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TROPHOTYLENCHULUS ANDHRAENSIS SP. N. FROM SOUTH INDIA

by
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The genus *Trophotylenchulus* was erected by Raski (1957) with *T. floridensis* as the type species. Hashim (1983) described another species *T. saltensis* from Jordan and enlarged the composition of the genus by transferring to this genus as new combinations two other species, *T. obscurus* (Colbran, 1961) and *T. clavicaudatus* (Colbran, 1966) from *Tylenchulus*. *T. floridensis* has been reported from Kerala (South India) on *Piper nigrum* L. (Mohandas and Ramana, 1982). Recently a new species of the genus was found in the rhizosphere of acid lime (*Citrus aurantifolia* Swingle) from Andhra-Pradesh (South India).

The nematodes were extracted from the soil by wet screening and centrifuging the sievings in sucrose solution. The nematodes were killed and fixed in hot formalin and processed by Seinhorst's (1959) glycerol-ethanol method for permanent mounts. The roots of acid lime were stained in acid fuchsin-lactophenol but no females were observed on the roots suggesting that the nematode might be apparently a parasite on some other host but this could not be established as the field was free from weeds when the soil samples were collected.

Trophotylenchulus andhraensis sp. n.
(Figures 1, 2 and 3)

Holotype Female: L = 0.325 mm; a = 6.4; b = 4.5; c = 12.2; V = 79; Stylet = 10 μm.

Paratypes (11 Females): L = 0.283-0.353 mm; a = 5.9-11.7; b = 3.8-5.9; c = 10.9-21.2; V = 74-86; Stylet = 9-13 μm.

Description: Mature female: Body considerably enlarged, often tightly coiled, cuticle thick, annulations not distinct; cephalic region with distinct circum-oral elevation, cephalic framework lightly sclerotised; stylet with rounded basal knobs; procorpus comparatively long and amalgamated posteriorly with ovate median oesophageal bulb; crescentic valve distinct, isthmus slender, basal bulb pyriform; rectum and anus barely noticeable; excretory pore posterior to oesophagus, situated at 31 to 53 per cent of body length from anterior end; excretory duct directed posteriorly and connected to ventral cell; ovary single, prodelphic, reflexed twice, oocytes in single column at proximal region, uterus thick walled, spermatheca distinct; tail elongate conoid with bluntly rounded terminus.

Young female: L = 0.297 mm; a = 22.2; b = 3.0; c = 11.8; V = 81.

Body comparatively stout, arcuate, annulations fine, lateral field absent; cephalic region conoid, circum-oral elevation distinct; cephalic frame work lightly sclerotised; stylet 11 μm in length with rounded basal knobs, dorsal oesophageal gland orifice 4 μm behind spear knob; oesophagus criconematoid with well developed median bulb and crescentic valve; isthmus slender; terminal bulb elongate and pyriform; nerve ring encircling isthmus at the anterior region; excretory pore far posterior to oesophagus, with distinct cuticular thickening and situated at 51 per cent of body length from anterior end; vulval region elevated, vulval lips enlarged, gonad with the formation of uterus and immature, non-reflexed ovary extending forward up to mid-region of the body; anus and rectum visible, anus situated on a slight elevation of the cuticle; tail elongately conoid with bluntly rounded terminus.

Second-stage juveniles (n = 8): L = 0.286-0.342 mm; a = 24.4-35.1; b = 2.8-3.9.

Body slender, vermiform, straight when fixed in hot formalin, annulations fine, lateral field not present; cephalic region conoid with distinct circum-oral elevation, stylet 11-12 μm in lenght with rounded knobs; dorsal oesophageal gland orifice 4-6 μm behind spear knob;

