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

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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. Lungworms 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 existance 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

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

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

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