Crustaceana 58 (3) 1990, E. J. Brill, Leiden

TWO NEW MIGRANT DECAPODS FROM THE EASTERN MEDITERRANEAN

BY

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RÉSUMÉ

Deux nouveaux décapodes qui ont immigré de mer Rouge ont été identifiés dans des collections provenant des côtes méditerranéennes d'Israël. *Metapenaeopsis aegyptia* sp. nov. est décrit et illustré, et la nouvelle capture de *Matuta banksii* Leach est commentée.

Lessepsian migration, that is the colonization of the Mediterranean by Red Sea species passing through the Suez Canal, is a dynamic process, and Lessepsian migrants compose a continuously growing share of the decapod fauna off the Israeli coast (Holthuis & Gottlieb, 1958; Lewinsohn & Holthuis, 1964; Galil, 1986).

In 1987 and again in 1988, during expeditions to collect benthic fauna off the central Israeli coast, a species of *Metapenaeopsis*, an Indo-Pacific genus not previously reported from the Mediterranean, was found. *Matuta banksii*, collected by D. Golani in Haifa Bay, is another striking example of a tropical Indo-Pacific species that migrated into the Mediterranean.

The following abbreviations have been used in the text: c.l., carapace length; BM, British Museum (Natural History), London; NMW, Naturhistorisches Museum, Wien, Austria; RMNH, Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands; TAU, Tel Aviv University, Israel; UMZ, University Museum of Zoology, Cambridge, England.

Metapenaeopsis aegyptia sp. n. (figs. 1, 2, 3a)

Metapenaeus consobrinus Nobili, 1904: 229 (part), figs. 1-2; Nobili, 1906: 17, pl. 1 fig. 3 (part).
Metapenaeus stridulans - Borradaile, 1910: 257 (part).
Penaeopsis stridulans - Balss, 1915: 10; Pesta, 1915: 104 (part).
Penaeopsis (*Metapenaeopsis*) species - Burkenroad, 1959: 83, figs. 9-13.
Metapenaeopsis consobrina - Starobogatov, 1972: 404 (key), fig. 16.

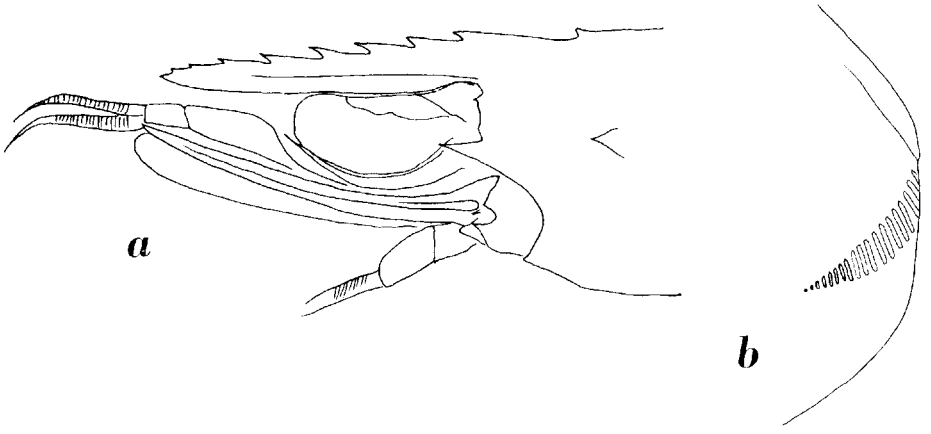

Fig. 1. *Metapenaeopsis aegyptia* new species, holotype ♂. a, rostrum and anterior part of carapace; b, posteroventral part of carapace with stridulating organ.

Material examined. — Holotype ♂: Off Palmahim, Israel, 31°56′N 34°35′E, depth 50 m, 27 February 1987; 1 ♂, 12.4 mm carapace length, 8.8 mm rostrum length, 61.6 mm total length (TAU 23031).

Paratypes: Off Palmahim, Israel, 31°56′N 34°35′E, depth 50 m, 27 February 1987; 1 ♂, 2 ♀ (TAU 23031), 1 ♂, 1 ♀ (RMNH no. D 37935) all collected with holotype. 31°56′N 34°39′E, depth 35 m, 27 February 1987, 1 ♂ juv. (TAU 23041); 5 November 1987, 1 ♂, 1 juv. (TAU 23905); 1 ♀ (TAU 23890); 20 October 1988, 4 ♂, 6 ♀ (TAU 26920). 31°56′N 34°35′E, depth 50 m, 27 February 1987, 3 ♂, 7 ♀ (TAU 23062); 5 November 1987, 4 ♂, 1 ♀, 2 juv. (TAU 23899); 4 ♂, 2 ♀, 22 juv. (TAU 23886); 28 May 1988, 2 ♂, 4 ♀ (TAU 26869).

