HEAVY MIXED INFECTION OF OPHIOTAENIA SP. AND OPHIDASCARIS SP. IN A CAPTIVE RETICULATED PYTHON (PYTHON RETICULATUS)
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Abstract
Young captive reticulated python (Python reticulatus) died with a history of anorexia and frequent regurgitation. On post mortem examination, about 50-60 round worms with varying sizes and less than a kilo tapeworms were collected from the gut and esophageal region. Based on the external morphological characters and its comparison with available literature data the parasites were identified as Ophidascaris sp. and Ophiotaenia sp. These endoparasites parasitizing pythons were briefly discussed.

Key Words: Ophiotaenia sp., Ophidascaris sp. and Captive Reticulated Python.

Introduction
The family Boidae contains the world’s largest snake species, including pythons, boas, and anacondas. The family is subdivided into several subfamilies, with pythons belonging to the subfamily Pythoninae. Python reticulatus are large non-venomous snakes found in tropical and subtropical areas of southern and Southeast Asia. They are generally omnivorous, but can be entirely carnivorous. These snakes are now endangered, although they remain numerous in hilly and deep forest areas of India, probably because of the availability of prey, such as frogs, mice, and other small animals.

Udugama et al., 2012 reported that the diets and living habits, reptiles are hosts for a wide variety of both juvenile and adult tapeworms and flukes. Tapeworms are flatworms comprising a scolex and a chain of repetitive sections (proglottids). The adults reside in the small intestine of their definitive host and they all have indirect life cycles. In 1824, Blainville for the first time described this cestode in the rock python in India.

Ascarid nematodes were found parasitizing in stomach, lumen of small and large intestines of snakes worldwide. The nematodes ranged from 15-30 cm long, females being larger than males. Male worms were very thin and slender and females being large and stout. Eggs are passed in the faeces and embryonate over several months.

Closed environmental conditions coupled with stress of captivity predispose snakes to wide variety of endoparasitic infections. This limited study undertaken in an attempt to report the gastrointestinal parasites as well as for qualitative assessment of level of infection, in respect to presence of single or mixed infection of parasites, in captive pythons. In the long run, it should also aid in making several important management decisions.

Materials and Methods
On necropsy examination, large numbers of entangled worms (Fig.2) were found firmly attached into lumen of esophagus and gut. Then the parasites were collected manually using fine forceps were collected and preserved in 10% formalin for future parasite identification. Parasites were
processed by the standard parasitological procedures used for helminths and then identified using morphological characters.

**Result and Discussion**

Young captive reticulated python (*Python reticulatus*) died with a history of anorexia and frequent regurgitation was brought to post mortem examination. The presence of major lesions in the viscera and gut of python suggests non-trivial infection. From the literature cited and external morphology of the collected parasite sample confirm the presence of *Ophiotaenia* sp. (Fig.1) and *Ophidascaris* sp. (Fig.3) in Captive Reticulated Python in heavy numbers.

Southwell (1930) recorded this host-parasitic association from Nepal, India and Ceylon (Sri Lanka) and also recorded this parasite cestode in *Felis trigris* in India. It appears that the tiger had been feeding on a python. Parasitic infestations were common in wild animals, including snakes and reptiles. Although parasitic and other diseases of pythons and reptiles have been reported elsewhere (Sprent 1970). Several factors influence the pathogenic effects of nematodes; they include number of parasites present, overall immune status of host, age and availability of food (Ambrose et al., 1999).

Murvanidze (2013) reported cestodes are the most prevalent helminths in reptiles and particularly in pythons. In case of intensive invasion cestodes can cause death in pythons in the Zoological Parks and also suggests improved quarantine period of the reptiles and intensive parasitological monitoring are required. Under poor management-conditions, overwhelming parasitism is common, the effects of which range from clinically in-apparent disease to overt clinical signs to death. 4-5. Individual parasitic infections have been reported in different parts of the India, but there have been few attempts made to study the prevalence of different parasites 6-7.

Rataj et al., 2011 reported that the eggs belong to ascaridoid nematoda *Ophidascaris* sp., which is frequently found in pythonid and colubrid snakes. Ascarid nematoda is one of the most important pathogen for snakes and infestation can be fatal to visceral organs (Fig.4). Their close cohabitation with reptiles demands deep investigation regarding the influence of these species and their micro flora. When a reptile is highly stressed or under prolonged moderate to severe stress, the immune system falters. In cases of improper environmental temperatures, starvation, or prolonged dehydration, the beneficial gut flora die off and organisms benign in small numbers gain ascendancy and start causing problems.

Our evidence suggests that the endoparasitism is quite normal in captivity and in pythons but increase in number of heavy parasitic load in single individual species is strictly due to repeated exposure and improper husbandry practices which in turn leads to chronic debilitation and death of python.

![Fig.1 Python showing *Ophiotaenia* sp.](image1)

![Fig.2 Massive Collection of *Ophiotaenia* sp.](image2)
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Fig.3 Ophidascaris sp. in Python

Fig.4 Ophidascaris sp. in Python-Lung

References


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