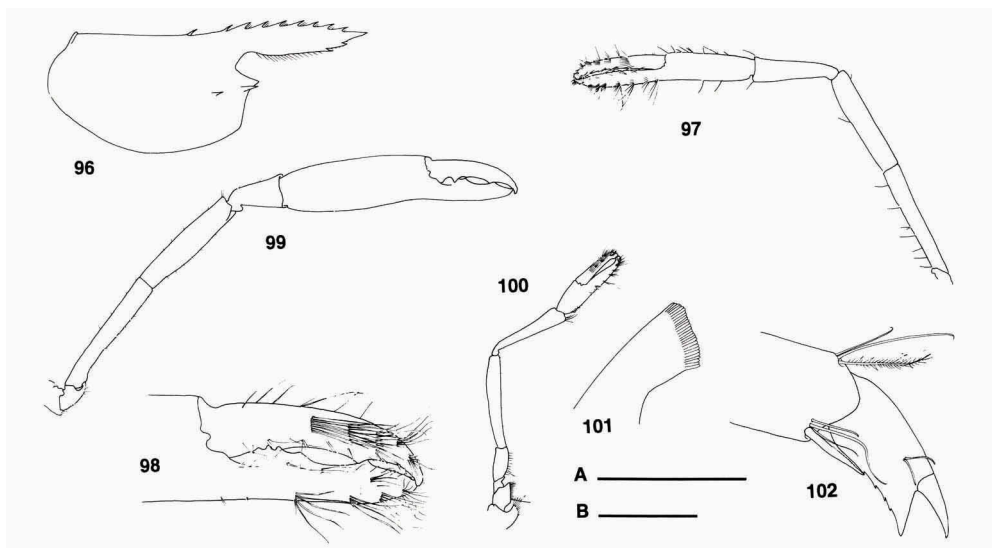
[?] *Periclimenes zevinae* Duris, 1990: 4-7, figs. 3-4.

[?] *Periclimenes zevinae*; Chace & Bruce, 1993: 60.

Material.— RMNH D 42992: ♂ cl. 3.00. NIOP-E, Sta. SEY.741: Mahé, SE coast, Anse Royale bay, off Ile Souris; 4°44'S 55°32'E; outside of reef barrier; depth 10 m; scuba diving; 24.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 45466: 2 ovigerous ♀♀ cl. 1.81, 2.00; 2 ♂♂ cl. 1.63, 1.75. NIOP-E, Sta. SEY.720: E of Bird Island; 3°45'S 55°14'E; sediment mainly *Halimeda* maerl; depth 45 m; 1.2 m Agassiz trawl; in tubes of brown sponge *Spirastrella inconstans* (det. R.W.M. van Soest); 20.xii.1992.

Reference material of *P. incertus* Borradaile, 1915.— 10 specimens. RUMPHIUS BIOHISTORICAL EXPEDITION Sta. 5, Indonesia, Moluccas, Ambon, Leitimur, Ambon Bay, outer bay, Tg. Benteng (=Galghoek), 8/9.xi & 2.xii.1990; depth 2-3 m; scuba diving; from grey tube sponge; leg. C.H.J.M. Fransen.

Remarks.— The specimens have a rostral dentition of 1-2+6-8/1-2. The single male specimen of Sta. 741 has both second pereiopods of equal size and form, as described for *P. zevinae*. The second pereiopods of the specimens of Sta. 720 are unequal in size and form. The right is more robust with the palm about 2 times as long as the carpus. The fingers are about 2/3 of the palm length, with a shallow excavation distally bounded by a small acute tooth on both fingers, proximally with a large acute tooth on the dactylus and three small teeth on the fixed finger. On the



Figs. 96-102. *Periclimenes* ? *zevinae* Duris, 1990, ovigerous ♀ RMNH D 45477. 96, carapace, lateral view; 97, right second pereiopod; 98, chela right second pereiopod; 99, left second pereiopod; 100, right first pereiopod; 101, tip of dactylus right first pereiopod; 102, dactylus right third pereiopod. Scale A: 96 = 2 mm. Scale B: 97, 99-100 = 1 mm; 98 = 0.4 mm; 101-102 = 0.1 mm.

minor left second pereiopod, the carpus, palm and fingers are of equal length; the fingers are oblong with entire cutting edges. This is in agreement with Kemp's (1922) description of *P. impar*, a species generally regarded synonymous with *P. incertus*. Borradaile, 1915.

In all Seychelles specimens the fingers of the chela of the first pereiopods are longer than the palm. The tips of both fingers are broad, flattened, produced, transparent, curved, 'nail-like', and distally finely pectinate. Almost the same as described for *P. zeviniae*. *P. zeviniae* is only known by the holotype which seems not to be a full-grown specimen. In this specimen the dactylus is 'nail-like'; the fixed finger is without a 'nail', and described as having a tuberculate anterior border.

The ambulatory pereiopods have the dactyli with three or four small spinules on the flexor margin as described for *P. zeviniae*. In specimens of *P. incertus* from Ambon, Indonesia, which were studied for comparison, these spinules are also present on the dactyli of the ambulatory pereiopods. In these Indonesian specimens the chelae of the first pereiopods, however, are simple, without a 'nail-like' apex, and with the fingers shorter than the palm.

The Seychelles specimens are tentatively identified as *P. zeviniae*, presuming that the minor differences between the holotype specimen and the Seychelles specimens may be due to different stages of development or infra-specific variation.

Distribution.— The type-locality of *P. zeviniae* is on the Maldive Islands. The specimen was collected from antipatharian black coral, *Antipathes* sp. Also associated was *Periclimenaeus arabicus* (Calman), which is known to live on the surface of sponges. According to the collector's notes, encrusting sponges were present on the base of the blackcoral. It could well be that *P. zeviniae*, like *P. incertus*, is an associate of sponges.

Periclimenes/Palaemonella spec.

Material.— RMNH D 45489: 1 juvenile, cl. 0.75. NIOP-E, Sta. SEY.774: Desroches Atoll, SW rim; 5°43'S 53°37'E; outer reef slope; depth 20 m; scuba diving; on antipatharians; 30.xii.1992.

Remarks.— Rostral formula 0+7/3. Supra-orbital spine present. Dactyli of the ambulatory pereiopods simple. First four abdominal pleura rounded, fifth angular. First and second pereiopods unarmed.

