

DESCRIPTION OF THE SECONDZOEAL STAGE OF *SCHIZOPHRYS ASPERA* (H.MILNE EDWARDS, 1837) (DECAPODA: BRACHYURA: MAJIDAE) COLLECTED FROM THE MANORA CHANNEL, KARACHI, PAKISTAN

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Abstract

The present paper is based on the description of the zoea II of *Schizophris aspera* (H.Milne Edwards, 1837) collected from Planktonic sample. The planktonic materials have been obtained from Manora Channel (Long. 66° 59'E and Lat. 24° 48'N) of Karachi. Morphology of this sample were compare and described with Indian sample and Pakistan.

Introduction

The genus *Schizophris* White, (1847) contains 6 species: *Schizophris aspera* (H. Milne Edwards, 1837), *Schizophris dahlak* Griffin and Tranter (1986), *Schizophris dama* (Herbst 1804), *Schizophris dichotomus* (Latreille, 1831), *Schizophris pakistanensis* Tirmizi and Kazmi, (1995), *Schizophris rufescens* Griffin and Tranter, (1986).

The present paper is based on the description of planktonic caught second zoealstage of *Schizophris aspera*. The identifications for this present study were based on the previous work such as Kurata, (1969) has been reared *S. asper* zoea I to megalopa, Rice and Williamson, (1977) described zoea II, Kakati and Nayak, (1979) zoea I to megalopa. Zoea I and II of *S. pakistanensis* (as *S. aspera*) described by Tirmizi and Kazmi, (1987) and Siddiqui, *et al.*, (2000) prezoa to thid crab stage.

Materials and Methods

Day time plankton sampling was carried out in Manora Channel of Karachi at fortnightly intervals during 1993-1995. Two stations, A and B, 5 kilometers apart were sampled. The samples included four 10 minute tows using Bongo net of 300 micron mesh size equipped with a flow meter: AI (surface sample), AII (subsurface sample), BI (subsurface sample), BII (surface sample) at shallow depth 15'-20'.

The samples were preserved in 5% formalin. Brachyuran larvae were sorted under binocular microscope Ogawa Seiki (4 x 10 magnification) and transferred to 70% alcohol. Identification of these larvae was made to species level where possible by comparison with previously laboratory reared larvae and available literature. The preserved larvae were deposited in the Marine Reference Collection and Resource Centre, University of Karachi.

Results

Systematics:

Subphylum Crustacea Brunnich, 1772

Class Malacostraca Latreille, 1802

Order Decapoda Latreille, 1802

Infraorder Brachyura Latreille, 1802

Section Eubrachyura de Saint Laurent, 1980

Subsection Heterotremata Guinot, 1977

Superfamily Majoidea Samouelle, 1819

Family Majidae Samouelle, 1819

Subfamily Majinae Samouelle, 1819

Genus *Schizophris* White, 1847

Schizophris aspera (H. Milne Edwards, 1834)

Description of the larva

Zoea II (Fig. 2A-P):

Station BI.- 1 Specimen

Size.- CL = 2.76mm, TL = 4.28mm

Carapace (Fig. 2A, B).- Carapace with prominent mediodorsal and mediofrontal tubercles; rostral and lateral spines developed and more or less straight; dorsal spine long and slightly curved backwards; eyes stalked.

Antennule (Fig. 2C).-Biramous with 6 (1 subterminal and 5 terminal) aesthetascs and 1 terminal seta ;endopod rudimentary.

Antenna (Fig. 2D).-Protopod an elongated tapered process, either side of 1/3 distal end armed with spinules, endopodal bud present and reaching to half length of protopod; exopod with 3 terminal setae;

Mandible (Fig. 2E).- With well developed incisor and molar processes; endopod (mandibular palp) rudimentary.

Maxillule (Fig. 2F).- Coxalendite with 7 plumodenticulate setae; basialendite with 4 cuspidate setae and 4 plumodenticulate setae; endopod 2-segmented with 1, 2 + 4 plumodenticulate setae from proximal to distal segments respectively; exopod with 1 plumose seta.