Off Nitzanim, Israel, 31°44′N 34°34′E, depth 35 m, 28 February 1987, 2 ♂, 2 ♀, 2 juv. (TAU 23026); 6 November 1987, 3 ♂ (TAU 23914); 31°47′N 34°30′E, depth 50 m, 28 February 1987, 1 ♂, 1 ♀ (TAU 23017); 6 November 1987, 6 ♂, 1 ♀, 23 juv. (TAU 239894).

Suez, Egypt, 1895/8, leg. "Pola" Expedition, 1 ♀ (NMW). H. Balss det. as *Penaeopsis stridulans*, O. Pesta redet. in 1914, identified as *P. novae-guineae* subsp. *egyptius* by M. D. Burkenroad in 1938.

S. Nilandu Atoll, Maldive Islands, leg. J. S. Gardiner, 1 ♂, 4 ♀ (UMZ); Felidu Atoll, Maldive Islands, leg. J. S. Gardiner, 1 ♂, 2 ♀ (UMZ).

Description. — Body almost wholly covered with long plumose setae. Rostrum (fig. 1a) horizontal, reaching to middle of third antennular article, tapering to acuminate tip. Rostrum furnished dorsally with eight teeth excluding epigastric; teeth decreasing in size distally, six proximal teeth equidistant. Epigastric tooth, smaller than penultimate tooth, situated at anterior quarter of carapace, penultimate tooth level with frontal margin of carapace. Postrostral carina absent. Orbital spine minute, acute. Orbitoantennal sulcus shallow. Hepatic spine less salient than antennal spine and situated at same level. Cervical sulcus somewhat concealed by dense tomentum. Pterygostomial spine small. Stridulating organ, a curved file of 16 to 19 ridges, on posterior branchiostegite (fig. 1b).

First antennular article distally spinose on ventromedian margin. Third antennular article little more than half length of second article. Antennular flagella, longer than second article, with dorsal flagellum slightly shorter than

ventral, distally filiform. Stylocerite slightly surpassing first antennular article. Scaphocerite reaching as far as base of antennular flagella, fringed with long setae along interior margin. Antennal flagellum as long as body. Third maxilliped reaching as far as tip of scaphocerite, with basial spine.

First pereopod with both coxa and ischium spinose; in second pereopod coxa alone spinose; third to fifth pereopods unarmed. First pereopod extending to second antennal article, carpus somewhat longer than merus, chela more than 2/3 carpus length, fingers 1.3 as long as palm. Second pereopod 1.3 times as long as first, third pereopod 1.6 times as long as first, reaching rostral tip, fourth pereopod slightly shorter than third, fifth exceeding fourth by twice length of dactyl.

Abdomen dorsally carinate from second through sixth somites. Second somite with rounded, shallow carina; third somite with pronounced carina, widened and flattened distally. Fourth to sixth somites with prominent, keel-like carina. Sixth somite with a small spine at posteroventral angle, dorsal carina terminally spinose. Telson dorsally grooved, sulcus partly obscured by tomentum; lateral margin of the telson bearing one pair of subdistal fixed spines and three pairs of articulate spines. Proximalmost spine placed at about middle of telson, is as long as subdistal spine, half as long as second and about 0.6 times as third. Inner ramus of uropod slightly exceeding telson, outer ramus slightly surpassing inner ramus of uropod. Exopod of uropod bearing a distal spine on exterior border.

Petasma asymmetrical, divided transversely at midlength; ventrolateral lobules produced proximally, left lobule longer than right, oblique. Left distoventral projection longer than right, moderately broadened distally, bearing an irregular apical fringe of digitate processes. Right distoventral projection bearing 3 to 5 spinulose processes distally (fig. 2a, b). Left distodorsal element massive, subrectangular. The inner intermediate strip, which is one third as long as the outer intermediate strip, is vermicular in shape. Outer intermediate strip broad, bent ventrally, its distal surface bearing a rounded crest-like protuberance, densely studded with hooked spinules. Right distomedian lobule distally convex, crestlike, spinulose, bearing on internal distal margin a denticulate lobe. Distoventral flap tightly wound.

