

A SPECIES OF ROUND WORM (GONGYLONEMA) FROM  
DOMESTIC SWINE IN THE UNITED STATES.

By EDWARD A. CHAPIN,

*Of the Bureau of Animal Industry, United States Department of Agriculture.*

In an examination of specimens of *Gongylonema* from American swine it was noted that there is a pronounced discrepancy between the spicule lengths of the species, which is common in swine in the United States, and the reported measurements of the same organs of *Gongylonema pulchrum* Molin, an European form supposed to occur in the New World. An examination of the available material showed that, as yet, the true *G. pulchrum* Molin is not represented among specimens collected in this country and deposited in the United States National Museum.

GONGYLONEMA RANSOMI Chapin.

*Gongylonema ransomi* CHAPIN, Journ. Amer. Vet. Asso., vol. 61, 1922, no. 1, p. 68, (Apr.)

*Gongylonema*. — Cuticle transversely striated; cuticular tubercles present in the anterior 1.0–1.3 mm. (female) or 0.6–0.9 mm. (male) of the body length (fig. 1), round, oval to nearly rectangular, arranged more or less regularly in rows. On the dorsal surface, between the lateral alae, there are four rows of tubercles, more or less evenly spaced one from another but somewhat concentrated near the dorsal line. Ventrally there are four complete rows of tubercles crowded toward the median line, with an incomplete row on either side, which is located between the external of the four rows and the lateral ala. Dorsal ala absent. Lateral alae short, extending a short distance beyond the posterior limit of the tubercles, slightly unequal in length. Cervical papillae situated on a craterlike depression upon a circular tubercle

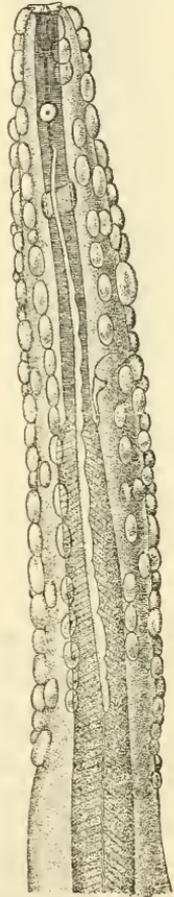


FIG. 1.—GONGYLONEMA RANSOMI. ANTERIOR EXTREMITY OF FEMALE (ENLARGED).

located just cephalad of the cephalic end of the lateral ala. Excretory pore opens *between* tubercles of the median ventral rows, or on a transverse scute as in other species, just cephalad of the junction of the nonmuscular and muscular portions of the esophagus. Nonmuscular portion of the esophagus short, about 0.5 mm. in female, 0.4 mm. in male. Muscular portion long, in female about 4.5 mm., much shorter (2.85 mm.) in male.

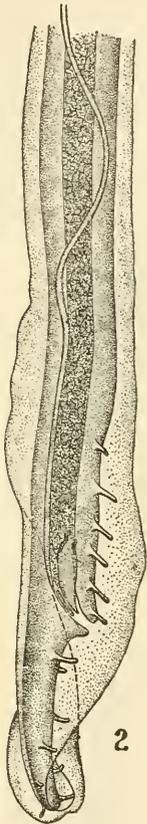


FIG. 2.—GONGYLONEMA RANSOMI. CAUDAL EXTREMITY OF MALE.

*Male*.—The caudal alae enclose the tip of the tail and are asymmetrical (fig. 2), the right wing being somewhat longer than the left. There are usually six preanal and four postanal papillae on each side, though the number varies. The anus is about 0.250 mm. from the tip of the tail. The caudal glands are subterminal. The right spicule (fig. 3) is short and stout, slightly curved and twisted, and measures 0.120 mm. between extremities in a straight line. The left spicule is very long, much thinner. It is about 10 mm. long. At its cephalic end it is infundibuliform, obliquely and irregularly emarginate. The "gorgeret" consists of two portions, a straight part, lying parallel to the short spicule and about 0.055 mm. long, and an oval part, lying dorsal of the spicules and directly back of the genital opening, about 0.029 mm. in diameter, giving a total length of 0.084 mm. for the organ.



FIG. 3.—GONGYLONEMA RANSOMI. SPICULES AND GORGERET OF MALE (ENLARGED).

*Female*.—The tail is rather blunt and slightly curved, with subterminal caudal glands. The anus is about 0.200 mm. from the tip of the tail. The vulva is slightly salient, 1.75 mm. from tip of tail. The vagina is long, extending cephalad from the vulva to about the middle of the body length. The uteri are divergent and extend nearly to the extremities of the worm, merging into the oviducts and ovaries at these points. Eggs ovoid, embryonated in vagina, averaging  $55.5\mu$  long by  $32\mu$  wide.

Table of measurements.

Organ. <sup>1</sup>	Male.	Female.
Esophagus:		
Nonmuscular.....	400	500
Muscular.....	2, 850	4, 500
Cervical papillae.....	122	145, 154
Posterior limit of tubercles.....	580-900	1, 010-1, 300
Long (left) spicule.....	10, 030	.....
Short (right) spicule.....	106-130	.....
Gorgeret.....	84	.....
Vulva to tail.....	.....	1, 750
Anus to tail.....	250	200
Eggs.....	.....	53-58 x 31-33
Total length (average).....	23, 000	37, 000
Width at junction of esophagus and intestine.....	149. 4	190. 9

<sup>1</sup> All measurements in microns.

*Location.*—In burrows in the mucosa of the tongue and esophagus.

*Locality.*—United States: (East St. Louis, Illinois, National Stock Yards), collected by Dr. J. S. Jenison, May 7, 1921.

*Host.*—*Sus scrofa domestica*.

*Type.*—U.S.N.M. Helminthological Collections No. 24695.

The present species is easily separated from all known species of the genus except *G. verrucosum* Giles by the length of the left spicule; from *G. verrucosum* it is distinguished by the absence of a dorsal ala.

I have taken pleasure in dedicating this species to Dr. B. H. Ransom in recognition of his work on the nematodes of domestic animals.