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**SPIDER CRABS OF THE FAMILY MAJIDAE
(CRUSTACEA: DECAPODA: BRACHYURA) FROM THE RED SEA**

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ABSTRACT

Collections of marine animals from the northern Red Sea were made by Tel Aviv University and the Hebrew University of Jerusalem between 1950 and 1972, and from the southern Red Sea by the Sea Fisheries Research Station, Haifa, in 1957/58, and the Israel South Red Sea Expeditions in 1962 and 1965. This report is based on 485 specimens of spider crabs from those collections. A total of 37 species belonging to 26 genera are dealt with. The total number of species of the family Majidae now known from the Red Sea is 46, of which 12 are recorded here for the first time. One new species, *Ophthalmias longispinus* n.sp., is described. The collection includes five species previously known only from the first record. Only seven (15%) of the species appear restricted to the Red Sea. These, in general, belong to genera occurring in the Atlantic and are, with one exception, poorly represented throughout the Indo-West Pacific. Twenty six species (57%) are known widely in the Indo-West Pacific and the remaining 13 (28%) occur in the Indian Ocean, principally off East Africa and in the Arabian Sea.

INTRODUCTION

The Brachyura of the Red Sea have been reviewed most recently by Guinot (1966). She lists 32 species of spider crabs of the family Majidae recorded up to that date. The major previous accounts are those of Heller (1861), Paul'son (1875), Klunzinger (1906), Nobili (1906), Laurie (1915), Balss (1929) and Guinot (1962*a, b, c*).

The material in this report includes specimens collected in two main regions: (1) The southern Red Sea near the coasts of Eritrea; (2) The northern Red Sea, including Elat and the coasts of the Sinai Peninsula.

Material from the southern Red Sea was collected in 1957/58 by scientists of the Sea Fisheries Research Station, Haifa, and in 1962 and 1965 by the Israel South Red Sea Expeditions (ISRSE). Two members of the ISRSE, L.B. Holthuis of the Rijksmuseum van Natuurlijke Historie, Leiden, and Ch. Lewinsohn of Tel Aviv University, paid special attention to decapod crustaceans.

Specimens from the northern Red Sea were collected by scientists from Tel Aviv University and the Hebrew University of Jerusalem, during the years 1950-1972.

The bulk of the material is deposited in the Rijksmuseum van Natuurlijke Historie, Leiden, and Tel Aviv University.

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The present account deals with 37 species belonging to 26 genera. A total of 485 specimens were examined. Comparative material, mostly type specimens, was also examined; most of these specimens are in the collections of the National Museum of Natural History, Smithsonian Institution, Washington (USNM), Zoologische Staatssammlung, Munich and the Naturhistorisches Museum, Vienna.

In the systematic account the species are treated in alphabetical order of the genera. Each account includes a reference to only the original description and major subsequent accounts. The material examined includes the number of males and females and size range — carapace length including rostrum unless otherwise stated; a serial number follows (data relating to this are listed in Appendix I). The number of specimens from each serial number is shown in brackets. The localities and depth ranges are summarized separately. Brief remarks are given where necessary and the distribution is summarized.

SYSTEMATIC ACCOUNT

Acanthonyx elongatus Miers

Acanthonyx elongatus White, 1847a: 11 (nomen nudum). —Miers, 1877: 673, pl. 69 fig. 1. —Klunzinger, 1906:22-23. —Stephensen, 1945:102 (in the key, no specimen).

Acanthonyx consobrinus. —Paul'son, 1875:17, pl. 3 fig. 1 (not *A. consobrinus* A. Milne Edwards, 1862).

Acanthonyx aff. *elongatus*. —Tirmizi and Serène, 1971:21-24, text-fig. 1, pl. 1 figs. A, B.

Material examined. 4 ♂, 5 ♀ (2 ovig.), 6.5-14.0 mm; smallest ovig. ♀, 11.5 mm. E62/1413 (8), NS7376 (1).

Localities. Gulf of Elat (Gulf of 'Aqaba): Elat. Dahlak Archipelago: Romia Island.

Habitat. 0-3 m.

Remarks. These specimens, even the adults, show marked variation in the number of tubercles on the carapace (see remarks of Laurie, 1915:430-431). Some have three gastric and one branchial tubercle. There is also a vestige of a tubercle on each side of the intestinal region. Other specimens have only the two anterior gastric tubercles well developed.

In most specimens of the present series the middle tooth on the lateral border is slightly more developed than is shown in Miers's figure. However, the tooth is never as large as the posterior of the two intermediate teeth of *A. limbatus* (see Milne Edwards, 1862).

Distribution. Red Sea; Arabian Sea.

Achaeus lorina (Adams and White)

Inachus lorina Adams and White, 1848:3-4; pl. 2 figs. 2, 2a.

Achaeus lorina. —Griffin, 1968:79-81.

Material examined. 1 ♂, 5.0 mm. NS2989.

Localities. Gulf of Elat: Elat.

Habitat. 80-100 m.

Remarks. The single male specimen, although small, is clearly adult, since the chelae are inflated.

This specimen is tentatively identified as *A. lorina* (which has not been recorded previously from the Red Sea), and agrees with the holotype (see Griffin 1968:79) in essential features including rostrum, carapace ornamentation and ornamentation of the basal antennal article. The last ambulatory dactyl, however, has only a single row of spines ventrally.

It differs from *A. brevirostris* (Haswell) in lacking a terminal tuft of hairs on the first pleopod, in bearing one terminal spine and a few others on the basal antennal article (rather than several small spinules), and in having a short rostrum. In addition, the rostrum lacks hairs, the eyestalk bears only a low tubercle on the anterior surface and the fourth ambulatory dactyl bears strong spines ventrally which are largest distally. There are general similarities in other features, notably in the arrangement of the teeth of the cheliped fingers and in the shape of the abdomen.

It differs from *A. barnardi* Griffin in lacking spinules on the anterior part of the eave and in the rostral lobes being widely separated. The species differs from *A. cadelli* Alcock in that the eave lacks a spine near the margin and the dactyl of the chela possesses teeth proximally. It also differs from *A. dubia* Laurie, in that the rostral spines are widely separated and in the number and shape of the teeth on the fingers of the cheliped.

There are obvious differences from *A. brevifalcatus* Rathbun and *A. paradicei* Griffin in the absence of many spinules on the carapace. The first pleopod of *A. paradicei* is very similar to that of the present specimen.

Distribution. Red Sea; Philippine Islands.

Aepinus indicus (Alcock)

Apocremnus indicus Alcock, 1895:188-189, pl. 4 figs. 2, 2a.

Aepinus indicus. —Griffin, 1972:68-69, fig. 3; Griffin, 1974:6-7.

Material examined. 5 ♂, 5 ♀ (2 ovig.), 5.0-9.5 mm; smallest ovig. ♀, 7.5 mm. NS7267 (1), NS7232 (1), NS7272 (2), NS7278 (1), NS7281 (1), NS7432 (1), NS7295 (1), NS7031 (1), NS7221 (1).

Localities. Gulf of Elat: Elat, W Murach, Mersat Abu Samra, Gordon Reef, Tiran.

Habitat. 60-200 m.

Remarks. In general these specimens agree with those recently discussed (Griffin, 1972, 1974). There is variation in the shape and ornamentation of the rostrum in some specimens. The rostral spines are slender and not so strongly outwardly curved. In some there are well developed terminal knobs, in others there are spinules on the margins. In some specimens there are no medial gastric or cardiac spines, while in others there are only tubercles on the mid-line in these two regions.

Distribution. Red Sea; Indian Ocean from East Africa to northern Australia and the Philippine Islands.

***Camposcia retusa* Latreille**

Camposcia retusa Latreille, 1829:60. —Sakai, 1965:69, pl. 30. fig. 1. —Griffin, 1974:7.

Material examined. 9 ♂, 9 ♀, 9.0-33.0 mm; smallest ovig. ♀, 18.0 mm. NS101 (1), E55/206 (1), E55/561 (1), E55/703 (1), E55/727 (2), E55/913b (1), E55/785 (3), E55/195 Ib (1), E62/3010 (2), NS5463 (1), NS7337 (4).

Localities. Gulf of Elat: Elat.

Habitat. 0-2 m.

Remarks. These specimens agree with previously described material.

Distribution. Red Sea, throughout the Indo-West Pacific from South Africa to Australia and Japan.

***Cyclax spinicinctus* Heller**

Cyclax spinicinctus Heller, 1861:304-306, pl. 1 figs. 7, 8. —Forest and Guinot, 1961:15-24, figs. 7, 8, 11, pl. 6 fig. 3.

Material examined. 3 ♂, 4 ♀, 10.0-20.5 mm; smallest ovig. ♀, 18.0 mm. NS95 (1), NS1096 (1), E55/195 Ia (2), E55/913d (1), E62/3010 (1), NS12107(1).

Localities. Gulf of Elat: Elat. Gulf of Suez: Et Tur.

Habitat. 0-2 m.

Remarks. The intercalated spine of these specimens is triangular and granulate only at the base. The two anterior spines of the basal antennal article are without any accessory spine.

Distribution. Red Sea; Madagascar, W Australia, Torres Straits, New Caledonia, Samoa.

Cyphocarcinus minutus A. Milne Edwards

Cyphocarcinus minutus A. Milne Edwards, 1868:73-76, pl. 19 figs. 7-12. —Balss, 1929:22-23.

Material examined. 5 ♂, 7 ♀ (3 ovig.), 8.5-14.0 mm; smallest ovig. ♀, 10.0 mm. E55/21 (2), E55/118 (1), E59/74.3 (1), E59/78 (1), E62/1386 (3), E62/3010 (2), No station number (2).

Localities. Gulf of Elat: Elat. Dahlak Archipelago: Enteraia Island.

Habitat. 0-5 m.

Remarks. These specimens show the marked sexual variation in the elevation of the gastric region and length of the rostrum noted by other authors (Laurie, 1915:433-434; Balss, 1929). The moderate swelling of the gastric region in smaller specimens becomes less marked in the adult male and very strongly developed in the adult female.

The rostral spines are quite separate, even at the base. All the specimens have tubercles on the lateral ridge of the carapace as figured by Milne Edwards (1868), but additionally there is a flat triangular tubercle above the last pair of legs. Also, halfway between this and the branchial tubercles is another small tubercle. There are several small tubercles on the median line near the intestinal tubercle.

Additional material from the Iranian Gulf (3 ovig. ♀, USNM 89885) shows the same arrangement of tubercles as do the specimens from the Red Sea.

It is difficult to consider these specimens to be the same species as the smooth specimens with rounded posterior carapace margin figured as *C. capreolus* (Paul'son) by Barnard (1955:fig. 4b) and the synonymous *Stenocarabus suspensus* Gravier (Gravier, 1923:figs. 1-3).

Distribution. Red Sea; Indian Ocean from Madagascar to the Andaman Islands.

Entomonyx spinosus Miers

Entomonyx spinosus Miers, 1884:526, pl. 47 fig. B. —Takeda and Miyake, 1969: 515-516, fig. 12d-f.

Material examined. 1 ♀ (ovig.), 23.5 mm. E58/245.2.

Localities. Eritrea: Jebel Attair.

Habitat. 66 m.

Distribution. Red Sea; widespread throughout the Indo-West Pacific.

