Global Veterinaria 11 (1): 36-37, 2013
ISSN 1992-6197

DOI: 10.5829/idosi.gv.2013.11.1.73186

First Report of *Dipylidium caninum* in *Hyaena hyaena* (Striped Hyaena) from Iran

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Abstract: *Dipylidium caninum* is a cosmopolitan tapeworm of *Dipylidiidae* family. It affects both feline and canine species and accidentally infects human. *D. caninum* is generally nonpathogenic or causes minor symptoms for both dogs and cats. The current report describes the identification of *D. caninum* from *Hyaena hyaena* (striped hyaena) in Iran based on available systematic key.

Key words: *Dipylidium caninum* · Tapeworm · Wild Life · *Hyaena hyaena* · Iran

INTRODUCTION

Dipylidium caninum is the most common tapeworm of domestic dog and cat. However, it occasionally infects human particularly childeren [1, 2]. Final host acquire infection by ingestion of either dog or cat flea (*Ctenocephalides canis*, *C. felis*) which contain tapeworm larvae that is called cysticercoied [3]. Zoonotic diseases with wild life reservoirs represent a major public health problem affecting all continents. Therefore their importance and diferential recognition are increasing. Across the wild carnivore's endoparasites, five cestodes including *Mesocestoides lineatus, Mesocestoides litteratus, Joyeuxiella pasqualei, Taenia pisiformis and D. caninum* are considerable [4]. *D. caninum* has differentiated from other parasites, as the scolex has armed with protrusive rostellum and 4-5 rows of small hooks. Moreover, proglottids are like a large rice or cucumber and elongated [1].

Hyaena hyeana (striped hyaena) is an omnivorous mammal to which belongs Hyaenidae family of dog-like carnivores. This nocturnal animal is the common hyaena in near east, western asia and southern asia, also it was found near big cities like Tehran. Striped hyenas are chiefly scavengers (ungulate carcasses) in different stages of decomposition, fresh bones, cartilages, ligaments and bone marrow albeit small animals, fruit and insects [5]. Indeed, there are susceptible to get infected with parasitological agents due to their wide veriety of food sources. Although striped hyena is found nearly in most areas of Iran, there is no data concerning parasitical infection of this omnivorous mammal. Therefore, the present study described detection of *D. caninum* in a *Hyaena hyaena* (Striped hyaena) in Iran, which is the first report of H. *hyaena* infecteion by *D. caninum* in Iran.

Case Report: A male *H. hyaena* was poisoned by Strychnine-poisoned bait by villagers in Semnan (35°27'48˝N 53°12'50˝E), Iran in April 2012. Two days after death, the carcass was transferred to the Parasitology Laboratory of Babol Azad University, Iran. In screening of digestive tract for parasites with mesh 70, five cestodes were observed. After fixing in 70 % ethanol and clearing in lacto phenol, specimens were stained. The extracted cestodes were identified as *D. caninum* according to Yamaguti systematic key (6) considering all crucial features of scolex, egg, mature and gravid proglottids of parasite.

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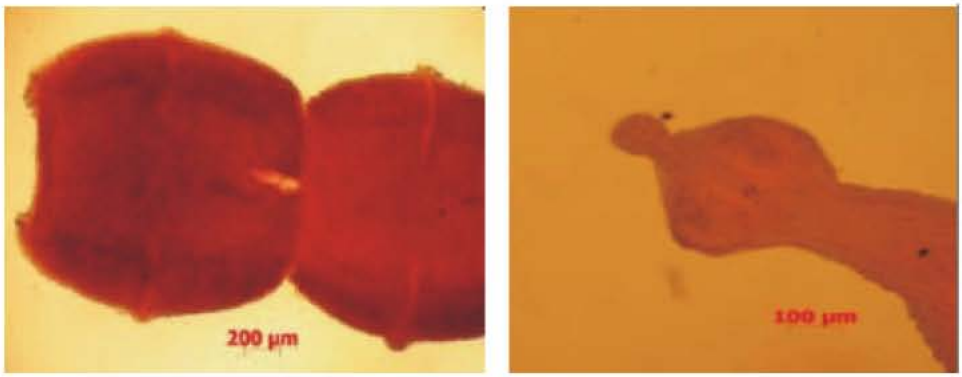

Fig. 1: Scolex (right) and mature segment (left) of *D. caninum* from *H. hyaena*.

Descriptions of Examined Parasites: The collected specimens had the following morphological and morphometric criteria: Length of examined cestoda ranged from 10 to 25 cm. The scolex was equipped with four suckers and rostellum with almost 50 hooklets which arranged in 4 rows around the rostellum. Proglottids seemed like cucumber. In addition, two sets of female and male reproductive systems and a pore opening on each margin were observed in each segment. Two viteline glands were observed directly behind and a considerable number of spheres testes were scattered in each proglottid (Fig. 1). Eggs were looked spherical and transparent containing a hexacanth embryo that ranged from 20 to 45 µm. Furthermore, eggs were surrounded by capsule contains 7 -14 eggs.

ACKNOWLEDGEMENTS

We are very grateful to the Environmental Conservation headquarters of Semnan and Environmental Conservation keepers for their cooperation.

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