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STUDIES ON THE GENUS *MESODORYLAIMUS* ANDRÁSSY, 1959 FROM INDIA

BY

WASIM AHMAD

Section of Nematology, Department of Zoology, Aligarh Muslim University, Aligarh-202002,
India

Three new and two known species of the genus *Mesodorylaimus* Andrassy, 1959 are described and illustrated. *M. caudatus* n. sp. has a slender body, an attenuated odontostyle, transverse vulva and an elongate almost straight tail and is related to *M. nigritulus* (Schneider, 1937) Andrassy, 1959; *M. adalberti* Andrassy, 1963 and *M. parasubtilis* (Meyl, 1957) Andrassy, 1959. *M. loofi* n. sp. is distinctive in having a 'double' guiding ring, transverse vulva, posterior portion of intestine with a long tongue-like structure and a long filiform tail, while *M. vulvastriatus* n. sp. has a longitudinal vulva with cuticular infoldings on both sides. *M. bastiani* (Bütschli, 1873) Andrassy, 1959 and *M. clavicaudatus* (Thorne & Swanger, 1936) Andrassy, 1959 are redescribed. SEM observations have been made on *M. vulvastriatus*.

Keywords: Taxonomy, soil nematode, *Mesodorylaimus*, Dorylaimida, descriptions

Soil samples collected from various localities in India yielded several populations of the genus *Mesodorylaimus* Andrassy, 1959. On detailed examination they were found to represent three new and two known species. The known species are *M. bastiani* (Bütschli, 1873) Andrassy, 1959 and *M. clavicaudatus* (Thorne & Swanger, 1936) Andrassy, 1959 while the new species have been named *M. caudatus* n. sp., *M. loofi* n. sp. and *M. vulvastriatus* n. sp.

Dey & Baqri (1986) described three new species of *Thornenema* Andrassy, 1959 viz., *T. nodicaudatum*, *T. conura* and *T. novum* from West Bengal, India. From the study of the type specimens of these three species it is concluded that their placement in *Thornenema* is no longer tenable and hence they have been transferred to *Mesodorylaimus*.

The nematodes were killed in hot 4% formalin and dehydrated by a slow method. All measurements were taken and observations made on specimens mounted in anhydrous glycerine. For SEM, formalin fixed specimens were washed in buffer, fixed in osmium tetroxide, dehydrated in an alcohol series and critical point dried in CO₂. Dried specimens were mounted on aluminium stubs, coated with 30 nm gold and observed in a Hitachi S 2300 SEM at 15 kv.

DESCRIPTIONS

Mesodorylaimus caudatus n. sp.
(Fig. 1)

Holotype female: L=1.16 mm; a=40; b=5.1; c=18; c'=3.7; V=44; G₁=15; G₂=12; odontostyle=13 μ m; odontophore=16 μ m; oesophagus=228 μ m; prerectum=57 μ m; rectum=30 μ m; tail=63 μ m; ABD=17 μ m.

Paratype females (n=10): L=1.0-1.29 (1.01) mm; a=25-40 (34); b=4.0-5.2 (4.9); c=14-20 (17); c'=3-4 (4); V=39-51 (45); G₁=10-15 (11); G₂=11-17 (13); odontostyle = 12-13 (13) μ m; odontophore = 16-17 (16) μ m; oesophagus = 213-247 (227) μ m; prerectum=54-84 (75) μ m; rectum=22-30 (25) μ m; tail=60-72 (66) μ m; ABD=16-20 (17) μ m.