Eurynome stimpsoni Miers

Fig. 1a-c

Eurynome stimpsoni Miers, 1884:523-524, pl. 47 fig. A, a.

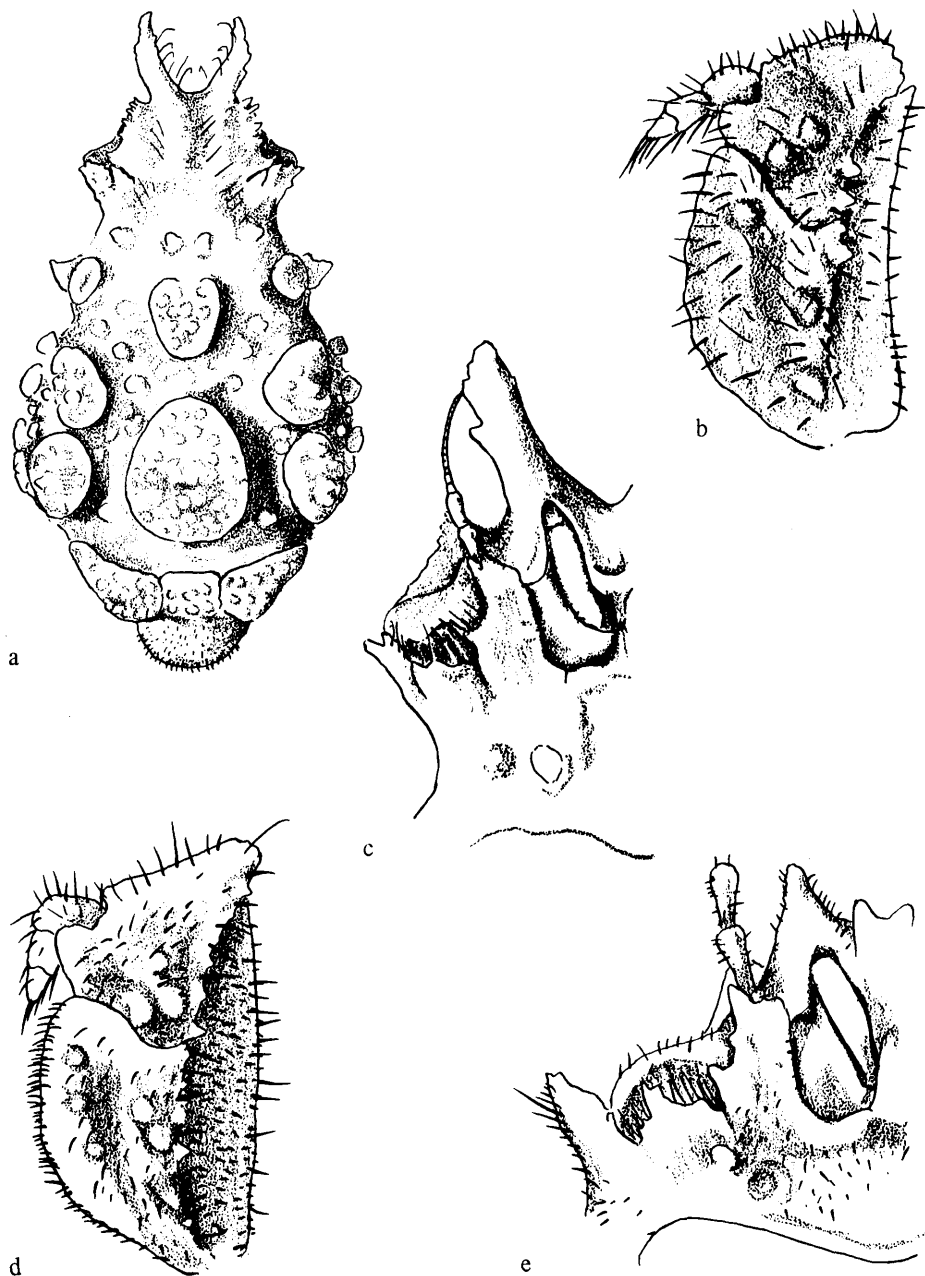


Fig. 1. *Eurynome stimpsoni* Miers, ovig. female, 12.5 mm, NS7280, Gulf of Elat. a. Carapace, dorsal aspect. b. Left third maxilliped. c. Rostrum and orbit, right side, ventral aspect. *Eurynome verhoeffi* Miers, ovig. female, 10.5 mm, NS7241, Gulf of Elat. d. Left third maxilliped. e. Rostrum and orbit, right side, ventral aspect.

Material examined. 1 ♀ (ovig.), 12.5 mm. NS7280.

Localities. Gulf of Elat: W Murach.

Habitat. 80-90 m.

Remarks. This single specimen possesses the broad plate traversing the width of the carapace posteriorly, which is the characteristic feature of the species. The arrangement of the other tubercles, few in number and large, are as illustrated by Miers. The rostral spines are slender, not broadened basally as shown by Miers. The intercalated spine is broad and completely contiguous along its posterior margin with the post-orbital lobe. From Miers's figure it appears that there is no intercalated spine at all.

This specimen represents only the second record of the species.

A specimen labelled as a "cotype" (1 ♀, 10.5 mm.) is in the collection of the Zoologisches Staatssammlung, Munich.

Distribution. Red Sea; Western Indian Ocean – Providence Reef.

Eurynome verhoeffi Balss

Fig. 1d & e

Eurynome verhoeffi Balss 1929:12-13, fig. 5.

Material examined. 1 ♂, 3 ♀ (2 ovig.), 7.5-10.5 mm; smallest ovig. ♀, 8.5 mm. NS1183 (1), NS7241 (2), NS7279 (1).

Localities. Gulf of Elat: Elat, W Murach.

Habitat. 68-90 m.

Remarks. This species is characterized by the large numbers of close-set boletate tubercles on the carapace and the distally bifid interantennular spine, the tip of which is visible from above. From Balss's figure it would appear that the abdomen of the male possesses less than seven free segments. Re-examination of the syntypes (1 ♂, 2 ♀ (juv.), 6.5-8 mm, Red Sea, "Pola" St 95, Naturhistorisches Museum, Vienna) shows that the abdomen does consist of seven free segments but the last is very long (as illustrated by Balss) and reaches the anterior margin of the sternum.

The first pleopod of the male is expanded distally but the opening is simple. The pleopod is not of the scyiform type found in *E. aspera* and some other species (see Hartnoll, 1961).

The present small series agrees well with the syntypes. The cardiac region is tumid and there are four small blunt spines distally on the branchial margin.

Distribution. Red Sea.

Hoplophrys oatesii Henderson

Hoplophrys oatesii Henderson, 1893:347-348, pl. 36 figs. 1-4. —Alcock, 1895:233-234. —Alcock and Anderson, 1898:pl. 34 fig. 1, 1a, 2, 2a. —Rathbun, 1911:253-254.

Material examined. 1 ♂, 12.0 mm. NS6198.

Localities. Gulf of Elat: Tiran, Gordon Reef.

Habitat. 60 m.

Remarks. This specimen agrees closely with the figure given by Henderson. However, it has a single lateral branchial spine, not a bifid one. Comparison with the type material of *H. ogilbyi* (see McCulloch, 1908) (1 ♀, cl. 9.6 mm. Queensland Museum W.223) suggests that none of the differences cited by McCulloch are sufficiently important to consider that species as distinct from *H. oatesii*.

Distribution. Red Sea; Indo-West Pacific – Providence Island, Amirante, India, Gulf of Martaban, Japan.

***Huenia proteus* De Haan**

Maja (Huenia) proteus De Haan, 1839:95-96, pl. 23 figs. 4, 5.

Huenia proteus. –Sakai, 1965:75, pl. 34 figs. 1, 2. –Griffin, 1974:14.

Material examined. 2 ♀ (ovig.), 7.0 & 12.0 mm. E55/67g (1), E55/237 1a (1).

Localities. Gulf of Elat: Elat.

Remarks. The rostrum of these specimens is very narrow. There are cristate ridges on the ambulatory legs as figured by Sakai (1965).

Distribution. Red Sea; widespread in the Indo-West Pacific from South and East Africa to Japan, Australia and Hawaii.

***Hyastenus convexus* Miers**

Hyastenus (Chorilia) convexus Miers, 1884:196, pl. 18 figs. B, b.

Hyastenus convexus. –De Man, 1902:664-666, pl. 22 fig. 32. –Balss, 1935:124. –Griffin, 1966a:282; Griffin, 1974:14.

Material examined. 1 ♀, 10.0 mm. NS7298.

Localities. Gulf of Elat: W Murach.

Habitat. 80-90 m.

Remarks. This immature specimen has a smooth carapace with the regions only weakly defined. There is a small hepatic tubercle, an intestinal tubercle and a very small epibranchial spine. The rostral spines are slightly divergent and equal to one third of the postrostral length.

In the shape of the basal antennal article and the absence of mesogastric tubercles there is agreement with the material described by Laurie (1906:377) as “variety *hendersoni*”; however, the epibranchial spines are smaller.

Distribution. Red Sea; Indo-West Pacific from East Africa through the Malay Archipelago to northern Australia and the Philippine Islands.

Hyastenus diacanthus (De Haan)

Pisa (Naxia) diacantha De Haan, 1839:96-97, pl. 24 fig. 1.

Hyastenus diacanthus. —Sakai, 1938:279-281, text fig. 36, pl. 29 fig. 2; 1965:81, pl. 36 fig. 1. —Buitendijk, 1939:241-242, text figs. 5-8. —Takeda and Miyake, 1969: 508-509.

Material examined. 1 ♀ (ovig.), 31.5 mm. E57/624.

Localities. Eritrea: off Mt. Guba.

Habitat. 52 m.

Remarks. This specimen has a smooth carapace. The gastric region is strongly convex and lacks a tubercle. There is a tubercle on the intestinal region and there is a spine on each epibranchial region.

Two male specimens of the same type from the Pearl Banks, Ceylon (Zoological Survey, Calcutta) were also examined. The first pleopod of the male does not have a flagellum but narrows gradually over its whole length, expanding slightly at the extreme tip. This type of pleopod has been figured for *H. diacanthus* by Sakai (1934: text fig. 9c) and Buitendijk (1939:text fig. 8).

Distribution. Red Sea; widespread in the Indo-West Pacific.

Hyastenus elongatus Ortmann

Hyastenus diacanthus var. *elongata* Ortmann, 1893:55.

Halimus elongatus. —Rathbun, 1911:251.

Hyastenus elongatus. —Buitendijk, 1939:242. —Sakai, 1965:81, pl. 36 fig. 2.

Material examined. 1 ♀ (ovig.), 14.5 mm. NS1153 (1).

Localities. Gulf of Elat: Elat.

Habitat. 70-100 m.

Remarks. This adult specimen has a narrow body with the gastric region markedly elevated. The rostral spines are about half the postrostral length and the carapace is without spines or tubercles. The supraorbital border and basal antennal article are similar to those of Rathbun's specimen from Amirante (1 ♂, cl 13.4 mm, USNM 41405).

This species has not previously been recorded from the Red Sea.

Distribution. Red Sea; Amirante, Maldives Islands, Japan.

Hyastenus inermis (Rathbun)

Halimus inermis Rathbun, 1911:250-251, pl. 20 fig. 6.

Hyastenus inermis. —Griffin, 1974:15.

