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## Record of a penaeid prawn *Metapenaeus lysanasa* (De Man, 1888) from west coast of India

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### Abstract

Present study is a survey report on penaeid prawn from coastal water of India. The result reveals that *Metapenaeus lysanasa* is a common species to east coast and it was reported by most of the previous researchers on the group. During the present survey it has been recorded from Maharashtra coast for the first time. Therefore, the range of distribution of the species is being extended up to middle of the west coast of India is certainly be enriched the knowledge of macro faunal diversity of Indian coast. Taxonomic status, synonym, diagnosis and distributions are the added feature of the present study.

**Keywords:** Record, *Metapenaeus lysanasa*, West Coast, Diagnosis

### Introduction

Among a variety of edible decapods crustaceans, prawns contribute largely to the fishery wealth of many nations. Exploitation of prawn resource from the seas around each country is playing increasingly significant role in furthering their national economy [1-4]. In recent years, in spite of some ecological hazards, the demand for prawns and prawn products has increased so much that every country is making efforts to utilize hitherto unknown but usable stocks and expansion of prawn fisheries and industries near coast line is rightly being given the maximum encouragement in the development programme of each nation. In India, with the introduction of mechanization and due to the development of efficient export industries, prawn fishery has substantially improved during last three decades. The foreign exchange earnings by export of prawns and prawn products from the country have grown up considerably. In short, as in every prawn fisheries together with all the segments of the industry concerned with prawn products export are playing increasingly prominent role in the economy of the country. Given this economic significance and the fact that penaeid prawns occur in a wide variety of shallow-water marine, estuarine and back water habitats, knowledge on the ecology, feeding, reproduction, lifecycle, fecundity, prey predator relationship, behaviour, population dynamics and fisheries potentials have vastly increased over the last three decades [5-9]. The knowledge of the systematics of prawns is an essential prerequisite for their wise management and exploitation. Earliest contribution on the penaeid prawn from Indian water was by Fabricius [10]. Some important contributions on the prawns of this region during nineteenth century were by Milne Edwards [11], Miers [12], Bate [13], Wood-Mason [14], Wood-Mason and Alcock [15] and Alcock and Anderson [16,17]. Alcock [7,18,19] and George [20] was the taxonomist of 20th century who tried to make a comprehensive study on the penaeid taxonomy. Beside these there are so many taxonomic works on the group like by Fischer and Bianchi [21], Paulinose [22], Achuthankutty and Parulekar [23], Reddy [24], Pathan and Jalihal [25], Chanda and Bhattacharya [26-30], Chanda and Roy [31,32], Chanda [33-35], Radhakrishnan et al. [36], Kunju [37], Kurian and Sebastean [38] etc.. In spite of these work, there are some lacuna on the penaeid systematics and distribution of Indian region. So, present work is an attempt to fill up one of such lacuna found by the author on distribution of *M. lysanasa*. The species was previously recorded only from east coast of India by the above mentioned scientists working in Indian regions. Present work is the first time reporting of the species from west coast will certainly enrich our knowledge on the diversity of penaeid prawn in Indian coast.

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## Materials and Methods

Present study is mainly based on the specimens preserved in the National Collection of the Zoological Survey of India, Kolkata, and West Bengal.

The materials preserved in rectified spirit (90%) and body parts of taxonomic importance have been dissected and studied under a stereoscopic binocular microscope, if necessary. All the type species have been illustrated with a lateral view of whole specimen, petasma and thelycum. The illustrations have been drawn with the aid of line drawing and by camera Lucida. The detailed synonymies have been furnished to the family, genera & species and also their diagnosis, distribution, taxonomic remarks have been furnished. Key to the genera and species has been provided. The genera and species have been arranged alphabetically for convenience. In addition an attempt has been made to consult and cite an up to date literature and included in the Reference Section. For all citations of taxon author's name and year of publication has been given.

