

**NEW HOST RECORD FOR PARASITIC COPEPOD,
LAMPROGLENA CHINENSIS YÜ, 1937 FROM MARINE FISH
*PAMPUS ARGENTEUS***

Atia Batool, Sumera Farooq, Nazia Arshad and Mubeen Ara

Department of Zoology; University of Karachi, Pakistan (AB, SF);
Institute of Marine Sciences, University of Karachi, Pakistan (NA, MA).
email: atiabatool@uok.edu.pk

ABSTRACT: A copepod parasite, *Lamproglena chinensis* Yü, 1937 was recorded first time from its new marine host *Pampus argenteus* captured from the coastal waters of Pakistan. This is the first report on the occurrence of *Lamproglena chinensis* in marine fish in the World. *Lamproglena chinensis* was reported to parasitize only freshwater fishes in many countries of the world. This species was reported previously to parasitize freshwater fish from Pakistan. The present paper provides the description of *Lamproglena chinensis* collected from the gill filaments of *Pampus argenteus*.

KEYWORDS: *Lamproglena chinensis*, copepod parasite, fish parasites, lernaeid copepods, marine parasitic copepods.

INTRODUCTION

Family Lernaecidae is a major family of parasitic copepods (Ho and Kim, 1997) which were reported to cause severe histopathological changes in the gills of fishes (Tsotetsi *et al.*, 2005). The family Lernaecidae (Cyclopoida) was first described by Cobbold, 1879 and now represented by 43 genera (Walter and Boxshall, 2018). The genus *Lamproglena* Von Nordmann, 1832 of the family Lernaecidae comprises gill parasites of freshwater fishes in Europe, Asia and Africa. *Lamproglena chinensis* was first described by Yü (1937) from the freshwater fishes of China. Yamaguti (1939) described *L. chinensis* as *L. ophioccephali* as a new species. Later Sproston *et al.*, 1950 synonymised both taxa. *L. chinensis* was widely reported from China (Sproston *et al.*, 1950; Yin, 1962; Wang, 1964; Chen, 1973; Kuang and Qian, 1991), Japan (Yamaguti, 1939; Grygier and Urabe, 2003; Nagasawa *et al.*, 2007), Russia (Doigiel and Akhmerov, 1952; Markevich, 1956; Smirnova, 1971; Gusev, 1987), Thailand (Capart, 1944; Sirikanchana 1982; Ho and Kim, 1997) and from Korea (Kim, 1998; Kim and Choi, 2003). *L. chinensis* was also reported from Srilanka (Kirtisinghe, 1950) and India (Vankara *et al.*, 2014). The information on the taxonomy of parasitic copepods is limited and only few papers on the taxonomy of parasitic crustaceans were available from Pakistan (Ho *et al.*, 2009; Batool and Yousuf, 2017). *Lamproglena chinensis* was reported earlier by Jafri and Mahar, 2009 from *Channa striata* captured from Keenjhar Lake, Pakistan. This paper provides the description of *Lamproglena chinensis*, from its new host record *Pampus argenteus* caught from the coastal waters of Pakistan.

MATERIALS AND METHOD

The specimens of *Lamproglena chinensis*, were collected from the marine fish *Pampus argenteus*, captured from Karachi coast. A total of 10 host fishes were captured during 2016 to 2017. The 5 female parasites were separated from the gills of the host and sorted out under the dissecting binocular and were preserved in the 70% alcohol. The specimens were cleaned in the lactic acid for 4-5 minutes and were observed in microscope. The species was identified with the help of the description given by (Ho and Kim, 1997).

RESULTS AND DISCUSSION

Systematic account:

Order: Cyclopoida Burmeister, 1834

Family: Lernaeidae Cobbold, 1879

Genus: *Lamproglena* von Nordman, 1832.

***Lamproglena chinensis* Yü, 1937**

Lamproglena ophiocephali Yamaguti, 1939

Material examined: 5 ♀ specimens removed from the gill filaments.

Host: *Pampus argenteus*

Locality: Coastal waters of Pakistan

Description of female

Prosome

Body is elongated 3.74 mm long cephalic region is separated from the neck (Fig.1. A). Cephalothorax longer (0.5 mm) than wide (Fig.1.B). Trunk is 0.74 mm in length, unsegmented, oval and longer than wide (Fig.1A.i). Trunk is longer than abdomen and about 1/3 of total length body length.

Antennule and Antenna.

Antennule uniramous and unsegmented. Antenna fleshy bearing five setae (Fig.1Bi).

Maxilla and Maxilliped

Maxilla two segmented and tipped with claw (Fig. 1 Ci). Maxilliped two segmented basal segment large, tipped with four claw (Fig.1Cii).

Thoracic Appendages

Five pairs of thoracic legs are present (Figs. 1C iii-v and 1D i-ii).

First and second Thoracic Leg

First pair of thoracic legs is biramous and located at the junction of cephalothorax and trunk. (Fig.1C iii). The second pair of thoracic leg is also biramous and located on trunk (Fig. 1C iv). The exopods and endopods of both first and second thoracic legs are two segmented. Exopods have small setae and terminal spines. The inner margin of endopods with spines.

Third and Fourth Thoracic Leg

Third and fourth pair of thoracic legs are located on the trunk (Fig. 1C v and Fig.1D i). Similar to 1st and 2nd legs they are also biramous. Exopod and endopod both are two

segmented. Exopod have small setae and terminal spines. Endopods inner margin have spines.