Material examined. 2 ♂, 4 ♀, 22.0-43.5 mm; smallest ovig. ♀, 27.0 mm. E58/97 (1), NS1173 (1), NS7247 (1), NS12103 (3).

Localities. Gulf of Elat: Elat, W Murach. Gulf of Suez.

Habitat. 40-90 m.

Remarks. These specimens agree with the holotype (♂, 19 mm, Amirante, Indian Ocean, USNM 41402) in the main features: smooth carapace; basal antennal article with lateral margin proximally convex, distally concave; pleopod of the male with a distal flap extending around the abdominal surface. However, the rostral spines are longer than usual, just under half the postrostral length, and there is a small epibranchial spine, not present in the holotype.

Distribution. Red Sea; previously known only from the western Indian Ocean between Mauritius and Cape Guardafui.

Hyastenus spinosus A. Milne Edwards

Hyastenus spinosus Milne Edwards 1872:250. —Alcock, 1895:211. —Barnard, 1950:53-54, fig. 11f. —Griffin, 1974:16.

Material examined. 1 ♂, 55.0 mm; 1 ♀, 37.5 mm; 1 ♀ (ovig.), 49.0 mm. ISRSE65/1802 (2), ISRSE65/1911 (1).

Localities. Dahlak Archipelago.

Habitat. 22-34 m.

Remarks. On the mesogastric region there is a well-developed spine and a tubercle just behind it. The rostral spines exceed half the postrostral length and are deflected at the tips.

Distribution. Red Sea; throughout the Indo-West Pacific from East Africa to Singapore, Gulf of Siam, northern Australia and Fiji.

Inachoides dolichorhynchus Alcock and Anderson

Inachoides dolichorhynchus Alcock and Anderson, 1894:206. —Alcock, 1895:186, pl. 4 figs. 1, 1a. —Griffin, 1974:17-18, fig. 4a.

Material examined. 5 ♂, 3 ♀, 6.0-9.5 mm; smallest ovig. ♀, 6.0 mm. NS1184 (2), NS7231 (1), NS7237 (1), NS7255 (1), NS7256 (2), NS7435 (1).

Localities. Gulf of Elat: W Murach, Mersat Abu Samra.

Habitat. 60-90 m.

Remarks. In general these specimens agree much better with the type material (Zoological Survey, Calcutta 4545/7) than does the specimen taken by the "Anton Brunn" (Griffin, 1974). The rostrum is bifid only right at the tip. There are bifid spines or two spines close together on the hepatic region and on the anterolateral angle of the basal antennal article. The intestinal region bears a strong conical tubercle on the posterior margin rather than a spine as in the holotype.

Distribution. Red Sea; Mozambique Channel, Bay of Bengal.

***Lambrachaeus ramifer* Alcock**

Fig. 2a-c

Lambrachaeus ramifer Alcock, 1895:168-169, pl. 3 fig. 1. --Rathbun, 1911:244. --Edmondson, 1952:82-83, fig. 9a-d.

Material examined. 2 ♂, 16.5, 19.0 mm. NS7254 (1), NS7433 (1).

Localities. Gulf of Elat: El Hamira, Tiran, Gordon Reef.

Habitat. 60-90 m.

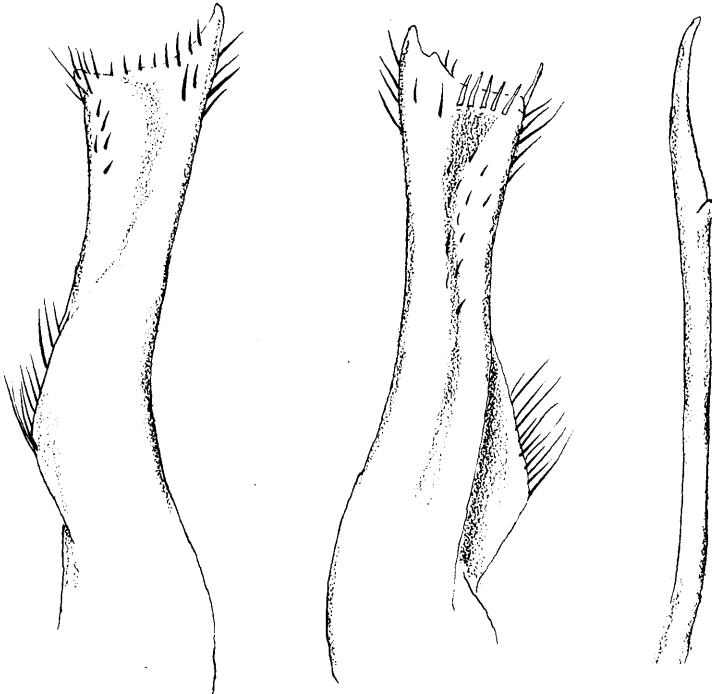


Fig. 2. *Lambrachaeus ramifer* Alcock, male, 19.0 mm, NS7433, Gulf of Elat. a. Left pleopod 1, abdominal aspect. b. Same, sternal aspect. c. Left pleopod 2, sternal aspect.

Remarks. There is complete agreement between the two Red Sea males and that originally figured and described by Alcock (1895) in the extraordinary rostrum which is 'bent' in two places, and the cheliped. Both specimens have a long spine on both the merus and the chela of the cheliped. The palm of the chela is distally inflated to 1½ to 2 times its proximal width.

This species at present appears to be unique within the family in that the second pleopod of the male is as long as the first (see fig. 2). It possesses a small flap on the sternal surface at the distal third and in general resembles that of some calappids and parthenopids (see Stephensen, 1945).

A complete specimen (1 ♂, cl. 24.0 mm. Th. Mortenson Exped., 5-5-1915, Zoological Museum, Copenhagen) from Hawaii allows the confirmation of Edmondson's record (1952) based on only the front portion of the carapace.

Distribution. Red Sea; Amirante Islands, Andaman Islands, Maldive Islands, Hawaii.

Menaethiops dubia Balss

Fig. 3a-c; Fig. 4c & d

Menaethiops dubia Balss, 1929:10-11, fig. 4. —Guinot, 1962c:37.

Material examined. 9 ♂, 7 ♀ (5 ovig.), 5.5-11.0 mm; smallest ovig. ♀, 6.0 mm. E49/77 (1), E55/3a (1), E55/4a (1), E55/35a (1), E55/54d (3), E55/65e (1), E55/68b (1), E59/29 (1), E60/28.6 (1), E60/29.5 (2), E62/3010 (1), NS7377 (1), NS5814 (1).

Localities. Gulf of Elat: Elat.

Habitat. 0-2 m.

Remarks. The supraorbital border and dorsal spines of these specimens agree closely with the figure given by Balss (1929). The rostrum is short and in most specimens does not exceed the second segment of the peduncle of the flagellum. The sternum is smooth over its whole surface with only a very slight ridge at the base of the chelipeds. The basal antennal article was not figured by Balss, but the holotype (1 ♂, cl. 11.0 mm, Naturhistorisches Museum, Vienna) has a tooth on the anterior external angle and an indentation mid-way along the lateral edge. In these specimens the basal antennal article has a low rounded tooth on the proximal half and curves concavely behind the anterior tooth. The male first pleopod is bifurcated apically.

Distribution. Red Sea — Shadwan, Elat.

Menaethiops ninnii Guinot

Menaethiops ninnii Guinot, 1962c:39-42, figs. 27-31.

Material examined. 46 ♂, 24 ♀ (11 ovig.), 3.5-17.5 mm; smallest ovig. ♀, 9.5 mm. E62/1332 (2), E62/1386 (28), E62/1401 (1), E62/1418 (1), E62/1437 (1), E62/1387 (1), E62/3062 (3), E62/4595 (2), ISRSE65/0221 (2), ISRSE65/0245 (1), ISRSE65/



Fig. 3. *Menaethiops dubia* Balss, male, 10.5 mm. E55/54d, Elat. a. Rostrum and orbit, right side, dorsal aspect. b. Same, left side, ventral aspect. c. Sternal plate and anterior part of abdomen. *Ophthalmias longispinus* n.sp., paratype, male, 58.5 mm, NS1066, Elat, AM P.19998. d. Right chela, outer aspect. e. Left third maxilliped. f. Orbit, left side, ventral aspect.

0252 (17), ISRSE65/0290 (1), ISRSE65/0291 (1), ISRSE65/1024 (2), ISRSE65/1210 (5), ISRSE65/1251 (1), ISRSE65/2046 (1).

Localities. Dahlak Archipelago: Museri Island, Entedebir Island, Enteraia Island.

Habitat. 0-2 m.

Remarks. These specimens agree very closely with those described by Guinot (1962c). The first pleopod of the male does not have the small spine on the apical lobe shown in her figs. 31b & c.

This species is very similar to *M. dubia* in carapace shape and ornamentation, but its dorsal surface has tubercles rather than spines. The rostrum is longer and clearly exceeds the second segment of the peduncle of the flagellum, except in juveniles in which the rostrum is shorter. The pre- and postorbital spines are blunter and more triangular, and the basal antennal article has a straight lateral border and no tooth at the anterolateral angle.

Distribution. Red Sea – Entuedal Island, Dahlak Archipelago.

***Menaethiops nodulosa* (Nobili)**

Parahoplophrys nodulosa Nobili, 1905:239.

Herbstia corniculata Klunzinger, 1906:27, pl. 1 fig. 4a-b. —Laurie, 1915:431, pl. 44 fig. 2.

Menaethiops nodulosa. —Balss 1929:9. —Stephensen, 1945:99, fig. 18D. —Guinot, 1962c:36, figs. 23, 24.

Material examined. 24 ♂, 25 ♀ (20 ovig.), 4.5-9.0 mm; smallest ovig. ♀ 6.5 mm. E49/77 (1), E50/10 (1), E50/13 (1), NS87 (1), NS100 (1), E54/13 (1), E55/3a (1), E55/3d (1), E55/4a (3), E55/53h (1), E55/54d (2), E55/56b (1), E55/59b (6), E55/60c (1), E55/61a (3), E55/63b (2), E55/66a (3), E55/68a (1), E55/134a (1), E55/241f (1), E55/246d (2), E55/249a (2), E55/254d (1), E55/266c (1), E55/898f (1), E62/3010 (4), No stn. no. (1), NS12106 (3), NS12114 (1).

Localities. Gulf of Elat: Elat. Gulf of Suez: Ras el Kanisa, Et Tur.

Habitat. 0-2 m.

Remarks. The supraorbital eave, eyestalk and sternum in these specimens are as figured by Guinot (1962c: figs. 23 & 24). The basal antennal article has a well-developed spine on the anterior external angle and a small tooth on the distal half of the lateral margin. This lateral margin is, however, more strongly concave on the proximal half and closely approaches that shown by Klunzinger (1906: fig. 4a).

This species is similar to *M. natalensis* Barnard. However, in that species "the suborbital margin (is) very feebly, if at all, denticulate, usually nearly straight, but sometimes convex in the middle" (Barnard, 1955).

Distribution. Red Sea; Iranian Gulf.

Menaethius monoceros (Latreille)

Pisa monoceros Latreille, 1825:139-140.

Menaethius monoceros. —Forest and Guinot, 1961:14, fig. 9a & b. —Sakai, 1965: 74-75, pl. 33 fig. 4. —Griffin, 1974:21.

