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### RESEARCHES ON THE COAST OF SOMALIA. *TRAPEZIA RICHTERSI* N. SP., A NEW TRAPEZID CRAB (DECAPODA BRACHYURA) \*

(PUBBLICAZIONI DEL CENTRO DI STUDIO  
PER LA FAUNISTICA ED ECOLOGIA TROPICALI DEL C.N.R.: CCL)

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Dr M. Vannini (Istituto di Zoologia of the University of Florence) sent us to study trapezid crabs collected from live coral, on the southern coast of Somalia during the 1976, 1979 and 1981 expeditions of the Centro di Studio per la Faunistica ed Ecologia Tropicali of the Consiglio Nazionale delle Ricerche of Florence (PARDI, 1976, 1982). A new species of the genus *Trapezia* from that collection is described.

The material is deposited in the Museo Zoologico of the University of Florence (MF); the Zoological Museum of Tel Aviv University (TAU); the British Museum of Natural History (BM); the Zoological Museum of Kiel University (ZMK) and U.S. National Museum (USNM).

The abbreviation cl. stands for carapace length, cb. for carapace breadth, m. for manus.

We wish to express our gratitude to the Centro di Studio per la Faunistica ed Ecologia Tropicali of the C.N.R. (Director, Prof. L. Pardi) for entrusting us with its material and generously supplying the colour photograph, to the authorities of Zoological Museum of Kiel University for lending us RICHTERS' specimens, to Dr R. W. INGLE and Mr P. CLARK, British Museum, for the « Alert » specimens and the kind hospitality extended us in London, and to Dr R. MANNING, United States National Museum, for a « Sealark » specimen.

\* This work is part of the Ph. D. Thesis of B. Galil.

## TRAPEZIA RICHTERSI n. sp. (Figs 1-4)

*Trapezia* sp. ? RICHTERS, 1880, p. 152, pl. 16 fig. 13.

*Trapezia rufopunctata*; MIERS, 1884, p. 536 (part.).

*Trapezia ferruginea maculata* (p.p.); ORTMANN, 1897, p. 206 (not *Trapezia maculata* Macleay, 1838).

*Trapezia cymodoce intermedia*; RATHBUN, 1911, p. 235.

*Trapezia ferruginea* f. *maculata*; BOUVIER, 1915, p. 272 (part.).

*Trapezia* aff. *danai*; SÉRÈNE, 1969, p. 136, figs 14B, 21 (part.).

*Trapezia intermedia*; TÜRKAY, 1981, p. 59 (not *Trapezia intermedia* Miers, 1884).

Not *Trapezia rufopunctata* var. *maculata* (p.p.); ORTMANN, 1893, p. 484 (not *Trapezia maculata* Macleay, 1838).

Not *Trapezia ferruginea* var. *intermedia*; ALCOCK, 1898, p. 220.

*Material examined*: Gesira, 20 km south of Mogadiscio, Somalia; reef flat among live coral; *Pocillopora* sp. 1♂ *holotype*, cl. 10.2 mm, cb. 11.6 mm, m. 12.6 mm (MF 1222), VII.1979. 1♀ *allotype*, cl. 11.2 mm, cb. 14.2 mm, m. 13.9 mm (MF 1223), X-XII.1976. *Paratypes*: 1♂ cl. 7 mm (MF 1224), VII.1979; 1♀ cl. 7.8 mm (MF 1225), X-XII.1976; 1♀ cl. 9.9 mm (MF 1226), VII.1979; 1♀ cl. 8.6 mm (MF 1227), X-XII.1976; 1♂ cl. 7.9 mm (MF 1228), VII.1979; 1♂ cl. 6.7 mm (MF 1229), VII.1979; 1♀ cl. 7.6 mm (MF 1230), VII.1979; 1♂ cl. 7.9 mm (MF 1231), VII.1979; 1♂ 1♀, cl. 6.8, 7.9 mm (MF 1232), VII.1979; 1♀ cl. 8.3 mm (MF 1233), VII.1979; 1♂ 1♀, cl. 8.3, 9.2 mm (MF 1234), VII.1979; 1♂ cl. 5.8 mm (MF 1235), X-XII.1976; 1♀ cl. 7.7 mm (MF 1236), X-XII.1976; 1♂ 1♀, cl. 7.7, 8.1 mm (MF 1237), VII.1979; 1♀ cl. 7.9 mm (MF 1238), X-XII.1976; 1 juv. cl. 3 mm (MF 1239), VII.1979; 1 juv. cl. 3.7 mm (MF 1240), VII.1979; 2 juv. cl. 3.9, 2.8 mm (MF 1241), X-XII.1976, VII.1979; 1♂ 1♀ 1 juv. cl. 6.9, 7.7, 3.7 mm (TAU), VII.1979. A specimen (Fig. 4), ♂, cl. 6 mm (MF 1244), IX-XI.1981, was also examined.