Examination of juvenile males revealed that at 4.8 mm c.l., petasmal endopods are nearly symmetrical. In males of 5.8 mm c.l., the distal elements are distinct, but not fully formed, and at 8.2 mm c.l., the petasmal endopods are still separate. At 8.9 mm c.l. the petasma exhibits the mature form, except for fringe of digitate processes on the distoventral projections, which are still rudimentary.

Sternum of second pereopods in females with two prominent spines, sternum of third pereopods with two bulbous protuberances. Coxal plate of fourth pereopod discoid, densely setose, adjoining the thelycal plate. Thelycal plate subrectangular with rounded corners, 1.5 times as wide as long, anterior

Fig. 2. *Metapenaeopsis aegyptia* new species. a, b, petasma of holotype ♂. a, ventral view; b, dorsal view; c. paratype ♀ from type locality, collected with holotype, thelycum.

margin entire. Intermediate plate wide, trapezoid, laterally setose. Anterior sternal plate with setose lateral projections at right angle to plate. Posterior sternal plate divided into three shallow lobes (fig. 2c).

Color in life: whitish, irregularly mottled with bright-red; transverse markings across rostrum.

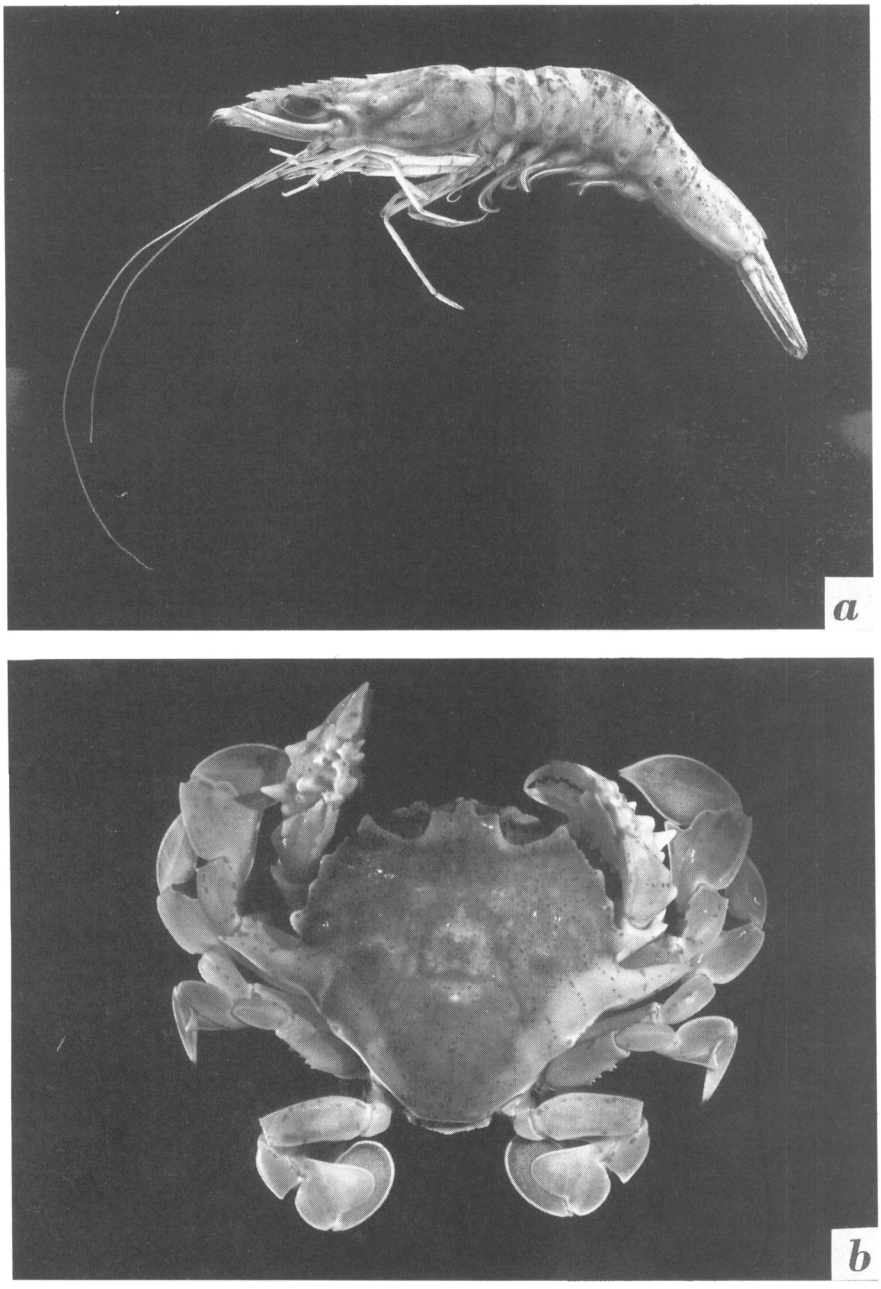

Fig. 3. a, *Metapenaeopsis aegyptia* new species, holotype ♂, cl. 12.4 mm, lateral view. b, *Matuta banksii* Leach, ♂ from Haifa Bay, c.l. 24.4 mm, dorsal view.

