

inoculated with 10, 50, 250 and 1250 individuals of *H. indicus*. Each treatment, including control (no nematode), was replicated four times. Plant growth characters as also the soil and root populations were recorded after about 50 days.

Even very low populations of 10 to 50 nematodes per 1000 g of soil were sufficient to cause significant reduction in shoot length. The fresh shoot weight, number of leaves and root length were significantly reduced at the 250 level (Table I). Majority of nematodes were recovered from soil and relatively few inside the root tissue. The rate of multiplication (Pf/Pi) came down from about 80 at the 10 level to about 1.8 at the 1250 level.

TABLE I
Relation between inoculation level of Hoplolaimus indicus on the growth of cotton and nematode reproduction

Level of inoculation	Shoot length (cm)	Fresh shoot weight (g)	Root length (cm)	Fresh root weight (g)	No. of leaves	No. of nematodes per root	No. of nematodes in soil	Pf/Pi
0 (control)	24.7	2.07	18.0	0.65	4.7	—	—	—
10	17.7	1.45	17.5	0.55	3.5	7.5	800	80
50	13.7	1.37	15.7	0.45	3.0	12.0	1300	26
250	12.0	0.90	10.0	0.40	2.7	16.5	1700	6.8
1250	8.2	0.47	5.5	0.25	1.7	35.0	2100	1.8
C.D. 0.05 P	4.87	0.76	7.75	N.S.	2.0	6.2	837	

These studies revealed that *H. indicus* is highly pathogenic to cotton and is capable of causing significant growth reduction even at low initial population densities of 50–250 individuals per 1000 g of soil.

A NEW SPECIES OF *PROTRELLATUS* (NEMATODA :
THELASTOMATIDAE) FROM COMMON HOUSE CRICKET,
GRYLLUS DOMESTICUS

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PROTRELLATUS MURTHI SP. N.

(Fig. 1, A-G)

Dimensions : (the values are given in μ m)

6 ♀♀ (Paratype) : L=5110 (4070-6350); maximum body width=250 (220-290); distance from tip of head to nerve ring=100 (90-110); distance from tip of head to excretory pore=120

