

Description of *Leipotylenchus amiri* n. sp. (Nematoda : Tylenchida) from Pakistan

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SUMMARY

Leipotylenchus amiri n. sp., collected from around the roots of *Allium cepa* from Sihala, Islamabad, Pakistan is described and illustrated. This new species can be distinguished from *Leipotylenchus abulbosus* by its smaller size, presence of basal stylet knobs, very small amphids, presence of a distinct lateral membrane on the vulva and absence of males.

RÉSUMÉ

Description de *Leipotylenchus amiri* n. sp. (Nematoda : Tylenchida),
provenant du Pakistan

Description et illustration sont données de *Leipotylenchus amiri* n. sp. collecté au voisinage des racines d'*Allium cepa*, à Sihala, Islamabad, Pakistan. Cette nouvelle espèce peut être distinguée de *L. abulbosus* par le corps plus court, un stylet pourvu de boutons basaux, de très petites amphides, une membrane latérale vulvaire distincte et l'absence de mâles.

Sher (1974) after thorough examination of the characters of *Tetylenchus abulbosus* Thorne, 1949, proposed a new subfamily Leipotylenchinae which could be distinguished from Psilenchinae Paramonov, 1967 by the absence of conspicuous lateral slit-like amphid apertures on the lip region and from Tylenchinae Örley, 1880 by the absence of stylet knobs and the presence of two ovaries. Sher (1974) also erected the genus *Leipotylenchus* Sher, 1974 having the characters : striated lip region, flattened anteriorly and not set off, with weakly developed labial framework ; stylet without knobs ; deirids present ; gonad didelphic ; four incisures in the lateral fields. At the same time he transferred *T. abulbosus* to this new genus as the type species.

Andrássy (1976) accepted only two subfamilies, Tyldorinae Paramonov, 1967 and Tylenchinae, under Tylenchidae Örley, 1880 having the following main characters : amphid very small, normally invisible, terminal bulb small, single ovary, post-vulvar uterine branch short, bursa small, adanal, phasmids inconspicuous and tail of both sexes filiform. Andrássy (1976) did not recognise the subfamily Leipotylenchinae and placed the genus *Leipotylenchus* under Tylenchorhynchinae Eliava, 1964 along with eleven other genera on the basis of short spear, paired ovaries, and female tail at least three times as long as anal diameter of body. We do not consider that the inclusion of this genus in Tylen-

chorhynchinae is justified on the basis of its having two ovaries, since *Leipotylenchus* does not otherwise have the characters of that subfamily.

Hooper (1978) and Siddiqi (1980) considered Leipotylenchinae a valid subfamily of Tylenchidae on the basis of head without distinct sclerotization, stylet without knobs, tail elongate-conoid, head region flattened anteriorly and amphid apertures inconspicuous. We concur with the views of these authors.

During a survey of plant nematodes of Sihala, Islamabad, Pakistan, specimens related to the genus *Leipotylenchus* were collected around the roots of *Allium cepa* L. These specimens differed in certain respects from *Leipotylenchus abulbosus* (Thorne, 1949) Sher, 1974 and are described herein as a new species, *L. amiri*, in the subfamily Leipotylenchinae, the diagnosis of which has been partially emended.

Materials and methods

Specimens used in the description were recovered from soil, killed by gentle heat, fixed in T.A.F., transferred to glycerine solution containing traces of picric acid and allowed to dehydrate slowly. Processed specimens were mounted in dehydrated glycerine on permanent slides for observation and measurements. Figures were made with the help of a drawing tube.

