

A RECORD OF BOX CRAB, *Matuta planipes* (FABRICIUS, 1798) (CRUSTACEA: DECAPODA: MATUTIDAE) OFF THOOTHUKUDI WATER, SOUTHEAST COAST OF INDIA (08° 35' 22.5" N LAT. 78° 27' 40.9" E LONG AND 08° 31' 91.2" N LAT. 78° 25' 32.7" E)

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ABSTRACT

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The box crab, Matuta planipes (Fabricius, 1798), were caught in the trawl net operated off Thoothukudi at a depth of around 305-310 m during June 2014. One male specimen of the said species was collected as an incidental by-catch in the trawl fisheries off Thoothukudi coast of Gulf of Mannar, from India, between 08° 35' 22.5" N lat. 78° 27' 40.9" E long and 08° 31' 91.2" N lat. 78° 25' 32.7" E long at a depth of 305-310 m. Matuta planipes (Fabricius, 1798), reported in India during 1986 (Alcock, 1896) from Indian Ocean and further there are no published reports on occurrence of this species along the Thoothukudi coast of Gulf of Mannar.

Key words: *Matuta planipes* - Matutidae – First record from Thoothukudi coast of Gulf of Mannar

INTRODUCTION

The Calappidae was established in 1837, apparently simultaneously and independently, by two workers: Milne Edwards and de Haan. Milne Edwards (1837) elevated the tribe Calappines to accommodate Calappa, Platymera, Mursia, Orithyia, Matuta and Hepatus, whilst de Haan (1833-1849) elevated the Calappidea as a family to accommodate Cycloes, Calappa and Mursia. De Haan (1833-1850) later placed Matuta and Hepatus in a separate family, the Matutoidea. The family, as it is traditionally recognised, is composed of three or four subfamilies: the Calappinae, Matutinae and Orithyinae, with the occasional inclusion of the Hepatinae (Stevcic, 1983). The group as

whole contains over 15 genera and about 65 species. Stevcic (1983) questioned the classical composition of the Calappidae as being one family with two subfamilies, Calappinae and Matutinae, and since then, an increasing number of workers have chosen to recognize the two taxa as distinct families (Bellwood, 1996; Ng, 1998).

Bellwood (1996) reappraised the affinities of the Matutidae and suggests it is not close to the Calappidae. Certainly, the form of their ambulatory legs and chelipeds are very different. Calappids are found in the Atlantic, Indian and Pacific oceans where they occur in waters from 0 to 1,000 meters deep (Alcock, 1896, Rathbun, 1937). The brachyuran crabs are the most diverse of all

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decapods, with half the known taxa (Ng et al. 2008; Degraeve et al, 2009) and over 7000 species (Richer de Forges et al, 2014).

Among the deep-sea fauna, crustaceans are dominant across all depths, sometimes with high diversity. The Tropical Deep-Sea Benthos (TDSB) programme overlapped and contributed significantly to the Census of Marine Life initiative (CoML initiative). Ausubel et al. (2010) observed that crustaceans dominated the number of new species found during the decade of the CoML, with 452 species named (Richer de Forges et al, 2014) some 20 percent of all discovered species.

In earlier periods Alcock (1896) recorded in Indian water, after a long period recorded in this species at Thoothukudi coast of Gulf of Mannar, Southeast coast of India. A total of 991 species of brachyuran crabs have been recorded from the Indian waters (Lakshmi Pillai and Thirumullu, 2008). A total of 254 brachyuran crab (248 species), 45 species of anomuran crabs, and 20 species of stomatopods are recorded by Kathirvel (2008) from Gulf of Mannar, Southeast coast of India. Presently, a specimen of the box crab, *Matuta planipes* (Fabricius, 1798), was collected for the first time from Thoothukudi coast of Gulf of Mannar, Southeast coast of India.

Superfamily: Calappoidea De Haan, 1833

Family: Matutidae De Haan, 1835

Genus: Matuta

Matuta planipes (Fabricius, 1798), Alcock, 1896:
(Fig 1A, 1B)

Chopra, 1933: 84, 25-52

Matuta planipes Fabricius 1798, p. 369

Matuta lunaris Alcock, 1896, 20, p. 161

Matuta flagra Shen, 1932b, 3 (30), pp. 32-45

Matuta planipes Stephensen, 1945, 66, fig 5 c, d

Matuta planipes Pillai, 1951: 2(1), p. 9

Matuta planipes Chhappgar, 1957: p. 7 & 8

Matuta planipes Sakai, 1976, p. 41

Matuta planipes Galil and Clark, 1995, 294:
pp.35-39

Matuta planipes Jeyabaskaran et al., 2000: p. 83,
pl. 74a

Matuta planipes Varadharajan et al., 2012: p.
1256, pl. 2

Matuta planipes Varadharajan and
Soundarapandian, 2014: 43(4), 677, pl. 1a4

Matuta planipes Silambarasan et al., 2014, 3(1),
44-45, fig 1a, b

MATERIALS EXAMINED

One male specimen (total length 35 mm; carapace length 37 mm; weighing about 14.56 gm) collected from Thoothukudi fishing harbour between 08° 35' 22.5" N lat. 78° 27' 40.9" E long and 08° 31' 91.2" N lat. 78° 25' 32.7" E long at a depth of 305-310 m, Thoothukudi district, Tamil Nadu, India (Fig.1A and 1B). The reference materials were deposited in the museum collections of the New Marine Drug Division, RAR Bio Energies Private Limited, Chennai, Tamil Nadu, India.

