

Lueheia karachiensis, New Species (Acanthocephala: Plagiorhynchidae) from a Bird in Karachi, Pakistan

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Abstract. - *Lueheia karachiensis*, new species (Acanthocephala: Plagiorhynchidae) from the small intestine of a bird (*Accipiter badius cenchroides* (Serertsov) is being described. The new species possesses the following characters viz. Body elongated measuring 13.60 by 0.72-1.04. Broadest body width at the end of proboscis receptacle or at level of anterior testis. Proboscis short, sub-globular with 20-24 rows of 10-14 hooks. Lemnisci four, testes in the anterior half of the body, cement glands four and bursa well developed measuring 1.33-1.60 by 0.33-0.64. The genus *Lueheia* Travassos, 1919 is being reported for the first time from Pakistan.

Key words: Acanthocephala, *Lueheia karachiensis*, new species.

INTRODUCTION

Travassos (1919) described the genus *Lueheia* with the type species *L. luehei* in *Thammophilus*, *Hypoedalius*, *Porzana*, *Batara*, *Automolus* from Brazil. Later the following species were added to the genus viz. *L. boreotis* Van Cleave et Williams, 1951 in *Turdus migratorius caurinus* from Alaska; *L. inscripta* (Westrumb, 1821) Van Cleave et Williams, 1951 in *Platycichla flavipes*, *Turdus* spp., in Brazil and USA (Yamaguti, 1963).

In the literature, there has been occasional reference to unusual conditions in the lemnisci of acanthocephala. These variations from the normal involve, in their simplest expression, slight to extreme differentiation in the relative size of the two lemnisci of the same individual, as exemplified particularly in some species of the genus *Neoechinorhynchus*. Variations of this sort have never been regarded as having greater than specific value. A more distinctive type of modification consists in the bifurcation or splitting of each lemniscus which, in some species, is of only sporadic occurrence while in a few it seems to have become permanently established. This is especially true in some of the parasites of birds. The first investigator to recognize duplication of the lemnisci

as of taxonomic significance was Travassos (1919) who erected the genus *Lueheia* for two species, which he regarded as having four to six species lemnisci, each arising independently from the neck region. The morphological details of this feature should be reinvestigated because it now seems strongly probable that each of the two original lemnisci become split into two or more parts, retaining a single point of attachment with the lacunar system, rather than, there being complete reduplication of the lemnisci. This splitting of the two original lemnisci was demonstrated by Dr. Werby in her study of a species which she recognized as basis for her genus *Furcata*, Van Cleave in Van Cleave and Williams (1951) has re-examined some of the material on which *Furcata* is based and confirms the observation that each lateral cluster of lemnisci has but a single point of attachment with the neck region.

In a review of the presumed differences between *Lueheia* and *Furcata* (Van Cleave, 1942), it was proposed by Van Cleave and Williams (1951) that *Furcata* is certainly a synonym of *Lueheia*. A more intensive examination of specimens of *Furcata* supports this conclusion, however, in the same review it was suggested that "*F. adlueheia* is probably a direct synonym of *L. inscripta*". A more detailed study of specimens, of *F. adlueheia* makes this suggestion seem unwarranted, so that this species should be recorded as *Lueheia adlueheia* (Werby, 1938). It was suggested by Werby (1938) that genus *Furcata* is most closely allied to the

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genus *Lueheia*. Schmidt and Kuntz (1967) placed *L. boreotis* Van Cleave and Williams, 1951 in a new genus *Pseudolueheia*.

MATERIALS AND METHODS

Live birds were trapped from different localities of Karachi and brought to the laboratory, anaesthetized with chloroform, dissected and examined for endoparasites. Acanthocephala recovered from the small intestine were alive, these were kept in normal saline and slightly pressed between two glass slides to flatten the specimens, fixed for 24 hours in a mixture of 70% alcohol, formalin and acetic acid in the ratio of 90:7:3. Then washed several times with 70% alcohol, cleared in clove oil and xylol, and mounted permanently in Canada balsam. Diagrams were made with a camera lucida measurements are given length by width in millimeters. Holotype is deposited in the collection of the first author.

Lueheia karachiensis, new species (Fig. 1)

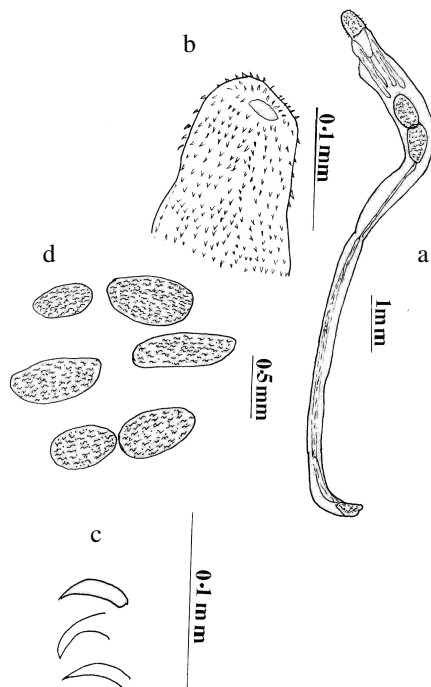


Fig. 1. *Lueheia karachiensis*, new species
a, holotype entire male; b, proboscis enlarged;
c, hooks; d, variation in shape of testes.

Host	<i>Accipiter badius cenchroides</i> (Serertzov)
Locality	Karachi, Sindh, Pakistan.
Location	Small intestine.
No. of specimens	Three from two hosts.
No. of host examined	Four.

Description

With the characters of the genus *Luehia* Travassos, 1919; Proboscis short, non-retractile in the adult. Neck short, unarmed. Lemnisci four longer than proboscis receptacle, varying in length, testes in the anterior half of the body.

Male

Body elongated measuring 13.60-18.40 by 0.72-1.04. Broadest body width at the end of proboscis receptacle or at level of anterior testis. Proboscis short, sub-globular with 20-40 rows of 10-14 hooks. The hooks measure 0.030-0.053 by 0.0076-0.0098, the largest are located at middle of the proboscis. Proboscis receptacle somewhat claviform 1.04-1.72 by 0.40-0.72. Lemnisci four, unequal in size measuring 2.40-3.40 by 0.10-0.40. The two testes are located in anterior half of trunk, the anterior measures 0.84-2.48 by 0.40-1.00, the posterior measures 0.84-2.00 by 0.28-1.04 cement glands four tubular. Bursa well developed measuring 1.33-1.60 by 0.33-0.64.

Female

Not found.

Discussion

The genus *Lueheia* Travassos, 1919 is being reported for the first time from Pakistan. The present species is larger in size (13.60-18.40 by 0.72-1.04) as compared to *L. luehei* (7-10); *L. boreotis* (10); *L. inscripta* (8) and *L. adluheia* (3.5-9.23 by 0.8-1.7). As compared to hooks arrangements the present species has (20-24 rows of 10-14 hooks) while *L. luehei* has (20-22 rows 8-9 hooks), *L. inscripta* (28-30 rows of 9-10 hooks), *L. adluheia* (28 rows of 9-10 hooks) and *L. boreotis* (26 rows of 9-10 hooks).

Accordingly it is regarded as a new species with specific name *Lueheia karachiensis* new species. The species name refers to the locality of the host.

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