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***Bothridium pithonis* (Blainville, 1824) from Rock Python (*Python morulus*) of National Zoological Garden of Sri Lanka**

¹P.V. Udugama-Randeniya, ²T.S.P. Fernando and ³H.K.A.V.A. Kulasena Fernando

¹Department of Zoology, Faculty of Science, University of Colombo, Colombo 03, Sri Lanka

²Department of Zoology, Faculty of Natural Sciences, The Open University of Sri Lanka,
Nawala, Nugegoda, Sri Lanka

³Clinical Trials Unit, Faculty of Medicine, University of Kelaniya, Ragama Sri Lanka

Abstract: On post mortem examination of a dead adult female Rock python (*Python molurus*) specimen in the National Zoological garden, Sri Lanka, tapeworms were collected. The morphologic and morphometrics data allowed to conclude that the tapeworm was *Bothridium pithonis*.

Key words: *Bothridium pithonis* % *Python morulus* % Cestoda % Sri Lanka

INTRODUCTION

Because of their diets and living habits, reptiles are hosts for a wide variety of both juvenile and adult tapeworms and flukes [1]. Tape worms are flatworms comprising a scolex and a chain of repetitive sections (proglottids). Each proglottid increases in maturity as they move farther from the scolex with budding of new sections. The adults reside in the small intestine of their definitive host and they all have indirect life cycles. The tape worms (class cestoides) are divided into two subclasses; cestoda, the true segmented tapeworms and cestodaria, the un-segmented tapeworms. The un-segmented cestodarian tapeworms primarily parasitize fish, but they have also been found in the intestines and coelomic cavity of chelonians and subcutaneous sites in snakes. Several genera contain segmented tapeworms that parasitize reptiles [2, 3]. They generally inhabit the small intestine. Many of the adult tapeworms of reptiles are in the families Anoplocephalidae, Diphylobothriidae and Proteocephalidae. Anoplocephalidae typically use a mite or an insect as the intermediate host. Diphylobothriidae life cycle uses two intermediate hosts, typically an aquatic crustacean as the first and a vertebrate as the second [4]. Within the family Diphylobothriidae are four genera of Pseudophyllidae tapeworms which are known to parasitize reptiles.

They are *Spirometra* known to utilize snakes as intermediate hosts; *Bothridium*, which has been found in boid snakes; *Duthiersia* and *Scyphocephalus* both of which are parasites of varanid lizards.

Taxonomic studies on the *Bothridium* genera have shown that there are more than 35 species reported in the world. It exists 11 species of this genus present in Boidae, Pythonidae [5]. One of the species is *Bothridium pithonis*. In 1824, Blainville for the first time described this cestode in the rock python in India. This cestode has several synonyms, such as *B. arcuatum* (Baird, 1865), *Prodicocelia ditrema* (Leblond, 1836), *Solenophorus grandis* (Creplin, 1839), *Solenophorus laticeps* (Duvernoy, 1933), *Solenophorus megacephalus* (Diesing, 1850), *Solenophorus megaloccephalus* (Creplin, 1839), *B. obovatum* (Molin, 1858), *B. ovatum* (Diesing, 1850). Southwell [6] recorded this host-parasitic association from Nepal, India and Ceylon (Sri Lanka). Southwell [6] also recorded this parasite cestode in *Felis tigris* in India. It appears that the tiger had been feeding on a python. In addition *B. pithonis* was recorded from a female rock python at the Madras snake park, India. It is interesting to note few days before the death of the python, its faecal examination has revealed yellowish, thin shelled operculated eggs [7].

We reported the observation of *Bothridium pithonis* in a rock python in Sri Lanka, which is the first record of *B. pithonis* under captive condition in Sri Lanka.

Corresponding Author: T.S.P. Fernando, Department of Zoology, Faculty of Natural Sciences, The Open University of Sri Lanka, Nawala, Nugegoda, Sri Lanka. E-mail: saminda@ou.ac.lk.

