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Serratospiculoides amaculata in a Cooper's Hawk (*Accipiter cooperii*)

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ABSTRACT: During a routine examination of a female Cooper's hawk (*Accipiter cooperii*) nematodes were found in the thoracic air sacs. A total of 12 females and nine males were recovered and identified as *Serratospiculoides amaculata*. This is the first record of this parasite found in a raptor, other than a falcon, in North America.

Key words: Cooper's hawk, *Accipiter cooperii*, *Serratospiculum amaculata*, *Seratospiculoides amaculata*, Montana, air sacs.

An adult female Cooper's hawk (*Accipiter cooperii*) found along the Yellowstone River, Park County, Montana, USA (40°25'N, 110°50'W) in January 1983 was brought to the Raptor Rehabilitation Program at the Veterinary Research Laboratory, Montana State University. Examination revealed a compound fracture of the right femur. The fracture site was necrotic and nerve damage was severe. Rehabilitation was not possible and the bird was euthanatized. At necropsy, the thoracic air sacs were thickened, white and fibrous.

Closer inspection showed a large number of long, thin nematodes within the tissue of the air sacs. To ensure the recovery of complete specimens, dissecting needles were used to tease the nematodes from the surrounding tissue. Twelve adult females and nine adult males were removed and fixed in glycerin alcohol. The nematodes were tentatively identified as *Serratospiculoides amaculata*.

Type specimens, and other *S. amaculata* identified by E. E. Wehr (United States National Parasite Collection, Beltsville, Maryland 20705, USA; U.S.N.M. No. 32332 and 34470, respectively) from North Dakota, as well as some specimens from Perry (U.S.N.M. No. 63005), were compared with our specimens (Table 1). Based on measurements and previous descriptions the nematodes found in the air sacs of the Cooper's hawk were confirmed as *Serratospiculoides amaculata*. This is the first report of *S. amaculata* in a raptor species, other than falcons, in North America, although *Serratospiculoides* spp. have been reported in falcons throughout the world (Prescott and Fairchild, 1972).

Wehr (1938) described *S. amaculata* from a prairie falcon (*Falco mexicanus*) from Bozeman, Montana. *Serratospiculoides amaculata* has been reported also from prairie falcons in North Dakota, Oregon, and California and from a peregrine falcon (*Falco peregrinus*) in Pennsylvania. Bigland et al. (1964) found *S. amaculata* in five prairie falcons. Sonin (1968) later reclassified *Serratospiculum amaculata*, placing it in the new genus *Serratospiculoides*. Specimens of *S. amaculata* from the Cooper's hawk are deposited in the U.S. National Parasite Collection (No. 78619).

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TABLE 1. Comparative measurements of *Serratospiculoides amaculata*.

	Measurements			
	Present study	Type specimens	Wehr[a]	Bigland[b]
Males				
Total length (mm)	69[c] (61–80)[d]	(65–88)	—	77 (70–84)
Width at middle (μm)	378.9 (368.4–389.6)	394	424 (412–436)	440 (420–460)
Muscular esophagus (length) (μm)	280	295	220	358 (316–438)
Glandular esophagus (length) (mm)	7.9 (7.3–8.6)	8.9	12.1	9.0
Glandular esophagus (width) (μm)	270	—	—	236.5 (232–241)
Long spicule (mm)	2.2 (2.1–2.3)	2.1	1.3	2.2 (2.0–2.4)
Short spicule (μm)	420 (380–460)	720	360	448 (422–482)
Caudal alae (length) (μm)	194.4	202	207.9	219 (210–229)
Females				
Total length (mm)	176 (168–190)	(200–225)	—	185 (150–216)
Width at middle (μm)	602.8 (521–684.6)	600	605 (576–648)	678 (603–780)
Muscular esophagus (length) (μm)	418.5 (395.6–443.4)	495	390 (350–430)	433 (338–563)
Glandular esophagus (length) (mm)	10.2	—	14.4	17.7
Glandular eosphagus (width) (μm)	320	—	260	382 (320–522)
Vulva (μm from the anterior end)	680	657	535 (310–760)	679 (437–961)
Eggs (μm)	54.4 × 30.6	54 × 29	50.7 × 31.3	49.5 × 31.3

[a] From Wehr (1938).
[b] From Bigland et al. (1964).
[c] Mean.
[d] Range.

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