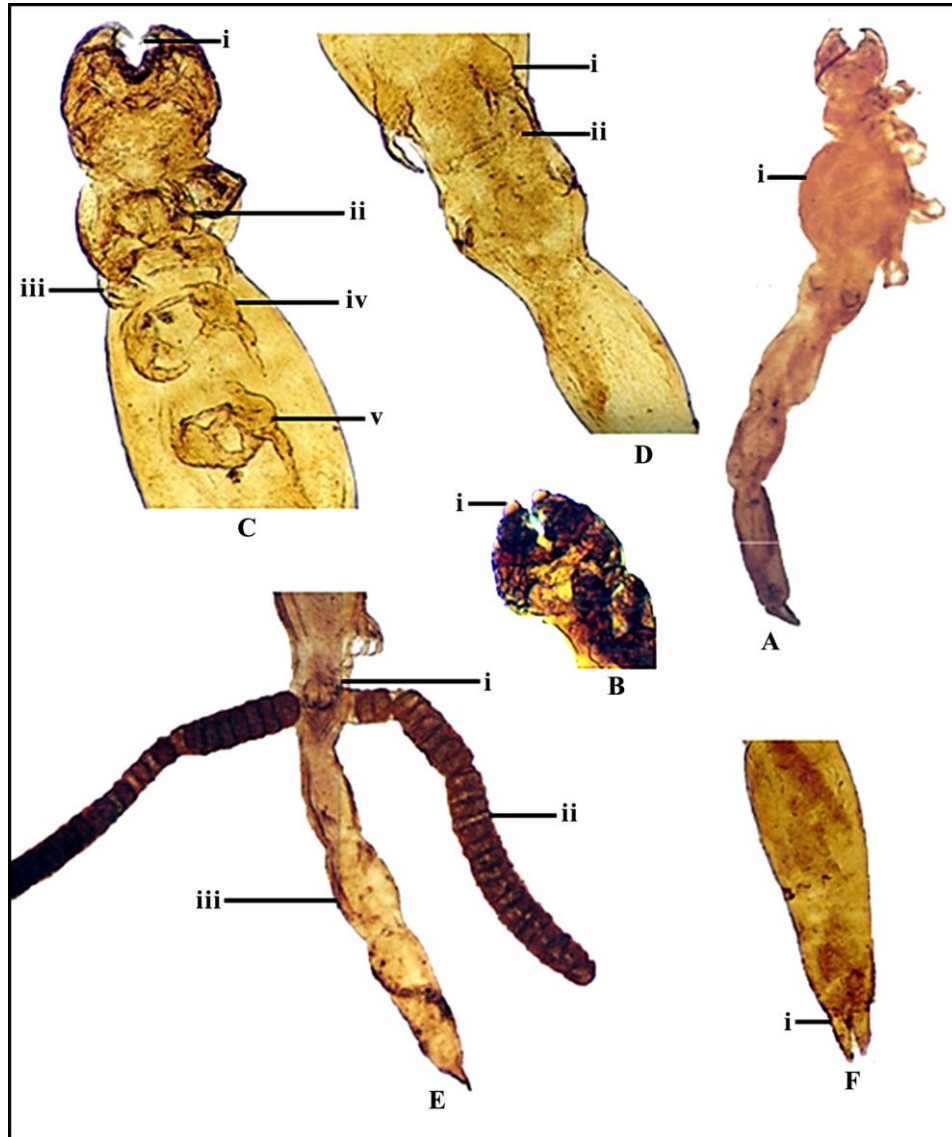


Fig. 1. *Lamproglena chinensis* Yü, 1937 adult ♀. A). whole animal Dorsal view(i)trunk; B)Cephalothorax (i) antenna C) (i) maxilla (ii) maxilliped (iii) first thoracic leg; (iv) second thoracic leg; (v) third thoracic leg; D); (i) fourth thoracic leg; (ii) fifth thoracic leg ; E) ; (i) genital segment (ii) Ovisac (iii) abdomen ; F) ; last segment of abdomen (i) caudal ramii. Scale bar: 0.01 mm.

Fifth Thoracic Leg

Fifth leg is present on a separate small segment of the trunk (fig. 1D.ii). It is uniramous, a small lobe tipped with three setae.

Urosome

Genital segment is broad and 0.37 mm in length (Fig.1E.i). A pair of 1.87 mm long ovisacs attached to the abdomen, contain oblong shaped, uniseriate eggs (Fig.1E.ii). Abdomen three segmented and 1.74 mm long, length about half of total body length, last segment is longest of all three (Fig.1E.iii) and bears a pairs of caudal ramii. Tips of ramii slightly tapering. (Fig.1F.i).

REMARKS

This is the first report of *Lamproglena chinensis* from the marine fish *Pampus argenteus*. This is the second species of this genus reported from marine fish host. Previously *Lamproglena lichiae* was reported by Piasecki, 1993 from the marine fish *Scomberoides lysan* captured from Red Sea. The total reported length of *L. chinensis* ranged between 2.9 - 4.5 mm (Yü, 1937). The length of presently described specimen is 3.74 mm which is comparatively larger than the previously described specimens from the region. Jafri and Mahar, 2009 gave the total length of 3.23 mm from *Channa striata* and Kirtisinghe, 1950 reported total length of 3.4 mm from freshwater fishes from Srilanka.

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