NOTES ON STOMATOPOD CRUSTACEA FROM SERIBU ISLANDS AND ADJACENT WATERS WITH A DESCRIPTION OF A NEW SPECIES 1)

by

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ABSTRACT

The stomatopod fauna of Seribu Islands, Jakarta Bay, and adjacent waters is still poorly known. This study reveals the existence of 30 species in this area. A new species belonging to Oratosquilla is described. Records of distribution for those species are based on the material collected from this area only.

IKHTISAR

Fauna stomatopoda Pulau Seribu, Teluk Jakarta, dan perairan sekitarnya masih sangat sedikit diketahui. Tiga puluh jenis, termasuk satu jenis baru marga Oratosquilla, dibicarakan dalam karangan ini. Catatan daerah sebaran untuk jenis-jenis tersebut hanya didasarkan pada material yang dikumpulkan dari daerah ini.

INTRODUCTION

The stomatopod fauna of Seribu Islands, Jakarta Bay, and adjacent waters is still poorly known. However, some species have been described by some workers, viz., DE MAN (1887) described Protosquilla brooksii (now Chorisquilla brooksii) which was collected from Edam Island, Jakarta Bay; HOLTHUIS'S type of Gonodactylus lenzi (now Haptosquilla lenzi) was collected from Jakarta Bay; SUNIER'S (1918) material for his publication on the stomatopod collection of the "Visscherij Station at Batavia" (now Lembaga Oseanologi Nasional) was partly collected from Jakarta Bay. Unfortunately these particular specimens are not

2) Lembaga Oseanologi Nasional, Jakarta, Indonesia.
longer in existence. The present study is based mainly on the existing
collection of the Lembaga Oceanologi Nasional (LON = National
Institute of Oceanology), with additional specimens from the Institute
of Sea Fisheries Research, Jakarta, and the Bogor Zoological Museum,
National Biological Institute, Indonesian Institute of Sciences. A total
of 30 species of 14 genera belonging to 3 families have been recorded
from the area, among those, a new species of *Oratosquilla* is described.

**METHODS**

Measurements of the specimens are given in millimeters (mm).
The total length (TL) is measured from tip of rostrum to posterior end
of telson along the midline. The carapace length (NL) is also measured
along the midline, excluding the rostrum. The count of teeth of the
raptorial dactylus always includes the terminal tooth. The Corneal
Index (CI) is calculated as carapace length/cornea width x 100 (MANNING
1966).

The records of distribution for the species discussed in this paper are
based on the material collected from Seribu Islands and adjacent waters only.
The so-called adjacent waters include the offshore waters of the eastern
part of South Sumatera, northern part of Sunda Strait, islands situated at
southern part of Bangka, and Jawa Sea north of West Jawa. These waters
are very close to Seribu Islands and therefore the stomatopod fauna in
these waters may have similar composition.

The synonymies herein used are restricted to KEMP (1913), SUNIER
(1918), HANSEN (1929), HOLTHUIS (1941) and MANNING & SERENE
(1968). Additional papers will be referred whenever available and
necessary.

**TAXONOMIC ACCOUNT**

The species so far known from Seribu Islands and adjacent waters
are presented in the following list.