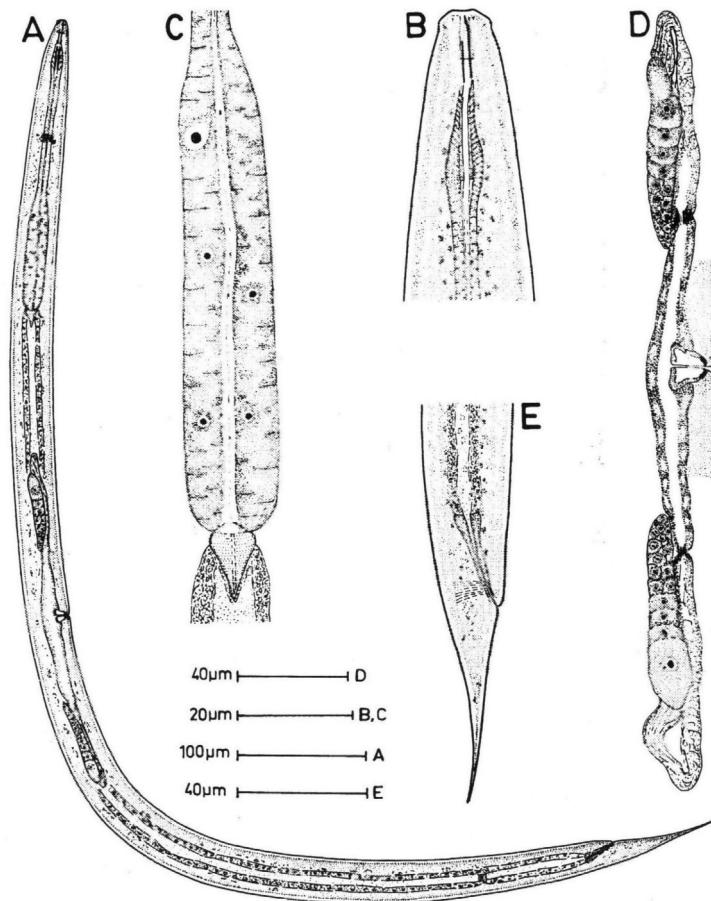


Fig. 1. *Mesodorylaimus caudatus* n. sp. A=entire female; B=anterior region; C=expanded part of oesophagus; D=female gonad; E=Female posterior end.

Female: Body almost straight to slightly ventrally curved when fixed, gradually narrowing towards both extremities. Cuticle finely striated, 1.5-2.0 μm thick at mid-body and 4-5 μm on tail. Lateral chords about one third of body width at mid-body. Lateral, dorsal and ventral body pores indistinct.

Lip region offset by slight depression, 9-11 μm wide or about one third of body width at base of oesophagus. Amphids stirrup-shaped, the apertures 4-5 μm wide or about half of the corresponding body width. Odontostyle comparatively slender, 1.2-1.3 lip region width long, its aperture about one third of its length. Guiding ring single at 8-9 μm or 0.7-0.9 lip region width from anterior end. Odontophore rod-like, 1.2-1.3 times the odontostyle length. Nerve ring at 90-99 μm from anterior end. Expanded portion of oesophagus occupying 36-40% of total neck length. Cardia elongate-conoid, 13-16 μm long. Oesophageal gland nuclei and their orifices located as follows: DO=64-65; DN=67-69; DO-DN=3-4; S₁N₁=77-78; S₁N₂=81-82; S₂N=88-89; S₂O=88-89.

Reproductive system amphidelphic. Vulva transverse, vagina 13-15 μm or about one third of corresponding body width. Small cuticularized pieces present at vulva-vagina junction. Prerectum about 3-4 anal body widths long. Rectum 1.5-1.6 anal body widths long. Tail elongate, almost straight, gradually narrowing to an acute terminus, about 3-4 anal body widths long with a pair of caudal papillae on each side.

Male: Not found

Type habitat and locality: Soil around roots of water weeds (unidentified) from Khadra, Bhuj, District Kutch., Gujarat State.

Type Specimens: Collected in November, 1978; holotype female on slide *Mesodorylaimus caudatus* n. sp./1; paratype females and males on slides *Mesodorylaimus caudatus* n. sp./2-5 deposited in the nematode collection of Zoology Department, Aligarh Muslim University, Aligarh. A paratype female deposited at Instituut voor Dierkunde, Gent, Belgium.

Differential diagnosis: *Mesodorylaimus caudatus* n. sp. is characterized by its slender body, attenuated odontostyle, transverse vulva and an elongate almost straight tail with an acute terminus.

