6-1964

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Georges Dubois
Corcelles (Neuchâtel)

Robert L. Rausch
University of Washington, rausch@uw.edu

THE JOURNAL OF PARASITOLOGY
Vol. 50, No. 3, June 1964, p. 445–447

Studies on the Helminth Fauna of Alaska. XL. *Strigea gruis* sp. n., a Trematode Parasite of *Grus canadensis* (L.)

Georges Dubois and Robert L. Rausch
Corcelles (Neuchâtel), Switzerland, and Arctic Health Research Center, Public Health Service, U. S. Department of Health, Education, and Welfare, Anchorage, Alaska

ABSTRACT: *Strigea gruis* sp. n. (Trematoda : Strigeata, Strigeidae) is described from the sandhill crane *Grus c. canadensis* (L.). Only one other species of *Strigea* (*S. neotidis* Bisseru, 1956) is known from birds of the order Gruiformes; it is distinguished from *S. gruis* by several characteristics including its slender form, campanulate anterior segment, size of pharynx and of eggs, position of ovary, and position and size of testes. *S. gruis* differs from two other species having a relatively large pharynx, *S. sphaerula* (Rudolphi, 1803) and *S. intermedia* Szidat, 1932, both parasites of corvids, in the form of the anterior segment and in details of the genital organs.

During the period 1955 to 1963, 13 specimens of sandhill crane, *Grus c. canadensis* (Linnaeus), were collected in Alaska by personnel of the Zoonotic Disease Section, Arctic Health Research Center, and examined for helminths. An undescribed species of trematode belonging to the family Strigeidae Railliet, 1919, of the suborder Strigeata La Rue, 1926, was found in three birds.

The infected hosts were collected as follows: (No. 24638) 15 July 1960 at Goose Bay, Cook Inlet; (No. 26336: type material) 18 May 1961 at Potter Marsh, about 10 miles south of Anchorage; (No. 29436) 16 June 1963 at Potter Marsh. The birds, all adults, had 7, 80, and 5 of these strigeids, respectively.

Strigea gruis sp. n.

(Figs. 1 and 2)

(All measurements in millimeters)

Diagnosis

Length of body 1.44 to 2.32 (avg 2.01). Anterior segment globular or subglobular, measuring 0.56 to 0.82 (avg 0.69) in length. Posterior segment sacciform or, when contracted, reniform, usually twice as long as anterior segment, measuring 0.88 to 1.59 (avg 1.33) in length. Reniform ovary, measuring 0.115 to 0.230 by 0.160 to 0.340, situated in first fifth of posterior segment. Last fifth of posterior segment containing copulatory bursa; latter more or less delimited dorsally and provided with muscular ring ("Ringnapf"), measuring 0.170 to 0.270 in depth. Remainder of posterior segment occupied by large, lobulated testes, anterior testis measuring 0.200 to 0.420 by 0.290 to 0.580 and posterior testis, 0.225 to 0.480 by 0.300 to 0.580. Voluminous seminal vesicle situated between lobes of posterior testis. Proteolytic gland, subequal to size of ovary, measuring 0.105 to 0.200 by 0.145 to 0.245. Terminal buccal sucker measuring 0.115 to 0.180 by 0.115 to 0.210; spherical pharynx, 0.105 to 0.160 by 0.100 to 0.160, nearly equaling latter in size. Ventral sucker, measuring 0.160 to 0.250 by 0.135 to 0.235, masked by vitellaria, latter extending anteriad to level of pharynx and in posterior segment reaching ventrally as far as mid-length of largely exposed copulatory bursa, with concentration at margin of ceca. Vitelline reservoir and Mehlis' gland intertesticular. Laurer's canal present. Ductus ejaculatorius opening into uterus shortly after entrance of latter into base of genital cone. Eggs, numbering from 1 to 35, average 0.103 by 0.65.

Comparative measurements of individuals from three hosts are presented in Table I.

Host: *Grus c. canadensis* (Linnaeus).

Habitat: Small intestine.

Type locality: Potter Marsh, about 10 miles south of Anchorage, Alaska.

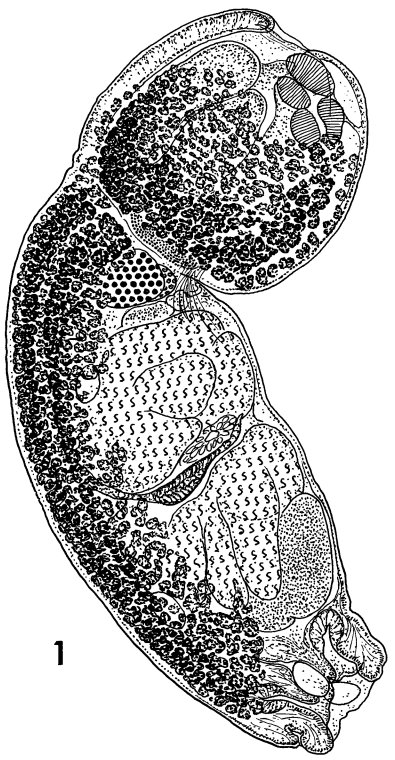
Type: In the collection of the senior author, Zoological Institute, University of Neuchâtel.