1. *Chorisquilla brooksii* (DE MAN 1887)
2. *Gonodactylus chiragra* (FABRICIUS 1781)
*3. *Gonodactylus demanii* HENDERSON 1893
4. *Gonodactylus falcatus* (FORSKAL 1775)
5. *Gonodactylus platysoma* WOOD-MASON 1895
6. *Gonodactylus smithii* POCOCK 1893
7. *Haptosquilla glyptocerca* (WOOD-MASON 1875)
8. *Haptosquilla lenzi* (HOLTHUIS 1941)
*9. Odontodactylus cultrifer* (WHITE 1850)
10. *Pseudosquilla ciliata* (FABRICIUS 1787)
11. *Pseudosquilla oculata* (BRULLE 1836)
12. *Acanthosquilla derijardi* MANNING 1969
13. *Lysiosquilla maculata* (FABRICIUS 1793)
14. *Alima hyalina* LEACH 1817
15. *Anchisquilla fasciata* (DE MAN 1844)
16. *Carinosquilla lirata* (KEMP & CHOPRA 1921)
*17. Carinosquilla multicarinata* (WHITE 1847)
18. *Clorida latreillei* EYDOUX & SOULEYET 1841
19. *Cloridopsis scorpio* (LATREILLE 1825)
20. *Harpiosquilla harpax* (DE HAAN 1844)
21. *Harpiosquilla raphidea* (FABRICIUS 1798)
*22. Oratosquilla gonypetes* (KEMP 1911)
*23. Oratosquilla holochista* (KEMP 1911)
24. *Oratosquilla inornata* (TATE 1883)
25. *Oratosquilla interrupta* (KEMP 1911)
26. *Oratosquilla jakartensis* new species
27. *Oratosquilla nepa* (LATREILLE 1825)
28. *Oratosquilla quinquedentata* (BROOKS 1886)
29. *Oratosquilla tweediei* MANNING 1971
*30. Oratosquilla woodmasoni* (KEMP 1911)

*) Not represented in the collection.

GONODACTYLIDAE  GIESBRECHT 1910

**Chorisquilla brooksi** (DE MAN 1887)

*Protosquilla brooksi* DE MAN 1887: 579, pi. 22, fig. 8. — MANNING & SERENE 1968: 114 (listed).


**Type locality.** — Edam Island, Jakarta Bay.

**Previous record.** — Known only from Edam Island (DE MAN 1887).
**Gonodactylus chiragra** (FABRICIUS 1781)

*Squilla chiragra* FABRICIUS 1781: 515.

**Gonodactylus chiragra** KEMP 1913: 155 -162, pi. 9, fig. 107.


**Previous records.** — This species is the most common among the coral reefs inhabiting stomatopods in the area. It has been recorded from Damar Kecil Isl. (Alkmaarr Isl.), Jaga Utara Isl. (Noordwachter Isl.), Nyamuk Kecil. Isl. (Enkhuisen Isl.), and from various localities around Seribu Isl. (Sunier 1918; Holthuis 1941).

**Gonodactylus demanii** HENDERSON 1893

**Gonodactylus demanii** HENDERSON 1893: 455, pi. 11, figs. 23, 24.

KEMP 1913: 164 -165, pi. 9, figs. 108 - 111. — **Holthuis** 1941: 282 - 284, fig. 8. — **Manning & Serene** 1968: 114 (listed).
Remarks. — This species is not represented in the collection and known only from Edam Island (DE MAN 1887 as Gonodactylus n. sp.).

Gonodactylus falcatus (FORSKAL 1775)

Gonodactylus graphurus DE MAN 1887: 573.
Gonodactylus glabrous KEMP 1913: 167-169, pi. 9, fig. 113.


Remarks. — Three of the specimens have gastropod molluscs attached on their ventral surfaces. Boediman (pers. comm.) has identified the gastropods as Caledoniella montrouzieri SOWERBIE 1869. ROSEWATER (1969, as mentioned by MANNING 1969 C) observed that the larger female of this gastropod attached to Gonodactylus from Madagascar on the posterior ventral surface, while the smaller male attached on the anterior part. HOLTHUIS (1941) mentioned the presence of gastropod attached on the ventral surface of Gonodactylus chiragra from Indonesia with sacs of eggs of different stages of development. The specimens from Seribu Island show that the larger gastropods with sacs of eggs are always on the posterior part of the stomatopod. The eggs sacs contain eggs with different stages of development.

Previous records. — Edam Isl. (DE MAN 1887, as Gonodactylus graphurus), Jakarta Bay (HOLTHUIS 1941).
**Gonodactylus platysoma** **WOOD-MASON 1895**

*Gonodactylus platysoma* **WOOD-MASON 1895**: 10, pi. 3. figs. 3 - 9.
*MANNING & SERENE 1968*: 114 (listed).
*HOLTHUIS 1941*: 281 - 282.

