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SEM OBSERVATIONS AND DESCRIPTION OF *PLECTUS CYLINDRICUS* SP. N. (NEMATODA: PLECTIDAE), FROM CALIFORNIA, USA

by
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Summary. A new species of *Plectus* Bastian, 1865, *P. cylindricus*, is described and illustrated. The new species is characterized by its large size, indistinct annulation, one longitudinal ala on each lateral side of the body (appears as two lateral alae on each side by SEM), cephalic region low, and not set off from the body. Cephalic setae do not reach the apex of the head region. Cervical papillae setiform, tail conoid with 5 setae.

A soil sample collected from Mendocino county, California, by A. R. Maggenti and E. M. Noffsinger was found to contain a species of *Plectus* Bastian, 1868, which upon identification appeared different from all other described species. It is described here as a new species.

Materials and methods

Nematodes were extracted from soil by sieving and Baermann funnel, killed by hot water and then preserved in 2.5% formalin, Maggenti *et al.* 1990. Nematodes were processed to glycerin by Thorne's (1961) slow standard technique.

Specimens were prepared for SEM studies according to the procedure of Abdel-Rahman and Maggenti (1987a, 1987b), coated with gold 300-400A°, and viewed with ISI-DS 130 dual-stage scanning electron microscope, using an accelerating voltage of 10 KV.

PLECTUS CYLINDRICUS sp. n. (Fig. 1, 2)

Paratype females: (n = 5): L = (801-975) 858 $\mu\text{m} \pm 68$; stoma (19-22) 20.5 $\mu\text{m} \pm 1.2$; a = (21-27) 24 ± 2 ; b = (3.7-4.3) 4 ± 0.22 ; c = (7.8-8.4) 8 ± 0.24 ; c' = (4.7-5.3) 4.9 ± 0.23 ; V = (49-51) 49.7 ± 0.8 .

Holotype (female): L = 827 μm ; a = 23; b = 3.8; c = 8.3; c' = 4.7; V = 50.5; stoma = 22 μm .

Male unknown

Description: female's body slender tapering slightly anteriorly and more posteriorly. Body annulation very fine

and indistinct by LM. Thick cuticle about 2 μm ; body striation interrupted laterally by one longitudinal ala on each side of the body (seen as two lines by LM; by SEM appears as two alae), and occupies one-tenth of body width at vulval level. Cephalic region consists of 6 lips, not set off from body, low and broad, three or four times wide as high, truncate, and slightly rounded anteriorly. Six lips surround oral opening, fused only posteriorly; lips are narrow anteriorly, and wide posteriorly. Six sensilla encircling the circular labial plate in between lips. Four short cephalic setae about 3 μm long, situated two to three body annuli posterior to cephalic region, do not reach head apex. Stoma wide anteriorly, narrow posteriorly. Amphids circular, occupy less than 20% of body width at their level 16.8% (13-18), amphids 13 μm (12-14) from anterior extremity. Body width at stoma base about 1.5 times cephalic region width. Oesophagus 213 μm (200-229) long, valvate basal bulb oblong, without posterior extension (trunk). Oesophago-intestinal valve length about one-third of body width at its level. Nerve ring at 111 μm (109-114) from anterior extremity, excretory pore just posterior to nerve ring, 126 μm (120-127) from anterior extremity and at 59% (57-60%) of oesophagus length. Cervical papillae setiform and situated between lateral alae just posterior to the excretory pore. Vulva equatorial, 50% (49-51%) of body length and situated in deep invagination, vagina about one-third of body width at its level. Gonads paired, opposed and reflexed. Rectum well sclerotized, 20 μm (15-23) long, tail elongate, conoid, tapering gradually, with prominent terminal spinneret, length about 5 anal body diameters, 4.9 (4.7-5.3). Tail with 5 caudal setae.