Material examined. 52 ♂, 55 ♀ (30 ovig.), 1 juv., 5.5-28.5 mm; smallest ovig. ♀, 9.5 mm. E51/124 (1), NS87 (5), NS98 (1), E55/53n (1), E55/61b (1), E55/65e (1), E55/66b (1), E55/80e (1), E55/130c (1), E55/130f (1), E55/196c (1), E55/898e (2), E55/929 (1), E56/242a (1), E57/19b (1), E57/24b (1), E57/85 (5), E57/100a (2), E57/158a (2), E57/158f (1), E57/200d (1), E60/29.5 (1), E62/1326 (1), E62/1386 (2), E62/1401 (1), E62/1413 (1), E62/1518 (1), E62/3010 (12), NS1079 (4), E65/0219 (1), Elat, 1969, no stn. no. (3), NS3729 (1), NS3733 (1), NS3743 (8), NS4153 (1), NS5722 (1), NS5814 (12), NS7226 (1), NS8261 (1), NS7378 (1), Elat, 1949, no stn. no. (1), NS12105 (13), NS12109 (1), NS12110 (1), NS12111 (5), NS12112 (1).

Localities. Gulf of Elat: Elat, Wasset, Ras Atantur, W Murach. Sinai Peninsula: Ras Nasrani, Abu Zabad, Ras Muhammad. Gulf of Suez: Et Tur, Wadi Tal, Ras Garra, Ras el Kanisa. Dahlak Archipelago: Museri Island, Enteraia Island, Romia Island, Entedebir Island, Cundabilu Island.

Habitat. 0-90 m.

Distribution. Red Sea; throughout the Indo-West Pacific from South Africa to Japan, Australia and Tahiti.

Micippa platipes Rüppell

Micippe platipes Rüppell, 1830:8, pl. 1 fig. 4. —Klunzinger, 1906:37-39, pl. 1 figs. 8a-f.

Micippa platipes. —Buitendijk, 1939:254-256, pl. 10 figs. 2, 4, text fig. 22. —Guinot, 1962a:4.

Material examined. 39 ♂, 28 ♀ (13 ovig.), 8.0-25.5 mm; smallest ovig. ♀, 13.5 mm. E55/151 (1), E55/196a (1), E55/192b (1), E55/630 (1), E56/70a (a), E56/214 (1), E57/200b (1), NS1096 (1), ISRSE65/0234 (1), ISRSE65/1090 (1), ISRSE65/1438 (2), ISRSE65/1556 (1), ISRSE65/2046 (2), NS1091 (1), NS3980 (25), NS1580 (1), NS3741 (5), NS3742 (6), NS3985 (3), NS4139 (1), NS4151 (1), NS4154 (1), NS5809 (6), Elat, no stn. no. (1), NS12108 (1).

Localities. Gulf of Elat: Elat, Wasset, Shurat el Mankata, Ras Atantur. Sinai Peninsula: Sharm esh Sheikh, Et Tur. Dahlak Archipelago: Museri Island.

Habitat. 0-14 m.

Distribution. Red Sea; throughout the Indo-West Pacific.

Micippa thalia (Herbst)

Cancer thalis Herbst, 1803:50-51, pl. 58 fig. 3.

Micippa thalia. —A. Milne Edwards, 1872:238-239, pl. 11 figs. 1, 1a & b. —Alcock, 1895:251-252. —Sakai, 1965:90, pl. 42 fig. 3. —Griffin, 1974:21.

Material examined. 1 ♀, 20.0 mm. E57/200c.

Localities. Gulf of Suez: Et Tur.

Remarks. This specimen agrees well as to orbit, rostrum and other characteristics with the figures given by Milne Edwards (1872) but lacks the five dorsal spines. Similar specimens without dorsal spines from Australian waters are in the collections of the Australian Museum.

Distribution. Red Sea; throughout the Indo-West Pacific from East Africa to Japan and Australia.

Oncinopus neptunus Adams and White

Oncinopus neptunus Adams and White, 1848:1-3, pl. 2 fig. 1. —Takeda and Miyake, 1969:477, 478, figs. 3, 5a & b. —Griffin, 1974:22.

Material examined. 1 ♀, 6.5 mm. NS7223.

Localities. Gulf of Elat: Tiran, Gordon Reef.

Habitat. 60-90 m.

Remarks. The carapace of the only female is narrow and the rostral lobes very short. The fourth ambulatory legs are very long and slender and the dactyls are setose. It seems satisfactory to consider this as *O. neptunus* along with the Indian Ocean material dealt with elsewhere (Griffin, 1974).

Distribution. Red Sea; Indo-West Pacific from East Africa to the Philippine Islands and Australia.

Ophthalmias curvirostris (A. Milne Edwards)

Stenocinops (sic) *curvirostris* A. Milne Edwards, 1865:135, pl. 5 figs. 1, 1a-e.

Ophthalmias curvirostris. —Guinot, 1962c:46-51, figs. 34, 37a & b. —Griffin, 1974:22-24, figs. 6, 7d.

Material examined. 1 ♂, 2 ♀, 9.5-18.8 mm. E59/74.4 (1), ISRSE65/1441 (1), NS7276 (1).

Localities. Gulf of Elat: Elat, W Murach, Dahlak Archipelago.

Habitat. 10-90 m.

Remarks. These three specimens possess third maxillipeds similar to the specimens illustrated by Guinot (1962) in the shape of the basis and merus and the grooving of the ischium and exognath.

The supraorbital spines are broken in most cases. In two specimens the rostrum tips are upcurved, the branchial margin anteriorly has a tubercle surmounted by a tuft of curled hairs and the intestinal spine is short and subacute. The third specimen has the rostral spines more divergent (the tips are broken), the branchial margin anteriorly has an outwardly directed spine with scattered hairs, and the intestinal spine is represented by a tubercle. The corner of the mouthfield is rounded in all specimens.

Distribution. Red Sea and Gulf of Aden; Iranian Gulf.

***Ophthalmias longispinus* n. sp.**

Fig. 3d-f; Fig. 4a & b; Plate I

Holotype. Male, cl. 54.5 mm; southern Red Sea, coast of Eritrea, "Negus Solomon" Stn. 4, 14° 58'N, 40° 19'E; 17 October 1965; 10-13 m; soft mud flat, trawl and dredge; *leg.*: Ch. Lewinsohn; Serial no. E65/1425; Rijksmuseum van Natuurlijke Historie, Leiden.

Paratypes. Male, cl. 58.5 mm; Gulf of Elat (Gulf of Aqaba), Elat; 20 June 1965; on coral reef at night; *leg.*: Ch. Lewinsohn; serial no. NS1066; Australian Museum P19998. Male, cl. 53.5 mm; Gulf of Elat (Gulf of Aqaba), Elat; summer 1971; washed on shore; *leg.*: N. Gundermann; serial no. NS12115; Dept. of Zoology, Tel Aviv University.

Description. Carapace broadly pyriform, width $2/3$ postrostral length, margins with a few long spines, surface mostly smooth, though uneven, with a few tubercles topped by hairs.

Rostrum of two slender, straight, acuminate spines about equal to postrostral length of carapace, divergent from base, distance between tips about three times width at base, surfaces with a few simple long hairs and groups of curled hairs.

Orbit consisting above of a weakly expanded eave produced obliquely forwards into a slender acuminate spine little shorter than the rostrum. Eyestalk slender, smooth, reaching about halfway along supraorbital spine, cornea subterminal, slightly ventral, oval.

Hepatic margin with a small conical spine weakly directed forwards. Branchial margin anteriorly with a long (about half the length of rostrum), outwardly directed, acuminate spine.

Dorsal surface uneven, elevated in midline, a few low tubercles on protogastric and lateral part of branchial regions in a curved row, two short spines posterolaterally above last ambulatory legs. Intestinal region with an acuminate spine on posterior margin.

Basal antennal article broad, with a wide groove, lateral margin ridged, produced anteriorly and posteriorly as a blunt spine, anterior spine more slender. Medial edge smooth, without tubercles or projections.

Anterior border of mouthfield a very shallow "V," anterolateral angles expanded, flattened, obtuse.

Pterygostomial region with a strong stout spine on lateral margin.

Third maxillipeds meeting in midline. Ischium with a deep central groove running full length, distal edge oblique but almost straight to slightly concave; medial edge strongly toothed, teeth only sparsely overlain by hairs. Merus almost subtriangular, anterolaterally very strongly produced, lateral edge concave, distal edge deeply notched, proximal part of notch produced and rounded. Carpus (of palp) flattened and laterally cristate, remaining segments of palp cylindrical, provided with long hairs medially and around tip of dactyl. Exognath with a shallow longitudinal groove along whole length.

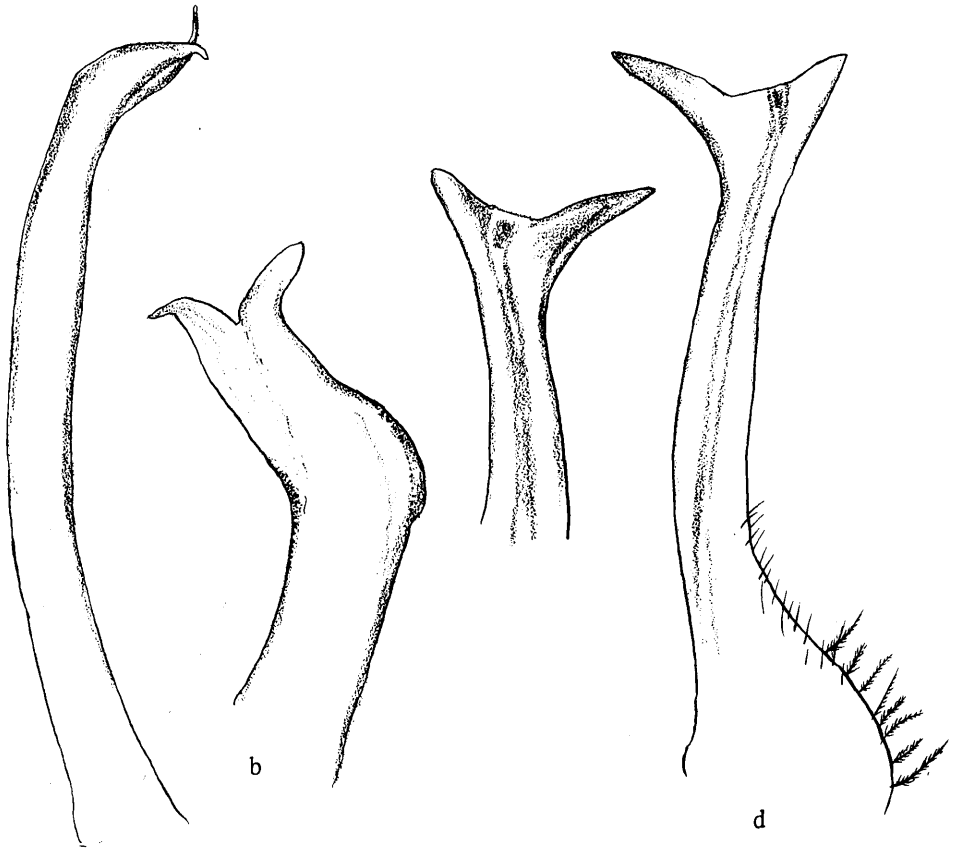


Fig. 4. *Ophthalmias longispinus* n. sp., paratype, male, 58.5 mm, NS1066, Elat, AM P.19998. a. Left pleopod 1, abdominal aspect. b. Same, sternal aspect. *Menaethiops dubia* Balss, male, 10.5 mm, E55/54d, Elat. c. Left pleopod 1, sternal aspect. d. Same, abdominal aspect.

