Sauertylenchus labiodiscus n. gen., n. sp. from Australia (Nematoda: Tylenchorhynchinae)

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Abstract: Sauertylenchus labiodiscus n. gen., n. sp. is described and illustrated from soil around *Rhagodia* sp. in Australia. It can be distinguished from the most closely related genus *Tylenchorhynchus* Cobb, 1913 by the distinctly set-off, rounded, lip region with a conspicuous labial disc, and long thin stylet. The face view and spicules of *Sauertylenchus labiodiscus* are illustrated with scanning electron micrographs. The subfamilies Tylenchorhynchinae and Merlininae are discussed. *Key Words:* taxonomy, morphology, scanning electron microscope.

Specimens appearing similar to *Geocenamus* Thorne & Malek, 1968 from soil in New South Wales, Australia were brought to my attention by M. R. Sauer. These specimens resemble *Geocenamus* because of the set-off lip region with the labial disc, weakly developed cephalic framework and long thin stylet. The four lateral incisures, structure of the spicules, protruding gubernaculum and lack of hypotygma ["two pedunculate papilla-like protuberances ventro-laterally" at cloaca, (1)] of the Australian specimens places it in the genus *Tylenchorhynchus* Cobb, 1913. The specimens are sufficiently different than the known species of *Tylenchorhynchus* to propose a new genus.

Sauertylenchus new genus

Diagnosis: Tylenchorhynchinae. Lip region annulated, divided into six sectors anteriorly with large labial disc, cephalic framework weakly developed. Stylet long, thin. Deirids absent. Lateral field with four incisures. Epiptygma present. Lateral canals present. Tail length more than two times body width at anus. Phasmids on tail. Spicules with velum, gubernaculum protrudes from cloaca. Caudal alae enveloping tail.

Type species: *Sauertylenchus labiodiscus* n. sp.

Sauertylenchus is placed in the subfamily Tylenchorhynchinae because of the four lateral incisures, absence of deirids and hypotygma, morphology of the spicules and the protruding gubernaculum. It can be distinguished from the most closely related genus *Tylenchorhynchus*