## Systematics account

Subphylum: Crustacea Brunnich, 1772

Class: Malacostraca Latreille, 1802

Subclass: Eumalacostraca Grobben, 1892

Superorder: Eucarida Calman, 1904

Order: Decapoda Latreille, 1802

Suborder: Dendrobranchiata Bate, 1888.

Super family: Penaeioidea Rafinesque-Schmaltz, 1815.

Family: Penaeidae Rafinesque – Schmaltz, 1815.

## Metapenaeus lysanasa (De Man, 1888)

*M. lysanasa* was originally described as *Penaeus lysanasa* by De Man (1888) from Margui Archipelago, Myanmar. It was first recorded from India (Orissa & Hooghly Delta) by Alcock (1906) as *Metapenaeus lysanasa*. A brief history of the species with special reference to Indian contributions has been given below.

1888 *Penaeus lysanasa* De Man, J. Linn. Soc. Lond. (Zool.), 22: 290.

1906 *Metapenaeus lysanasa* Alcock, Cat. Indian Dec. Crust. Part-III. Mac. Fas I: 1-55.

1934 *Metapenaeus lysanasa* Burkenroad, Bull. Bingham. Oceanogr. Coll., 4(7): 1-109; Muthu, 1971, Indian J. Fish., 15: 145-154; Silas & Muthu, 1976, J. mar. biol. Ass. India, 18(1):78-90; Bharati Goswami, 1992, J. mar. Biol. Ass. India, 34 (1 & 2): 115-137.

## Type Species

*Penaeus lysanasa* De Man, 1888, J. Linn. Soc. London (Zool.), 22: 290.

## Type Locality

Margui Archipelago, Myanmar.

## Material examined

3 females (68 – 93 mm), ZSI. Reg. No. C4875/2, New Digha, Midnapore, West Bengal, Bay of Bengal, 23.2.1995, A. Chanda; 3 females (55-97 mm), ZSI. Reg. No. C4879/2, Hospital Ghat, Digha, Midnapore, West Bengal, Bay of Bengal, 22.2.1995, A. Chanda; 2 males (55-53 mm) and 2 females (55-69 mm), ZSI. Reg. No. C4785/2, Roydighi wetland, 24 Parganas South, West Bengal, Bay of Bengal, 30.8.1988, N.C. Nandi; 10 males (45-50) and 13 females (45-56 mm.), ZSI. Reg. No. C4789/2, Choparti, Girgaon, Maharashtra, West Coast of India, 29.8.1996, A. Chanda.

## Diagnosis of the species

Entire body pubescent; rostrum very short, never exceeding first antennular peduncle, armed with 6-7+1 dorsal teeth, rostral crest high; post rostral carina ending near posterior margin of carapace; epigastric tooth close to penultimate tooth; adrostral carina and sulcus reaching the level of second rostral tooth, orbital spine absent, hepatic and antennal spine prominent; postocular sulcus and cervical sulcus indistinct; hepatic sulcus slopes anteroventrally towards rounded pterygostomial angle, branchiocardiac sulcus occupy posterior one-third of carapace; ischial spine on first pereopod minute; merus of fifth pereopod with a proximal notch followed by a large, slightly acute triangular tooth; antennular flagella subequal, dorsal one shorter; telson armed with a row of minute spines on both lateral margin; distomedian projection of median lobe of petasma with a minute filament on its median margins of both half, distolateral projection of lateral lobe of petasma bifurcate distolaterally; anterior plate of thelycum tongue-like, grooved medially; posterior plates on sternite XIV sub-oval with a thick median margin, impregnated females with white conjoined pads on thelycum, circular in outline.



Fig.1: *Metapenaeus lysanasa* (De Man, 1888) [After FAO, 1983]

## Distribution

India: West Bengal, Orissa, Andhra Pradesh and Gulf of Manner Tamil Nadu, East coast; Maharashtra, West coast and Andaman Sea.

Elsewhere: Sri Lanka; Singapore; Myanmar; Malaysia; Indonesia; North Borneo; Thailand; Vietnam.

## Remarks

Present study has recorded this species for the first time from West coast of India (Choparti, Girgaon, Maharashtra).

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