

A NEW NEMATODE WORM, VIANNAIA BURSOBSCURA,
FROM THE OPOSSUM, WITH A NOTE ON OTHER PARASITES OF THE OPOSSUM

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The nematode described in this paper was found in some parasitic material collected from a number of opossums at the laboratory of the zoological division at Jeanerette, La.

VIANNAIA BURSOBSCURA, new species

PLATE 1; PLATE 2, FIGURE 1

Specific diagnosis.—*Viannaia*: Small, spirally coiled nematodes, bright red when freshly collected. Cephalic cuticle inflated, marked with distinct annular striations; cuticular inflation 90μ to 100μ long and 38μ to 40μ wide. Cuticle elsewhere marked with extremely fine transverse and longitudinal striations. Thickness of head 27μ without the cuticular inflation. Esophagus 350μ to 400μ long and 35μ wide at its termination.

Male: 4.5 mm. long and 75μ wide at its widest portion just anterior to the bursa. The bursa consists of two lateral, symmetrical lobes. The ventral and lateral rays arise from a common trunk. The ventral rays are separate and directed forward, reaching the margin of the bursa, the latero-ventrals pushing the margin of the bursa slightly beyond the general contour. The lateral rays are comparatively short; the externo-laterals are directed slightly forward, diverging from the other laterals; the medio-laterals and postero-laterals are parallel; the medio-laterals are the thickest of the rays and they curve distally before reaching the bursal margin; the postero-laterals are straight. The externo-dorsal rays are very delicate and slender with slightly curved tips; the dorsal ray has two long bifurcations, which apparently again divide at the tips; the dorsal and externo-dorsal rays are extremely difficult to find and to study because they are obscured by a dense cuticular extension on the inside of the bursa. The spicules are filiform and are 630μ to 650μ long. Gubernaculum present, lightly chitinized, about 55μ to 60μ long.

Female: 6.5 mm. long, tightly rolled in about 10 to 12 spirals. The muscular ovejector is about 160μ to 180μ long. The tail ends in a blunt point. The distance from the vulva to the anus is 120μ , and from the anus to the tip of the tail 40μ . The lips of the vulva are slightly elevated above the body margin. Eggs, 55μ by 40μ .

The single ovary, uterus, and ovejector in the female place this nematode in the family Heligmosomidae. It has been placed in the genus *Viannaia* because it resembles the members of this genus in the formula of the rays of the bursa and in the absence of marked longitudinal cuticular striae. It differs from them in the much greater length of the spicules, the greatest length of the spicules for the species previously included in the genus being 255μ . It resembles the genus *Longistriata* in the length of the spicules but differs from it in the absence of the longitudinal cuticular striations characteristic of the genus. It differs from both genera in the presence, within the bursa, of a dense cuticular swelling, which renders the study of the origin of the rays very difficult. Two sets of specimens were available for study. The nematodes in the first set were collected alive and were killed and fixed in hot alcohol and glycerine. The second set was collected from the viscera of an opossum sent to the laboratory from Louisiana, and this material was preserved in formalin. In the first set, killed and fixed in hot alcohol, the structure within the bursa is quite noticeable. In the second set of specimens this structure seems to have partly disintegrated, and the bursal rays can be studied with less difficulty.

Host.—Opossum (*Didelphys virginiana*).

Location.—Small intestine.

Locality.—Jeanerette, La.

Type specimen.—U.S.N.M. Helm. Coll. No. 31391.

A NOTE ON GNATHOSTOMA TURGIDUM AND OTHER PARASITES OF THE OPOSSUM

Among the nematodes collected from the stomach of the opossum there was found one male gnathostome. This specimen resembles in a general way *Gnathostoma turgidum* Stossich, 1902, as redescribed by Travassos (1925), but differs from it in one respect. It agrees with *Gnathostoma turgidum* in its host, both being collected from the opossum, in its size, in the number of rows of spines on the head bulb, in the character and extent of the body spines, and in the size of the small spicule. The spines on the body immediately behind the head are broad and short with 10 to 12 teeth, the spines immediately behind the esophagus are leaf-like with about 6 teeth, the spines near the end of the spinous area have 3 teeth, then follow spines with 2 teeth, succeeded in turn by single-toothed spines in densely

placed rows. The spines disappear slightly beyond the middle of the body. (Pl. 2, figs. 2-7.)