In the shape of lip region, vulva and tail, the new species comes close to *M. nigritulus* (Schneider, 1937) Andrassy, 1959; *M. adalberti* Andrassy, 1963 and *M. parasubtilis* (Meyl, 1957) Andrassy, 1959. It differs from *M. nigritulus* in having a longer and more slender body, shorter oesophagus, more anteriorly located vulva and shorter tail ($L=0.9$ mm; $a=26-33$; $b=3.3-3.7$; $c=12-14$; $V=51-59$ in *M. nigritulus*). From *M. adalberti* Andrassy, 1963 it differs in the shape of lip region and tail, in having a slender odontostyle, pre-equatorial vulva and in the absence of males (odontostyle comparatively broad, $V=55-59$, tail not sharply attenuated and males present in *M. adalberti*). From *M. parasubtilis* it differs in having a single guiding ring, longer prerectum and tail, and in the absence of

males (guiding ring double, $c=6-8$; $c'=5-6$; prerectum plus rectum=2.5-3.0 anal body widths long and males present in *M. parasubtilis*).

Mesodorylaimus loofi n. sp.

(Fig. 2 F-K)

Holotype female: L=1.43 mm; a=36; b=4.9; c=5.4; $c'=11.4$; V=47; $G_1=14$; $G_2=13$; odontostyle=14 μm ; odontophore=18 μm ; oesophagus=272 μm ; prerectum=110 μm ; rectum=39 μm ; tail=263 μm ; ABD=23 μm .

Paratype females (n=3): L=1.43-1.50 (1.45) mm; a=35-38 (36); b=4.9-5.2 (5.1); c=5.4-6.7 (6.3); $c'=10.0-11.4$ (11.0); V=47-48 (48); $G_1=14-18$ (16); $G_2=13-18$ (15); odontostyle = 13-14 (13) μm ; odontophore = 18-21 (20) μm ; oesophagus=272-290 (282) μm ; prerectum=75-110 (89) μm ; rectum=33-40 (37) μm ; tail=222-263 (250) μm ; ABD=22-23 (23) μm .

Paratype male: L=1.24 mm; a=31; b=4.3; c=65; T=60; odontostyle=12 μm ; odontophore=17 μm ; oesophagus=287 μm ; spicules=41 μm ; lateral guiding pieces=10 μm ; ventromedian supplements=8; prerectum=123 μm ; tail=19 μm , ABD=26 μm .

Saharanpur Population

Females (n=3): L=1.27-1.29 (1.28) mm; a=39-43 (41); b=4.6-4.9 (4.7); c=4.9-5.3 (5.1); $c'=12.6-13.8$ (13); V=45-47 (45); $G_1=9-12$ (11); $G_2=9-10$ (10); odontostyle=13 μm ; odontophore=16 μm ; oesophagus=263-279 (269) μm ; prerectum=45-48 (46) μm ; rectum=27-30 (29) μm ; tail=241-263 (248) μm ; ABD=19 μm .

Males (n=2): L=1.30-1.31 mm; a=31-35; b=4.8-5.2; c=69-73; T=66; odontostyle = 13 μm ; odontophore = 16-17 μm ; oesophagus = 249-271 μm ; spicules=38-39 μm ; lateral guiding pieces=9-10 μm ; ventromedian supplements=9-10; prerectum=127-129 μm ; tail=18-19 μm , ABD=26-27 μm .

Female: Body slightly ventrally curved when fixed, tapering towards both extremities, terminating posteriorly in a long filiform tail. Cuticle finely striated, 2-3 μm thick at mid-body and 4-5 μm on tail. Lateral chords about one third of body width at mid-body. Lateral, dorsal and ventral body pores indistinct.