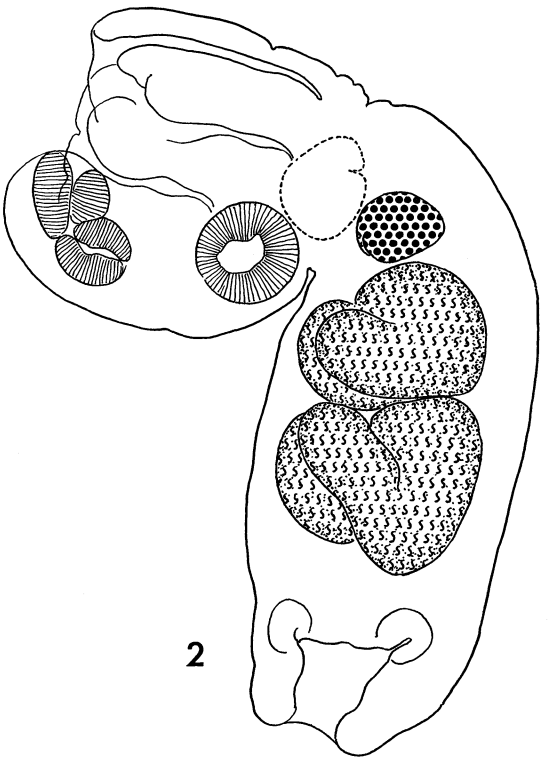
Paratypes: USNM Helm. Coll. No. 59003.

DISCUSSION

Strigea gruis sp. n. is characterized by its globular anterior segment and by the comparatively large size of the pharynx, by the extremely anterior position of the ovary in the

Received for publication 5 December 1963.





FIGURES 1 AND 2. *Strigea gruis* sp. n. from *Grus canadensis*. **1**. From host No. 26336. Length 2.22 mm. **2**. From host No. 29436. Topographic scheme of the genital glands. Length 1.78 mm.

TABLE I. *Dimensions of* Strigea gruis *sp. n. (in millimeters).*

	No. 26336	No. 24638[1]	No. 29436
Total length	1.71–2.32	1.44–1.67	1.78
Anterior segment:			
Length	0.62–0.82	0.56–0.69	0.63
Width	0.66–0.86	0.53–0.58	0.66
Posterior segment:			
Length	1.07–1.59	0.88–1.00	1.19
Width	0.61–0.80	0.47–0.52	0.54
Buccal sucker	0.140–0.180 × 0.135–0.210	0.115–0.157 × 0.115–0.135	0.165 × 0.140
Pharynx	0.130–0.160 × 0.130–0.160	0.105–0.130 × 0.100–0.125	0.135 × 0.135
Ventral sucker	0.170–0.250 × 0.160–0.235 or 0.200–0.220	0.160–0.190 × 0.135–0.167	0.200–0.210 × 0.170–0.210
Ovary	0.170–0.230 × 0.230–0.340	0.115–0.135 × 0.170–0.190	0.135–0.160 × 0.160–0.180
Anterior testis	0.340–0.420 × 0.470–0.580	0.200–0.225 × 0.290–0.300	0.330–0.370 × 0.360–0.370
Posterior testis	0.300–0.480 × 0.470–0.580	0.225–0.270 × 0.300–0.310	0.360–0.370 × 0.370–0.410
Eggs	0.90–0.115 × 0.60–0.68 (avg 0.104 × 0.65)	0.94–0.100 × 0.70	–
Proteolytic gland	0.170 × 0.245	0.105 × 0.145–0.190	0.160–0.200 × 0.230–0.240
Extent of the copulatory bursa	0.170–0.270	0.190–0.210	0.190
Location of ovary proportional to length of posterior segment	8–20/100 (avg 12/100)		9–12/100 (avg 11/100)

[1] Includes some specimens in the early stage of sexual maturity (two eggs in the uterus).

posterior segment, and by the great development of the testes and seminal vesicle.

A single species of *Strigea* has been recorded as a parasite of birds of the order Gruiformes: *Strigea neotidis* Bisseru, 1956, from *Neotis cafra denhami* (Children) [Otidae], from Northern Rhodesia (Bisseru, 1956). This African species differs from *S. gruis* by its narrower posterior segment, its cupuliform to campanulate anterior segment, the small size of the pharynx (0.079 by 0.058 mm), the position of the ovary almost at the middle of the posterior segment (ratio 38 to 44/100), by the weakly developed testes situated in the third quarter of the segment, and by the larger size of the eggs (0.115 to 0.130 by 0.061 to 0.068 mm).

Strigea gruis may be compared with only two additional species, *S. sphaerula* (Rudolphi, 1803) and *S. intermedia* Szidat, 1932, both of which have a relatively large pharynx (Szidat, 1932; Dubois, 1938). These trematodes, both parasites of corvids, differ distinctly from *S. gruis* in having a hemispheric or cupuliform, depressed anterior segment, with a very large opening. *S. sphaerula* also possesses well-developed, massive, or slightly lobed testes, with the ovary situated well anterior in the posterior segment (10 to 24/100), but this species has a small seminal vesicle.

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