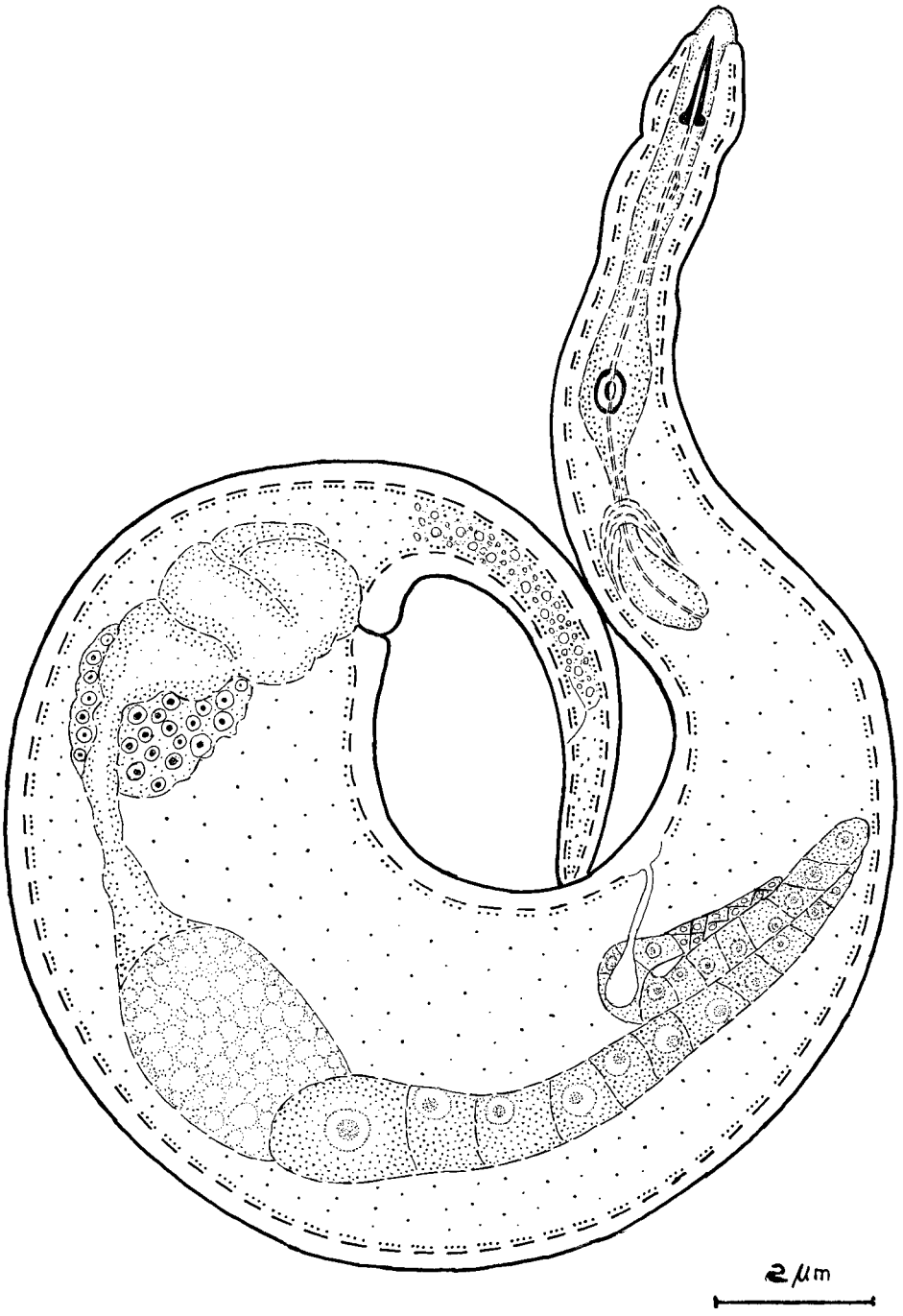

Fig. 1 - *Trophotylenchulus andhraensis* sp. n. Mature female.