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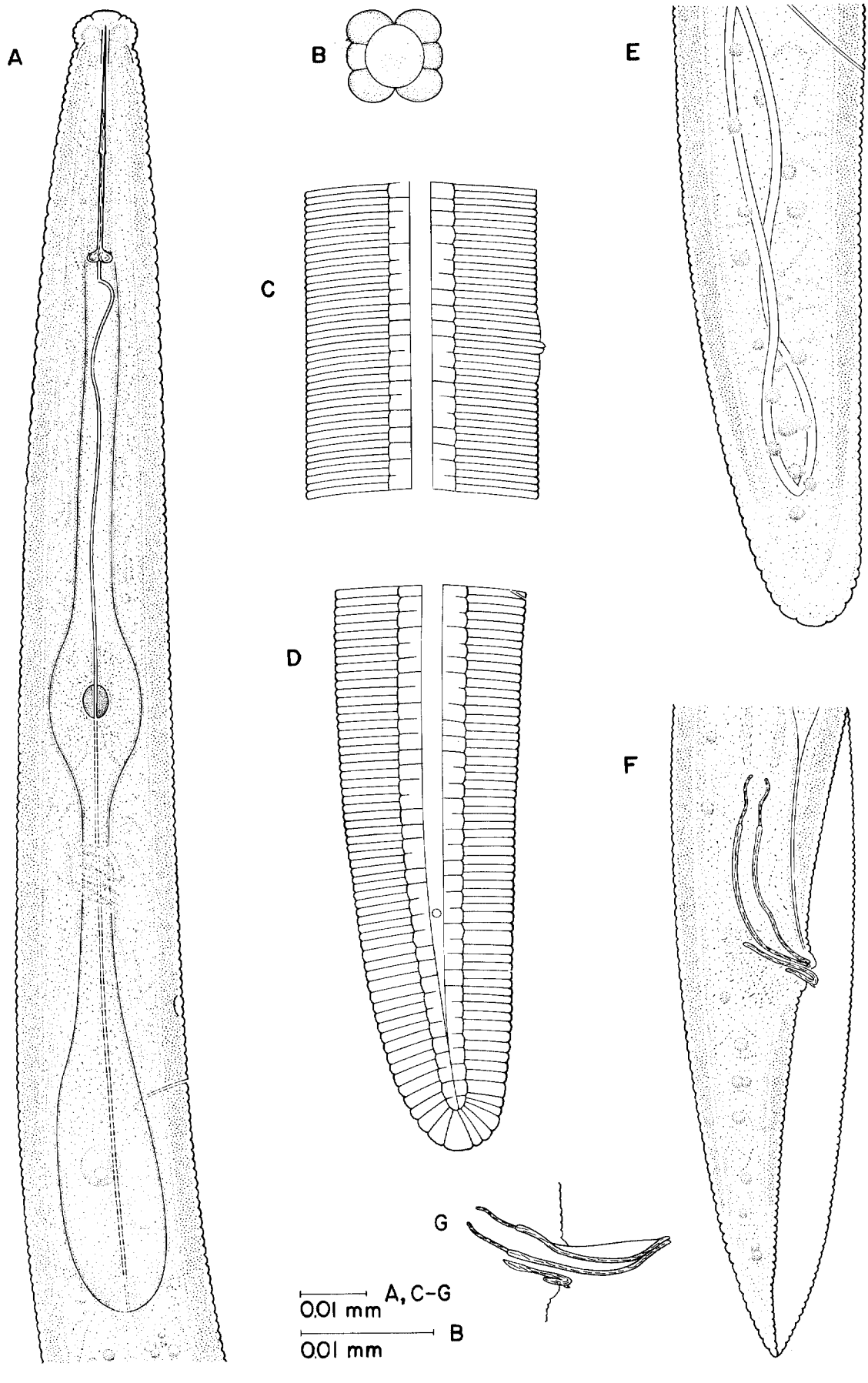
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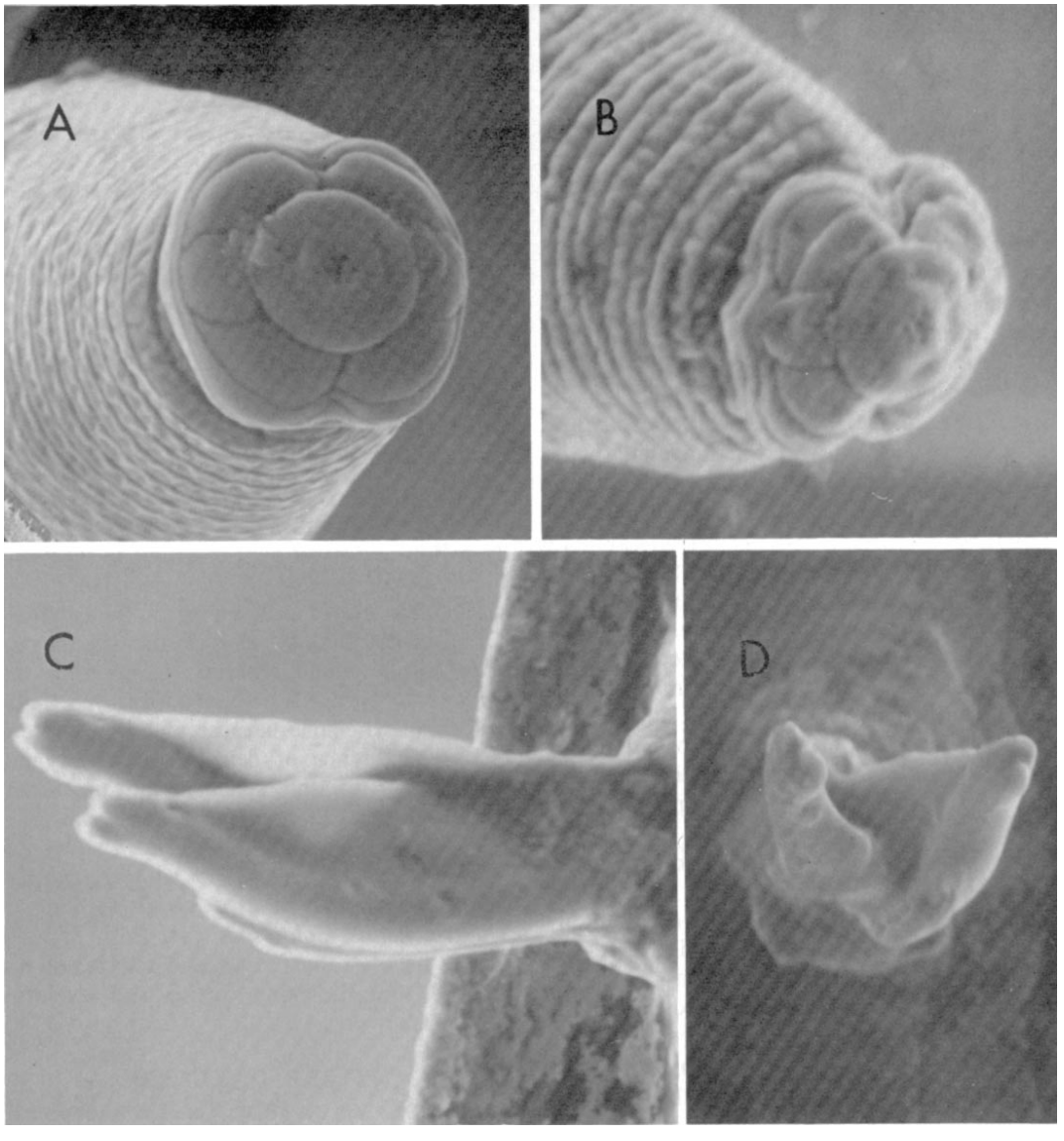

FIG. 2. Scanning electron micrographs of *Sauertylenchus labiodiscus* ×5,000. **A-B.** Female, face views. **C.** Male, protruding spicules, lateral view. **D.** Male, protruding spicules, ventral view. (Specimens were whole mounts in dehydrated glycerine and coated with gold. Micrographs obtained on a JEOL-U3 by W. H. T. Mueller).

by the distinctly set-off, rounded, lip region with a conspicuous labial disc, and the long thin stylet (33μm or longer).