Sternum smooth. First segment with a shallow excavation on each side, excavation bordered anteriorly by a transverse ridge.

Chelipeds in male enlarged, length $1\frac{1}{4}$ times postrostral carapace length. Merus broad distally with small tubercles in a lateral row and a few dorsal ones distally. Carpus with a strong ridge of close-set tubercles dorsally and another laterally, the two rows forming the edge of an oval on the medial surface. Palm inflated, highest distally, compressed, a few small tubercles on outer and inner surfaces more or less in a row and along dorsal edge which is a broad rounded ridge. Fingers more than three-quarters the length of the palm, slender, gaping very widely, opposed for distal quarter only which is finely toothed. Dactyl with a strong truncate tooth in gape near base.

Ambulatory legs slender, long, first almost as long as carapace including rostrum, decreasing in length to fourth which is almost as long as postrostral carapace length. Surfaces smooth, groups of curled hairs along dorsal surfaces, dactyl of fourth leg hirsute, without spinules.

Abdomen widest at third segment, last segment sub-triangular. Sixth segment twice length of fifth. Midline elevated and rounded. Second to fourth segments with a distal blunt tubercle on midline. Third segment with a lateral elevation surmounted by one or two tubercles.

First pleopod of male slender, hardly tapering, distally curved laterally, somewhat broadened and flattened distally, tip slender, tapered. Aperture lateral, subapical, a membranous flap extending out from lateral surface concealing aperture from abdominal view.

Remarks. The new species is most similar to *O. cervicornis* and *O. curvirostris* but easily distinguished by the very long, slender, straight rostral spines, supraorbital spines, anterior marginal branchial spines and posterior intestinal spine. There are also differences in the tuberculation of the chelipeds and abdomen. In the general smoothness of the carapace centrally and grooving of the third maxillipeds there is a close similarity with *O. curvirostris*. In that species, however, the rostral spines are generally subparallel and upwardly curved apically, the anterior branchial spine is only moderately long and, as in *O. cervicornis*, tipped by hairs, and the posterior intestinal margin is produced as a triangular plate, not a spine. Finally, the first sternite in the male of *O. curvirostris* and *O. cervicornis* is excavate anteriorly but lacks a transverse ridge.

Perinia tumida Dana

Perinia tumida Dana 1852:114-115; 1855:pl. 4 fig. 1a-f. —Sakai 1938:294-296, text-fig. 40.

Material examined. 3 ♂, 3 ♀ (2 ovig.), 4.5-8.5 mm; smallest ovig. ♀, 8.0 mm. NS87 (1), NS97 (2), E?/161 (1), NS4428 (1), NS6918 (1).

Localities. Gulf of Elat: Elat, Ras Atantur.

Habitat. 4 m.

Distribution. Red Sea; Indo-West Pacific from East Africa to Japan, Australia and the Central Pacific including Hawaii.

Phalangipus hystrix (Miers)

Naxia hystrix Miers, 1886:60-61, pl. 6 fig. 4.

Phalangipus hystrix. —Griffin, 1973:175-179, figs. 5a-e, 6i, 7i.

Material examined. 2 ♂, 17.5 & 26.0 mm; 1 ♀ (ovig.), 22.0 mm. No stn. no. (1), NS6209 (2).

Localities. Gulf of Elat: W Murach. Southern Massawa Channel.

Habitat. 80-90 m.

Remarks. This species has been fully discussed elsewhere (Griffin, 1973).

Distribution. Red Sea; widespread in the Indo-West Pacific from the Arabian Sea through the Malay Archipelago, to Japan, the Philippine Islands and Western Australia.

Pseudomicippe nodosa Heller

Pseudomicippe nodosa Heller, 1861:303-304, pl. 1 figs. 3-6. —Bals, 1929:7-8.

Material examined. 1 ♂, 2 ♀ (1 ovig.), 16.5-20.0 mm; smallest ovig. ♀, 17.0 mm. E55/196b (1), ISRSE65/1251 (1), NS7345 (1).

Localities. Gulf of Elat: Elat. Dahlak Archipelago: Museri Island.

Remarks. There are clear differences between this species and *P. tenuipes* A. Milne Edwards in the structure of the orbit above and below and in the details of the armature of the male first pleopod (compare Buitendijk (1939) for *P. tenuipes* and Heller (1861) for *P. nodosa*).

These three specimens agree closely with the type material (Naturhistorisches Museum, Vienna, 2 ♀ (ovig.), cl. 19, 19.5 mm, Red Sea).

Distribution. Red Sea; Dar-es-Salaam; Ceylon.

Schizophrys aspera (H. Milne Edwards)

Mithrax asper H. Milne Edwards, 1834:320.

Schizophrys aspera. —Sankarankutty, 1962:159-160, figs. 15, 16. —Sakai, 1965:89, pl. 41 fig. 2. —Griffin, 1966a:286, pl. 16; 1966b:312-313.

Material examined. 5 ♂, 3 ♀, 10.0-23.8 mm. NS87 (1), E51/124 (1), E62/1363 (2), E62/1413 (1), NS7305 (3).

Localities. Gulf of Elat: Elat. Dahlak Archipelago: Romia Island, Cundabilu Island.

Habitat. 0-3 m.

Remarks. In all specimens the carapace is granular with a number of distinct blunt spines or groups of blunt spines, including a transverse row of four across the anterior part of the gastric region. The rostrum possesses one lateral spine near the base and the male first pleopod is strongly curved outwards distally. The anterior spines of the basal antennal article are equal. There is a spine on the suborbital border in all specimens. The carapace is broad.

In one specimen, however, each rostral spine possesses a spine of the medial surface, and in another there is a medial tubercle. The others lack a spine or tubercle on the medial surface of the rostrum. Variation in this feature has been fully discussed by A. Milne Edwards (1872:231-234, pl. 10 figs. 1, 1a-f).

Distribution. Red Sea; widespread in Indo-West Pacific from South and East Africa to Japan, Australia, Lord Howe Islands, Samoa and Hawaii.

Simocarcinus pyramidatus (Heller)

Huenia pyramidata Heller, 1861:307-309, pl. 1 fig. 9.

Simocarcinus simplex. —Rathbun, 1911:249 (not *Huenia simplex* Dana, 1852).

Simocarcinus pyramidatus. —Balss, 1929:11. —Griffin, 1974:29.

Material examined. 3 ♂, 8.5-17.0 mm. E62/3010 (2), NS54 (1).

Localities. Gulf of Elat: Elat.

Habitat. 0-2 m.

Remarks. These specimens agree with the material reported on elsewhere (Griffin, 1974/ in press). The hepatic margin is not expanded; the branchial expansion is acutely pointed. There are strong metabranchial tubercles above the last ambulatory legs. The rostrum is more than half the postrostral carapace length and horizontal throughout its length. The ambulatory propodi have sparse tufts of hair.

They agree closely with Heller's type material (Naturhistorisches Museum, Vienna, 1 ♂, cl. 18.8 mm).

Distribution. Red Sea; Indian Ocean from Aldabra and Mauritius, to Cocos (Keeling) Island.

Simocarcinus simplex (Dana)

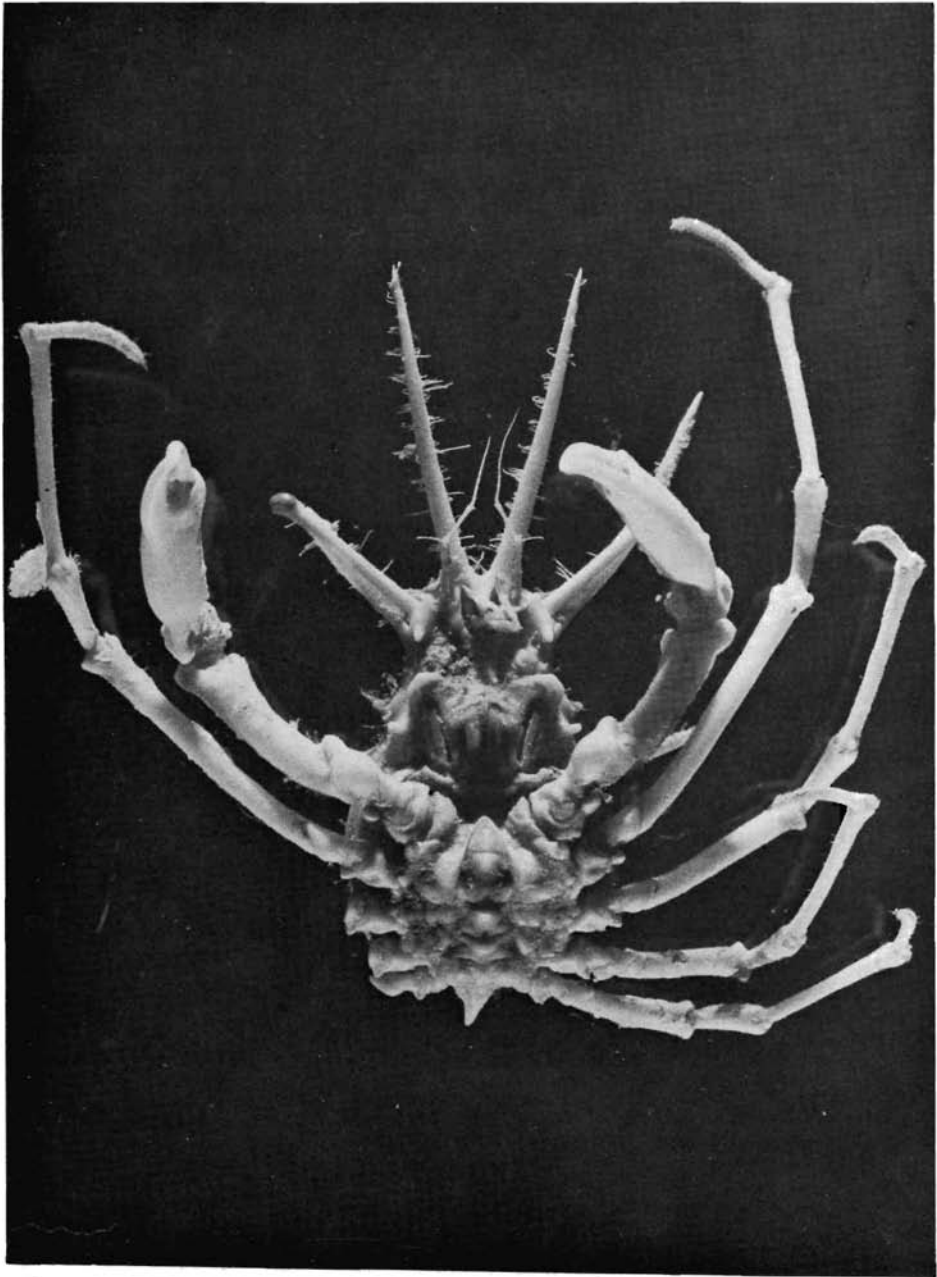
Huenia simplex Dana, 1852:133-134, 1855:pl. 6 figs. 3a-c.

