

The Stomatopoda of New Caledonia and Chesterfield Islands

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ABSTRACT

Ten species of stomatopod Crustacea were previously known from New Caledonia. Intensive collections recently made in New Caledonia and the Chesterfield Islands by the centre ORSTOM at Nouméa as well as the collection preserved in the Muséum national d'Histoire naturelle, Paris reveal that 69 species representing 10 families and 31 genera inhabit these waters. One new family, six new genera, and 14 new species are herewith described.

RÉSUMÉ

Jusqu'à présent 10 espèces de Stomatopodes étaient connues de Nouvelle-Calédonie. Des récoltes intensives faites par le centre ORSTOM de Nouméa, ainsi que d'autres se trouvant dans les collections du Muséum national d'Histoire naturelle, à Paris, permettent de montrer que 69 espèces, appartenant à 10 familles et 31 genres, vivent dans les eaux de la Nouvelle-Calédonie et îles Chesterfield. Une famille, 6 genres et 14 espèces nouveaux sont décrits.

INTRODUCTION

An intensive survey of marine biotas was carried out recently in New Caledonia and the Chesterfield Islands by the centre ORSTOM de Nouméa resulting in a rich collection of stomatopods. The stomatopod fauna of New Caledonian waters was poorly known. BORRADAILE (1898) in his study on the stomatopods from the South Pacific included 6 species collected by Dr. WILLEY from New Caledonia, of which one, *Squilla multituberculata*, was a new species. GRAVIER (1930) studied the specimens collected by Mme PRUVOT from Ile des Pins in 1927 and described one new sub-species :

Gonodactylus demani var. *pruvotae* [= *Mesacturoides spinosocarinatus* (Fukuda, 1910)]. GRAVIER mentioned the presence of 6 species which, in fact, comprised only five species because his *Gonodactylus pulchellus* was incorrectly identified, but the present study correctly identifies it as *Haptosquilla trispinosa* (DANA, 1852).

The most recent study on New Caledonian adult stomatopods was that of MANNING and MICHEL (1973) who described a new species of *Harpiosquilla*. Until the present study only 10 species in all were known from the New Caledonian waters : two of them, *Parvisquilla multituberculata* and *Harpiosquilla intermedia* were described from New Caledonian specimens.

The present study reveals the presence of 69 species of stomatopod comprising 10 families and 31 genera from New Caledonian waters. One new family Alainosquillidae, six new genera : *Alainosquilla* of the family Alainosquillidae, *Heterosquillopsis* of the family Lysiosquillidae, *Paracoridon* of the family Coronididae, *Paralimopsis*, *Alimopsoides*, and *Neoanchisquilla* of the family Squillidae are described. Fourteen new species : *Eurysquilla crosnieri*, *Alainosquilla foresti*, *Pseudosquilla komatii*, *P. richeri*, *Paracoridon johrae*, *Heterosquillopsis danielae*, *Pullosquilla pardus*, *Alima guinotae*, *Paralimopsis carinatus*, *Alimopsoides tuberculatus*, *Clorida caledonica*, *C. inflata*, *Lenisquilla pentadactyla* and *Neoanchisquilla semblatae* are described and figured. Four genera : *Gonodactylus* Berthold, 1827 ; *Odontodactylus* Bigelow, 1893 ; *Pseudosquilla* Dana, 1852 ; and *Clorida* Eydoux & Souleyet, 1842 are well represented. Two monotypic genera : *Eurysquilloides* Manning, 1963, *Echinosquilla* Manning, 1969 are represented. *Carinosquilla thailandensis* Naiyanetr, 1983 is regarded as conspecific with *Carinosquilla carinata* (Serène, 1950) as sufficient specimens showed the existence of variations within the species. *Clorida malaccensis* var. *moluccensis* Moosa, 1973, once doubtfully regarded as conspecific with *C. malaccensis* s.s., is herewith established as a distinct species, as several specimens of both species show clear morphological differences.

Two species of *Gonodactylus* : *G. affinis* and *G. falcatus* are already known to host the gastropod *Caledoniella montrouzieri*. The presence of this gastropod in *G. falcatus* confirms its association.

The specimens were collected mostly by dredges and trawl in water deeper than 5 metres. Species living in shallower water are very poorly represented. Therefore, most of the intertidal species in this study are from the old collections preserved in the Muséum national d'Histoire naturelle, Paris.

To indicate the richness of the New Caledonian stomatopod fauna, the specimens collected from New Caledonian waters preserved in the Muséum national d'Histoire naturelle, Paris, and also species cited in the literature are also included in this study.

The synonymy in this study is not intended to be complete. Original papers are included whenever available and papers regarded as important contributions are also included. The distribution cited as New Caledonian waters includes the Chesterfield Islands as well. Style of description as well as indices will follow that of MANNING (1969 a) and his later works, so as to have a uniform style.

The specimens deposited in the Muséum national d'Histoire naturelle, Paris are catalogued under MNHN Sto, and those deposited in the Centre for Oceanological Research and Development, Jakarta, Indonesia (formerly National Institute of Oceanology) are catalogued under LON. S.

I would like to express my deep acknowledgement to Dr. Alain CROSNIER who encouraged me to come and study the material in Paris ; to Prof. Jacques FOREST, Mrs. Michèle de SAINT LAURENT for their invaluable advice. I express my deep gratitude to Dr. R. B. MANNING for his comments and corrections of the manuscript ; and to Dr. Danièle GUINOT, Mrs. Josette SEMBLAT and Ms. Danièle DONDON who helped considerably in the literature as well as in the preparation of specimens ; and to Mr. Maurice GAILLARD (Figures 1, 2, 3, 4, 5, 6, 8, 9, 10, 13) and Ms. Françoise THEUREAU (Figures 7, 12, 14, 15) for the preparation of drawings.

The station numbers relates to the dredgings in New Caledonian lagoons (RICHER de FORGES, 1991).

SYSTEMATIC ACCOUNT

Superfamily GONODACTYLOIDEA Giesbrecht, 1910

Family EURYSQUILLIDAE Manning, 1977

Coronidopsis bicuspis Hansen, 1926

Coronidopsis bicuspis Hansen, 1926 : 19, pl. 1, figs 7 a-g. – MANNING & GARCIA, 1982 : 595, fig. 1 c, d. – MOOSA & CLEVA, 1984 a : 422, fig. 1 b, c ; 1984 b : 74.

Coronidopsis andamanensis Makarov, 1976 : 1909, figs 1, 2. – MANNING & GARCIA, 1982 : 594, fig. 1 a, b.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 318 (1 spec.) (MNHN Sto 1225).

Size of specimen : Female TL 28 mm.

Depth range in New Caledonia : 75 m.

REMARKS. – The specimen resembles Figure 1 a of MANNING and GARCIA (1982) and Figure 1 b of MOOSA and CLEVA (1984 a) in the form of the ventral surface of the telson and in having only one unarmed carina on either side of the anal pore. Both basal prolongations of the uropod are missing.

DISTRIBUTION. – *Coronidopsis bicuspis* has been reported from several localities extending from the Seychelles (MOOSA & CLEVA, 1984 a) to the Andaman Sea (MAKAROV, 1976 ; MANNING & GARCIA, 1982, both as *C. andamanensis*), and Indonesia (HANSEN, 1926 ; MOOSA & CLEVA, 1984 b). The species inhabits mud and shelly grit bottom in depths from 60 to 90 m. The presence of this species in New Caledonian waters is a new record for the region and extends its geographical distribution eastwards.

Eurysquilla crosnieri sp. nov.

(Fig. 1)

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : 1 ♂ 38 mm holotype, stn DW 830, 105-110 m (MNHN Sto 1301).

DESCRIPTION. – Body smooth, polished. Eyes large, extending beyond end of first segment of antennular peduncle ; cornea bilobed, set transversely on stalk. Corneal Index 292. Ocular scales broad, separate. Anterior margin of ophthalmic somite triangular. Antennular peduncle shorter than carapace length, dorsal process of antennular somite visible laterally, the rostral plate is sharp, anterolaterally directed spines. Antennal scale short, less than half carapace length ; antennal protopod with 1 ventral papilla. Rostral plate broader than long, with triangular deflexed tip, lacking apical spine. Carapace smooth, lacking dorsal carinae except for reflected marginal carinae on posterior plates ; anterolateral angles round and unarmed, extending beyond base of rostral plate. Raptorial dactylus armed with 5 teeth, outer margin of dactylus bearing basal notch ; propodus fully pectinated, inner margin with 3 movable spines situated proximally ; dorsal ridge of carpus ending in blunt tooth, ornamented with mesial setae. Mandibular palp and 5 epipods present. Exposed thoracic somites lacking carinae or spines. Walking legs armed with ventrally directed basal spine on first 2 legs, and with blunt tooth on the 3rd. Abdomen without submedian carinae or spines on first 5 somites ; 5th somite with low intermediate carinae overhanging longitudinal groove, lateral carinae not marked, replaced by longitudinal elevation ; 6th somite with 4 pairs of carinae : submedians ending in spine, laterals flattened and each ending in 2 spines, laterals and marginals ending in sharp spine ; no spine or tooth present in front of uropod articulation. Telson broader than long, armed with 3 pairs of marginal teeth,

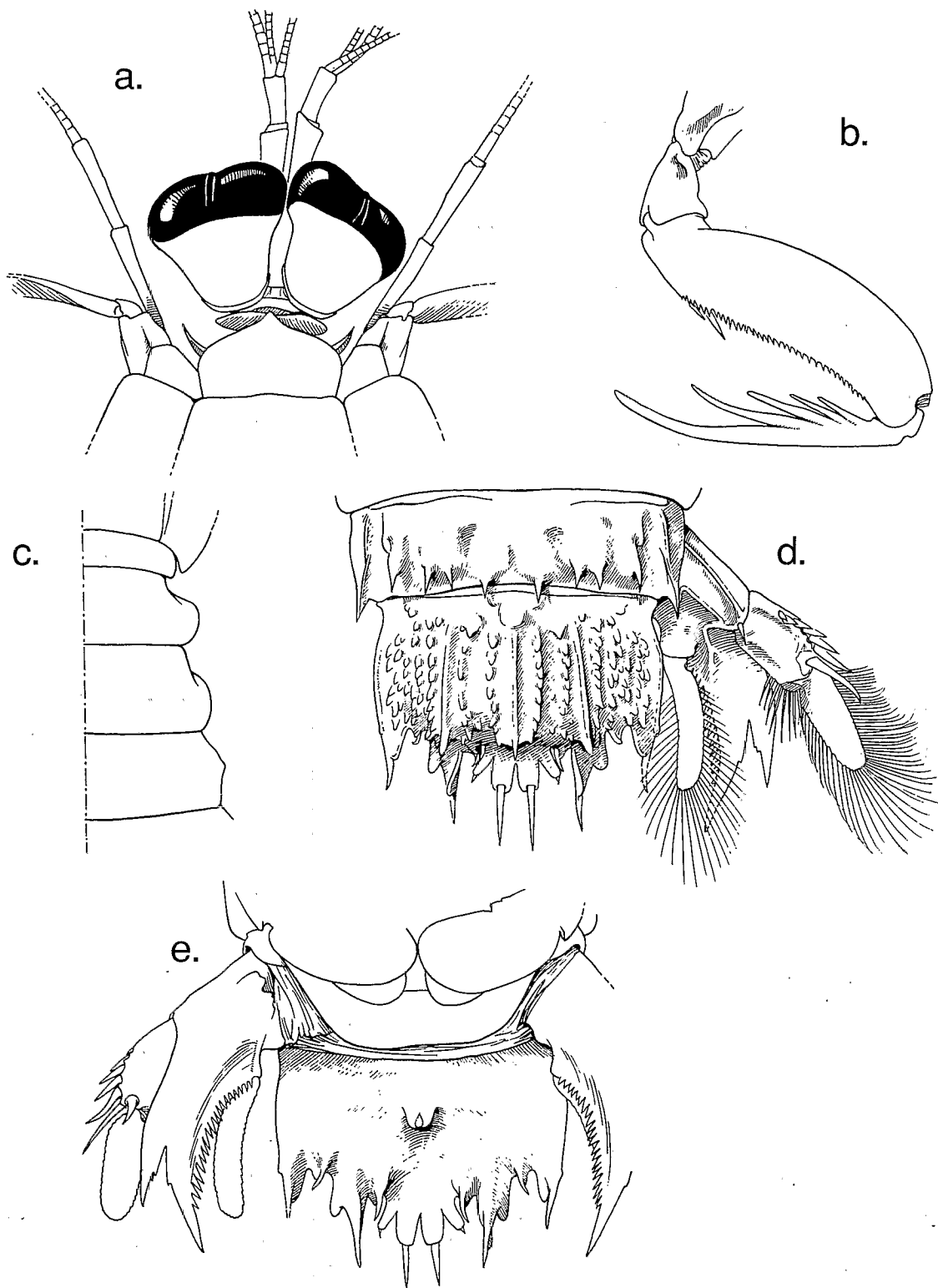


Fig. 1. — *Eurysquilla crosnieri* sp. nov. holotype : male TL 38 mm : a. anterior part of body ; b. carpus, propodus, and dactylus of raptorial claw ; c. 5th to 8th thoracic somites (one side only) ; d. 6th abdominal somite, telson and uropod (dorsal view) ; e. 6th abdominal somite, telson and uropod (ventral view, setae omitted).

submedians with movable apices ; dorsal surface as illustrated ; submedian denticles absent, intermediates 2 and laterals 1 ; ventral surface without post-anal keel. Proximal segment of uropodal exopod as long as or slightly shorter than distal segment, outer margin armed with 7 movable spines, last extending almost to mid-length of distal segment. Basal prolongation of uropod broad, inner spine longer than outer ; outer spine with 2 small teeth on inner margin ; inner spine with 1 tooth on outer margin and 20-22 spines on inner margin.

Colour : The colour of the preserved specimen has completely faded.

Measurements : Male holotype : TL 38 mm ; carapace length 7.9 mm ; eye length 2.4 mm, cornea width 2.7 mm ; rostral plate : length 3.4 mm, width 3.6 mm ; 5th abdominal somite width 8.7 mm ; telson : length 3.9 mm, width 7.6 mm.

REMARKS. – *Eurysquilla crosnieri* sp. nov., is the 4th known species of *Eurysquilla* from the Indo-West Pacific region. It shares close resemblances only to *E. pacifica* Manning, 1975 b, in having a broad basal prolongation of the uropod, an unarmed rostral plate, the form of the telson, and the ornamentation of the ventral surface of the telson. The two differ in : 1, the shape of the eyes ; 2, the ornamentation on the dorsal surface of the 6th abdominal somite ; 3, the ornamentation on the dorsal surface of the telson (more granulated in *crosnieri* than in *pacifica*). The dactyli of the raptorial claws cannot be compared, since the dactyli of the type of *E. pacifica* are missing. The other species of *Eurysquilla* having a broad basal prolongation of uropod are : *E. maiaguesensis* (Bigelow, 1901), *E. chacei* Manning, 1969 a, and *E. holthuisi* Manning, 1969 a ; all are the western Atlantic species. They differ from *E. crosnieri* in the form of the rostral plate, the ornamentation on the dorsal surface of the 6th abdominal somite and on the dorsal surface of the telson.

Etymology : The specific name *crosnieri* is dedicated to Dr. Alain CROSNIER who is in charge of scientific preparation for the study of the present material.

Eurysquilloides sibogae (Hansen, 1926)

Squilla sibogae Hansen, 1926 : 15, pl. 1, figs 6 a-c.

Eurysquilloides sibogae - MAKAROV, 1978 : 185. – MOOSA & CLEVA, 1984 b : 74. – MOOSA, 1985 : 377.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 84. – Stn DW 99. – Stn DW 100. – Stn DW 101 b. – Stn DW 156. – Stn DW 206. – Stn DW 225. – Stn DW 539 (1 spec.). – Stn DW 1046. *BIOCAL* stn CP 105 (1 spec.). – *Other material* : New Caledonia, 175-250 m (1 spec.). – *Chesterfield Islands* - *MUSORSTOM 5* : stn DW 276 (1 spec.). – Stn DW 283 (2 specs.). – Stn DW 288 (1 spec.). – Stn DW 289 (1 spec.). The specimens are catalogued under MNHN Stn 1226 -1231, 1238.

Size of specimens : Males TL 23 - 34 mm, females 26 - 35 mm.

Depth range in New Caledonia : 175 - 335 m.

REMARKS. – *Eurysquilloides sibogae* exhibits variations in the number of teeth on the raptorial dactylus : 8 - 9 (in HANSEN's type specimen), and 9 in all the specimens of MOOSA and CLEVA (1984 b) collected from the Makassar Strait, Indonesia. The New Caledonian specimens have 9 - 11 teeth (only one of the specimens has both claws armed with 11 teeth, the others are armed with 9 teeth).

DISTRIBUTION. – *Eurysquilloides sibogae* was only known from Indonesia (HANSEN, 1926 ; MOOSA & CLEVA, 1984 b), Tonkin Bay, Vietnam (MAKAROV, 1978), and the Philippines (MOOSA, 1985) taken from depths between 22 to 209 m. The present record is new for New Caledonian waters. It extends the species' geographical distribution eastwards into deeper water (335 m).

Manningia australiensis Manning, 1970

Manningia australiensis Manning, 1970 : 78, fig. 1.

MATERIAL EXAMINED. — New Caledonia - *Lagoon* : stn DW 692 (1 spec.). — Chesterfield Islands - CHALCAL 1 : stn D 16 (2 specs.), the specimens are catalogued under MNHN Sto 1232 - 1233.

Size of specimens : Male TL 21 mm, females TL 20 - 21 mm.

Depth range in New Caledonia : 44 - 67 m.

REMARKS. — The specimens agree in most details with the description and figure of MANNING (1970). The raptorial dactylus is armed with 4 teeth, and 2 teeth are present on the upper margin of the raptorial carpus. The spinulation of telson and uropod varies slightly from the type specimen : accessory median carinae of telson armed with 2 - 4 spines instead of 4 - 5 ; outer margin of the proximal segment of uropodal exopod armed with 6 - 7 movable spines, as opposed to 7 in the type ; the basal prolongation of the uropod is armed with 8 - 10 fixed spines on inner margin rather than 9 - 10 as in the type.

DISTRIBUTION. — *Manningia australiensis* was only known from Swains Reef, Queensland, Australia in depths of 63 to 72 m. The present record is the second known and a new record for New Caledonian waters where the specimens were taken on sandy bottoms with *Halimeda* and red algae.

Family GONODACTYLIDAE Giesbrecht, 1910

Gonodactylus affinis De Man, 1902

Gonodactylus chiragra var. *affinis* de Man, 1902 : 912.

Gonodactylus chiragra var. *confinis* de Man, 1902 : 912, pl. 27, fig. 66.

Gonodactylus affinis - MANNING, 1978 c : 2-4, fig. 1 (synonymy). — MOOSA & CLEVA, 1984 a : 423, fig. 2 a-g.

MATERIAL EXAMINED. — New Caledonia - *Lagoon* : stn DW 200 (2 specs). — Stn DW 241 (1 spec.). — Stn DW 437 (1 spec.). — Stn DW 445 (4 specs.). — Stn DW 446. — Stn DW 452 (1 spec.). — Stn DW 453 (1 spec.). — Stn DW 455 (7 specs). — Stn DW 458 (1 spec.). — Stn DW 459 (1 spec.). — Stn DW 460 (1 spec.). — Stn DW 463 (3 specs). — Stn DW 464 (8 specs). — Stn DW 465 (1 spec.). — Stn DW 474 (3 specs). — Stn DW 482 (1 spec.). — Stn DW 518 (6 specs). — Stn DW 520 (1 spec.). — Stn DW 522 (3 specs). — Stn DW 542 (1 spec.). — Stn DW 616 (1 spec.). — Stn DW 619 (4 specs). — Stn DW 623 (4 specs). — Stn DW 625 (2 specs). — Stn DW 631 (3 specs). — Stn DW 632 (1 spec.). — Stn DW 639 (1 spec.). — Stn DW 642 (1 spec.). — Stn DW 644 (1 spec.). — Stn DW 648 (2 specs). — Stn DW 650 (1 spec.). — Stn DW 657 (2 specs). — Stn DW 659 (1 spec.). — Stn DW 661 (2 specs). — Stn DW 663 (2 specs). — Stn DW 664. — Stn DW 677 (1 spec.). — Stn DW 693 (2 specs). — Stn DW 707 (1 spec.). — Stn DW 710 (3 specs). — Stn DW 713 (1 spec.). — Stn DW 714 (1 spec.). — Stn DW 715 (1 spec.). — Stn DW 724 (1 spec.). — Stn DW 739 (1 spec.). — Stn DW 755 (1 spec.). — Stn DW 772 (1 spec.). — Stn DW 778 (1 spec.). — Stn DW 780 (1 spec.). — Stn DW 787 (1 spec.). — Stn DW 788. — Stn DW 789 (2 specs). — Stn DW 800 (2 specs). — Stn DW 808 (1 spec.). — Stn DW 834 (3 specs). — Stn DW 879. — Stn DW 1105. — Stn DW 1140. The specimens are catalogued under MNHN Sto 1693, 1696, 1701, 1703, 1705, 1708, 1710, 1712, 1717, 1719, 1727, 1731, 1732, 1735-1736, 1739-1741, 1744, 1746, 1748, 1750-1751, 1755-1761, 1763, 1765, 1768, 1771-1773, 1775, 1778, 1780-1783, 1785, 1789-1790, 1795-1797, 1801.

Size of specimens : Males TL 17 - 38 mm, females 17 - 28 mm and juveniles of both sexes of TL less than 17 mm.

Depth range in New Caledonia : 13-80 m.

REMARKS. – The specimens display the polymorphic dorsal ornamentation of the telson as mentioned by MOOSA & CLEVA (1984 a). Some of the specimens host a gastropod, *Caledoniella montrouzieri* Souverbie, 1869, with egg sacs attached to the pleopods.

DISTRIBUTION. – *Gonodactylus affinis* has been reported from scattered localities in East African waters, the Red Sea, the Maldives, Thailand, the South China Sea, Indonesia, and now from New Caledonian waters. The present record is new for New Caledonian waters.

Gonodactylus anancyrus Borradaile, 1900

Gonodactylus anancyrus Borradaile, 1900 : 401, 402

REMARKS. – The species is not represented in the collection. BORRADAILE (1900) recognized 5 varieties of *Gonodactylus chiragra* of which he called variety "B" *anancyrus* having outer angles of rostrum acutely pointed and keels of submedian telson-spines converging forward. Two of BORRADAILE's specimens were collected from Lifu, Loyalty Islands. A specimen identified by R. Ph. DOLLFUS as *Gonodactylus chiragra* var. *anancyrus* collected from the stomach of *Epinephelus merra* C.º. from Madagascar (MNHN Sto 86) belongs to *Gonodactylus chiragra*. The taxonomic status of this species needs to be confirmed.

Gonodactylus botti Manning, 1975

Gonodactylus botti Manning, 1975 : 289, fig. 1. – MANNING & LEWINSOHN, 1986 : 5, fig. 3.

MATERIAL EXAMINED. – Chesterfield Islands - CHALCAL 1 : stn D 47 (1 spec.) MNHN Sto 1234

Size of specimen : Female TL 23 mm

Depth range in New Caledonia : 70 m.

REMARKS. – The specimen has low and broad ocular scales and inflated carinae on the 6th abdominal somite and telson. The submedian carinae on the 6th abdominal somite end posteriorly in a tubercle, not in a spine ; the intermediates end in a tubercle or a blunt short, tooth-like spine. The median carina of the telson is very much inflated and without any trace or indication of an accessory median carina and is not armed posteriorly ; a small smooth ring resembling a smooth tubercle is present at the posterior margin ; it is inconspicuous in low magnification. The basal prolongation of the uropod lacks a distinct tubercle on its inner margin.

Gonodactylus botti is most similar to *G. incipiens* Lanchester, 1903, and *G. choprai* Manning, 1967 c, in having an inflated median carina on the telson, but both those species have small, erect ocular scales instead of the broad and large as in *G. botti* (see MANNING, 1967 c, 1971 a).

DISTRIBUTION. – *Gonodactylus botti* has been reported from Jakarta Bay, Indonesia and the Red Sea (MANNING, 1975 a, MANNING & LEWINSOHN, 1986) where it was collected from the intertidal zone at a depth of 0.5 m. The present record extends its range eastwards and into deeper water (70 m). It is a new record for New Caledonian waters.

Gonodactylus chiragra (Fabricius, 1781)

Gonodactylus chiragra - BORRADAILE, 1898 : 34, pl. 5, fig. 8. – KEMP, 1913 : 155, pl. 9, fig. 107 (synonymy). – GRAVIER, 1930 : 214 (part).

MATERIAL EXAMINED. – New Caledonia : Touaorou flat (2 specs). – Loyalty Island, intertidal (1 spec.). – **Other materials** : Ile des Pins, 1 ♂ TL 27 mm and 1 juvenile, coll. Mme PRUVOT, 1927, det. Ch. GRAVIER, 1929 (MNHN Sto 40). – Loyalty Island, coral reefs at Lifu, 1 ♂ TL 17 mm, coll. Dr. S. COLLIN, 1914, (MNHN Sto 73). – 1 broken specimen from New Caledonia without catalogue number. The specimens are catalogued under MNHN Sto 1888-1889.

Size of specimens : Males TL 17 - 52 mm, females TL 47 - 74 mm

REMARKS. – The specimens collected by Mme PRUVOT from Ile des Pins, New Caledonia and identified as *Gonodactylus chiragra* by Ch. GRAVIER (1930) belong to several species : *G. chiragra*, *G. glabrous*, *G. smithii*, *G. viridis* and *Mesacturoides spinosocarinatus*. The specimens are catalogued under five different numbers and are verified in this work. *G. chiragra* is characterized by having an anchor-shaped median carina on the telson, wide and separated ocular scales, and a rostral plate with acute anterolateral angles.

DISTRIBUTION. – *Gonodactylus chiragra* has a wide distribution in the shallow waters of the tropical Indo-West Pacific region. BORRADAILE's (1898) record of this species in New Caledonian waters needs verification. In New Caledonian waters the species has been reported from Lifu, Loyalty Island, Ile des Pins (BORRADAILE, 1898 ; GRAVIER, 1930).

Gonodactylus falcatus (Forsk., 1775)

Gonodactylus falcatus - MANNING, 1978 : 4, figs 1, 2 a, 9. – MANNING & LEWINSOHN, 1986 : 7-10.

MATERIAL EXAMINED. – New Caledonia - **Lagoon** : stn DW 5 (1 spec.). – Stn DW 84 (1 spec.). – Stn DW 99 (1 spec.). – Stn DW 101 bis (3 specs). – Stn DW 156 (1 spec.). – Stn DW 225 (3 specs). – Stn DW 830. – Stn DW 1046 (4 specs.). – **Bay St. Vincent** : (1 spec.). – Loyalty Island, Ouvea. – (2 specs). **Chesterfield Islands - CORAIL 2** : stn DW 46 (3 specs). – Stn DW 163 (1 spec.). **Other materials** : Nouméa, Ouemo flat (2 specs) – Ricaudy flat (3 specs). – 3 specs identified by S. KEMP as *Gonodactylus glaber* (MNHN 166). – New Caledonia, 1 bad condition specimen, identified by H. J. HANSEN as *Gonodactylus glaber* (MNHN Sto 169), 1 ♀ TL 56, identified by Th. MONOD (MNHN Sto 1174). The specimens are catalogued under MNHN Sto 1230, 1235-1237, 1239-1251, 1901-1904.

Size of specimens : Males TL 29 - 45 mm, females TL 27 - 57 mm.

Depth range in New Caledonia : 6 - 23 m.

REMARKS. – MANNING and REAKA (1981 a) stated that it is extremely difficult to distinguish *Gonodactylus aloha* from *G. falcatus* on morphological grounds alone. The present specimens are identified as *G. falcatus* based mostly on the presence of the median carinule on the 6th abdominal somite on all the specimens. This carinule in some specimens is well marked while in other specimens it is less marked. Other characters such as the rostral plate, the form of telson, and the knob on the dorsal surface of the telson, cannot be very easily interpreted as distinguishing characters. *G. aloha* is at present regarded as an endemic species in Hawaiian waters but also occasionally bears a low median carinule on the 6th abdominal somite (KINZIE, 1968, as *G. falcatus* ; MANNING & REAKA, 1981). Two of the specimens (1 ♂ TL 28 and 1 ♀ TL 47) carried the gastropod mollusc, *Caledoniella montrouzieri* Soubervie, 1869. BUDIMAN and MOOSA (1983) reported the presence of *C. montrouzieri* in the Indonesian stomatopod fauna. Among the *falcatus* Group of *Gonodactylus*, two species are known to host the gastropod : *G. glabrous* and *G. mutatus*, while the reports on *G. falcatus* needed confirmation (BUDIMAN & MOOSA, 1983). The present record confirms the presence of this gastropod on *G. falcatus*, adding a new host to the list. The colouration of the old specimens (MNHN Sto 166, 169 & 1174) has faded. The background colouration of some specimens is no longer marked, the fresher specimens have bluish green colouration in panther-like patterns. The basal inflated part of the raptorial dactylus is either purple or whitish.

DISTRIBUTION. — The geographical distribution of *Gonodactylus falcatus*, once considered a widely distributed species, needs verification. Recent authors have recorded it with certainty only from the Red Sea (MANNING, 1978 a) in 0 - 10 m waters, and mostly inhabiting rough bottom habitat (MANNING & LEWINSOHN, 1986). Observations on specimens in the Muséum national d'Histoire naturelle, Paris identified as *Gonodactylus glaber* by H. J. HANSEN, S. KEMP, Ch. GRAVIER and R. Ph. DOLLFUS reveal that the species also occurs in Madagascar and Mauritius, the latter was also mentioned by MOOSA (1984).

The present record, new for New Caledonian waters, indicates that *G. falcatus* has a wide distribution in the tropical Indo-West Pacific region living in 0 to 23 m depths.

Gonodactylus glabrous Brooks, 1886

Gonodactylus glabrous Brooks, 1886 : 62, pl. 14, fig. 5 ; pl. 15, figs 7, 9. — MANNING, 1978 a : 5, figs 3, 10.

Gonodactylus chiragra - GRAVIER, 1930 : 214 (part)

MATERIAL EXAMINED. — New Caledonia -Lagoon : stn DW 100 (1 spec.). — Stn DW 102 (2 specs.). — Stn DW 206 (1 spec.). — Stn DW 255 (4 specs.). — Stn DW 283 (1 spec.). — Stn DW 921 (1 spec.). — Stn DW 977 (1 spec.). — Stn DW 1046 (4 specs.). — Stn DW 1047 (1 spec.). — Chesterfield Islands - CORAIL 2 : stn DW 88 (1 spec.). — Stn DW 94 (1 spec.). The specimens are catalogued under MNHN Sto 1242, 1245, 1250-1260 and LON S.2550. —Other material : Ile des Pins, 1 ♂ TL 20 mm, coll. Mme. PRUVOT, 1927, det. by Ch. GRAVIER, 1929 as *Gonodactylus chiragra*.

Size of specimens : Males TL 23 - 42 mm, females TL 23 - 44 mm.