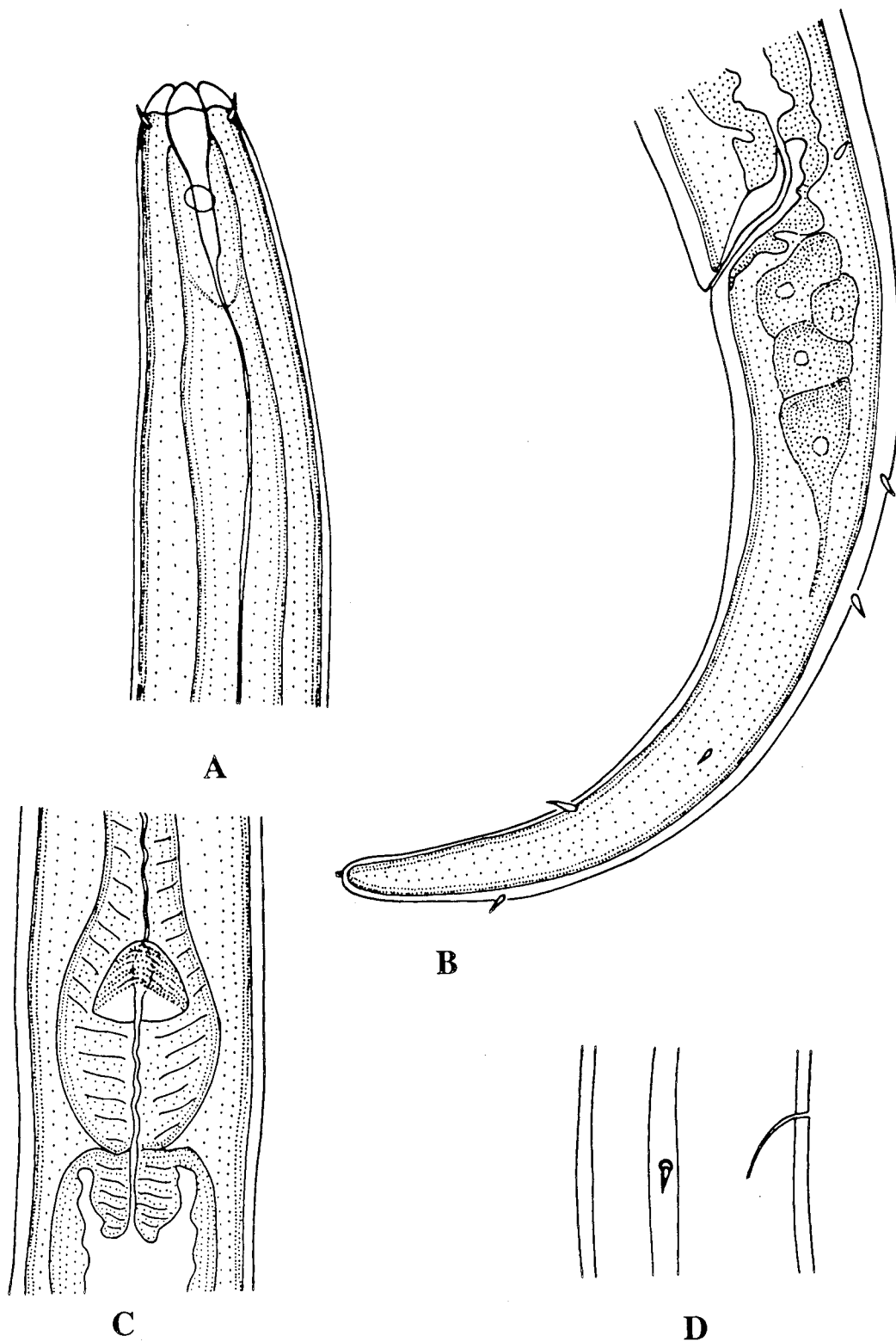


Fig. 1 - (A-D) *Plectus cylindricus* sp. n. female, A) anterior portion of body, B) posterior portion of body, C) Posterior portion of oesophagus, D) Lateral ala and cervical papilla.

