

**Antarctylus humus n. gen., n. sp. from the Subantarctic**  
**(Nematoda: Tylenchoidea)**

S. A. SHER<sup>1</sup>

*Abstract:* *Antarctylus humus* n. gen., n. sp. from peat soil in the subantarctic is proposed. It can be distinguished from the most closely related genus *Helicotylenchus* by the arrangement of the esophageal glands, the broadly rounded lip region, and the tapering pointed tail in the female. *Key word:* taxonomy.

Numerous specimens of a proposed new genus from peat soil samples from two islands in the subantarctic were studied. They appeared to be similar to species of *Rotylenchulus* Linford and Oliveira, 1940 (1) because of the shape of the body, tail and lip region; cephalic framework; posterior position of the dorsal esophageal gland opening; esophageal glands overlapping the intestine; and didelphic sexual system. Further examination showed that the dorsal and one subventral esophageal gland form a large lobe overlapping the intestine dorsally, and that the second subventral gland is a smaller and shorter lobe overlapping the intestine ventrally. The phasmids are anterior to the anus. The ovaries in these soil forms were mature (some with large eggs), and the males did not have the marked reduction of the stylet, esophagus or caudal alae found in *Rotylenchulus*. They are, therefore, considered an undescribed species representing an undescribed genus most closely related to species in the genus *Helicotylenchus*.

*Antarctylus* new genus

**Diagnosis:** Hoplolaiminae. Dorsal esophageal gland opening one-fourth stylet length or more from stylet base. Esophageal glands overlapping intestine primarily dorsally. Deirids absent. Ovaries didelphic. Tail tapering to almost pointed terminus, more than twice as long as body diameter at anus. Phasmids anterior to level of anus. Male similar to female except for sexual differences. Caudal alae enveloping tail.

Type species: *Antarctylus humus* n. sp.

*Antarctylus* is considered to be most closely related to the genus *Helicotylenchus* and can be distinguished from this genus by a large dorsal

esophageal lobe (containing the dorsal and one subventral gland), a smaller, shorter ventral esophageal lobe (containing one subventral gland), the more broadly rounded lip region and the tapering pointed tail.

The name *Antarctylus* is derived from the Greek antarktikos = southern and tylus = knob and is masculine in gender.

*Antarctylus humus* n. sp.

Fig. 1

Measurements: 20 ♀ paratypes: L = 0.91 mm (0.79-1.04); a = 30 (25-34); b = 6.9 (5.8-7.9); b' = 5.5 (5.1-6.4); c = 21 (18-24); c' = 2.5 (2.0-3.0); V = 59 (53-62); stylet = 31 μ (30-33); 0 = 31 (24-38).

10 ♂ paratypes: L = 0.89 mm (0.80-1.03); a = 32 (26-36); b = 7.2 (5.9-7.9); b' = 5.8 (5.0-6.7); c = 21 (17-25); c' = 2.6 (2.3-3.0); stylet = 30 μ (27-32); 0 = 28 (23-34); gubernaculum = 11 μ (9-13); spicules = 32 μ (30-37).

Female (holotype): L = 0.97 mm; a = 27; b = 7.8; b' = 6.4; c = 18; c' = 2.6; V = 60; stylet = 33 μ; 0 = 25. Body spiral shape. Lip region tapering, flattened anteriorly, not set off, with six fine annules. Stylet knobs rounded with flattened irregular anterior surface. Dorsal esophageal gland opening one-fourth stylet length behind stylet base. Dorsal esophageal gland conspicuous, overlapping intestine one body width; ventral gland short; esophageal-intestinal valve conspicuous. Spermatheca round, with round sperm. Epiptygma inconspicuous. Lateral canals absent. Lateral field with four incisures. Phasmids conspicuous, six and ten annules anterior to level of anus. Tail tapering, curved more ventrally than body, terminus rounded.

Male (allotype): L = 0.95 mm; a = 36; b = 7.8; b' = 6.7; c = 17; c' = 3.0; stylet = 30 μ; 0 = 26; gubernaculum = 13 μ; spicules = 36 μ. Similar to female except for C-shaped body, less developed esophageal glands, sexual differences and longer hyaline area at tail terminus.

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<sup>1</sup>Department of Nematology, University of California, Riverside 92502. I gratefully acknowledge the assistance of L. Wang in the preparation of the illustrations, and W. M. Wouts in supplying the specimens and reviewing the paper.