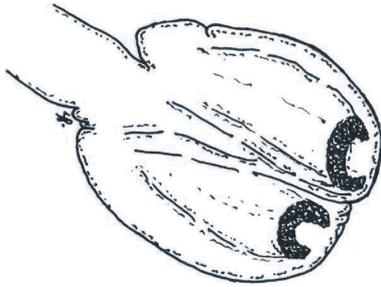


Fig. 1a: Drawing of *Bothridium pithonis* Scolex (x20)

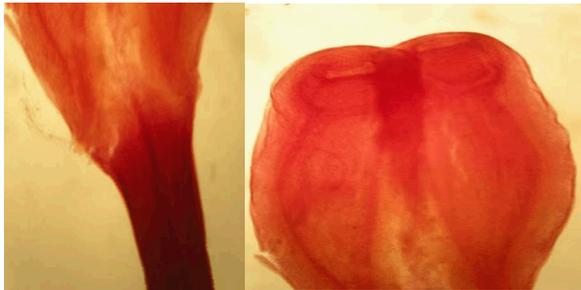


Fig. 1b: Stained Scolex of *Bothridium pithonis* (x20)



Fig. 1c: Scolex of *Bothridium pithonis* (x20)

Case Report: We found a dead adult female Rock python (*Python molurus*) specimen in the National Zoological garden, Sri Lanka on 25/02/2005. Total length of this species is 2.18 m and body weight is 10.2 kg.

Then we did a necropsy of the specimen. Briefly, snake was placed ventral side up and an incision was made along the mid ventral line to expose the digestive track. A cut was made above the esophagus and below the rectum and the entire gastro intestinal track was removed. Then it was slit longitudinally and observed under the dissecting microscope. Then the parasites were collected manually using fine forceps. The specimen was fixed and preserved in 70% alcohol. The method described by Garcia and Ash [8] was used with modification for staining adult cestode parasites. The parasite was identified using keys provided by Rego [9] and Southwell [6]. For definitive authentication the specimen was sent to Dr. A.De Chambrier of Museam Histoire Naturella, Switzerland.

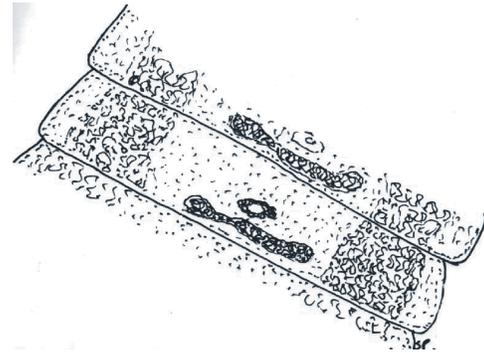


Fig. 2a: Drawing of *Bothridium pithonis* Mature segment (x20)

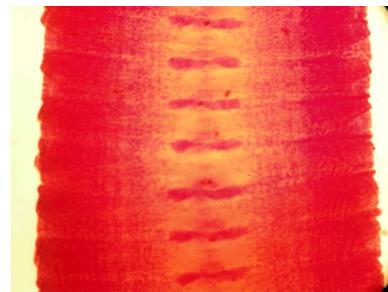


Fig. 2b: Stained mature segment of *Bothridium pithonis* (x20)

The worm tends to have white thick body. Moderate sized worm was up to 22.3 cm long. Strobila contained numerous short proglottids. External segmentation is complete throughout strobila. Scolex is distinct and well developed. Unarmed scolex is 4.1 mm in length and 5.1 mm in width. Scolex is provided with fused bothrial edges. Bothria forming tubes are (Figure 1a, 1b, 1c) 150 μ m in diameter. Long neck. Immature proglottids are 370 μ m long and 1800 μ m wide. Mature proglottids are 1601 μ m long and 2064 μ m wide. Gravid proglottids are 1760 μ m long and 2140 μ m wide. Genital pore is irregularly distributed, opening in the middle of the proglottids (Figure 2a, 2b). Vagina is located anterior or posterior to the cirrus pouch. Cirrus pouch is 441 μ m long and 170 μ m wide. Testicle is in two separated fields. Ovary is 1410 μ m wide. Vitellines distributed as a lateral line.

The morphological and morphometric data proved that the tapeworm involved in the current study was a specimen of the genus *Bothridium pithonis*.

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