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Intestinal Parasite of Persian Leopard (*Panthera pardus Saxicolor)* in Iran

[1]M.R. Youssefi, [2]S.H. Hoseini and [3]B. Esfandiari

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

Abstract: The Persian leopard is said to be one of the largest of all the subspecies of leopards in the world. The Persian Leopard's main prey in Iran is Bezoar goat and wild sheep. A young female leopard 2-3 years was shot accidentally by villagers in Ahovan County around of Damghan city. We examined the digestive tract for endoparasits by sceening (Mesh 70). We obtained five *Ancylostoma tubaeforme,* three *Toxocara cati* and one *Taenia taeniaeformis.*

Key words: Persian leopard · Ancylostoma tubaeforme · Toxocara cati · Taenia taeniaeformis

INTRODUCTION

The Persian leopard is said to be one of the largest of all the subspecies of leopards in the world. The leopard is the smallest of the great cats (lion, tiger and jaguar). Males are up to 50% larger than the females. The habitat of the Persian Leopard is mainly found in the Alborz and the Zagros mountain ranges. These ranges cover a vast area starting from the borders with Turkey, Azerbaijan and Armenia, extending to the Caspian litoral region and on to Turkmenistan and western parts of Afghanistan in the Alborz range. Along the Zagros range, leopard habitats extend to the south of Iran, close to the Persian Gulf. The habitat of the Persian Leopard may cover a wide area of Iran, but leopard populations are scattered, fragmented and threatened. Human settlements and activities are the main threats for the species [1]. The Persian Leopard's main prey in Iran is Bezoar goat (*Capra aegagrus*) and wild sheep (*Ovis orientalis*). On occasion, leopards may prey on Boar (*Sus scrofa*), Red Deer (*Cervus elaphus maral*) and domestic animals such as camels, goats, sheep or dogs [2]. The principle threats to Persian Leopard survival in Iran are population fragmentation and loss of habitat due to human population encroachment, poisoning and poaching. In the present study, we describe the detection of gastrointestinal parasite in a Persian leopard (*Panthera pardus saxicolor*) in Iran, which is the first report of such infected leopard in Iran.

MATERIALS AND METHODS

A young female leopard 2-3 years was shot accidentally by villagers in Ahovan County around of Damghan city. (Latitude 36.083, longitude 58.967 and elevation1 238, East Semnan province). Three days after death, its carcass was frozen and transferred to the Department of Veterinary Parasitology of the Tehran University. We examined the digestive tract for endoparasits by sceening (Mesh 70). The specimens were fixed and preserved in 70 % ethanol. They were cleared in lacto phenol and studied in temporary mounts. Confirming the identification, samples were sent for researcher of veterinary Parasitology museum, Tehran University.

RESULTS AND DISCUSSION

We obtained five *Ancylostoma tubaeforme,* three *Toxocara cati* and one *Taenia taeniaeformis. Ancylostoma tubaeforme*: 5 nematode helminthes which were obtained identified as *Ancylostoma tubaeforme*. All samples were female and measured about 6.7±0.2 millimeters. The eggs of *Ancylostoma tubaeforme* have been measured to be 55-76 by 34-45 μm with means of 61 by 40 μm (Fig. 1). *Ancylostoma tubaeforme* as a separate species parasitizing the cat was originally described by Zeder in 1800 [3]. It was finally given a firm position as a separate species within the genus by

Corresponding Author: B. Esfandiari, Pasteur Institute of Iran-Amol Research Center, Iran.
Tel: +989123203722, E-mail: esfandiari88@hotmail.com.

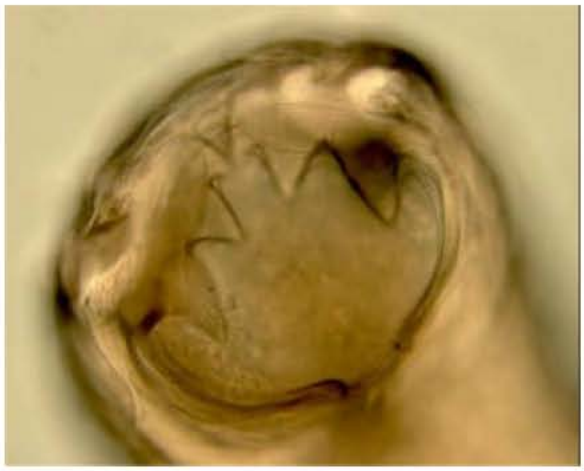

Fig. 1: Head of *Ancylostoma tubaeforme* derived from (*Panthera pardus saxicolor*) in Iran