**Material.** — 1 ♂ 85.82 mm; Ayer Isl.; corals; coll. M.K. Moosa, 26/5/1971; cat. no. S. 376. — 1 ♂ 80.20 mm; data as above; coll. Burhanuddin, 1/12/1971; cat. no. S. 606.

**Previous record.** — None. A new record for the area.

**Gonodactylus smithii** **POCOCK 1893**

*Gonodactylus smithii* **POCOCK 1893**: 475 - 476, pi. 20, fig. 1.
*Gonodactylus acutirostris* **KEMP 1913**: 163 -164.


**Previous record.** — None. A new record for the area.

**Haptosquilla glyptocerca** (WOOD-MASON 1875)

*Protosquilla cerebralis* **DE MAN 1887**: 575.
*Protosquilla glyptocerca* **MANNING & SERENE 1968**: 114 (listed).


Previous record. — Edam Island, Jakarta Bay (DE MAN 1887).

Haptosquilla lenzi (HOLTHUIS 1941)

Gonodactylus glaber KEMP 1913: 184, pi. 10, fig. 121. — SERENE 1947: 385-387, pi. 2, fig. 1.


Remarks. — The specimens fully agree in most characters with the descriptions of KEMP (1913), SERENE (1947) and TIRMIZI & MANNING (1968). The fifth abdominal somite furrowed on both sides and posterior half of median portion pitted dorsally.

Type locality. — Jakarta Bay.

Previous record. — Jakarta Bay (HOLTHUIS 1941).

Odontodactylus cultrifer (WHITE 1850)


Remarks. — The species is not represented in the collection, and known only from east of Seribu Islands (SUNIER 1918).
Pseudosquilla ciliata  (FABRICIUS 1787)

Squilla ciliata  FABRICIUS 1787: 333.  

Material. — 1 ♂ 77.64 mm, 1 ♀ 79.40 mm; Ayer Isl.; sand and coral rubble; coll. M. K. Moosa, 26/2/1972; cat. no. S. 1209-1210.

Previous record. — None. A new record for the area.

Pseudosquilla oculata  (BRULLE 1836)


Remarks. — Additional description of several characters: Cornea is markedly broader than eyestalk. Rostral plate armed with a sharp anterior spine. Carapace with a pair of dark spot surrounded by an entire white ring. Dorsal surface of telson with 4 pairs of carinae on either side of median carina.

Previous record. — None. A new record for the area.

Lysiosquillidae GIESBRECHT 1910

Acanthosquilla derijardi  MANNING 1969


Material. — 1 ♀ 30.80 mm; Jakarta Bay, 05°51'35"S., 106°09'40"E.; dredged, 30-35 M; muddy sand; coll. R.V. SAMUDERA, 5/5/1971; cat. no. S. 463.

Previous record. — None. A new record for the area.

Lysiosquilla maculata  (FABRICIUS 1793)

Squilla maculata  FABRICIUS 1793: 511.  
Lysiosquilla maculata  KEMP 1913: 111-116, pi. 8, figs. 86-91. — SUNIER 1918: 11, fig. 4. — HOLTHUIS 1941: 269-272, fig. 5. — MANNING & SERENE 1968: 116 (listed).

Previous records. — Panggang Island; Ancol (SUNIER 1918), Jakarta Bay (SUNIER 1918, HOLTHUIS 1941).

SQUILLIDAE LATREILLE 1804

Alima hyalina LEACH 1817


Material. — 1 ♀ 42.24 mm; Kongsli Isl.; coll. Sukardi, 29/6/1973; cat. no. S. 1194.

Remarks. — The specimen fully agree with the description and figures of MANNING (1969 b). Corneal index 354, the rostrum shows a little eruption on its lateral side.

Previous record. — None. A new record for the area.

Anchisquilla fasciata (DE HAAN 1844)


Material. — 1 ♀ 60.22 mm; Ayer Isl.; light fishing; coll. Sapri D., 24/5/1971; cat. no. S. 474.