Depth range in New Caledonia : 6 - 19 m

REMARKS. — The specimens are identified as *Gonodactylus glabrous* Brooks, 1886, as they have no median carinule on the 6th abdominal somite and relatively sharper carinae on the 6th abdominal somite and telson. One of the specimens having a slightly wider median carina on the telson also is placed here, since there is no sign of the median carinule. It is not easy to distinguish preserved specimens of *G. glabrous* from *G. mutatus* using only morphological characters. MANNING (1978 a) suspected that *G. mutatus* is smaller than *G. glabrous* and has more inflated carinae than the latter. The above specimens are of the same average size as the *mutatus* material in MANNING's work (1978 a), and all have sharp and narrow carinae, especially on the telson. They are therefore identified as *G. glabrous* Brooks, 1886. A male specimen of TL 20 mm (MNHN Sto 21) in the collection of the Paris Museum collected from Ile des Pins, New Caledonia by Mme PRUVOT in 1927 and identified by Ch. GRAVIER in 1929 as *Gonodactylus chiragra* (GRAVIER, 1930) is herewith identified as *G. glabrous*, owing to the presence of 2 pairs of dorsal carinae lateral to the median carina of the telson, all of which are sharp, and the median and accessory medians have a posterior spine. One of the specimens hosts a gastropod, *Caledoniella montrouzieri* Souverbie, 1869, whose existence in *G. glabrous* has been reported by BUDIMAN and MOOSA (1983).

DISTRIBUTION. — *Gonodactylus glabrous* was known with certainty only from the Philippines and Indonesia without information on its depth range and habitat (MANNING, 1978 a). The specimens of BUDIMAN and MOOSA (1983) were collected from coral reefs in depths less than 3 m (not mentioned by the authors). The present specimens were collected in depths ranging from 6 to 53 m, living on a bottom of corals and calcareous algae. The present record is new for New Caledonian waters. In the collection of the Muséum national d'Histoire naturelle, Paris, a specimen (Male, TL 50 mm MNHN Sto 168) from Poulo Condore, Vietnam collected by DAWYDOFF in 1930 identified by Ch. GRAVIER in 1932 ; 1 ♂ TL 26 mm (MNHN Sto 90) from Djibouti, Red Sea collected by H. COUTIERE, 1897 identified by G. NOBILI in 1905 and 2 specimens (MNHN Sto 172) from Soulou (the Philippines ?) collected in 1885 all belong to *Gonodactylus glabrous* (formerly identified as *G. chiragra*). These

G. glabrous has a wide geographical distribution in the Indo-West Pacific region – from Djibouti, Red Sea to Vietnam, Indonesia, the Philippines and now New Caledonian waters.

Gonodactylus incipiens Lanchester, 1903

Gonodactylus chiragra var. *incipiens a* Lanchester, 1903 : 451, pl. 23, fig. 10.

not *Gonodactylus chiragra* var. *incipiens b* Lanchester, 1903 : 451, pl. 23, fig. 11.

Gonodactylus incipiens - MANNING, 1967 c : 18, fig. 7. (synonymy).

Gonodactylus childi Manning, 1971 c : 75, fig. 1.

MATERIAL EXAMINED. – New Caledonia - Lagoon : stn DW 308 (1 spec.). – Stn DW 338 (1 spec.). – Stn DW 342 (1 spec.). – Stn DW 351 (3 specs.). – Stn DW 364 (2 specs.). – Stn DW 373 (1 spec.). – Stn DW 377 (2 specs.). – Stn DW 379 (3 specs.). – Stn DW 382 (1 spec.). – Stn DW 391 (2 specs.). – Stn DW 392 (4 specs.). – Stn DW 409 (3 specs.). – Stn DW 412 (2 specs.). – Stn DW 414 (1 spec.). – Stn DW 416 (1 spec.). – Stn DW 425 (3 specs.). – Stn DW 426 (1 spec.). – Stn DW 473 (1 spec.). – Stn DW 522 (3 specs.). – Stn DW 552 (1 spec.). – Stn DW 560 (1 spec.). – Stn DW 563 (1 spec.). – Stn DW 569 (1 spec.). – Stn DW 586 (1 spec.). – Stn DW 597 (1 spec.). – Stn DW 600 (1 spec.). – Stn DW 607 (2 specs.). – Stn DW 613 (3 specs.). – Stn DW 620 (1 spec.). – Stn DW 623 (2 specs.). – Stn DW 634 (3 specs.). – Stn DW 635 (1 spec.). – Stn DW 651 (2 specs.). – Stn DW 671 (4 specs.). – Stn DW 686 (1 spec.). – Stn DW 697 (1 spec.). – Stn DW 735 (3 specs.). – Stn DW 747 (1 spec.). – Stn DW 855 (3 specs.). – Chesterfield Islands - CORAIL 2 : stn DW 1 (2 specs.). – Stn DW 2 (2 specs.). – Stn DW 3 (1 spec.). – Stn DW 4 (2 specs.). – Stn DW 8 (2 specs.). – Stn DW 9 (4 specs.). – Stn DW 10 (2 specs.). – Stn DW 18 (11 specs.). – Stn DW 24 (1 spec.). – Stn DW 26 (1 spec.). – Stn DW 38 (2 specs.). – Stn DW 58 (2 specs.). – Stn DW 64 (1 spec.). – Stn DW 84 (2 specs.). – Stn DW 92 (15 specs.). – Stn DW 94 (1 spec.). – Stn DW 96 (1 spec.). – Stn DW 102 (3 specs.). – Stn DW 105 (3 specs.). – Stn DW 106 (1 spec.). – Stn DW 107 (1 spec.). – Stn DW 108 (1 spec.). – Stn DW 113 (7 specs.). – Stn DW 114 (1 spec.). – Stn DW 116 (1 spec.). – Stn DW 134 (1 spec.). – Stn DW 164 (1 spec.). – Stn DW 165 (1 spec.). – Reynart Island (1 spec.). – CHALCAL 1 : stn D 7 (1 spec.). – Stn D 8 (2 specs.). – Stn D 9 (1 spec.). – Stn CP 15 (2 specs.). – Stn D 16 (1 spec.). – Stn D 18 (2 specs.). – Stn D 25 (1 spec.). – Stn D 40 (1 spec.). – Stn D 46 (1 spec.). – Stn D 47 (1 spec.). – Stn D 50 (2 specs.). – Stn D 52 (1 spec.). – Stn D 57 (1 spec.). – MUSORSTOM 5 : stn DW 264 (1 spec.). The specimens are catalogued under MNHN Stn 1692, 1694-1695, 1697-1700, 1702-1704, 1706-1707, 1709, 1711, 1713-1718, 1720-1726, 1728, 1730, 1733-1734, 1736-1738, 1743, 1745, 1749, 1752-1754, 1761-1762, 1766-1767, 1769, 1770, 1779, 1787-1788, 1791-1792, 1794, 1798-1799, 1802-1824, 1826-1828, 1830-1832, 1891-1892.

Size of specimens : Males TL 17 - 32 mm, females TL 17 - 36 mm, and juveniles

Depth range in New Caledonia : 8 - 80 m. The presence of this species in stn DW 114 of 217 m depth should be considered with caution, it was probably collected from shallower depth while the gear was hauled.

REMARKS. – The presence of a good series of specimens representing various sizes and forms reveals that *Gonodactylus incipiens* exhibits polymorphism. The dorsal ornamentation of the telson shows variability similar to that of *Gonodactylus affinis* de Man, 1902, as figured by MOOSA & CLEVA (1984 a). LANCHESTER (1903) recognized 2 forms of *Gonodactylus chiragra* var. *incipiens* of which form b was based on DE MAN's figure (see MANNING, 1967 c for discussion). The characters observed in New Caledonian specimens are : 1. - median carina of the telson with or without a posterior spinule (mostly with a posterior spinule) ; 2. - accessory medians usually without a posterior spinule (in most of the specimens) but in some specimens (very few) a posterior spinule may occur on one carina or rarely on both ; 3. - accessory medians always curved posteriorly, touching the posterior base of the median carina, or fused with the median carina leaving only a small, elongate groove ; 4. - submedian carinae never with a posterior spinule which is always present in *Gonodactylus affinis* ; 5. - ocular scales erect, fused or in a very few specimens forming a notch, but never with separate scales. MANNING's figure (MANNING, 1967 c, fig. 7) seems to represent another extreme form having very inflated submedian carinae and lacking any sign of accessory medians on the telson. This was not observed in the New Caledonian specimens. MANNING (1971 c) described two new species of

Gonodactylus collected from Enewetak Atoll which he named *G. childi* and *G. micronesica*. Both have very close affinities with *G. incipiens* and are within the existing variations of the latter. Although MANNING (1971 c) does not specifically mention that his two new species have fused or separate ocular scales, in a letter (pers. comm.) he agreed that *G. childi* should be regarded as synonymous with *G. incipiens*.

DISTRIBUTION. – This is a new record for New Caledonia. The species has been reported from various localities in the Pacific Ocean and there is a single record from Ceylon in the Indian Ocean (TATTERSALL, 1906).

Gonodactylus mutatus Lanchester, 1903

Gonodactylus mutatus Lanchester, 1903 : 450. – MANNING, 1978 a : 7, figs 4, 5, 11 (synonymy).

MATERIAL EXAMINED. – New Caledonia : 1 ♂ TL 39 mm (MNHN Stn 89). – Noumea : Ricaudy flat (1 spec.) (MNHN Stn 1903).

REMARKS. – One male specimen bearing the label "Nouvelle-Calédonie" was identified as *Gonodactylus glaber* Brooks, without mentioning its source of identification. It is very close to *G. mutatus* as described and figured by MANNING (1978 a). The following characters justify regarding the specimen as *G. mutatus* : the rostral plate with a straight anterior margin and rounded angles ; the ocular scales small, erect ; the 6th abdominal somite without a median carinule, submedians and intermediates moderately inflated ; the telson broader than long, dorsal carinae tumid, median and accessory medians with a posterior spinule, knob bilobed ; basal prolongation of uropod with a lobe on the inner margin of the longer spine.

DISTRIBUTION. – *Gonodactylus mutatus* is known from Vietnam, Thailand, the Maldives Islands, Zanzibar, the Red Sea (MANNING, 1978 a), the Seychelles (MANNING, 1978 a ; MOOSA & CLEVA, 1984 a) and Mauritius (MOOSA, 1984). The present record from New Caledonian waters is new, extending its distribution eastwards.

Gonodactylus randalli Manning, 1978

Gonodactylus randalli Manning, 1978 a : 9, figs 6, 12.

MATERIAL EXAMINED. – Chesterfield Islands - CORAIL 2 : stn DW 84 (1 spec.). – Stn DW 92 (1 spec.) The specimens are catalogued under MNHN Stn 1261 - 1262.

Size of specimens : Females TL 24.

Depth range in New Caledonia : 8-26 m.

REMARKS. – *Gonodactylus randalli* Manning, 1978 a can be easily distinguished from the other known species of the *falcatus* Group by the presence of a sharp median carinule on the 6th abdominal somite and in having 2 lobes - one on either side - on the inner margin of the basal prolongation of the uropod.

Colour : The newly preserved specimen (of the two existing specimens, one is very soft and does not show any colouration) has remarkable red colouration. On the raptorial claws the marked red colouration is seen on the basal part of the merus, propodus, and dactylus, and on the tuberculated part of the merus and the carpus. The outer margin of the raptorial dactylus, the lateral and posterior margins of the exposed thoracic and abdominal somites are red in colour. Spines on the 6th abdominal somite and telson (including those of the dorsal carinae and uropodal segments) are bright red in colour. The

distal segments of the uropodal exopod and endopod are red except for their rib. Setae on the pereopodal dactyli are bright red. The distal segment of the pleopodal exopod is red, with the setae not coloured. The antennal and antennular segments do not exhibit red colouration. The black spots on the 6th abdominal somite are replaced with red spots while those on the telson are absent. The colouration is probably aberrant.

DISTRIBUTION. – *Gonodactylus randalli* is known from the Marshall Islands, the Phoenix Islands and the Society Islands in the Pacific Ocean in depths from 12 - 21 m (MANNING, 1978 a). MOOSA (1984) reported this species from Mauritius based on a specimen in the collection of the Paris Museum (MNHN Sto 161). The present record is the first for New Caledonian waters and extends the species' depth range to 26 m.

Gonodactylus smithii Pocock, 1893

Gonodactylus smithii Pocock, 1893 : 475, fig.1. – DINGLE *et al.*, 1977 : 19, fig. 11.

Gonodactylus chiragra - GRAVIER, 1930 : 214 [part, not *G. chiragra* (Fabricius, 1781)].

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 285 (1 spec.). – Stn DW 343 (1 spec.). – Stn DW 409 (2 specs.). – Stn DW 412 (1 spec.). – Stn DW 480 (1 spec.). – Stn DW 554 (1 spec.). – Stn DW 619 (1 spec.). – Stn DW 625 (1 spec.). – Stn DW 648 (1 spec.). – Stn DW 1051 (1 spec.). – Stn DW 1088. **MUSORSTOM 6** : stn DW 431 (1 spec.). – **Chesterfield Islands** - **CORAIL 2** : stn DW 84 (1 spec.). – Stn DW 144 (1 spec.). – **CHALCAL 1** : stn D 34 (1 spec.). – Stn D 45 (1 spec.). **Other material** : Ile des Pins, 1 ♀ TL 38, coll. Mme PRUVOT, 1927 (MNHN Sto 46) identified by Ch. GRAVIER, 1929 as *Gonodactylus chiragra*. The specimens are catalogued under MNHN Sto 1263 - 1276, 1884.

Size of specimens : Males TL 22 - 55 mm, females TL 21 - 54 mm.

Depth range in New Caledonia : 11 - 50 m.

REMARKS. – All the specimens have the anterolateral angles of the rostral plate acute, not spinous. This character is more pronounced in the smaller specimens. The ocular scales of some specimens are broad, with a gradation from broadly angled rectangular (resembling Fig. 2 d of MANNING & LEWINSOHN, 1986) to almost approaching that of Fig. 2 a of the same authors. Ocular scales can either be seen under the rostral spine or, in some specimens, are partly covered by the rostral plate. All the specimens bear a knob on the anterior part of the telson overhanging the intermediate carinae of the 6th abdominal somite. One of the specimens has one of the uropods newly formed. This specimen has ocular scales resembling Fig. 2 a of MANNING and LEWINSOHN (1986). A specimen (MNHN Sto 44) collected from Ile des Pins by Mme PRUVOT, 1927, identified by Ch. GRAVIER, 1929, and reported as *Gonodactylus chiragra* by GRAVIER (1930) is herewith placed in *G. smithii*. The specimen possesses all characters of *G. smithii*, not those of *G. chiragra*.

Colour : The general colouration of the preserved specimens is either dark bluish green or dull olive green. Mottled black pigment can be observed on both colour types. The movable spines of the uropodal exopod in most specimens show shadows of purplish blue colouration while other specimens do not display this colouration.

DISTRIBUTION. – *Gonodactylus smithii* has been reported from localities in the western Indian Ocean, Indo-Malayan waters, Japan, Australia and Pacific islands. The species has been collected from the intertidal zone to 80 m depths, inhabiting rough bottom habitats. *G. smithii* was reported from Lifu, Loyalty Island (BORRADAILE, 1898.; HOLTHUIS, 1967).

Gonodactylus viridis Serène, 1954

Gonodactylus chiragra var. *viridis* Serène, 1954 : 6, 7, 10, 74, 75, fig. 13 -3.

Gonodactylus viridis - DINGLE *et al.*, 1977 : 16, fig. 9. - MANNING, 1978 c : 4, fig. 2 a-c.

Gonodactylus demani var. *pruvotae* Gravier, 1930 : 214 (part)

MATERIAL EXAMINED. - New Caledonia : 3 broken specs (MNHN Sto 44). - Ile des Pins (2 specs : 1 spec. was formerly in the same tube with the types of *Gonodactylus demani* var. *pruvotae*, the other was identified by Ch. GRAVIER as *Gonodactylus chiragra*), coll. Mme PRUVOT, 1927

REMARKS. - All the specimens have the typical anchor-shaped median carina on the telson and small, separated ocular scales. One of specimens was formerly placed in a tube with the types of *Gonodactylus demani* var. *pruvotae*.

DISTRIBUTION. - *Gonodactylus viridis* is known from the Andaman Sea, Thailand and Vietnam (MANNING, 1978 c), the Philippines (MOOSA, 1985) and now New Caledonian waters.

Mesacturoides spinosocarinatus (Fukuda, 1909)

Gonodactylus spinosocarinatus. - FUKUDA, 1910 : 143, pl. 4, figs 2, 2 a. - KEMP, 1913 : 173. -

KOMAI, 1927 : 34. - SERENE, 1952 : 14, figs 28-32.

Gonodactylus strigatus Hansen, 1926 : 31, pl. 2, figs 2 a, 2 b. - SERENE, 1949 : 225, 2 figs

Gonodactylus demani var. *pruvotae* Gravier, 1930 : 214, fig. (part).

Mesacturoides spinosocarinatus - MANNING, 1969 c : 153 (key) ; 1978 e : 3 (listed).

MATERIAL EXAMINED. - New Caledonia : Ile des Pins, coll. Mme PRUVOT, 1927 (1 spec.), (MNHN Sto 128) det. by Ch. GRAVIER, 1929 as *Gonodactylus demani* var. *pruvotae* (type specimen). - data as above (2 specs.), (MNHN Sto 129) (type specimens). - data as above (2 specs.) identified by Ch. GRAVIER as *Gonodactylus chiragra* (MNHN Sto 235 ex Sto 41).

REMARKS. - The specimens are in the series of specimens collected by Mme PRUVOT in 1927 from Ile des Pins, New Caledonia which GRAVIER (1930) described as a new variety, *Gonodactylus demani* var. *pruvotae*. In his work GRAVIER mentioned that the variety comprised 4 individuals of which the largest is 20 mm (measured herewith as TL 22 mm) and the smallest is 12 mm (measured as TL 11.4 mm). The specimens were placed in 2 different tubes : the larger specimen is catalogued under MNHN Sto 128 (herewith designated as lectotype) and the other tube containing 3 specimens comprising var. *pruvotae* (2 specimens are herewith designated as paralectotypes, catalogued under MNHN Sto 129) and one specimen herewith identified as *Gonodactylus viridis*. The specimens identified by GRAVIER (1930) as *Gonodactylus chiragra* (MNHN Sto 41) consist of two species : *G. viridis* and *G. demani* var. *pruvotae* (now placed under MNHN Sto 235). The specimens of MNHN Sto 235 could not be regarded as belonging to the type series.

DISTRIBUTION. - *Mesacturoides spinosocarinatus* has been reported from Japan (FUKUDA, 1910 ; KOMAI, 1927), Indonesia (HANSEN, 1926), Vietnam (SERENE, 1949), Queensland, Australia (SERENE, 1952) and Ile des Pins, New Caledonia (GRAVIER, 1930).

Family ODONTODACTYLIDAE Bigelow, 1893

Odontodactylus brevirostris (Miers, 1884)

Odontodactylus brevirostris - MANNING, 1967 b : 22, figs 6-8 (synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 51 (1 spec.). – Stn DW 229 (1 spec.). – Stn DW 324 (1 spec.). – Stn DW 344 (1 spec.). – Stn DW 626 (1 spec.). – Stn DW 727 (1 spec.). – Stn DW 980 (1 spec.). – Stn DW 1181. *Other material* : stn A8 : 22°19.2' S - 166°26.15' E ; 20 m ; 11.02.1985 ; shell sand and calcareous algal gravel. The specimens are catalogued under MNHN Sto 1396 - 1403.

Size of specimens : Males TL 24 - 45 mm, females TL 18 - 42 mm.

Depth range in New Caledonia : 10 - 48 m.

REMARKS. – Most of the specimens have 9 teeth on their raptorial dactylus, but two have 7 and 8 teeth. The posterolateral spines of the abdominal somites are uniform, only the 4th and 5th somites are armed posteriorly. The telson has only one accessory median carina. The distal segment of the uropodal exopod has 8 - 10, mostly 9, movable spines.

Colour : The colour pattern can only be observed on some of the newly preserved specimens, in other specimens the colour has faded except on the uropod. The eye peduncle with black notch on base of mesial side. The body is covered with black pigment in a somewhat irregular pattern. The sixth and 7th thoracic somites have a black patch on the intermediate part of the posterior border, more extended in some specimens. The abdominal somites have the following colouration : 1st somite dark on one-fourth of its posterior margin extending between submedians ; 5th somite with black patch on posterior half extending between submedians, in some specimens submedian part only mottled with black pigment while the region between submedian and intermediate very dark ; spines on 6th somite red basally, lateral spines with less marked colouration. Uropodal exopod black on entire proximal segment, on distal half of endopod and on proximal half of basal prolongation.

DISTRIBUTION. – *Odontodactylus brevirostris* (Miers, 1884) has a wide distribution and was reported from western Atlantic and Indo-West Pacific in moderate depths to 424 m (MANNING, 1967 b). The present record is new for New Caledonian waters.

Odontodactylus cultrifer (White, 1850)

Odontodactylus cultrifer - MANNING, 1967 b : 18, fig. 5 (synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 626 (1 spec.) (MNHN Sto 1404).

Size of specimen : Male CL 8.4 mm.

Depth range in New Caledonia : 47 - 48 m.

REMARKS. – The specimen is incomplete : telson missing, 6th abdominal somite almost entirely missing except for one uropod which is still attached. The remaining characters are still sufficient to identify the specimen : rostral plate trapezoidal, dactylus of raptorial claw armed with 3 teeth, distal segment of uropodal exopod larger than proximal.

DISTRIBUTION. – *Odontodactylus cultrifer* has been reported from various localities in the western Pacific : from Australia and New Guinea northward to Japan, in shallow water (MANNING, 1967 b). The present record is new for New Caledonian waters.

Odontodactylus hawaiiensis Manning, 1967

Odontodactylus hawaiiensis Manning, 1967 b : 16, fig. 4, pl. 1 (synonymy).

MATERIAL EXAMINED. – New Caledonia - MUSORSTOM 6 : stn DW 474 (1 spec.), (MNHN Sto 1882). – SMIB 4 : Norfolk ridge ; 23°21.5' S - 168°04.6' E, 260 m ; 09.03.89. (MNHN Sto 1886). – Chesterfield Islands - CHALCAL 1 : stn CP 10 (1 spec.) (MNHN Sto 1410)

Size of specimens : Male TL 72 mm, females TL 55 - 81 mm

Depth range in New Caledonia : 225 - 260 m.

REMARKS. – The specimens agree fully with the description and figure of *Odontodactylus hawaiiensis* given by MANNING (1967 b). Rostral plate triangular with deflexed apex, ocular scales appressed, fused to form an angle. Dactylus of raptorial claw armed with 7 teeth. Abdominal somites have posterolateral spine only on the 4th and 5th somites. Sixth abdominal somite with 3 pairs of primary carinae, submedians end posteriorly in tubercles, with reflected carina not extending to posterior margin; intermediates and laterals with spines. Outer margin of proximal segment of uropodal exopod with 11 movable spines, last spine extending beyond distal segment. The colouration is faded.

DISTRIBUTION. – *Odontodactylus hawaiiensis* Manning, 1967 b, was only known from Hawaiian waters. The present record is the first known of the existence of this species outside Hawaiian waters and a new record for New Caledonian waters where it was collected within the known depth ranges of the species (109 - 276 m).

Odontodactylus scyllarus (Linnaeus, 1758)

Odontodactylus scyllarus - MANNING, 1967 b : 10, fig. 3 (synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 63 (1 spec.). – Stn DW 100 (1 spec.). – *St. Vincent Bay* : Trawl 3, 21°58, 2'S - 166°01, 2'E, 11 m, (1 spec.). – Ilot Coco, in the stomach of a serranid fish (1 spec.). – South of Kouare, spit off by a serranid (1 spec.). – Maître Island, 15 m (1 spec.). The specimens are catalogued under MNHN Stn 1405 - 1409, 1887

Size of specimens : Males TL 124 - 173 mm, females TL 13 - 93 mm.

Depth range in New Caledonia : 15-40 m.

DISTRIBUTION. – *Odontodactylus scyllarus* is widely distributed in the Indo-West Pacific region and has been reported from Madagascar, Indo-Malaya, Japan and Australia. The present record is the first time the species has been reported from the New Caledonian waters.

Family PROTOSQUILLIDAE Brooks, 1886

Chorisquilla excavata (Miers, 1880)

Chorisquilla excavata - MOOSA, 1985 : 383, fig. 4 (synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 242 (1 spec.). – Stn DW 243 (1 spec.). – Stn DW 307 (1 spec.). – Stn DW 585 (1 spec.). – Stn DW 597 (1 spec.). – *Chesterfield Islands* - CHALCAL 1 : stn D 8 (1 spec.). The specimens are catalogued under MNHN Stn 1489 - 1494.

Size of specimens : Males TL 23 - 29 mm, females TL 23 - 28 mm.

Depth range in New Caledonia : 10 - 40 m.

REMARKS. – All the specimens are relatively large for the species and bear the telson characters of "*Chorisquilla andamanica*" Manning, 1975 c as figured by MOOSA (1985).

DISTRIBUTION. – *Chorisquilla excavata* has been reported from the Andaman Sea, the South China Sea, the Philippines, Indonesia, and the Ogasawara Islands (MOOSA, 1985). The present record, new for the region, indicates the presence of the species in shallower water. *C. excavata* inhabits mostly

rough bottom habitats, in New Caledonian waters the species was collected from coral sand, coral boulder or sand bottom with algae.

Chorisquilla spinosissima (Pfeffer, 1899)

Gonodactylus spinosissimus - KEMP, 1913 : 191, pl. 10, figs 124 - 125. - HOLTHUIS, 1941 : 292, fig. 9 c (synonymy).

MATERIAL EXAMINED. - New Caledonia - *Lagoon* : stn DW 412 (2 specs). - Stn DW 461 (1 spec.). - Stn DW 463 (1 spec.). - Stn DW 464 (1 spec.). - Stn DW 480 (1 spec.). - Stn DW 483 (1 spec.). - Stn DW 487 (1 spec.). - Stn DW 518 (1 spec.). - Stn DW 520 (2 specs). - Stn DW 619 (1 spec.). - Stn DW 656 (1 spec.). - Stn DW 735 (1 spec.). - Stn DW 1051 (1 spec.). - Stn DW 1159. - *Chesterfield Islands* - CORAIL 2 : stn DW 61 (1 spec.). - Stn DW 69, (1 spec.). - Stn DW 70 (1 spec.). - Stn CP 90 (1 spec.). - Stn DW 105 (1 spec.). - Stn DW 106 (1 spec.). - Stn DW 115 (3 specs). - Stn DW 116 (1 spec.). - Stn DW 132 (1 spec.). - Stn DW 138 (1 spec.). - *CHALCAL 1* : stn D 15 (1 spec.). - Stn D 24 (1 spec.). - Stn D 45 (1 spec.). - *Bellona Reef* : stn DE 10, 21°24.3' S : 158°56.8' E., 52 m ; 20.10.1985. The specimens are catalogued under MNHN Stn 1495 - 1516, 1893 LON S.2551.

Size of specimens : Males TL 20 - 27 mm, females TL 16 - 27 mm and juveniles.

Depth range in New Caledonia : 11 - 65 m.

DISTRIBUTION. - *Chorisquilla spinosissima* has been reported from scattered localities in East African waters, the Red Sea, Ceylon, Indonesia, the Philippines, Japan and Australia. This is the first record from New Caledonian waters. The depth range of the species is from intertidal zone (MANNING, 1968 b) down to 65 m deep (the present record). The habitat is not well known, the present record reveals that the species inhabits rough bottom habitats : corals, coral sand with *Halimeda*.

Chorisquilla tuberculata (Borradaile, 1907)

Chorisquilla tuberculata MICHEL & MANNING, 1972 : 113-125, figs 1-5.

MATERIAL EXAMINED. - New Caledonia - *Lagoon* : stn DW 436 (1 spec.) TL 19 mm.

REMARKS. - The specimen is a postlarva having characters as described by MICHEL & MANNING (1972, fig. 5 G) : bilobed cornea, trispinous rostral plate ; 6th abdominal somite and telson tuberculate ; two marginal teeth present on telson with 15 intermediate and 12 submedian denticles which are sharp. The specimen was collected from 33 m depth.

DISTRIBUTION. - The larvae and postlarvae of *Chorisquilla tuberculata* have been reported from the New Caledonian barrier reef in the stomach contents of yellow fin tuna, *Thunnus albacares*, and from other localities in the Pacific Ocean (MICHEL & MANNING, 1972). BORRADAILE reported this species from Providence Island, Indian Ocean and KOMAI (1938) reported its occurrence in Japanese waters.

Chorisquilla tweediei (Serène, 1950)

Gonodactylus tweediei Serène, 1950 : 571 ; 1952 : 16, fig. 33 ; pl. 3, figs 1-5.

MATERIAL EXAMINED. - 1 ♂ TL 28 mm ; New Caledonia : reefs of Point Desire, 1 m, coll. C.VADON, 10.09.1978 (MNHN Stn 1899).

REMARKS. - SERENE (1950) briefly described *Gonodactylus tweediei* based on material from Australia and described and figured the same species in 1952. MANNING (1969 c) erected *Chorisquilla*

in which he synonymized *G. tweediei* Serène with *G. trigibbosus* Hansen, 1926, whose description was based on a very young specimen. In his description SERENE (1952) stated that his species, although resembling *trigibbosus* in the form of the dorsal ornamentation of the 6th abdominal somite and telson, clearly differed in many other characteristics such as the form of the rostral plate, the form of the lateral bosses of the telson as well as the form of the median boss of the telson. The present specimen very much resembles SERENE's figures and description, differing only in that the setae which densely cover the 6th abdominal somite and telson are longer and stiff. These long, stiff setae are not strong enough to be called spines, which sparsely cover the 6th abdominal somite and telson of a very closely related species, *Chorisquilla spinosissima*. The rostral plate of the New Caledonian specimen is markedly trispinous, the lateral bosses and dorsal boss of the telson are as figured by SERENE (1952, fig. 32).

DISTRIBUTION. — *Chorisquilla tweediei* was only known from Australia where it was collected from Cayes Island, northwest of the Capricorn group, Queensland, and from Lord Howe Island, South Pacific (SERENE, 1950, 1952). The present record is the first for New Caledonian waters.

Echinosquilla guerinii (White, 1861)

Gonodactylus guerinii White, 1861 : 43, pl. 7.

Gonodactylus Guerinii - MIERS, 1880 : 43.

Protosquilla guerinii - BROOKS, 1886 : 75, pl. 16, figs 1, 6.

Gonodactylus (Protosquilla) Guerini - BOUVIER, 1914 : 698 ; 1915 : 313 (136), pl. 7, fig. 10.

Gonodactylus guerini - KEMP, 1913 : 192. — TOWNSLEY, 1953 : 423, figs 20 - 21.

Echinosquilla guerini - MANNING, 1969 c : 155, fig. 5. — MOOSA, 1984 : 38.

Echinosquilla guerinii - MANNING, 1977 a : 280.

MATERIAL EXAMINED. — New Caledonia - *Lagoon* : stn DW 443 (3 specs.). — MUSORSTOM 6 : stn DW 432 (1 spec.). — Stn DW 435 (1 spec.). — Stn DW 437 (1 spec.). — *Chesterfield Islands* - CORAIL 2 : Bellona Island, Chesterfield flat (1 spec.). The specimens are catalogued under MNHN Sto 1308, 1881, 1881, 1894, 1898.

Size of specimens : Male TL 58 mm, females TL 28 - 81 mm.

Depth range in New Caledonia : 40 m.

DISTRIBUTION. — Matuka, Fiji Islands, its type locality (WHITE, 1861), Hawaiian Islands (BROOKS, 1886 ; TOWNSLEY, 1953), Mauritius and La Réunion (MANNING, 1977 a ; MOOSA, 1984). This is a new record for New Caledonian waters.

Haptosquilla glyptocercus (Wood-Mason, 1875)

Protosquilla cerebralis - BORRADAILE, 1898 : 33, pl. 5, fig. 6 a.

Gonodactylus glyptocercus - KEMP, 1913 : 186 (for older synonymy). — GRAVIER, 1930 : 216.

MATERIAL EXAMINED. — New Caledonia : Ile des Pins (1 spec.) ; coll. Mme PRUVOT, 1927 ; det. by Ch. GRAVIER, 1929 (MNHN Sto 112).

