Case Report

First Report of Taenia taeniaeformis in Persian Leopard (Panthera pardus saxicolor) in Iran

B. Esfandiari and M. R. Youssefi1*

Pasteur Institute of Iran-Amol Research Center, Amol, Mazandaran, Iran; 1Department of Veterinary Parasitology, Islamic Azad University, Babol-Branch, Babol, Iran
*Corresponding author: youssefi929@hotmail.com

ARTICLE HISTORY
Received: March 20, 2010
Revised: June 21, 2010
Accepted: July 04, 2010

Key words:
Iran
Persian leopard
Taenia taeniaeformis

ABSTRACT
Taenia taeniaeformis is synonym of Taenia infantis, Hydatigera taeniaeformis and Multiceps longihamatus. It has worldwide distribution. The leopard, a young female 2-3 years and body weight of 35 Kg, was shot unwillingly in a frighteningly close encounter with villagers in Ahovan County, Damghan city, Iran. One cestode obtained was identified as Taenia taeniaeformis. The worm was white, thick bodied and about 15 cm in length. The rostellum was short and armed with a double row of 28 hooks of two sizes.

INTRODUCTION

Taenia taeniaeformis is synonym to Taenia infantis (Bacigalupo, 1922), Hydatigera taeniaeformis (Batsch, 1786), Multiceps longihamatus (Morishita and Sawada, 1966; Bowman et al., 2002). This worm has been known for some time both as adult found in the cat and in the segmented larval stage in the liver of rodents, the strobilocercus. The larval stage was first described as Cysticercus fasciolaris by Rudolphi (Rudolphi, 1808). Taenia taeniaeformis has worldwide distribution; it parallels that of the domestic cat. The adult tapeworms tend to be located such that the scolex is within the first one-half of the small intestine. The scolex is often found attached to the mucosa (Alcaino et al., 1992).

Taenia taeniaeformis is the most robust of the tapeworm parasites found in the cat (Nolan and Smith, 1995). This is also the only species of Taenia typically reported from the domestic cat around the world. The worm tends to be white, thick bodied and about 15 to 60 cm in length. The scolex has two rows of hooks that have the typical claw-hammer shape of the Taenidae. There tends to be somewhere between 30 to 50 hooks per scolex. Each of the mature segments possesses a single lateral genital opening that randomly occurs on either one lateral side of a segment or the other (Okamota et al., 1995). Present paper describes the detection of Taenia taeniaeformis in a leopard (Panthera pardus saxicolor) in Iran, which is the first report of this parasite in Iran.

PROCEDURE AND RESULTS

For definitive identification, preliminary samples were dispatched to Veterinary Parasitology Museum, University of Tehran. Worm staining was done by carmine acid procedures. Dissected rostellum was mounted in aceto carmine. The number, shape, arrangement of rostellar hook and morphological characteristics of the mature segment were studied. Based
on the morphology characteristics (Yamaguti, 1963), one cestode helminth obtained was identified as *Taenia taeniaeformis*. The worm was white, thick bodied and about 15 cm in length. The rostellum was short and armed with a double row of 28 hooks of two sizes (Fig. 1). The larger hooks are measured to be 169 µm and the smaller ones to be 125 µm. Each of the mature segments possesses a single lateral genital opening that randomly occurs on either lateral side of a segment or the other. The terminal, gravid segments present in the feces were packed with eggs. The gravid uterus had 8 branches on each side. Under microscope, *Taenia* eggs revealed typical brown-shelled taeniid eggs containing six-hooked larvae. The eggs of *Taenia taeniaeformis* were spherical and measured between 31 to 36 µm in diameter.

**DISCUSSION**

Many species of *Taenia* are found in carnivores; Verster (1969) recognized 29 valid species and several of questionable validity. Some species are found in large cats as the final host including, *Taenia gonyamai*, *Taenia ingwei*, *Taenia omissa* and *Taenia macrocystis*. Other final hosts could be hyaenas, mustellids, foxes, and viverids. This is the first report from Iran that *Taenia taeniaeformis* found in Persian leopard. *Taenia taeniaeformis* is found worldwide where suitable hosts are present. It is not specific to any particular region. *Taenia taeniaeformis* infects rodents and felines so it is mainly a terrestrial organism. In unusual circumstances it has been found in humans, but very rare. It infects leopard mainly by way of mice. The infected mouse (secondary intermediate host) when eaten by the feline, the worm could develop to its adult stage in the intestine of the feline (Yamaguti, 1963). Identification of the species is based on the size and shape of the hooks on the rostellum along with various other characters, such as the type of larval stage, position of the genital ducts relative to the longitudinal excretory canals, etc., as has been carried out in this case report.

**REFERENCES**


