

## Red fox (*Vulpes vulpes*) a new host species for acanthocefalan *Moniliformis moniliformis* (Bremser, 1811) in Poland

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**ABSTRACT.** Acanthocephalan *Moniliformis moniliformis* is a parasite of rodents, rarely also reported from carnivorous mammals. One female specimen of this parasite has been found in the small intestine of red fox *Vulpes vulpes*. It is the first report about this species invading the red fox in Poland.

**Key words:** *Acanthocephala*, *Moniliformis moniliformis*, red fox.

*Moniliformis moniliformis* is an acanthocephalan from family *Moniliformidae* invading mainly rodents, but it was also reported from some insectivorous and carnivorous mammals, also from red fox *Vulpes vulpes* [1–3]. There were also some sporadic reports about this parasite from human [4–6]. In Poland this parasite was reported only from european souslik *Spermophilus citellus* [7]. Intermediate hosts are cockroaches, mainly *Periplaneta americana* and beetles from genus *Blaps* [2, 3]. Red foxes have been examined using dissection techniques in many European countries like Great Britain [8], Spain [9], also in Poland [10–13] and *Moniliformis*

*moniliformis* has been never found in red foxes living in those countries.

In 2004, during the dissection of female red fox (hunted in Garwolin area near Warsaw) one specimen of *Moniliformis moniliformis* (determined by professor K. Zdzitowiecki) has been found in the small intestine. It was female 3.7 cm long and 0.1 cm wide (Figs 1, 2). In typical definitive host mature female of this species ranges from 10 to 27 cm long, so specimen found during our investigations is exceptionally small, but other morphological features indicate that it is *M. moniliformis*. Intermediate host of this acanthocephalan, cockroach *Periplaneta americana* is strictly synanthropic in Poland. Also three beetles from genus *Blaps* occurred in Poland (*B. mucronata*, *B. mortisaga* and *B. lethifera*) are synanthropic, whereas fourth — *B. halophila*, living in open areas occurs in Poland only near Ukrainian border [14]. Probably examined fox had eaten the



Fig. 1. *Moniliformis moniliformis* from the intestine of red fox. General view



Fig. 2. *Moniliformis moniliformis* from the intestine of red fox. Proboscis

intermediate host (cockroach or beetle) near human abodes.

*Moniliformis moniliformis* has been found for the first time in the red fox in Poland.

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