The only point in which our specimen differs from *Gnathostoma turgidum* as redescribed and figured by Travassos is in the number of caudal papillae. Travassos states that there are nine pairs of caudal papillae of which one pair is ventral and adanal and eight pairs are lateral; of the eight lateral pairs, three pairs are preanal, two are adanal, and three are postanal. Our specimen has five, possibly six, pairs of caudal papillae, of which four pairs are large, pedunculated, and lateral, two pairs of these being preanal and two pairs postanal; the fifth pair is located just in front of the fourth pair of laterals; there may be a pair of adanal papillae placed ventrally, but this could not be determined with certainty. In another specimen of *Gnathostoma* collected from the stomach of an opossum (Bur. Anim. Ind. Helm. Coll. No. 26831), only the four pairs of lateral papillae can be made out with certainty. In the number of caudal papillae our specimen agrees with *Gnathostoma spinigerum* and *Gnathostoma gracile*. It differs from the former in size, in the character and location of the spines, and in the size of the small spicule; it differs from the latter in the character of the spines.

This nematode, of which only two males were available for study, has been called *Gnathostoma turgidum* provisionally in spite of the difference here noted. When more material becomes available it may be possible to determine whether the number and position of the caudal papillae are sufficiently constant to serve as specific characters of a new species.

The remainder of the parasitic material collected from the opossum consists of nematodes, trematodes, cestodes, and fleas.

The nematodes are *Physaloptera turgida*, *Cruzia tentaculata*, *Oesophagostomum* sp., *Trichostrongylus* sp., and *Trichuris* sp. Of the last three, only females were collected, and no specific determination has been attempted.

The trematodes are *Neodiplostomum lucidum*, *Harmostomum* sp., *Rhopalias* sp., and *Echinostomum* sp. These were identified by Dr. E. W. Price, of the zoological division.

The cestodes are *Mesocestoides* sp.

The fleas were determined by Dr. H. E. Ewing, of the Bureau of Entomology, as *Rhopalopsyllus gwyni*, a species of a neotropical genus, of which only a few records have been made in the southern part of the United States.