Simocarcinus simplex. —Nobili, 1906:173.

Simocarcinus camelus Klunzinger, 1906:17-18, pl. 1 figs. 2a-c, f. —Bouvier, 1915:239.

Simocarcinus camelus var. *brevirostris* Klunzinger, 1906:18, pl. 1 fig. 2d.

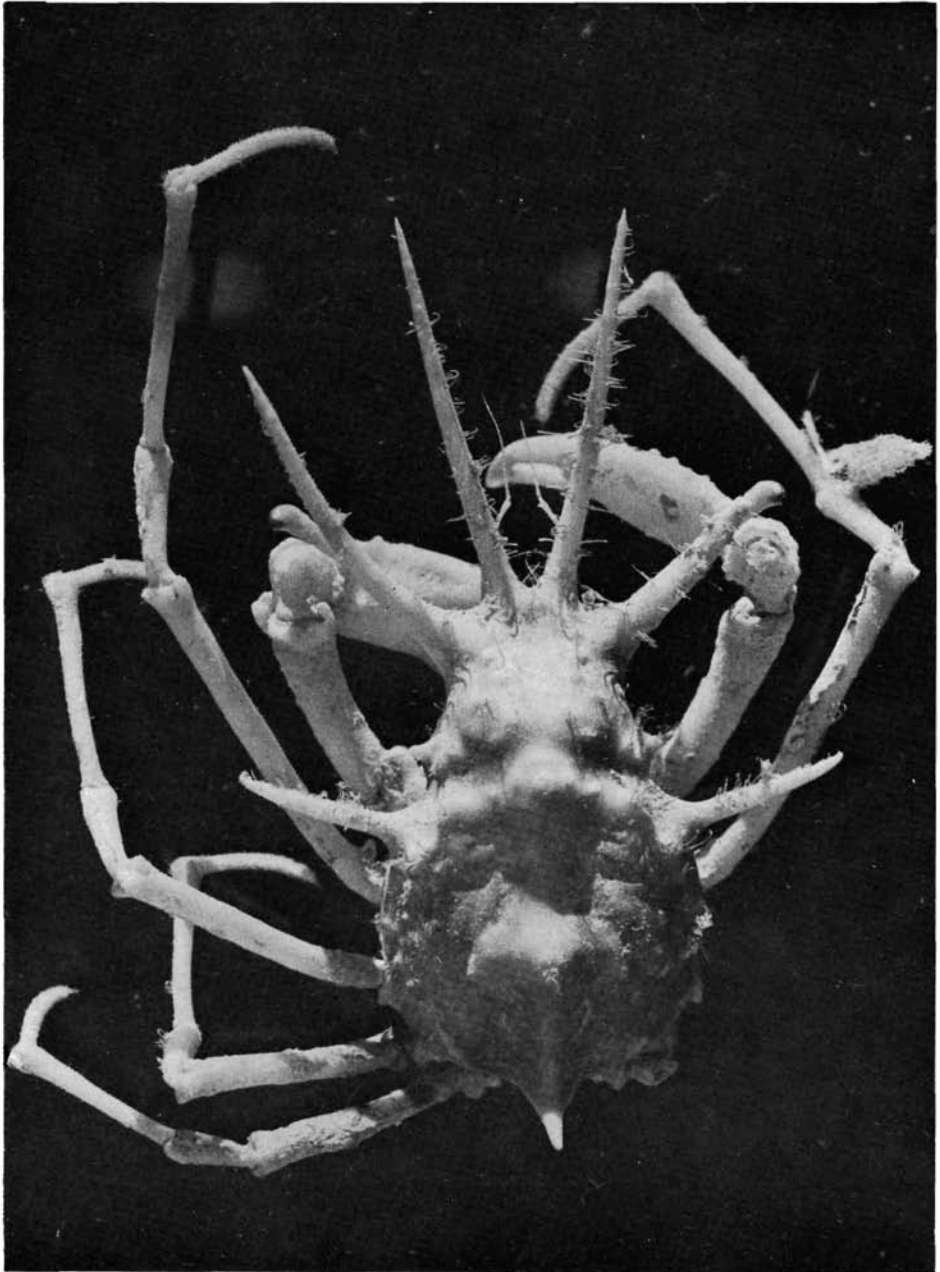
Simocarcinus camelus var. *pinnirostris* Klunzinger, 1906:18, pl. 1 fig. 2e, g.



a

PLATE I

Ophthalmias longispinus n. sp., holotype, male, 54.5 mm, E65/1425, southern Red Sea. a. Ventral view. b. Dorsal view (overleaf).



b

Material examined. 1 ♀, 11.5 mm; 1 ovig. ♀, 15.0 mm. E62/3010 (2).

Localities. Gulf of Elat: Elat.

Habitat. 0-2 m.

Remarks. These two specimens possess expanded hepatic lobes, the branchial lobes are inflated with cristate margins and the rostrum is about a third of the postrostral carapace length, weakly convex dorsally and directed upwards basally. The ambulatory propodi possess sparse tufts of hair ventrally. They agree in general with the material illustrated by Klunzinger (1906) under the name *Simocarcinus camelus*.

Distribution. Red Sea; Indo-West Pacific from East Africa to Japan and Hawaii.

***Stilbognathus erythraeus* von Martens**

Stilbognathus erythraeus von Martens, 1866:379. —Guinot, 1962c:53-54, figs. 36, 38a & b, pl. 3 fig. 1, pl. 4 fig. 2.

Material examined. 9 ♂, 11 ♀ (6 ovig.), 13.0-33.0 mm; smallest ovig. ♀, 21.5 mm. E57/503 (1), E62/1346 (2), E62/1386 (5), E62/2326 (1), ISRSE65/0252 (3), ISRSE65/1024 (3), ISRSE65/2055 (1), NS3981 (3), No stn. no. (1).

Localities. Dahlak Archipelago: Museri Island, Entedebir Island, Enteraria Island, Derom Island, Nocra Island. Ras Burka.

Habitat. 0-2 m.

Remarks. The third maxilliped of these specimens agrees in the shape of merus and the groove on the ischium with that figured by Guinot.

Distribution. Red Sea; Somali coast.

***Stilbognathus soikai* Guinot**

Stilbognathus soikai Guinot, 1962c:54-56, figs. 35, 39a-c, pl. 3 fig. 2, pl. 4 fig. 3.

Material examined. 1 ♀, 12.0 mm. NS99 (1).

Localities. Gulf of Elat: Elat.

Remarks. This specimen agrees with the description given by Guinot; the third maxilliped is similar in the shape of the merus and the type of groove on the ischium. The rostral spines are convergent at the tips but not touching. The projection on the posterior border of the carapace is damaged. This is the first female recorded for this species.

Distribution. Red Sea.

Tylocarcinus styx (Herbst)

Cancer Styx Herbst, 1799:53-54, pl. 58 fig. 6.

Microphrys styx Paulson, 1875:11-12, pl. 1 fig. 1a-f.

Tylocarcinus styx. —Sakai, 1938:271-2, pl. 36 fig. 5. —Guinot, 1962b:242, fig. 17a, b.

Material examined. 16 ♂, 15 ♀ (8 ovig.), 5.5-25.0 mm; smallest ovig. ♀, 16.0 mm. E50/10 (1), NS89 (1), NS96 (1), NS100 (1), E55/11a (1), E55/241g (1), E55/734e (1), E55/882c (1), E55/913g (1), E55/913f (1), E56/15 (1), E62/123 (1), E62/1357 (2), E62/1362 (1), E62/1372 (1), E62/1431 (1), E62/1438 (2), E?/159 (1), E?/167 (1), E?/198 (1), NS6917 (2), NS8258 (1), NS8183 (1), No stn. no. (1), NS12113 (4).

Localities. Gulf of Elat: Elat. Gulf of Suez: Ras el Kanisa. Dahlak Archipelago: Entedebir Island, Cundabilu Island.

Habitat. 0-4 m.

Distribution. Red Sea; Mauritius, through the Indo-West Pacific to Samoa and Japan.

Xenocarcinus tuberculatus White

Xenocarcinus tuberculatus White, 1847b:119. —Miers, 1874:1, pl. 2 fig. 1, 1a-e. —Gordon, 1934:72, figs. 37b, c. —Barnard, 1950:36, fig. 7a, b. —Sakai, 1965:91-92 (partim), text-fig. 13, pl. 42 fig. 5.

Material examined. 2 ♀ (ovig.), 11.5 & 16.5 mm. NS1152 (1), NS2932 (1).

Localities. Gulf of Elat: Elat.

Habitat. 50-100 m.

Remarks. These specimens possess the prominently tuberculate carapace, tapering, distally bifid rostrum and smooth ambulatory legs typical of this species. Sakai (1965) regarded the specimens of Rathbun (1911) from the western Indian Ocean, and of Stephenson (1945) from the Iranian Gulf, as *X. alcocki*, but Barnard (1950) includes them with his specimens from South Africa in *X. tuberculatus*.

Distribution. Red Sea; Indo-West Pacific from the east coast of Africa to NE Australia, Hong Kong and Japan.

DISCUSSION

Of the 46 species now known from the Red Sea, 12 (including one new species) are recorded for the first time in this study; one other, *Phalangipus hystrix* has only recently been recorded from the Red Sea (Griffin, 1973). Six genera, *Entomonyx*, *Hoplophrys*, *Inachoides*, *Lambrachaeus* and *Oncinopus* are recorded from the Red Sea

for the first time. Nine species known from the Red Sea are not contained in the present collections. This information is summarized in Appendix II.

Accounts of the fauna of the Red Sea generally emphasize the high degree of endemism or restriction. Guinot (1966) has pointed out that as far as the crabs are concerned about 15% of the species are not known outside the Red Sea; earlier figures, up to 34.6%, cited by Laurie (1915) were incorrect because the wrong number of total species was used in the calculations.

Of the Red Sea spider crab fauna, as now known, seven species, or 15% (the same percentage as for *Brachyura* in total), appear restricted to the Red Sea. These belong to the genera *Achaeus*, *Eurynome*, *Menaethiops*, *Stilbognathus* and *Ophthalmias*. All of these genera are either represented in the Mediterranean and/or Atlantic or else they are confined to African coasts and, with the exception of *Achaeus* and *Eurynome*, each are represented in the Indo-West Pacific by only one species. Moreover, the genera *Ophthalmias* and *Stilbognathus* are considered to be most closely related to Atlantic and Pacific American forms, notably *Tyche*. The proposition that these restricted forms are a Tethyan remnant seems reasonable.

Thirteen species (28%) of Red Sea spider crabs are known only from the Indian Ocean, principally East Africa and the Arabian Sea. Only two of these, *Hyastenus inermis* and *Pseudomicippe nodosa*, belong to genera which find their greatest diversity in the rest of the Indo-West Pacific rather than the western Indian Ocean. The others belong to typical western Indian Ocean genera, such as *Acanthonyx*, *Eurynome* and *Menaethiops*, and appear to be part of the same fauna as the species restricted to the Red Sea.