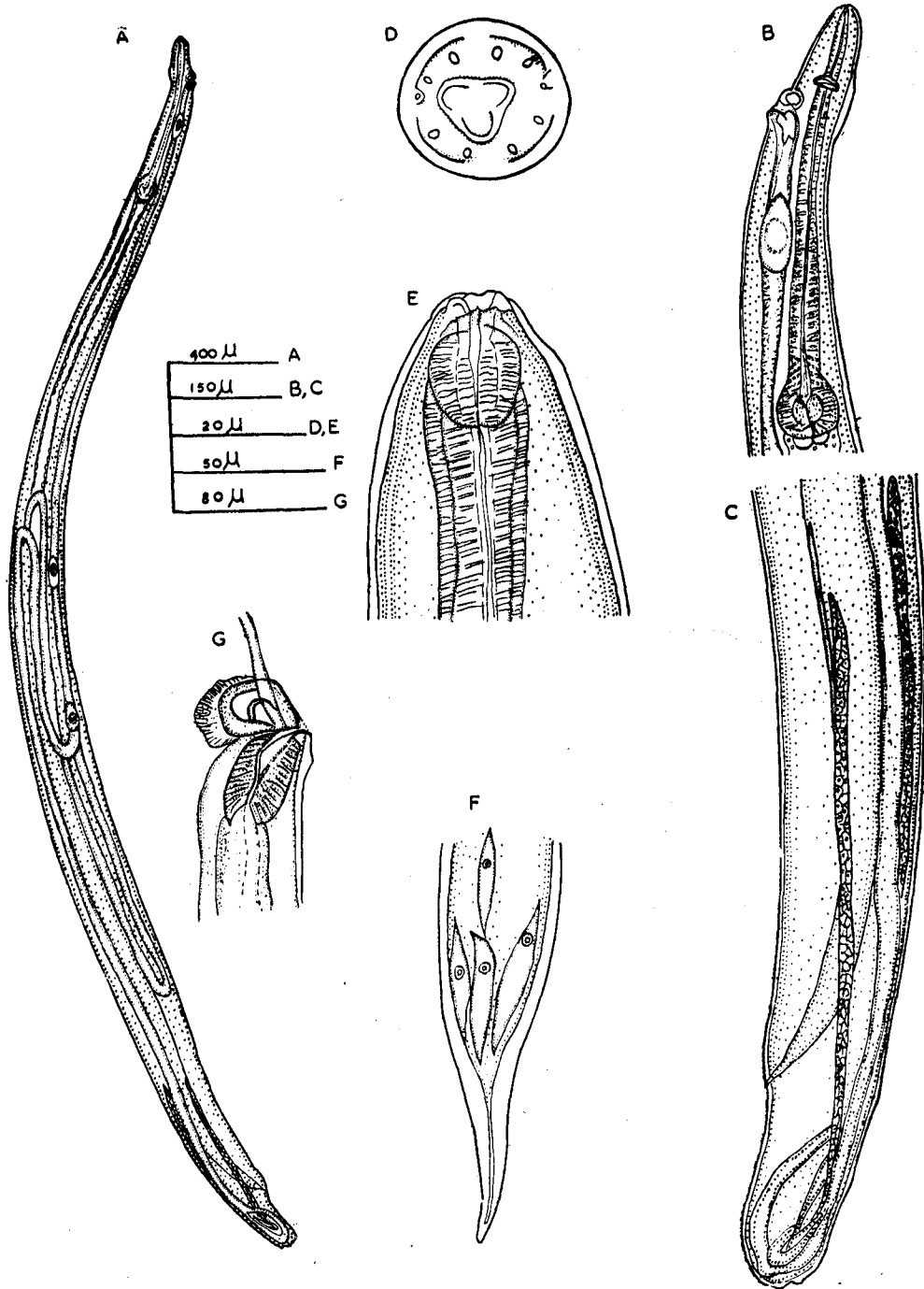


Fig 1. A-G. *Protrellatus murtii* sp. n.
 A. Adult female; B. Lateral view of female head region; C. Lateral view of female tail; D. *En face* view of female; E. Lateral view of female head showing stoma; F. Lateral view of juvenile tail; G. Lateral view of vaginal region.

(100-150); length of oesophagus=490 (400-660); distance from tip of head to vulval opening=130 (100-170) or per cent vulva=2.48 (2.39-2.52); length of tail=190 (120-260); dimensions of egg=115×50 (110×40—125×60).

Female (Holotype) : L=5300; maximum body width=260; distance from tip of head to nerve ring=110; distance from tip of head to excretory pore=150; the length of oesophagus=600 (530+70) distance from tip of head to vulval opening=160 (percent vulva=3.02); length of tail=290; dimension of egg=120×60.

Description

Female : Body elongate, gradually expanding and attaining maximum width at the posterior third of the body; the anterior end (upto the vulva) demarcated due to slight expansion and the posterior part ending with an obtusely rounded terminus having two triangular cuticular projections. Cuticle smooth, without any striations. Head conoid, truncate, almost continuous with the body. *En face* showing central triangular mouth surrounded by four pairs of papillae and a pair of laterally situated amphids. Stoma long, tubular with strong cuticularised wall, lumen gradually decreasing in length (12 µm). Anterior part of the oesophagus pyriform and muscular (surrounds stoma) followed by long cylindrical portion (530 µm) ending with a valvular bulb (70×70 µm). Intestine set off from the oesophagus; cardia present, intestine gradually narrows in the posterior region of the body ending into rectum; the latter opens outside through functional anus (passing of excretory matter in living specimens was observed). Nerve ring located at 100 µm from head end and surrounds the anterior part of oesophagus. Excretory pore is anteriorly adjacent to vulva *i.e.* 150 µm from head end. Vulval opening slightly posterior to nerve ring, vulval lips protruding, cuticularised; vagina muscular, sigmoid; ovaries paired, both originating from the posterior third of the body, running backwards almost parallel; looping in the hind region and again running forward and then flexing in the anterior half of the body, ovaries are followed by the oviducts, the later joining in the mid body region to form the common uterus running parallel to the body wall on ventral side. The uterus is full of elliptical eggs which do not possess any cuticular crests, grooves or any other ornamentation.

The juveniles are similar to the females except the gonads and the shape of the tail which is longer and pointed than the mature females.

Type host : House crickets, *Gryllus domesticus*.

Type habitat : Intestinal region.

Type locality : Stacked earthen pots in the Division of Nematology, IARI, New Delhi.

Type specimens : Holotype female, 6 paratype females and 2 juveniles on permanent slides along with one *en face* of adult female deposited with the National Nematode Collection, Division of Nematology, IARI, New Delhi.

Differential diagnosis : *Protrellatus murtii* sp. n. comes close to *P. alli* Farooqui, 1970, the only species of the genus from which it differs by having eggs without cuticular crests, and differently shaped tail in adult females.

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OCCURRENCE OF *RADOPHOLUS SIMILIS* (COBB, 1893) THORNE, 1949
ON BANANA IN MAHARASHTRA

BY

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Banana occupies 41,200 hectares of land in the State of Maharashtra and is intensively grown mainly in Jalgaon, Thane and some parts of Pune districts. The occurrence of *R. similis* on banana has been reported by Nair *et al.*, 1966 from Kerala. However, Koshy *et al.*, 1978 reported its wide-spread occurrence on banana, arecanut, coconut and pepper. The surveys were therefore, carried out in these districts of the State for tracing out the spread of *R. similis*.

164 soil and root samples were collected randomly from Jalgaon, Thane and Pune districts. The soil samples were processed for recovering the nematodes from soil (250 ml). The extraction was done by Cobb's modified sieving and decanting technique. For obtaining nematodes from roots, the chopped roots were placed over tissue paper-wire support assembly. The nematodes thus recovered were killed by gentle heat and fixed in 5 per cent formalin. Permanent mounts for species identification were made by rapid lactophenol method. The nematode was identified as *R. similis*.

Low infestation of *R. similis* was found in 15.24% of samples at Agashi, Arnana Kelwa-Agar, Kelwa-Sutarbhat and Kelwa of Thane district. However, its density of population was very low i.e. 5-60, 5-35, 5-50, 5-25 and 5-15 per 250 ml of soil respectively. A light infestation was also noticed at Vadgaon (Tal. Yawal) of Jalgaon district. The literature indicates that this is the first record of occurrence of *R. similis* from Maharashtra State.

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