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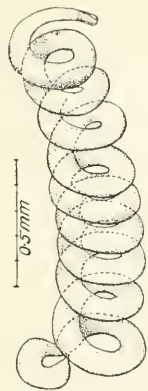
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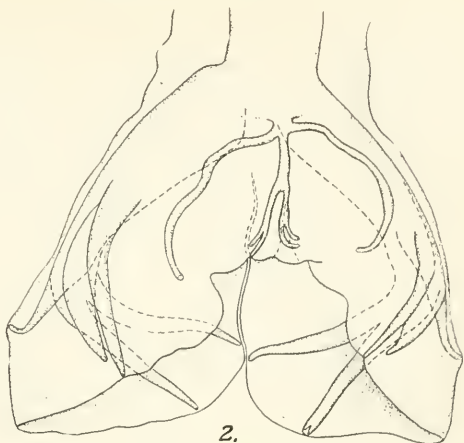
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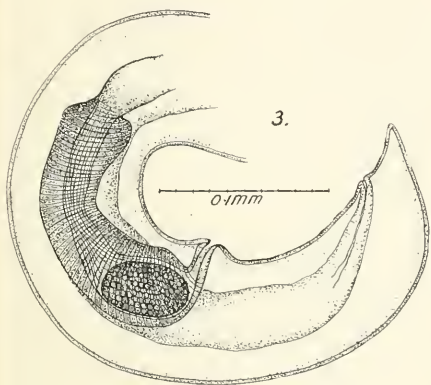
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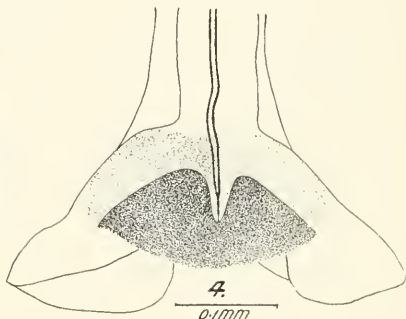
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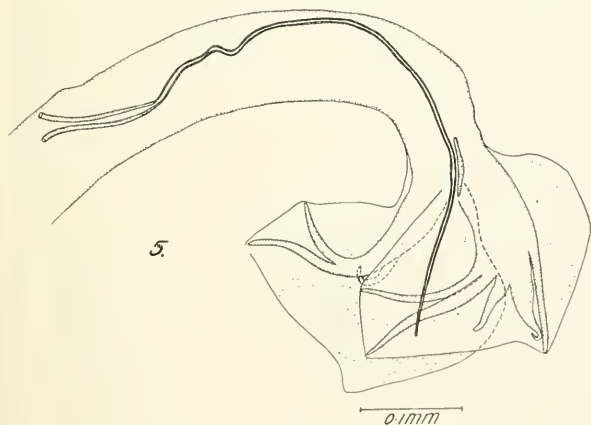
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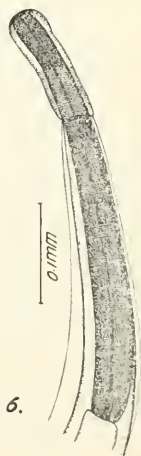
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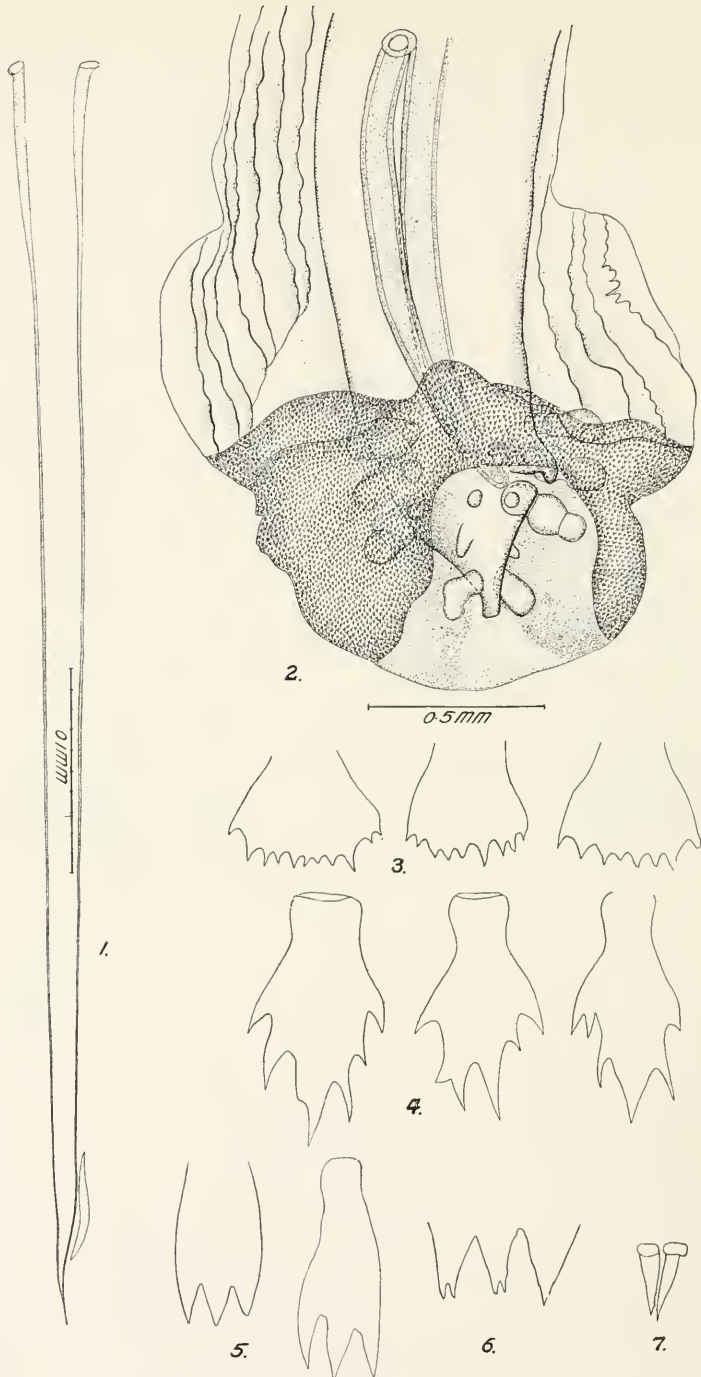
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VIANNAIA BURSOBSCURA

1, Female; 2, bursa of male, dorsal view; 3, tail end of female; 4, bursa of male showing structure within bursa; 5, tail end of male showing spicules; 6, esophagus.



VIANNAIA BURSOBSCURA AND GNATHOSTOMA TURGIDUM

1, Spicules and gubernaculum of *V. bursobscura*; 2, tail end of *G. turgidum*; 3, *G. turgidum*, body spines immediately behind head; 4, *G. turgidum*, body spines at end of esophagus; 5-7, *G. turgidum*, body spines near and at end of spinous area.