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PARASITES OF THE COYOTE (*Canis latrans*) IN CENTRAL UTAH [□]

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Abstract: Seventeen coyotes, *Canis latrans*, from central Utah were surveyed for parasites. Five species of parasites not reported previously from coyotes in Utah were detected: *Filaroides osleri*, *Physaloptera* sp., *Spirocerca* sp., *Ancylostoma caninum*, and *Cediopsylla simplex*. In all, 11 genera of parasites were observed.

INTRODUCTION

The coyote, *Canis latrans*, and other wild carnivores may serve as reservoirs for parasites which infect man and other animals. This survey was conducted to determine the parasites present in coyotes from central Utah.

MATERIALS AND METHODS

Seventeen adult coyotes were obtained from federal trappers in central Utah. All but two had been skinned. All animals had been dead for at least 24 hr prior to examination. The esophagus, trachea, heart, lungs, diaphragm, liver, gall bladder, spleen, pancreas, stomach, small intestine, large intestine, kidneys, and urinary bladder were excised and examined macroscopically, and microscopically by observing tissue squash preparations. All body cavities were examined grossly. Fecal samples from the colon were placed in 3% potassium dichromate and later examined for coccidia using a standard sugar flotation method. Examination for blood and intestinal protozoa (other than those which might be found by flotation) was not attempted, due to the length of time the animals had been dead.

Cestodes were fixed in formal-alcohol for 24 hr and then placed in 70% ethyl

alcohol (EtOH) until they could be stained in either Mayer's paracarmine or Semichon's acetic-carmine. Some specimens were counterstained with fast green during the 95% EtOH step. Dehydrated specimens were cleared in methyl salicylate and mounted in Permount.[®] Nematodes were fixed in 70% EtOH, stored in glycerine-alcohol, and then mounted in lactophenol.

The two coyotes with skin intact were examined for ectoparasites by brushing the fur over a white paper. Fleas obtained were cleared in 10% potassium hydroxide, washed in tapwater, dehydrated in EtOH, cleared in xylene, and mounted in Permount.[®]

RESULTS AND DISCUSSION

The parasites observed in this survey (Table 1) included five species not previously reported from coyotes in Utah, although they have been reported elsewhere in the United States.^{1,4,6,7,8} These were *Filaroides osleri*, *Physaloptera* sp., *Spirocerca* sp., *Ancylostoma caninum*, and *Cediopsylla simplex*. The *Spirocerca* sp. noted was encysted in the liver, a site not previously reported for this nematode in the coyote. Specimens have been deposited with the USDA, Beltsville, Maryland (USDA Par. Coll. number 67216.) All other helminths were

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TABLE 1. The location and prevalence of parasites in 17 coyotes from central Utah.

Parasite	Location	Number of Coyotes Infected (%)
Protozoa		
<i>Sarcocystis fusiformis</i>	Feces	15 (88)
Cestodes		
<i>Mesocostoides kirbyi</i>	Small Intestine	3 (18)
<i>Multiceps packii</i>	Small Intestine	8 (47)
<i>Taenia</i> spp. ^a	Small Intestine	13 (76)
Nematodes		
<i>Ancylostoma caninum</i>	Small Intestine	2 (12)
<i>Filaroides osleri</i>	Trachea	3 (18)
<i>Physaloptera</i> sp.	Stomach	1 (6)
<i>Spirocerca</i> sp.	Liver (Encysted)	1 (6)
<i>Toxascaris leonina</i>	Small Intestine	5 (29)
<i>Toxocara canis</i>	Small Intestine	1 (6)
Arthropod^b		
<i>Cediopsylla simplex</i>	Fur	2 (100) ^b

^aSpecies included: *T. hydatigena*, *T. krabbei*, and *T. pisiformis*.

^bOnly two coyotes were obtained that had not been skinned.

reported earlier from coyotes in Utah.³ They also found *Taenia rileyi*, *Dipylidium caninum*, *Protospirura numidica*, *Passalurus nonnannulatus*, and *Dermatophis veligera*. In our study, as well as in the previous survey,³ the most prevalent nematode was *Toxascaris leonina* and the most prevalent tapeworm was *Taenia pisiformis*.

Sarcocystis fusiformis was the only protozoan identified, but oocysts in the size range of *Isospora ohioensis* (*I. rivolta*) were found in 3 coyotes. *I. ohioensis* has been reported in coyotes;^{2,8} however, the oocysts we found did not sporulate. Therefore, it is possible these oocysts actually were parasites of a prey species.

Acknowledgement

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