DISTRIBUTION. — Andaman Sea, Indonesia, Thailand, the Philippines, Japan, Australia and the Pacific islands. From New Caledonia this species has been reported by BORRADAILE (1898) from Sandal Bay, Lifu Island and from Ile des Pins by GRAVIER (1930).

Haptosquilla trispinosa (Dana, 1852)
(Fig. 2)

Gonodactylus trispinosus Dana, 1852 : 623. – MIERS, 1880 : 44, pl. 3, fig. 10. – KEMP, 1913 : 180 (synonymy). – GRAVIER, 1930 : 216.

Protosquilla trispinosa - BORRADAILE, 1898 : 34, pl. 5, figs 1, 1 a.

Gonodactylus pulchellus - GRAVIER, 1930 : 216. – DOLLFUS, 1938 : 224 (material from New Caledonia only, fig. 22) *nec* *Gonodactylus pulchellus* Miers, 1880.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 3 (1 spec.). – Stn DW 10. – Stn DW 11. – Stn DW 21 (1 spec.). – Stn DW 66 (1 spec.). – Stn DW 69 (1 spec.). – Stn DW 79 (1 spec.). – Stn DW 87 (1 spec.). – Stn DW 99 (4 specs.). – Stn DW 100 (2 specs.). – Stn DW 101 bis (3 specs.). – Stn DW 110 (1 spec.). – Stn DW 156 (1 spec.). – Stn DW 164 (1 spec.). – Stn DW 185 (1 spec.). – Stn DW 192 (1 spec.). – Stn DW 225 (1 spec.). – Stn DW 248 (1 spec.). – Stn DW 253 (3 specs.). – Stn DW 275 (1 spec.). – Stn DW 284 (1 spec.). – Stn DW 296 (1 spec.). – Stn DW 304 (1 spec.). – Stn DW 305 (1 spec.). – Stn DW 339 (1 spec.). – Stn DW 449 (1 spec.). – Stn DW 452 (3 specs.). – Stn DW 455 (1 spec.). – Stn DW 550 (1 spec.). – Stn DW 554 (1 spec.). – Stn DW 581 (1 spec.). – Stn DW 589 (1 spec.). – Stn DW 591 (14 specs.). – Stn DW 593 (1 spec.). – Stn DW 855 (1 spec.). – Stn DW 888 (1 spec.). – Stn DW 912 (3 specs.). – Stn DW 921 (1 spec.). – Stn DW 951 (2 specs.). – Stn DW 985 (1 spec.). – Stn DW 1189. *Pecten* : stn 10, 22°23'S - 166°27'E, 22 m, (1 spec.). – Stn 11, 22°23'S - 166°27'E, 22 m, (1 spec.). *Other materials* : Ile des Pins ; coll. Mme PRUVOT, 1927 ; det. by Ch. GRAVIER, 1929 as *Gonodactylus pulchellus*, MNHN Sto 195 (2 specs.). – Nouméa, coll. Abbé CULLIERET, 1890 ; det. by S. KEMP as *Gonodactylus trispinosus*, MNHN Sto 201 (2 specs.). – Nouméa, 10-15 m ; coll. Abbé CULLIERET, 1890 ; det. S. KEMP as *Gonodactylus trispinosus*, MNHN Sto 203 (1 spec.). – (1 spec.) ; det. S. KEMP as *Gonodactylus trispinosus*, MNHN 204. – Ile des Pins, (1 spec.) ; coll. Mme PRUVOT, 1927 ; det. Ch. GRAVIER as *Gonodactylus trispinosus*, MNHN Sto 205. – Ile des Pins, (4 specs.) ; coll. Mme PRUVOT ; det. by Ch. GRAVIER as *Gonodactylus trispinosus*, MNHN Sto 206. – (1 spec.) det. by H. J. HANSEN as *Protosquilla trispinosa*, MNHN 314. – Maître Island, 3 m, C.VADON coll., (3 specs). – *Chesterfield Islands*. - *CORAIL 2* : stn DW 41 (1 spec.). – Stn DW 44 (2 specs.). – Stn DW 46 (1 spec.). – Stn DW 64 (1 spec.). – Stn DW 69 (4 specs.). – Stn DW 72 (1 spec.). – Stn DW 77 (1 spec.). – Stn DW 87 (1 spec.). – Stn DW 94 (1 spec.). – Stn DW 101 (1 spec.). – Stn DW 102 (1 spec.). – Stn DW 138 (1 spec.). – *CHALCAL 1* : stn D 18 (1 spec.). The specimens are catalogued under MNHN Sto 1574 - 1625, 1890, 1896, 1900 and LON S. 2552.

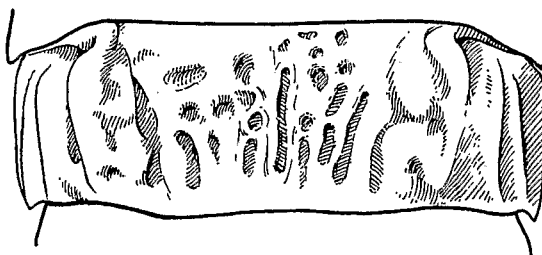


Fig. 2. – *Haptosquilla trispinosa* : 5th abdominal somite of the specimen figured by DOLLFUS (1938, fig. 22).

Size of specimens : Males TL 18 - 42 mm and juveniles, females TL 19 - 39 mm and juveniles.
Depth range in New Caledonia : 6 - 60 m.

REMARKS. – All the above specimens agree with *Haptosquilla trispinosa* (Dana, 1852) in having a trispinous rostral plate, the median part of the 5th abdominal somite corrugated, and the telson characters as described and figured by several authors (DANA, 1852 ; MIERS, 1880 ; KEMP, 1913). GRAVIER (1930) in his work on the New Caledonian stomatopod collected by Mme PRUVOT from Ile des Pins mentioned the presence of *Gonodactylus pulchellus* and *G. trispinosus*. Observations on the

specimens identified as *G. pulchellus* by GRAVIER reveal that both his specimens have a corrugated median portion on the 5th abdominal somite. The larger specimen of GRAVIER was figured by DOLLFUS (1938, fig. 22) but his figure does not show the presence of corrugation as it really is, probably due to poor lighting during the preparation of the drawing. The same specimen is herewith re-figured to show the presence of corrugation or ditches on the 5th abdominal somite. The smaller specimen has a transparent body which does not exhibit clear corrugation if seen in a dorsal view but it is clearly visible in a lateral view.

DISTRIBUTION. — *Haptosquilla trispinosa* has been reported from the Fiji Islands (DANA, 1852), the Loyalty Island and New Caledonia (BORRADAILE, 1898 ; GRAVIER, 1930), Australia (MIERS, 1880) and New Zealand (CHILTON, 1910). The present records give the species depth ranges (6 - 60 m) and habitats : white muddy sand, sand with corals ; shell and foraminiferal sand with algae ; coral boulders with *Sargassum*, and coral fragments on sandy bottom.

Family ALAINOSQUILLIDAE new family

DIAGNOSIS. — Size very small to moderate. Body depressed, loosely articulated. Rostral plate unarmed. Ischiomer al articulation of raptorial claw terminal. Dactylus of claw slender, not inflated basally, opposable margin armed with two teeth. Articulation of uropodal exopod segments subterminal.

Included genera : One, the type genus, *Alainosquilla*, new genus.

REMARKS. — Alainosquillidae closely resembles Eurysquillidae in having : 1. - depressed and loosely articulated body, 2. - ischiomer al articulation of the raptorial claw terminal, 3. - slender raptorial claw, dactylus not basally inflated with opposable margin armed. The two families differ in : 1. - the general form of eyes : subcylindrical in Alainosquillidae and bilobed in the known members of Eurysquillidae, 2. - the articulation of the uropodal exopod segment : terminal in Eurysquillidae, subterminal in Alainosquillidae. The other family of Gonodactyloidea having depressed, loosely articulated body is Hemisquillidae. It differs from Alainosquillidae in : 1. - the form of the raptorial claw : dactylus inflated basally with opposable margin unarmed in Hemisquillidae, armed and not basally inflated in Alainosquillidae, 2. - the articulation of the uropodal exopod segments : terminal in Hemisquillidae, subterminal in Alainosquillidae.

Alainosquilla gen. nov.

DIAGNOSIS. — Size small, male adult at total length of 17 mm. Rostral plate triangular, without apical spine. Cornea subcylindrical. Carapace lacking carinae or spines. Ischiomer al articulation of raptorial claw terminal, dactylus armed with 2 teeth. Carpus of raptorial claw not inflated basally. Mandibular palp absent, 5 epipods present. Abdomen depressed, smooth, lacking carinae on first 5 somites, anterolateral plate of 1st segment present. Telson with 3 pairs of marginal teeth, submedian with movable apices. Dorsal surface of telson with carinae lateral to median carina. Basal prolongation of uropod with one tooth.

Type species : *Alainosquilla foresti*, sp. nov., by monotypy.

Etymology : The name is derived from *Alain*, dedicated to Dr Alain CROSNIER, in combination with the generic name *Squilla*. The gender is feminine.

REMARKS. — *Alainosquilla* gen. nov., resembles members of families Eurysquillidae and Hemisquillidae in having depressed and loosely articulated body. They differ in some important characteristics as mentioned in the remarks for the family.

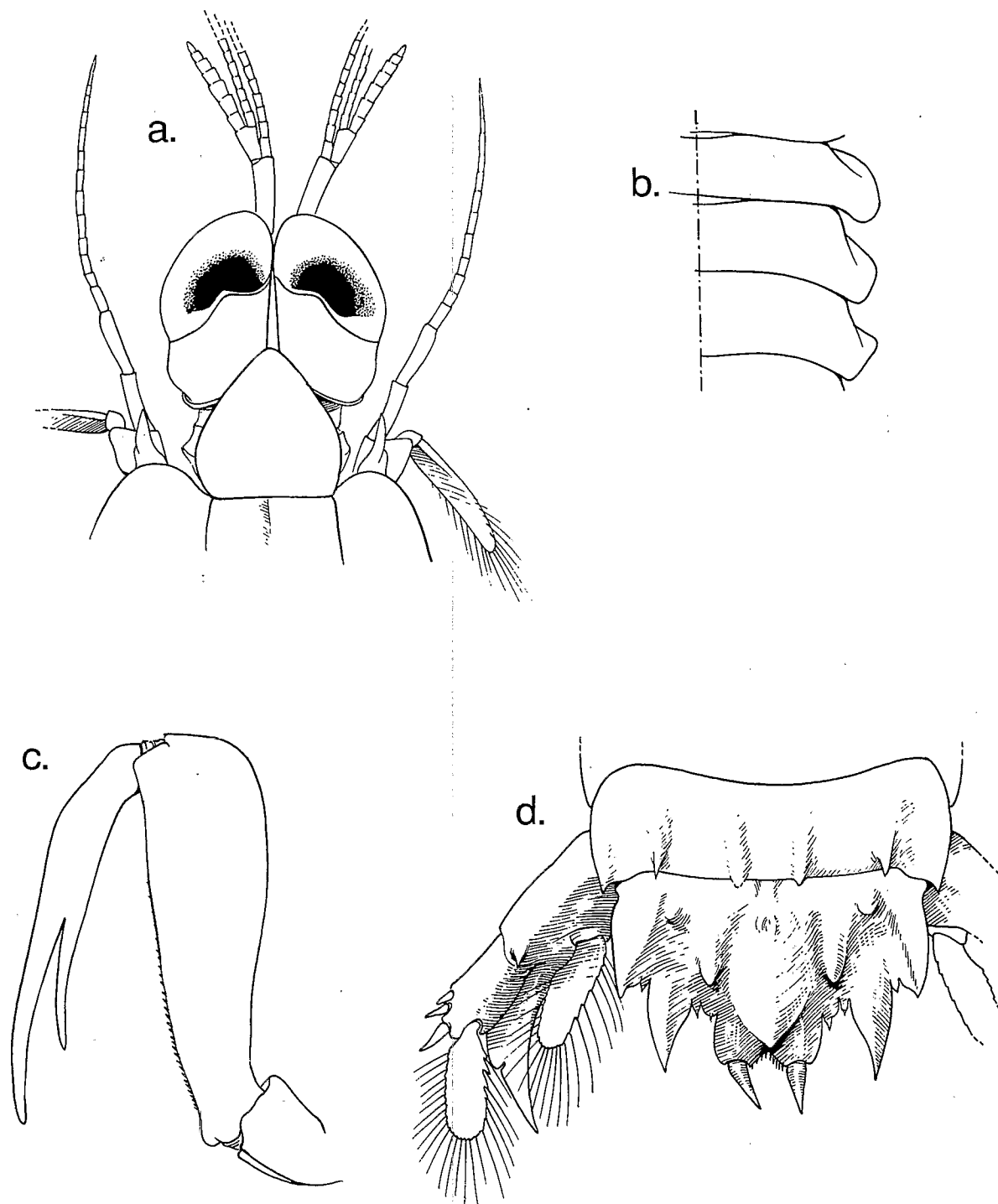


Fig. 3. – *Alainosquilla foresti* sp. nov. holotype : ♂ TL 17mm : a. anterior part of body ; b. last three thoracic somites (one side only) ; c. carpus, propodus and dactylus of raptorial claw ; d. 6th abdominal somite, telson and uropod (dorsal view, setae omitted).

Alainosquilla foresti sp. nov.
(Fig. 3)

MATERIAL EXAMINED. – New Caledonia - MUSORSTOM 4 : stn DW 149, 155 m 1 ♂ 17 mm, holotype, (MNHN STO 1528) ; 1 ♂ 13 mm, 1 ♀ 15 mm, paratypes, data as above (MNHN Sto. 1529). – Stn DW 149, 155 m : 1 ♂ and 1 ♀ both in bad condition, paratypes, (MNHN Sto 1531). – Stn DW 150, 110 m : 1 ♀ juvenile paratype, (MNHN Sto 1532). – Stn DW 151, 200 m : 1 ♀ 9 mm, paratype, (MNHN Sto 1530).

Size of specimens : Males TL 13 - 17 mm ; females TL 9 - 15 mm.

Depth range in New Caledonia : 110-200 m.

DESCRIPTION. – Size small, male adult at the total length of 17 mm. Eyes large, extending beyond 2nd segment of antennular peduncle ; cornea subcylindrical, not bilobed. Rostral plate triangular, as long as broad, without apical spine or dorsal carina. Ocular scales small, separate. Carapace smooth, without dorsal carinae or spines ; anterolateral angles rounded, extending beyond base of rostral plate. Mandibular palp absent, 5 epipods present. Raptorial claw of moderate size ; dactylus armed with 2 teeth ; merus enlarged proximally, pectinate only at proximal half, inner margin with one movable spine proximally ; dorsal ridge of carpus entire, ending in blunt tooth. Exposed thoracic somites without dorsal carinae ; lateral process of 5th thoracic somite as a blunt tooth, ventral surface with truncate tooth ; lateral process of 6th and 7th somites rounded posteriorly. Abdomen with carinae or spines on its first 5 somites ; 6th somite with 3 pairs of dorsal carinae each ending in spine ; submedian carinae swollen. Telson with 3 pairs of marginal teeth, submedians with movable apices ; median carina swollen, ending posteriorly in sharp tooth ; intermediate carinae short, manifested as a tooth ; one rounded lobe present at intermediate anterior portion ; denticles sharp, formulation as : submedians 6, intermediates 2, laterals 1 ; ventral surface of telson without post-anal keel. Proximal segment of uropodal exopod as long as distal segment, outer margin with 3 movable spines, last not extending to midlength of distal segment. Basal prolongation of uropod with one spine, outer margin with one lobe. Uropodal endopod broad and short.

Colour : The preserved specimens only show dark colouration on the lateral part of carapace which is reticulated at the posterolateral portion, and on the last portion of the last 3 thoracic and the first 5 abdominal somites. The darkest colouration is seen at the 8th thoracic somite, and the anterolateral plate of 1st and 5th abdominal somites.

REMARKS. – *Alainosquilla foresti*, new species, has close resemblances to members of *Pseudosquilla* in having a relatively slender dactylus of the raptorial claw. The species differs from other known species of both Eury squillidae and Pseudosquillidae in having only two well developed teeth on the raptorial claw.

Etymology : The specific name *foresti* is dedicated to Prof. Jacques FOREST, a prominent carcinologist of the Muséum national d'Histoire naturelle, Paris, who has given encouragement and advice for the completion of this study.

Pseudosquilla ciliata (Fabricius, 1798)

Pseudosquilla ciliata - HOLTHUIS, 1941 : 261 (synonymy).

MATERIAL EXAMINED. – New Caledonia - Lagoon : stn DW 4 (1 spec.). – Stn DW 5 (2 specs.). – Stn DW 23 (1 spec.). – Stn DW 43 (1 spec.). – Stn DW 49 (1 spec.). – Stn DW 57 (1 spec.). – Stn DW 68 (1 spec.). – Stn DW 83 (1 spec.). – Stn DW 84 (1 spec.). – Stn DW 101 bis (2 specs.). – Stn DW 102 (1 spec.). – Stn DW 110 bis (1 spec.). – Stn DW 155 (2 specs.). – Stn DW 185 (1 spec.). – Stn DW 187 (1 spec.). – Stn DW 201 (3 specs.). – Stn DW 202 (1 spec.). – Stn DW 211 (1 spec.). – Stn DW 217 (1 spec.). – Stn DW 233 (1 spec.). – Stn DW 240 (1 spec.). – Stn DW 244 (1 spec.). – Stn DW 247 (2 specs.). – Stn DW 249 (1 spec.). – Stn DW 251 (3 specs.). – Stn DW 253 (1 spec.). – Stn DW 259 (3 specs.). – Stn DW 263 (1 spec.). – Stn DW 285 (1 spec.). – Stn DW 291 (1 spec.). – Stn DW 294 (3 specs.). – Stn DW 298 (3 specs.). – Stn DW 299 (2 specs.). – Stn DW 300 (1 spec.). – Stn DW 312 (1 spec.). – Stn DW 313 (1 spec.).

– Stn DW 314 (1 spec.). – Stn DW 337 (1 spec.). – Stn DW 339 (1 spec.). – Stn DW 346 (1 spec.). – Stn DW 392 (1 spec.). – Stn DW 415 (1 spec.). – Stn DW 442 (1 spec.). – Stn DW 448 (1 spec.). – Stn DW 468 (1 spec.). – Stn DW 477 (1 spec.). – Stn DW 482 (1 spec.). – Stn DW 483 (1 spec.). – Stn DW 542 (1 spec.). – Stn DW 550 (1 spec.). – Stn DW 553 (4 specs.). – Stn DW 555 (1 spec.). – Stn DW 556 (1 spec.). – Stn DW 558 (3 specs.). – Stn DW 561 (1 spec.). – Stn DW 565 (1 spec.). – Stn DW 588 (1 spec.). – Stn DW 592. – Stn DW 635 (1 spec.). – Stn DW 645 (1 spec.). – Stn DW 671 (1 spec.). – Stn DW 708 (1 spec.). – Stn DW 709 (3 specs.). – Stn DW 710 (3 specs.). – Stn DW 713 (1 spec.). – Stn DW 731 (1 spec.). – Stn DW 737 (1 spec.). – Stn DW 747 (3 specs.). – Stn DW 765 (1 spec.). – Stn DW 834 (1 spec.). – Stn DW 836 (2 specs.). – Stn DW 900 (1 spec.). – Stn DW 921 (1 spec.). – Stn DW 932 (2 specs.). – Stn DW 934 (1 spec.). – Stn DW 949 (1 spec.). – Stn DW 958 (1 spec.). – Stn DW 983 (1 spec.). – Stn DW 1014 (2 specs.). – Stn DW 1041. – Stn DW 1051 (1 spec.). – Stn DW 1094. – Stn DW 1096. *Pecten* : stn D 19, 22°23'S - 166°27'E, 22 m, (1 spec.). **Chesterfield Islands - CORAIL 1** : Bellona Island, Chesterfield flat (1 spec.). – **CORAIL 2** : stn DW 4 (1 spec.). – Stn DW 8 (1 spec.). – Stn DW 18 (1 spec.). – Stn DW 21 (1 spec.). – Stn DW 61 (2 specs.). – Stn DW 63 (2 specs.). – Stn DW 83 (2 specs.). – Stn DW 94 (1 spec.). – Stn DW 96 (1 spec.). – Stn DW 107 (2 specs.). – Stn DW 108 (2 specs.). – Stn DW 109 (8 specs.). – Stn DW 122 (1 spec.). – Stn DW 123 (1 spec.). – Stn DW 126 (1 spec.). – Stn DW 132 (1 spec.). – Stn DW 135 (5 specs.). – Stn DW 150 (4 specs.). – Stn DW 154 (2 specs.). – **CHALCAL 1** : stn D 7 (1 spec.). – Stn D 16 (1 spec.). – Stn D 18 (1 spec.). – Stn D 43 (4 specs.). – Stn D 47 (1 spec.). – Stn D 53 (1 spec.). – Stn D 55 (5 specs.). – Stn CP 15 (1 spec.). The specimens are catalogued under MNHN Stn 1420 - 1488, 1895.

Size of specimens : Males TL 20 - 54 mm and juveniles, female TL 20 - 88 mm and juveniles.
Depth range in New Caledonia : 10 - 86 m.

REMARKS. – The specimens show various colour patterns as well as basic colourations. DINGLE *et al.*, (1977) commented that *P. ciliata* is an extremely colour polymorphic species.

DISTRIBUTION. – *Pseudosquilla ciliata* has been reported from all tropical oceans except the Eastern Pacific. The species was previously reported by BORRADAILE (1898) from Uvea, Loyalty Island.

Pseudosquilla hieroglyphica Manning, 1972

Pseudosquilla hieroglyphica Manning, 1972 : 2, fig. 1 (synonymy).

MATERIAL EXAMINED. – **New Caledonia - Lagoon** : stn DW 592 (1 spec.). – Stn DW639 (1 spec.). – **Chesterfield Islands - CORAIL 2** : stn DW 106 (1 spec.). – **CHALCAL 1** : stn D 2 (1 spec.). – Stn D 51 (1 spec.). The specimens are catalogued under MNHN Stn 1413 - 1415 and LON S.2553.

Size of specimens : Males TL 29 - 37 mm, female TL 28 mm, CL 10.6 mm.
Depth range in New Caledonia : 22 - 120 m.

REMARKS. – The specimens agree with the description of the species by MANNING (1972) and have a slightly modified colour pattern : rostral plate without apical spine, carapace with pair of black spots surrounded by an entire light ring ; posterolateral angles of 4th abdominal somite bluntly pointed, not spined ; those of 5th somites spined. Twelve movable spines on the proximal segment of uropodal exopod. *Pseudosquilla hieroglyphica* shares the same morphological characters with *P. ornata* and only differs on colour pattern. The colour pattern of the New Caledonian specimens closely resemble the figure of KOMAI (1927, pl. 14, fig. 2) for the carapace but does not closely resemble the pattern of the 6th to 8th thoracic somites. Variations on the thoracic and abdominal somites are observable in the specimens studied. The smaller specimens (TL 28 - 29 mm) have a more compact pattern on the thoracic and abdominal somites, becoming less compact in the larger specimen (TL 33 mm), and with more sparse "batik" motifs in the largest specimen (TL 37 mm). KOMAI's specimen (TL 61 mm) is much larger than the present material and apparently represents a further change in colour pattern. A transverse light band is always seen, with variations on its clarity, on the 6th to 8th thoracic somites.

The transverse light band on the abdominal somites of the small specimens is less marked than on the thoracic somites and becomes inconspicuous in the larger specimens. Dark spots are present on the ventral surface of the 6th and 8th thoracic somites, located near the base of each walking leg. The colour patterns as described by BIGELOW (1931 as *P. ornata*), described and figured by KOMAI (1927 as *P. ornata*) and MANNING (1972 for *P. hieroglyphica*) indicate that colour variations exist independently of the size of specimens. MANNING's figured specimens (TL 39 mm) do not show clumped dark dots on the anterior dorsal surface of the carapace while KOMAI's specimen (TL 61 mm) clearly shows the existence of the dots. In the New Caledonian specimens these dots are less numerous in the smaller specimens than in the larger ones.

DISTRIBUTION. — Known only from islands in the Pacific Ocean, from depths ranging from shallow water to about 6 m, inhabiting coral reefs on sandy and coral bottom (MANNING, 1972). In particular from Japan (KOMAI, 1927 as *P. ornata*), the Philippines (KEMP, 1915 as *P. ornata*), Samoa (BIGELOW, 1931 as *P. ornata*), islands in the Pacific Ocean (MANNING, 1972), and now from New Caledonian waters. The present record is new for the region and the deepest ever reported (120 m) where the specimens were collected from rough bottom habitats.

Pseudosquilla komai sp. nov.
(Fig. 4)

? *Pseudosquilla ornata*. - KOMAI, 1927 : 324, pl. 14, fig. 2 a (part, only the specimen with spined rostrum, nec *Pseudosquilla ornata* Miers, 1880).

MATERIAL EXAMINED. — Chesterfield Islands - CORAIL 2 : stn DW 92, 8 m : 1 ♀ TL 54 mm, holotype, (MNHN Stn 1411).

DESCRIPTION. — Cornea broader than stalk, not bilobed, Corneal Index 446. Ocular scales erect, separate, margin rounded. Antennular peduncle length about half carapace length. Antennular scale slightly less than half carapace length. Rostral plate with sharp apical spine, length about two-thirds width. Carapace smooth, without carinae or spines, anterior margin extending beyond base of rostral plate. Dactylus of raptorial claw armed with 3 teeth ; propodus slender, slightly longer than carapace length, with inferior distal spine and 3 movable spines on proximal margin ; opposable margin of propodus evenly pectinated on proximal two-fifths, without pectination on middle one-fifth and sparsely pectinated on distal two-fifths. Mandibular palp and 5 epipods present. Exposed thoracic somites smooth, strongly convex ; lateral margin of 5th somite bluntly rounded, lateral margin of 6th somite wider than that of 7th. First 5 abdominal somites smooth, without carinae ; posterolateral angles of 1st to 3rd somites rounded, those of the 4th bluntly pointed and with spines on the 5th. Sixth abdominal somite with 3 pairs of carinae ending in sharp spines. Telson a little broader than long, with 3 pairs of marginal teeth ; submedians with long, movable apices ; dorsal surface with median and 3 pairs of carinae : accessory medians, anterior submedians and marginals ; submedian and lateral teeth without dorsal carinae. Only 2 intermediate and 1 lateral denticles present. Proximal segment of uropodal exopod with 11 movable spines, last extending beyond distal segment. Distal segment of uropodal exopod short, about one-third the length of proximal segment. Outer spine of basal prolongation of uropod much longer than inner spine, one rounded lobe present between spines ; inner margin with an angled shelf.

Colour : General colouration of newly preserved specimen brownish with reddish colour on the tips of spines. Carapace with a pair of large black spots surrounded by almost entire light ring which is interrupted only at dorso-posterior part. Rostral plate with chromatophores in a reticulated pattern, less dense on anterior part, more densely arranged on mid-posterior part. Dense reticulated arrangements - somewhat resembling panther pattern - are seen on the anterolateral part of carapace and, with slightly different pattern, on antero-median part of carapace. Dorso-median part of carapace with two light bands running longitudinally from near posterior margin to a short distance beyond the large black spots. Lateral portion of carapace with round, large light spots. Merus, carpus and propodus of raptorial claws with large, light spots resembling those on the lateral part of carapace. Dactylus of rpto-

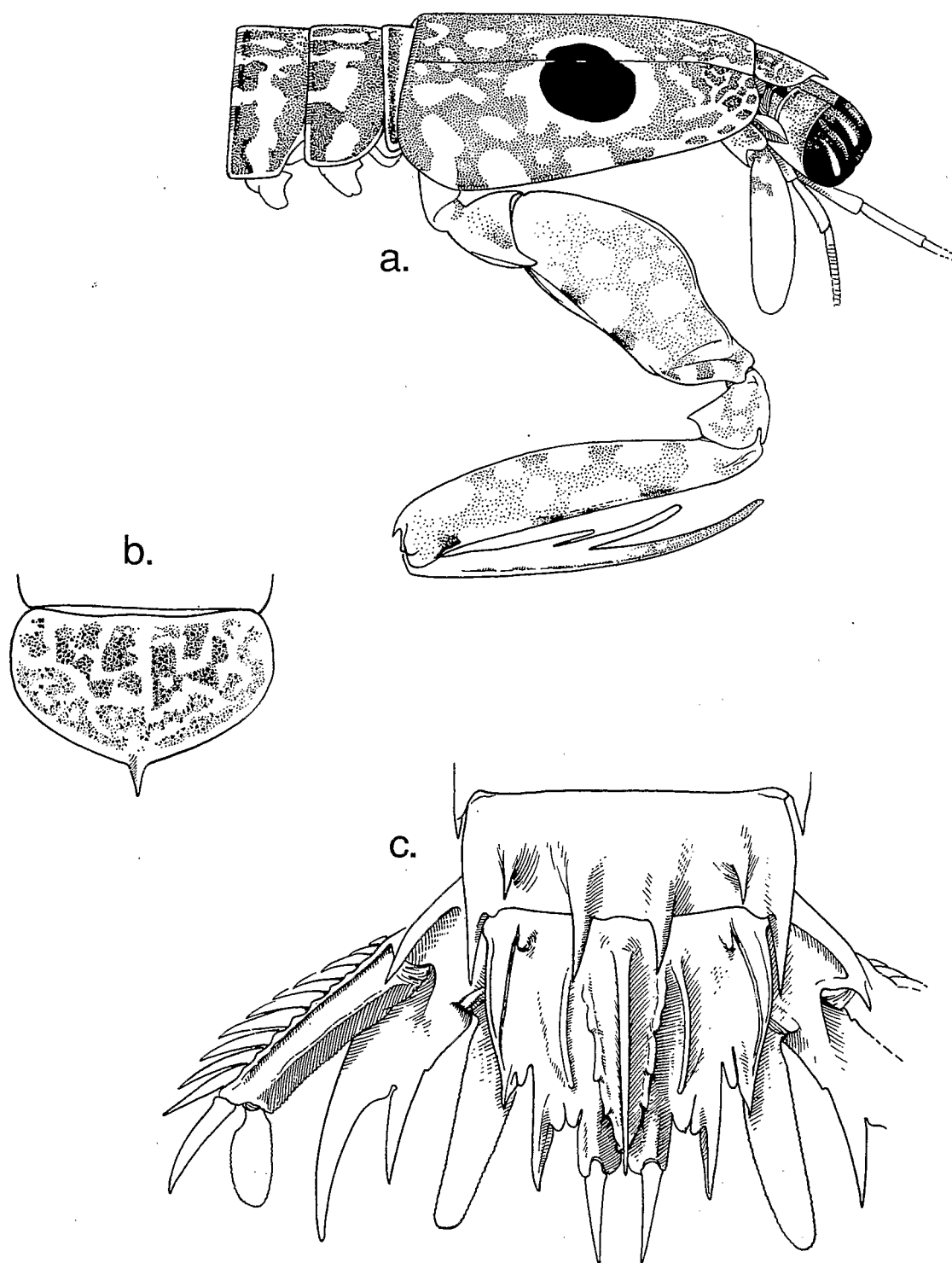


Fig. 4. — *Pseudosquilla komaii* sp. nov. holotype : ♀ TL 54mm : a. lateral view of anterior part of body ; b. rostral plate ; c. 6th abdominal somite, telson and uropod (dorsal view).

rial claws with light spot giving impression of banded colouration. Dorsal surface of exposed thoracic and 1st abdominal somites with a pair of longitudinal light bands extending almost along the length of the somites, lateral to these bands are reticulatedly arranged black pigments. Second to 5th abdominal somites with reticulated pattern with light transverse pattern gradually becoming more inconspicuous on the posterior segments. Sixth abdominal somite with less marked reticulation on anterior part, light transverse band becoming more conspicuous near posterior margin ; spines coloured red on their middle portion. Posterior margin of last 3 thoracic and first 5 abdominal somites is orange, interrupted with light colour, the orange colour is well pronounced between the lateral and marginal. Posterior margin of 6th abdominal somite with uninterrupted red colouration between the submedians, interrupted between the submedian and lateral. Telson with transverse light band on the middle of lateral margins extending from one side to the other ; spines on the marginal teeth with banded red colour. Uropod with round light spots or light bands : endopod banded with light and dark bands, distal segment of exopod with white spots, proximal segment with transverse light band as if the continuation of the transverse light band on telson ; basal prolongation with large light spots while the spines with red and light bands ; some movable spines of proximal segment of exopod with red band. Base of basal prolongation of uropod with ventral black patch. Ventral surface of 6th, 7th and 8th thoracic somites with a pair of black spots, each located near base of walking leg.

