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A DESCRIPTION OF *PRATYLENCHUS MANALIENSIS* SP. N. ASSOCIATED WITH APPLE IN INDIA (NEMATODA: PRATYLENCHINAE)

by
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Summary. *Pratylenchus manaliensis* sp. n. is described from the rhizosphere of apple trees (*Malus domestica*) in Himachal Pradesh, India. The species is characterized by six incisures in the lateral field, intestine overlapping the rectum, an oblong spermatheca and the presence of males.

Soil samples were collected from the rhizosphere of apple trees (*Malus domestica* Borkh) in several localities of Himachal Pradesh, India. Several of them contained specimens of *Pratylenchus* species and in one population some specimens, in our opinion represented a new species which is described here as *P. manaliensis*. Specimens were fixed in F.A.A., transferred to glycerine alcohol in a desiccator for slow dehydration and mounted in anhydrous glycerine.

PRATYLENCHUS MANALIENSIS sp. n.
(Fig. 1)

Paratype Females (21): L = 0.43-0.64 mm (0.57); a = 22-32 (26); b = 5-7 (5.5): c = 16-25 (22); V = 78-83 (80.5); Stylet = 14-16 μm.

Holotype (female): L = 0.50 mm; a = 26.4; b = 6.2; c = 17; V = 80; Stylet = 15.5 μm.

Allotype (male): L = 0.49 mm; a = 29; b = 6.5; c = 20; T = 49; Stylet = 14.5 μm.

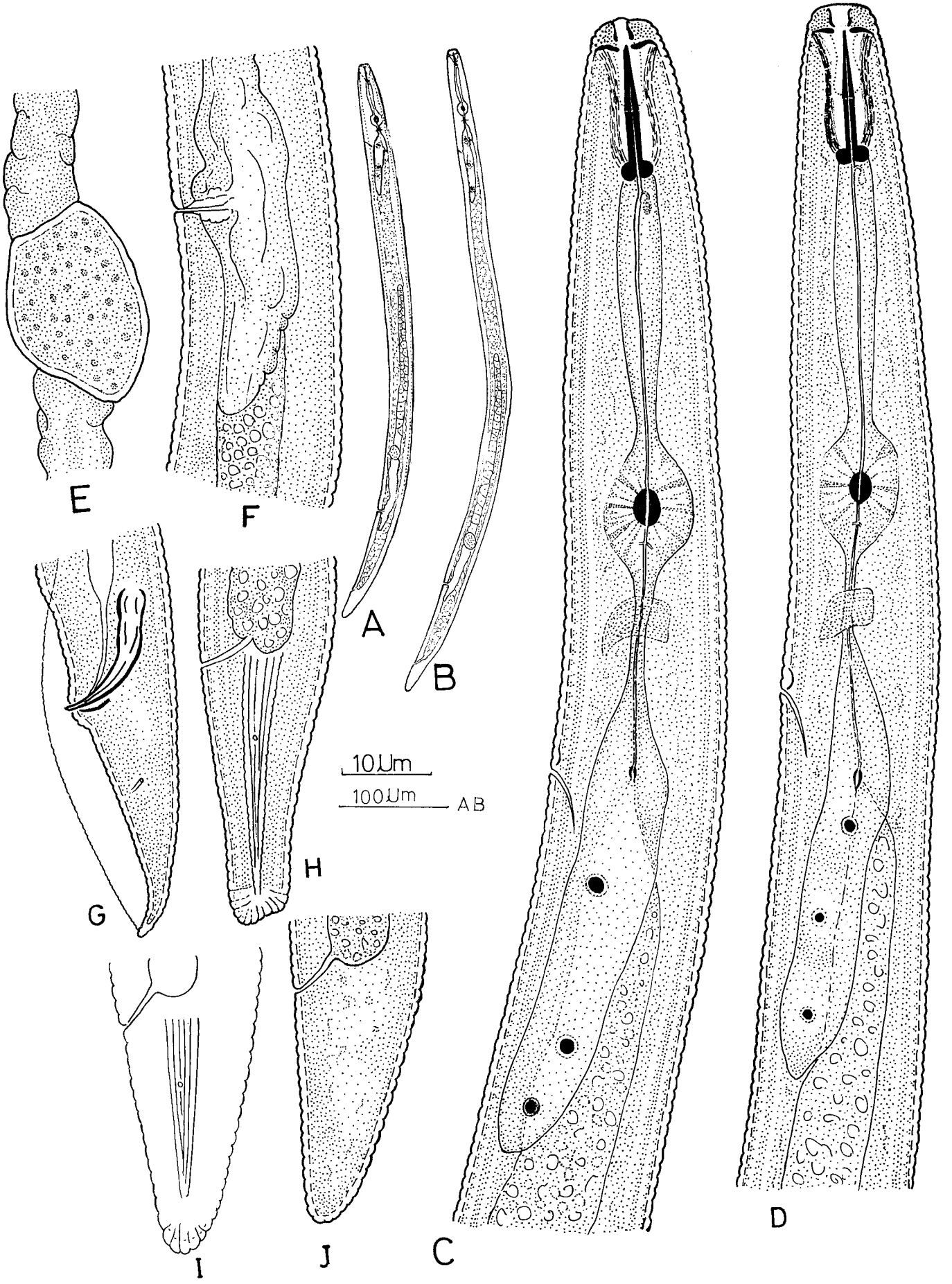
Female body almost straight anteriorly and slightly curved ventrally in the posterior half when fixed. Lip region with three annuli, the first convex. Body cuticle finely striated, 1.2-1.5 μm apart at mid-body. Cephalic framework well developed, strongly sclerotized, anchor shaped, its outer margins extending into the second body annule. Stylet strongly developed, the metenchium slightly longer than the telenchium. Basal spear knobs rounded. Orifice of dorsal oesophageal gland 3 μm behind spear base. Excretory pore 75-90 μm from anterior end, slightly anterior to the basal oesophageal lobe. Hemizonid just anterior to excretory pore. Lateral field with six incisures, the outer two crenated, inner lines smooth and clear in the posterior half of the body but in the oesophageal region oblique broken lines often present. Oesophagus typically pratylenchoid, oesophageal lobe 50-60 μm long and overlapping intestine ventrally for about 2-2½ times body width. Vulva a transverse slit, reproductive system, prodelphic, outstretched anteriorly. Oocytes arranged in single column. Spermatheca oval on somewhat rectangular with few sperms. Post- uterine sac 18-23 μm long, 1.0-1.5 times body width at vulva. Tail 25-30 μm long, consisting of 19-23 annuli, gradually and slightly depressed on both sides and termianting in a rounded crenated terminus.

