

**ALLOMICROCOTYLA NIGER N.SP (MONOGENEA: ALLOMICROCOTYLIDAE)  
FROM PARASTROMATEUS NIGER OF KARACHI COAST, PAKISTAN**

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**ABSTRACT**

A new monogenetic trematode *Allomicrocotyla niger* is described here from the gills of the fish *Parastromateus niger* (Stromateidae) of Karachi coast. The species is characterized by having fusiform to elliptical body, paired oral suckers. Pharynx is pyriform. Testes 26 in number, postovarian, irregularly arranged. Ovary Y-shaped, uterus elongated and vagina is funnel-shaped. Haptor asymmetrical, fan fringed-shaped. Clamps 47 in number, equal in size.

**Key words:** Monogenea, *Allomicrocotyla*, *Allomicrocotyla niger*, fish gills, Karachi coast.

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**INTRODUCTION**

Only three reports on monogenea of Karachi coast are on the record. The genus *Allomicrocotyla* was first proposed by Yamaguti, 1965. Previously any species of monogenea belonging to genus *Allomicrocotyla* Yamaguti, 1965 has not been described from Pakistan. During an investigation of monogenean fauna of fishes of Karachi coast, new species of *Allomicrocotyla* from the gills of *Parastromateus niger* were collected. This appeared an undescribed species having peculiar morphometric characteristics and could not be accommodated in any of the previously described species. The new species is described here and supported by diagram and SEM micrographs.

**MATERIALS AND METHODS**

75 specimens of *Parastromateus niger* were collected from West Wharf Karachi coast. Gills were removed and placed in beaker containing formaline and water solution in ratio of 1:2:5 ml i.e. Water = 1000 ml, Formalin = 2.5 ml and were transferred into Petri dish containing the same solution. The liquid from the beaker was left till the solid parts settle down. The supernatant was poured out and remaining part was examined under binocular microscope and monogenea were recovered. Specimens were fixed in AFA (A mixture of 70% ethyle alcohol, formaline and Acetic acid in the ratio of 90:7:3) solution for 24 hours. The gills were also examined, monogenea were collected and processed as mentioned above. After 24 hours these parasites were washed several times with 70% alcohol, stained in Mayer's Carmalum, dehydrated in graded series of alcohols, cleared in clove oil and xylene and mounted in Canada balsam. (Bilqees *et al.*, 2004).

Illustrations were made with the aid of camera Lucida. All measurements are given length by width in millimeters. Photographs of holotype specimens were also prepared.

Specimen for scanning electron microscopy was fixed in AFA solution for 24 hours. After 24 hours the specimens were thoroughly washed several times with 70 percent alcohol to remove all traces of fixing agent, the specimens, after critical drying mounted on stubs, coated with gold and photographs were taken with the help of SEM. Joel Japan JSM 6380A at accelerating voltage of 15KV at Karachi University, Central Laboratory. The SEM measurements are in micrometer. Holotype and Paratypes are in the collection of the first author.

***Allomicrocotyla niger* n.sp  
(Fig. 1-2)**

**RESULT**

|                           |                                                                   |
|---------------------------|-------------------------------------------------------------------|
| <b>Host:</b>              | <i>Parastromateus niger</i> (Bloch, 1795)                         |
| <b>Location:</b>          | Gills                                                             |
| <b>Locality:</b>          | West wharf, Karachi coast                                         |
| <b>No of Specimens:</b>   | 9 in 5 fishes, 75 fishes examined                                 |
| <b>Material examined:</b> | Holotype JUW.M. 2                                                 |
| <b>Etymology:</b>         | The name <i>Allomicrocotyla niger</i> refers to the host species. |

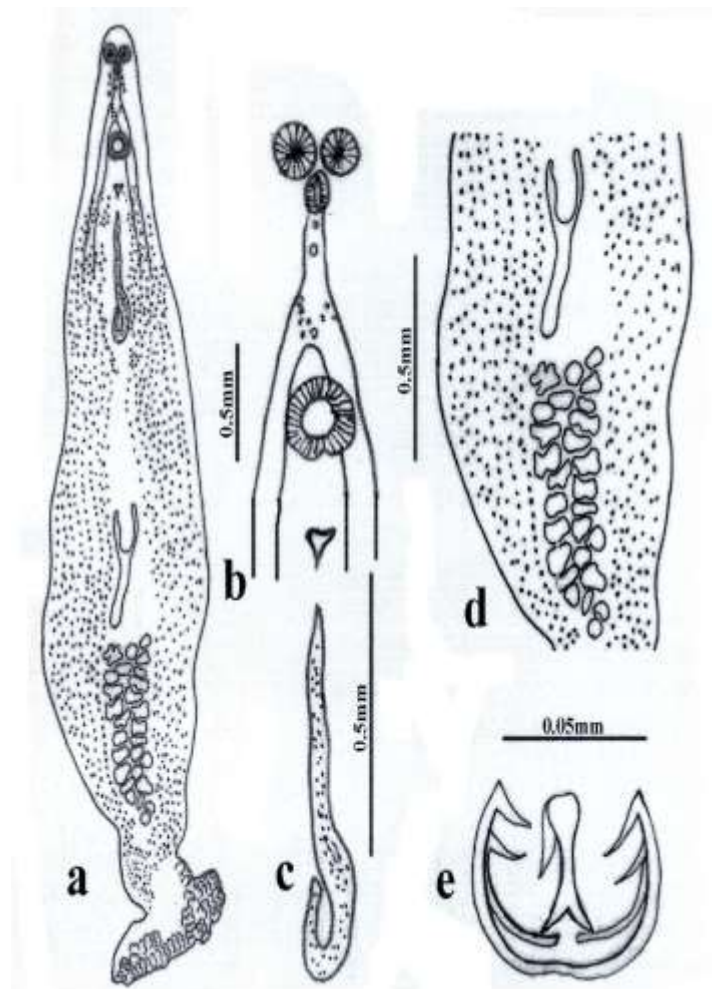


Fig.1.

