

## A Description of Males of Hoplolaimus columbus

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*Abstract.* The male of the Columbia lance nematode, *Hoplolaimus columbus*, is described and illustrated from a harvested soybean field in Holly Hill, South Carolina. It is morphologically similar to the female, except for reproductive structures. *Key Words:* lance nematode, males, soybean.

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Males have been described from only five of the 15 recognized species in the genus *Hoplolaimus* (2, 5). The Columbia lance nematode, *H. columbus* Sher, 1963, is rapidly being recognized as a severe pathogen to soybean and cotton in the Coastal Plain of

Georgia and South Carolina (1). Many soil samples from infested fields along the middle and upper Coastal Plain of South Carolina over the past five years failed to reveal males among thousands of specimens observed. However, samples from a harvested soybean field near Holly Hill, South Carolina, taken in January and February, 1973, revealed males in the ratio of one to 60 females. Females from the Holly Hill population were similar to the

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type population from Eastover, South Carolina, except for some minor variability.

Specimens extracted by the sugar-flotation method were killed in hot water, fixed in formalin-propionic acid 4:1, and processed in glycerine (3, 4).

*Hoplolaimus columbus* Sher, 1963, males  
Fig. 1 A-D

**Measurements:** Length 1.31 mm (1.15-1.40,  $n = 8$ );  $a = 31.9$  (25.9-39.2,  $n = 8$ );  $b = 10.9$  (9.58-12.18,  $n = 8$ );  $c = 29.9$  (26.8-33.1,  $n = 7$ ); stylet =  $42 \mu\text{m}$  (40.2-43.7,  $n = 8$ );  $o = 5.2$  (4.8-5.2,  $n = 2$ ); anterior phasmid = 38% (35.4-42.2,  $n = 5$ ); posterior phasmid = 82% (79.7-83.2,  $n = 5$ ); spicules = 46.8 (36.6-52.5,  $n = 8$ ); gubernaculum = 21.3 (19.5-23.2,  $n = 6$ ).

Body shape and general morphology similar to female, except for reproductive structures. When relaxed with heat, body assumed a slight ventral arc. Lip region with 3 or 4 annules. Often the constriction between the basal annule and the second annule of the lip region was indistinct and appeared as one. *En face* view of two specimens showed 7-8 longitudinal lines. Basal plate with 2 sub-dorsal, 2 sub-ventral and 2 lateral arms; lateral arms tripartite. Stylet knobs with two anterior projecting processes; spear opening ventral and subterminal. Esophageal glands with six nuclei, two of which were often indistinct. Excretory pore anterior or posterior to esophago-intestinal valve. Hemizonid two to eight annules posterior to excretory pore. Hemizonid 10 annules posterior to hemizonid. Anterior phasmid 38% from anterior end of body. No lateral lines present. Gubernaculum troughlike, with distinct titillae; spicules arcuate and with a very thin velum, seen when spicules were extended. Telamon distinct, and lying between the spicules. Bursa beginning at about the anterior end of the spicules and extending around the tip of the tail.

The females of *H. columbus* from Holly Hill did not differ morphologically from the type species from Eastover, except for the stylet which averaged  $43 \mu\text{m}$  (42-45) (Holly Hill) compared to  $46 \mu\text{m}$  (40-48) (Eastover) and for the hemizonid which was separated from the excretory pore by 7-8 annules (Holly Hill), compared to 2-5 annules (Eastover).

Slides of the males and females from Holly Hill, South Carolina have been deposited at

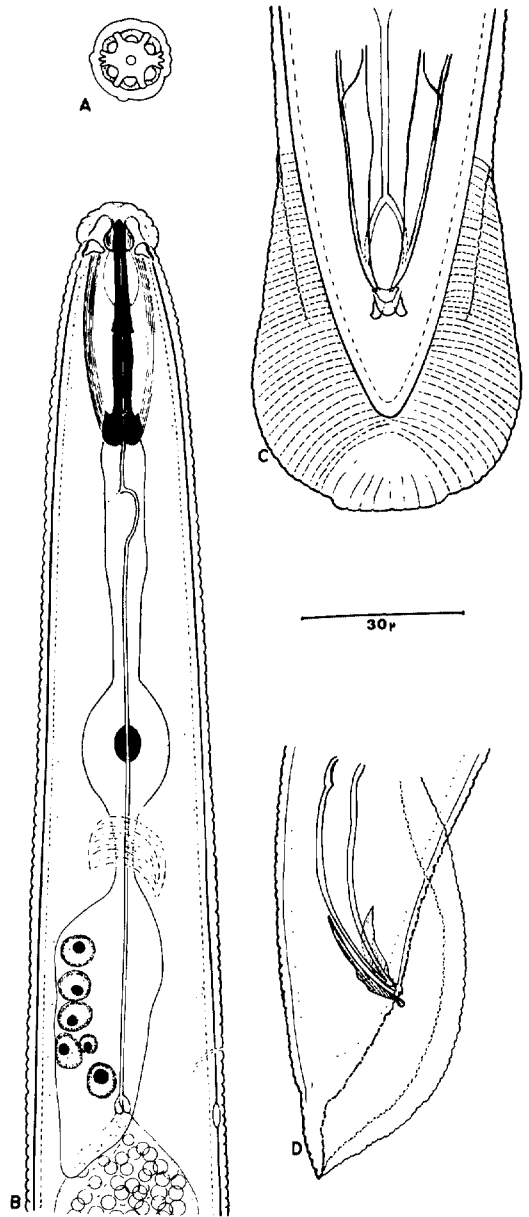


FIG. 1-(A-D). *Hoplolaimus columbus* male: A. Cross-section through basal annule of lip region. B. Anterior region. C. Ventral view of posterior end. D. Lateral view of posterior end.

the United States Department of Agriculture Nematode Collection, Beltsville, Maryland and at the University of California Nematode Survey Collection, Davis.

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