Male similar to female in general morphology. Lip region with slight sexual dimorphism. Spicules paired, 19-23 μm long, slightly arcuate ventrally. Gubernaculum simple crescent shape, 4-5 μm long. Bursa extending to terminus, outer margin finely striated. Single testis with spermatocytes, leading to vas deferens and opening through cloaca. Phasmids almost in the middle of tail.

Type habitat and locality: Nematodes were collected from the rhizosphere roots of apple (*Malus domestica* B.) in Manali (HP) India.

Type specimens. Holotype and allotype mounted in glycerine on slide No. 801/*Pratylenchus manaliensis* sp. n. paratypes on slides 802-806. Three paratypes were deposted in the National Nematode Collection IARI, New Delhi, two paratypes deposted with C.I.P., St. Albans, UK.

Differential diagnosis. *Pratylenchus manaliensis* sp. n. closely resembles *P. crenatus* Loof, 1960 and *P. teres* Khan *et* Singh, 1975 in having six incisures and crenated tail terminus. It differs from *P. crenatus* in the differently shaped spear knobs, number of lip annules, well developed and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oval to slightly rectangular spermatheca containing sperms, shorter post-uterine sac and presence of males andlonger oesophegeal gland lobe (stylet 14-18 µm long; lip annules 2-4; spematheca indistinct; post-uterine sac long undifferentiated and absence of males in *P. crenatus*). From *P. teres* it differs in the elongated basal oesophageal lobe, distinct and well developed spermatheca, small stylet with rounded knobs, more posterior vulval position (V = 80%) and presence of males (basal oesophagel lobe shorter; spermatheca indistinct; stylet longer with anchor shaped knobs; anterior vulval position and absence of males in *P. teres*).

Key to *Pratylenchus* species with six lateral lines.

1 - Lip region with two annuli 2
Lip region with three annuli 3
2 - Stylet 14.5-15.4 µm long; spermatheca indistinct; vulva 75- 83%; tail terminus smooth ... *P. hexincisus* Taylor *et* Jenkins, 1957
- Stylet 15-17 µm long; spermatheca distinct, empty; vulva 79- 86%; tail terminus crenated . *P. estoniensis* Ryss, 1982
3 - Lip region conoid; stylet 16-18 µm long with anchor-shaped stylet knobs; vulva 70-77%; post-uterine sac one vulval body width long .. *P. teres* Khan *et* Singh, 1975
- Lip region often flat or low; stylet 14-18; µm long with rounded stylet knobs; vulva 78-86% post-uterine sac one vulval body width long 4
4 - Male absent; spermatheca without sperms; tail broadly rounded at tip ..... *P. crenatus* Loof, 1960
- Male present; spermatheca with sperms; tail gradually tapering at tip ..... *P. manaliensis* sp. n.

Literature cited

Das V.M. and Sultana S., 1979 - Five new species of genus *Pratylenchus* from vegetable crops of Hyderabad (AP) *Indian J. Nematol., 9*: 5-14.

Hanoo Z.A. and Golden A.M., 1989 - A key and diagnostic compendium to the species of the genus *Pratylenchus* Filpjev, 1936 (Lesion nematodes) *J. Nematol., 21*: 202-218.

Khan E., and Singh D.B., 1975 - Five new species of *Pratylenchus* (Nematoda: Pratylenchidae) from India. *India J. Nematol., 4*: 199-211.

Loof P.A.A., 1978 - The genus *Pratylenchus* Filpjev, 1936 (Nematoda: Pratylenchinae) *Swedish Univ. Agric. Sci. Res. Inf. Centre*, 50 pp.

Fig. 1(*Front page*) - *Pratylenchus manaliensis* sp.n.: A and B, entire female; C, female anterior end; D, male anterior end; E and F, vulval region; G, male tail; H-J, female tails.

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