Philarius imperialis (Kubo, 1940)

Restricted synonymy:

Harpilius imperialis Kubo, 1940: 1-4, figs. 1-3.

Philarius imperialis; Holthuis, 1952: 15, 151; Bruce, 1976e: 482; Bruce, 1981b: 21.

Material.— RMNH D 42822: ♂ cl. 2.50; ovigerous ♀ cl. 2.50.— RMNH D 42866: ♂ cl. 3.63; ovigerous ♀ cl. 4.50. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth 10-15 m; scuba diving; on branches of *Acropora*; 29/31.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Widely distributed in the tropical Indo-West Pacific, associated with scleractinian corals, mainly of the genus *Acropora*. It is now recorded for the first time from the Seychelles.

Platycaris latirostris Holthuis, 1952

Restricted synonymy:

Platycaris latirostris Holthuis, 1952: 16, 173, figs. 85, 86; Bruce, 1966a: 1-9, figs. 1-5; Bruce, 1976a: 31; Bruce, 1978a: 127; Bruce, 1981a: 392; Bruce, 1981b: 21; Bruce, 1985c: 5-8, figs. 4-5.

Material.— RMNH D 42810: ovigerous ♀ cl. 2.38. RMNH D 42811: ♂ cl. 2.00; ovigerous ♀ cl. 2.19. NIOP-E, Sta. SEY.601: Mahé, NE coast, Anse Nord d'Est; 04°34'S 55°28'E; outer reef flat, slightly sloping down; snorkeling; depth 3 m; between corallites of *Galaxea fascicularis*; 5.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42812: ♂ cl. 1.69; ovigerous ♀ cl. 1.88; 1 juvenile cl. 0.88. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth 10 m; scuba diving; between corallites of *Galaxea fascicularis* (Linnaeus, 1767); 29/31.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42813: 2 ♂ cl. 1.31, 1.38; ovigerous ♀ cl. 2.19. NIOP-E, Sta. SEY.797: Platte Island Atoll; 05°49'S 55°21'E; lagoon of inner Atoll, depth 12 m; scuba diving; between corallites of *Galaxea fascicularis* (Linnaeus, 1767); 7.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42814: ♂ cl. 1.75; ovigerous ♀ cl. 2.19; 1 juvenile cl. 0.75. NIOP-E, Sta. SEY.759: St Joseph Atoll, S rim; 5°27'S 53°21'E; reef slope; depth 10 m; scuba diving; between corallites of *Galaxea fascicularis* (Linnaeus, 1767); 28.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Widely distributed in the tropical Indo-West Pacific, associated with the scleractinian coral *Galaxea fascicularis* (Linnaeus, 1767), often together with *Ischnopontonia lophos* (Barnard, 1962) and *Racilius compressus* (Paulson, 1875). The species was previously reported from Mahé, Cerf Island and Aldabra (Bruce, 1978a).

Platypontonia hyotis Hipeau-Jacquotte, 1971
(pl. 4B)

Restricted synonymy:

Platypontonia hyotis Hipeau-Jacquotte, 1971: 126-139, figs. 1-7; Bruce, 1978b: 287; Bruce, 1983b: 895, figs. 7J, 10B-C.

Platypontonia pterostreae Suzuki, 1971: 5-10, figs. 3-4, pl. 3.

Material.— RMNH D 42788: ♂ cl. 3.63; ovigerous ♀ cl. 5.00; photo film 3CF. NIOP-E, Sta. SEY.605: Mahé, W coast, Port Launay National Park; 04°38'S 55°23'E; intertidal to shallow subtidal, cove with sandy beach and beach rock; depth 2-5 m; scuba diving; 9.xii.1992; in *Pycnodonta hyotis* (Linnaeus, 1758) (det. J. Goud); C.H.J.M. Fransen.— RMNH D 42789: 3 ♂ cl. 3.19, 3.38, 3.63; 2 ovigerous ♀ cl. 3.81, 5.00; 1 juvenile cl. 1.25; photo 32/26-36. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope down to 27 m depth; scuba diving; 5/6.i.1993; in *Pycnodonta hyotis* (Linnaeus, 1758) (det. J. Goud); leg. C.H.J.M. Fransen.

Remarks.— The closely related species *Platypontonia brevirostris* (Miers, 1884) has its type-locality on the Seychelles (H.M.S. *Alert*, iii.1882 (BMNH Reg. no. 82.24)). This species has no rostral ventral tooth.

Distribution.— Known from Madagascar, Japan and Indonesia, associated with ostreid bivalves. Here recorded for the first time from the Seychelles.

Pliopontonia furtiva Bruce, 1973

Restricted synonymy:

Pliopontonia furtiva Bruce, 1973c: 97-109, figs. 1-5, pl. 1; Bruce, 1981b: 22; Bruce & Svoboda, 1984: 97, fig. 7; Fransen, 1989: 144, fig. 8; Bruce, 1991: 266.

Material.— RMNH D 45490: ovigerous ♀, cl. 2.13. NIOP-E, Sta. SEY.605: Mahé, W coast, Port Launay National Park; 04°38'S 55°23'E; intertidal to shallow subtidal, cove with sandy beach and beach rock; snorkeling & scuba diving; depth 5 m; on *Alveopora* spec. (det. B.W. Hoeksema); 9.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Known from Kenya, the Great Barrier Reef and New South Wales (Australia), Ambon Island (Indonesia), and New Caledonia, associated with discosomatid corallimorpharians. This is the first record of the species from the Seychelles. *Alveopora* (Scleractinia) is a new host record.

Pontonia anachoreta Kemp, 1922
(figs. 103-105)

Restricted synonymy:

Pontonia anachoreta Kemp, 1922: 264, figs. 93-95; Bruce, 1976e: 482.

Material.— RMNH D 42556: ♀ cl. 2.0; photo 1/12-17. NIOP-E, Sta. SEY.705: NW of Praslin Island; 4°16'S 55°40'E; depth 25 m; rectangular dredge; 17.xii.1992.— RMNH D 42557: ♀ cl. 3.3; photo 4CF. NIOP-E, Sta. SEY.609: Mahé, NW coast, Vista do Mar; 04°34'S 55°26'E; depth 5 m, beach with beach rock and granitic boulders, sandy bottom at 4-9 m, snorkeling & scuba diving; in Ascidiacea; 11.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Known from Gulf of Aden and Kenya, associated with ascidians. The species is now recorded for the first time from the Seychelles.

