

Helminth Parasites of Wild Boar, *Sus scrofa*, in Iran

Authors: Eslami, A., and Farsad-Hamdi, S.

Source: Journal of Wildlife Diseases, 28(2) : 316-318

Published By: Wildlife Disease Association

URL: <https://doi.org/10.7589/0090-3558-28.2.316>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Helminth Parasites of Wild Boar, *Sus scrofa*, in Iran

A. Eslami,¹ and S. Farsad-Hamdi,² ¹ Department of Pathobiology, Faculty of Veterinary Medicine, Tehran University, P.O. Box 14155-6453, Tehran, Iran; ² Faculty of Science, Tehran University, Tehran, Iran

ABSTRACT: Fifty-seven wild boars (*Sus scrofa*) from protected regions of Iran were examined for helminths. Sixteen species of helminths were collected; there were ten nematodes, one acanthocephalan, two trematodes and three larval cestodes. New host and distribution records were established for all helminths except of *Taenia solium* cysticerci. Wild boar shared nine of these helminths with domestic pigs, six with ruminants and three with human beings in Iran. *Metastrongylus pudendotectus* and *M. salmi* are reported for the first time from Iran.

Key words: Wild Boar, Pig, *Sus scrofa*, helminths, survey.

The wild boar (*Sus scrofa*) can be found in almost all the ecosystems in Iran. In Iran, this animal is usually shot by farmers to protect agricultural crops, but wild boar also is hunted for its meat by Christian Armenian ethnics. In spite of wide spread wild-domestic swine interactions, very little information is available on the parasite infections of wild boar in Iran. The objective of this survey was to determine the prevalence and intensity of helminths of wild boar and to evaluate the role and impact of this animal in the epidemiology of helminthiasis of other animal species and humans.

Fifty-seven wild boars including 23 males and 34 females from 1- to 3-yr-old were examined during summer and autumn from protected regions located in north (35° to 37°N, 49° to 55°E), northeast (31° to 38°N, 55° to 61°E) and southwest (30° to 32°N, 47° to 50°E) Iran. At necropsy gastrointestinal tract, liver, lungs, kidney, urinary bladder, muscles, heart and skin were examined for parasites. Stomachs and small and large intestines of each animal were washed separately through 100 mesh standard sieves. The total number of helminths in each organ was estimated by identifying and counting the worms in 10% aliquots of the washed contents. The livers were sliced into small pieces and squeezed

in warm water. After discarding the large pieces of tissue, the helminths in the sediment were identified and counted. Lung-worms were collected by thorough examination of lung tissue and were identified and counted. Representative specimens of nematodes are deposited in the British Museum of Natural History (The Natural History Museum, Cromwell Road, London SW7; Referenced under respective name of the helminth collected by the senior author.)

This study reports new host and distribution records for all helminths of wild boar except of *Taenia solium* cysticerci (Table 1). The majority of animals examined (74%) had at least one species of helminth in the internal organs; infections with several species were common. *Metastrongylus pudendotectus* and *M. salmi* are reported for the first time from wild boar of Iran. In addition to the helminths reported here, the existence of other helminths such as *Ornithobilharzia turkestanicum* (Massoud, 1973), *Trichinella spiralis* (Afshar and Jafarzadeh, 1974) and *T. solium* cysticerci (Afshar, 1967) in wild boars of Iran were documented previously. Not only do wild boars in Iran harbor several helminths in different organs, but they also share 10 of them (*Ascarops strongylina*, *Physocephalus sexalatus*, *Ascaris suum*, *Strongyloides ransomi*, *Macracanthorhynchus hirudinaceus*, *Oesophagostomum dentatum*, *Trichuris suis*, *Metastrongylus apri*, *T. solium* cysticerci and *T. spiralis*) with domestic pigs, (Mirzayans, 1976; Afshar, 1967; Afshar and Jafarzadeh, 1967), one species (*T. spiralis*) with jackal (*Canis aureus*) and red fox (*Vulpes vulpes*) (Mobedi et al., 1973) and five species (*Fasciola gigantica*, *Dicrocoelium dendriticum*, larval stages of *Echinococcus granulosus* and *Taenia hydatigena* and *O. turkestanicum*) with most domestic and

TABLE 1. Prevalence and intensity of helminths of 57 wild boars in Iran.