Remarks. — MANNING (1968) created the genus Anchisquilla with Squilla fasciata DE HAAN 1844 as the type of the genus. At present this genus consists of 5 species. One of the main generic characters of the genus
is the presence of movable apices on submedian teeth of telson (not present on *Squilla fasciata* but present on all the other known members of the genus). MANNING (1968) stated that *Anchisquilla* consisted of species with diversified characters. Further study may reveal that this species will have to be separated from the other members of this genus. The characters that they share in common are the presence of movable apices on the submedian teeth of telson and the presence of the four epipods. By the complete absence of the movable apices of the submedian teeth of telson, it is clearly indicated that *Anchisquilla fasciata* is separated from the remaining species of *Anchisquilla* for which MANNING (personal communication) agrees that the remaining species of *Anchisquilla* may need a new generic name. Following MANNING'S key for the genera of Squillidae (MANNING 1968) *Squilla fasciata* will come into either *Squilla* or *Squilloides*. By having reduced complement of dorsal carinae on carapace and less developed abdominal carination, *Squilla fasciata* is much closer to *Squilloides* than to *Squilla*, which is unfortunately regarded as Atlanto-East Pacific genus. Further study is required to clear up the exact generic position of this species.

**Previous record.** — None. A new record for the area.

**Carinosquilla lirata**  *(KEMP & CHOPRA 1921)*


**Previous record.** — None. A new record for the area.

**Carinosquilla multicarinata**  *(WHITE 1847)*


**Remarks.** — The specimen is not represented in the collection from Seribu Islands and adjacent waters. The species is known only from western Seribu Islands (Sunier 1918).
**Clorida latreillei** EYDOUX & SOULEYET 1841


*Chlorodiella latreillei* WOOD-MASON 1895: 7 - 8, pi. 4, figs. 6 - 13.

*Squilla latreillei* KEMP 1913: 24-27, pi. 1, figs. 1-4.

**Material.** — 1 juvenile; Jakarta Bay, 05°58'30"S., 106°37'E, dredged, 16 M; mud; coll. R.V. SAMUDERA, 4/5/1971; cat. no. S. 464. — 1 ♀ 54.82 mm; Ancol, Jakarta; hand-dredged, 7 - 8 M; sandy mud; coll. Kasijan R., 9/10/1964; cat. no. S. 508.

**Previous record.** — None. A new record for the area.

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**Cloridopsis scorpio** (LATREILLE 1825)


*Cloridopsis scorpio* MANNING & SERENE 1968: 117 (listed).


**Previous records.** — Pasar Ikan fishmarket (SUNIER 1918 as Batavia fishmarket, the specimens probably were collected from Pasar Ikan river mouth or from the neighbouring coast), Tanjung Priok, Jakarta Bay (HOLTHUIS 1941).

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**Harpiosquilla harpax** (DE HAAN 1844)

*Squilla harpax* DE HAAN 1844: 222, tab. LI, fig. 1. — TIWARI & BISWAS 1952: 358 - 359, fig. 3.

*Squilla raphidea* KEMP 1913 (partim): 88 - 92, pi. 7, fig. 77. — HOLTHUIS 1941 (partim): 256-257.


**Material.** — 1 ♀ 176.56 mm, left eye and left raptorial claw missing; Jakarta Bay; coll. W. C. van Heurun, May 1927; cat. no. S. 133. — 1 ♂ 115.86 mm; Jakarta Bay; coll. Kasijan R., 15/7/1961; cat. no. S. 217. — 3 ♂ ♂ 120.72-127.78 mm, 2 ♀ ♀ 136.54-166.40 mm; off Sukadana,
east of Lampung, South Sumatera; coll. Nurzali, 5/1/1973; cat. no. S. 1202-1207.

**Previous records.** — Uncertain. Probably some specimens mentioned by SUNIER (1918) and HOLTHUIS (1941) as *raphidea* were *harpax*.

