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Telson Spine is a Variable Diagnostic Feature in *Metapenaeus brevicornis* (Edwards, M 1837)

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Abstract:

Metapenaeus brevicornis is a common penaeid prawn of India which is pantropical in distribution. The species was first recorded as *Penaeus brevicornis* by Milne Edwards (1837) of Ganjam coast of Orissa. Alcock (1906) placed the species under *Metapenaeus*. Specimens recorded from different places in India have 1 to 2 spines on the telson. Whereas those from Australia and other places have only one spine. Kubo (1949) found no spine in Japanese species. Since all the specimen agree in other diagnostic features it is suggested that the number of spine on telson in *Metapenaeus brevicornis* is a variable character.

Key words: Telson, *Metapenaeus brevicornis*, Diagnostic

1. Introduction

Present study is mainly based on the specimen collected by the author from commercial trawler catch of different fishlanding centre throughout Indian coast line during the period 1995-2000. Among the collection *Metapenaeus brevicornis* shows almost all characters similar to the previous Indian as well as world literature but there is a confusion in the number of telson spine, which is the prime importance of the present study. Detail study come to the conclusion that the diagnostic character of the number of spine on telson of the species is variable character.

2. Materials and Methods

Present study is based on the materials collected by the author during the period 1995-1997 and 1999-2000 as well as the study on the prawns preserved in the Natioanl collection of Zoological Survey of India, Kolkata, Central Marine Fishery Research Institute, Cochin and its regional station at Mandapam, Tamil Nadu were also studied.

The materials preserved in rectified spirit (90%) and body parts of taxonomic importance have been dissected and studied under a stereoscopic binocular microscope. The illustrations have been drawn with the aid of line drawing and by camera lucida. The detailed synonymics of the species have been furnished and also species diagnosis, distribution, taxonomic remarks have also been furnished.

3. Systematic Account of the Species

Metapenaeus brevicornis (Milne Edwards, 1837)

M. brevicornis was originally described as *Penaeus brevicornis* by Milne Edwards (1837) from Ganjam, Orissa, east coast of India. A brief history of the species with special reference to Indian contributions are given below.

1837 *Penaeus brevicornis* H. Milne Edwards, Hist. Nat. Crust. T. II., Paris: 417.

1906 *Metapeneus brevicornis* Alcock, Cat. Indian Deca. Crust. Fas.I: 1-55.

1934 *Metapenaeus brevicornis* Burkenroad, Bull. Bingham. Oceanogr. Coll., 4(7): 1-109; Menon, 1956, Proc. Indo-Pacif. Fish. Counc. 6(3) : 345-347; George, 1969, Bull. Cent. Mar. Fish. Res. Int. No. 14: 5-48; 1979, contribution to Marine Science, dedicated to Dr. C.V. Kurian: 21-59; 1970, FAO Fish. Rep., (57) 4 : 1559-1573; Muthu, 1971. Indian J. Fish., 15:145-154; Silas & Muthu, 1976, J. mar. biol. Ass. India, 18(1) : 78-90; Paulinose and Vengayil, 1987, J. Indian Soc. Coastal Agric. Res., 5(2) : 431-436.

Type Species: *Penaeus brevicornis* Milne Edwards, 1837, Hist. Nat. Crust, comp. L'Anatomic, physio. Class. Animaux, Paris, 2 : 532.

Type Locality: Ganjam, Orissa Coast, India.