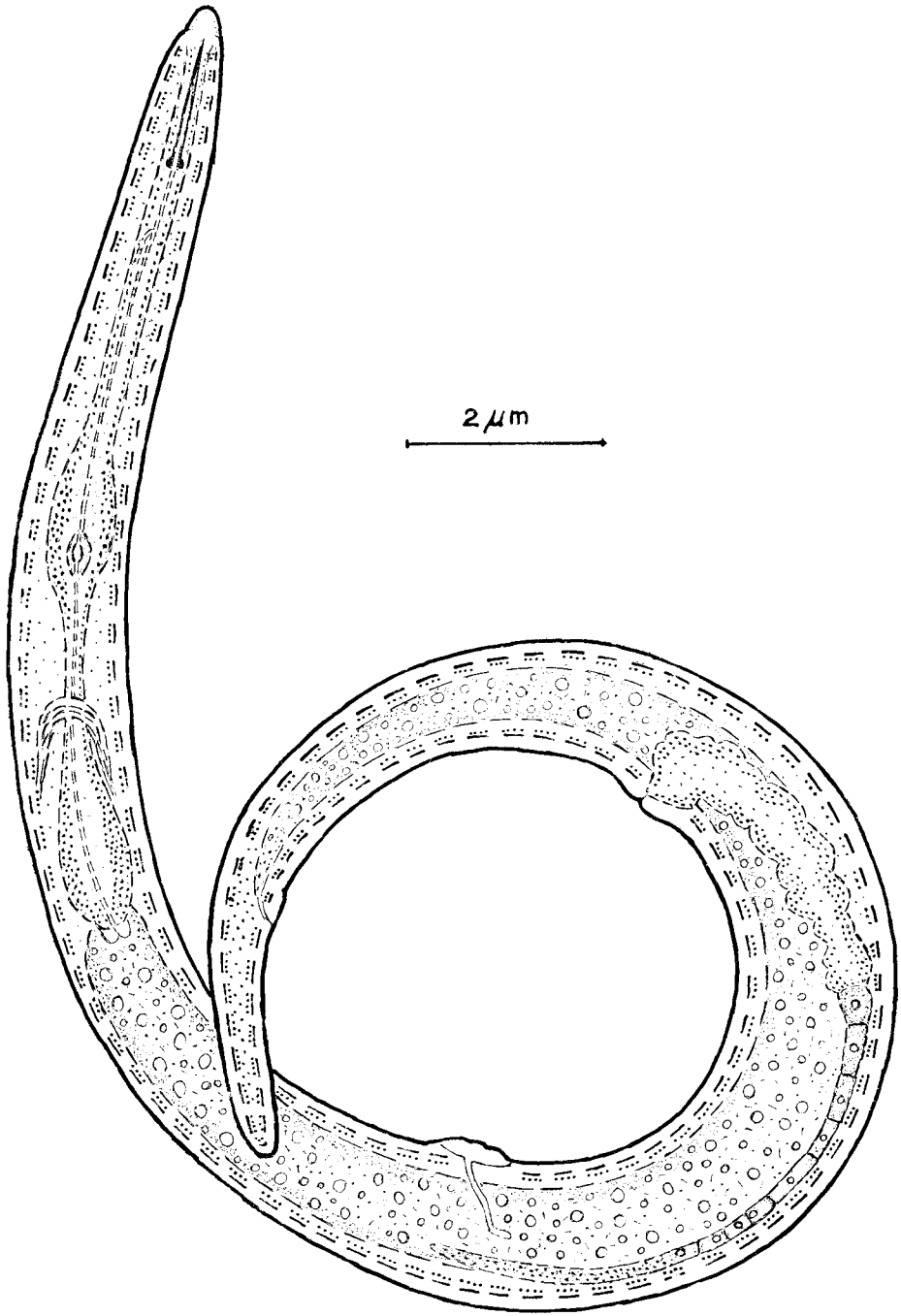

Fig. 2 - *Trophotylenchulus andhraensis* sp. n. Young female.