Pontonia sibogae Bruce, 1973
(fig. 106)

Restricted synonymy:

Pontonia katoi; Holthuis, 1952: 158 [in part], figs. 73a, b, 74b, 75a, b, d-f, 76c, f, g, 77a, e, f [not *P. katoi* Kubo, 1940].

Pontonia sibogae Bruce, 1973a: 182-186, fig. 1; Bruce, 1977b: 179-180, fig. 10; Bruce, 1978b: 280; Holthuis, 1986: 270.

Material.— RMNH D 42554: ♀ cl. 1.6. NIOP-E, Sta. SEY.792: St François Atoll, W rim; 7°05'S 52°44'E; outer slope down to 27 m depth; scuba diving & snorkeling; in Ascidiacea; 5/6.i.93; leg. C.H.J.M. Fransen.— RMNH D 42555: ♀ cl. 1.6; photo film 2CF. NIOP-E, Sta. SEY.602: Mahé, SW coast, Baie Lazare/Anse Gaulettes; 04°46'S 55°29'E; sandy bay with calcareous barrier; depth 2-4 m; snorkeling; in Ascidiacea; 6.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— Known from Queensland (Australia), Madagascar, Indonesia and southern Oman, associated with ascidians. This is the first record of the species from the Seychelles.

Pontonia spec.
(figs. 107-112, pl. 4C)

Material.— RMNH D 42558: ♂ cl. 2.6, ♀ cl. 3.5; photo 9/8-17. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off, depth 20 m; scuba diving; in Ascidiacea; 21.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42762: ♂ cl. 2.75. NIOP-E, Sta. SEY.748: E of Mahé, E coast of Sainte Anne Island; 4°37'S 55°31'E; depth: 10 m; scuba diving; in Ascidiacea; 25.xii.1992; leg. C.H.J.M. Fransen.

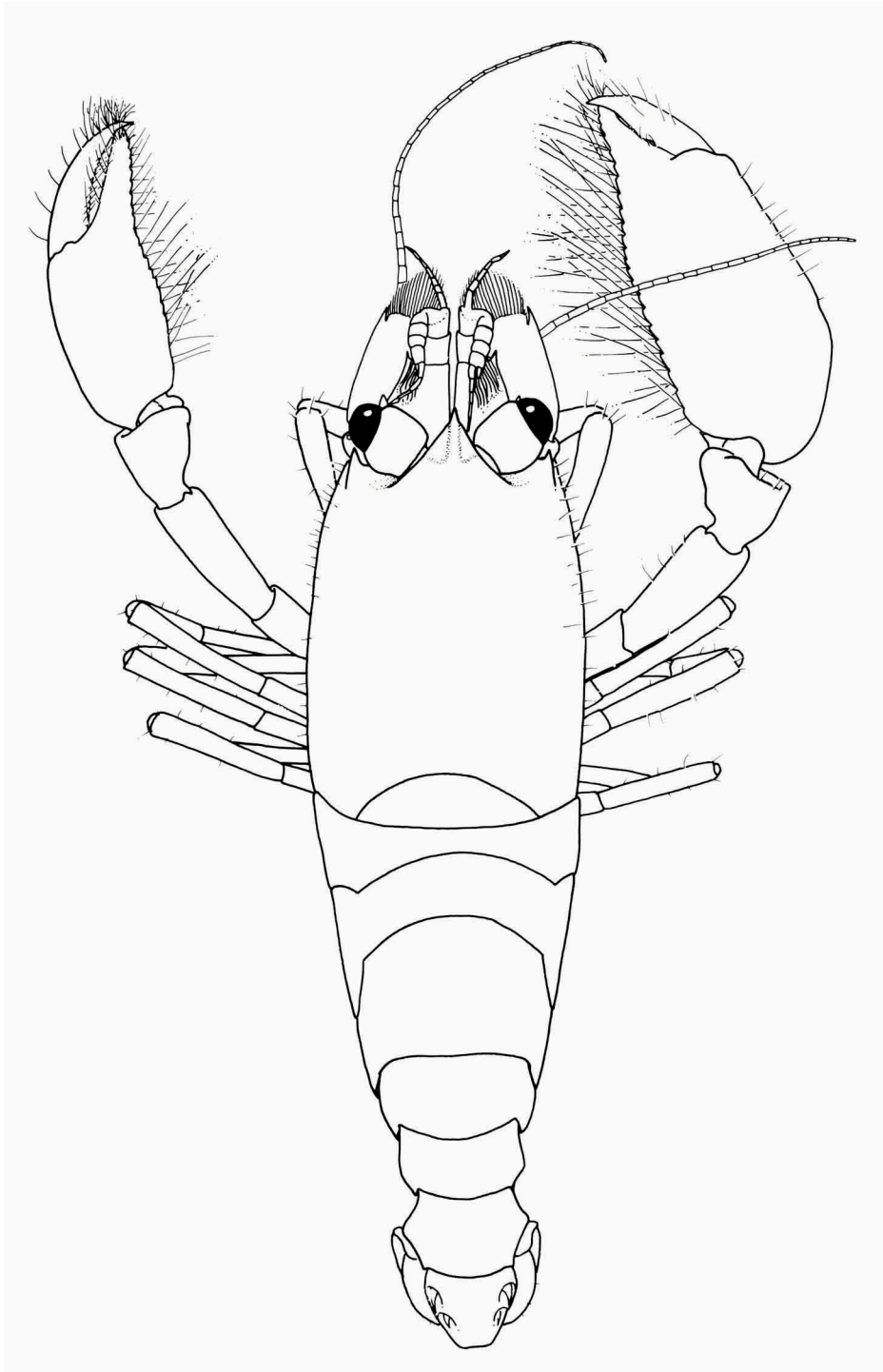
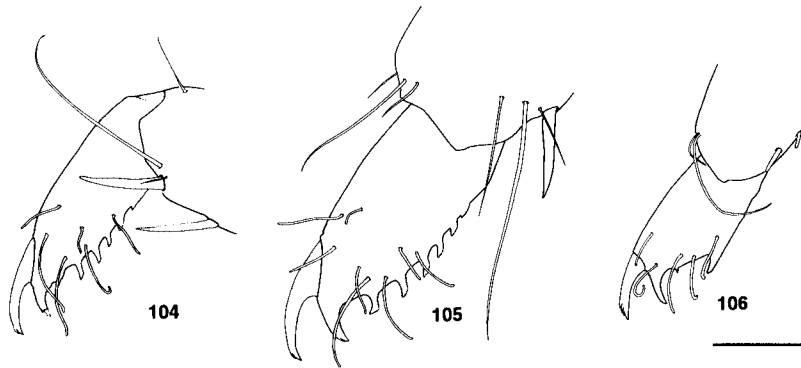


Fig. 103. *Pontonia anachoreta* Kemp, 1922, ♀, cl. 2.0 mm, RMNH D 42556.