Lip region almost continuous with body, 11-12 μm wide or about one third of body width at base of oesophagus. Amphids cup-shaped, their apertures 5-6 μm wide or about half of the corresponding body width. Odontostyle 1.1-1.3 lip region widths long, its aperture about one fourth of its length. Guiding ring double at 8-10 μm or 0.7-0.8 lip region width from anterior end. Odontophore rod-like, 1.2-1.5 times the odontostyle length. Nerve ring at 98-112 μm from anterior end. Expanded portion of oesophagus occupying 38-42% of total neck length. Cardia elongate-conoid, 17-22 μm long. Oesophageal gland nuclei and

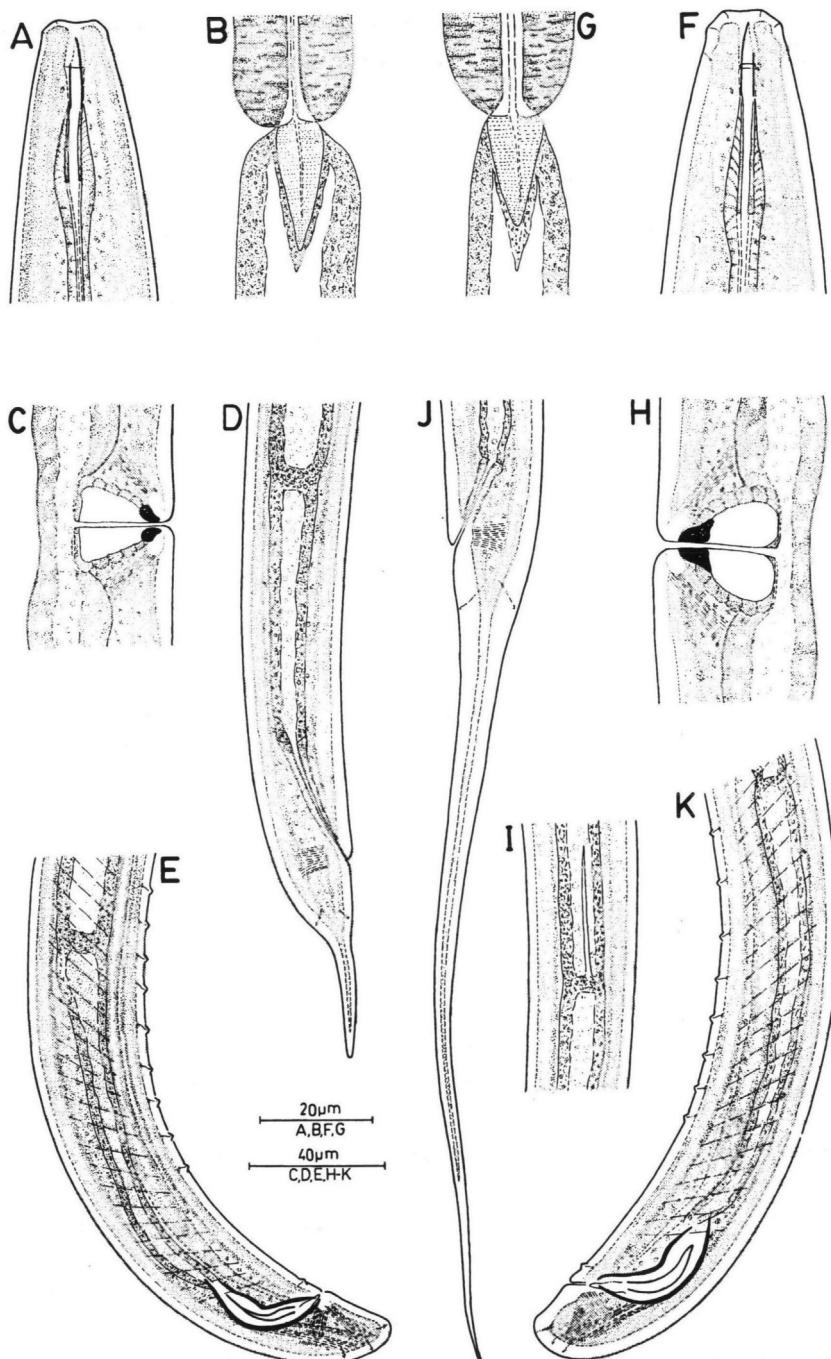


Fig. 2. A-E: *Mesodorylaimus bastiani*: A=anterior region; B=oesophago-intestinal junction; C=vulval region; D=female posterior region; E=male posterior region; F-K=*Mesodorylaimus loofi* n. sp. F=anterior region; G=oesophago-intestinal junction; H=vulval region; I=intestine-prerectum junction; J=female tail; K=male posterior region.

their orifices located as follows: DO=61-62; DN=64-65; DO-DN=2.6-2.7; S₁N₁=76-77; S₁N₂=81-82, S₂N=90-91; S₂O=91-92.

