*Pak. J. Agri. Sci , Vol. 22 (2), 1985*

# PSEUDOGILQUINIA MAGNA N. SP.

(Cestoda : Trypanorhyncha: Pseudogilquiniidae)
From the fish *Pseudosciaena diacanthus* of Karachi Coast

Fatima Bilqees Mujib* and Naheed Khurshid

## ABSTRACT

Recently genus *Pseudogilquinia* Bilqees and Khatoon, 1979 has been described from the fish *Pomadasys olivaceus*. The present specimens are included in the same genus, because of the characters such as short and stout tentacles, heteroacanthus and heteromorphous armature, consisting of very large hooks with broad base, long hooks with curved tip and small hooks at the base of the armed portion of tentacle separating it from the unarmed portion,pars bulbosa broader than rest of the scolex, bothridia reduced and fused together. The genus contains only one species *P. karachiense* Bilqees and Khatoon 1979. The present specimens from the fish *Pseudosciaena diacanthus* are different from this species in size of scolex, size and arrangement of hooks; each tentacle with interno and externolateral longitudinal chainette. Bothridia relatively small but more prominent, completely fused at the base, the free ends of which are distinguished into four, and base of pars bulbosa is broader. The present specimens are regarded a new species for which the name *Pseudogilquinia magna* is proposed.

## INTRODUCTION

The family Pseudogilquinidae was established by Bilqees and Khatoon, 1980 to accommodate a new trypanorhynchid larvae *Pseudogilquinia karachiense*, the only genus and species in the family. The present specimens from the fish *Pseudosciaena diacanthus* included in the same family and genus are regarded an undescribed species for which the name *Pseudogilquinia magna* is proposed and described here. The species name refers to large size of the scolex as compared to previous species.

*Department of Zoology, University of Karachi, Pakistan.

*Pseudogilquinia magna n. sp.*

## MATERIAL AND METHODS

Many viscera of *Pseudosciaena diacanthus* were regularly examined during a period of about six months in 1983. With other helminth parasites numerous encysted trypanorhyncha larvae were collected from the visceral mesenteries, and outer surface of stomach. For detailed study cysts were ruptured and larvae were released, fixed in FAA solution, washed several times in 70% alcohol, stained with aceto carmine, dehydrated in graded alcohols, cleared in clove oil and xylole and mounted permanently in Canada balsam. Diagrams were made with the help of a microprojector and camera lucida. Measurements are given length bywidth in millimeters. Specimens are deposited in Parasitology section, Department of Zoology, University of Karachi.

## DESCRIPTION

Scolex long cylindrical, aeraspedote considerably broader at base, scolex size is not much variable in different specimens, measuring from 8.1 to 8.2 in length and 1.4 to 1.6 in width. Pars bothridialis shorter than pars vaginalis and pars bulbosa, measuring 0.30 to 0.42 by 0.50 to 0.61. Bothridia four, weakly developed, fused,appearing as single flattened mass with four terminal markings. Pars vaginalis long and much broader than pars bothridialis, measuring 5.8 to 7.5 x 1.2 to 1.4. Pars bulbosa even broader than pars vaginalis, roughly haxagonal in shape, containing four prominent bulbs, measuring 1.70 to 1.75 x 1.8 to 2.1. Bulbs muscular many times longer than broad, measuring 1.70 to 1.75x 0.11 to 0.15. Post pars bulbosa is also present, appearing as a dark staining small area behind the tentacular bulbs, measuring 0.21 to 0.32 by 1.3 to 1.5.

Tentacles four, emerging near the apex of scolex; these are relatively short and thick measuring 1.2 to 1.4 in length. Armature is heteromorphous and heteroacanthus. At the tip of tentacle, the are many small hooks facing towards the exterior of the tentacle. At the inner side, there are 4 to 5 long hooks with ventrally curved tips. On the inner surface of tentacle, there are four longitudinal rows of large hooks, two at each side with very broad base and thick pointed blade stongly curved ventrally. There are numerous minute hooks in between on the external surface; there are long hooks which are also arranged into longitudinal row in groups of five with minute hooks in between. In each

group of five hooks, the anterior most is longer and delicate while the other four are relatively stout which in the posterior region of tentacle become quite broad at the base. All these hooks have broad base and ventrally curved tip. In lateral view, the arrangement appears to consist of numerous longitudinal rows of minute hooks in the median line with longitudinal rows of large and broad hooks at the sides, and longitudinal rows of long hooks external to these arranged in groups of five. It means in each circle, there are 24 hooks including twenty long hooks and four large hooks in each circle. This arrangement remains more or less similar upto the metabasal region. At the middle and metabasal region hooks appear larger than on the anterior region and at the tip of the tentacles. In the basal region, both the large and long hooks disappear and are replaced by numerous closely set minute hooklets (Figures 1 to 10).