Maxilla (Fig. 2G).- Coxalenditebilobed with 3+4 plumodenticulate setae; basialenditesbilobed with 5+5 plumodenticulate setae from proximal to distal lobes respectively; endopod with 5 plumodenticulate setae; exopod (scaphognathite) with 25 marginal plumose setae.

First maxilliped (Fig. 2H).- Coxa without setae; basis with 9 plumodenticulate setae arranged 2,2,2,3 on medial margin; endopod 5-segmented with 3,2,1,2,5 (1 subterminal + 4 terminal) plumodenticulate setae from proximal to distal segments respectively; exopod 2-segmented, distal segment with 6 long terminal plumose natatory setae.

Second maxilliped (Fig. 2I).-Coxa without setae; basis with 3 plumodenticulate setae on medial margin; endopod 3- segmented with 0,1,6 plumodenticulate setae from proximal to distal segments respectively; exopod 2-segmented, distal segment with 6 long terminal plumose natatory setae.

Third maxilliped (Fig. 2J).-Biramous; rudimentary.

Pereopods I-V (Fig. 2K-O).- Rudimentary.

Abdomen (Fig. 2P).- Six somites; somite 2 with 1 pair of dorsolateral processes directed laterally; somite 3 with 1 pair of dorsolateral processes directed posteriorly; somite 3-5 with well developed rounded tips posterolateral angles; somites 1-5 with 1 pair of posterodorsal setae; somite 6 simple and fused with telson.

Telson (Fig. 2P).- Bifurcated, each fork long, gradually curved inwards; inner posterior border of each furca covered with fine setae; posterior margin with 3 pairs of spinulate setae.

Table. Morphological differences between planktonic caught larva of *Schizophrys aspera*(H. Milne Edwards, 1834) present study; *Schizophrys aspera* studied by Kakati & Nayak(1979) and *Schizophrys pakistaniensis* Tirmizi & Kazmi, (1995), studied by Siddiqui *et al.*, (2000).

Characters	<i>S. aspera</i> present study	<i>S. aspera</i> Kakati & Nayak (1979)	<i>S. pakistaniensis</i> Siddiqui, <i>et al.</i> ,(2000)
Antennule:			
aesthetascs	6	7	6
Maxillule:			
setae			
basialendite	8 setae	8 setae	7 setae
endopod	7 setae	7 setae	6 setae
Maxilla:			
setae			
basialendite	5+5 setae	5+5 setae	5+4 setae
exopod			
(scaphognathite)	25 setae	25 setae	26 setae
Abdomen:			
Length posterolateral angles	half way upto telson fork	half way upto telson fork	upto central indentation
Telson:			
lateral spine	absent	absent	present