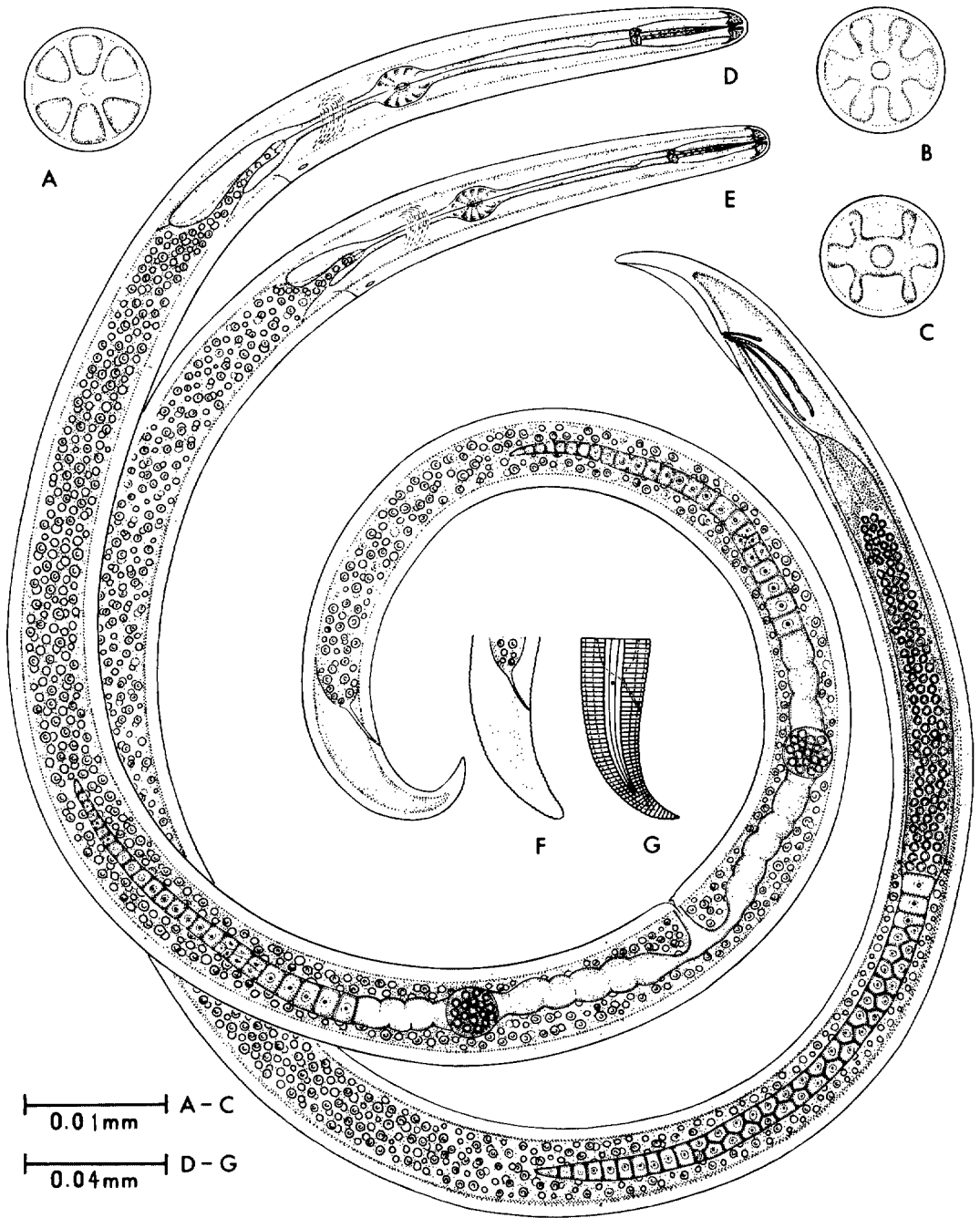


FIG. 1. *Antarcticus humus* n. gen., n. sp. A. Female, face view. B. Female, cross-section through basal annule of lip region. C. Male, cross-section through basal annule of lip region. D. Female. E. Male. F, G. Female, posterior ends.

The following variation was noted in the female paratypes: body curved ventrally to spiral; lip region with five to seven very fine annules; stylet knobs rounded usually with irregularly shaped to pointed anterior surfaces; nuclei of subventral esophageal glands usually not visible, a large nucleus near the center of dorsal gland often visible; epiptygma usually inconspicuous, double in some specimens; phasmids 1 to 11 annules above level of anus; tail with 18 to 28 annules, and terminus rounded to pointed.

The face view was the same in the female and male specimens (Fig. 1A). The arrangement of the labial framework as seen in a cross section at the basal annule of the lip region differed in shape in the female and male (Fig. 1B-C). An egg in the uterus measured  $25 \times 78 \mu$ .

Holotype: Female collected by R. J. Singleton, 7 May 1963, catalog number 17, U.C.R. Nematode Collection, Riverside, Calif., U.S.A.

Allotype: Male, same data as holotype, catalog number 18.

Paratypes: 100 ♀♀, 75 ♂♂, 20 juveniles, same data as holotype, distributed as follows: 75 ♀♀, 54 ♂♂, 20 juveniles, Department of Nematology, University of California, Riverside, California; 5 ♀♀, 3 ♂♂, USDA Nematode Collection, Nematology Investigations, Beltsville, Maryland; 4 ♀♀, 4 ♂♂, Department of Nematology, Rothamsted Experimental Station, Harpenden, England; 6 ♀♀, 4 ♂♂, Plantenziektenkundige Dienst, Wageningen, The Netherlands; and 10 ♀♀, 8 ♂♂, Nematode Collection, DSIR, Nelson, New Zealand.

Type habitat and locality: Peat soil from Rata Forest, Leander Cove, North Arm, Courtly Harbour, Auckland Island ( $50^{\circ} 31' S$  lat.,  $166^{\circ} 19' E$  long.).

Additional specimens of *Antarctylus humus* have been identified from four collections of soil samples from Auckland Island and two

collections from Macquarie Island ( $54^{\circ} 29' S$  lat.,  $158^{\circ} 58' E$  long.) and are deposited in the nematode collections of the Departments of Nematology, University of California, Riverside and Davis, and the Nematode Collection, DSIR, Nelson, New Zealand.

#### DISCUSSION

*Antarctylus* is placed in the subfamily Hoplolaiminae, and is considered more closely related to *Helicotylenchus* than to *Rotylenchus* Filipjev, 1936 (3). The latter genus shows more advanced or specialized structures such as a more developed and heavier labial framework and stylet and lateral canals. *Antarctylus* shares more *Helicotylenchus* characters such as the low position of the dorsal esophageal gland opening, the lip region not set off and without longitudinal striations and the esophageal glands in separate lobes.

Recent classifications (2, 5) remove *Helicotylenchus* from the subfamily Hoplolaiminae and place it in two different subfamilies. Neither of these classifications is used in this paper.

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