REMARKS. — *Pseudosquilla komaii*, new species, is morphologically close to *P. oxyrhyncha* Borradaile, 1898, differing mostly in the colour pattern. The colour pattern of *P. komaii* is close to *P. hieroglyphica* Manning, 1972, but the two differ by the presence of sharp spine on the rostral plate of *P. komaii* which is absent in *P. hieroglyphica*.

DISCUSSION. — *Pseudosquilla komaii*, sp. nov., is morphologically almost the same as *P. oxyrhyncha* Borradaile, 1898, differing mostly in the basic pattern of colouration. KOMAI (1927) figured a specimen which he identified as *P. ornata* having an unarmed rostral plate ; carapace with 2 large black spots surrounded by an entire light ring and with dark, anterior reticulation. KOMAI's figured specimen was regarded by MANNING (1972), as belonging to *P. hieroglyphica* Manning, 1972. In describing *P. ornata*, KOMAI (1927) also mentioned that his other specimen had a sharp spine on the rostral plate which was regarded by HOLTHUIS (1941) and MANNING (1972) as belonging to *P. oxyrhyncha* Borradaile, 1898. KOMAI did not give any comments on the colouration of his "spined specimen" which makes me suspect that it exhibits more or less the same colour pattern and therefore it does not belong to *P. oxyrhyncha* but to the present new species named in his honour. In his description of *Pseudosquilla oxyrhyncha* BORRADAILE (1898), mentioned that his specimen had two large dark spots on the carapace not surrounded by a white ring, and his figure (Pl. 6, fig. 9) confirmed his description. HOLTHUIS (1941) mentioned that his material of *P. oxyrhyncha* had the black spots surrounded by some white spots and he used this character to distinguish *P. oxyrhyncha* from *P. ornata* ; the latter has a complete white ring. It seems that the colour pattern of raptorial claws, uropod and telson of *P. oxyrhyncha* as figured by BORRADAILE (1898) approaches that of *P. komaii* while the colour pattern of the exposed thoracic and abdominal somites is not the same.

Measurements : ♀ holotype : TL 64 mm ; carapace length 5.8 mm ; eyelength 1.6 mm ; cornea width 1.3 mm ; antennular peduncle length 3.1 mm ; antennal scale : length 2.6 mm, width 0.7 mm ; rostral plate : length 1.2 mm, width 1.8 mm ; propodus of raptorial claw length 6.4 mm ; 5th abdominal somite width 4.5 mm ; telson : length 2.9 mm, width 3.4 mm.

Etymology : The specific name *komaii* is dedicated to Dr. Taku KOMAI (formerly Taku FUKUDA) who has contributed much to the knowledge of the Indo-West Pacific stomatopods.

DISTRIBUTION. — *Pseudosquilla komaii* sp. nov., is known from New Caledonian waters in 8 m depth, it probably also occurs in Ogasawara Islands, Japan.

Pseudosquilla megalophthalma Bigelow, 1893

Pseudosquilla megalophthalma - HOLTHUIS, 1941 : 267 (synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 612 (1 spec.). – Stn DW 636 (1 spec.). – Stn DW 639. – Chesterfield Islands - CORAIL 2 : stn DW 106 (2 specs.). The specimens are catalogued under MNHN Stn 1416-1418.

REMARKS. – The single black spot on the dorsal surface of the carapace is completely surrounded by an entire light ring in the small specimen (TL 28 mm) and becomes interrupted at its anterolateral part in the larger specimens. Two basic body colour patterns of the specimens are observed : specimens with body evenly mottled with light dots, and with a few light dots, mostly on lateral part of the 4th and 5th abdominal somites.

DISTRIBUTION. – *Pseudosquilla megalophthalma* has been reported from Mauritius (BIGELOW, 1894 ; MANNING, 1977 a), Red Sea (TATTERSALL, 1921 ; DOLLFUS, 1938, 1959 ; INGLE, 1963 ; HOLTHUIS, 1967 ; MANNING & LEWINSOHN, 1986), the Philippines (KEMP, 1915 ; ROXAS & ESTAMPADOR, 1930), Indonesia (HOLTHUIS, 1941) in depths of 0 - 3 m. This is the first record from New Caledonian waters, and the deepest ever reported (62 m). The specimens were collected from coral rubble and boulder, red mud and fragments of *Halimeda*.

Pseudosquilla ornata Miers, 1880

Pseudosquilla ornata Miers, 1880 : 33, pl. 3, figs 5, 6. – HOLTHUIS, 1941 : 263, fig. 3 (for older synonymy). – STEPHENSON, 1962 : 34. – LIU, 1975 : 185, figs 1-4. – MANNING, 1977 a : 286. – MOOSA, 1984 : 38.
nec *Pseudosquilla ornata* KOMAI, 1927 : 324, pl. 14, figs 2, 2 b.

MATERIAL EXAMINED. – Chesterfield Islands. CORAIL 2 : stn DW 138, 31 m, 1 ♂ TL 29 mm (MNHN Stn 1412).

REMARKS. – The general colouration of the preserved specimen is light brown. Cornea broader than stalk, not bilobed. Rostral plate without apical spine. Carapace with a pair of black spots surrounded by entire light ring. First 5 abdominal somites without dorsal carinae, 4th and 5th somites with posterolateral spines. Sixth abdominal somite with 3 pairs of dorsal carinae ending in spines. Telson with 3 pairs of carinae lateral to median carina, 3 marginal teeth present. Distal segment of uropodal exopod with 12 movable spines. *P. ornata* Miers, 1880, shares common characters with *P. hieroglyphica* Manning, 1972 but can be distinguished by their colour pattern.

Colour : The general colouration of the newly preserved specimen is light brown. Carapace and rostral plate with uniform light brown colour, antero-dorsal and antero-lateral regions of carapace with sparse round brown spots. Carapace with a pair of dark spots surrounded by an entire light ring. Exposed thoracic and abdominal somites with uniform light brown colouration transversed by lighter bands giving impression of banded pattern. Margin of carapace, exposed thoracic, and first 5 abdominal somites yellowish orange. Reddish colour on posterior margin of 6th abdominal somite, and also on margin, carinae and teeth of telson. Uropodal segments with light spots or bands. Distal part of basal prolongation of uropod with dark colour ventrally.

DISTRIBUTION. – Eastern African waters (BOUVIER, 1915 ; MOOSA, 1984), Indo-Malayan waters (HOLTHUIS, 1941 ; LIU, 1975) and Australian waters (STEPHENSON, 1962). The present record is new from New Caledonian waters.

Pseudosquilla richeri sp. nov.

(Fig. 5)

MATERIAL EXAMINED. — New Caledonia - *Lagoon* : stn DW 458, 39 - 40 m 1 ♂ specimen, TL 27 mm, holotype, (MNHN Stn 1419).

DIAGNOSIS. — Cornea broader than stalk. Rostral plate without apical spine. Dactylus of raptorial claw with 3 teeth. Ground colour of body with dark and light transverse bands. Dorsal surface of telson with median carina and 4 pairs of carinae : accessory medians, anterior submedians, anterior intermediates and marginals.

DESCRIPTION. — Eye triangular in shape, broadened anteriorly. Cornea broader than stalk, not bilobed, Corneal Index 319. Ocular scales small, erect, separated. Antennular peduncle length more than two-thirds carapace length. Antennal scales length less than half carapace length, and more than 3 times its greatest width. Rostral plate cordiform, one and a half times broader than long, without apical spine. Carapace smooth, semicylindrical, without carinae or spines, narrowing anteriorly ; anterolateral margin extending beyond base of rostral plate. Raptorial claws with 3 teeth on dactylus ; propodus slender, longer than carapace length, inferodistal margin without spine, inner proximal margin with only one movable spine ; opposable margin of propodus pectinated proximally only ; carpus with one blunt tooth anterior to dorsal ridge. Mandibular palp and 5 epipods present. Exposed thoracic somites smooth, lateral process of 5th somite rounded ; lateral process of 6th somite broader than 7th ; anterolateral process of 6th somite truncate, posterolateral process rounded ; posterolateral process of 7th somite rounded. Abdomen semicylindrical, smooth, without dorsal carinae on first 5 somites, posterolateral angles of 4th and 5th somites armed ; 6th somite with 3 pairs of carinae ending in spines, ventral projection in front of uropod articulation blunt. Telson slightly broader than long, with 3 pairs of marginal teeth, submedian appressed basally, with long movable apices. Dorsal surface of telson with median carina and 4 pairs of carinae on either side of median carina : accessory medians, anterior submedians, anterior intermediates and marginals ; submedian and intermediate teeth without dorsal carinae. Telson without submedian denticles ; 2 intermediates present, inner larger and 1 lateral denticle. Proximal segment of uropodal exopod about one and a half times as long as distal segment, outer margin with 10 movable spines, last slightly extending beyond distal segment. Outer spine of basal prolongation of uropod the longer, inner margin of basal prolongation smooth.

Colour : The preserved specimen does not retain any bright colouration. The general colouration of body appearing banded with transverse light and dark bands. Darker spots on the 7th to 8th thoracic and 1st to 5th abdominal somites, less pronounced on the thoracic somites. The light transverse band is also present on the middle part of telson which fails to spread from side to side. Proximal segment of uropodal exopod with transverse band on first half of its length, with fine, black, sparsely dispersed dots on distal part and on distal segment.

REMARKS. — *Pseudosquilla richeri* sp. nov., shares common morphological characters in dorsal carination of telson with *P. oculata* (Brullé, 1837) from the Indo-West Pacific and Atlantic, *P. adialata* Manning, 1964, and *P. guttata* Manning, 1972, but differs from them in having no apical spine on the rostral plate and lacking a pair of black spots on the carapace and in its pattern of body colouration. No known members of the genus have the body colouration resembling that of *P. richeri*.

Etymology : The specific name *richeri* is dedicated to Dr. Bertrand RICHER de FORGES who has made extensive collections from New Caledonia and the Chesterfield Islands have provided the main source of material for this study.

Measurements : The male holotype TL 27 mm ; CL 4.9 mm ; eyelength 1.9 mm ; cornea width 1.5 mm ; rostral plate : length 0.9 mm, width 1.5 mm ; antennular peduncle length 3.6 mm ; antennal scale : length 2.1 mm, width 0.6 mm ; raptorial propodus length 6.7 mm ; 5th abdominal segment width 3.5 ; telson : length 2.6 mm, width 2.9 mm.

DISTRIBUTION. — Known only from the type locality, the New Caledonian lagoon, in 39 - 40 m depth, on sand bottom with *Halimeda*.

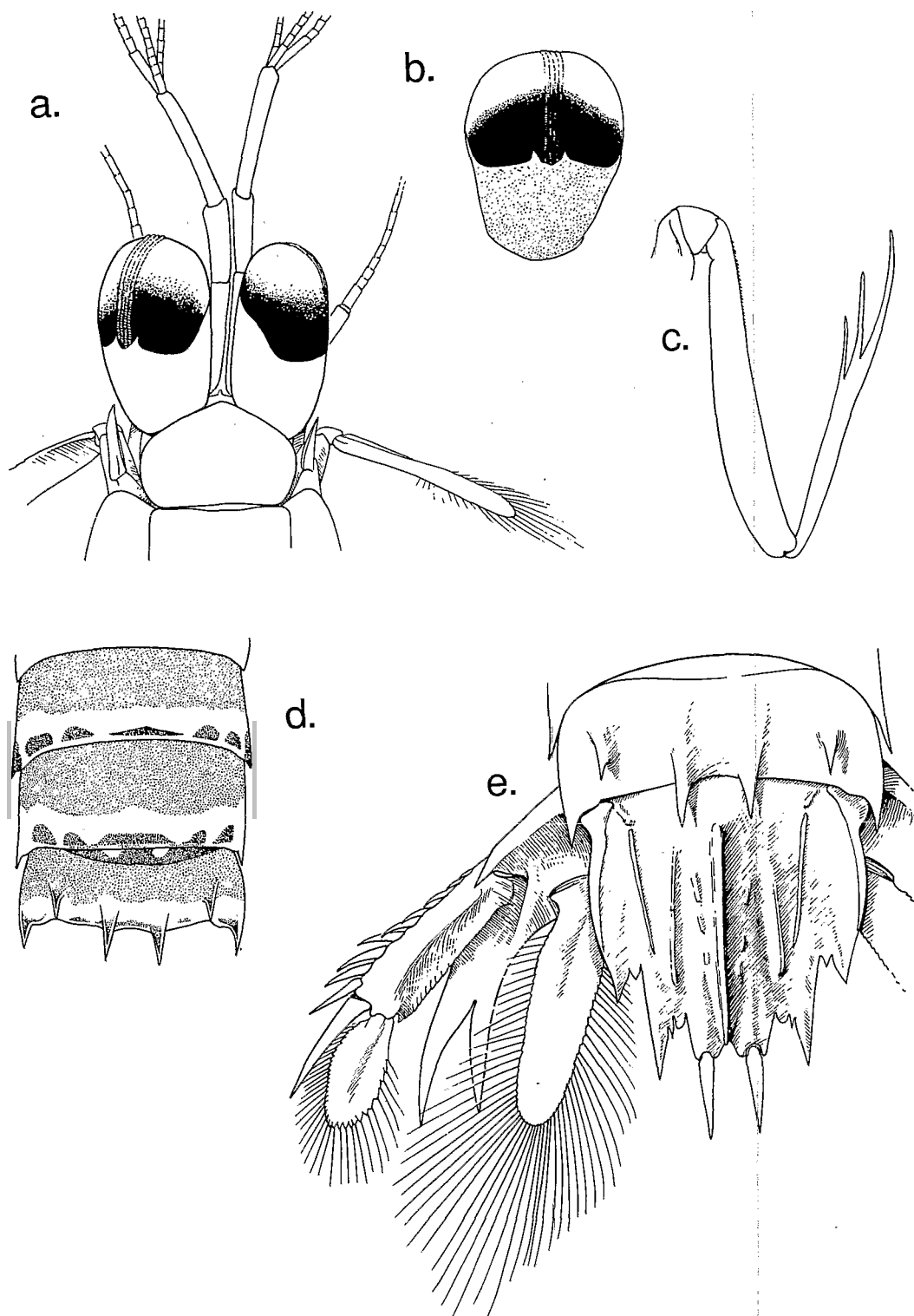


Fig. 5. — *Pseudosquilla richeri* sp. nov. holotype : ♂ TL 27mm : a. anterior part of body ; b. eye, dorsal view ; c. carpus, propodus and dactylus of raptorial claw ; d. last three abdominal somites (dorsal view) ; e. 6th abdominal somite, telson and uropod (dorsal view).

Superfamily LYSIOSQUILLOIDEA Giesbrecht, 1911

Family LYSIOSQUILLIDAE Giesbrecht, 1910

Heterosquillopsis gen. nov.

DIAGNOSIS. — Size small to moderate. Body smooth, depressed. Cornea bilobed. Rostral plate with broad basal portion and strong, not bifurcate, apical spine overreaching end of eye peduncle. Antennular process as sharp, anterolaterally directed spines. Antennal protopod without papilla. Carapace narrowed anteriorly, lacking carinae or spines. Exposed thoracic somites lacking longitudinal carinae. Mandibular palp and 5 epipods present. Dactylus of raptorial claw not inflated basally, opposable margin armed with 6-8 teeth. Abdomen smooth, lacking longitudinal carinae on first five somites. Telson much broader than long, dorsally armed with spines lateral to median posterior spine; margin with 3 pairs of teeth lateral to movable submedian teeth. Ventral surface of telson with a strong post-anal spine. Uropod flattened, distal segment of uropodal exopod longer than proximal; basal prolongation with inner spine longer than outer.

Type species : *Heterosquillopsis danielae* sp. nov.

REMARKS. — *Heterosquillopsis*, new genus, includes 3 species of lysiosquillids known from the Indo-West-Pacific region : *Heterosquilla* (*Heterosquilloides*) *insueta* Manning, 1970, *Heterosquilloides philippinensis* Moosa, 1985, and *Heterosquillopsis danielae* sp. nov. *Heterosquillopsis* is characterized by the absence of papilla on the antennal protopod; in having the rostral plate with a broad basal portion and a strong, not bifurcate apical spine; and the presence of a strong post-anal spine on the ventral surface of the telson.

Etymology : The name is derived from the Greek *-opsis* -, like, in combination with the generic name *Heterosquilla*. The gender is feminine.

Heterosquillopsis danielae sp. nov.

(Fig. 6)

MATERIAL EXAMINED. — New Caledonia - MUSORSTOM 4 : stn DW 246, 410 - 420 m : 1 ♂ TL 27 mm, holotype, (MNHN Stn 1520). BIOGEOCAL : stn DW 308, 20°40, 07'S - 166°58, 05'E, 510-590 m : 1 ♂ TL 33mm, paratype, (both claws missing). — Chesterfield Islands - MUSORSTOM 5 : 1 broken specimen (only carapace and thorac left); stn DW 283, 280 - 300 m (MNHN Stn 1521).

DESCRIPTION. — Eye large, cornea bilobed, set transversely on stalk; eyes extending to midlength of antennular peduncle; ocular scales small, fused medially. Antennular peduncle about half as long as carapace length, antennular process visible lateral to rostral plate as sharp, anterolaterally directed spines. Antennal scale small, length less than half carapace length; no papillae on antennal protopod. Rostral plate with short, broad basal portion, with rounded anterolateral angles and long apical spine extending beyond eyes; subapical ventral spine absent. Carapace smooth, narrowed anteriorly, without carinae or spines. Dactylus of raptorial claws with 8 teeth, outer margin with 2 lobes, distal lobe rounded, proximal lobe small and rectangular; propodus moderate (PI = 347) evenly pectinated, with 3 movable spines proximally on inner margin; dorsal ridge of carpus terminating in spine. Mandibular palp and 5 epipods present. Fifth thoracic somite without lateral prominences, 6th and 7th somites rounded anterolaterally, more angled posterolaterally; basal segment of walking legs each with ventrally directed spinule; endopod of walking legs two segmented, distal segment semicircular on 1st leg, more ovate on 2nd and slender on 3rd; ventral surface with low median keel. Abdomen smooth, depressed; first 5 somites unarmed, 5th somite broad (AWCLI = 118); 6th somite with only lateral spines, intermediate carinae short, not extending to posterior margin, a sharp spine present in front of the uropod articulation. Telson about 2 times as broad as long, dorsal surface with 3 pairs of spines lateral to median spine; 2 pairs of denticles present on anterior margin, submedian denticles slim,

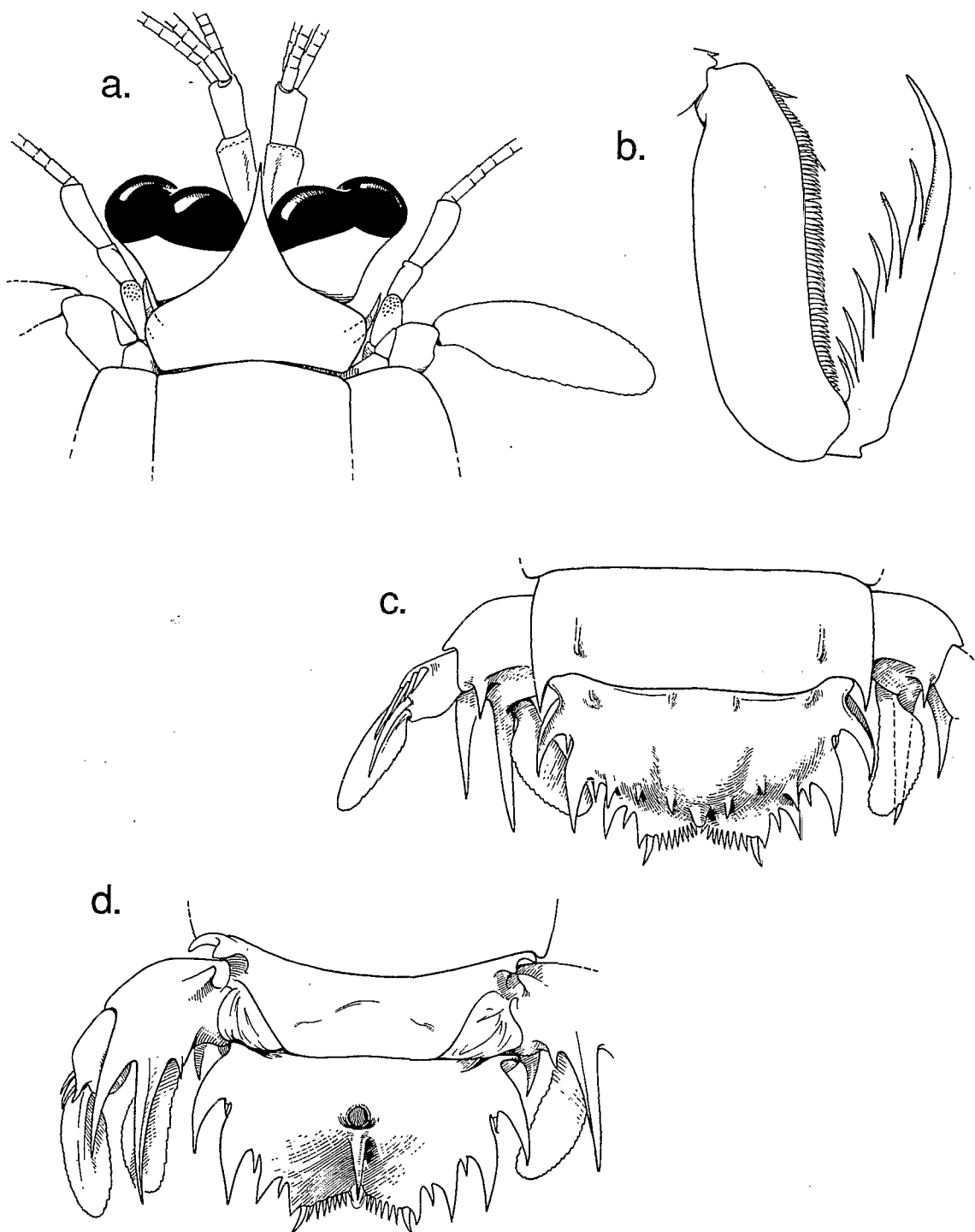


Fig. 6. — *Heterosquilopsis danielae* sp. nov. holotype : ♂ TL 27 mm : a. anterior part of body ; b. propodus and dactylus of raptorial claw ; c. 6th abdominal somite, telson and uropod (dorsal view, setae omitted) ; d. 6th abdominal somite, telson and uropod (ventral view, setae omitted).

resembling a carinule and lateral denticles rounded ; margin with 4 pairs of marginal teeth in addition to submedian movable teeth ; denticle sharp, formulation : submedians 8-9, intermediates 1, laterals 1, marginals 1 ; ventral surface with sharp post-anal spines directed posteriorly. Basal segment of uropod with sharp spine ; distal segment of exopod longer than proximal segment ; proximal segment with 6 movable spines, last extending beyond midlength of distal segment, inner distal angle of proximal segment with 6 stiff setae and a lateral spine situated ventrally ; basal prolongation of uropod much longer than outer, spine present proximally at articulation of endopod.

Colour : The colour of the preserved specimens is completely faded.

Measurements : The male holotype : TL 27 mm ; carapace length 4.5 mm ; eye length 1.2 mm ; cornea width 1.7 mm ; rostral plate : length 1.7 mm, width 2.1 mm ; antennular peduncle length 2.3 mm ; antennal scale length 1.8 mm ; 5th abdominal somite width 5.1 mm ; telson : length 2.0 mm, width 4.5 mm.

REMARKS. – *Heterosquilla danielae*, new species, resembles *Heterosquilloides latifrons* (de Haan, 1844), *H. brazieri* (Miers, 1880), *Heterosquilla insueta* (Manning, 1970) and *H. philippinensis* Moosa, 1985 in the form of rostral plate and the presence of post-anal spine. It differs from them in having 8 teeth on the dactylus of the raptorial claw, in having strongly bilobed eyes with outer margin of stalk longer than inner margin, the presence of short intermediate carinae situated medially on the 6th abdominal somite, and the ornamentation of the dorsal surface of the telson as well as the form of marginal teeth.

Etymology : The specific name *danielae* is dedicated to Ms Danièle DONDON who was a great help in the preparation of the material for the present study.

DISTRIBUTION. – Known only from New Caledonian waters in depths ranging from 280 - 420 m.

Lysiosquilla maculata (Fabricius, 1793)

Lysiosquilla maculata. – MANNING, 1978 b : 3, figs 1 - 3, 9 (synonymy).

MATERIAL EXAMINED. – New Caledonia : Ile des Pins (1 ♂ TL 110), det. R. B. MANNING (MNHN Stn 624)

DISTRIBUTION. – The specimen was identified by R. B. MANNING but not mentioned in his synopsis of the Indo-West Pacific *Lysiosquilla* (MANNING, 1978 b). Although the species has a wide distribution in the shallow water of the Indo-West Pacific region, it has not previously been reported from New Caledonian waters.

Family CORONIDIDAE Manning, 1980

Paracoridon gen. nov.

DIAGNOSIS. – Size small, body depressed, loosely articulated, most of the dorsal surface smooth. Eye not markedly triangular, cornea strongly bilobed, ocular scales fused medially, bifid with 2 spines. Rostral plate subquadrate with apical spine. Antennal protopod with 1 mesial and 2 ventral papillae. Carapace narrowed anteriorly, without carinae or spines. Exposed thoracic somites lacking longitudinal carinae, 8th somite with very low carina and a tiny tooth. Mandibular palp and 5 epipods present. Propodi of 4th and 5th maxillipeds broader than long, ventral margin serrated with sparse setae. Raptorial dactylus not inflated basally, with one basal lobe, armed with 5 teeth ; propodus evenly pectinated with 4 movable spines on inner proximal margin ; dorsal ridge of carpus low, terminating in a sharp tooth ; ischiomerall articulation terminal, merus much longer than ischium. Pereiopods armed with a strong basal spine on each leg, endopods two segmented, slim on the 1st and slightly shorter and wider on the 2nd and strap-shaped on the 3rd. Abdomen depressed, articulated anterolateral plates

present ; first 4 somites with longitudinal carinae or spines ; 5th somite with a blunt tooth situated posterointermedially ; 6th somite with submedian and lateral carinae ending in spines, intermediate carinae not markedly ending in spines ; sharp teeth present on posterior margin between the submedian and intermediate carinae, short stout spines cover the surface between submedian and intermediate carinae ; a small ventrolaterally directed spine present anterior to articulation of each uropod. Telson broader than long with low and broad median carina not ending in spine ; dorsal surface lateral to median and posterior to median boss covered with short stout spines ; movable submedians and other marginal teeth present ; submedian denticles present. Uropod flattened, basal segment with spined median carina ending posteriorly in spine ; outer margin of proximal segment of uropodal exopod with 9 graded movable spines ; basal prolongation of uropod with 2 strong spines, outer spine shorter than inner, margin smooth ; endopod without proximal fold on inner margin.

Etymology : The generic name *Paracoridon* is given to show the close affinity of the present genus to *Acoridon*. The gender is neuter.

Type species : *Paracoridon johrae* sp. nov., by monotypy.

REMARKS. — *Paracoridon* resembles most members of the family Coronididae i.e. : *Acoridon*, *Coronida*, *Neocoronida*, and *Parvisquilla* in the form of dorsal ornamentation of the 6th abdominal somite and telson. The members of the first 3 genera do not possess a distinct dorsal median carina on the telson, which is one of the important characters of the superfamily. *Parvisquilla* Manning, 1978 of the Coronididae and *Erythrosquilla* Manning & Bruce, 1984 of Erythrosquillidae both are families of the Lysiosquilloidea having a median carina on the telson which is flat and broad in the first and distinct in the second. The presence of the latter family leads to the need to amend the superfamily definition. *Paracoridon*, like *Parvisquilla*, has a broad flat median carina on the telson. Following MANNING's key for the recent superfamilies and families of stomatopods (MANNING, 1980) *Paracoridon* could be identified as belonging to Lysiosquillidae which is characterized in having the distal segment of the first 2 walking legs slim and elongate, not ovate or subcircular, proximal portion of outer margin of uropodal endopod lacking a strong fold ; raptorial dactylus not inflated ; and propodus of claws fully pectinated. These characters are also the characters of the Coronididae, with the exception that members of the Coronididae possess a basally inflated raptorial dactylus, which is not found in the presently known members of Lysiosquillidae. The inflated basal portion of the raptorial dactylus could not be solely regarded as the only differentiating character to separate the two families. Therefore, due to the very close resemblances of the present new genus to the members of Coronididae, I provisionally placed it in the Coronididae rather than in the Lysiosquillidae. *Paracoridon* differs from all the presently known members of Lysiosquilloidea mainly in the form of dorsal ornamentation of the 6th abdominal somite and telson ; it differs from all the known members of Coronididae in the form of the basally not inflated raptorial dactylus and in the ornamentation of the 6th abdominal somite and telson.

Paracoridon johrae sp. nov.

(Fig. 7)

MATERIAL EXAMINED. — New Caledonia - Lagoon : stn 829, 160-200 m : 1 ♂ TL 39 mm, holotype, (MNHN Sto.1879).