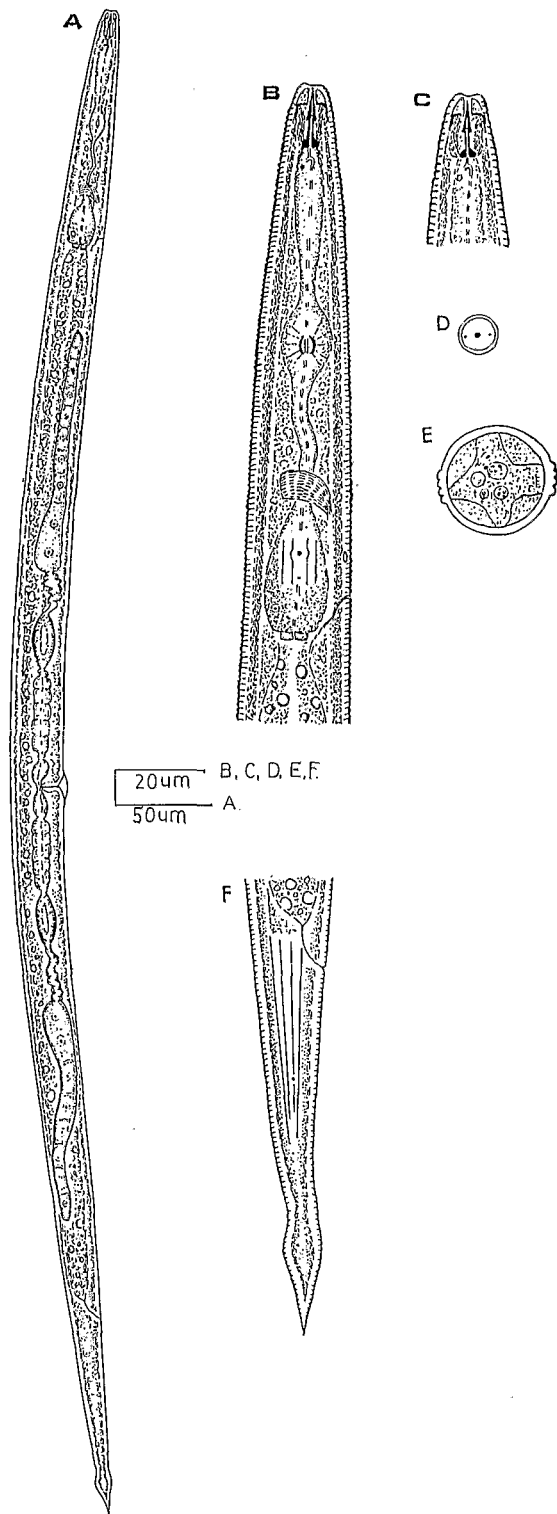


Fig. 1. *Leipotylenchus amiri* n. sp. Female. A : Animal *in toto* ; B : Oesophageal region ; C : Anterior oesophageal region ; D : En face view of labial area ; E : Transverse section at mid-body ; F : Tail.

SUBFAMILY LEIPOTYLENCHINAE, Sher, 1974

Diagnosis emend. : Tylenchidae. Amphids inconspicuous or very small, stylet with or without basal knobs, deirids conspicuous. Female didelphic. Tail elongated, with rounded terminus or tapering to a narrow tip.

Leipotylenchus amiri * n. sp.

(Fig. 1)

MEASUREMENTS

Females (paratype ; n = 12) : L = 0.9 mm ± 0.07 (0.8-1.0) ; a = 30.5 ± 0.26 (30.3-31) ; b = 6.8 ± 0.28 (6.4-7.3) ; c = 10 ± 0.20 (9.7-10.2) ; c' = 5.3 ± 0.24 (5.0-5.6) ; V = 50 ± 0.90 (49-51) ; spear = 12.5 µm ± 0.31 (12.0-12.8).

Holotype (female). L = 0.80 mm ; a = 30.2 ; b = 6.8 ; c = 10 ; c' = 5.3 ; V = 50 ; spear = 12.3 µm.

DESCRIPTION

Female : Body almost straight, tapering anteriorly from median bulb and posteriorly beyond the anus ; cuticle thick, annules fine. Lateral fields 6-7 µm wide, with four incisures. Cephalic region low, flattened, slightly depressed anteriorly, continuous, with four to five fine annules 7.0-7.5 µm wide and 2-3 µm high. Amphids very small, near the oral opening. Labial framework moderately sclerotized. Spear with weak basal knobs ; conus half spear length. Orifice of dorsal esophageal gland less than 2 µm from spear base. Esophagus 120-125 µm (122) long ; distance from anterior end of body to center and base of postcorpus 56-58 µm (56.5) and 66-68 µm (67) respectively. Median bulb with prominent valvular apparatus in the center, oval, occupying two third of the body and measuring 19-20 µm by 12-13 µm. Nerve ring just anterior to basal bulb. Isthmus 24-26 µm long and 4-4.5 µm wide. Excretory pore near base of basal bulb, 116-118 µm (117.5) from anterior end. Deirids prominent, at level of excretory pore. Hemizonid six to seven annules anterior to excretory pore. Basal bulb pyriform 34-35 µm long and 15-16 µm wide. Cardia present. Vulva open, depressed. Lateral vulval flap prominent. Vagina a transverse slit at right angles to body axis, extending less than half width into body. Ovaries paired, well developed, outstretched in opposite directions, the anterior one

* The species is named after Dr. Amir Muhammad, who always supported the author in the development of nematology in Pakistan.

extending up to 15-16 μm behind base of basal bulb; posterior ovary extending to about 15 μm anterior to anus. Spermatheca elongate, in line with genital tract 28-30 μm long, without sperms; oocytes arranged in single row. Vulva-anus distance 295-310 μm (302), body diameter 28-30 μm at vulva, i.e. double the body diameter (14-15 μm) at anus. Tail finely annulated, short (80-85 μm (82), tapering to a narrow tip but becoming broader just before end. Phasmids small, about 55 μm from posterior end, in anterior half of the tail.

Male : Unknown.

TYPE HABITAT AND LOCALITY

Specimens collected around roots of onion (*Allium cepa* L.) from the field of Dr. Amir Muhammad, Sihala, Islamabad, Pakistan in November 1982.

TYPE SPECIMENS

Holotype : Slide No. NNRC/600 and nine paratype females on slides No. NNRC/602-604 deposited in the National Nematode Collection at NNRC, University of Karachi. *Paratype* slide (three females) No. NNRC/601 deposited in USDA Nematode Collection, Beltsville, Maryland, U.S.A.

DIAGNOSIS AND RELATIONSHIP

L. amiri n. sp. can be distinguished from the species *Leipotylenchus abulbosus* by having a shorter body, short stylet with basal knobs, very small amphids, lateral field not areolated in the posterior portion and in absence of males. *Leipotylenchus*

abulbosus is larger, $L = 1.9-1.4$ mm, stylet 13-16 μm without basal knobs, amphid inconspicuous, lateral field areolated in posterior portion; males are present.

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