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SPINITECTUS BEAVERI SP. N. (NEMATODA: SPIRUROIDEA) FROM THE BONEFISH, *ALBULA VULPES* (LINNAEUS), IN FLORIDA

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ABSTRACT: *Spinitectus beaveri* sp. n. from the stomach of *Albula vulpes* is described. In the male, the maximum length is 6 mm, the esophagus is approximately 30% of the body length, the spicule ratio is 1:2.5 to 3.0, and there are 4 pre- and 5 postcloacal papillae. In the female, the maximum length is 7 mm, the esophagus is approximately 27% of the body length, and approximately 38% of the body length is posterior to the vulva. The species most closely resembles *S. carolini* Holl, 1928, from which it differs by having 10 to 16 rather than 25 to 35 cuticular spines per transverse row and a complex rather than a plain distal portion of the left spicule.

Spinitectus Fourment, 1883, is a member of the Spiruroidea, although there is no general agreement on its familial status. Thirty-four species are reported in the literature, including *S. percalates* Johnston and Mawson, 1940, which Khera (1954) reduced to synonymy; *S. echinatus* (Linstow, 1878), which Yorke and Maplestone (1926) and Morishita (1926) reduced to synonymy; and *S. guntheri* Baylis, 1929, which Campana-Rouget (1955) removed from the genus. Some of the species are known from one specimen or a single sex.

The material used for the following description of a marine species belonging to a primarily freshwater genus was fixed in glacial acetic acid and washed and stored in 70% ethanol containing 5% glycerine. The worms were cleared by evaporating the alcohol from the alcohol-glycerine solution. Measurements are rounded off and expressed in millimeters, unless otherwise indicated. The illustrations were made with the aid of a camera lucida.

***Spinitectus beaveri* sp. n. (Figs. 1-7)**

Description

Body slender, increasing in width gradually from cephalic end to near anus, then decreasing gradually to, and abruptly beyond, anus. Lips lacking. Cephalic papillae a single pair lateral to mouth; amphids external to papillae. Vestibule funnel-shaped with long stem. Cuticular spines large, in transverse rows not situated on extended rings; 16 in first row and 10 to 11 in rows at levels from glandular esophagus to gonads; few occasionally missing; largest at base of esophagus, decreasing

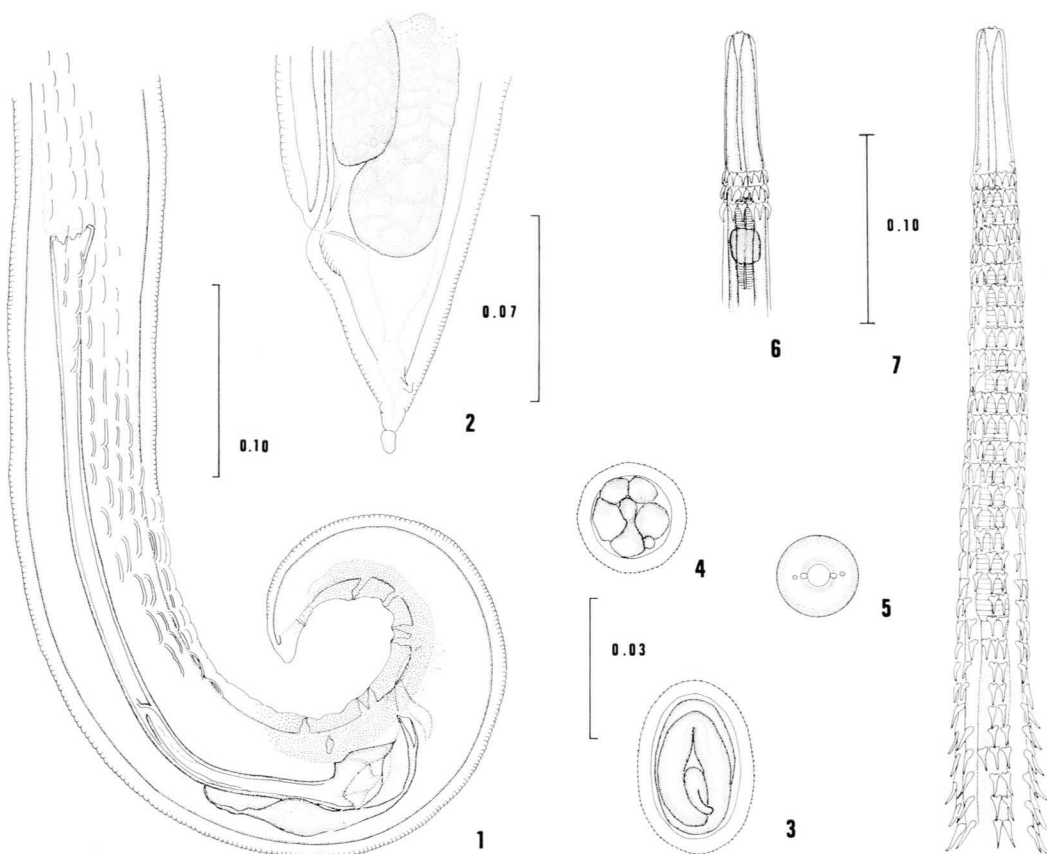
in size anteriorly and posteriorly, with small spines occasionally extending as far posterior as anus; flush with body surface to level near glandular esophagus and directed outwards beyond that level where usually distributed in columns of 1, 2, or 3 longitudinal rows. Excretory pore not observed. Phasmids prominent in female. Nerve ring between levels of 3rd to 7th transverse rows of cuticular spines.