DESCRIPTION. — Size small, male mature at TL 39 mm. Eye elongate, set obliquely on stalk, extending to end of first segment of antennular peduncle ; cornea strongly bilobed, broader than stalk. Ocular scales fused, bifid with two sharp, anteriorly directed spines, covered by the rostral plate. Anterior margin of ophthalmic somite produced into two separated tubercles. Antennular peduncle length less than half carapace length ; antennular processes produced into anterolaterally directed spines visible lateral to the rostral plate. Antennal scales less than half of carapace length ; protopod with 1 mesial and 2 ventral papillae. Rostral plate subquadrate with median spine and lacking median carina. Dactylus of raptorial claw not basally inflated, armed with 5 teeth, outer margin with one basal lobe ;

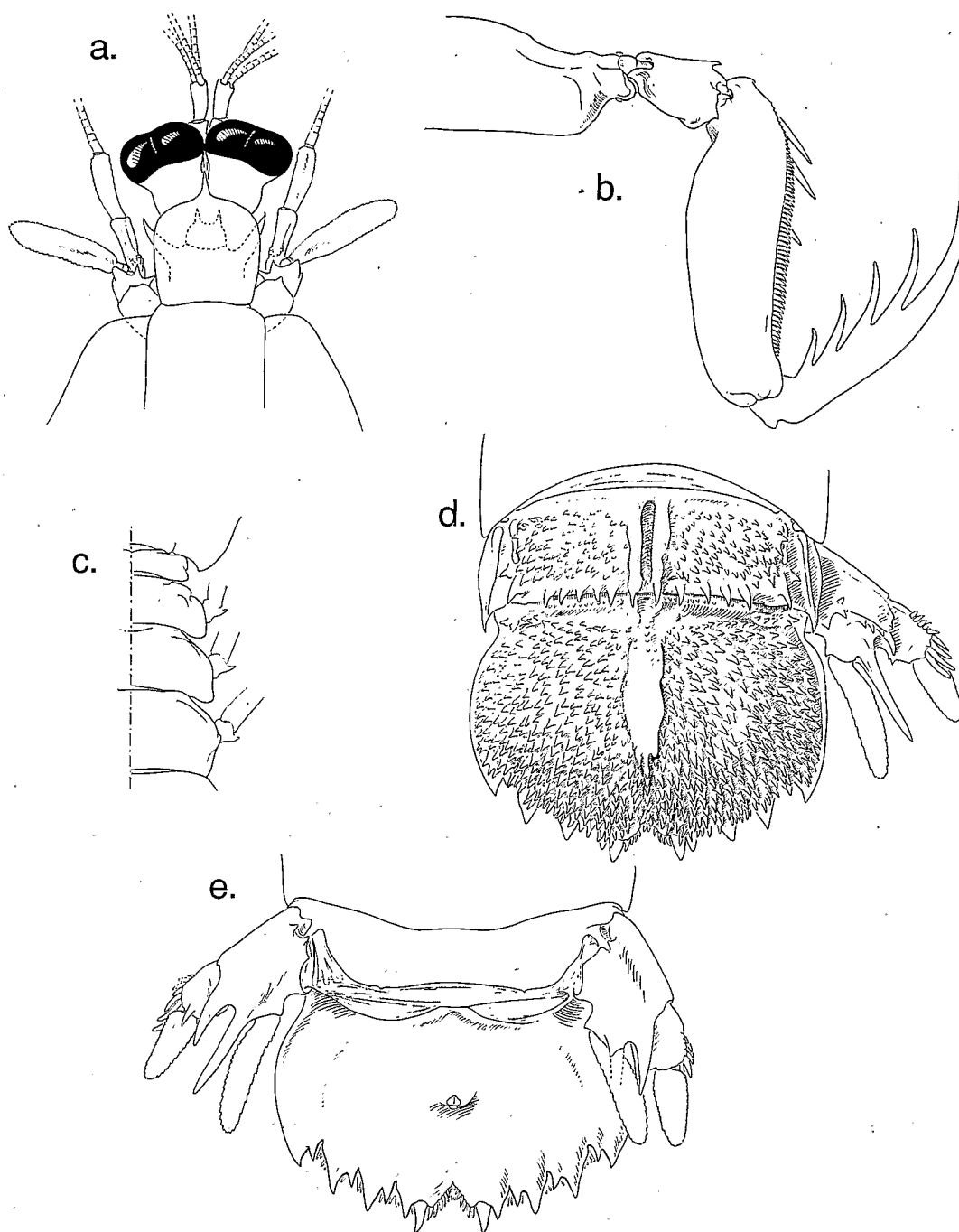


Fig. 7. — *Paracoridon johrae* sp. nov. holotype : ♂ TL 39 mm : a. anterior part of body ; b. carpus, propodus and dactylus of raptorial claw ; c. 5th to 8th thoracic somites (one side only) ; d. 6th abdominal somite telson and uropod (dorsal view, setae omitted) ; e. 6th abdominal somite, telson and uropod (ventral view, setae omitted)

propodus evenly pectinated with 4 movable spines on inner proximal margin ; dorsal ridge of carpus low terminating to a sharp tooth ; ischiomerar articulation terminal, merus is much longer than carpus. Mandibular palp and 5 epipods present. Exposed thoracic somites without longitudinal carina ; lateral process of 5th somite rounded ; lateral process of 6th somite not very markedly angulated, flanked by an eared lobe ; 7th somite with slightly expanded posterolateral lobe ; ventral carina on the 8th somite very low with a tiny tooth medially. Walking legs each armed with a strong basal spine ; endopod 2-segmented, slender on the first 2 legs and strap-shaped on the 3rd. First 5 abdominal somites smooth, without carina or spines ; anterolateral plates present. Sixth abdominal somite with submedian carina ending posteriorly in spines, intermediate carinae indistinct, sharp spine at posterior end ; lateral carinae well marked, ending in spine ; posterior margin between the submedian and intermediate carinae armed with 4-5 spines ; dorsal surface between the submedian and intermediate carinae covered with short spines directed dorsoposteriorly. Telson more than twice as broad as long ; dorsal surface covered with short spines directed dorsoposteriorly and lateroposteriorly ; median carina low and broad, without posterior spine ; margin armed with 4 teeth lateral to the movable submedians ; denticles sharp, formulation : submedians 7, intermediates 1, lateral 1 and marginal 1. Ventral surface of telson smooth, without spine or post-anal carina. Basal segment of uropod with a sharp spined dorsal carina ending posteriorly in an inwardly curved spine, inner posterior margin with a spine. Uropodal exopod with 9 graded movable spines on outer margin of proximal segment, last extending to almost midlength of distal segment, ventral surface of proximal segment with an apical spine ; distal segment longer than proximal. Basal prolongation of uropod with 2 spines, inner spine longer than outer, margin smooth.

Measurements : ♂ holotype : TL 39 mm ; rostral plate 2.5 mm (including spine), width 2 mm ; eye length 2 mm ; cornea width 2.2 mm ; antennular peduncle length 2.6 mm ; antennal scale length 2.6 mm ; carapace length 6.8 mm, anterior width 4.2mm, posterior width 6.5 mm ; 5th abdominal segment width 7.2 mm ; telson : width 7.5 mm, length 3 mm.

Etymology : The specific name *johrae* is dedicated to my wife Johra Kasim who has wisely encouraged me to this study.

DISTRIBUTION. – Known only from the type locality, New Caledonia.

REMARKS. – *Paracoridon johrae*, new species, differs from all members of the Coronididae mainly in the dorsal ornamentation of the 6th abdominal somite and telson. It superficially resembles *Acoridon manningi* Adkison, Heard and Hopkins, 1983, but differs in : 1. the form of outer margin of raptorial dactylus which is inflated in *A. manningi* and not so in *P. johrae* ; 2. the presence of a strong basal spine on each walking leg of *P. johrae* which is absent in *A. manningi* ; 3. the presence of marked submedian carinae on the 6th abdominal somite in *P. johrae* ; and 4. the presence of a median carina on the telson in *P. johrae* which is absent in *A. manningi*. *P. johrae* and *P. manningi* share the same form of basal prolongation of the uropod which differs from all other members of the Coronididae.

Parvisquilla multituberculata (Borradaile, 1894)

Squilla multituberculata Borradaile, 1898 : 38, pl. 6, figs 7, 7 a-c.

Parvisquilla multituberculata - MANNING, 1978 e : 16, fig. 8 (synonymy).

REMARKS. – The species is not represented in the collection. *Parvisquilla multituberculata* has been reported from Sandal Bay, Lifu, Loyalty Islands, the type locality (BORRADAILE, 1898 ; MANNING, 1973, 1978 e).

Family NANNOSQUILLIDAE Manning, 1980

Acanthosquilla derijardi Manning, 1969

Acanthosquilla derijardi Manning, 1969 b : 434, fig. 2 (synonymy). – MOOSA, 1973 : 13.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 972 (1 spec.). – Chesterfield Islands - CORAIL 2 : stn DW 73 (spec.). The specimens are catalogued under MNHN Stn 1199 - 1200.

Size of specimens : Male TL 66 mm, female TL 31 mm.

Depth range in New Caledonia : 27 - 41 m.

REMARKS. – The New Caledonian specimens agree in most characters with the description and figure of the type specimens, differing only in the number of spines on the dorsal surface of the telson, the spines on the distal segment of uropodal exopod and the absence of the small tooth on the raptorial dactylus. The specimens have only 5 teeth on the dactylus of the raptorial claws (the large specimen has only one claw) and as MOOSA (1973) mentioned TWEEDIE's specimen has the sixth tooth resembling more a denticle, which is also seen in some of the type specimens (MANNING, 1969 b). The spine formulation on the dorsal surface of the telson lateral to the median carina varies : the smaller female has 2-2 submedians and 4-4 laterals while the large male has 3-4 submedians and 5-5 laterals. In the large male additional spines are seen under the submedians and the laterals which then seem to comprise a group of spines. The submedians are composed of 6-8 spines and the laterals composed of 6-6 spines. The movable spines on the proximal segment of the uropodal exopod are 5-5 in the female and 6-6 in the male. The number of the slender stiff setae on the inner distal lobe of the proximal segment of the uropodal exopod are 6-6 in the female specimen and 10-11 in the male specimen.

DISTRIBUTION. – *Acanthosquilla derijardi* Manning, 1969 b, has so far only been reported from Madagascar, on a flat, with coral and sand ; the Philippines, 29 m, on fine sand, black sponge (MANNING, 1969 b) ; Indonesia (MOOSA, 1973, 1975) on coarse sand in 18 to 22 m depths, and on sand with coral rubble on intertidal zone ; Red Sea and Carolines, shore reef and bordering mangrove (HOLTHUIS, 1975) ; ? Seychelles, 50 m on hard bottom with fine sand and *Halimeda* (MOOSA & CLEVA, 1984 a). The species is reported from New Caledonian waters for the first time .

Acanthosquilla multifasciata (Wood-Mason, 1895)

Lysiosquilla multifasciata Wood-Mason, 1895 : 2, pl. 1, figs 4-7.

Acanthosquilla multifasciata - MOOSA, 1973 : 14 (synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 352 (1 spec.). – Stn DW 528 (1 spec.). – Stn DW 604 (2 specs). – Stn DW 609 (1 spec.). – Stn DW 622 (1 spec.). – Stn DW 682 (1 spec.). – Stn DW 810 (1 spec.). – Stn DW 1204. The specimens are catalogued under MNHN Stn 1192 - 1198.

Sizes of specimens : Males TL 28 - 49 mm, females 16 - 42 mm.

Depth range in New Caledonia : 36 - 82 m.

DISTRIBUTION. – *Acanthosquilla multifasciata* is widely distributed in the Indo-West Pacific region. The species inhabits shallow water areas such as mangrove flats (STEPHENSON, 1962), littoral zone (HOLTHUIS, 1967) and has also been found in deeper water down to 40 meters (MOOSA, 1973) on various kinds of substrates : mud, sand, sand and rubble, sand with occasional sponge and corals. The present record is new for New Caledonia and also gives the deepest record (82 m).

Pullosquilla pardus sp. nov.
(Fig. 8)

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 238, 50 m : 1 ♂ TL 16 mm, holotype, (MNHN Stn 1626).

DESCRIPTION. – Eyes small, subglobular, set obliquely on stalk, extending almost to end of antennular peduncle ; ocular scales erect, fused. Antennular peduncle short, less than half as long as carapace length ; dorsal process of antennular somite visible lateral to rostral plate as a sharp, anterolaterally directed spine. Antennal scale small, slender, about one-third as long as carapace length ; one ventral and one mesial papilla present on antennal protopod. Rostral plate triangular, slightly broader than long, without apical spine. Carapace smooth, narrowed anteriorly, without carinae or spines. Raptorial claw slender ; dactylus armed with 12 teeth ; propodus fully pectinate with 4 movable spines on inner proximal margin ; dorsal ridge of carpus terminating in blunt tooth ; ischium slightly shorter than merus, with subdistal ventral spine on outer surface. Mandibular palp absent, 5 epipods present. Lateral process of 6th and 7th thoracic somites rounded anterolaterally and posterolaterally. Basal segment of 1st walking leg with inner spine, 2nd leg with inner and outer spines and 3rd leg with outer spine only. Abdomen smooth, depressed, without dorsal carinae or spines. Telson broader than long, dorsal surface with broad, flattened prominence representing the posterior part of a median carina ; margin with 4 pairs of teeth excluding movable submedian teeth ; denticles sharp, located submarginally, formulation : submedians 4-5, intermediates 1, laterals 1, and marginals 1. Basal segment of uropod with a tooth on distal inner margin ; proximal segment of uropodal exopod slightly shorter than distal segment, outer margin with 4 movable spines, last spine extending beyond distal segment. Basal prolongation of uropod broad, inner spine longer than outer. Uropodal endopod broad.

Colour : The preserved specimen is decorated with black patches on dorsal surface of carapace, thoracic and abdominal somites with black pigment in "panther-like" arrangements. Wider patches are seen on posterolateral plates of carapace and lateral portion of thoracic and abdominal somites.

Measurements : The ♂ holotype has the following measurements : Total length 16 mm ; carapace length 5.9 mm ; rostral plate : length 1.9 mm, width 2.2 mm ; eye length 1.9 mm ; cornea width 1.4 mm ; antennular peduncle length 2.7 mm ; 5th abdominal somite width 6.2 mm ; telson : length 2.6, width 4.3.

REMARKS. – *Pullosquilla pardus*, new species, closely resembles *P. malayensis* (Manning, 1968 a) sharing the same form of rostral plate and eyes. It differs in : 1. the form of antennal scale which is short and broad in *P. malayensis*, slender and relatively long in *P. pardus* ; 2. the number of teeth on the raptorial dactylus 16-21 in *P. malayensis*, 12 in *P. pardus* ; 3. the form of dorsal surface of telson ; 4. the form of the marginal teeth of the telson ; and 5. the form of uropodal endopod.

Etymology : The specific name *pardus* - panther-like pattern, is given to the present new species owing to its colouration.

DISTRIBUTION. – Known only from New Caledonian waters in 50 m depth.

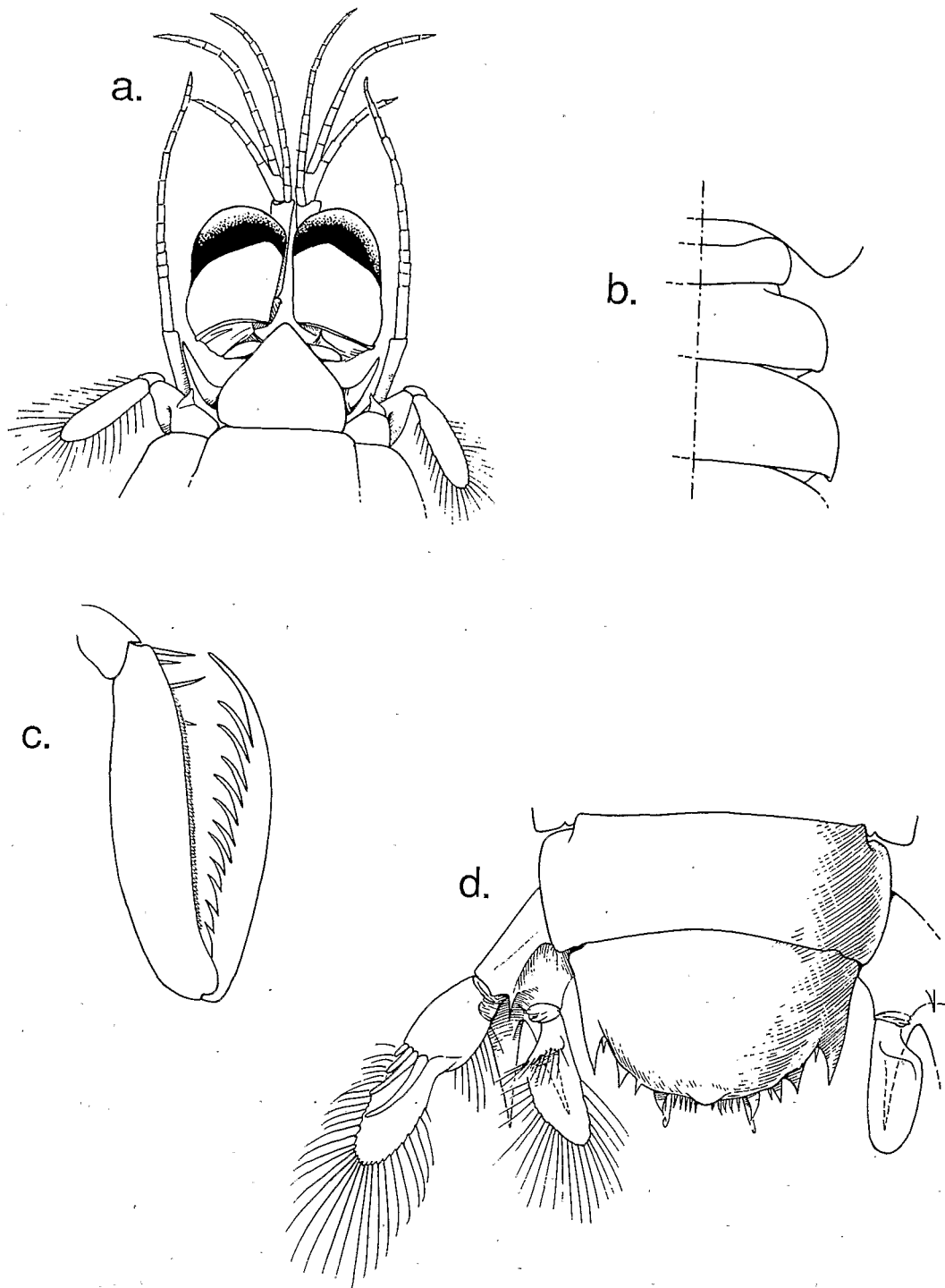


Fig. 8. — *Pullosquilla pardus* sp. nov. holotype : ♂ TL 45mm : a. anterior part of body ; b. last three thoracic somites (one side only) ; c. carpus, propodus and dactylus of raptorial claw ; d. 6th abdominal somite, telson and uropod (dorsal view).

Superfamily SQUILLOIDEA Latreille, 1803

Family HARPIOSQUILLIDAE Manning, 1980

Harpiosquilla intermedia Manning & Michel, 1973

Harpiosquilla intermedia Manning & Michel, 1973 : 113, figs 1-2.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 184 (1 spec.). – Stn DW 187 (1 spec.). – Stn CP 967 (1 spec.). – Stn CP 1060 (1 spec.). – *St Vincent Bay* : Trawl : stn 1, 21°58, 0'S - 166°01, 2'E, 6 m, (2 specs). – Stn 4, 21°58, 0'S - 166°00, 8'E, 7 m, (1 spec.). – Stn 13, 21°57, 2'S - 166°02, 3'E, 7 m, (1 spec.). – Stn 15, 21°58, 8'S - 166°01, 5'E, 14 m, (2 specs). – Stn 16, 21°58, 4'S - 166°01, 4'E, 17 m, (2 specs). – Stn 17, 22°04, 4'S - 166°05, 8'E, 13 m, (1 spec.). – Stn 20, 22°04, 7'S - 166°06, 1'E, 14 m, (1 spec.). – no station number (13 specs). The specimens are catalogued under MNHN Sto 1203 - 1219 and LON S 2554.

Size of specimens : Males TL 131 - 266 mm, females TL 115 - 210 mm.

Depth range in New Caledonia : 4 - 16 m.

REMARKS. – The specimens agree with the type description and figures of MANNING and MICHEL (1973) whose material came from New Caledonia. One of the present female specimens has 8 and 9 teeth on its raptorial dactyli while others, as the type, have only 8 teeth.

DISTRIBUTION. – *Harpiosquilla intermedia* is only known from New Caledonia. The species inhabits shallow waters. Present records show that it lives in waters of less than 20 m deep.

Family SQUILLIDAE Latreille, 1803

Alima guinotae sp. nov.
(Fig. 9)

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 221, 55-65 m : 1 ♂ 45 mm, holotype (both raptorial claws missing), (MNHN Sto 1657).

DESCRIPTION. – Body smooth and polished, size moderate, male mature at TL 45 mm. Eyes moderate, set obliquely on stalk, extending to 1st segment of antennular peduncle ; cornea large, indistinctly bilobed, CI 215 ; ocular scales separate, truncate, anterolaterally directed ; anterior margin of ophthalmic somite triangular with pointed apex. Antennular peduncle as long as carapace length ; dorsal process of antennular somites, each forming an anterolaterally directed spine. Antennal scale of moderate length, length about three-fourths as long as carapace length. Rostral plate subquadrate, slightly broader than long, with a short median carinule. Carapace narrowed anteriorly, median carina present, lacking anterior bifurcate portion ; anterolateral margin with small spine not extending to base of rostral plate. Mandibular palp and 4 epipods present. Raptorial claws missing. Exposed thoracic somites without submedian carinae ; lateral process of 5th somite bilobed, anterior lobe a sharp anteriorly directed spine, posterior lobe a small tooth laterally directed ; 6th and 7th somites with inconspicuously bilobed lateral process, anterior lobe small, posterior lobe angled. Abdominal somites with normal complement of carinae, spine formulation as follows : submedians 5-6, intermediates 3-6, laterals 1-6, marginals 1-5. Telson slightly broader than long, dorsal carinae ending in posterior spine (which is broken in the type specimen) ; dorsal surface lateral to median carina is finely granulate ; 3 marginal teeth and prelateral lobe present, submedians with fixed apices ; denticles broad, formulation: submedians 3, intermediates 8, laterals 1 ; ventral surface with short post-anal keel. Proximal segment of uropodal exopod slightly shorter than distal segment, outer margin with 7 movable spines, last spine not extending to midlength of distal segment; outer margin of basal prolongation of uropod with a broad lobe, inner margin granulate.

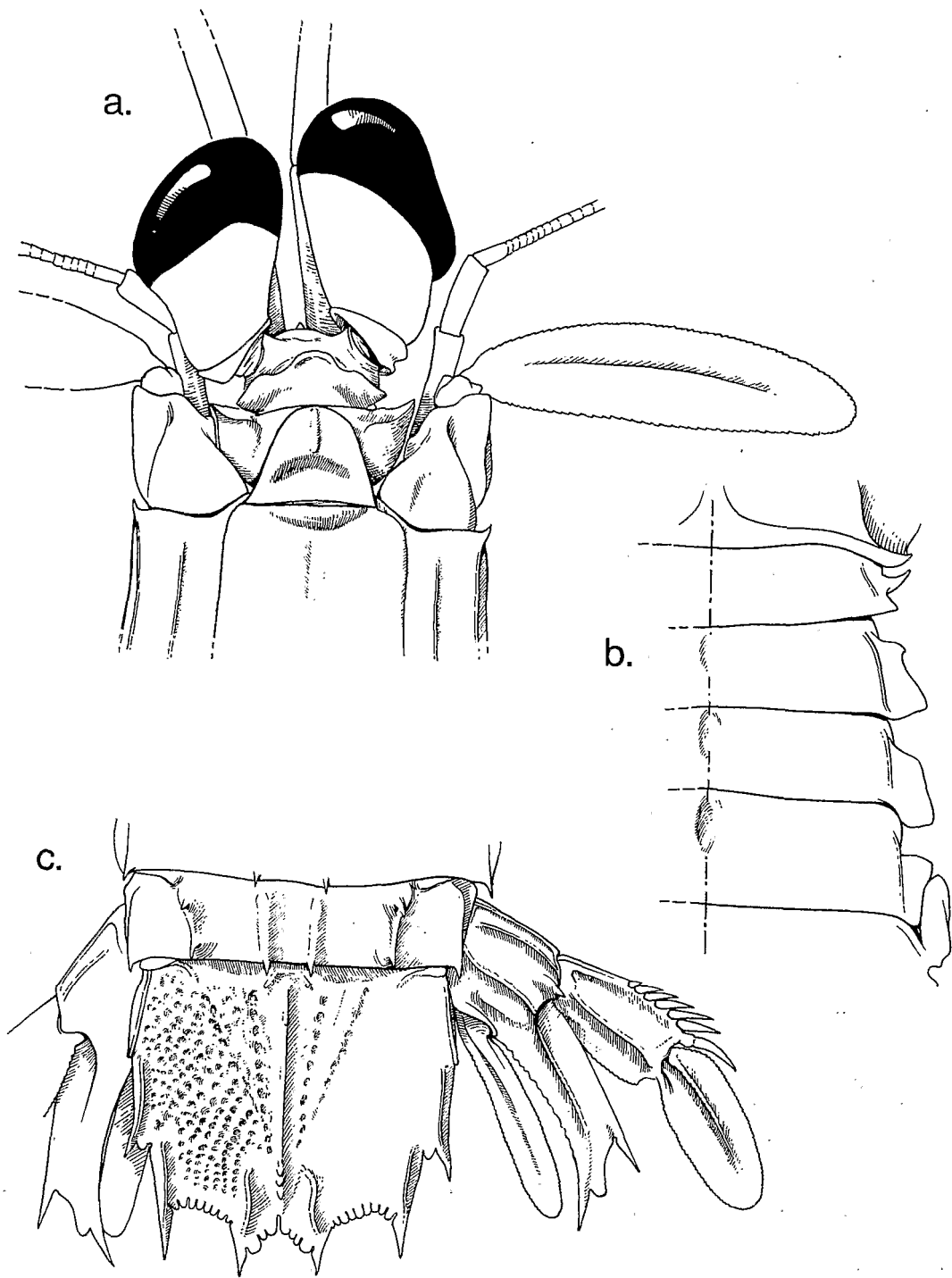


Fig. 9. — *Alima guinotae* sp. nov. holotype : ♂ TL 45mm : a. anterior part of body ; b. last four thoracic somites (one side only) ; c. 6th abdominal somite, telson and uropod (dorsal view, setae omitted). Only one side of telson denticulation is figured.

Measurements : Male holotype : TL 45 mm ; carapace length 7.7 mm ; eye length 3.6 mm ; cornea width 3.6 mm ; antennular peduncle length 7.7 mm ; rostral plate : length 1.5 mm, width 1.7 mm ; telson : length 3.4 mm, width 3.9 mm.

REMARKS. – *Alima guinotae* sp. nov., differs from the known members of the genus in the form of the lateral process of 5th abdominal somite in having a small, instead of broad, posterior process and in having a subquadrate rostral plate.

Etymology : The specific name *guinotae* is dedicated to Dr Danièle GUINOT, who very kindly gave me access to her personal library for this study.

DISTRIBUTION. – Known from New Caledonian waters only, at a depth of 55-65 m on shelly debris bottom.

Alima laevis (Hess, 1865)

Squilla laevis. – KEMP, 1913 : 49, pl. 3, figs 35-37. – STEPHENSON & MCNEILL, 1955 : 6.

MATERIAL EXAMINED. – New Caledonia -*Lagoon* : stn DW 756 (1 spec.). – Stn DW 996 (1 spec.). The specimens are catalogued under MNHN Sto 1655-1656.

Size of specimens : Females TL 24 - 33 mm.
Depth range in New Caledonia : 27 - 53 m.

REMARKS. – The specimens are identified as *Alima laevis* (Hess, 1865) owing to the presence of a median carinule on the dorsal surface of the rostral plate ; the presence of an anterior bifurcation on the median carina of the carapace which is not interrupted at its base ; the presence of 6 teeth on the raptorial dactylus ; the bilobed lateral process of the 5th thoracic somite where the posterior lobe is a large ovate plate directed laterally ; the presence of an inconspicuous bilobed lateral margin of the 6th and 7th thoracic somites ; and the low carinated dorsal carinae on the telson.

DISTRIBUTION. – *Alima laevis* was only known to inhabit Australian waters where it was collected from localities in Sydney, Victoria, Port Jackson, South Australia and Western Australia (STEPHENSON & MCNEILL, 1955). The presence of the species in New Caledonian waters is a new record for the area.

Paralimopsis gen. nov.

DIAGNOSIS. – Eye large, cornea bilobed. Ocular scales separate. Carapace with median carina. Mandibular palp absent, 4 epipods present. Dactylus of raptorial claw armed with 5 teeth. Lateral process of 5th thoracic somite bilobed. Lateral process of 6th thoracic somite not markedly bilobed. Lateral process of 7th thoracic somite inconspicuously bilobed. Abdomen with normal complement of carinae, first 5 somites with median carina. Submedian teeth of telson with movable apices. Basal prolongation of uropod with spines on inner margin.

Type species : *Paralimopsis carinata*, new species, by monotypy.

Etymology : The name derived from the generic name *Alimopsis* in combination with the Greek -*para* - beside, to show the close relation with *Alimopsis*. The gender is feminine.

REMARKS. – *Paralimopsis* gen. nov., closely resembles *Alimopsis* in the superficial carination of the abdominal carinae. It differs in : 1. the mandibular palp absent in *Paralimopsis*, present in *Alimopsis* ;

2. four epipods present in *Paralimopsis*, only 2 present in *Alimopsis* ; 3. the inner margin of the basal prolongation of the uropod with spines in *Paralimopsis*, crenulate in *Alimopsis*.

Paralimopsis carinata sp. nov.
(Fig. 10)

MATERIAL EXAMINED. — Chesterfield Islands - CORAIL 2 : stn DW 58, 58 - 58 m : 1 ♂ TL 34 mm, holotype, (MNHN Stn 1654).

DESCRIPTION. — Dorsal surface of body smooth, polished. Size small, male mature at TL 34 mm. Eyes small, not extending to end of 1st segment of antennular peduncle ; cornea strongly bilobed, much wider than stalk, CI 375 ; ocular scale rounded, separate ; anterior margin of ophthalmic somite truncate. Antennular peduncle longer than carapace ; dorsal process of antennular somite a blunt, anterolaterally directed tooth ; antennal scale short, about half of carapace length. Mandibular palp absent, 4 epipods present. Rostral plate subquadrate, a little longer than broad, dorsal surface with short median carinule. Carapace strongly narrowed anteriorly, with median carina and uninterrupted anterior bifurcation ; anterolateral angles with a spine which fails to reach base of rostral plate. Raptorial dactylus armed with 5 teeth ; propodus evenly pectinated, with 3 movable spines on inner proximal margin ; dorsal ridge of carpus entire ending in blunt, low tooth. Exposed thoracic somites without median carina, submedians present ; lateral process of 5th somite bilobed, anterior lobe a sharp, anterolaterally directed spine, posterior lobe laterally directed ; 6th somite not markedly bilobed, anterior lobe small, posterior lobe acutely angled ; 7th somite not markedly bilobed, posterior lobe acutely angled. Abdominal somites with normal complement of carinae, median carina present on first five somites and absent on 6th ; spine formulation : submedians 5-6, intermediates 1-6, laterals 1-6, marginals 1-5. Telson about as long as broad, dorsal surface with median and accessory median carinae decorated with 5-6 carinae on each lateral side of median carina. Three marginal teeth present, each with a dorsal carina ; prelateral lobe present ; submedians with fixed apices. Denticles sharp, except those at the inner side of each tooth, formulation : submedians 3-4, intermediates 7-8, laterals 1 ; ventral surface with short post-anal keel. Uropodal exopod with 9 movable spines on outer margin of proximal segment, last spine not extending to midlength of distal segment. Outer margin of inner longer spine of basal prolongation of uropod with a lobe, inner margin with 16-18 short spines.

Measurements : Male holotype : TL 34 mm ; carapace : length 7.4 mm, anterior width 3.5 mm, posterior width 5.7 mm ; eye length 1.8 mm ; cornea width 2.0 mm ; rostral plate : length 1.5 mm, width 1.2 mm ; antennular peduncle length 9.6 mm ; antennal scale length 4.2 mm ; propodus : length 6.9 mm, width 1.8 mm ; telson : length 5.8 mm, width 5.7 mm.

REMARKS. — *Paralimopsis carinata* sp. nov., differs from other known members of the family Squillidae. It superficially resembles *Alimopsis supplex* (Wood-Mason, 1875) in the abdominal carination, and the number of teeth on the raptorial dactyli. It differs in some basic generic characters : 1. the absence of mandibular palp in *carinata*, which is present in *supplex*, 2. the presence of 4 epipods in *carinata* instead of 2 as in *supplex*.

Etymology : The specific name *carinata* is given because of the presence of carinae lateral to the median carina on the dorsal surface of the telson.

DISTRIBUTION. — Known only from the New Caledonian waters at a depth of 58 m on sand bottom with *Halimeda*.