The remaining 26 species (57% of the total) are widespread Indo-West Pacific forms and at least 10, e.g., *Camposcia retusa*, *Huenia proteus*, *Menaethius monoceros*, *Simocarcinus simplex*, *Tylocarcinus styx* and *Perinia tumida* are extremely common reef species with distributions extending as far east as Hawaii and/or other parts of the Pacific Ocean. Six species of the typical Indo-West Pacific genus *Hyastenus*, two of *Micippa* and one of *Phalangipus* are represented in the Red Sea.

The bulk of the Red Sea fauna is thus part of the present day diverse Indo-West Pacific fauna. Of the 41 genera of Majidae known from the western Indian Ocean, 13 (32%) have not yet been recorded from the Red Sea. These include the important genera *Cyrtomaia*, *Inachus*, *Macropodia*, *Pleistacantha*, *Platymaia*, *Doclea* and *Rochinia*.

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APPENDIX I

COLLECTION DATA FOR SERIAL NUMBERS USED IN TEXT

<i>Serial no.</i>	<i>Date</i>	<i>Locality</i>	<i>Collector</i>	<i>Remarks</i>
E49/77	10-12.V.49	Elat	G. Haas	—
E50/10	25.IV.50	Elat	H. Steinitz	—
E50/13	25.VI.50	Elat	H. Steinitz	—
E51/124	IV.51	Elat	H. Steinitz	—
E54/13	VI.54	Elat	—	—
E55/3a	2.V.55	Elat	H.S.; Ch.L.; L.F.*	—
E55/3d	2.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/4a	2.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/11a	2.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/21	2.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/35a	2.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/53h	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/53n	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/54d	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/56b	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/59b	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/60c	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/61a	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/61b	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/63b	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/65e	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/66a	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/66b	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/67g	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/68a	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/68b	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/80e	3.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/118	4.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/130c	4.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/130f	4.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/134a	4.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/134b	4.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/151	4.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/192b	5.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/1951a	5.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/1951b	5.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/196a	5.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/196b	5.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/196c	5.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/206	5.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/2371a	5.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/241f	6.V.55	Elat	—	—
E55/241g	6.V.55	Elat	—	—

* H. Steinitz; Ch. Lewinsohn; L. Fishelson.

APPENDIX I (cont.)

<i>Serial no.</i>	<i>Date</i>	<i>Locality</i>	<i>Collector</i>	<i>Remarks</i>
E55/246d	6.V.55	Elat	—	—
E55/249a	6.V.55	Elat	—	—
E55/254d	6.V.55	Elat	—	—
E55/266e	6.V.55	Elat	H.S.; Ch.L.; L.F.	—
E55/561	18.VI.55	Elat	H.S.; Ch.L.; L.F.	—
E55/607d	18.VI.55	Elat	H.S.; Ch.L.; L.F.	—
E55/630	18.VI.55	Elat	H.S.; Ch.L.; L.F.	—
E55/703	30.XI.55	Elat	H.S.; Ch.L.; L.F.	—
E55/727	30.XI.55	Elat	H.S.; Ch.L.; L.F.	—
E55/734e	30.XI.55	Elat	H.S.; Ch.L.; L.F.	—
E55/785	1.XII.55	Elat	H.S.; Ch.L.; L.F.	—
E55/882c	2.XII.55	Elat	H.S.; Ch.L.; L.F.	—
E55/898e	3.XII.55	Elat	H.S.; Ch.L.; L.F.	—
E55/898f	3.XII.55	Elat	H.S.; Ch.L.; L.F.	—
E55/913b	3.XII.55	Elat	H.S.; Ch.L.; L.F.	—
E55/913d	3.XII.55	Elat	H.S.; Ch.L.; L.F.	—
E55/913f	3.XII.55	Elat	H.S.; Ch.L.; L.F.	—
E55/913g	3.XII.55	Elat	H.S.; Ch.L.; L.F.	—
E55/929	3.XII.55	Elat	H.S.; Ch.L.; L.F.	—
E56/15	6.VI.56	Elat	H.S.; Ch.L.; L.F.	—
E56/70a	7.VI.56	Elat	H.S.; Ch.L.; L.F.	—
E56/214	27.XII.56	Sharm esh Sheikh	H.S.; Ch.L.; L.F.	—
E56/242a	29.XII.56	Ras Nasrani	H.S.; Ch.L.; L.F.	—
E57/19b	1.I.57	Abu Zabad	H.S.; Ch.L.; L.F.	—
E57/24b	1.I.57	Abu Zabad	H.S.; Ch.L.; L.F.	—
E57/85	2.I.57	Abu Zabad	H.S.; Ch.L.; L.F.	—
E57/100a	2.I.57	Abu Zabad	H.S.; Ch.L.; L.F.	—
E57/158a	3.I.57	Et Tur, Gulf of Suez	H.S.; Ch.L.; L.F.	—
E57/158f	3.I.57	Et Tur, Gulf of Suez	H.S.; Ch.L.; L.F.	—
E57/200b	3.I.57	Et Tur, Gulf of Suez	H.S.; Ch.L.; L.F.	—
E57/200c	3.I.57	Et Tur, Gulf of Suez	H.S.; Ch.L.; L.F.	—
E57/200d	3.I.57	Et Tur, Gulf of Suez	H.S.; Ch.L.; L.F.	—
E57/503	27.XII.57	Derom Is.	A. Ben Tuvia	—
E57/624	29.XI.57	Off Mt. Guba	A. Ben Tuvia	52 m
E58/97	—	—	—	—
E58/245.2	8.II.58	Jebel Attair	O.H. Oren	66 m
E59/29	15.VI.59	Elat	H. Steinitz	beach S of Wadi Masri
E59/74.3	22.IX.59	Elat	H. Steinitz	—
E59/74.4	22.IX.59	Elat	H. Steinitz	—
E59/78	22.IX.59	Elat	H. Steinitz	—
E60/28.6	4.V.60	Elat	H. Steinitz	—
E60/29.5	4.V.60	Elat	H. Steinitz	—
E62/123	15.III.62	Landing Bay, Entedebir Is.	—	—
E62/1326	14.III.62	Cundabilu Is.	—	0-1 m, fish poisoning
E62/1332	14.III.62	Goliath Bay, Entedebir Is.	—	on <i>Cystoseira</i> algae

APPENDIX I (cont.)

<i>Serial no.</i>	<i>Date</i>	<i>Locality</i>	<i>Collector</i>	<i>Remarks</i>
E62/1346	16.III.62	landing of Nocra village, Nocra Is.	—	0-2 m, among algae
E62/1357	18.III.62	N. of entrance of Landing Bay, Entedebir Is.	—	2-3 m, from <i>Stylophora</i> coral
E62/1362	20.III.62	Cundabilu Is.	—	1-2 m, in <i>Stylophora</i> coral
E62/1363	20.III.62	Cundabilu Is.	—	1-3 m, rocky eastern shore with sand patches and coral
E62/1372	21.III.62	Landing Bay, Entedebir Is.	—	4 m, on <i>Seriaptora angulata</i>
E62/1386	24.III.62	NE coast of Enteraria Is.	—	0-2 m, from among algae and eel-grass
E62/1387	24.III.62	NE coast of Enteraria Is.	—	0-1 m, in black sponge, sandy bottom
E62/1401	26.III.62	NE coast of Enteraria Is.	—	0-1 m, eelgrass and <i>Cystoseira</i> , seined
E62/1413	29.III.62	Romia Is.	—	0-3 m, fish poisoning
E62/1418	30.III.62	Goliath Bay, Entedebir Is.	—	0-1 m, in algae muddy and rocky shore
E62/1431	31.III.62	Landing Bay, Entedebir Is.	—	0-3 m, on <i>Stylophora</i> coral
E62/1437	3.IV.62	Goliath Bay, Entedebir Is.	—	0-0.5 m, among algae
E62/1438	3.IV.62	Landing Bay, Entedebir Is.	—	0-2 m, among dead coral
E62/1518	11.III.62	Padina Bay, Entedebir Is.	—	0-1 m, between and under rocks
E62/2326	30.III.62	Goliath Bay, Entedebir Is.	—	—
E62/3010	15-16.V.62	Nocra Is.	L.B. Holthuis	0-2 m, under rocks and coral blocks
E62/3062	—	Entedebir Is., Goliath Bay	—	—
E62/4595	—	Entedebir Is., Goliath Bay	—	—
ISRSE65/0219	9.X.65	Museri Is.	—	coast near Camping Bay
ISRSE65/0221	9.X.65	Museri Is.	—	coast near Camping Bay

APPENDIX I (cont.)

<i>Serial no.</i>	<i>Date</i>	<i>Locality</i>	<i>Collector</i>	<i>Remarks</i>
ISRSE65/0234	9.X.65	Museri Is.	—	off Scopus Ridge
ISRSE65/0245	10.X.65	Museri Is.	—	0-1 m, off Scopus Ridge
ISRSE65/0252	11.X.65	Museri Is.	—	0-1 m, off Scopus Ridge
ISRSE65/0290	12.X.65	Museri Is.	—	W of Camping Bay
ISRSE65/0291	12.X.65	Museri Is.	—	0-0.5 m, Camping Bay
ISRSE65/1024	13.X.65	Museri Is.	—	off Scopus Ridge
ISRSE65/1090	15.X.65	Museri Is.	—	off Scopus Ridge
ISRSE65/1210	16.X.65	Museri Is.	—	Mangrove Bay
ISRSE65/1251	17.X.65	Museri Is.	—	Braathen Bay
ISRSE65/1425	17.X.65	14° 58'N, 40° 19'E	—	10-13 m, soft mud flat, trawl and dredge
ISRSE65/1438	17.X.65	14° 58'N, 40° 19'E	—	10-13 m, soft mud flat, trawl and dredge
ISRSE65/1441	17.X.65	14° 58'N, 40° 19'E	—	10-13 m, soft mud flat, trawl and dredge
ISRSE65/1556	23.X.65	Museri Is.	—	Mangrove Bay
ISRSE65/1802	22.X.65	15° 35'N, 40° 40'E	—	22-26 m, trawl and dredge, bottom "slightly wavy, hardish", W of Hatitou
ISRSE65/1911	23.X.65	15° 37'N, 40° 43'E	—	approx. 30-34 m, trawling towards Hatitou bottom as for E65/1802
ISRSE65/2046	26.X.65	Museri Is.	—	off Scopus Ridge
ISRSE65/2055	26.X.65	Museri Is.	—	Camping Bay
E?/159	—	Red Sea	—	—
E?/161	—	Red Sea	—	—
E?/167	—	Red Sea	—	—
E?/198	—	Red Sea	—	—
NS54	IX.52	Elat	L. Fishelson & Ch. Lewinsohn	—
NS87	IV.51	Elat	L. Fishelson & Ch. Lewinsohn	—
NS89	IV.51	Elat	L. Fishelson & Ch. Lewinsohn	—
NS95	IX.52	Elat	L. Fishelson & Ch. Lewinsohn	—
NS96	IX.52	Elat	L. Fishelson & Ch. Lewinsohn	—

APPENDIX I (cont.)