Sar Uanle, 20 km south of Chisimaio, Somalia; on *Pocillopora* sp.; VIII.1976; 1♂ cl. 5.2 mm (MF 1242); 1♂ 1♀ cl. 5.1, 6.4 mm (MF 1243).

Mombassa, Kenya, 1♂ (BM).

Aldabra; from *Pocillopora* sp.; 18.X.1967; 1♂ 1♀ (BM).

Mauritius; 1939; 2♂♂ 2♀♀ cl. 6.88, 8.02, 7.62, 7.66 mm (BM 1939.3.6.19-20).

Fouquet, Mauritius; leg. Möbius; 1875; 1♂ 2♀♀ cl. 8.08, 8.7, 7.64 mm (ZMK 1570).

Etoile Island, Amirante isles; 24.IV.1882; 13♀♀, Coral; H.M.S. « Alert ». 1♂ 2♀♀ cl. 7.3, 9.0, 7.4 mm (BM 1882.24).

Praslin reef Seychelles; 1905; H.M.S. « Sealark ». 1♀ cl. 7.9 mm (USNM 41331).

*Morphological description*: carapace lenticular, approaching the quadrilateral, moderately convex in the adult female, almost flat in the male. The

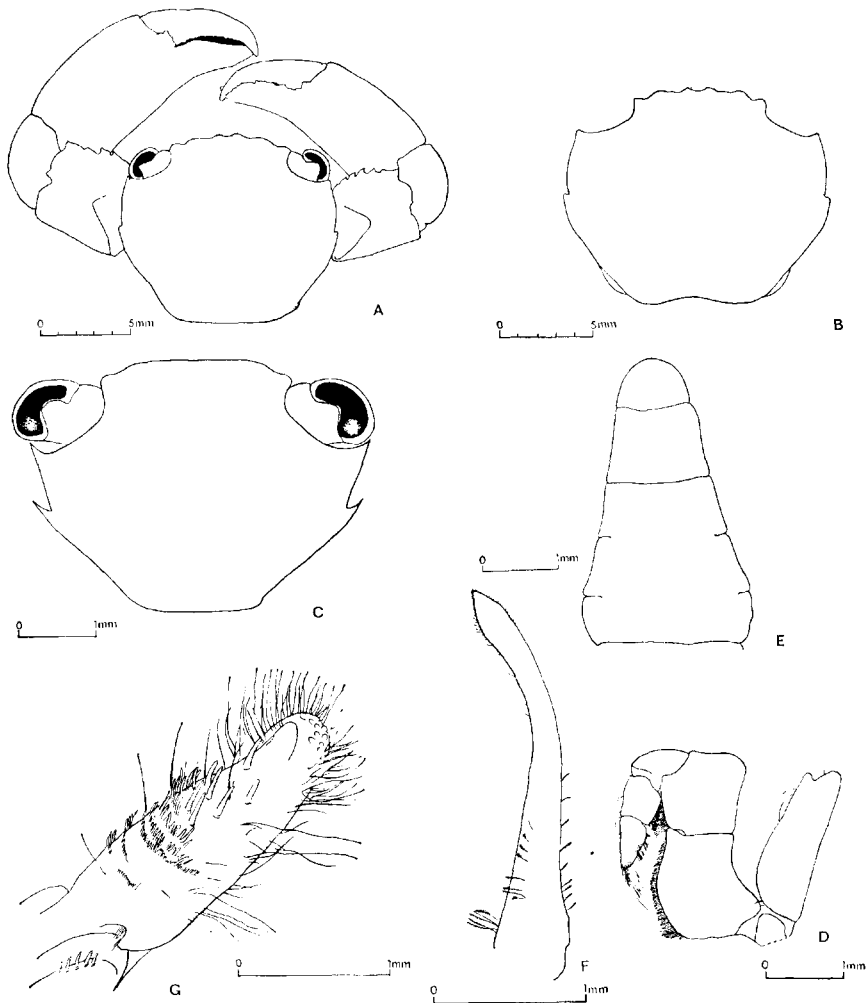
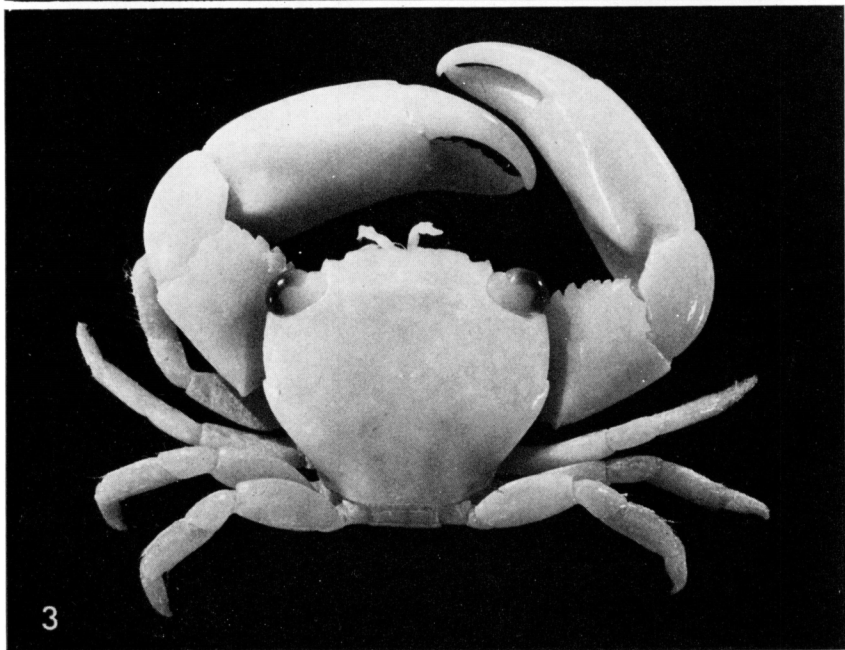


Fig. 1. — *Trapezia richtersi* n. sp. A, holotype, carapace and chelipeds; B, allotype, carapace; C, juvenile paratype, carapace; D, holotype, left 3rd maxilliped; E, holotype, abdomen; F, holotype, 1st pleopod; G, holotype, dactyl of 1st walking leg.

surface smooth, shining. Regions of carapace ill defined. The anterolateral margins of the carapace are convex but slightly bulging in the middle so that the margins are parallel along the lower portion. However, in juvenile specimens the anterolateral margins are divergent. Junction with the posterolateral border marked by a tooth, well-developed and acute in



Figs 2, 3. — *Trapezia richtersi* n. sp. Allotype (Fig. 2), and ♂, Fouquet, Mauritius, described by RICHTERS (1880) (Fig. 3).



juvenile specimens, blunt in adults, posterolateral margins strongly convergent. Posterior margin short and sinuate.