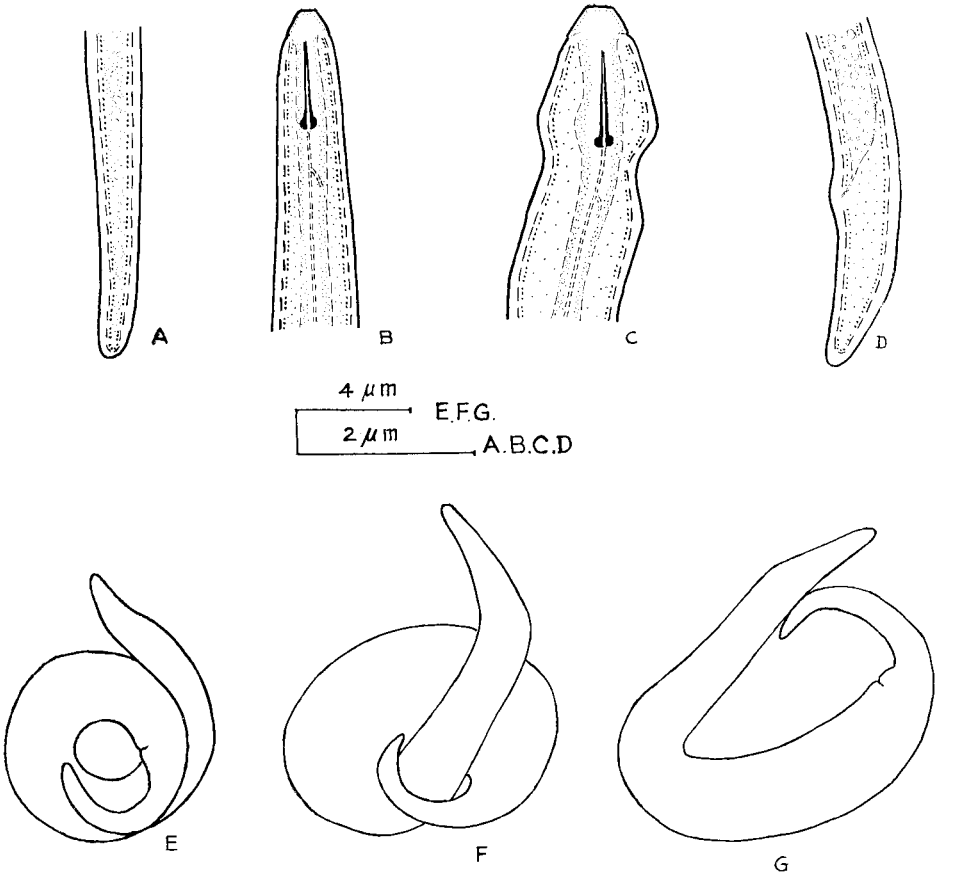

Fig. 3 - *Trophotylenchulus andhraensis* sp. n. A, B) Tail and head of juvenile; C, D) Head and tail of female; E, F, G) Coiled females.

oesophagus criconematoid; intestine vacuolated extending up to tail end, rectum and anus obscure; nerve ring at middle of isthmus; excretory pore posterior to basal bulb, situated at 38 to 39 per cent of body length from anterior end; tail terminus bluntly rounded.

Male: Not found.

Type material: Holotype and paratype females deposited in the nematode collection of Department of Nematology, Tamil Nadu Agrl. University, Coimbatore; two slides of single paratype females have been deposited with the National nematode collection, Division of Nematology, Indian Agricultural Research Institute, New Delhi - 110012.

Type habitat and locality: In the rhizosphere of acid lime (*Citrus aurantifolia* Swingle) at Sangam Jagarlamudi, Guntur district, Andhra Pradesh, South India.

Differential diagnosis: *Trophotylenchulus andhraensis* sp. n. is close to *T. obscurus* in body length but differs from it by 'a' and 'b' values (4.5-5.8 and 2.5-3.9 in *T. obscurus* vs 5.9-11.7 and 3.5-5.9 in *T. andhraensis*) and non-arcuate tail region. It can also be distinguished from *T. floridensis* Raski, 1957 and *T. saltensis* Hashim, 1983 by the body length of adult female. *T. andhraensis* differs from *T. clavicaudatus* in the juvenile tail terminus shape (bluntly rounded in *T. andhraensis* and clavate in *T. clavicaudatus*).

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SUMMARY

Trophotylenchulus andhraensis sp. n. was found in the rhizosphere of acid lime, at Sangam Jagarlamudi, Guntur district, Andhra Pradesh, South India. Measurements and descriptions are given of the adult female, young female and juvenile stages.

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