Male (13 specimens): Body 4.83 to 6.04 long, 10 to 20 μ wide at vestibule, increasing posteriorly to between 70 and 90 μ at level of greatest width. Transverse rows of spines 125 to 187 in number, beginning 70 to 80 μ from mouth, spaced 4 to 9 μ apart anteriorly, increasing to 18 to 25 μ at base of esophagus. Vestibule 80 to 90 μ long. Esophagus 1.42 to 1.73 long, 27 to 31% of body length; muscular portion 210 to 250 μ long, junction with glandular portion at 20th to 25th transverse row of spines; based at 82nd to 105th row. Testis 1.16 to 1.88 long, excluding short looped anterior portion, 2.06 to 3.71 from cephalic end; junction with vas deferens distinct. Right spicule 130 to 160 μ long; left, 390 to 430 μ long, with prominent sheath, distal end appearing "claw-shaped"; spicule ratio 1:2.5 to 3.0. Caudal papillae arranged in 9 pairs, 4 pre- and 5 postcloacal; 2 pairs nearest cloaca on each side closely positioned; 3rd pair anterior to cloaca lateral to others; posteriormost pair smallest. Cuticular bosses in several spiraled columns anterior to papillae. Tail flexed ventrally, 160 to 190 μ long, occasionally with, but usually without, slight knob at tip.

Female (13 specimens): Body 5.85 to 7.04 long, 10 to 20 μ wide at vestibule, increasing posteriorly to between 110 and 130 μ at level of greatest width. Transverse rows of spines 137 to 248 in number, beginning 60 to 80 μ from anterior end of body, spaced 4 to 8 μ apart at onset, 17 to 27 μ at base of esophagus. Vestibule 80 to 90 μ long. Esophagus 1.57 to 1.83 long, 24 to 29% of body length; muscular portion 220 to 270 μ long, junction with glandular portion at 20th to 25th transverse row of spines; base at 96th to 106th row. Anterior ovary with forward loop 2.04 to 2.55 from anterior end of body; posterior ovary with hindmost loop 50 to 100 μ from tip of tail.

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FIGURES 1-7. *Spinitectus beaveri*. 1. Posterior end of male, lateral view, holotype. 2. Posterior end of female, lateral view, allotype. 3. Egg. 4. Egg, optical section through larva. 5. En face view of female. 6. Anterior end of female, allotype. 7. Anterior end of female showing upper portion of glandular esophagus; note missing spines from first and other transverse rows of spines.

Vulva flush with body, 36 to 41% of body length from tip of tail. Ovejector present. Vagina muscular, extending posteriorly from vulva. Eggs about 36 by 23 μ (32 to 41 by 20 to 25 μ), without filaments, outer surface appearing to be covered with minute granules; containing larvae. Tail 70 to 110 μ with prominent articulated terminal knob. Rectal muscles distinct posterior to anus.

Type host: *Albula vulpes* (Linnaeus), bonefish.

Incidence: 5 of 8 fish.

Site: Mucosa of stomach.

Locality: Biscayne Bay, Florida.

Type specimens: Holotype male, USNM Helm. Coll. No. 60398; allotype female, No. 60399; paratype male and female, No. 60400.

DISCUSSION

This species is named in honor of Dr. Paul C. Beaver, in recognition of his contributions to the field of nematology.

Considering the spicule ratio, relative length

of the esophagus, and position of the vulva, *S. beaveri* most closely resembles *S. carolini*, from which it can be separated by having 10 to 16 rather than 25 to 35 cuticular spines per transverse row and a complex rather than simple distal end of the left spicule.

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