The frontal margin prominent beyond inner supraorbital angle and separated from it by a wide notch, four lobed; so that with the rounded supraorbital angle the front appears six lobed. The submedian triangular

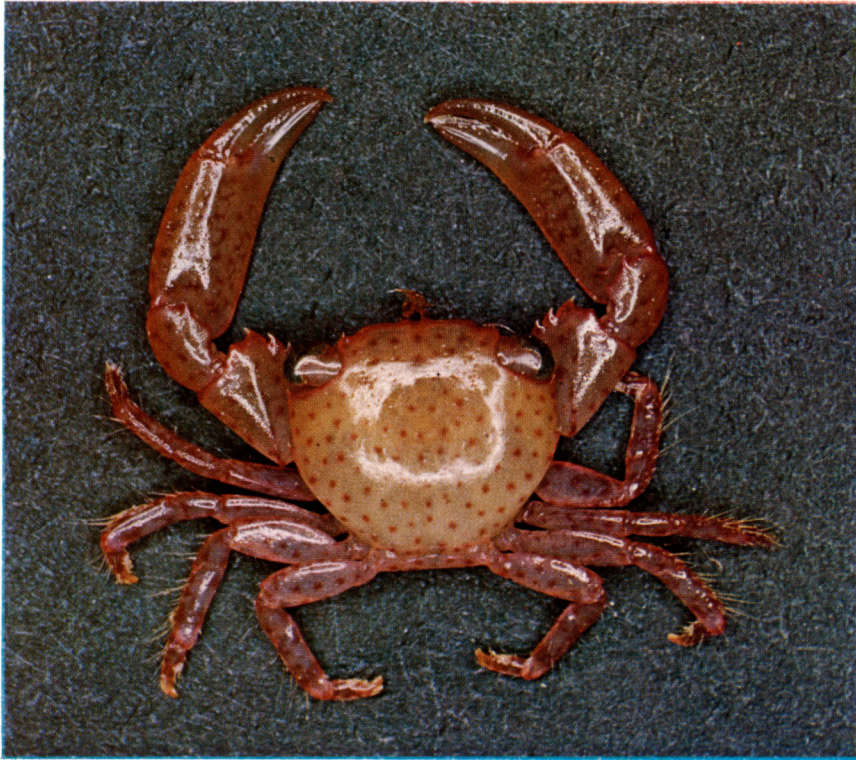


Fig. 4. — *Trapezia richtersi* n. sp. ♂ (MF 1244) ( $\times 5$ ).

lobes are separated from each other by a shallow V-shaped indentation and from the outer lobes by a wider, uneven notch. The outer lobes are about twice as wide basally as the submedian lobes, blunt and not as prominent as the submedian lobes. The orbits are large and oblique, cut out of the anterolateral angles of the carapace. Acute outer orbital angle. Lower orbital margin entire and crescent-shaped. Inner angle developed into acute triangular tooth visible beyond the supraorbital lobe.

The chelipeds are massive and sub-equal in both sexes, although the difference is more pronounced in the adult male. The larger chela is more

than 1.2 times the length of the carapace in the adult male. The merus which projects beyond the edge of the carapace has the anterior edge armed with five-six prominent teeth, curved and acute, distally increasing in size, whose margins are sometimes crenulated. The inner angle of carpus produced, covered with squamiform granules. The manus, compressed, with the outer surface slightly convex, has a mammiform bulge proximally on the inner surface. The upper margin of the manus is rounded, the lower margin thin and microscopically serrulate. The dactyl and immovable finger are of equal size; with small teeth on the proximal portion of the cutting edge. The curved tips of the two fingers cross. Ambulatory legs smooth, joints slightly compressed. Dactyli shorter than the penultimate joints, with numerous bristles which are also scattered along both edges of the propodus and upper edges of the carpus. The distal tip of the dactyl bears denticle-like rasps and the inner side below the tip, rows of short strong seta.

