World Journal of Zoology 5 (4): 246-248, 2010
ISSN 1817-3098

Case Report *on Physaloptera alata* Infection *in Botarous stellaris* from Iran

[1]S. Kordafshari, [2]R. Samani, [1]S.H. Hosseini, [3]M.R. Youssefi and [4]B. Esfandiari

[1]Department of Parasitology, Faculty of Veterinary Medicine, University of Tehran
[2]Department of Pathology, Faculty of Veterinary Medicine, University of Tehran
[3]Departments of Veterinary Parasitology, Islamic Azad University, Babol-Branch
[4]Pasteur Institute of Iran-Amol Research Center., Iran

Abstract: Nematode believed to be *Physaloptera* sp. was found in one fish-eating bird (*Botarous stellaris*) examined from Fars Province from Iran. This is the first reported case of Physalopterid infection in fish-eating bird from Iran, yet 17 worms, which firmly were attached to gastric mucosa, were recovered from the bird gut and were associated with necrosis and a granulomatous reaction. Controversy exists about identification of worm and the role these birds play in the life history of physalopterid nematodes.

Key words: Nematodes · Physaloptera · Botarous stellaris · Fish-eating Birds

INTRODUCTION

Physalopterid are common stomach parasites of canids [1], felids [2], rodents [3, 4], skunks (*Mephitis mephitis*) [5], opossums (*Didelphis virginianus*) [6], raccoons (*Procyon lotor*) [7] and raptors [8] of the U.S.A. These nematodes apparently utilize arthropoda such as beetles as intermediate hosts [9]. Reports of infected passeriform and gallinaceous birds with *Physaloptera* sp. have been published [10]. But, controversy exists about the role of fish-eating birds in the life cycle of *Physaloptera* sp. Although descriptions and keys are available for adult stages of these nematode species [11], comprehensive morphological descriptions of larval stages of all species in the family Physalopteridae are unavailable. Previous reports of *Physaloptera* sp. larvae in quail [12] were presumably made on the basis of distinguishing adult nematode characteristics, particularly adult cephalic morphology [6]. In this study, we report the occurrence of nematode resembling *Physaloptera* sp. in a fish-eating bird (Botarous stellaris) from Fars Province, from Iran.

Case Report: A 2-3 year-old male *Botarous stellaris* of 3.5 kg body weight after dying in a accident, was examined for endoparasites of digestive tract. Present study was based on *Physaloptera spp*, isolated from one *Botarous stellaris* originating from Sadat city, Fars province of Iran during 2009. Two hours after the Botarous *stellaris* was killed, the carcass was frozen and transferred to the Department of Veterinary Parasitology of the Tehran University of Medical Sciences, Tehran. We examined the digestive tract for endoparasite with screen (Mesh 70). The specimens were fixed and preserved in a solution composed of 70 % ethanol and formalin 10% then studied in wet and temporary mounts. After necropsy on the bird intestinal, 17 adult worms obtained that (6 male and 11 female) which were attached firmly to gastric mucosa severely, were observed. They were carefully removed from gastric mucosa which was become eroded and inflammed with much mucus. The specimens were fixed and preserved in 70 % ethanol. The males are 13 mm to 24 mm in length have two spicule (long Spicule was 0.690-0.700 mm and short spicule was 0.490 mm); the females are 32 mm long. The vulva length is 1.5 mm and slightly anterior to midbody. The eggs are 50 ìm long and 25 ìm wide. The egg has a thick, clear shell and contains a fully formed larva when passed in the feces. Worm had a thick smooth cuticle, coelomyarian musculature and well developed lateral cords which were usually narrow at the base and expanded into the body cavity.

Acording to Yamaguti [6] the features of spicule morphology measures were characteristic and resembled that of *physaloptera alata* (Figure 1-6). It is still unclear how important fish-eating birds are in the transmission of this parasite. This and previous studies suggest that the occurrence of Physalopterid infections in fish-eating bird may be more prevalent than previously thought.