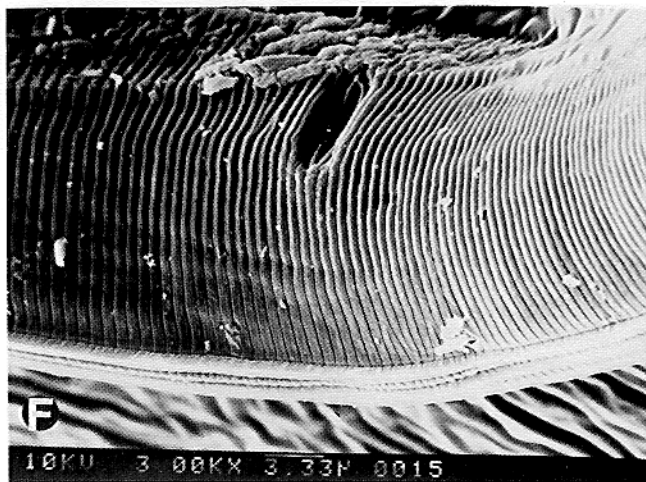
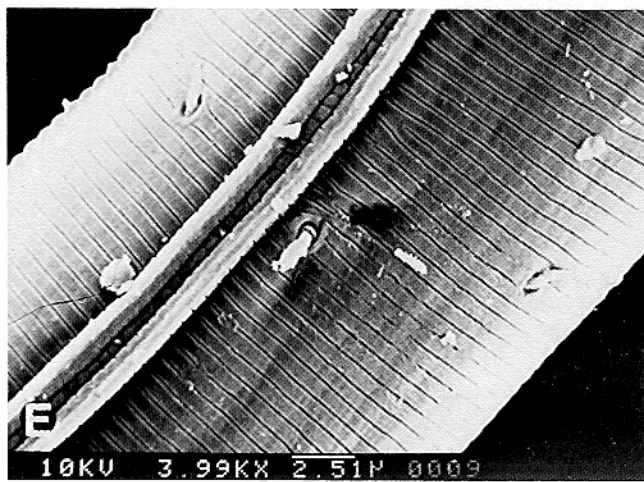
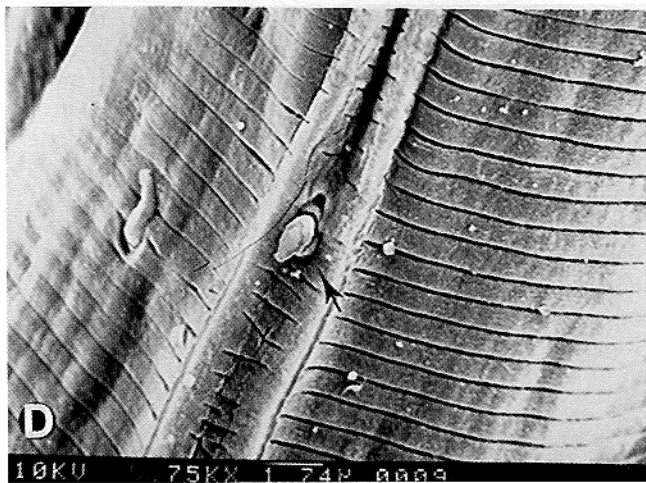
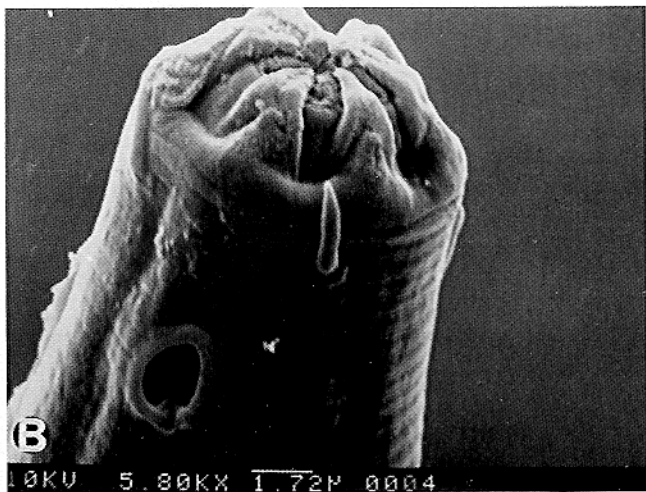
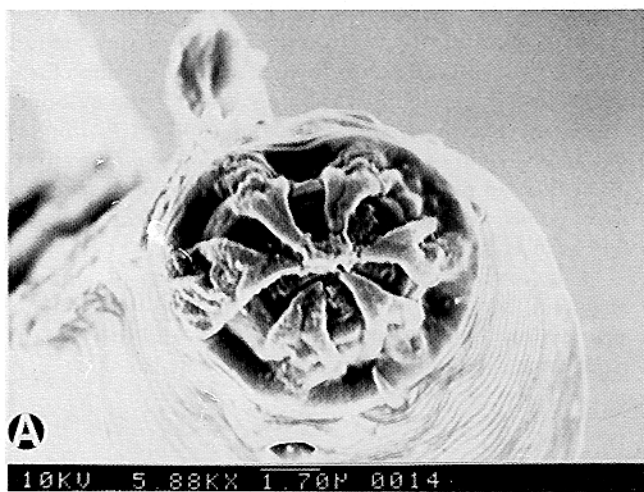