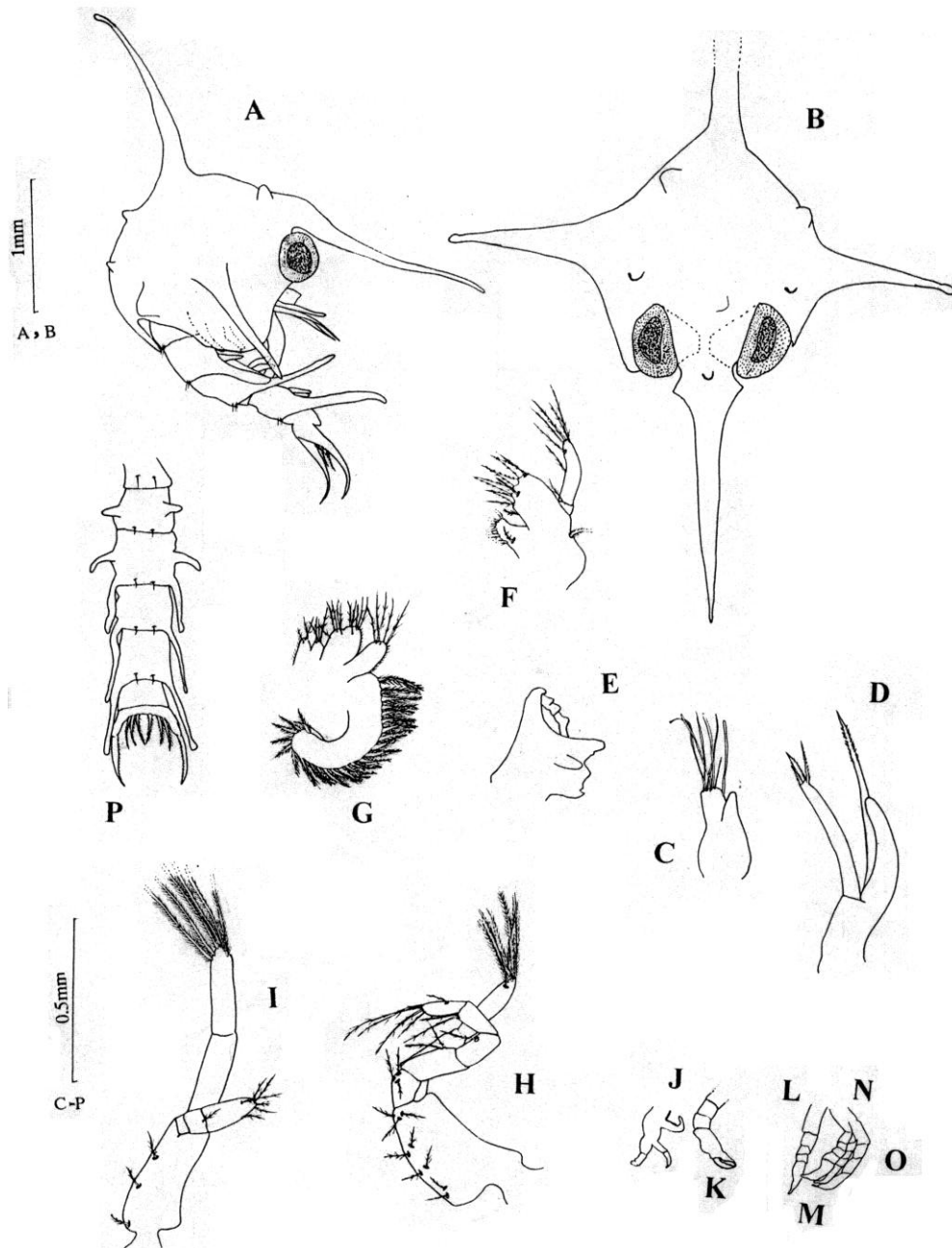


Fig.2. *Schizophrys aspera* (H. Milne Edwards, 1834). Zoea II: A, lateral view; B, dorsofrontal view; C, antennules; D, antenna; E, mandible; F, maxillule; G, maxilla; H-J, maxillipeds I – III; K – O, pereiopods I – V; P, abdomen with telson, dorsal view.

Remarks: The genus *Schizophrys* contains only two species in Pakistan waters that is *S. aspera* and *S. pakistaniensis* reported by Tirmizi and Kazmi (1996). The morphological characters of planktonic zoea II of *Schizophrys aspera* (H. Milne Edwards, 1834) of the present study was compared with the zoea II of *Schizophrys aspera* studied by Kakati and Nayak, (1979), from India and *Schizophrys pakistaniensis* Tirmizi and Kazmi, (1995) studied by Siddiqui, *et al.*, (2000). *Schizophrys aspera* in the present study was very similar to *Schizophrys aspera* Indian material except a single difference in number of aesthetascs as noted and given in table.

The total number of 41, 281 brachyuran larvae in different stages have been obtained from the whole collection. Only a single larva of *Schizophrys aspera* was reported. The larva belongs to the second zoeal stage. However planktonic caught larvae is not easily identified. An accurate identification of such material is only possible by the comparison with larvae reared under laboratory conditions and documented with illustrations.

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