Corresponding Author: B. Esfandiari, Pasteur Institute of Iran-Amol Research Center,
Tel: +1212662074-5, E-Mail: esfandiari88@hotmail.com

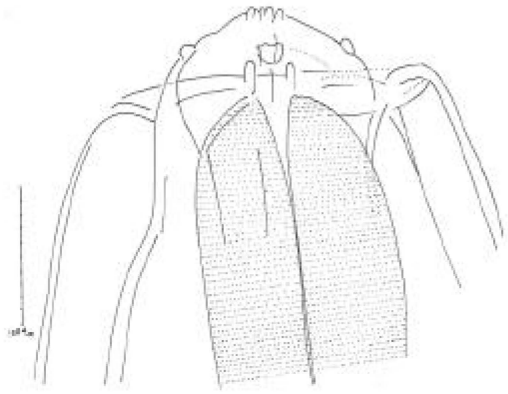

Fig. 1: Anterior end of *physaloptera alata*

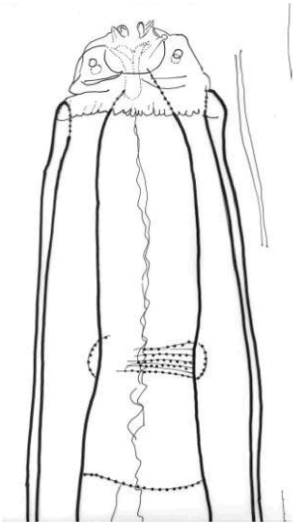

Fig. 2: Anterior end of *physaloptera alata*

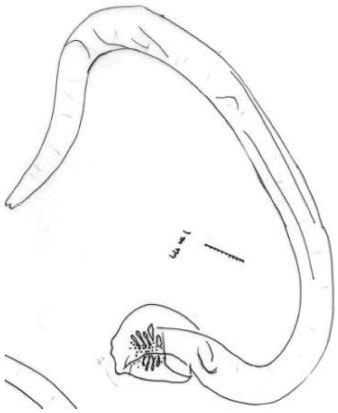

Fig. 3: *physaloptera alata*

Life history research including experimental infections with known definitive and intermediate hosts will be necessary to permit accurate identification of larval stages and determine the exact role of fish-eating bird in the transmission of Physalopterid worms.

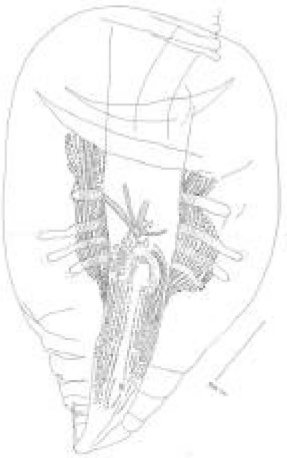

Fig. 4: Posterior end of *physaloptera alata*

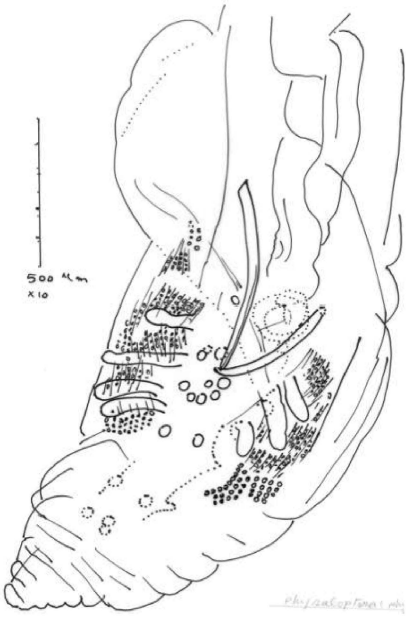

Fig. 5: *Posterior end of male physaloptera alata*

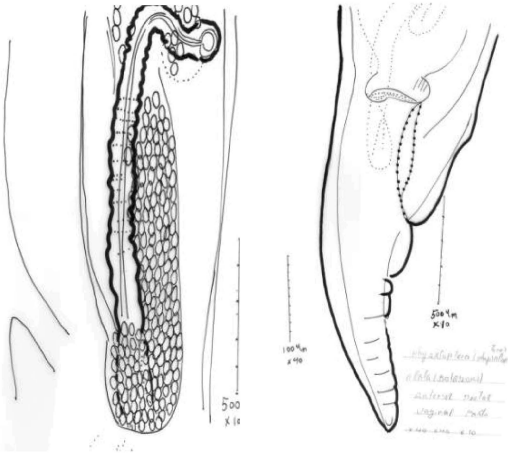

Fig. 6: *Vaginal pad female physaloptera alata*

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