**Harpiosquilla raphidea** *(FABRICIUS 1798)*


**Material.** — 1 ♀ 122.96 mm; Jakarta Bay; coll. W. C. van Heurn, May 1927; cat. no. S. 134. — 1 ♀ 237.92 mm; Aquarium Pasar Ikan (collected from Jakarta Bay?); coll. M. K. Moosa, 19/11/1963; cat. no. S. 147.

**Remarks.** — A large specimen from Aquarium Pasar Ikan is seriously damaged. Right basal prolongation of uropod shows abnormality in form of the spine, outer smaller spine bifurcates to subequally large spines, making the basal prolongation as though bearing 3 spines.

**Previous records.** — Since the materials mentioned by SUNIER (1918) and HOLTHUIS (1941) probably consisted of both *raphidea* and *harpax*, the distribution is uncertain. The specimens of SUNIER from Jakarta were probably *harpax*, judging from their smaller sizes with the largest of 16.5 cm in length. Figure 3 of SUNIER is undoubtedly *raphidea* which was collected from Bagan Siapiapi, east Sumatera. The specimens of HOLTHUIS from Tanjung Priok and from Jakarta Bay were probably true *raphidea*, judging from their larger sizes.

**Oratosquilla gonypetes** *(KEMP 1911)*


**Remarks.** — This species is not represented in the collection, and known only from west of Seribu Islands (SUNIER 1918).
Remarks. — This species is not represented in the collection, and known only from Anyer, Sunda Strait (Sunier 1918).


Previous record. — None. A new record for the area.

Material. — 1 ♀ 93.22 mm; Jakarta; in poor condition; MZB cat. no. Cru. 210.

Previous records. — West of Seribu Islands (Sunier 1918), Jakarta Bay (Holthuis 1941).

Oratosquilla jakartensis new species
(Figs. 1 a, b, c and d)

**Description.** — Dorsal surface of body smooth, glabrous. Eyes large, with bilobed cornea, set very obliquely on stalk; eyes not extending beyond end of first segment of antennular peduncle; ocular scale truncate, widely separated; anterior end of ophthalmic somite with a small triangular median notch; CI 308 in male and 313 in female. Antennular somite blunt. Antennal scale slender, short, more than half as long as carapace. Carapace broad, anterior width more than half median length (including rostrum); anterolateral spines sharp, size moderate, not extending to base of rostral plate; median carina of carapace obscure anteriorly, anterior bifurcation replaced by lines of dark pigment. Dactylus of raptorial claw with 6 teeth; outer margin of dactylus sinuate; dorsal ridge of carpus tuberculate, with 2 tubercles at distal end of sharp median ridge; inferodistal angle of outer face of merus with blunt, triangular notch. Mandibular palp and four epipods present. Last three of thoracic somites with submedian carinae; fifth somite faint; indication of submedian carina on posterior half; lateral process of fifth somite bilobed, with anterior lobe as an anteriorly directed blunt spine and posterior lobe slender, sharp, directed laterally; lateral process of sixth somite bilobed, with anterior lobe slightly recurved posteriorly and posterior lobe larger and triangular in shape; lateral process of seventh somite bilobed, with anterior lobe small, triangular with blunt apex and posterior lobe much larger with acute apex; ventral keel of eighth somite low, rounded. First five abdominal somites with eight dorsal carinae; submedians parallel on four anterior somites, divergent on fifth; abdominal carinae equipped with spines arranged as follows: submedian 5-6, intermediate 3-6, lateral 2-6, marginal 1-5; sixth somite with a small ventrolateral spine in front of articulation of each uropod. Telson somewhat broader than long, armed with six slender marginal teeth; praelateral lobe present; dorsal surface ornamented with one median carina and carinae of marginal teeth, supplementary dorsal tubercles absent; denticles rounded, arranged as 3-4 submedian, 9 intermediate, 1 lateral; ventral surface with an entire post-anal keel. Outer margin of uropodal exopod with eight movable spines, with largest distalmost not reaching midlength of distal segment; endopod slender, slightly curved; basal prolongation of uropod with sharp triangular projection on outer margin of inner longer spine, inner margin of projecting lobe concave (Fig. Id).