Figs. 104-106. Dactylus third pereiopod. 104-105, *Pontonia anachoreta* Kemp, 1922. 104, ♀ RMNH D 42556; 105, ♀ RMNH D 42557. 106, *Pontonia sibogae* Bruce, 1973, ♀ RMNH D 42554. Scale = 0.1 mm.

Remarks.—This species is new to science. A.J. Bruce found specimens belonging to this same species in collections made in New Caledonia. He will describe and name the species in the near future (Bruce, pers. comm.).

Pontonides unciger Calman, 1939
(pl. 4D)

Restricted synonymy:

Pontonides unciger Calman, 1939: 213-215, figs. 6-7; Bruce, 1978b: 284.

Material.—RMNH D 42795: 2 ovigerous ♀♀ cl. 2.06; 3 ♂♂ cl. 1.13, 1.56, 1.63; 3 juveniles cl. 0.81, 0.94, 0.94; photo 21/30-36. NIOP-E, Sta. SEY.774: Desroches Atoll, SW rim; 5°43'S 53°37'E; outer reef slope; depth 15 m; on wire coral (*Antipatharia*); scuba diving; 30.xii.1992; leg. C.H.J.M. Fransen.—RMNH D 42796: ovigerous ♀ cl. 1.88; ♂ cl. 1.13; photo 9/3-7. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 20 m; on wire coral (*Antipatharia*); scuba diving; 21.xii.1992, collected by C.H.J.M. Fransen.—RMNH D 42797: 2 ovigerous ♀♀ cl. 2.50; ♂ cl. 1.38. NIOP-E, Sta. SEY.780: Poivre Atoll, W rim; 5°46'S 53°18'E; reef slope; depth 15 m; scuba diving; on wire coral (*Antipatharia*); 1.i.1993; leg. C.H.J.M. Fransen.—RMNH D 42798: ovigerous ♀ cl. 1.81; ♂ cl. 1.19. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth 15 m; scuba diving; on wire coral (*Antipatharia*); 29/31.xii.1992; leg. C.H.J.M. Fransen.

Remarks.—The specimens fit the description of *P. unciger* Calman, 1939. The lateral carina of the rostrum do not overlap with the eystalks. In the drawing by Calman (fig. 6) the lateral rostral carina ends anteriorly in a forward directed acute tooth while in the present specimens it makes an angle of 90° like in the *Pontonides* sp. of Bruce, 1978. The second pereiopods are unequal in size and form. The larger second pereiopod has fingers with obtuse teeth on the cutting edges; the tips of the fingers are hooked and show large tubercles, ischial, meral, carpal, propodal and dactylar segment are finely granulate (most distinct in larger specimens) and densely covered with setae. The dactyli of the ambulatory pereiopods are relatively large and have 'scale'-like setae in the distal half. The lateral carina of the rostrum in some specimens

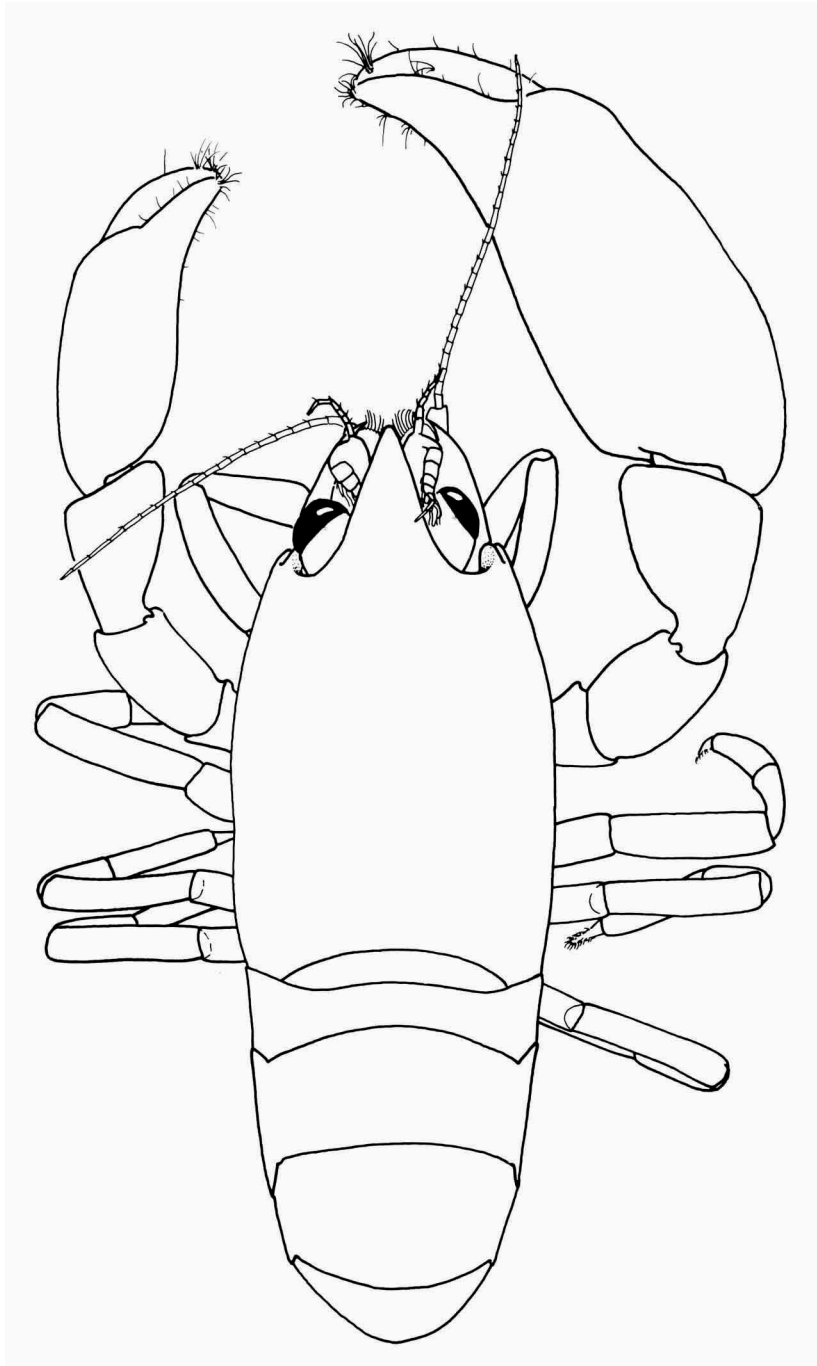


Fig. 107. *Pontonia* spec., ♂, cl. 2.6 mm, RMNH D 42558, habitus, dorsal view.