The name *Sauertylenchus* is derived from the name of Dr. M. R. Sauer combined with the Greek tylus = knob and enchus = stylet and is masculine in gender.

Sauertylenchus labiodiscus n. sp.
Fig. 1

Measurements: 15♀ paratypes L = 1.71 mm (1.46-2.06); a = 48 (42-53); b = 8.2 (6.3-10.0); c = 23 (20-26); c′ = 2.8 (2.4-3.2); V = 53 (49-55); stylet = 37μm(35-40).

15♂ paratypes L = 1.42 mm (1.23-1.65); a =

FIG. 1. *Sauertylenchus labiodiscus* n. gen., n. sp. **A.** Female, anterior region. **B.** Female, face view. **C** Female, center of body, surface view. **D.** Female, tail region, surface view. **E.** Female, tail region, longitudinal section. **F.** Male, tail region. **G.** Spicule and gubernaculum.

46 (36-54); b = 7.4 (6.3-8.0); c = 22 (20-26); c′ = 3.1 (2.3-4.0); stylet = 36 μm (33-39); spicules = 36 μm (33-38); gubernaculum = 15 μm (12-16).

Female (holotype): L = 1.67 mm; a = 46; b = 8.0; c = 21; c′ = 2.7; V = 51; stylet = 39 μm. Lip region rounded, distinctly set off from body with seven fine annules, labial disc conspicuous. Stylet knobs rounded with slightly sloping anterior surfaces. Dorsal esophageal gland opening 4 μm posterior to stylet knobs. Median bulb oval. Basal bulb elongated, rounded posteriorly with conspicuous esophageal intestinal valve. Epiptygma double. Lateral canals conspicuous. Intestine overlapping rectum into tail. Outer field of lateral incisures incompletely aerolated. Phasmids on tail. Rounded annulated tail terminus.

Male (allotype): L = 1.58 mm; a = 48; b = 7.6; c = 21; c′ = 3.2; stylet = 37 μm; spicules = 36 μm; gubernaculum = 15 μm. Similar to female except for sexual differences. Spicules notched distally; gubernaculum recurved distally, titillae present.

The following variation was noted in the paratypes: lip region with six to eight annules, stylet knobs usually rounded, annules on tail terminus often irregular.

The face views (4 ♀♀, 2 ♂♂) show a conspicuous labial disc and six lip sectors anteriorly with the lateral sectors considerably smaller than the other sectors (Fig. 1B). This was confirmed by scanning electron micrographs which also showed six papillae (?) around the oral opening (Fig. 2A, B). Amphid apertures were not seen with the light microscope and obscure with the scanning electron microscope (4 ♀♀, 3 ♂♂).

Each spicule has a distinct notch distally with the velum not extending the entire length of the protruding spicule (Fig. 1G, 2C, D).

Holotype: Female, collected by M. R. Sauer, February, 1972, catalog number 21, U.C.R. Nematode Collection, Riverside, California, U.S.A.

Allotype: Male same data as holotype, catalog number 22.

Paratypes: 61 ♀♀, 72 ♂♂, 64 juveniles distributed as follows: 40 ♀♀, 46 ♂♂, 40 juveniles, Department of Nematology, Riverside, California; 4 ♀♀, 5 ♂♂, 5 juveniles, Department of Nematology, Davis, California; 4 ♀♀, 6 ♂♂, 2 juveniles, Nematology Investigations, Beltsville, Maryland; 5 ♀♀, 4 ♂♂, 3 juveniles, Plantenziektenkundige Dienst, Wageningen, The Netherlands; 3 ♀♀, 5 ♂♂, 6 juveniles, Nematology Department, Rothamsted Experimental Station, Harpenden, England; and 5 ♀♀, 6 ♂♂, 8 juveniles, Division of Horticulture Research, Merbein, Australia.

Type habitat and locality: soil around *Rhagodia* sp., Six Mile Creek, Wentworth, New South Wales, Australia.

DISCUSSION

The genus *Sauertylenchus* is placed in the subfamily Tylenchorhynchinae even though the lip region and stylet appear similar to species of *Geocenamus* in the Merlininae. These two subfamilies are considered to be well defined (2) after examining most of the species and many undescribed species in these taxa. *Sauertylenchus* belongs to the Tylenchorhynchinae because of the four lateral incisures, absence of deirids and hypotygma, morphology of the spicules and protruding gubernaculum.

Only two species of *Tylenchorhynchus* (*T. brevicaudatus* Hopper, 1959 and *T. galeatus* Litvanova, 1946) have a stylet as long as *Sauertylenchus labiodiscus* (3). Both of these species have a robust stylet and a lip region not set off from the body with a well-developed labial framework.

LITERATURE CITED

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