**Other measurements.** — Holotype: TL 54.24 mm; CI 10.80 mm; cornea width 3.44 mm; anterior carapace width 6.34 mm.
Fig. 1. *Oratosquilla jordani*, new species, female, holotype of 54.24 mm from Jakarta Bay, Indonesia: a, anterior part of body; b, fifth to eighth thoracic somites; c, papporial claw; and d, basal prolongation of uropod.
Paratype: TL 39.58 mm; CI 7.90 mm; cornea width 2.56 mm; anterior carapace width 4.56 mm.

**Colour.** — The preserved specimens are greyish mottled heavily with dark pigment. Median dorsal surface of the carapace, median dorsal surface of the exposed thoracic somites, median posterior margin of the first five abdominal somites, posterolateral portion of the sixth abdominal somite, outer distal part of the raptorial propodus, distal portion of the uropodal endopod and dorsolateral portion of the telson are the more heavily pigmented areas. Black pigmentation can be seen on the distal part of proximal segment of uropodal exopod, the midrib of distal segment of the uropodal exopod (on which the pigmentation becomes less toward inner margin), the inner and distal margin of the basal prolongation of the uropod, and the carinae of the marginal teeth of telson.

**Remarks.** — *Oratosquilla jakartensis* clearly belongs to the *woodmasoni* group, which is characterized by the broad, smooth carapace and the absence of anterior bifurcation of median carina. *O. jakartensis* very closely resembles *O. woodmasoni* and *O. tweediei*. From *O. woodmasoni* it can be distinguished by the more prominent anterior lobe of the lateral process of the sixth and seventh thoracic somites and the much more prominent lobe on the outer margin of the inner longer spine of the basal prolongation of the uropod. From *O. tweediei* it is distinguished by the unarmed posterior submedian carina of the fourth abdominal somite and a median notch present at anterior margin of the ophthalmic somite of *jakartensis* (rounded in *tweediei*).

**Type locality.** — Jakarta Bay, Indonesia.
Etymology. — The specific name is derived from the type locality, the Jakarta Bay.

**Oratosquilla nepa** (LATREILLE 1825)


Previous records. — Jakarta; Jakarta fishmarket; Muara Baru; east of Pasar Ikan river mouth; Ancol; Damar Kecil Island; near Tanjung Priok (SUNIER 1918; HOLTHUIS 1941).

**Oratosquilla quinquedentata** (BROOKS 1886)

*Squilla quinquedentata* BROOKS 1886: 26-30, pi. 1, fig. 3, pi. 2, fig. 6. — KEMP 1913: 52-53. — SUNIER 1918: 5. — HOLTHUIS 1941: 244-245.

**Remarks.** — The species is not represented in the collection, and known only from northwest of Seribu Islands (SUNIER 1918).

**Oratosquilla tweediei** MANNING 1971

*Oratosquilla tweediei* MANNING 1971: 12 -14, fig. 4.

**Material.** — 1 ♀ 95.98 mm; Jakarta Bay; cat. no. S. 205. — 1 ♀ 115.48 mm; off Sukadana, east of Lampung, South Sumatera; coll. Nurzali, 5/1/1973; cat.no. S. 1208.

**Remarks.** — The specimens fully agree with the description and figure of MANNING (1971). The spines of the lateral, intermediate and sub-median carinae of the last two abdominal somite are pink in colour. The spine on the dorsal surface of the proximal segment of the uropod is also pink. The marginal teeth of the telson are olive green.

**Previous record.** — None. A new record for the area.

**Oratosquilla woodmasoni** (KEMP 1911)


**Remarks.** — The species is not represented in the collection, and known only from northwest of Seribu Islands (SUNIER 1918), Tg. Priok, Jakarta (HOLTHUIS 1941).

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