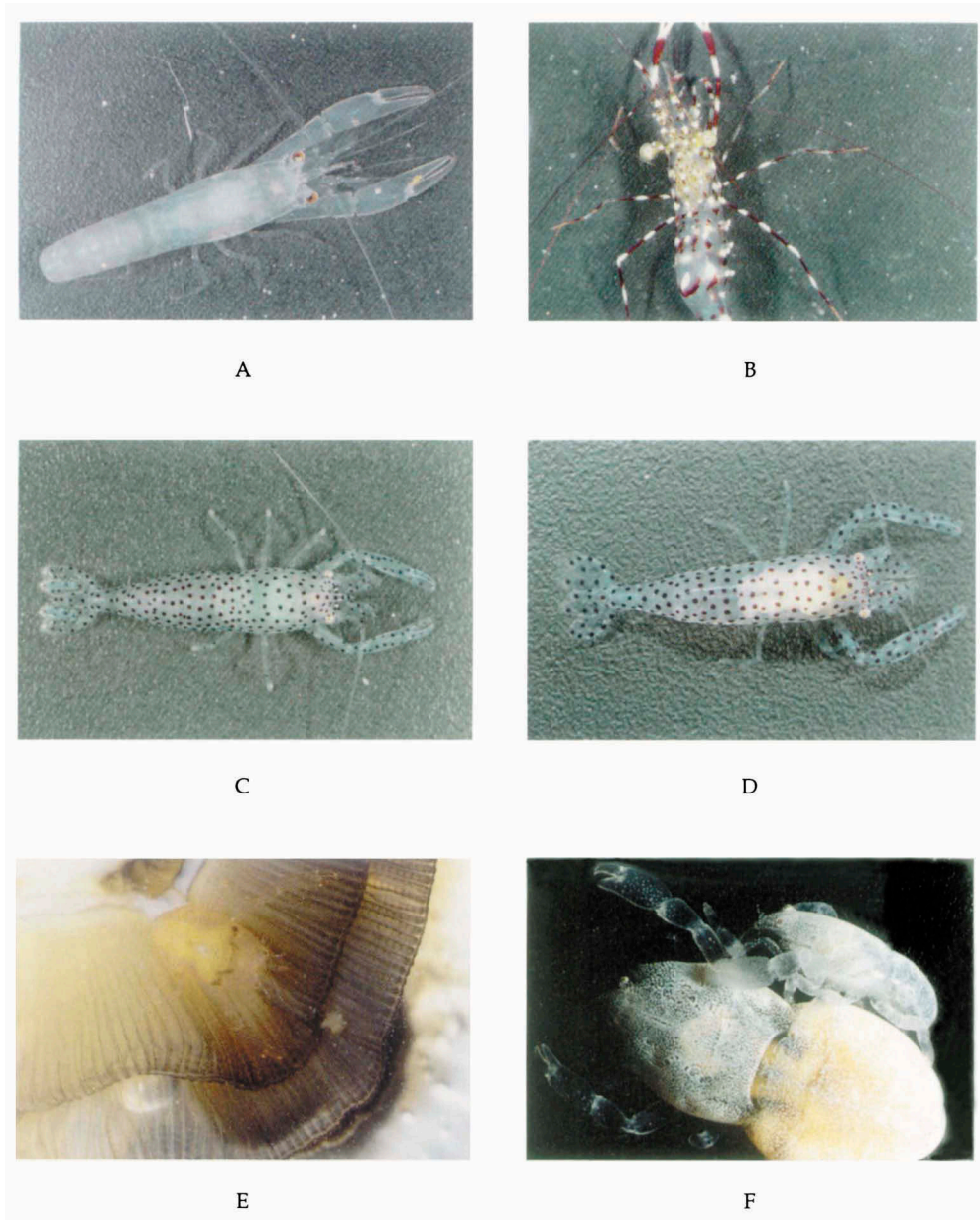


Plate 1. A, *Anchistioides willeyi* (Borradaile, 1899), ♀, cl. 3.44, Photo 15/17-19 (RMNH D 42800); B, *Urocaridella antonbruunii* (Bruce, 1967), ♀, cl. 5.75, Photo 28/29-31 (RMNH D 45501); C, *Anchistus demani* Kemp, 1922, ovigerous ♀, cl. 3.44, Photo 33/5-12 (RMNH D 42792); D, *Anchistus miersi* (De Man, 1888), ♀, cl. 3.63, Photo 7/25-29 (RMNH D 42790); E, *Conchodytes meleagrinae* Peters, 1852, ovigerous ♀, cl. 4.46, Photo 5CF (RMNH D 42766); F, *Conchodytes tridacnae* Peters, 1852, ♂, cl. 6.38; ovigerous ♀, cl. 8.38, photo 17/18-26 (RMNH D 42787).