## EXPLANATION OF FIGURES

Fig. 1. *Pseudogilquinia magna* entire larvae.
Fig. 2. Arrangement of hooks at the tip of tentacle, internal view.
Fig. 3. Arrangement of hooks at the tip of tentacle, internolateral view.
Fig. 4. Arrangement of hooks at the anterior region, interno lateral view.
Fig. 5. Mid region, internal view.
Fig. 6. Mid region, internolateral view.
Fig. 7. Arrangement of hooks at the metabasal region, internal view.
Fig. 8 Arrangement of hooks at the metabasal region internolateral view.
Fig. 9. Hooks at the basal region, lateral view.
Fig. 10 Hooks at the basal region on the internal surface.

## DISCUSSION

The present specimens of genus *Pseudogilquinia* Bilqees and Khatoon 1980, have relativcly large scolex and a different structure of bothridia, and different arrangement of spines on tentacles. But the number of large hooks are twenty-four, which are replaced by numerous hooklets at the base as in *Pseudogilquinia karachiense*. This character appears to be a generic character. The bothridia of *Pseudogilquinia karachiense* are not distinguishable, while in the present specimens these are anteriorly marked into four and fused together

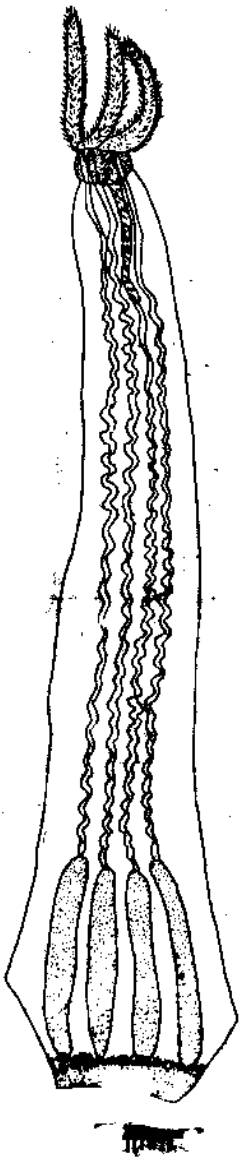

Fig. 1.

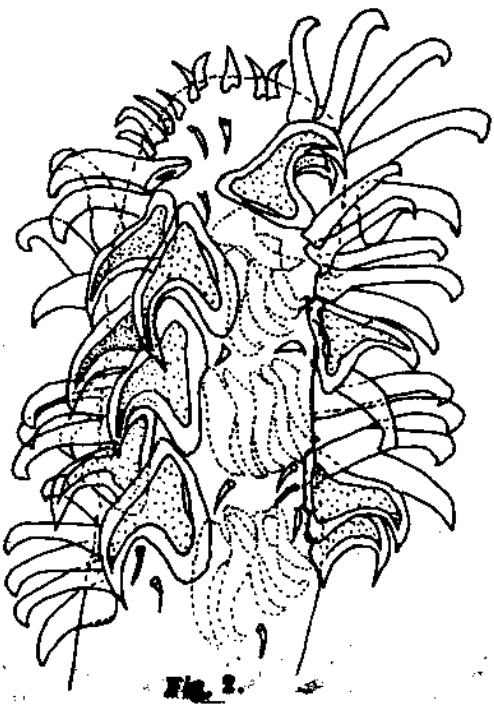

Fig. 2.

Fig. 3.

0.1mm

Fig. 4.

01mm

Fig. 5.

mm

Fig. 6.

mm/0

Fig. 7.

mm/0

Fig. 9.


posteriorly. Besides the over all difference in the size of scolex, the arrangement of hooks is totally different on the tentacles. On the inner side of tentacles, there are four longitudinal rows with chainette of minute hooks in between separating these into two regions. On the external surface, there are two groups of five hooks each arranged longitudinally throughout the tentacles. Each of the rows of five hooks is separated from the other by chainette of minute hooks. On the lateral surfaces similar hooks in groups of five are present. In between the rows of the large and long hooks, minute hooklets in longitudinal rows are also present.

In *Pseudogilquinia karachiense*, there are twenty-four hooks consisting of four large and twenty very long hooks arranged alternately in groups of two large and five small hooks in a circle with two longitudinal rows in groups of five hooks each on the external surface. Medium sized hooks again in groups of five in between the external and internal surface are also present, and there is no distinct chainette of minute hooks in between the external and internal surfaces. While in the present specimens all the large hooks are on the inner surface; two rows of the long hooks in groups of five are on the external surface and a row of similar hooks on the lateral surfaces. In the middle of external and internal surface, there is a distinct chainette of spines and groups of medium size of hooks are not present as in previous species. The hooks on the xternal surface of the present specimens are almost of equal size, while in the previous species the fifth hook of each group is much smaller than others and the other four in the group are longer than in the present species.

The above mentioned differences in the size and structure of scolex, and size and arrangement of hooks indicate that the present specimens are undescribed species of the genus. The present species is from the fish *Pseudosciaena diacanthus* from the cost of Karachi, while the previous species was described from the fish *Pomadasys olivaceus* from the same locality. The present specimens, are therefore, regarded new species for which the name *Pseudogilquinia magna* is proposed.

## REFERENCE

Bilqees, F.M. and A. Khatoon. 1980. A new trypanorhynchid family Pseudogilquiniidae including a new genus and species *Pseudogilquinia karachiense* from the fish *Pomadasys olivaceus*. Philippine J. Sci. 19 : 89-92.