Fig.1 (a-e). *Allomicrocotyla niger* n.sp. a. whole mount of holotype (ventral view). B. Anterior portion showing genital atrium and vagina. C. Uterus. D. Ovary and testes. E. clamps.

Fig.2 (a-c). *Allomicrocotyla niger* n.sp., SEM micrograph of paratype. A. Entire specimen, b. Haptor portion. C. Clamps.

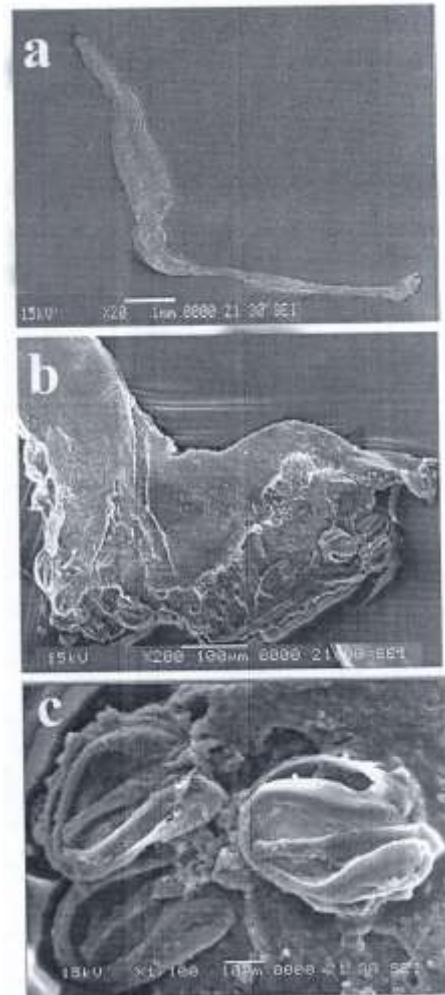


Fig.2.

## DESCRIPTION

Body proper fusiform to ellaptical 3.5-3.6mm long, 0.75-0.76mm wide. Body divided into narrow anterior and posterior part narrow towards haptor, progressively widening towards the postequatorial region. Mouth ventral. Two oral suckers present 0.07-0.072 long, 0.05-0.052 wide, rounded and muscular. Eye spot absent. Pharynx is pyriform, 0.05-0.052 long, 0.03-0.033 wide, with circular muscle fibers. Testes present in posterior region 26 in number, postovarian, arranged irregularly, largest testes 0.06-0.062 long, and 0.07-0.073 wide, shortest testes 0.05-0.052 long, 0.04-0.042 wide. Genital atrium forming a powerful ring of circular muscle fibers, 0.1-0.13 long, 0.09-0.092 wide. Ovary anterior to testes "Y-"shaped, 0.46-0.48 long, 0.06-0.62 wide. Uterus elongated 0.6-0.62 long 0.05-0.052 wide. Vagina funnel shaped 0.05-0.053 long, 0.04-0.042 wide. Haptor shaped like an asymmetrical fan fringed, clamps scattered all over the surface 0.2-0.23 long, 0.6-0.62 wide. All clamps are equal size, 47-57 in number. These consist of (a) marginal sclerites (b) lateral sclerites (c) median sclerite.

## DISCUSSION

The genus *Allomicrocotyla* was first proposed by Yamaguti 1965 to accommodate a new species *Allomicrocotyla onaga* on *Etielis carbunculus* in Hawaii. This genus bears a certain resemblance to *Pyragraphorus* Sproston, 1946 and

*Allopyrographorus* Yamaguti, 1963 in general anatomy, but it differs fundamentally from both of them in the structure of the clamp skeleton, especially in the paired basal pieces articulating with the median piece. Moreover, the structure of the cirrus is entirely different from that of any of the known members of the monogenea. In view of these characteristics there is no doubt that this genus represents a distinct family (Yamaguti, 1968).

In all essential features the present species are similar to *Allomicrocotyla* but cannot be included in the species *A. onaga* because of difference in important diagnostic features.

The present species is smaller (3.5-3.6 x 0.75-0.76) than *A. onaga* (4.0 x 0.8- 1.6)

Testes in present species are 26 in number while in *A. onaga* these are 10-20. In present species clamps are 47-57 in number scattered all over the surface of the haptor, while in *A. onaga* clamps are 40-63 in number, arranged in two rows of equal length 20-31 in one row and 20-33 in other.

Therefore the present species is regarded as new and name *Allomicrocotyla niger* n.sp is proposed.

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