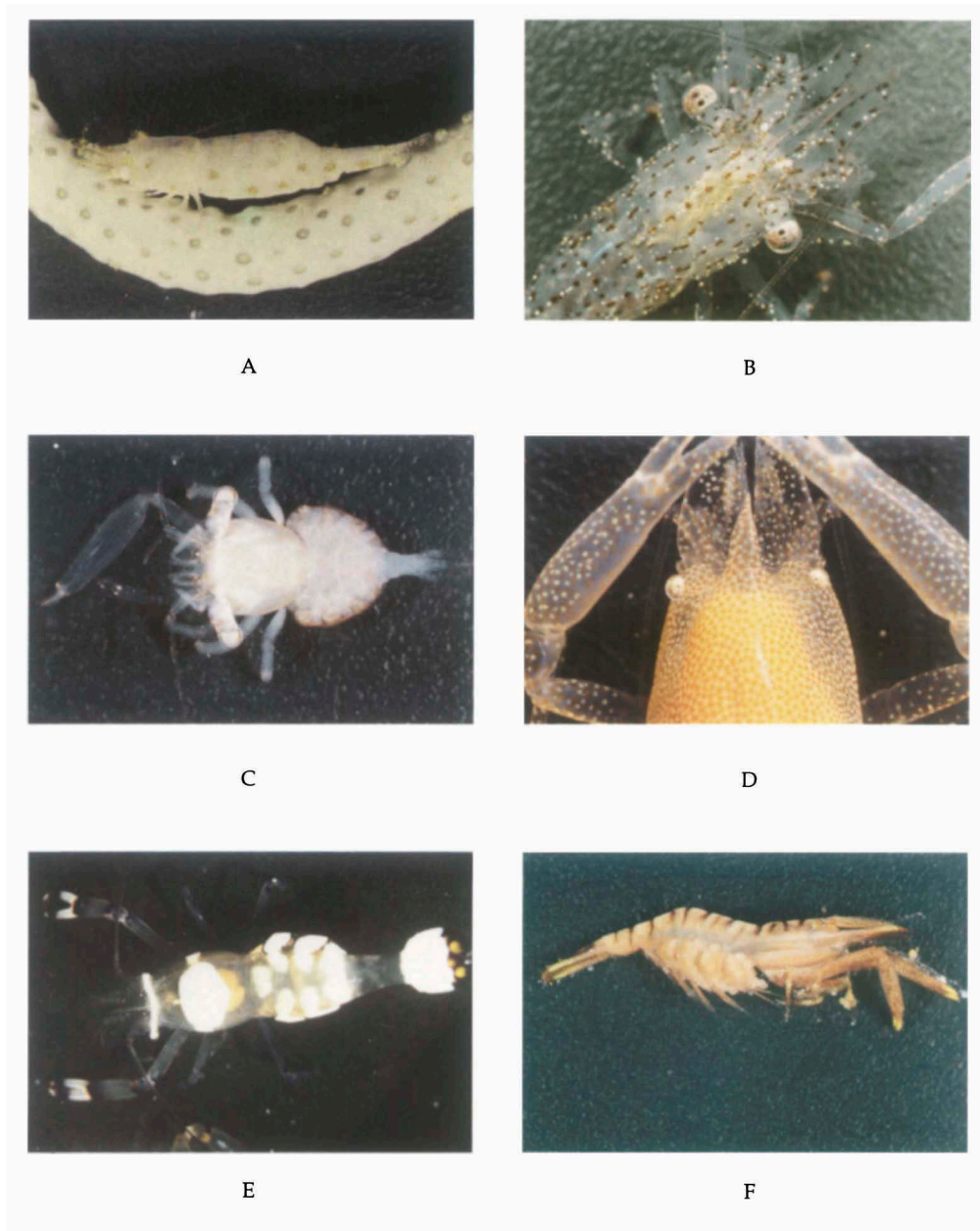
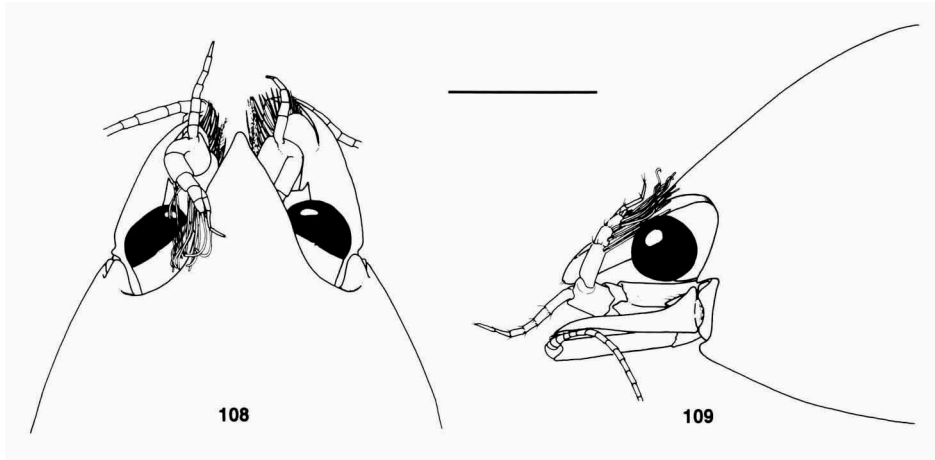
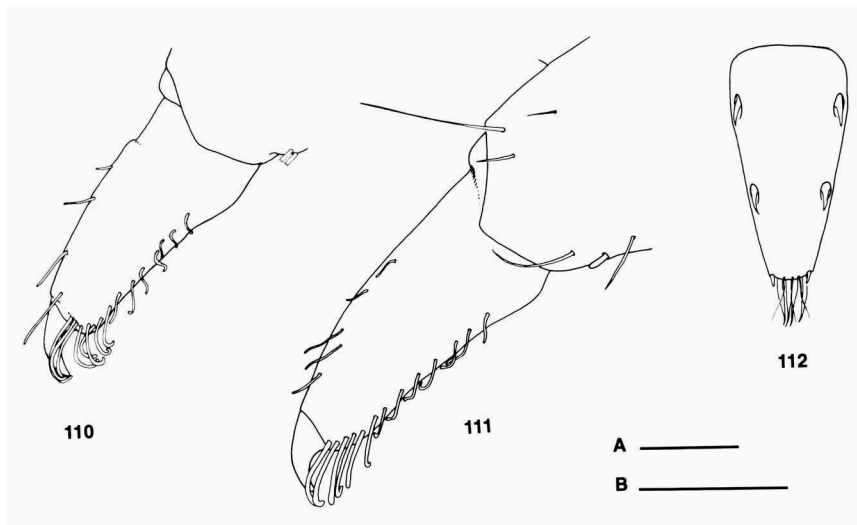


Plate 2. A, *Hamodactylus noumeae* Bruce, 1970, ovigerous ♀, cl. 2.63, Photo 21/16-21 (RMNH D 42873); B, *Harpiliopsis spinigera* (Ortmann, 1890), ♀, cl. 3.75, photo 15/11-16 (RMNH D 42868); C, *Jocaste platysoma* spec. nov., ovigerous ♀ holotype, cl. 2.13, photo 19/1-2 (RMNH D 42714); D, *Paranchistus ornatus* Holthuis, 1952, ovigerous ♀, cl. 7.81, Photo 16/31-36 (RMNH D 42794); E, *Periclimenes brevicarpalis* (Schenkel, 1902), ovigerous ♀, cl. 7.13, Photo 3CF (RMNH D 42824); F, *Periclimenes ceratophthalmus* Borradaile, 1915, ovigerous ♀, cl. 2.69, Photo 28/15-18, 25-28 (RMNH D 42848).