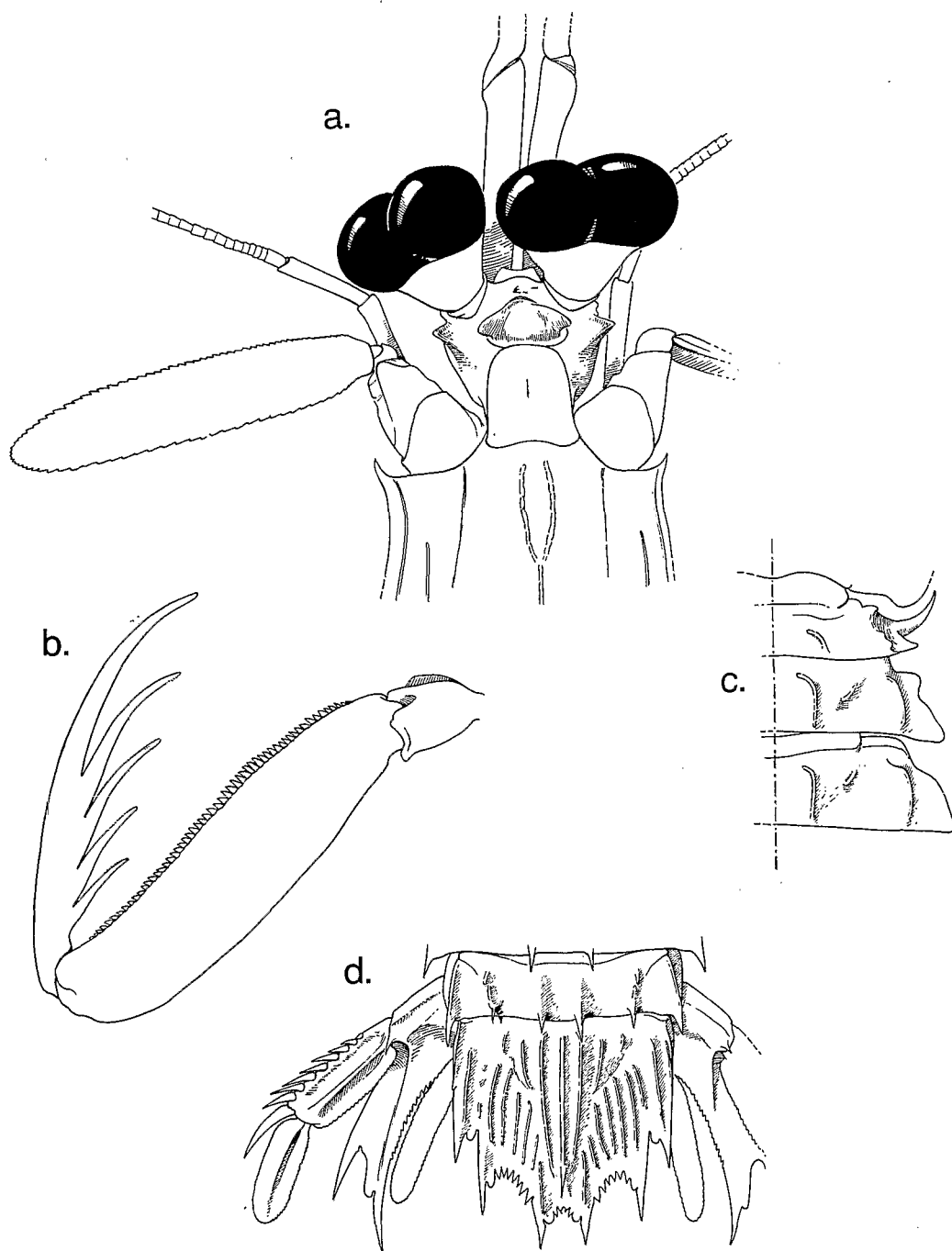


Fig. 10. – *Paralimopsis carinata* sp. nov. holotype : ♂ TL 34mm : a. anterior part of body ; b. carpus, propodus and dactylus of raptorial claw ; c. 5th to 7th thoracic somites (one side only) ; d. 6th abdominal somite, telson and uropod (dorsal view, setae omitted)

Alimopsoides gen. nov.

DIAGNOSIS. — Eye large, cornea bilobed, inner margin of eye longer. Ocular scales separate. Carapace with median carina. Mandibular palp and 4 epipods present. Dactylus of raptorial claw armed with 6 teeth. Lateral process of 5th thoracic somite bilobed. Lateral process of 6th and 7th thoracic somites not markedly bilobed. Abdomen with normal complement of carinae, median carina present on the last 5 somites, absent on the first somite. Submedian teeth of telson with fixed apices. Basal prolongation of uropod with inner margin crenulate.

Type species : *Alimopsoides tuberculatus* sp. nov., by monotypy.

Etymology : The name is derived from the generic name *Alimopsis* in combination with the Greek *-oides* -. The gender is masculine.

REMARKS. — *Alimopsoides* gen. nov., resembles *Alimopsis* in having : 1. the lateral process of the 5th thoracic somite bilobed, 2. the lateral process of the 6th and 7th thoracic somites not markedly bilobed. It differs in the following characters : 1. the presence of 4 epipods in *Alimopsoides* instead of 2 as in *Alimopsis*, 2. the 6 teeth on the raptorial dactylus instead of only 5 in *Alimopsis*, 3. the median carina absent on the 1st abdominal somite and present on the 6th somite in *Alimopsoides*, whereas in *Alimopsis* this carina present on the 1st abdominal somite and absent on the 6th somite. *Alimopsoides* differs from *Paralimopsis* in the following characters : 1. the mandibular palp present in *Alimopsoides* and absent in *Paralimopsis*, 2. raptorial dactylus is armed with 6 teeth in *Alimopsoides* but only 5 in *Paralimopsis*, 3. the median carina absent on the 1st abdominal somite and present on the 6th somite in *Alimopsoides* whereas these carinae present on the 1st abdominal somite and absent on the 6th somite in *Paralimopsis*, 4. the inner margin of the basal prolongation of uropod crenulate in *Alimopsoides*, but is decorated with spines in *Paralimopsis*.

Alimopsoides tuberculatus sp. nov.
(Fig. 11)

MATERIAL EXAMINED. — New Caledonia - *Lagoon* : Paratype : ♀ TL 32 mm, stn DW 1205 (MNHN Sto 1880). — Chesterfield Islands - *CORAIL 1* : Chesterfield plate, Loop Island, 20.08.1988 : 1 ♂ TL 62 mm, holotype, (MNHN Sto. 1878).

DESCRIPTION. — Dorsal surface of body smooth and polished. Size moderate, male mature at TL 62 mm. Eyes not extending to end of first segment of antennular peduncle ; cornea strongly bilobed, much wider than stalk, CI= 392 ; ocular scales rounded, separated ; anterior margin of ophthalmic somite truncate. Antennular peduncle longer than carapace length ; dorsal process of antennular somite produced as a moderately sharp anterolaterally directed tooth ; antennal scale short, length less than carapace length. Mandibular palp and 4 epipods present. Rostral plate subquadrate, breadth almost equal to length, dorsal surface with carina. Carapace strongly narrowed anteriorly, with median carina and basally interrupted anterior bifurcation ; anterolateral angles with a spine which fails to reach base of rostral plate. Raptorial dactylus armed with 6 teeth ; propodus evenly pectinated, with 3 movable spines on inner proximal margin ; dorsal ridge of carpus entire, ending in a blunt, low tooth. Exposed thoracic somites without median carina, submedians present ; lateral process of 5th somite bilobed, anterior lobe a sharp anterolaterally directed spine, posterior lobe broad and rounded ; 6th and 7th somites not markedly bilobed, anterior lobe small and posterior lobe acutely angled. Abdominal somites with normal complement of carinae, median carina present on last five somites, short on 2nd to 5th somites and reaching posterior margin on 6th somite ; tubercles present between submedians and intermediates and between intermediates and laterals on 2nd to 6th somites, becoming numerous on the 6th between submedians and intermediates. Spine formulation of abdominal carinae : submedians 5-6, intermediates 4-6, lateral 3-6, marginal 1-5. Telson a little broader than long ; dorsal surface with sharp median and

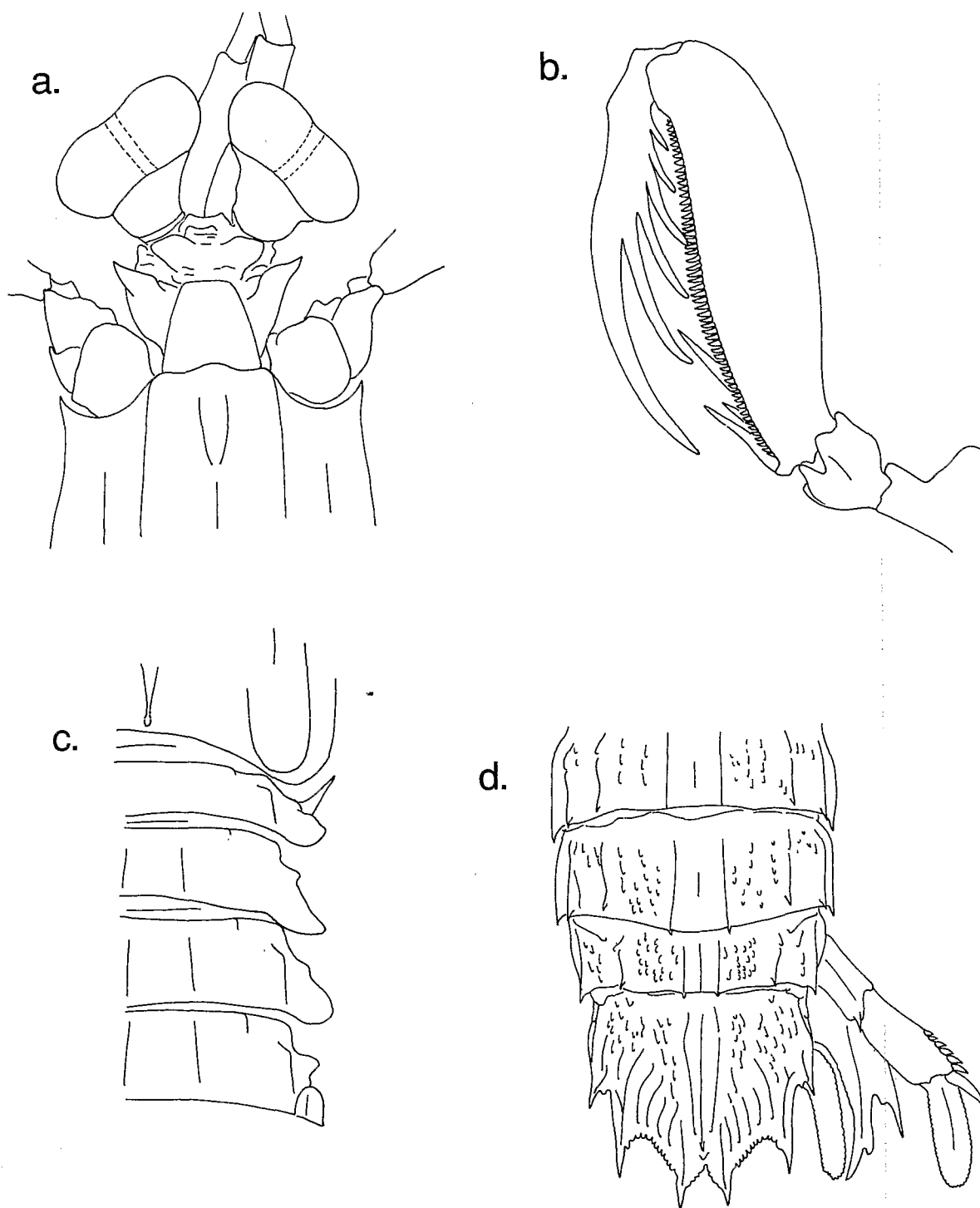


Fig. 11. — *Alimopsoides tuberculatus* sp. nov. holotype : ♂ TL 62mm : a. anterior part of body ; b. carpus, propodus and dactylus of raptorial claw ; c. 5th to 7th thoracic somites (one side only) ; d. 4th to 6th abdominal somites, telson and uropod (dorsal view, setae omitted).

accessory medians and 6-7 additional carinae on either sides posterolaterally and tuberculated short carinae or tubercles present on anterolateral portion. Three marginal teeth and prelateral lobe present, submedians with fixed apices ; denticles sharp, except those at the inner side of each tooth, formulation : submedians 5, intermediates 12-13, laterals 1. Ventral surface with a long, sharp postanal carinae and accompanied by a tuberculated carina laterally. Uropodal exopod with 6-7 movable spines on outer margin of proximal segment, last spine not extending to midlength of distal segment. Basal prolongation of uropod with two lobes between the spines ; outer margin of inner longer spine tuberculated.

Measurements : ♂ holotype : TL 62 mm ; carapace : length 14.2 mm, anterior width 6.8 mm, posterior width 10.4 mm ; eyelength 2.6 mm ; cornea width 3.6 mm ; rostral plate : length 2.0 mm, width 2.0 mm ; antennular peduncle length 16 mm ; propodus of raptorial claw : length 13.2 mm, width 3.6 ; telson: length 9.4 mm, width 10.6 mm.

REMARKS. – *Alimopsoides tuberculatus* sp. nov., differs from *Alimopsis supplex* and *Paralimopsis carinatus* sp. nov., in having 6 instead of 5 teeth on the raptorial dactylus, the form of lateral process of the 5th thoracic somite, the form and placement of median carina, and the presence of tubercles on the abdominal somites and telson, and the presence of two lobes between the spines of the basal prolongation of the uropod.

Etymology : The specific name *tuberculatus* is given because of the presence of tubercles on the abdominal somites as well as on the dorsal surface of the telson.

DISTRIBUTION. – Known only from New Caledonian waters.

Anchisquilla fasciata (de Haan, 1844)

Squilla fasciata de Haan, 1844, atlas, pl. 51, fig. 4 ; 1849, text : 224. – BROOKS, 1886 : 37, pl. 2, fig.8 ; pl. 3, figs 4, 5. – KEMP, 1913 : 34, pl. 1, figs 21-23.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 19 (1 spec.). – Stn DW 29 (1 spec.). – Stn DW 73 (1 spec.). – Stn DW 106 (1 spec.). – Stn DW 184 (1 spec.). – Stn DW 278 (1 spec.). – Stn DW 288 (1 spec.). – Stn DW 597 (1 spec.). – Stn DW 652 (1 spec.). – Stn DW 712 (1 spec.). – Stn DW 774 (1 spec.). – Stn DW 833 (4 specs.). – Stn DW 849 (1 spec.). – Stn 1086. – Stn DW 1111. – *St Vincent Bay* : Trawl, without station number, 2 specs. The specimens are catalogued under MNHN Sto 1176 - 1190.

Size of specimens : Males TL 34 - 63 mm, females TL 31 - 72 mm.

Depth range in New Caledonia : 10 - 70 m.

DISTRIBUTION. – *Anchisquilla fasciata* is widely distributed in the western Pacific and the areas bordering the Indian Ocean. The species is regarded as rare in Australian waters and has only been reported from South Australia and Queensland (STEPHENSON & MCNEILL, 1955). *A. fasciata* has not before been reported from the New Caledonian waters.

DISCUSSION. – The genus *Anchisquilla* was established by MANNING (1968 c) with *Squilla fasciata* de Haan, 1844, as the type species. The genus consisted of 4 species which then became 5 when *Anchisquilla punctata* Blumstein, 1970, was included in the genus. MANNING (1968 c) admitted that the genus comprised species that are not closely related and that the only characters linking them are the presence of movable apices on the submedian teeth of the telson and the presence of 4 epipods. MOOSA (1975) commented that *S. fasciata* does not possess movable apices on the submedian teeth of telson which was even clearly shown in Figure 8 b of MANNING (1968 c). This was acknowledged by MANNING (1977 c) who then erected 3 new genera for each of the remaining species formerly placed in *Anchisquilla*, retaining *S. fasciata* as the type species, and adding *A. punctata* Blumstein, 1970, as the 2nd species. In fact, by creating *Lenisquilla* for *Squilla inermis* Manning, 1965, and *Anchisquilloides* for *Squilla mcneilli* Stephenson, 1953, MANNING (1977 c) has removed species that have movable apices on the submedian teeth of the telson from *Anchisquilla*. The placement of *A. punctata* in

Anchisquilla conflicts with the generic characters based on *Squilla fasciata*, the type species. *A. punctata* which was placed in *Anchisquilla*, *sensu* MANNING (1968 c) has important generic characters which do not exist in the type species of the genus. *A. punctata* has : 1. movable apices on the submedian teeth of the telson; 2. normal complement of abdominal carinae; 3. a median carina on the carapace; and 4. an obscure lobe on the lateral portion of the 5th thoracic somite. These characters do not exist in *S. fasciata*. If based strictly on the type species, *Anchisquilla*, *sensu* MANNING (1977 c) should be diagnosed as : " Eyes of moderate size; cornea bilobed, noticeably wider than stalk; ocular scales separate. Carapace without median carina. Mandibular palp and 4 epipods present. Lateral process of 5th to 7th thoracic somites single, 5th with curved spine. Abdomen without submedian carinae on first 5 somites. Telson with supplementary ornamentation on dorsal surface lateral to median carina; submedian teeth with fixed apices. Basal prolongation of uropod with spines on inner margin". Referring to the above diagnosis, *A. punctata* should be transferred to another genus. The type specimen of *A. punctata* seems to have broken submedian teeth; if it is true, the species still could not be placed in *Anchisquilla*, *sensu* MANNING (1968 c) and the closest available genus would be *Busquilla* Manning, 1978 d.

Areosquilla indica (Hansen, 1926)

Squilla indica Hansen, 1926 : 12, pl. 1, figs 4 a-c (part). – CHOPRA, 1934 : 35, fig. 5; 1939 : 150.
Areosquilla indica - MANNING, 1976 : 5 fig. 2 (synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 91, 1 ♀ 44 mm (MNHN Sto 1283).

REMARKS. – The specimen is identified as *Areosquilla indica* (Hansen, 1926), using MANNING's key for the species (MANNING, 1976) in having the following characters : cornea large, CI = 376; carapace lacking spine on posterior margin, anterolateral angles armed, median carina present, anterior bifurcation of median carina absent; mandibular palp absent, 2 epipods present; dactylus of raptorial claw armed with 7 teeth; abdominal carinae spined as : submedians 5-6, intermediates 4-6, laterals 4-6, marginals 3-5; telson with median carina, lacking lateral carination, denticles formulation : submedians 6, intermediates 7-10, laterals 1, ventral keel absent; uropodal exopod with 9 movable spines on outer margin.

DISTRIBUTION. – Previously reported from the Maldives to Indonesia in depths ranging from 22 to 46 m (MANNING, 1976). This is the first record from New Caledonian waters.

Carinosquilla carinata (Serène, 1950)

Squilla multicarinata - DOLLFUS, 1938 : 196, fig. 7. – GRAVIER, 1938 : 174. (*nec Squilla multicarinata* White, 1847).

Squilla carinata Serène, 1950 : 571. – INGLE, 1963 : 17, figs 6-8, 10-12, 67. – MANNING, 1968 b : 21, fig. 6.

Carinosquilla thailandensis Naiyanetr, 1983 : 394, figs 2, 4.

Carinosquilla carinata - MOOSA & CLEVA, 1984 a : 427.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 527 (1 spec.). – *Belep* : stn DW 37, 21.06.85, 19°19.7' S - 163°20.2' E, 61-64 m, (4 specs.). – Stn DW 41, 22.06.1985, 19°32.5' S - 163°35.3' E, 39-41 m, (2 specs.). – Stn DW 42, 22.06.1985, 19°34.0' S - 163°37.7' E, 43-49 m, (10 specs.). – Ouen Island, Taisac Bay, CB 227 (1 spec.). The specimens are catalogued under MNHN Sto 1220 - 1224.

Size of specimens : Males 77 - 104, females TL 66 - 107.

Depth range in New Caledonia : 64 m.

Comparative materials. – Banc de Pracel, western coast of Madagascar, 55 m, muddy sand : 1 ♀ 65 mm, coll. A. CROSNIER, June 1959; det. R. B. MANNING (MNHN Sto 421). – Gulf of Suez, stn XXIV,

33°45'15" N - 27°48'45" E, 80 - 60 m, hard muddy sand with sponges, 30.12.1928 : 1 ♂ 95 mm. – Seychelles, stn 22, 05°16.2' N - 55°56.8' E, shell sand, 06.09.1980 : 1 ♀ 75 mm, (MNHN Sto 894). – Seychelles, stn 27, 04°56.6' N - 54°58.5' E, 52 m, calcareous algae and sand, 08.09.1980 : 1 ♂ 110 mm, (MNHN Sto 895). – Seychelles, St 36, 04°39.3' N - 55°03.4' E, 52 m, coarse coral sand, 10.09.1980 : 1 ♂ 70 mm, (MNHN St 896). – Seychelles, Stn 42, 04°30.8' N - 56°08.8' E, 52 m, shell sand with algae, 13.09.1908 : 1 ♀ 84 mm, (MNHN Sto 897).

REMARKS. – *Carinosquilla carinata* (Serène, 1950) is characterized by the presence of a carinated eyestalks, numerous longitudinal carinae on the carapace, exposed thoracic somites, abdominal somites and telson. The species usually has 6 teeth on the dactylus of the raptorial claws, the teeth can vary from 5 to 7. NAIYANETR (1983) described a new species of *Carinosquilla* collected from Ko Phai, Bangkok Bight, Gulf of Thailand and named it *Carinosquilla thailandensis* mainly based on the presence of 3 longitudinal carinae on the rostral plate instead of one as figured by INGLE (1963), the presence of 5 teeth on the raptorial dactylus, the presence of worm-like sculpture on the outer face of the merus of the raptorial claws, the presence of 7 complete transverse carinae on the ventral surface of the 6th abdominal somite, and the presence of irregular carinae on the dorsal surface of the eyestalk. Observations on 21 specimens available for the present study, collected from two different regions (East African and New Caledonian waters), reveal that *C. carinata* has variation in the form of carination and spinulation as well as number of teeth on the dactyli of the raptorial claws. MANNING's specimen of *C. carinata*, which was deposited in the Paris Museum and was available for this study (MANNING, 1968 b as *Squilla carinata*) has, in fact, a small short additional carinule lateral to the median rostral carina. This is shown in his figure (MANNING, 1968 b fig.6) as a white dot which in the specimen seems to be a little larger than shown (as a very short carinule or elongate tubercle). The specimen of DOLLFUS (1938, fig. 7), which was also available for this study, has 6 and 7 teeth on its raptorial dactyli, one median carina on its rostral plate, and the outer face of the merus of the raptorial claw bearing 7 teeth, is decorated with worm-like sculpture while on the other claw it is only decorated with crenulated lines. The specimens of MOOSA and CLEVA (1984 a) collected from the Seychelles show variations of characters. One of the specimens (♀ 75 mm, MNHN Sto 894) has a rostral plate with 3 dorsal carinae, 6 teeth on the dactylus of the raptorial claws, and worm-like sculpture on the outer face of the raptorial merus. On the other specimen (♂ 70 mm, MNHN Sto 896), the raptorial dactylus bears 7 teeth and the outer face of the raptorial merus has worm-like sculpture while the rostral plate bears 3 longitudinal carinae. The ♀ of 84 mm (MNHN Sto 897) has the same morphological characters as MNHN Sto 896 but its dactyli only bear 6 teeth. A large ♀ (TL 127 mm, MNHN Sto 1227) from Ouen Island, New Caledonia shares the following characters with the type of *C. thailandensis* : rostral plate decorated with 3 longitudinal carinae, raptorial dactyli armed with 5 teeth, but with outer face of raptorial merus only crenulated, not with worm-like sculpture. The rest of the New Caledonian specimens have only one dorsal carina on the rostral plate and most have a well marked elongate tubercle lateral to the median rostral carina, raptorial dactylus armed with 6 teeth (one specimen bears 6 and 7 teeth), and a smooth, crenulated or corrugated outer face of the raptorial merus. The carination of the ventral surface of the 6th abdominal somite varies from irregularly to regularly arranged carinae. In the larger specimens these carinae are longer and seem to be regularly arranged. The spinulation of the thoracic as well as the abdominal somites is also varied. All the smaller specimens have the normal complement of abdominal carinae armed with spines while in the larger specimens the 1st and 2nd abdominal somites have submedian carinae ending in blunt teeth instead of sharp spines. The above similarities and the presence of variations can justify regarding *Carinosquilla thailandensis* (Naiyanetr, 1983) as conspecific with *C. carinata* (Serène, 1950). *Carinosquilla carinata* (or *C. thailandensis*) can be easily separated from the other two members of the genus : *C. lirata* (Kemp & Chopra, 1921) and *C. multicarinata* (White, 1847) in having a carinated eyestalks. The species exhibits variations in the number of teeth on the raptorial dactyli (5 to 7, usually 6), the number of carinae on the rostral plate (1 to 3), the spinulation of the exposed thoracic as well as the abdominal somites, the carination on the ventral surface of the 6th abdominal somite, and the carination on the dorsal surface of the 6th abdominal somite and telson. In the larger specimens, the carinae may show more regular form on both dorsal and ventral surfaces of the 6th abdominal somite and on the anterior part of the telson lateral to the median carina.

DISTRIBUTION. – *Carinosquilla carinata* has been reported from various localities in the western part of Indian Ocean (see MOOSA & CLEVA, 1984 a), South China Sea (SERENE, 1950 ; NAIYANETR, 1983 as *C. thailandensis*). The species has not previously been reported from New Caledonian waters. *C. carinata* inhabits muddy sand, shell sand, coral sand, in depths ranging from 26 to 80 m.

Clorida caledonica sp. nov.
(Fig. 12)

MATERIAL EXAMINED. – New Caledonia - Lagoon : stn DW 645, 51 - 51 m : 1 ♀ 31 mm, holotype, (MNHN Sto 1277). – Stn DW 464, 44 - 45 m : 1 ♂ 22 mm, paratype, (MNHN Sto 1278).

Size of specimens : Male TL 22 mm, female TL 31 mm.

Depth range in New Caledonia : 44 - 51 m.

DESCRIPTION. – Size small, total length of adult male and female 22-31 mm. Eyes small, not reaching to end of 1st segment of antennular peduncle ; stalk slightly inflated, not wider than cornea width ; cornea bilobed, slightly broader than stalk, about three-fourths of eye length ; ocular scales truncate, directed anterolaterally. Antennular peduncle about two-thirds as long as carapace length ; dorsal surface of antennular somite truncate, projected anterolaterally. Rostral plate slightly longer than broad, margins converging to form a rounded apex, median carina absent. Carapace narrowed anteriorly, anterior width less than half posterior width ; surface smooth, lacking carinae except for the reflected marginal carinae on posterolateral plates ; anterolateral angles rounded, without spines, not reaching base of rostral plate. Mandibular palp absent, two epipods present. Raptorial claws slender ; dactylus with 5 teeth, outer margin inconspicuously sinuous proximally ; propodus slender and long, more than twice carapace length (PI = 367), inner margin pectinate except for a short distal part, inner margin with 3 long movable spines proximally ; dorsal ridge of carpus undivided, ending in blunt tooth ornamented with mesial setae. Exposed thoracic somites without submedian carinae, last 3 somites with intermediate carinae ; lateral process of 5th somite a rounded lobe directed laterally, ventral spine present, moderate size ; lateral process of 6th and 7th somites rounded posteriorly, not bilobed. Abdomen without submedian carinae on first 5 somites ; 6th somite with 3 pairs of dorsal carinae with posterior spines, submedians enlarged and flat ; carinae on first 5 somites not armed, spine formulation : submedians 6, intermediates 6, laterals 6. Telson much broader than long, width about one and a half times length ; dorsal surface with median carina ending in spine, accessory medians converging posteriorly, anterior submedians short, 4 short carinae present between the submedians and intermediates ; 3 marginal teeth present, each with dorsal carinae, submedians with movable apices, prelateral lobe absent ; denticles sharp, formulation : submedians 5, intermediates 6 - 7, laterals 1 ; ventral surface with a sharp post-anal keel. Proximal segment of uropodal exopod as long as or slightly longer than distal segment, armed with 6 movable spines, last extending to midlength of distal segment. Outer margin of inner longer spines of basal prolongation of uropod with a broad lobe, inner margin with 8 - 10 spines.

Colour : The preserved specimens are heavily pigmented with black or blackish pigments. Anterior part of eyestalk and ocular scales are dotted with black pigment regularly arranged. Rostral plate with a round light dot on median dorsal part while the rest of its surface is blackish. Carapace with darker areas on median portion, a large light band crossing the posterior portion in front of cervical grooves. Median part of thoracic and abdominal somites and region between lateral and marginal carinae with darker pigmentation which is darkest on the thoracic somites and becomes less dark after the 6th abdominal somite.

REMARKS. – *Clorida caledonica* sp. nov., closely resembles *C. incerta* (Hansen, 1926) in some characters : the form of the eyes, the absence of anterolateral spines on the carapace, the absence of a mandibular palp, the ornamentation of the dorsal surface of the telson, the form of the basal prongation of the uropod, and the presence of a sharp post-anal keel. *C. caledonica* differs from *C. incerta* in : the absence of a dorsal carina on the rostral plate, the number of teeth on the raptorial dactylus (5 instead of

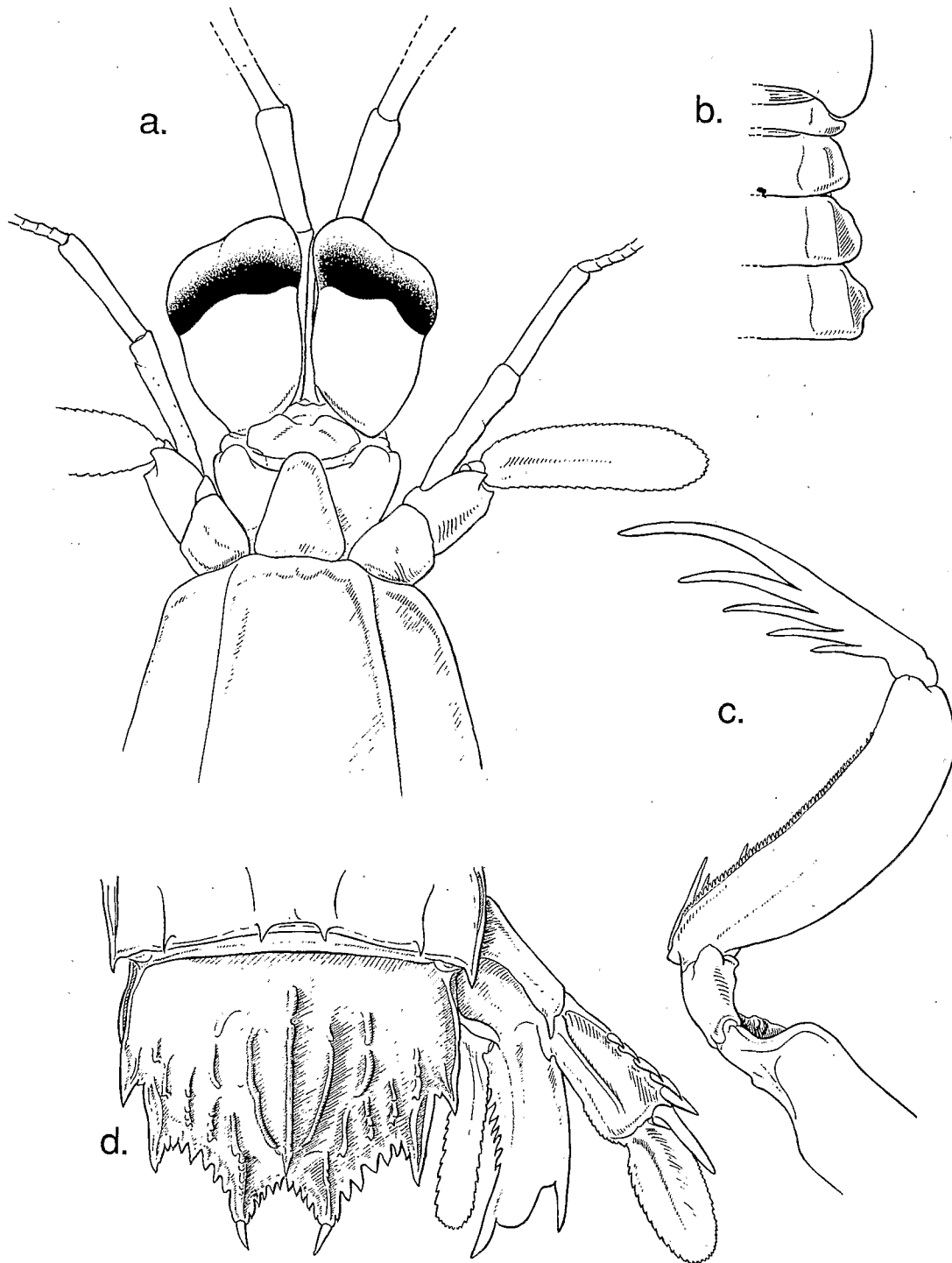


Fig. 12. — *Clorida caledonica* sp. nov. holotype : ♀ TL 31mm : a. anterior part of body ; b. carpus, propodus and dactylus of raptorial claw ; c. 5th to 8th thoracic somites (one side only) ; d. 6th abdominal somite, telson and uropod (dorsal view, setae omitted).

