

First Report of *Toxocara Cati* in Persian Leopard (*Panthera pardus saxicolor*) in Iran

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Abstract: The Ascaridida is an order of nematodes that includes *Toxocara cati*, which is one of the most common parasites of the cat around the world. Characteristics of this group include first the presence of three large fleshy lips on the anterior end of the adult worms and second the eggshells produced by the species found in terrestrial hosts that typically are thick shelled and very resistant to environmental extremes. In May 2009, A young female leopard 2-3 years was shot unwillingly in a frighteningly close encounter with villagers in Ahovan County around of Damghan city. Three Nematod helminthes were obtained which identified as *Toxocara cati*. The adults have distinct cervical alae which are short and wide, giving the anterior end distinct appearance of an arrow.

Key words: Ascaridida • *Toxocara cati* • Leopard • Damghan

INTRODUCTION

Toxocara cati adult worms are brownish yellow or cream colored to pinkish and have a length of up to 10 cm [1]. Warren reported males as 3 to 7 cm long and females as 4 to 10 cm long [2]. The adults have distinct cervical alae that are short and wide, giving the anterior end which distinct appearance of an arrow [3]. *Toxocara cati* is a cosmopolitan parasite of the domestic cat and probably one of the most commonly encountered parasites [4]. The adult worms live in the small intestine and the female produces eggs that are passed in feces in the feline host [5]. Intermediate host especially mice had been orally infected with infected eggs [6]. In 1993, Yasuda and Akuzawa [7] 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. In 54 fecal samples from leopard in Huai Kha Sanctuary of Thailand 18 *Toxocara*-like helminthes were reported by Patton and Rabinowitz [8]. In the present work, we recorded the detection of *Toxocara cati* in a leopard (*Panthera pardus saxicolor*) in Iran.

Case Report: In May 2009, A young female leopard 2-3 years, trunk length 120 centimeters, length of tail

98 centimeters and body weight 35 kilograms, was shot unwillingly in a frighteningly close encounter with villagers in Ahovan County around of Damghan city. (Latitude 36.083, longitude 58.967 and elevation 1238, East of Semnan province). Three days after the leopard was killed, the carcass was frozen and transferred to the Department of Veterinary Parasitology of the Tehran University of Medical Sciences, Tehran. Examination of the digestive tract for endoparasite screening was done (Mesh 70). The specimens were fixed and preserved in 70% ethanol and formalin 10% then studied in wet and temporary mounts. For definitive identification we sent samples to the Veterinary Parasitology Museum in Tehran University. We obtained three Nematod helminthes which were identified as *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 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. 1). The egg measured 65 µm 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*.

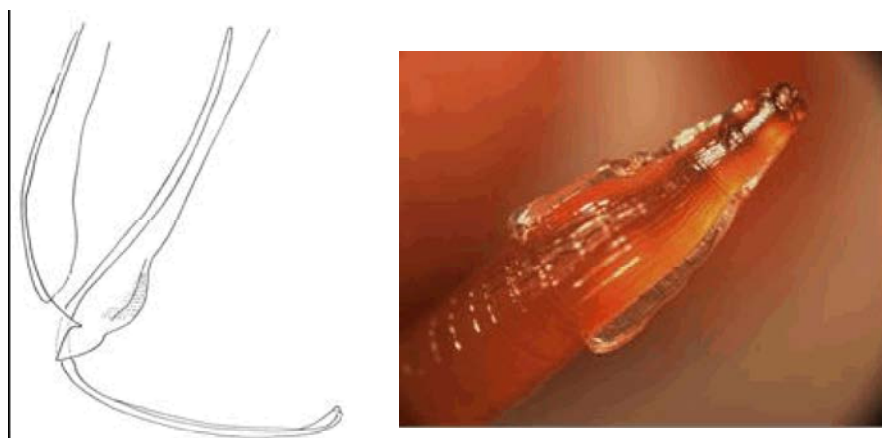


Fig. 1: *Toxocara cati* detected of leopard in Iran, tail and spicules (left) and Head and cervical alae (right)

REFERENCE

1. Bowman, D., M.C. Hendrix, D.S. Lindsay and S.C. Barr, 2002. Feline clinical parasitology. Iowa State University Press A Blackwell Science Company. First edition, pp: 281-286.
2. Aoki, S., T. Yamagami, H. Saeki and M. Washizu, 1990. Perforated gastric ulcer caused by *Toxocara cati* in a cat. J. Jap. Vet. Med. Assoc., 43: 207-210.
3. Beelitz, P., E. Gobel and R. Gothe, 1992. Species spectrum and incidence of endoparasites of cat litters and their mothers under different maintenance conditions in southern Germany. Tierarztliche Praxis 20: 297-300.
4. Oikawa, H., K. Mikazuki, M. Kanda and T. Nakabayashi, 1991. Prevalence of intestinal parasites with faecal examination in stray cats collected in the western area of Japan from 1983 to 1990. Jap. J. Parasitol, 40: 407-409.
5. O’Lorcain, P., 1994. Epidemiology of *Toxocara* spp. In stray dogs and cats in Dublin, Ireland. J. Helminthol., 68: 331-336.
6. Dubinski, P., K. Havasiova-Reiterova, B. Petko and I. Hovorka, 1995. Role of small mammals in the epidemiology of toxocariasis. Parasitology, 110: 187-193.
7. Yasuda, N. and M. Akuzawa, 1993. Helminths of the Tsushima Leopard Cat. J. Wildlife Diseases, 29(1): 153-155.
8. Patton, S. and R. Rabinowitz, 1994. Parasites of Wild Felidae in Thailand: A Coprological Survey. J. Wildlife Diseases, 30(3): 472-475.