Organs and parasites	Prevalence (%)	Mean intensity \pm SE	Range
Gastrointestinal tract			
<i>Gongylonema pulchrum</i>	35	7 \pm 3	1–14
<i>Ascarops strongylina</i>	56	47 \pm 4	1–190
<i>Physocephalus sexalatus</i>	56	95 \pm 22	1–752
<i>Ascaris suum</i>	5	4 \pm 2	1–3
<i>Globocephalus urosulatus</i>	74	69 \pm 13	52–550
<i>Macracanthorhynchus hirudinaceus</i>	47	18 \pm 4	1–117
<i>Oesophagostomum dentatum</i>	47	95 \pm 19	1–556
<i>Trichuris suis</i>	4	1 \pm 0	1
Lungs			
<i>Metastrongylus apri</i>	16	34 \pm 13	9–140
<i>Metastrongylus pudendotectus</i>	14	10 \pm 4	1–15
<i>Metastrongylus salmi</i>	14	5 \pm 1	4–15
<i>Echinococcus granulosus</i> larvae	5	NC ¹	NC ¹
<i>Taenia hydatigena</i> larvae	4	NC ¹	NC ¹
Liver			
<i>Fasciola gigantica</i>	4	23	23
<i>Dicrocoelium dendriticum</i>	21	527 \pm 75	300–1,270
Muscles and heart			
<i>Taenia solium</i> larvae	4	NC ¹	NC ¹
Mesenteries			
<i>Taenia hydatigena</i> larvae	14	NC ¹	NC ¹

¹ Not counted.

wild ruminants of Iran (Eslami et al., 1976; Eslami et al., 1981; Mirzayans, 1974). *Ascarops strongylina* and *P. sexalatus* are known to occur in wild boar and camel (*Camelus dromedarius*) in Iran (Mirzayans and Halim, 1980). Thus, wild boar can play a role in the epidemiology of helminth infections of several hosts in Iran. The existence of *Fasciola* sp., *D. dendriticum* and *T. spiralis* in humans has been reported also from Iran (Farid, 1971; Mohsenin and Ebrahimian, 1966; Moin 1966). Since wild boar is hunted by some segment of the population, our survey further reveals that wild boar helminths may have public health importance.

We are grateful to D. I. Gibson, Head of the parasitic Worm section, British Museum (Natural History) and Mrs. E. A. Harris of the same section, for their assistance in the determination and confirmation of species of nematodes.

LITERATURE CITED

- AFSHAR, A. 1967. Cysticercosis in Iran. *Annals of Tropical Medicine and Parasitology* 61: 101–103.
- , AND Z. JAFARZADEH. 1967. Trichinosis in Iran. *Annals of Tropical Medicine and Parasitology* 61: 349–351.
- ESLAMI, A., M. NAYERI-RAD, M. R. SALEHI, AND M. FAIZY. 1976. Liver trematodes of ruminants from Iran. *Journal of Veterinary Faculty, University of Tehran* 32: 21–30 (In Persian, summary in English).
- , S. RAHBARI, M. MEYDANI. 1981. Cestodes and trematodes of wild sheep, *Ovis ammon orientalis* and goitered gazelle, *Gazella subgutturosa* in Iran. *Veterinary Parasitology* 8: 99–101.
- FARID, H. 1971. Human infection with *Fasciola hepatica* and *Dicrocoelium dendriticum* in Isfahan, central Iran. *The Journal of Parasitology* 57: 160.
- MASSOUD, J. 1973. Studies on the schistosomes of domestic animals in Iran 1—Observation on the *Ornithobilharzia turkestanicum* (Skrjabin 1913) in Khuzestan. *Journal of Helminthology* 47: 163–180.
- MIRZAYANS, A. 1974. The incidence of hydatidosis

- and other larval stages of cestodes in domestic animals in Tehran abattoir. *Journal of Veterinary Faculty, University of Tehran* 30: 1-14 (In Persian, summary in English).
- . 1976. Parasitic diseases of pig in Iran. *Proceedings International Pig Veterinary Society*, Iowa State University Press, Ames, Iowa, 1 pp.
- , AND R. HALIM. 1980. Parasitic infections of *Camelus dromedarius* from Iran. *Bulletin de la Societe de Pathologie Exotique* 4: 442-445.
- MOBEDI, F. H. ARFAA, H. MEYDANI, AND K. MOVAFAGH. 1973. Sylvatic focus of trichinosis in the Caspian region, northern Iran. *American Journal of Tropical Medicine and Hygiene* 23: 720-722.
- MOHSENIN, H., AND M. A. EBRAHIMIAN. 1966. Human fascioliasis in Iran, report of a case with *Fasciola hepatica* in biliary duct. *Bulletin de la Societe de Pathologie Exotique* 5: 36.
- MOIN, M. 1966. First report of trichinosis of man in Iran. *Medical Journal* 5: 259-267 (In Persian).

Received for publication 18 October 1990.