6), the submedian carinae of the 6th abdominal somite (large and flat in *C. caledonica*, not so in *C. incerta*). The above differences justify regarding *C. caledonica* as different from *C. incerta*.

Etymology : The name *caledonica* refers to the species type locality, the New Caledonian waters.

DISTRIBUTION. – Known only from New Caledonian waters.

Clorida chlorida (Brooks, 1886)

Squilla chlorida Brooks, 1886 : 40, pl. 2, figs 1-5. – KEMP, 1913 : 33.

Clorida chlorida. – MANNING, 1968 b : 5, fig.1. – MOOSA, 1973 : 17. – MAKAROV, 1979 : 41.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 21 (1 spec.). – Stn DW 130 (1 spec.). – Stn DW 131 (1 spec.). – Stn DW 134 (1 spec.). – Stn DW 317 (2 specs.). – Stn DW 320 (1 spec.). – Stn DW 326 (1 spec.). – Stn DW 355 (1 spec.). – Stn DW 356 (1 spec.). – Stn DW 512 (1 spec.). – Stn DW 526 (2 specs.). – Stn DW 527 (4 specs.). – Stn DW 528 (1 spec.). – Stn DW 529 (2 specs.). – Stn DW 532 (2 specs.). – Stn DW 535 (1 spec.). – Stn DW 604 (3 specs.). – Stn DW 605 (1 spec.). – Stn DW 628 (1 spec.). – Stn DW 643 (1 spec.). – Stn DW 646 (2 specs.). – Stn DW 649 (1 spec.). – Stn DW 656 (1 spec.). – Stn DW 658 (1 spec.). – Stn DW 665 (1 spec.). – Stn DW 666 (1 spec.). – Stn DW 674 (2 specs.). – Stn DW 692 (4 specs.). – Stn DW 695 (1 spec.). – Stn DW 712 (2 specs.). – Stn DW 722 (1 spec.). – Stn DW 728 (3 specs.). – Stn DW 769 (3 specs.). – Stn DW 779 (1 spec.). – Stn DW 823 (1 spec.). – Stn DW 833 (1 spec.). – Stn DW 1098. – Stn DW 1111. – Stn DW 1131. – Stn DW 1136. – Stn DW 1142. – Stn DW 1143. – Stn DW 1169. – Stn DW 1176. – Stn DW 1177. – Stn DW 1187. – *Pott* : stn 21, 19°21.3' S - 163°34.2' E, 58 m, 18.06.1985, (1 spec.). – *MUSORSTOM 4* : stn CP 148 (11 specs.). – Stn DW 232 (3 spec.). The specimens are catalogued under MNHN Stn 1533 - 1573.

Size of specimens : Males TL 22 - 58 mm, females TL 21 - 53 mm

Depth range in New Caledonia : 10 - 82 m.

REMARKS. – The specimens show variation in the number of teeth on the dactylus of the raptorial claws which are armed with 4 to 5 teeth. The 5th tooth can be either in the form of a well-separated tooth or as a tubercle attached to the base of the 4th tooth. The lateral process of the 5th thoracic somite in most of the specimens is a sharp, laterally directed spine ; in some specimens it becomes slightly directed anterolaterally. The variation of the abdominal carinae spinulation is within the range documented by MOOSA (1973).

DISTRIBUTION. – Madagascar (MANNING, 1968 b), Vietnam (MAKAROV, 1979), Indonesia (BROOKS, 1886 ; MOOSA, 1973) and now from New Caledonian waters. The species inhabits shallow to moderate depths ranging from 10 to 108 m, mostly in muddy sand habitats.

Clorida fallax (Bouvier, 1914)

Squilla fallax Bouvier, 1914 : 699 ; 1915 : 131, text-figs 39-42.

Squilla ambigua Hansen, 1926 : 6, pl. 1, figs 2 a - 2 e.

Clorida fallax - MANNING, 1968 b : 8, fig. 2 (synonymy). – MAKAROV, 1979 : 39.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 135 (1 spec.). – Stn DW 320 (1 spec.). – Stn DW 356 (1 spec.). – Stn DW 535 (1 spec.). – Stn DW 575 (2 specs.). – Stn DW 658 (1 spec.). – Stn DW 724 (1 spec.). – Stn DW 729 (1 spec.). – Stn DW 796 (1 spec.). – Stn DW 972 (1 spec.). – Stn DW 973 (1 spec.). – Stn DW 1064. – Stn DW 1081. – Stn DW 1082. – Stn DW 1085. – Stn DW 1099. – Stn DW 1102. – Stn DW 1107. – Stn DW 1109. – Stn DW 1113. – Stn DW 1114. – Stn DW 1119. – Stn DW 1123. – Stn DW 1130. – Stn DW 1134. – Stn DW 1138. – Stn DW 1143. – Stn DW 1144. – Stn DW 1155. – Stn DW 1162. – Stn DW 1170. – Stn DW 1171. – Stn DW 1173. – Stn DW

1175. – Stn DW 1183. – Stn DW 1184. – Stn DW 1187. – Stn DW 1188. – Stn DW 1189. – Stn DW 1190. – Stn DW 1193. – Stn DW 1200. – Stn DW 1201. – Stn DW 1211. – Stn DW 1216. – **Chesterfield Islands - CORAIL 2** : stn DW 108 (1 spec.). – **CHALCAL 1** : stn D 20 (1 spec.). The specimens are catalogued under MNHN Sto 1627- 1637 and LON S.2555.

Size of specimens : Males TL 17 - 39 mm, females TL 25 - 49 mm.

Depth range in New Caledonia : 27 - 78 m.

REMARKS. – The New Caledonian specimens exhibit variation in the spinulation of the abdominal carinae and the number of tubercles on the telson. The 5th abdominal somite in most of the specimens does not end in a spine, but in some of the specimens a spinule or tubercle is present. The submedian denticles of the telson vary: submedians from 4 - 7 (mostly 4 - 5), intermediates 6 - 9 (mostly 6 - 7). The raptorial dactylus is always armed with 5 teeth, with the proximal tooth ranging from small and slender to almost rudimentary.

DISTRIBUTION. – *Clorida fallax* has been reported from localities in the western Indian Ocean: Mauritius (BOUVIER, 1914 ; 1915), the Comoro Islands (MANNING, 1968 b), the Red Sea (HOLTHUIS, 1967) ; Indo-Malayan region : Indonesia (HANSEN, 1926 as *Squilla ambigua*), Vietnam (SERENE, 1954 ; MAKAROV, 1979) ; New South Wales, Australia (STEPHENSON & MCNEILL, 1955) and the Solomon Islands. The known depth ranges of the species is 9 to 50 m, the present record gives the deepest range (78 m) and is the first record from New Caledonian waters.

Clorida gaillardi Moosa, 1985

Clorida gaillardi Moosa, 1985 : 396, fig. 9.

MATERIAL EXAMINED. – New Caledonia - *St Vincent Bay* : Trawl stn 1, 21°58, 0'S - 166°01, 2'E, 6 m, (1 spec.). – Trawl stn 3, 21°58, 2'S - 166°01, 2'E, 11 m, (1 spec.). – Trawl stn 11, 21°58, 6'S - 166°02, 4'E, 12 m, (2 specs). – Trawl stn 13, 21°57, 2'S - 166°02, 3'E, 7 m, (1 spec.). – Trawl stn 14, 21°58, 6'S - 166°02, 1'E, 13 m, (1 spec.). – Trawl stn 15, 21°58, 8' - 166°01, 5'E, 14 m, (1 spec.). – Trawl stn 17, 22°04, 4'S - 166°05, 8'E, 13 m, (2 specs). – Trawl stn 20, 22°04, 7'S - 166°06, 1'E, 14 m, (1 spec.). – without station 1 spec. The specimens are catalogued under MNHN Sto 1638 - 1646.

Size of specimens : Males TL 62 - 90 mm, females TL 58 - 75 m.

Depth range in New Caledonia : 11 m.

REMARKS. – All the specimens have a broad anterolaterally directed tooth on the lateral part of the 5th thoracic somite. The spine formulation of the abdominal carinae is : submedians 6, intermediates 5-6, laterals 5-6, marginals (2), 3-5. The Propodal Indices and the Propodus Length-Depth Indices of the specimens are 86-103 and 300-343 respectively. The spine formulation of the abdominal carinae as well as the PI and PDLI overlap between *C. gaillardi* and *C. latreillei*. The present specimens are closer to *C. gaillardi*.

DISTRIBUTION. – *Clorida gaillardi* was only known from the Philippines in depths ranging from 36 to 37 m (MOOSA, 1985). The present record, new for New Caledonian waters, is an extension of the species' geographic distribution in shallower waters (11 m).

Clorida inflata sp. nov.

(Fig. 13)

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 757, 44 m : 1 ♀ TL 41 mm, holotype, (MNHN Sto 1279). – Stn 146, 40 - 52 m : 1 ♂ TL 34 mm, 1 ♀ 41 mm, paratypes, (MNHN Sto 1282). – Stn DW 267, 70 m : 1 ♀ TL

25 mm, (MNHN Sto 1280). – Stn DW 614, 48 - 50 m : 1 ♂ TL 30 mm, (MNHN Sto 1281). – Stn DW 951, 12 m : 1 ♂ TL 45 mm, (LON S. 2556).

Size of specimens : Males TL 30 - 45 mm, females TL 25 - 41 mm.

Depth range in New Caledonia : 12 - 70 m.

DESCRIPTION. – Size small, total length of adult males 30 - 45 mm. Eyes small, extending to end of first segment of antennular peduncle ; stalk slightly inflated, as broad or slightly broader than cornea width ; cornea bilobed, width about half of eyelength ; ocular scales rounded, fused medially. Antennular peduncle about two-thirds as long as carapace length ; dorsal process of antennular somite projected anterolaterally as a sharp tooth. Rostral plate longer than broad, apex rounded, median carina absent. Carapace strongly narrowed anteriorly, anterior width less than half posterior width ; surface smooth, lacking carinae except for reflected marginal carinae on posterolateral plate ; anterolateral angles armed with a spine which fails to reach base of rostral plate. Mandibular palp and 4 epipods present. Raptorial claw large, stout. Dactylus armed with 4 well separated teeth (in one specimen the dactylus armed with 3 and 4 teeth) ; outer margin with 2 lobes, distal lobe large and rounded, proximal lobe small and low. Propodus stout (PI = 31), inner margin pectinated over almost all its length, with 3 movable spines proximally on inner margin. Dorsal ridge of carpus undivided, ending in a blunt tooth ornamented with mesial setae. Exposed thoracic somites without submedian carinae ; last 3 somites with intermediate carinae. Lateral process of 5th thoracic somite with a blunt tooth directed laterally (in one specimen directed anterolaterally), ventral spine present. Abdomen depressed, without submedian carinae on the first 5 somites. Sixth somite with a row of tubercles, or fused tubercles, arranged laterally in between submedian and intermediate carinae ; ventral lateral spine present in front of uropod articulation. Abdominal carinae spined as follows : submedians 6, intermediates 5 - 6, laterals 5 - 6, marginals (4), 5. Telson broader than long, with 3 pairs of marginal teeth, submedians with movable apices. Median carina of telson ending in spine, dorsal ornamentation as illustrated. Denticles spiniform, formulation : submedians 2 - 3, intermediates 6 - 8, laterals 1. Ventral surface with a sharp post-anal keel surrounded by 2 to 4 rows of tubercles, the 1st row as an entire ring with diminishing number of tubercles towards the lateral rows. Uropod stout, proximal segment of exopod as long as distal segment, armed with 6 to 8 movable spines (usually 7), last extending almost to middle of distal segment. Inner spine of basal prolongation of uropod is the longer, with one lobe on outer margin and 6 to 8 spines on inner margin.

Colour : The preserved specimens have, in general, the same colour pattern but in two different arrangements : mottled with sparsely black pigments, and with black pigments forming wider blotches and less dispersed. The black pigments cover, in both patterns, all the body surfaces, from antennular segments, eyestalk, ocular scales, antennal segments, rostral plate, carapace, thoracic and abdominal somites, merus and carpus of raptorial claws and distal segment of uropodal exopod.

Measurements : holotype : ♀ TL 41 mm ; carapace : length 7.9 mm, anterior width 3.1 mm, posterior width 7.9 mm ; rostral plate : length 1.5 mm, width 1.3 mm ; antennular peduncle length 5.6 mm ; antennal scale length 2.8 mm ; eyelength 2.0 mm ; cornea width 0.9 mm ; raptorial propodus : length 8.1 mm, width 2.6 mm ; telson: length 5.7 mm, width 7.9 mm.

REMARKS. – *Clorida inflata*, new species, is closely related to *C. malaccensis* Manning, 1968, and *C. moluccensis* Moosa, 1973, in having an inflated distal part on outer margin of the raptorial dactylus, an elongate rostral plate, and a post-anal keel on the ventral surface of the telson. *C. inflata* differs from *C. malaccensis*: 1. - in having a rounded instead of rectangular inflated basal part on the outer margin of the raptorial dactylus, 2. - in the number of teeth on the raptorial dactylus (3 to 4 instead of 5), 3. - in the form of the rostral plate, 4. - in having less developed anterolateral spine on the carapace, 5. - in the form of the lateral process of the 5th thoracic somite and, 6. - in the presence of tubercles surrounding the post-anal keel.

The present new species differs from *C. moluccensis* : 1. - in the form of the distal inflation on the outer margin of the raptorial dactylus (rectangular in *moluccensis*), 2. - in the form of the rostral plate, 3. - in the form and number of teeth on the raptorial dactylus, and, 4. - in the form and arrangement of tubercles on the ventral surface of the telson

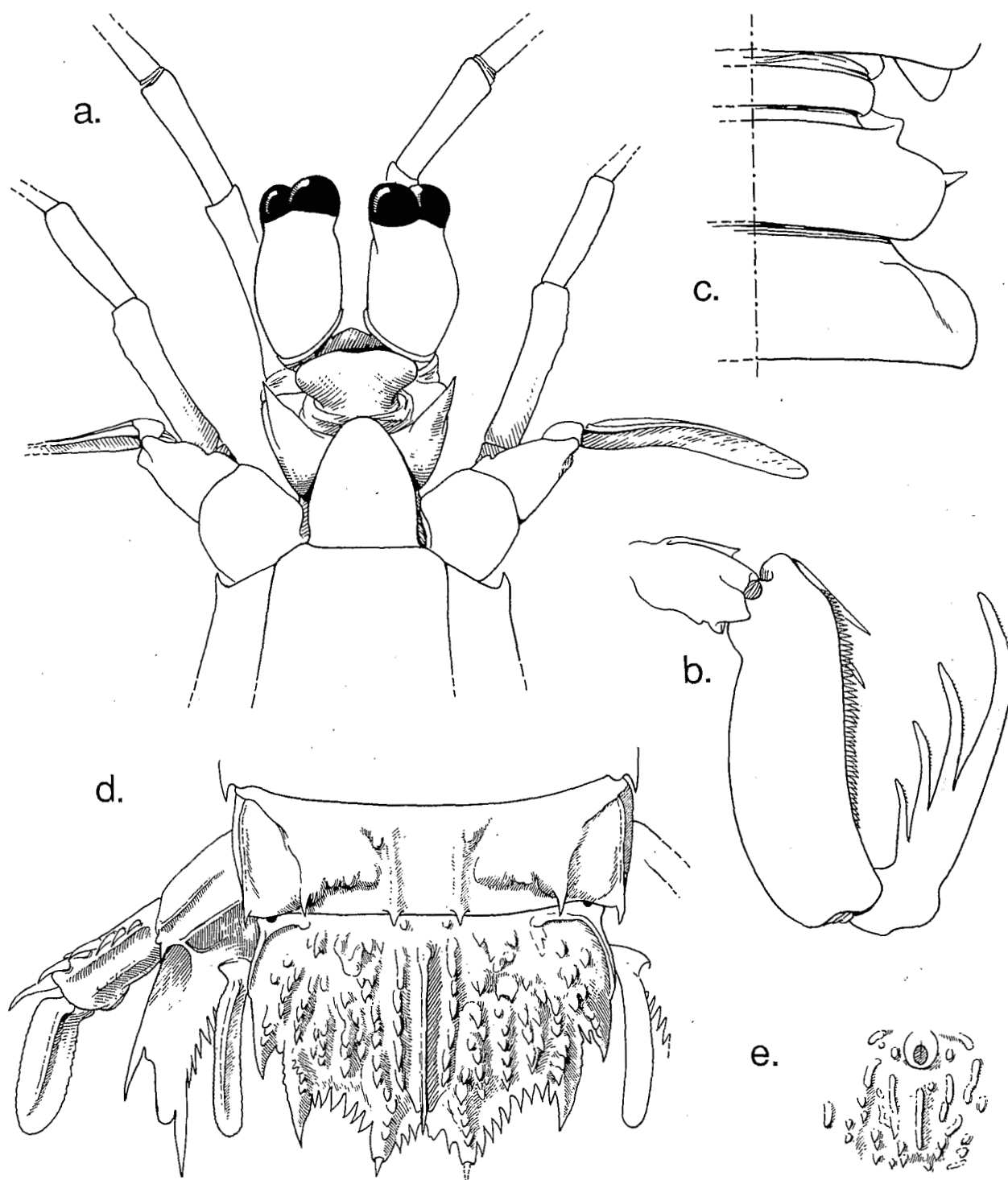


Fig. 13. — *Clorida inflata* sp. nov. holotype : ♀ TL 41mm : a. anterior part of body ; b. carpus, propodus and dactylus of raptorial claw ; c. 4th to 6th thoracic somites (one side only) ; d. 6th abdominal somite, telson and uropod (dorsal view, setae omitted) ; e. post-anal keel on ventral surface of telson.

Etymology : The name *inflata* alludes to the inflated basal portion on the outer margin of the raptorial dactylus.

DISTRIBUTION. – Known only from the type locality, New Caledonia, in depths of 12 to 70 m, on sandy mud bottom with foraminiferal sand and shell fragments.

Clorida jurichi Makarov, 1979

Clorida jurichi Makarov, 1979 : 40, fig.1.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : 1 ♀ 21 mm, stn DW 1013 (MNHN Sto 1191).

REMARKS. – *Clorida jurichi* was described from a ♀ of 22 mm collected in Tonkin Bay, Vietnam at a depth of 18 m. The species closely resembles *C. minor* (Jurich, 1904), *C. fallax* (Bouvier, 1914) and *C. incerta* (Hansen, 1926). The New Caledonian specimen agrees in most characters with the description of *C. jurichi* differing only in the number of spines on the basal prolongation of the uropod (9 instead of 7-8), the number of movable spines on the outer margin of the proximal segment of the uropodal exopod (5 instead of 6-7) ; and in having more carinae on the dorsal surface of the telson. *C. jurichi* most closely resembles *C. minor* in the number of dactylar teeth of the raptorial claw, the number of spines in the basal prolongation of the uropod and the movable spines on the proximal segment of the uropodal exopod, but clearly differs in the ornamentation of the dorsal surface of telson. The accessory median carina is reduced in *C. minor* while in *C. jurichi* it is more pronounced, resembling that of *C. fallax*. *C. jurichi* differs from *C. fallax* and *C. incerta* in the following characters : 1. anterolateral spines of carapace : absent in *incerta*, present in *jurichi* and *fallax* ; 2. median carinule on rostral plate : present in *incerta*, absent in *jurichi* and *fallax* ; 3. the number of teeth on the raptorial dactylus ; 4. the ornamentation on the dorsal surface of the telson with numerous carinae in *fallax*, fewer carinae in *incerta* and *jurichi* ; 5. ventral surface of telson with only post-anal keel in *incerta* and *jurichi*, with carinae on either sides of post-anal keel in *fallax*. The 4 species share common morphological characters in having the cornea broader than the eyestalk, the absence of a mandibular palp and superficial resemblances in the ornamentation of the dorsal surface of the telson.

DISTRIBUTION. – *Clorida jurichi* was only known from Tonkin Bay, Vietnam, 18 m (MAKAROV, 1979) and now from New Caledonian waters.

Clorida malaccensis Manning, 1968

Clorida malaccensis Manning, 1968 a : 224 , fig. 2 ; 1978 c : 26. – MOOSA, 1985 : 399.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 19 (1 spec.). – Stn DW 74 (1 spec.). – Stn DW 134 (1 spec.). – Stn DW 245 (1 spec.). – Stn DW 618 (1 spec.). – Stn DW 654 (1 spec.). – Stn DW 741 (1 spec.). The specimens are catalogued under MNHN Sto 1302 - 1307.

Size of specimens : Males TL 32 - 57 mm, females TL 22 - 43 mm.
Depth range in New Caledonia : 29 - 80 m.

REMARKS. – All the specimens agree with the description of the type in having fused, notched ocular scales ; the rostral plate about one and half times longer than broad ; the raptorial dactylus with 5 teeth of which the proximal tooth is either distinctly separate or attached to the 4th tooth ; ventral surface of telson with a post-anal keel not surrounded by tubercles (the type specimen is available in the present study).

DISTRIBUTION. – *Clorida malaccensis* has not previously been reported before from New Caledonian waters. The species has been recorded from Malacca Strait (MANNING, 1968 a), Madagascar (MANNING, 1978 c) and the Philippines (MOOSA, 1985) in depths of 36 - 42 m. The present record is the deepest known (80 m).

***Clorida merguiensis* (Tiwari & Biswas, 1952)**

Squilla merguiensis Tiwari & Biswas, 1952 : 350, fig. 1 a.

Clorida merguiensis - BLUMSTEIN, 1974 : 116, fig. 4. – MANNING, 1976 : 8, fig. 4. – MAKAROV, 1979 : 44, fig. 3. – MOOSA, 1985 : 400.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 140 (3 specs.). – Stn DW 141 (1 spec.). – Stn DW 187 (1 spec.). – Stn DW 274 (1 spec.). – Stn DW 647 (2 specs.). – Stn DW 653 (1 spec.). – Stn DW 656 (1 spec.). – Stn DW 666 (1 spec.). – Stn DW 678 (2 specs.). – Stn DW 689 (1 spec.). – Stn DW 694 (1 spec.). – Stn DW 700 (1 spec.). – Stn DW 727 (1 spec.). – Stn DW 733 (1 spec.). – Stn DW 833 (1 spec.). – Stn DW 968 (1 spec.). – Stn DW 976 (1 spec.). – *Chesterfield Islands* - CORAIL 2 : stn CP 131 (1 spec.). The specimens are catalogued under MNHN Stn 1284 - 1300 and LON S. 2557.

Size of specimens : Males TL 20 - 33 mm, females TL 19 - 42 mm.

Depth range in New Caledonia : 13 - 215 m.

REMARKS. – The specimens do not show the presence of a median carina on the rostral plate. The dactylus of the raptorial claws are always armed with 5 teeth, with the proximal tooth the smallest. The submedian carinae on the 5th abdominal somite are either in the form of clear carinae or only traces. The spine formulation of the abdominal carinae is as follows : submedians 6, intermediates (4), 5-6, laterals (4), 5-6, marginals (3), (4), 5. Marginal denticulation on the telson is variable, formulation : submedians 2-3, intermediates 5-7, laterals 1. The distal segment of the uropodal exopod has 8 movable spines on its outer margin, with the last spine extending to the midlength of the distal segment. The basal prolongation of uropod has 8-10 spines on the inner margin of the inner longer spine. The ventral surface of the telson has a post-anal keel, entire or granulated.

DISTRIBUTION. – *Clorida merguiensis* has been reported from scattered localities in the Indo-Malayan region (see MOOSA, 1985). The present record is new for the New Caledonian waters showing an extension of the species geographic distribution.

***Clorida microphthalma* (H. Milne Edwards, 1837)**

Squilla microphthalma H. Milne Edwards, 1837 : 523. – KEMP, 1913 : 31, pl. 1, figs 17-20. – KEMP & CHOPRA, 1921 : 299. – STEPHENSON, 1962 : 39, figs 2 a, 2 d ; pl. 1, figs E, F, G (synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 805 (2 specs.). – stn CP 908 (1 spec.). – *St Vincent Bay* : Trawl : stn 15, 21°58, 8'S - 166°01, 5'E, 14 m, (1 spec.). – without station number, 5 - 12 m (1 spec.). The specimens are catalogued under MNHN Stn 1647 - 1649.

Size of specimens : Males TL 58 - 89 mm, females TL 57 - 79 mm.

Depth range in New Caledonia : 5 - 15 m.

REMARKS. – The specimens are identified as *Clorida microphthalma* using MANNING's key for the species (MANNING, 1968 b). The eyes are pear-shaped with the cornea width nearly one-third of the eye length. The ocular scales are almost fused, with a median notch. The rostral plate is longer than broad with its margins converging to form a rounded apex. The form of the anterior part of the present

specimens closely resembles Figure 11 of SERENE (1954) with the more elongate rostrum resembling his Pl. I, Figure 2 of the same species. The carapace is narrowed anteriorly ; anterior width is about half of the greatest width. The dactylus of the raptorial claws has 4 or 5 teeth ; if 5 teeth are present then the proximal one is very small. Abdominal carinae spined as : submedians 6, intermediates 5-6, laterals 5-6, and marginals (3), 4-5. Denticles on the margin of the telson have the following formulation : submedians 2-3, intermediates 6. The ventral surface of the telson has a short post-anal keel which can be very low. STEPHENSON (1962) mentioned the presence of variations in his specimens which is within the range of the present specimens, except that the post-anal keel was always present in the New Caledonian specimens and was absent in STEPHENSON's specimens (replaced by granules ?).

DISTRIBUTION. — *Clorida microphthalmia* has been reported from scattered localities in the Indian Ocean : off Zanzibar (JURICH, 1904), Karachi and Indian coast (WOOD-MASON, 1895 ; KEMP, 1913 ; KEMP & CHOPRA, 1921 ; TIWARI & BISWAS, 1952), Indonesia (HOLTHUIS, 1941), Vietnam (SERENE, 1952, 1954), Taiwan waters (LEE & WU, 1966), and Australia (STEPHENSON, 1962) in depths ranging from intertidal zone to 80 m. The present record is the first for New Caledonian waters.

Clorida moluccensis Moosa, 1973

Clorida malaccensis var. *moluccensis* Moosa, 1973 : 19, fig. 3.

MATERIAL EXAMINED. — New Caledonia - *Lagoon* : stn DW 19 (1 spec.). — Stn DW 276 (1 spec.). — *St Vincent Bay* : Trawl : stn 2, 21°58, 2'S - 166°01, 2'E, 9 m, (2 specs). The specimens are catalogued under MNHN Sto1650 - 1652 and LON S. 2558.

Size of specimens : Females TL 43 - 108 mm.

Depth range in New Caledonia : 26 - 29 m .

REMARKS. — The specimens have the characters mentioned by MOOSA (1973), differing only in the number of dactylar teeth which are from 4 to 5. MOOSA (1973) mentioned that his specimens have only 4 teeth but the figure shows the presence of a small tubercle which is the rudimentary 5th tooth. The 5th tooth is absent in his paratype. The New Caledonian specimens have 4 teeth (in large female TL 108 mm) and 5 teeth on the other specimens. The rostral plate of the present specimens is 1.8 to 2.0 times longer than broad. The ventral surface of the telson has a sharp post-anal keel surrounded by tubercles.

DISCUSSION. — The presence of a series of specimens of both *C. malaccensis* and *C. moluccensis* allows assessment of interspecific as well as intraspecific variation. MOOSA (1973) described a new subspecies of *Clorida malaccensis* which he named as a variety of *moluccensis* based on specimens collected in Maluku waters, Indonesia in two different cruises (the holotype was collected by the Mariel KING Memorial Expedition in 1970 and the paratype was collected by the Baruna Expedition in 1964). The New Caledonian specimens comprise both the typical form and the variety. MANNING (1978 c) synonymized *moluccensis* with *malaccensis* basically because of the presence of a small tooth attached to the proximal tooth making the number of teeth 5. The *moluccensis* differs from *malaccensis* in some important factors : the ocular scales are fused to form a trapezoideal plate in *moluccensis*, not notched as in *malaccensis* ; the rostral plate has its length 1.8 to 2.0 times its width ; the post-anal keel is always surrounded by a row of tubercles with additional, scattered, lateral tubercles. The differences justify regarding *moluccensis* as distinct.

DISTRIBUTION. — *Clorida moluccensis* was only known from Indonesia, in 54 to 90 m depths inhabiting mud, sand and shelly grit bottoms (MOOSA, 1973). The present record, new for New Caledonian waters, is the second ever reported giving an indication of the wider distribution of the species in shallower waters.

Clorida nazasaensis Garcia & Manning, 1982

Clorida nazasaensis Garcia & Manning, 1982 : 538, fig. 2.

MATERIAL EXAMINED. — New Caledonia - *Lagoon* : stn DW 530, 1 ♀ 35 mm (MNHN Sto 1653).

REMARKS. — The specimen has only one raptorial claw with a dactylus armed with 4 teeth of which the proximal one is very small, closely resembling the figure of the type specimen (GARCIA & MANNING, 1982, fig. 2 b). The abdominal carinae are spined almost the same as in the type except that the laterals are armed on the 5th and 6th somites. Denticles of the telson have the formulation : submedians 5, intermediates 8. The outer margin of the proximal segment of the uropodal exopod has 5 movable spines. The inner spine of the basal prolongation of the uropod has 7-8 spines on its inner margin. The ventral surface of the telson lacks a post-anal keel. As noted by GARCIA and MANNING (1982) *C. nazasaensis* closely resembles *C. severi* Moosa, 1973, differing only in the presence of 3 instead of 4 well formed teeth on the raptorial dactylus and the lacks of a post-anal keel on the ventral surface of the telson.

DISTRIBUTION. — *Clorida nazasaensis* has only been known from the Philippines in depths of 17 - 37 m (GARCIA & MANNING, 1982). The present record is the second known and new for New Caledonian waters where the species was collected in deeper waters (48 m).

Kempina mikado (Kemp & Chopra, 1921)

Kempina mikado - MOOSA, 1985 : 400, fig. 10 (synonymy).

MATERIAL EXAMINED. — Chesterfield Islands - CORAIL 2 : stn CP 131 (1 spec.). — BIOCAL : stn CP 108 (3 specs). The specimens are catalogued under MNHN Sto 1377 and 1385.

Size of specimens : Males TL 62 - 77 mm, females TL 58 - 73 mm.

Depth range in New Caledonia : 215 - 335 m.