REMARKS

The specimen examined agree quite well with the original description and figures provided by Ng et al. (2000). *Matuta planipes* and *Matuta victor* are very similar morphologically, certain distinctive characters have been described in having a single spine on external surface of male chela, straight lateral frontal lobes (Galil and Mendelson, 2013). Surface of carapace minutely granulate, small tubercles clustering around

six dorsal tubercles, largest cluster surrounding mesogastric tubercle, front with straight horizontal lobes laterally and slightly emarginated rostrum medially. Ischium of third maxilliped tuberculate. Anterolateral margins nearly uniformly crenulate, tubercles somewhat larger posteriorly. Lateral spine 0.2 carapace width. Postero lateral margin oblique, with granulate carina extending to base of lateral spine. Carpus of cheliped with two obtuse tubercles on outer surface, its upper margin carinate, granulate, internal anterior angle produced. Upper margin of palm cut in to three teeth, proximal tooth tuberculate. Upper external surface with two rows of granulate low tubercles, proximal most in lower row largest. Mid palm, in male, rounded ridges extending to tip of lower finger, proximally with granulate tubercle followed by a prominent, acuminate spine. Mid palm, in female, five tubercles, second tubercle spine like. At lower proximal angle of palm a small granulate tubercle. Lower margins with row of tubercles terminating at base of dactylus. In female, an additional row of obtuse granules parallel to lower margin. Distinctly milled ridge on outer surface of dactylus in male, absent in female. Plastron finely granular.

COLOUR

Carapace with reticulating brown lines forming small rings anteriorly and larger, elongate loops posteriorly.

DISTRIBUTION

The present species now record between 08° 35' 22.5" N lat. 78° 27' 40.9" E long and 08° 31' 91.2"N lat. 78° 25' 32.7"E long at a depth of 305-310 m, Thoothukudi coast of Gulf of Mannar. The distribution range of the species extends to India (east and west coast, Gulf of Mannar, Lakshadweep islands, Andaman and Nicobar islands), Malaysia, China, Japan, Indonesia, New Guinea and Australia (James Lowry, 1983), Indian Ocean (Fabricius, 1798, Galil and Clark, 1995);

Persian Gulf (Stephensen, 1945); Strait of Hormuz (Stephensen, 1945); Pakistan- Karachi (Alcock, 1896, Tirmizi and Kazmi, 1991); Srilanka (Galil and Clark, 1995); Burma (Alcock, 1896); and near Tavoy (Chopra and Das, 1937).

DISCUSSION

Dana (1852) has reported 16 genera of Calappidae family from Indian sea waters. Sankarankutty (1965) has reported the species from Andaman and Nicobar islands. Ng et al. (2008) has reported the species from Singapore coastal waters. Meher Fatima (2003) has recorded two species of Matutidae family from Karachi in Pakistan. Recently Varadharajan et al., (2012) and Varadharajan and Soundarapandian (2014) have reported the species from Puducherry coast and Arukkattuthurai to Pasipattinam, South east coast of India. Although, Matuta planipes and Matuta victor are morphologically very similar certain distinctive characters have been described in having a single spine on external surface of male chela, straight lateral frontal lobes (Galil and Mendelson, 2013). The present record from Thoothukudi coast in Gulf of Mannar extends its distribution to the Southeast coast of India.

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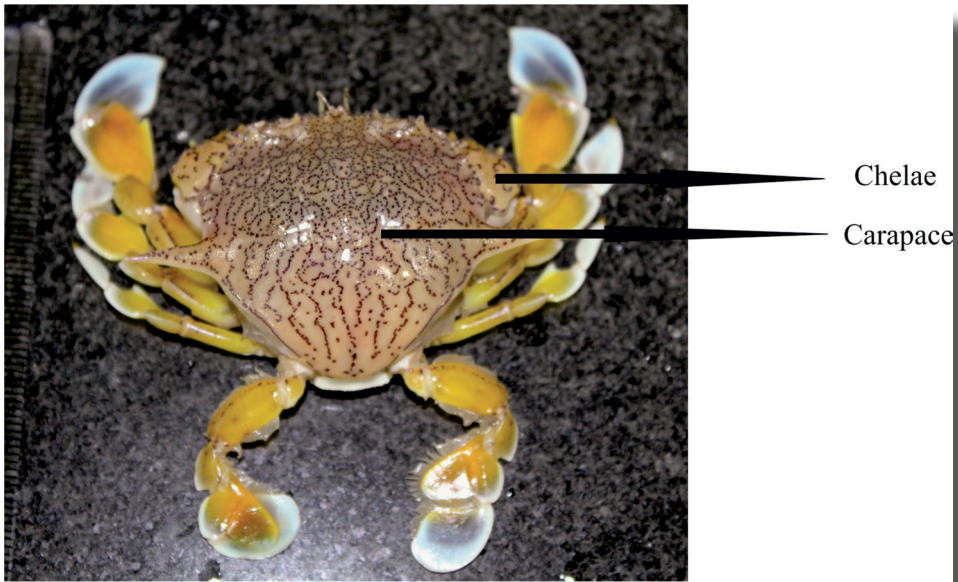


Fig.1A: *Matuta planipes* (Fabricius,1798) - Dorsal view



Fig.1B: *Matuta planipes* (Fabricius,1798) - Ventral view