



Short Communication

ON THE OCCURRENCE OF A GIANT SQUILLA, *HARPIOSQUILLA RAPHIDAE* (CRUSTACEA: MALACOSTRACA: STOMATOPODA) IN CHILIKA LAGOON, ODISHA

INTRODUCTION

Two giant female mantis shrimps were collected from the Outer Channel of the Chilika lagoon, Odisha by the staff of the Chilika Development Authority, Bhubaneswar, on 20-03-2002 during the course of their regular monitoring surveys. A detailed taxonomic examination of the specimen revealed its identity as *Harpiosquilla raphidae* (Fabricius, 1798), the largest known stomatopod, first time ever from brackish water ecosystem.

The Malacostracan Crustacean or Stomatopod fauna of the Indo-Pacific region has been well studied and illustrated by Kemp (1913), Shanbhogue (1975) and Manning (1968, 1978). The mantis shrimps of the Chilika Lagoon, Odisha were recorded by Kemp (1915) and Ghosh (1995). Of the 115 species of stomatopods known to occur in the Indian Ocean, only three have been reported from the Chilika Lagoon, viz. *Cloridopsis immaculata* (Kemp, 1913), *Cloridopsis scorpio* (Latreille, 1825) and *Oratosquilla interrupta* (Kemp, 1913) to date.

Although Stomatopods are primarily marine inhabitants, *C. immaculata* (Kemp) has been reported to thrive in waters of quite low salinities. Possibly due to shallowness and low salinity of water the marine form *C. scorpio* (Latreille) reported earlier (Kemp, 1913) from the Chilika lagoon and the outer channel could not be detected during 1985-87 (Ghosh, 1995). As a part of Aquatic studies of the Chilika lagoon by the Chilika Development Authority, Bhubaneswar, Odisha, two well grown adult specimens of Mantis shrimp *Harpiosquilla raphidae* (Fabricius) were collected from the outer channel of Chilika lagoon. The report, from view point of geographic distribution, is of significance, as despite extensive studies on the stomatopod fauna, there has been no record of the giant Stomatopoda from this pear-shaped brackish water lagoon. It was therefore considered fit to attempt a brief taxonomic description of the species with its morphological attributes.



Fig. A. Photograph of the female specimen

TABLE 1 - Showing Morphometric Measurements (in mm) of *Harpiosquilla raphidae*.

	Female	Male
Total length including rostral 'plate'	342	225
Length of Carapace at median point	66	50
Width of Carapace below anterolateral angle	31	21
Width of Carapace at posterolateral end	65	47
Length of rostral plate	13	10
Corneal width	12	09
Stalk width	06	03
Raptorial claw	270	188
Coxa & Basis	19	10
Ischium	21	13
Merus	58	42
Carpus	15	12
Propodus	75	51
Dactylus	82	60
Telson length	56	37
Telson width	70	46
Length of uropod	61	51

Phylum - Arthropoda
 Sub-Phylum - Crustacea
 Class - Malacostraca
 Sub-Class - Eumalacostraca
 Super-Order - Stomatopoda
 Family - Squillidae
 Genus - *Harpiosquilla* Holthuis

***Harpiosquilla raphidae* (Fabricius, 1798)**

1798. *Squilla raphidae* Fabricius, *Ent. Syst. Suppl.*: 416.

1913. *Squilla raphidae*: Kemp, *Mem. Ind. Mus.*, 4: 88.

1975. *Harpiosquilla raphidae*: Shanbhogue, *J. mar. biol. Ass. India*, 17 (3): 525-528.

1997. *Harpiosquilla raphidae*: Lyla *et. al.*, *Stomatopods of Parangipettai Coast*, 19. Fig. 25.

Material Examined: 2 exs. (♀, 342 mm TL and ♂, 225 mm TL), Chilika Development Authority, Bhubaneswar, date .20-03-2002, depth-285 cm., Magarmukh, mouth of Chilika lagoon.

Description: Eyes large, cornea broader than stalk, bilobed and set obliquely on stalk [fig. 2 (1-2)]. Rostral plate larger than broad with long apical projection (fig. 2). Post lateral margin of

carapace with deep excavation (fig. 2). Propodus of raptorial claw with erect and stiff spines, well spaced, large and small alternating more or less regularly (fig. 3). Fifth thoracic somite with lateral spine (double process) [fig. 5]. Sub-median carina of 5th abdominal somite unarmed (fig. 8). Ventral keel of 8th thoracic somite rounded. Propodi of last 3 merillapedes elongate, not beaded or ribbed ventrally. Telson with sharp median carina (fig. 4). Median teeth of telson without movable apices, 7 - 8 intermediate denticles are present between the teeth of telson (fig. 4). Exopods of uropods two segmented, proximal only with movable spines. Distal segment of uropodal exopod with inner half only dark. The various morphometric measurements of the two specimens are furnished in table-1.

Distribution: India: West Bengal, Odisha, Tamil Nadu, and Maharashtra. Elsewhere: East Coast of Africa to Thailand and Indonesia.

Remarks: The present report forms the first record of the giant Stomatopod from a brackish

water ecosystem, the Chilika lagoon. Earlier it was recorded from the sea off Puri and Gopalpur, Odisha Coast (Kemp, 1913) and from Chandipur, Balasore, Odisha (Tiwari and Biswas, 1951). A notable feature of the find is the rare size of the female specimen (342 mm), a rare occurrence. Despite the fame, such giant size specimen has not been recorded to date. Perhaps, following historic interventional measure (Dredging of the Magarmukh region) a more productive aquatic environment is responsible for luxuriant growth of the Mantis Shrimp.

The genus *Harpiosquilla* is represented by four species in the Indian Ocean, viz. *H. annadelai*, *raphidae*, *harpax* and *melanoura*. Of these four species *H. raphidae* has close resemblance with *harpax*, it differs from *harpax* and *melanoura* in having lateral spine on the 5th thoracic somite, and species *H. annadelei* differs from *raphidae* in the presence of sub-median carina of 5th abdominal

somite armed posteriorly and distal segment of uropodal exopod black with a white mid-rib.

The other three species reported earlier from Chilika lagoon, Odisha have the characteristics of propodus of raptorial claw is pectinate without erect spines and posterolateral margin of carapace entire whereas in *H. raphidae*, propodus of raptorial claw with erect spines and posterolateral margin of carapace with deep excavation.

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