

## Case Report

# Natural Infection of *Pachysentis canicola* (Acanthocephala: Oligacanthorhynchida) In Fox from Persian Gulf Coastal Area in Iran

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(Received 26 Aug 2007; accepted 24 Oct 2007)

## Abstract

*Pachysentis canicola* (Meyer, 1931) is an acanthocephalan belonging to the class Oligacanthorhynchida. These species parasitize canids and other carnivores as definitive hosts which are followed by ingestion of an infected arthropod as its biological intermediate host. We present here a natural occurrence of *P. canicola* in fox from Iran with special attention to its morphological characteristics.

**Keywords:** Fox, *Pachysentis canicola*, Iran.

## Introduction

Exploring parasites of different mammalian host such as carnivores has been always a great concern among parasitologists and veterinarians in Iran (1-4). Road kill animals could always be the easiest and of course the most humanistic source of sample collection in wild life Parasitology. Regular road searching in early mornings mainly at the seasons with heavy transportations may lead to find different animal carcasses. This non invasive collection will rich the Parasitology archives as well as providing faunistic study on different host species. Acanthocephalans or thorny-headed worms represent a phylum of parasites of uncertain affinities. All have the same larval stages and all utilize arthropods` as intermediate hosts (5). In contrast with *Macracanthorhyncus hirudinaceus* another acanthocephalan which has already been reported in carnivores as well as in wild

boar *Sus scrofa* from Iran (6), *P. canicola* has not ever observed and documented in the country. *Vulpes vulpes* (Linnaeus, 1758) is native and most widely distributed fox throughout the Iran. The origin of the present sample was Bushehr southwestern Iran.

## Case report

During a road search in Bushehr suburb areas a fresh fox (*V. vulpes*) carcass was found and transferred to our laboratory. The digestive tract of the carcass which had been remained intact was carefully examined. A bright yellow and wrinkled female acanthocephalan was removed from the middle part of the small intestine. Exact measuring showed total length of 71.5 mm, diameter at the mid body point, 2.3 mm. Truck long and narrow, with a slight inflation at anterior end (Fig. 1). Proboscis length 0.90 mm, width 0.5mm, nearly cylindrical, armed with 8 longitudinal rows

of 4-6 hooks on each (Fig.2). The range size of the hooks from the largest to smallest one was as, 120, 110, 90, 80, 70, 60, 45, 25  $\mu\text{m}$ . Mature eggs were 65–70 by 35–40 $\mu\text{m}$ . According to few acces-

sible taxonomic references (7, 8), concerning the given case, the specimen was eventually identified as a female *P. canicola* comparing with previously identified known species.



**Fig.1:** Whole acanthocephalan body, drowned by camera lucida showing the total length (Scale-bar 1mm)



**Fig. 2:** Worm proboscis armed with rows of hooks, drowned by camera lucida (Scale-bar 100 $\mu$ m)

### **Discussion**

Acanthocephalans are endoparasitic and an extremely successful group found in almost all

marine, freshwater and terrestrial systems, infecting a huge range of definitive (usually vertebrate) and intermediate (usually arthropod) hosts during their life cycles. This parasite is

definitely pathogenic and may cause perforation of the intestine (9). The biological intermediate host must be either a beetle or a cockroach, which must be eaten by a definitive host. Based on documented publications reviewed; the present case seems to be the first natural infection of *Pachysentis canicola* in *V. vulpes* from Iran. As mentioned above, other two more prevalent Acanthocephala, *Moniliformis moniliformis* and *Macracanthorhynchus hirudinaceus* have already been reported in Iran (10-12).

### Acknowledgement

The authors thank Mrs Shirin Jafarian, Neda Mirsepahi and Mr. Ali Rahimi for their kind assistance.

The authors declare that they have no Conflict of Interests.

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