Figs. 108-109. *Pontonia* spec., ♂ RMNH D 42558. 108, anterior part, dorsal view; 109, anterior part, lateral view. Scale = 1 mm.



Figs. 110-112. *Pontonia* spec., RMNH D 42558. 110, dactylus right third pereiopod, ♂; 111, dactylus right third pereiopod, ♀; 112, telson, ♂. Scale A: 110-111 = 0.1 mm. Scale B: 112 = 1 mm.

(Sta. 774) is broad and partly covering the eyestalk as in the *Pontonides* sp. sensu Bruce (1978: 284-285, fig. 43). Bruce will report on this in a future paper.

Distribution.— Known from the Red Sea and Madagascar; associated with antipatharians. This is the first record of the species from the Seychelles.

Pontoniopsis comanthi Borradaile, 1915
(pl. 4E)

Restricted synonymy:

Pontoniopsis comanthi Borradaile, 1915: 213; Borradaile, 1917: 377, pl. 57 fig.27; Holthuis, 1952: 15, 153-

156, figs. 70-71; Bruce, 1981a: 396-398, figs. 3D, 4-5; Bruce, 1981b: 23; Bruce, 1983b: 894; Bruce, 1989: 181, fig. 3F.

Material.— RMNH D 42799: 2 ovigerous ♀♀ cl. 1.56, 1.63; ♂ cl. 1.00; photo 27/9-22. NIOP-E, Sta. SEY.783: Ile Desnoeuvs, Northern slope of platform; 6°12'S 53°02'E; reef slope; depth 12 m; scuba diving; on crinoid host; 2.i.1993; leg. C.H.J.M. Fransen.— RMNH D 42849: 1 specimen cl. 0.63. NIOP-E, Sta. SEY.774: Desroches Atoll, SW rim; 5°43'S 53°37'E; outer reef slope; depth 12 m; scuba diving; on crinoid; 30.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42850: 1 specimen cl. 0.68. NIOP-E, Sta. SEY.788: Alphonse Atoll, SE part of lagoon; 7°02'S 52°44'E; reef flat and patch reef; depth 5 m; scuba diving; on crinoid together with *Periclimenes ceratophthalmus* Borradaile, 1915; 4/6.i.1993; leg. C.H.J.M. Fransen.

Distribution.— Widely distributed in the tropical Indo-West Pacific; associated with crinoids. This is the first record of the species from the Seychelles.

Propontonia pellucida Bruce, 1969
(Pl. 4F)

Restricted synonymy:

Propontonia pellucida Bruce, 1969a: 141-151, figs. 1-5; Bruce, 1976a: 36-37; Bruce, 1976b: 149; Bruce, 1976e: 483-484; Bruce, 1978a: 132; Bruce, 1981b: 23.

Material.— RMNH D 42988: ovigerous ♀ cl. 3.25. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 11 m; scuba diving; on *Lobophytum crassum* Von Marenzeller, 1886 (det. L.P. van Ofwegen) (collected); leg. C.H.J.M. Fransen; 21.xii.1992.— RMNH D 42989: 2 ovigerous ♀♀ cl. 3.06, 3.75; 7 ♂♂ cl. 2.69-3.31; photo 13/11-13. NIOP-E, Sta. SEY.735: La Digue Island, S coast; 4°23'S 55°50'E; rocky shore; depth 10 m; scuba diving; on *Lobophytum* sp.; leg. C.H.J.M. Fransen; 23.xii.1992.

Distribution.— Known from the Amirantes (type-locality), Kenya, Zanzibar, Comores and the Great Barrier Reef (Queensland, Australia); associated with alcyonarians. It is now recorded for the first time from Bird Island and La Digue.

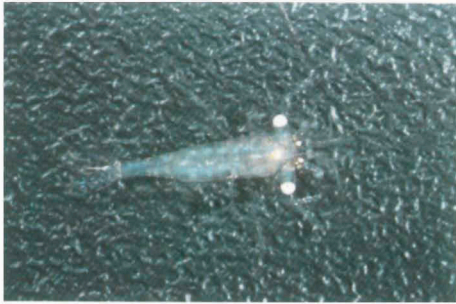
Vir orientalis (Dana, 1852)

Restricted synonymy:

Palaemonella orientalis Dana, 1852: 26; Dana, 1855: 12, pl. 38 fig. 4; Kemp, 1922: 131, figs. 9-11.

Vir orientalis; Holthuis, 1952: 30; Bruce, 1976a: 5; Bruce, 1976b: 95, 144; Bruce, 1979: 218; Bruce, 1981c: 79; Chace & Bruce, 1993: 64, 131-132.

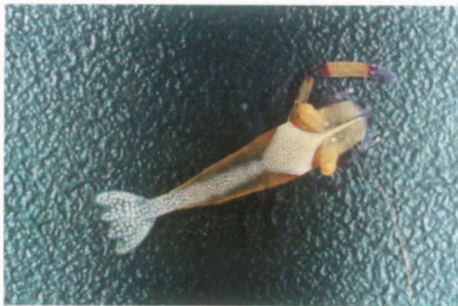
Material.— RMNH D 42804: ovigerous ♀ cl. 4.13; ♂ cl. 3.19. NIOP-E, Sta. SEY.618: Mahé, NE coast, North East Point; 04°35'S 55°28'E; intertidal to 12 m, reef flat, exposed reef slope with sparse coral cover merging into sandy bottom; diving; on *Physogyra lichtensteini* Edwards & Haime, 1851 (det. B.W. Hoeksema); 14.xii.1992.— RMNH D 42805: ovigerous ♀ cl. 5.00. NIOP-E, Sta. SEY.753: St Joseph Atoll, NW rim; 5°24'S 53°19'E; reef slope; depth 20 m; scuba diving; on *Physogyra lichtensteini* Edwards & Haime, 1851 (det. B.W. Hoeksema); 26.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42806: ♂ cl. 2.25. NIOP-E, Sta. SEY.723: Bird Island, off N coast; 3°42'S 55°12'E; coral reef, near drop-off; depth 20 m; scuba diving; on *Physogyra lichtensteini* Edwards & Haime, 1851 (det. B.W. Hoeksema); 21.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42807: 2 ovigerous ♀♀ cl.:3.63; 1 juv. cl. 1.06; photo 28/20-24.— RMNH D 42808: ♂ cl. 2.19. NIOP-E, Sta. SEY.788: Alphonse Atoll, SE part of lagoon; 7°02'S 52°44'E; reef flat and patch reefs, down to 8 m; scuba diving; depth 8 m; on *Physogyra lichtensteini* Edwards & Haime, 1851 (det. B.W. Hoeksema); 4/6.i.93; leg. C.H.J.M. Fransen.— RMNH D 42809: ovigerous ♀ cl.