Fig. 2 (A-F) SEM micrographs of *P. cylindricus* sp. n. female. A) Face view, B) anterior portion of body (lateral), C) anterior portion of body (dorsal), D) cervical papillae in the lateral alae, E) lateral alae anterior to vulva, F) lateral alae at vulval level.

Type Specimens

Holotype (female): Collected on 11 June 1980 by A. R. Maggenti and E. M. Noffsinger, Catalogue No. UCNC 2384. Deposited in the University of California, Davis Nematode Collection (UCDNC), Davis, California USA.

Paratypes: Same data as holotype, 2 females, Catalogue No. UCNC 2385, 2386, University of California, Davis Nematode Collection (UCDNC), Davis, California USA.

Type habitat: Soil around Manzanita roots, *Arctostaphylos* Adans.

Type locality: Mendocino Ecological Staircase, Terrace IV, Mendocino County, California USA.

Diagnosis

Plectus cylindricus sp. n. is distinguished from all other species by having only one longitudinal ala on each lateral side of the body, and by the cervical papillae being situated in the centre of the lateral alae, posterior to the excretory pore, indistinct cuticle striation, tail conoid with 5 setae. Body tapers slightly anteriorly, body width at stoma base 1.5 times the lip region width. Some of the above characters separate *P. cylindricus* from its closely related species *P. cirratus* Bastian, 1865, which has two prominent longitudinal alae on each lateral side of the body; fine but distinct body striation; body tapers greatly anteriorly, and body width at stoma base, two times lip region width. *P. cylindricus* can be separated from *P. annulatus*

Maggenti, 1961, which has one longitudinal ala on each lateral side of the body; by the position of the cervical papillae, which on *P. annulatus* is situated outside of the lateral alae; it can be further distinguished by the indistinct cuticle striation vs. deep distinct annulation on *P. annulatus*, anterior end of cephalic region, of *P. cylindricus* truncate, rounded rather than conoid, and each lip extends to short points; cephalic region not set off by deep constriction as in *P. annulatus*.

P. cylindricus can easily be separated from *P. minutus* Maggenti, Maggenti *et* Abdel-Rahman 1990 by its larger size, the lip region being low and wide, and the cervical papillae situated in the centre of the lateral alae.

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