*Colour in alcohol:* body cream-yellow. Frontal borders as well as the edge of abdominal segments and edge of merus and carpus of chelipeds are orange. Small faint orange spots cover the carapace and the basal segments of the legs (129 spots on the dorsal carapace in holotype). The chelae are covered in an indistinct orange reticulation that extend over the inner surface of the propodus in adult specimens. On the dactylus, propodus and carpus of walking legs the colour pattern is composed of whitish irregular areoles enclosed in orange mesh.

*Remarks:* through the kindness of the Zoological Museum of Kiel University, RICHTERS' specimens of *Trapezia* sp., have been made available to us. Despite the passage of a century, these specimens are in a good state of preservation, even though all traces of colour have disappeared. Examination of RICHTERS' specimens, description and figure suggest that they are identifiable with the present species. RICHTERS (1880) described his specimens as having « der Cephalothorax mit feinen, rothbraunen Punkten bedeckt, das Handglied mit netzförmiger Zeichnung, die nach dem Unter-rande am Deutlichkeit abnimmt »; he further separated *Trapezia* sp. from other *Trapezia* species bearing spots by emphasizing the delicacy and the widely separated nature of the spots. *T. richtersi* is readily distinguished from *T. maculata* and *T. rufopunctata* whose chelae are decorated with the same pattern as the carapace while in *T. richtersi* the chelae are covered in a reticulated pattern. RICHTERS' figure (pl. 16 fig. 13) is an excellent representation of the present species.

Among material collected during the voyage of H.M.S. « Alert » to the Indian Ocean in 1881-1882 and kept in the British Museum of Natural History we have found a jar containing specimens identified by MIERS (1884, p. 536) as *Trapezia rufopunctata* (Herbst). However, it appears that

the jar contained three different species, all « spotted », of which one male, two females belong to *T. richtersi*.

SÉRÈNE's (1969) description of *Trapezia* aff. *danai* Ward is not quite intelligible, but his drawings of two specimens from the Carié's collection from Mauritius (figs 14B, 21), identified by BOUVIER (1915) as *T. ferruginea maculata*, convinced us that at least part of the material included in *T. aff. danai* belongs in fact to *T. richtersi*. A possible explanation for the confusion is to be found in SÉRÈNE's admission: « Unfortunately all characterized specimens of *danai* I have the opportunity to observe have lost their coloration like those of the Carié's collection and I cannot have a clear opinion on the ornamentation of the species ».

*T. richtersi* was entered into synonymy or confused with *T. intermedia* Miers by ALCOCK (1898), RATHBUN (1911), and TÜRKAY (1981). The major difference between the two species is the length of the cheliped. When specimens of the two species having the same carapace length are compared it is clear that the width and length of the merus and chela are larger in *T. intermedia*. *T. intermedia* further differs from *T. richtersi* in having its chelipeds and pereopods covered with dense tomentum. The colour pattern of the two species is different even when we make allowance for the variability of pattern in *Trapezia*. *T. intermedia* has less spots of which some are oval shaped. Also, in *T. intermedia* dactyli of the pereopods do not show the areolated pattern characteristic of *T. richtersi*, nor the orange edge to the frontal border of the carapace, abdomen and merus of the cheliped.

In addition to the morphological distinctions existing between the above two species, they also appear significantly separated by their known geographic range; in the case of *T. richtersi*, western Indian Ocean, while *T. intermedia* seems to be confined to the central Pacific.

#### SUMMARY

An new species of *Trapezia* (*T. richtersi*) (Decapoda Brachyura) is described which was previously confused with *T. intermedia* Miers, 1884 or other species. *T. richtersi* appears confined to the western Indian Ocean.

#### RIASSUNTO

Viene descritta una nuova specie di *Trapezia* (*T. richtersi*) (Decapoda Brachyura) che risultava fino ad oggi confusa con altre specie tra cui *T. intermedia* Miers, 1884. *T. richtersi* appare ristretta esclusivamente all'Oceano Indiano occidentale.

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