Six platyhelminths from Malaysian reptiles including Paradistomoidella cerberi n.g., n.sp. (Digenea: Dicrocoeliidae) 1

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ABSTRACT

Paradistomoidella cerberi n.g., n.sp. and Paracanthostomum cerberi from Cerberus rhynchops, Xenopharynx pyriformis and Allopharynx mehrai from Ptyas korros, Neopronocephalus orientalis from Geoemyda spinosa, and Duthiersia expansa from Varanus salvator are all reported from the area of Kuala Lumpur, Malaysia! Paradistomoidella cerberi most closely resembles members of Paradistomum and of Paradistomoides but is characterized by relatively short caeca, a cirrus sac containing a bipartite rather than sinuous internal seminal vesicle, and unevenly-sized suckers. Kuala Lumpur is a new locality for Paracanthostomum cerberi, X. pyriformis, A. mehrai, and D. expansa. Ptyas korros is a new host for X. pyriformis and G. spinosa is a new host for N. orientalis.

INTRODUCTION

The helminths reported in this study were collected from various reptiles obtained by the second author in the vicinity of Kuala Lumpur, Malaysia, during 1976 and 1977. Worms were removed from their hosts and fixed, using little or no coverslip pressure, with AFA; they were then stored in 70% ethanol. After staining with Mayer’s hematoxylin or Mayer’s carmalum, they were cleared with methyl benzoate or methyl salicylate and mounted in Canada balsam for study as whole mounts. Measurements are in μm unless otherwise stated; figures were drawn with the aid of a drawing tube. The notation TBL refers to total body length.

The collection included six platyhelminth species of which one represents a new dicrocoeliid digenean for which we propose the following new genus:

Paradistomoidella n.g.


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*Paradistomoidella cerberi* n.g., n.sp. (Figs. 1–3)


Testes spherical to subspherical, with smooth margins; left testis 83–117 long by 77 wide, right testis 92–102 long by 61–92 wide. Cirrus sac 200–225 long by 75–100 wide, containing bipartite seminal vesicle 168–204 long by 66–92 wide.

Ovary lobate, immediately postero medial to testes, anterior to caecal tips, 66–102 long by 107–128 wide. Seminal receptacle anterodorsal to ovary, 62–128 in diameter. Mehlis’ gland present; Laurer’s canal prominent, muscular, surrounded by gland cells, passing anterodorsal to seminal receptacle, opening dorsal to acetabulum. Uterus composed of postovarian descending and ascending loops; ascending loop passing anteriorly to join ejaculatory duct forming hermaphroditic duct. Hermaphroditic duct passing anteriorly dorsal to acetabulum, opening at genital pore. Vitelline follicles extending from level of pharynx or caecal bifurcation to ovarian level, ventral and lateral to caeca; follicles 35–51 in diameter. Eggs 23–25 long by 15 wide. Excretory pore terminal, extent of vesicle not seen.

**Host:** *Cerberus rhynchops* Gunther (Ophidia: Colubridae).

**Locality:** vicinity of Kuala Lumpur, Malaysia.

**Site of infection:** small intestine.

**Holotype:** USNM Helm. Coll. No. 75164.

**Paratypes:** USNM Helm. Coll. No. 75165.

**Etymology:** The specific name refers to the host genus.

By virtue of possessing follicular vitellaria, a post-testicular ovary, a cirrus sac and no ventro-genital complex, and by lacking a prepharynx, *Paradistomoidella cerberi* is placed in the Dicrocoeliidae. According to YAMAGUTI’s (1971) key to dicrocoeliids from reptilians, the new species belongs in the tribe Paradistomini. At present, the tribe contains two genera, *Paradistomum* Kossack, 1910, and *Paradistomoides* Travassos, 1944. The new species differs from the former by having caeca not extending near the posterior end of the body, a genital pore immediately preacetabular with the cirrus sac dorsal to the acetabulum, rather than a genital pore ventral to the pharynx, oesophagus or caecal bifurcation with the cirrus sac at least partially preacetabular, a small rather than large acetabulum, and a bipartite rather than sinuous internal seminal vesicle. It differs from *Paradistomoides* by having caeca not extending near the posterior end of the body, a postbifurcal genital pore with cirrus sac dorsal to the acetabulum rather than pre-acetabular, a large rather than small oral sucker, and a bipartite rather than sinuous internal seminal vesicle. In view of the above differences, we propose the new genus to accommodate the new species.
Paradistomoidella cerberi n.g., n.sp.