Remarks. — Nobili in 1904, and again in 1906, described *Metapenaeus consobrinus* from three juvenile specimens collected in Jibuti. Two of the specimens are deposited in the Museum National d'Histoire Naturelle, Paris, both males. One is a whole specimen (c.l. = 8.3 mm) and the other (c.l. = 7.5 mm), which Nobili described as a female (MP - Na 233), is missing its petasma. The third specimen, a male without petasma (CL = 6.8 mm), is deposited in the Torino Museum (Mus. Torino, Cr. 1006).

Alain Crosnier, upon examining these specimens, kindly informed me that he identified the males with carapaces measuring 8.3 and 6.8 mm as *Metapenaeopsis perlarum* (Nobili), whereas the remaining specimen is similar to the species described by Burkenroad (1959). He then proceeded to establish the only whole specimen as the lectotype of *M. consobrinus*, thus effectively putting it in synonymy with *M. perlarum*.

Among specimens collected by J. Stanley Gardiner in the Maldive Islands and identified as *Metapenaeus stridulans* by Borradaile (1910), I have found several identical to those collected off the Israeli coast, as is the female specimen from the "Pola" Expedition identified by Balss (1915) and Pesta (1915) as *Penaeopsis stridulans*.

Burkenroad (1959) accurately described and amply illustrated specimens collected in the Gulf of Suez and the Gulf of Akaba, which he declined to name, pending a major revision, because of the "most difficult state of affairs" in this group. However, in 1938, Burkenroad labeled these specimens *M. novae-guineae egyptius* and did likewise with the "Pola" specimen preserved in the Naturhistorisches Museum, Wien.

Starobogatov (1972), with no access to Nobili's material, wrote that *Metapenaeopsis consobrina* is Burkenroad's *Penaeopsis* (*Metapenaeopsis*) species. He was partly right.

Distribution. — *Metapenaeopsis aegyptia* is present in the Red Sea, Jibuti and the Maldive Islands. It is the first species of its genus to be reported from the Mediterranean.

Ten years ago, the same Israeli sites were sampled intensively (Galil & Lewinsohn, 1979, 1981), and no specimens of *M. aegyptia* were then found. It seems that within a remarkably short space of time, the species has succeeded in establishing itself and in forming a flourishing population. It is of interest to note that in November, a far greater ratio of the specimens were juveniles than in the other months sampled.

Matuta banksii Leach, 1817 (fig. 3b)

Matuta banksii - Sakai, 1937: 98, pl. 12 fig. 2; Barnard, 1950: 382, fig. 69; Romimohtarto, 1972: 13, text-figs. 7, 10, 27-32, pls. 1c, 3c.

Material examined. — Haifa, 17 February 1987, depth 20 m, leg. D. Golani, 1 ♂ (TAU 23133).

Remarks. — The specimen from the Israeli coast belonging to this species fits the detailed and well illustrated descriptions given by Barnard (1950) and Romimohtarto (1972).

Substrate at 20 m in Haifa Bay is predominantly sand with about 10% of silt-clay (Tom, 1977). *M. banksii* is common on a similar substrate in the Gulf of Eilat and Gulf of Suez at depths 1 to 1.5 m.

Distribution. — Widely distributed in the Indo-West Pacific, from the Red Sea and the east coast of Africa to Indonesia and Polynesia.

ACKNOWLEDGEMENTS

We are particularly indebted to Alain Crosnier for supplying valuable information concerning the synonymy of *Metapenaeopsis aegytia* and for suggesting this name. Our sincere thanks to Prof. L. B. Holthuis for critically reading a previous draft of the manuscript and to P. Clark (BM), R. C. Preece (UMZ) and G. Pretzmann (NMW), for entrusting us with comparative material from their collections. We wish to express our gratitude to Eng. Yehuda Gruber, Tahal Engineering Consultants Ltd. The study was partially supported with funds provided for the Dan Region Wastewater Project.

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Received for publication 22 January 1988.

Reprinted from: CRUSTACEANA
58, 3

LEIDEN
E. J. BRILL
1990