<i>Serial no.</i>	<i>Date</i>	<i>Locality</i>	<i>Collector</i>	<i>Remarks</i>
NS97	IX.52	Elat	L. Fishelson & Ch. Lewinsohn	—
NS98	IX.52	Elat	L. Fishelson & Ch. Lewinsohn	—
NS99	IX.52	Elat	L. Fishelson & Ch. Lewinsohn	—
NS100	IX.52	Elat	L. Fishelson & Ch. Lewinsohn	—
NS101	IX.52	Elat	L. Fishelson & Ch. Lewinsohn	—
NS1066	20.VI.65	Elat	Ch. Lewinsohn	—
NS1079	20.VI.65	Elat	Ch. Lewinsohn	—
NS1091	X.60	—	—	—
NS1096	13.IV.61	Elat	Ch. Lewinsohn	—
NS1152	5.IX.66	Elat	Ch. Lewinsohn	70-100 m
NS1153	5.IX.66	Elat	Ch. Lewinsohn	70-100 m
NS1173	6.IX.66	Elat	Ch. Lewinsohn	40-54 m
NS1183	7.IX.66	Elat	Ch. Lewinsohn	68-88 m
NS1184	7.IX.66	Elat	Ch. Lewinsohn	68-88 m
NS1580	15.IX.67	Shurat el Manqata	L. Fishelson	—
NS2932	6.IX.66	Elat	Ch. Lewinsohn	50-70 m
NS2989	6.IX.66	Elat	Ch. Lewinsohn	80-104 m
NS3729	7.X.68	Wassit	L. Fishelson	beach poisoning
NS3733	7.X.68	Wassit	L. Fishelson	reef poisoning
NS3741	7.X.68	Wassit	L. Fishelson	reef poisoning
NS3742	7.X.68	Wassit	L. Fishelson	—
NS3743	7.X.68	Wassit	L. Fishelson	reef poisoning
NS3980	5.X.68	Ras Burka	—	—
NS3981	5.X.68	Ras Burka	L. Fishelson	fish poisoning
NS3985	8.X.68	Wassit	L. Fishelson	fish poisoning
NS4139	8.X.68	Wassit	L. Fishelson	—
NS4151	8.X.68	Wassit	L. Fishelson	—
NS4153	8.X.68	Wassit	L. Fishelson	—
NS4154	8.X.68	Wassit	L. Fishelson	—
NS4428	14.X.68	Ras-Atantur	L. Fishelson	—
NS5463	9.I.69	Elat	—	—
NS5722	2.VII.69	Ras Atantur	L. Fishelson	—
NS5809	2.VII.69	Ras Atantur	L. Fishelson	—
NS5814	2.VII.69	Ras Atantur	L. Fishelson	—
NS6198	7.X.69	Tiran, Gordon Reef	Ch. Lewinsohn	60 m
NS6209	9.X.69	W Murach	—	80-90 m
NS6917	13.XI.70	Elat	B. Galil	4 m
NS6918	13.XI.70	Elat	B. Galil	4 m
NS7031	11.XII.70	Elat	L. Fishelson	—
NS7221	7.X.69	Tiran, Gordon Reef	Ch. Lewinsohn	60-90 m
NS7223	7.X.69	Tiran, Gordon Reef	Ch. Lewinsohn	60-90 m
NS7226	9.X.69	W Murach	Ch. Lewinsohn	80-90 m
NS7231	9.X.69	W Murach	Ch. Lewinsohn	80-90 m

APPENDIX I (cont.)

<i>Serial no.</i>	<i>Date</i>	<i>Locality</i>	<i>Collector</i>	<i>Remarks</i>
NS7232	9.X.69	W Murach	Ch. Lewinsohn	80-90 m
NS7237	9.X.69	W Murach	Ch. Lewinsohn	80-90 m
NS7241	9.X.69	W Murach	Ch. Lewinsohn	80-90 m
NS7247	9.X.69	W Murach	Ch. Lewinsohn	80-90 m
NS7254	7.X.69	Tiran, Gordon Reef	Ch. Lewinsohn	60-90 m
NS7255	6.X.69	Mersat Abu Samra	Ch. Lewinsohn	60-90 m
NS7256	7.X.69	Mersat Abu Samra	Ch. Lewinsohn	72 m
NS7267	6.X.69	Mersat Abu Samra	Ch. Lewinsohn	160-200 m
NS7272	6.X.69	Mersat Abu Samra	Ch. Lewinsohn	160-200 m
NS7273	6.X.69	Mersat Abu Samra	Ch. Lewinsohn	160-200 m
NS7276	9.X.69	off W Murach	Ch. Lewinsohn	80-90 m
NS7278	9.X.69	off W Murach	Ch. Lewinsohn	80-90 m
NS7279	9.X.69	off W Murach	Ch. Lewinsohn	80-90 m
NS7280	9.X.69	off W Murach	Ch. Lewinsohn	80-90 m
NS7281	9.X.69	off W Murach	Ch. Lewinsohn	80-90 m
NS7295	9.X.69	off W Murach	Ch. Lewinsohn	80-90 m
NS7298	9.X.69	off W Murach	Ch. Lewinsohn	80-90 m
NS7305	8.VII.69	Elat	D. Popper	—
NS7337	10.VII.69	Elat	L. Fishelson	—
NS7345	1.IX.70	—	H. Schuhmacher	—
NS7376	8.II.71	Elat	L. Fishelson	—
NS7377	8.II.71	Elat	L. Fishelson	—
NS7378	8.II.71	Elat	L. Fishelson	—
NS7432	9.X.69	W Murach	Ch. Lewinsohn	—
NS7433	9.X.69	El Hamira	Ch. Lewinsohn	—
NS7435	9.X.69	W Murach	Ch. Lewinsohn	—
NS8183	10.VI.71	Elat	—	—
NS8258	28.X.71	Ras el Kanisa, Gulf of Suez	L. Fishelson	—
NS8261	28.X.71	Ras el Kanisa, Gulf of Suez	L. Fishelson	—
NS12103	11.XI.72	29°04'N, 33°02'E, Gulf of Suez	Ch. Lewinsohn	46-50 m, trawl
NS12105	18.X.72	El Tur, Gulf of Suez	Ch. Lewinsohn	1-2 m, from dead corals; coral reef near beacon
NS12106	18.X.72	El Tur, Gulf of Suez	Ch. Lewinsohn	1-2 m, from dead corals; coral reef near beacon
NS12107	18.X.72	El Tur, Gulf of Suez	Ch. Lewinsohn	1-2 m, coral reef near beacon
NS12108	18.X.72	El Tur, Gulf of Suez	Ch. Lewinsohn	1-2 m, coral reef near beacon
NS12109	17.XII.71	Ras Muhammad, Sinai Pen.	A. Arbel	—

APPENDIX I (cont.)

<i>Serial no.</i>	<i>Date</i>	<i>Locality</i>	<i>Collector</i>	<i>Remarks</i>
NS12110	21.X.72	Wadi Tal, Gulf of Suez	Ch. Lewinsohn	1-2 m, from dead coral, offshore reef
NS12111	16.X.72	Ras Garra, Gulf of Suez	Ch. Lewinsohn	1 m, from dead corals, covered with algae
NS12112	17.X.72	Ras el Kanisa, Gulf of Suez	Ch. Lewinsohn	1-2 m, from dead corals, coral reef about 1 km offshore
NS12113	17.X.72	Ras el Kanisa, Gulf of Suez	Ch. Lewinsohn	1-2 m, from dead corals, coral reef about 1 km offshore
NS12114	17.X.72	Ras el Kanisa, Gulf of Suez	Ch. Lewinsohn	1-2 m, from dead corals, coral reef about 1 km offshore
NS12115	summer 1971	Elat	N. Gundermann	washed on shore

APPENDIX II

SPECIES OF MAJIDAE FROM THE RED SEA

<i>Species</i>	<i>Geographic range</i>			<i>Red Sea: habitat depth</i>	
	<i>Indo-West Pacific</i>	<i>Indian Ocean</i>	<i>Red Sea only</i>	<i>Shallow, 0-10 m</i>	<i>Deep, > 10 m</i>
Species in the present collection					
<i>Acanthonyx elongatus</i> Miers		x		x	
* <i>Achaeus lorina</i> (Adams & White)	x				x
<i>Aepinus indicus</i> (Alcock)	x				x
<i>Camposcia retusa</i> Latreille	x			x	
<i>Cyclax spinicinctus</i> Heller	x			x	
<i>Cyphocarcinus minutus</i> A. Milne Edwards		x		x	
* <i>Entomonox spinosus</i> Miers	x				x
* <i>Eurynome simpsoni</i> Miers†		x			x
<i>Eurynome verhoeffi</i> Balss†			x		x
* <i>Hoplophrys oatesii</i> Henderson	x				x
<i>Huenia proteus</i> De Haan	x			?	?
<i>Hyastenus convexus</i> Miers	x				x
* <i>Hyastenus diacanthus</i> (De Haan)	x				x
* <i>Hyastenus elongatus</i> Ortmann	x				x
* <i>Hyastenus inermis</i> (Rathbun)		x			x
<i>Hyastenus spinosus</i> A. Milne Edwards	x				x

APPENDIX II (cont.)

Species	Geographic range			Red Sea: habitat depth	
	Indo-West Pacific	Indian Ocean	Red Sea only	Shallow, 0-10 m	Deep, >10 m
* <i>Inachoides dolichorhynchus</i> Alcock & Anderson		x			x
* <i>Lambrachaeus ramifer</i> Alcock	x				x
<i>Menaethiops dubia</i> Balss†			x	x	
<i>Menaethiops ninnii</i> Guinot†			x	x	
<i>Menaethiops nodulosa</i> (Nobili)		x		x	
<i>Menaethiops monoceros</i> (Latreille)	x			x	x
<i>Micippa platipes</i> Rüppell	x			x	x
<i>Micippa thalia</i> (Herbst)	x			?	?
* <i>Oncinopus neptunus</i> Adams & White	x				x
<i>Ophthalmias curvirostris</i> (A. Milne Edwards)		x			x
* <i>Ophthalmias longispinus</i> n. sp.			x		x
<i>Perinia tumida</i> Dana	x			x	
<i>Phalangipus hystrix</i> (Miers)	x				x
<i>Pseudomicippe nodosa</i> Heller		x		?	?
<i>Schizophrys aspera</i> (H. Milne Edwards)	x			x	
<i>Simocarcinus pyramidatus</i> (Heller)		x		x	
<i>Simocarcinus simplex</i> (Dana)	x			x	
<i>Stilbognathus erythraeus</i> von Martens		x		x	
<i>Stilbognathus soikai</i> Guinot†			x	?	?
<i>Tylocarcinus styx</i> (Herbst)	x			x	
* <i>Xenocarcinus tuberculatus</i> White	x				x
Red Sea species not in the present collection					
<i>Achaeus brevifalcatus</i> Rathbun		x			x
<i>Achaeus brevirostris</i> (Haswell) ¹	x				x
<i>Achaeus erythraeus</i> Balss			x		x
<i>Cyclax suborbicularis</i> (Stimpson)	x				?
<i>Acanthonyx dentatus</i> (H. Milne Edwards)		x			?
<i>Hyastenus hilgendorfi</i> De Man	x				?
<i>Menaethiops contiguicornis</i> (Klunzinger)			x		?
<i>Naxioides spinigera</i> Borradaile (var. <i>inermis</i> Bouvier)		x			x
<i>Ophthalmias cervicornis</i> (Herbst)	x				?

* New record for Red Sea.

† Second record of species.

¹ *A. affinis* Guinot 1966, p. 290; *Achaeus* sp. Monod 1938, p. 102.