FIGS. 1-3. Paradistomoidella cerberi n.g., n.sp. 1. Ventral view of holotype. 2. Terminal genitalia, holotype. 3. Ootype region, dorsal view of holotype. Abbreviations: E = ejaculatory duct; L = Laurer's canal; MG = Mehlis' gland; M = metraterm; O = ovary; SR = seminal receptacle; SV = seminal vesicle; V = vitelline duct. Scale for FIG. 1 = 1.0 mm; for FIGS. 2 and 3 = 100 um.
Paracanthostomum cerberi Fischthal & Kuntz, 1965

Host: Cerberus rhynchops.
Locality: vicinity of Kuala Lumpur, Malaysia, new locality.
Site of infection: small intestine.
Specimens deposited: University of Nebraska State Museum, Manter Laboratory No. 20902.

Our specimens are clearly identifiable as *P. cerberi* based on the original description by FISCHTHAL & KUNTZ (1965). Study of our specimens, most mounted in lateral view, and of the holotype and paratype of *P. cerberi* permits fuller description of the oral apparatus of this species. Although *P. cerberi* possesses a subterminal mouth, lateral view of the oral sucker clearly shows it to be terminally positioned and highly similar to those described by BROOKS & OVERSTREET (1977) for three species of *Acanthostomum* Looss, 1899. *Paracanthostomum* differs from acanthostomes in the strict sense by lacking oral spines; it also lacks the encircling oral layer of muscle which we now conclude functions in positioning and holding the oral spines rather than the sucker itself. *Paracanthostomum cerberi* possesses small glands in the parenchyma encircling the oral sucker base which lead to ducts on the anterodorsal surface of the oral sucker; such glands were also detected in specimens of 32 species of acanthostomes. Thus, based on the positioning and glandulation of the oral suckers, *Paracanthostomum* and the armed acanthostomes appear to have a common ancestry, but the lack of spines or accessory musculature as well as the subterminal positioning of the mouth in *Paracanthostomum* indicates that they each represent a different phylogenetic lineage.

Xenopharynx pyriformis Simha, 1957

Host: Ptyas korros (Schlegel) (Ophidia: Colubridae), new host.
Locality: vicinity of Kuala Lumpur, Malaysia, new locality.
Site of infection: intestine.
Specimens deposited: University of Nebraska State Museum, Manter Laboratory No. 20965.

This species has previously been reported only from *Ptyas mucosa* in India (SIMHA, 1957). Our specimens possess tegumental spines, not previously reported for the species.

Allopharynx mehraic (Cogate, 1935) Price, 1938

Host: Ptyas korros.
Locality: vicinity of Kuala Lumpur, Malaysia, new locality.
Site of infection: intestine.
Specimens deposited: University of Nebraska State Museum, Manter Laboratory No. 20966.

GOGATE (1935) found *A. mehraic* in *Ptyas korros* and *P. mucosa* in Rangoon, Burma.
Paradistomoidella cerberi n.g., n.sp.

Neopronocephalus orientalis Brooks & Palmieri, 1979
Host: Geoemyda spinoza (Bell), new host.
Locality: vicinity of Kuala Lumpur, Malaysia.
Site of infection: small intestine.
Specimens deposited: University of Nebraska State Museum, Manter Laboratory No. 20866.

Neopronocephalus orientalis was originally described based on specimens collected from Cuora amboinensis (Daudin) (see Brooks & Palmieri, 1979).

Duthiersia expansa Perrier, 1873
Host: Varanus salvator (Gray) (Sauria: Varanidae).
Locality: vicinity of Kuala Lumpur, Malaysia, new locality.
Site of infection: small intestine.
Specimens deposited: University of Nebraska State Museum, Manter Laboratory No. 20901.

This species, originally reported from the Molluccas, was later found by Schmidt & Kuntz (1974) in the Philippines. Both Schmidt & Kuntz (1974) and Woodland (1938) reported posterior bothrial apertures to be characteristic of D. expansa, and our specimens were identified on that basis.

REFERENCES

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