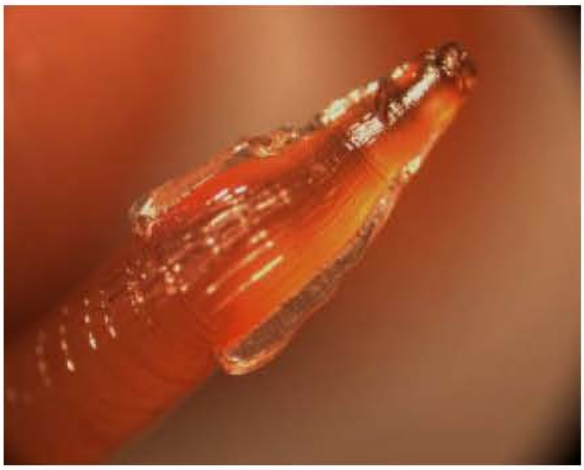

Fig. 2: Toxocara cati detected of leopard in Iran, Head and cervical alea.

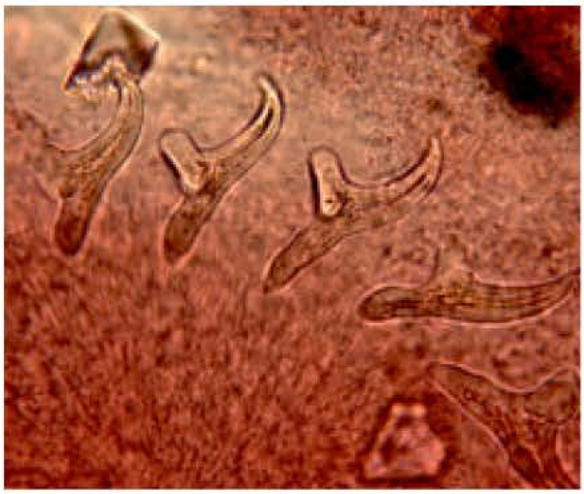

Fig. 3: Rostelum hooks of Taenia taeniaeformis

Burrows [4], who compared the adults of *Ancylostoma tubaeforme* with those of *Ancylostoma caninum* [5]. This worm is found throughout the world, wherever there are domestic cats [6].

Toxocara Cati: The helminthes had cervical alae which were short and wide, giving the anterior end appearance of an arrow. The esophagus was about 2 percent to 6 percent of the total body length and terminated in a glandular ventriculus which was about 0.3 to 0.5 mm long. The spicules of the males ranged from 1.7 to 1.9 mm in length (Fig. 2). The egg measured 65 by 77 μm and had the pitted eggshell typical of the eggs of this genus of ascaridoid. The pits on the eggs of *Toxocara cati* are smaller than the pits observed on the eggs of *Toxocara canis*. In reported Toxocara cati in two Tsushima leopard cats on the Tushima Island of japan. They found 2 Toxocara cati in stomach of one Tsushima leopard cat and 34 in stomach and 37 in small intestine of another Tsushima leopard cat [7]. In 54 fecal samples from leopard in Huai kha Sanctuary of Thailand 18 Toxocara-like helminthes were reported [8]. Some prevalences that have been recorded in different countries include Germany, 45 percent of 155 cats [9]. A survey of 188 feral cats from the Northern Territory of Australia revealed that only 1 percent of the cats were infected with *Toxocara cati* [10]. Yasuda in japan In Tsushima leopard cats, 10 species of parasites (Pharyngostomum cordatum, Spirometra erinacei, Toxocara cati, Molineus springsmithi, Arthrostoma hunanensis, Uncinaria felidis, Capillaria felis-cati, larvae of an unidentifiable lung worm and two species of Acanthocephala) were detected [5].

Taenia Taeniaeformis: Worm recovery, fixing the staining by carmine acid procedures. Dissected rostellum was mounted in aceto carmine. The number, shape, arrengment of rostellar hook and morphological characteristics of the mature segment were studied. Obtained 1 Cestod helminthes which were identified as *Taenia taeniaeformis*. The worm tends to be white, thick bodied and around 15 cm in length. The rostellum was short and armed with a double row of 28 hooks of tow size. The larger hooks are (mean 169 μm) and the smaller ones (mean 125 μm) (Fig. 3). 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.The terminal, gravid segments that are shed in the feces tend to be packed full of eggs. The gravid uterus had 8 branches on each side.

Eggs can easily be recognized as those of a *Taenia* through examination under a microscope, which reveals the typical brown-shelled taeniid eggs containing six-hooked larvae. The eggs of *Taenia taeniaeformis* are spherical and measure between 31 to 36 μm in diameter.

Taenia taeniaeformis is the most robust of the tapeworm parasites found in the cat [11]. This is also the only species of *Taenia* typically reported from the domestic cat around the world [12].

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