A



B



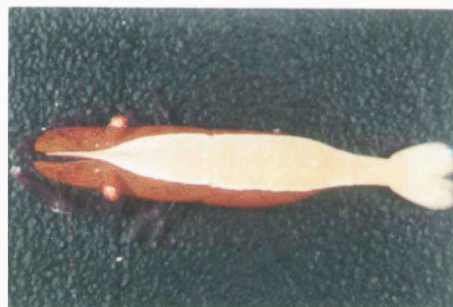
C



D

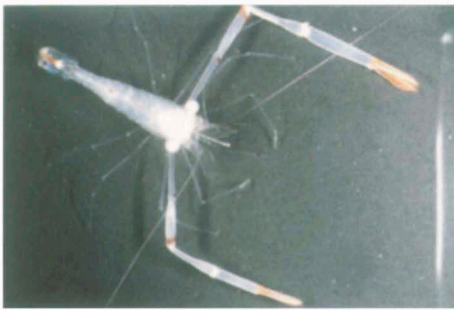


E



F

Plate 3. A, *Periclimenes difficilis* Bruce, 1976, cl. 1.06, Photo 13/4-6 (RMNH D 45492); B, *Periclimenes ? difficilis* Bruce, 1976, ovigerous ♀, cl. 1.69, Photo 5/4-7 (RMNH D 45482); C, *Periclimenes imperator* Bruce, 1967, ♀, cl. 2.06, Photo 17/27-31 (RMNH D 42858); D, *Periclimenes longirostris* (Borradaile, 1915), ♂, cl. 1.69, Photo 13/13-14 (RMNH D 45499); E, *Periclimenes psamathe* (De Man, 1902), ovigerous ♀, cl. 2.50, Photo 13/7-10 (RMNH D 42845); F, *Periclimenes soror* Nobili, 1904, ovigerous ♀, cl. 3.25, Photo 7/11-21 (RMNH D 42830).



A



B



C



D



E



F

Plate 4. A, *Periclimenes tenuipes* Borradaile, 1898, ♂, cl. 6.56, Photo 18/1-3 (RMNH D 42854); B, *Platypontonia hyotis* Hipeau-Jacquotte, 1971, ovigerous ♀, cl. 5.00, Photo 31/26-36 (RMNH D 42789); C, *Pontonia* spec. ♀, cl. 3.5, Photo 9/8-17 (RMNH D 42558); D, *Pontonides unciger* Calman, 1939, ♂, cl. 1.13, Photo 9/3-7 (RMNH D 42796); E, *Pontoniopsis comanthi* Borradaile, 1915, ovigerous ♀, cl. 1.63, Photo 27/9-22 (RMNH D 42799); F, *Propontonia pellucida* Bruce, 1969, ovigerous ♀, cl. 3.75, Photo 13/11-13 (RMNH D 42989).

3.75. NIOP-E, Sta. SEY.767: Poivre Atoll, N rim; 5°44'S 53°18'E; coral reef; depth 15 m; scuba diving; on *Physogyra lichtensteini* Edwards & Haime, 1851 (det. B.W. Hoeksema); 29/31.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42996: ♂ cl. 4.06. NIOP-E, Sta. SEY.748: E of Mahé, E coast of Sainte Anne Island; 4°37'S 55°31'E; depth 10 m; scuba diving; 25.xii.1992.— RMNH D 42888: 1 specimen cl. 1.50. NIOP-E, Sta. SEY.603: Mahé, SE coast, just S of Pointe au Sel and Ile Souris; 04°44'S 55°32'E; depth 1 m, sandy reef flat with isolated granitic rock and intertidal beachrock; snorkeling; between branches of *Pocillopora damicornis* (Linnaeus, 1758); 7.xii.1992; leg. C.H.J.M. Fransen.— RMNH D 42991: 1 juvenile cl. 1.88. NIOP-E, Sta. SEY.741: Mahé, SE coast, Anse Royale bay, off Ile Souris; 4°44'S 55°32'E; outside of reef barrier, depth 10 m; scuba diving; 24.xii.1992; leg. C.H.J.M. Fransen.

Distribution.— The species is distributed throughout the tropical Indo-West Pacific; associated with scleractinian corals. Recorded from Praslin by Bruce (1976b). Now recorded for the first time from Mahé, Bird Island and the Amirantes.

General discussion (table 2)

Distribution.—A total of 59 species in 25 genera were collected; 25 species are recorded for the first time from the Seychelles, which increases the known palaemonoid shrimp fauna to a total of 89 species. Only known from the western Indian Ocean are 17 species, of which 7 species have only been recorded from the Seychelles (the new species included). The knowledge on the distribution of many palaemonoid shrimps is rather incomplete. Species found endemic for the western Indian Ocean might (in the future) turn out to be wide-spread in the tropical Indo-West Pacific. The majority of the species known from the Seychelles (70) have a wide tropical Indo-West Pacific distribution.

Associations.—Many species in the group under study are known to associate with other invertebrates. Only 16 of the 89 species known from the Seychelles are found free-living. The following numbers of palaemonoid shrimp species from the Seychelles are found in association with: Porifera (8); Hydrozoa (2); Antipatharia (5); Alcyonaria (6); Gorgonaria (13); Actiniaria (3); Scleractinia (28); Corallimorpharia (1); Mollusca (11); Crinoidea (4); Echinoidea (4); Asteroidea (2); Holothuroidea (1); Ascidiacea (5).

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