DISTRIBUTION. — *Kempina mikado* has been reported from the western Indian Ocean and the Indo-Malayan region northward to Japan in depths ranging from 58 to 804 m (see MOOSA, 1985). The present record is an extension of the species' geographical distribution and a new record for New Caledonian waters.

Lenisquilla pentadactyla sp. nov.
(Fig. 14)

MATERIAL EXAMINED. — New Caledonia - *Lagoon* : stn DW 835, 135 - 150 m : 1 ♂ TL 37 mm, holotype, (MNHN Sto 1202).

DESCRIPTION. — Body smooth, highly polished. Size moderate, male mature at TL 37 mm. Eyes of moderate size, extending beyond end of 1st segment of antennular peduncle ; cornea bilobed, Corneal Index 518 ; anterior margin of ophthalmic somite truncate ; ocular scales fused, medially concave. Antennular peduncle about half as long as carapace length ; dorsal process of antennular somite produced into a triangular lobe with sharp apex, directed anterolaterally. Antennal scale slender, length less than half carapace length. Rostral plate triangular, longer than broad, margins tapering dorsally to form a subacute apex, median carina present. Carapace narrowed anteriorly ; anterolateral angles with spine which fails to reach base of rostral plate ; median carina absent, intermediate carinae present ; cervical groove crossing gastric groove from middle of posterolateral portion of each side. Mandibular palp and 4 epipods present. Raptorial claw relatively robust ; dactylus armed with 5 teeth, outer margin

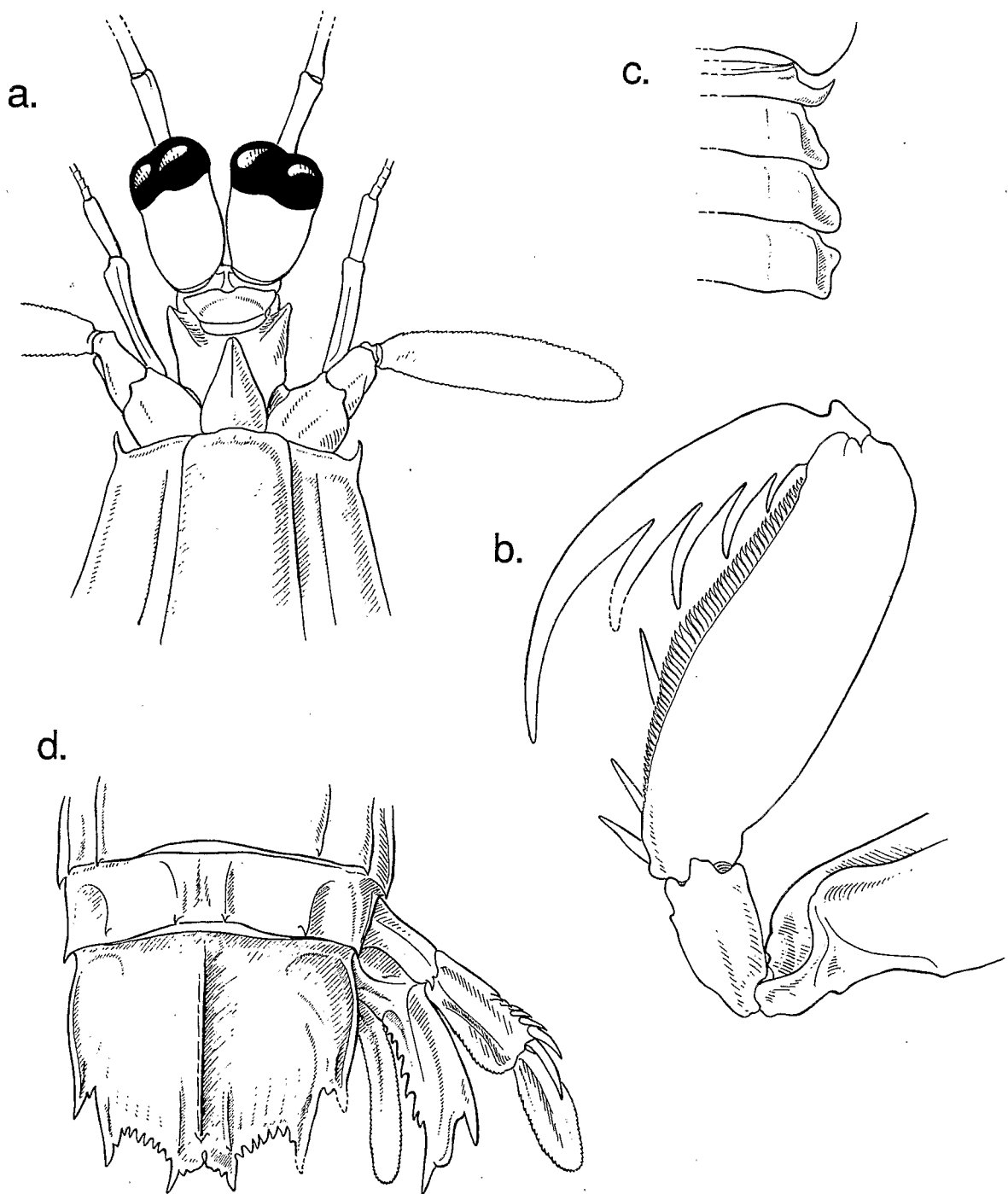


Fig. 14. – *Lenisquilla pentadactyla*, sp. nov. holotype : ♂ TL 37mm ; a. anterior part of body ; b. carpus, propodus and dactylus of raptorial claw ; c. 5th to 8th thoracic somites (one side only) ; d. 6th abdominal somite, telson and uropod (dorsal view, setae omitted).

sinuous basally with a triangular distal lobe ; propodus stout, evenly pectinate, with 3 movable spines on proximal inner margin ; dorsal ridge of carpus entire, terminating in a blunt tooth. Exposed thoracic somites without submedian carinae, intermediate carinae present on last 3 somites ; lateral process of 5th somite as a broad, anterolaterally directed spine ; 6th somite inconspicuously bilobed, anterior lobe small, posterior lobe rounded ; 7th somite without indication of anterior lobe, posterior lobe rounded. First 5 abdominal somites lacking submedian carinae, 6th somite with 3 pairs of carinae ; spine formulation of the abdominal carinae is as follows ; submedians 6, intermediates 4-6, laterals 4-6, marginals 3-5. Telson broader than long, with 3 pairs of marginal teeth, each with dorsal carina ; submedians with fixed apices, prelateral lobe absent ; dorsal surface with sharp median carina terminating in posterior spine, without additional carinae lateral to median carina ; submedian denticles truncate, inner denticle about twice as large as outer, denticle formulation : submedians 2, intermediates 7-8, laterals 1 ; ventral surface with a short post-anal keel. Proximal segment of uropodal exopod as long as distal segment, outer margin with 8 movable spines, last spine extending to midlength of distal segment. Basal prolongation of uropod with 2 spines, inner spine the longer, with a broad lobe on outer margin and with 9 spines on inner margin.

Colour : The colour of the preserved specimen is completely faded.

Measurements : Male holotype : TL 37 mm ; carapace length 6.8 mm ; antennular peduncle length 3.6 mm ; eye length 1.9 mm ; cornea width 1.3 mm ; rostral plate : length 1.4 mm, width 0.9 mm ; antennal scale : length 3.2 mm, width 0.8 mm ; propodus : length 6.5 mm, width 2.3 mm ; telson : length 5.7 mm, width 7.5 mm.

REMARKS. – *Lenisquilla pentadactyla* sp. nov., differs from all the known members of the genus in having 5 instead of 6 teeth on the raptorial dactylus. The new species superficially approaches *L. spinosus* (BLUMSTEIN, 1974) in having rostral plate ornamented with a median carina and in the form of the dorsal surface of the telson. It differs in : 1. carapace with anterolateral spines in *pentadactyla* which are lacking in *spinosus* ; 2. the lateral process of 5th thoracic somite is sharp, anterolaterally directed in *pentadactyla* which is laterally directed in *spinosus* ; 3. the spinulation of the abdominal carinae ; 4. the presence of spines instead of serration on the inner margin of the inner longer spines of the basal prolongation of the uropod in *pentadactyla*.

Etymology : The specific name *pentadactyla* refers to the presence of only 5 teeth on the raptorial dactylus.

DISTRIBUTION. – Known only from New Caledonian waters in depths of 135 to 150 m.

Leptosquilla schmeltzii (A. Milne Edwards, 1873)

Squilla Schmeltzii A. Milne Edwards, 1873 : 11, pl. 2, fig. 7. – HANSEN, 1926 : 14, pl. 1, figs 5 a - 5b.

"*Leptosquilla schmeltzii*" - KEMP, 1913 : 93, pl. 7, figs 81 - 83.

Squilla schmeltzii - HOLTHUIS, 1941 : 257, fig. 2.

Leptosquilla schmeltzii - HOLTHUIS, 1967 : 13. – MOOSA, 1984 : 38.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 203 (1 spec.). – Stn DW 915 (1 spec.). – Stn DW 1021 (4 specs.). – Stn DW 1040 (1 spec.). – Stn DW 1041 (2 specs.). – Stn DW 1051 (1 spec.). – Stn DW 1057 (1 spec.). – Stn DW 1066. – Stn DW 1078. – Stn DW 1083. – Stn DW 1092. – Stn DW 1093. – Stn DW 1098. – Stn DW 1110. – Stn DW 1200. – MUSORSTOM 6 : stn DW 417 (1 spec.). – Stn DW 419 (3 specs.). – Stn DW 455 (1 spec.). The specimens are catalogued under MNHN Stn 1378 - 1384 and LON S. 2557-2559, 1878-1880.

Size specimens : Males TL 20 - 23 mm, females TL 18 - 25 mm.

Depth range in New Caledonia : 11 - 17 m.

REMARKS. – All the specimens have the dorsal surface of the body mottled with black pigment in more or less uniform pattern with some specimens having more pronounced and larger dots of black pigment. The dactylus of the raptorial claw is armed with 7 teeth, except on one specimen having dactyli armed with 6 and 7 teeth. The median carina on the dorsal surface of the telson in the larger male specimen is more swollen than in the females or smaller males. The proximal segment of the uropodal exopod has 3 to 4 movable processes, and if 4 processes exist then the 2 proximal processes are spiniform, the 3rd becomes spatulate or crescent-shaped and the 4th is a broad leaf like process. If only 3 processes exist then only the proximal one is spiniform, the 2 distal process are as described above.

DISTRIBUTION. – *Leptosquilla schmeltzii* has a wide distribution in the Indo-West Pacific region and has been reported from eastern African waters to the Red Sea through the Andaman Sea, Indonesia and Samoa. The species has not been previously reported from New Caledonian waters. The known depth range of the species is 11 to 45 m, inhabiting muddy or fine sand bottom (MOOSA, 1984 and the present record).

Neoanchisquilla gen. nov.

DIAGNOSIS. – Eyes large, cornea bilobed, inner margin of eye the longer, ocular scales separate. Carapace without median carina. Mandibular palp and 4 epipods present. Dactylus of raptorial claw with 8 teeth, upper margin of propodus pectinate. Lateral process of 5th, 6th and 7th thoracic somites single, that of the 5th as a sharp spine. Abdomen without median and submedian carinae on the first 5 somites, 6th somite without median carina but with normal complement of carinae. Telson with supplementary carination lateral to median carina, prelateral lobe indistinct ; submedian teeth with movable apices. Basal prolongation of uropod with row of sharp spines on inner margin.

Type species : Neoanchisquilla semblatae, new species, by monotypy.

REMARKS. – *Neoanchisquilla*, new genus, most closely resembles *Anchisquilla*, differing only in the number of dactylar teeth, the presence of movable apices on the submedian teeth of the telson, and the presence of prelateral lobes on the telson. The two genera share common features in having superficial resemblance in the dorsal ornamentation of telson, the form of lateral process on the 5th thoracic somite and the carination of the abdominal somites.

Etymology : The name *neo* - new -, in combination with *Anchisquilla*, to indicate that the two very closely resemble each other. The gender is feminine.

Neoanchisquilla semblatae sp. nov.
(Fig. 15)

MATERIAL EXAMINED. – Chesterfield Islands - CORAIL 2 : stn DW 30, 74 m : 1 ♂ TL 26 mm, holotype, (MNHN Stn 1626).

DESCRIPTION. – Size small, male adult at TL 26 mm. Eyes small, set obliquely on stalk, extending to end of 1st segment of antennular peduncle. Cornea bilobed, slightly wider than eyestalk, Corneal Index 400 ; ocular scales truncate, separate ; anterior margin of ophthalmic somite truncate. Antennular peduncle short, about two-thirds carapace length ; dorsal process of antennular somite as a blunt tooth, directed anterolaterally. Antennal scales slender, slightly more than half carapace length. Mandibular palp and 4 epipods present. Rostral plate as long as broad, apex rounded, without apical spine or dorsal carina. Dactylus of raptorial claw armed with 8 teeth, outer margin sinuous basally and with a small, angled elevation ; propodus long, as long as carapace length, margin sparsely pectinate along its entire length, inner margin with 3 movable spines proximally ; dorsal ridge of carpus entire, ending in a blunt tooth ; merus and ischium without spine. Exposed thoracic somites without submedian carinae, intermediates present on the last 4 somites ; lateral process of 5th somite as a sharp, anterolaterally directed spine, ventral spine present ; 6th somite with a small elevation on its anterolateral margin resembling a small lobe, posterolateral lobe rounded ; 7th somite with posterolateral margin rounded.

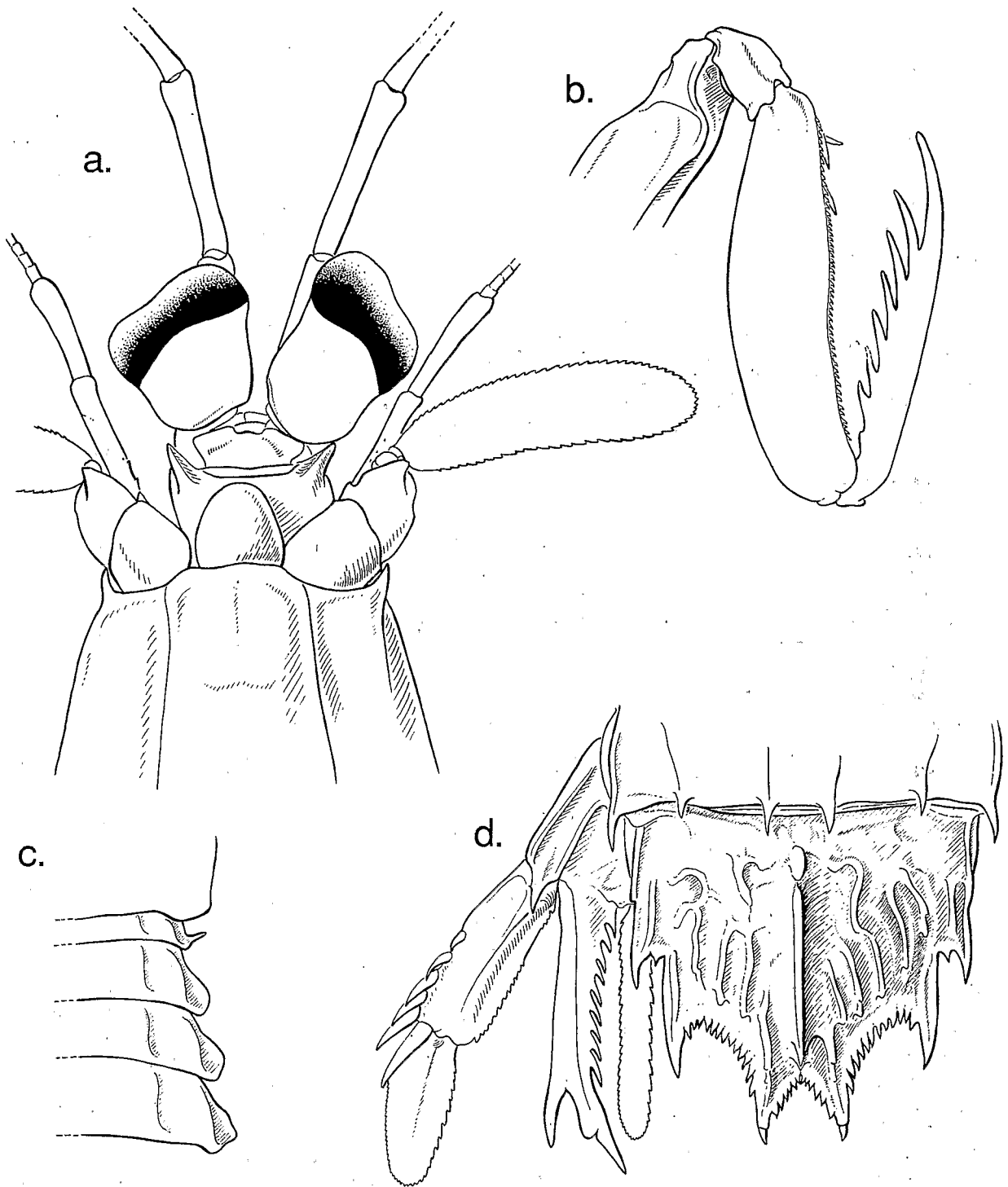


Fig. 15. — *Neoanchisquilla semblatae* sp. nov., holotype : ♂ TL 26mm ; a. anterior part of body ; b. carpus, propodus and dactylus of raptorial claw ; c. 5th to 8th thoracic somites (one side only) ; d. 6th abdominal somite, telson and uropod (dorsal view, setae omitted).

First 5 abdominal somites without submedian carinae ; 6th somite with 3 pairs of carinae ending in spines ; spine formulation : submedians 6, intermediates 6, laterals 4-6, marginals 1-5 (one side of the 2nd somite without marked spines). Telson broader than long, dorsal surface lateral to median carinae ornamented with carinae as illustrated ; 3 pairs of marginal teeth present, each with dorsal carinae ; submedians with movable apices, prelateral lobe present ; denticles sharp, formulation : submedians 6-7, intermediates 12-13, laterals 1 ; ventral surface with a long and sharp post-anal keel. Proximal segment of uropodal exopod slightly longer than distal segment, with 6 movable spines on outer margin, last spine not reaching midlength of distal segment. Basal prolongation of uropod long and slender ; inner spine the longer with a lobe on its outer margin and with 10-12 spines on inner margin.

Measurements : Male holotype : TL 26 mm ; carapace : length 5.3 mm, anterior width 2.6 mm, posterior width 5.3 mm ; rostral plate : length 0.9 mm, width 0.8 mm ; antennular peduncle length 3.9 mm ; antennal scale length 2.9 mm, width 0.7 mm ; eyelength 1.4 mm ; cornea width 1.3 mm ; telson : length 3.5 mm, width 4.4 mm.

REMARKS. – *Neoanchisquilla semblatae* sp. nov., closely resembles *Anchisquilla fasciata* (de Haan, 1844) ; they differ in : 1. the number of dactylar teeth ; 2. ornamentation on the dorsal surface of the telson ; and 3. the presence of submedian teeth with movable apices on *semblatae*.

Etymology : The specific name *semblatae* is dedicated to Mme Josette SEMBLAT whose help was indispensable in the literature search during the present study.

DISTRIBUTION. – Known only from Chesterfield Islands, in New Caledonian waters.

Oratosquilla calumnia (Townsend, 1953)

Squilla calumnia Townsend, 1953 : 410, figs 8, 9 a-f.

Oratosquilla calumnia - MANNING, 1971 b : 4, fig. 1 (synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 187 (1 spec.). – Stn DW 806 (1 spec.). – Stn CP 908 (1 spec.). – Stn CP 928 (1 spec.). – Stn CP 1059 (1 spec.). – *St Vincent Bay* : Trawl : stn 1, 21°58, 0'S - 166°01, 2'E, 6 m, (2 specs.). – Stn 5, 21°58, 1'S - 166°01, 2'E, 10 m, (1 spec.). – Stn 8, 21°57, 4'S - 166°02, 6'E, 7 m, (2 specs.). – Stn 15, 21°58, 8'S - 166°01, 5'E, 14 m, (1 spec.). – Stn 18, 22°04, 5'S - 166°06, 2'E, 12 m, (2 specs.). – without station number (5 specs.). The specimens are catalogued under MNHN Stn 1364 - 1376 and LON S.2559.

Sizes of specimens : Males TL 64 - 130 mm, females TL 66 - 126 mm.

Depth range in New Caledonia : 5 - 48 m.

DISCUSSION. – Following MANNING's key for the identification of *Oratosquilla* Group (MANNING, 1971 b) the specimens partly belong to *O. mauritania* (Kemp, 1913) and partly to *O. calumnia* (Townsend, 1953). MANNING (1971 b) speculated that these species represent two population terminals of a widely distributed species in the Indo-West Pacific region. Comparing the New Caledonian specimens with a specimen of *Oratosquilla mauritiana* collected from Tulear, Madagascar, identified by Manning, the two species are distinctly different. The lateral margin of the posterior lobe of the 6th and 7th thoracic somites, is straight, forming a clear triangle which very closely resembles Figure 1 of MANNING (1971 b). All the present specimens with submedian carinae on the 4th abdominal somites end in spines, while the intermediate carinae are spined in 13 specimens (one specimen with spine on one side only) out of the total 18 specimens. The submedian carinae on the 3rd abdominal somite are armed in 4 specimens only, all have armed submedian carinae on the 4th somite. The spinulation of the abdominal carinae does not seem to correspond to differences in size or sex, the formulation is : submedians (3), 4-6, intermediates (1), 2-6, laterals 1-6, marginals 1-5. The dorsal ridge of the carpus of raptorial claws generally have 2 acute teeth, in some specimens additional, very low, teeth exist whereas in 2 specimens they have only 1 tooth (in one of these specimens the single tooth on one of the claws is clearly a fusion of 2 teeth). The form of the anterior lobe on the lateral process of the 7th thoracic somite is not uniform, it varies from slightly rounded to acute or almost sharp. The characters

approach both *O. mauritiana* and *O. calumnia*. The Corneal Indices of the New Caledonian specimens ranges from 324 to 426, and this is within the ranges of both species : 391 - 500 in *O. calumnia* and 397 in *O. mauritiana* (see MANNING, 1968 ; 1971 b). The colour pattern of the specimens is uniform and fully agrees with the description of MANNING (1971 b) for *O. calumnia*.

DISTRIBUTION. – Previously only known from Guam (MANNING, 1971 b) and Hawaiian waters (TOWNSLEY, 1953 ; MANNING, 1971 b). The present record, new for New Caledonian waters, shows that the species lives in depths ranging from 5 to 50 m.

Oratosquilla fossulata Moosa, 1985

Oratosquilla fossulata Moosa, 1985 : 405, fig. 11.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 41 (1 spec.). – Stn DW 512 (2 specs). – Stn DW 527 (32 specs). – Stn DW 535 (1 spec.). – Stn DW 539 (1 spec.). – Stn DW 848 (1 spec.). – Stn DW 854 (1 spec.). – Stn CP 1061 (1 spec.). – Stn DW 1064. – Stn DW 1074. – Stn DW 1081. – Stn DW 1085. – Stn DW 1089. – Stn DW 1099. – Stn DW 1102. – Stn DW 1135. – Stn DW 1163. – Stn DW 1169. – Stn DW 1172. – Stn DW 1179. – Stn DW 1204. – Stn DW 1210. – Stn DW 1216. – *Belep* : stn 42, 22.06.1985, 19°34'0 S - 163°37'7 E, 43-49 m, (1 spec.). – *Chesterfield Islands* - *CORAIL 2* : stn CP 131 (1 spec.). *MUSORSTOM 4* : Stn CC 146 (1 spec.). – Stn CP 172 (1 spec.). – *MUSORSTOM 5* : stn DW 276 (1 spec.). – Stn DW 289 (1 spec.). – *Others* : 5 specs no data. The specimens are catalogued under MNHN Stn 1353 - 1363 and MNHN Stn 1393 - 1395.

Size of specimens : Males TL 33 - 82 mm and juvenile ; females TL 34 - 77 mm.

Depth range in New Caledonia : 13 - 330 m.

REMARKS. – All the specimens bear 6 teeth on the dactylus of the raptorial claw ; the merus lacks a spine on its inferodistal angle ; the dorsal surface of the telson has furrows which are deeper in the larger specimens. On some smaller specimens the posterolateral lobe on the 6th thoracic somite is less sharp than in larger specimens and may show fewer spines on the abdominal carination (submedians may be absent on the 5th somite).

DISTRIBUTION. – Previously only known from the Philippines in 143 to 189 m depths. The present record, new for New Caledonian waters, shows that the species may occur from shallow to deeper waters (13 to 330 m).

Oratosquilla inornata (Tate, 1883)

Squilla inornata Tate, 1883 : 51, pl. 2, fig. 3 a - c.

Oratosquilla inornata - MANNING, 1978 d : 17, figs 8-9.

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 4 (1 spec.). – Stn DW 20 (1 spec.). – Stn DW 184 (2 specs). – Stn DW 187 (1 spec.). – Stn DW 512 (4 specs). – Stn DW 527 (24 specs). – Stn DW 785 (1 spec.). – Stn DW 813 (1 spec.). – Stn DW 827 (1 spec.). – Stn CP 928 (2 specs). – Stn CP 967 (2 specs). – Stn CP 1060 (1 spec.). – Stn CP 1061 (1 spec.). – *Belep* : stn 26, 19.02.1985, 19°41.8' S - 163°31.2' E, 40 m, (1 spec.). – *Pott* : stn 21, 18.06.1985, 19°21.3' S - 163°34.2' E, 58 m, (6 specs). – Stn 22, 18.06.1985, 19°23.3' S - 163°34.2' E, 58 m, (2 specs). – Stn 23, 18.06.1985, 19°20.7' S - 163°34.8' E, 57-58 m, (3 specs). – *St Vincent Bay* : Trawl : stn 8, 21°57, 4'S - 166°02, 6'E, 7 m, (3 specs). – Stn 9, 21°57, 5'S - 166°02, 6'E, 7 m, (1 spec.). – Stn 12, 21°58, 4'S - 166°02, 0'E, 12 m, (7 specs). – Stn 13, 21°57, 2'S - 166°02, 3'E, 7 m, (1 spec.). – Stn 15, 21°58, 8'S - 166°01, 5'E, 14 m, (10 specs). – Stn 16, 21°58, 4'S - 166°01, 4'E, 17 m, (4 specs). – Stn 17, 22°04, 4'S - 166°05, 8'E, 13 m, (6 specs). – Stn 18, 22°04, 5'S - 166°06, 2'E, 12 m, (1 spec.). – Stn 20, 22°04, 7'S - 166°06, 1'E, 14 m, (4 specs). – without

station number (12 specs). – shrimp culture pond (1 spec.). – MUSORSTOM 4 : stn DW 148 (1 spec.). The specimens are catalogued under MNHN Stn 1309 - 1340, 1897.

Size of specimens : Males TL 35 - 110 mm and juveniles, females TL 39 - 123 mm.
Depth range in New Caledonia : 4 - 58 m.

REMARKS. – The specimens agree with the description and figure of MANNING (1978 c) in most characters. The spine formulation of the abdominal carinae in the smaller specimens is almost the same as the larger specimens except for some lateral spines in some specimens which are 3-6 instead of 2-6.

Colour : The preserved specimens show the following colour pattern : pale band on dorsal part of 2nd abdominal somite stretching between the intermediate and submedian carinae ; dark, crescent-shaped line with its legs touching the lateral carinae on the first 4 abdominal somites ; short dark line on 2nd to 6th abdominal somites located at the anterior margin between the lateral and intermediate carinae ; the same short black line on posterior margin of 6th abdominal somite between lateral and intermediate carinae. Telson with median carina and all carinae of the marginal teeth are greenish, or in some specimens rather dark, with tip of spine pink or pinkish ; rib of the proximal segment of uropodal exopod blackish, while two-thirds of inner side of distal segment of uropodal exopod black ; tip of basal prolongation of uropod pinkish.

DISTRIBUTION. – *Oratosquilla inornata* was once considered to be a widely distributed species, but recently, the only reliable records were considered to be from St Vincent Bay, South Australia and Bowen, Queensland in 35 to 46 m depths (MANNING, 1978 d). The present record, new to New Caledonian waters, shows that the species may have a wider distribution in neighbouring areas where it inhabits a wider depth range (4 to 59 m).

Oratosquilla nepa (Latreille, 1828)

Squilla nepa - KEMP, 1913 : 60, pl. 4, fig. 41 (for older synonymy).

MATERIAL EXAMINED. – New Caledonia - *Lagoon* : stn DW 184 (5 specs.). – Stn DW 187 (3 specs.). – *St Vincent Bay* : Trawl : stn 1, 21°58, 0'S - 166°01, 2'E, 6 m, (3 specs). – Stn 8, 21°57, 4'S - 166°02, 6'E, 7 m, (4 specs). – Stn 9, 21°57, 5'S - 166°02, 6'E, 7 m, (5 specs). – Stn 12, 21°58, 4'S - 166°02, 0'E, 12 m, (11 specs). – Stn 14, 21°58, 8'S - 166°02, 1'E, 13 m, (4 specs). – Stn 15, 21°58, 8'S - 166°01, 5'E, 14 m, (5 specs). – Stn 16, 21°58, 4'S - 166°01, 4'E, 17 m, (1 spec.). – 2 stations without number (8 specs). The specimens are catalogued under MNHN Stn 1341 - 1352.

Size of specimens : Males TL 106 - 148 mm, females TL 84 - 16mm.
Depth range in New Caledonia : 4 - 13 m.

DISTRIBUTION. – *Oratosquilla nepa* has a wide distribution in shallow coastal waters of the tropical Indo-West Pacific region. The species has been reported from coastal waters bordering the Indian Ocean and western Pacific. In Australian waters *O. nepa* was only reported from Townsville, Queensland and other Queensland records were regarded as doubtful by STEPHENSON (1953) ; the record of this species in New Zealand waters was also regarded as doubtful by CHILTON (1891). The present record is new for New Caledonian waters.

Oratosquilla subtilis Manning, 1978

Oratosquilla subtilis Manning, 1978 c : 33, fig. 19.

MATERIAL EXAMINED. — New Caledonia - *Lagoon* : stn DW 105 (1 spec.). — Stn DW 234 (1 spec.). — Stn DW 235 (1 spec.). — Stn DW 319 (1 spec.). — Stn DW 355 (1 spec.). — Stn DW 611 (1 spec.). — Stn DW 778 (1 spec.). — Stn DW 833 (2 specs). — Stn DW 834 (1 spec.).

REMARKS. — The specimens are considered to be *Oratosquilla subtilis* based on the following characters : inferodistal angle on outer face of merus of raptorial claw unarmed, dorsal ridge on carpus of raptorial claw entire, dactylus armed with 5 teeth, proximal segment of uropodal exopod longer than distal. *O. subtilis* as described by MANNING (1978 c) has a variable sized rostral plate ; this is shown in the New Caledonian specimens, whose rostral plate varies from a little broader to a little longer. The Corneal Indices of the specimens are 350-423 which approaches the known range of *O. subtilis* (412-442). The anterior width of the carapace is half or slightly less than half of the carapace length. The abdominal carinae are spined as : submedians 5-6, intermediates (3), 4-6, laterals 2-6, marginals 1-5 (in one female the marginal spines are not marked on the 1st and 2nd somites making the formula 3-5). The proximal segment of the uropodal exopod has 8-10 movable spines on its outer margin, the last not extending to the midlength of the distal segment. *O. subtilis* belongs to the *gonypetes* Group, all having 5 teeth on the raptorial dactylus.

DISTRIBUTION. — Madras, India, Burma, Indonesia and the Philippines, in depths ranging from 37 to 91 m (MANNING, 1978 c). The present record, new for New Caledonian waters, shows the eastward extension of the species' geographic distribution within the known bathymetric ranges.

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