4. Material Examined

3 males (50-70 mm), ZSI, Reg. No. C4912/2, Subhas Port, Porbandar, Gujarat, 10.12.1992, H.C. Ghosh and Party; 6 males (76-80 mm), ZSI, Reg. No. C4836/2, Lawsons Bay Vishakapatnam, Andhra Pradesh, 14.9.1995, A. Chanda; 1 male (50 mm) and 2 females (60-70 mm), ZSI, Reg. No. C4866/2, Narsapur, West Godavari, 20.3.1997, Andhra Pradesh; 1 male (75 mm) and 1 female (78 mm), ZSI, Reg. No. C4876/2, New Digha, West Bengal, 23.2.1995, A. Chanda; 5 females (80-120 mm) and 1 male (92 mm), ZSI, Reg. No. C4766/2, Mungergudi, Machlipattanam, Andhra Pradesh, 7.9.1995, A. Chanda; 2 females (70-75 mm), ZSI, Reg. No. C4778/2, Freserganj, Bakkhali, 24 Pargana South, West Bengal, 14.11.1990, N.C. Nandi and Party; 32 males (55-70 mm) and 1 female (72 mm), ZSI, Reg. No. C4784/2, Kakdwip Central Fisheries, 24 Pargana(s), 16.2.1989, N.C. Nandi and Party; 3 males (75-120 mm), ZSI, Reg. No. C4787/2, Girgano, Choprti, Maharastra, 29.8.1996, A. Chanda; 1 male (75 mm), ZSI, Reg. No. C4830/2, Ramakrishna Beach, Visakhapatnam, Andhra Pradesh, 15.9.1995, A. Chanda; 2 males (63-70 mm) and 2 females (72-86 mm), ZSI, Reg. No. C4933/2, F.C.L. Mumbai, Maharastra, 1.9.1996, A. Chanda; 5 females (80-120 mm) and 1 male (85 mm), ZSI, Reg. No. C4766/2, Mechlipattanam Andhra Pradesh, 7.9.1995, A. Chanda.

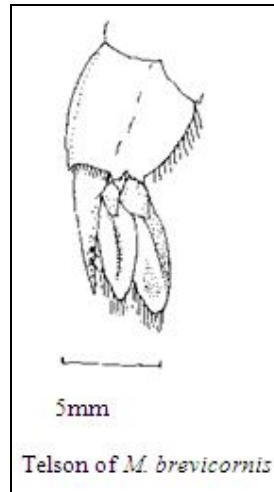


Figure 1

5. Diagnosis of the Species

Body smooth, devoid of hair; rostrum short, not exceeding second segment of antennular peduncle, armed with 5+1 dorsal teeth only; epigastric tooth considerably close to penultimate tooth; more than 2/3 of distal part devoid of teeth, straight, post rostral carina distinct ending before posterior border of carapace; adrostral carina and sulcus reaching upto the level between first and second rostral tooth; branchiocardiac carina feeble, not reaching middle of carapace, cervical sulcus very short, hepatic carina posteriorly indistinct but anteriorly distinct, descending towards pterygostomian angle; pterygostomian angle rounded, without spine; dorsal carination begins from posterior part of fourth somite, ending at terminal end of sixth somite with a short spine, sixth somite bears two ventrolateral short spine; telson armed with two lateral movable spine and numerous minute spines; antennular flagella subequal; a small ischial spine present on first pereopod; in adult male, merus of fifth pereopod with a proximal notch followed by a keel-shaped tubercle; in male each distomedian projection of median lobe of petasma with a long and slender apical filament; distolateral projection of lateral lobe of petasma directed anterolaterally, in female anterior plate of thelycum large, square; posterior plate boomerang-shaped enclosing two median boss; in impregnated females a pair white conjointed pads on thelycum present.

6. Remarks

White conjointed pads on the thelycum of impregnated females as observed in present study has also been reported by George (1979). There is some confusion regarding the number of spines on telson. Kubo (1949) did not observed any spine on telson. Racek and Dall (1965), however, observed a pair of clearly perceptible distal spines in addition to minute spinules in most of the specimens (except 5 specimen) in their collection, which they opined agreed with the description. George (1979) observed two pairs of marginal spines whereas Paulinose and Vengayil (1987) observed a pair of posterolateral spine. Observations in the present study based on the collection from both coast of India reveals that there are two pairs of lateral movable spine and several minute spinules, characters thus appear to be variable.

7. Distribution

- India: Gujarat, Maharastra, Goa, Karnataka, Kerala, West Coast and Andhra Pradesh, Orissa, West Bengal, East coast; Andaman sea
- Elsewhere: Pakistan; Malaysia; Singapore; Indonesia; Borneo; Thailand; Vietnam.

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