Reproductive system amphidelphic. Vulva transverse, vagina 16-18 μm or about one third of the corresponding body width. Strong cuticularized pieces present at vulva-vagina junction. Prerectum 2.3-3.7 anal body widths long. A long tongue-like structure extending from intestine-prerectum junction into the intestinal lumen. Rectum 1.4-1.8 anal body widths long. Tail long filiform, 10-14 anal body widths long with a pair of caudal papillae on each side.

Male: Supplements, an adanal pair and 8-10 regularly spaced ventromedians. Spicules dorylaimoid, 1.4-1.6 anal body widths long. Lateral guiding pieces about one fourth of spicules length. Prerectum 4.7-5.5 anal body widths long, terminating just in front of first ventromedian supplement. Tail short conoid, bluntly rounded, 0.7 anal body width long with three caudal papillae on each side.

Type habitat and locality: Rhizosphere of mango (*Mangifera indica*) from Dehradun, Uttar Pradesh.

Other habitat and locality: Rhizosphere of orange (*Citrus sinensis*) from Andhra Ashram, Rishikesh, Saharanpur, Uttar Pradesh.

Type Specimens: Collected in March, 1978: holotype female on slide *Mesodorylaimus loofi* n. sp./1; paratype females and male on slides *Mesodorylaimus loofi* n. sp./2-3 deposited in the nematode collection of Zoology Department, Aligarh Muslim University, Aligarh. A female and a male deposited at Instituut voor Dierkunde, Gent, Belgium.

Differential diagnosis: *Mesodorylaimus loofi* n. sp. is characterized by having a 'double' guiding ring, transverse vulva, posterior portion of intestine with long tongue-like structure and a long filiform tail in female.

In the presence of a tongue-like structure in the intestine and a long filiform tail the new species comes close to *M. dolomiticus* Vinciguerra, 1982 and *M. trapaefructus* Andrassy, 1986. It differs from *M. dolomiticus* in having a 'double' guiding ring; smaller odontostyle, prerectum and spicules; in the shape of vulva and lower number of ventromedian supplements (guiding ring single, odontostyle 17-18 μm , prerectum 1.5 times rectum length, spicules 44-46 μm , vulva longitudinal and ventromedian supplements 10-13 in *M. dolomiticus*). From *M. trapaefructus* it differs in having a smaller body, shorter odontostyle, in the nature of vulval sclerotization and longer tail ($L=1.5-1.9$ mm, odontostyle 16-17 μm , $c=14-18$, $c'=4.7-5.7$, in *M. trapaefructus*).

Other species with tongue-like structure in the intestine namely, *M. tholocercus* Andrassy, 1968; *M. mexicanus* Zullini, 1973; *M. simplex* Thorne, 1974 and *M. thoraciswangerae* Andrassy, 1968 are all short-tailed forms.

In the shape of lip region and tail the new species is very close to *M. subtilis* (Thorne & Swanger, 1936) Andrassy, 1959 but differs in having 'double' guiding ring, presence of tongue-like structure and longer tail (guiding ring single, tongue-like structure absent, $c=8.3-8.5$, $c'=8$ in *M. subtilis*).

Mesodorylaimus vulvastriatus n. sp.
(Fig. 3 & 4)

Holotype female: L=1.74 mm; a=46; b=5.7; c=16; c'=4.4; V=49; G₁=21; G₂=19; odontostyle=15 μ m; odontophore=22 μ m; oesophagus=305 μ m; pre-rectum=81 μ m; rectum=34 μ m; tail=108 μ m; ABD=24 μ m.

Paratype females (n=10): L=1.64-1.90 (1.76) mm; a=42-46 (45); b=5.0-6.0 (5.4); c=15-20 (17); c'=3.1-4.9 (4.0); V=48-53 (50); G₁=14-22 (19); G₂=16-23

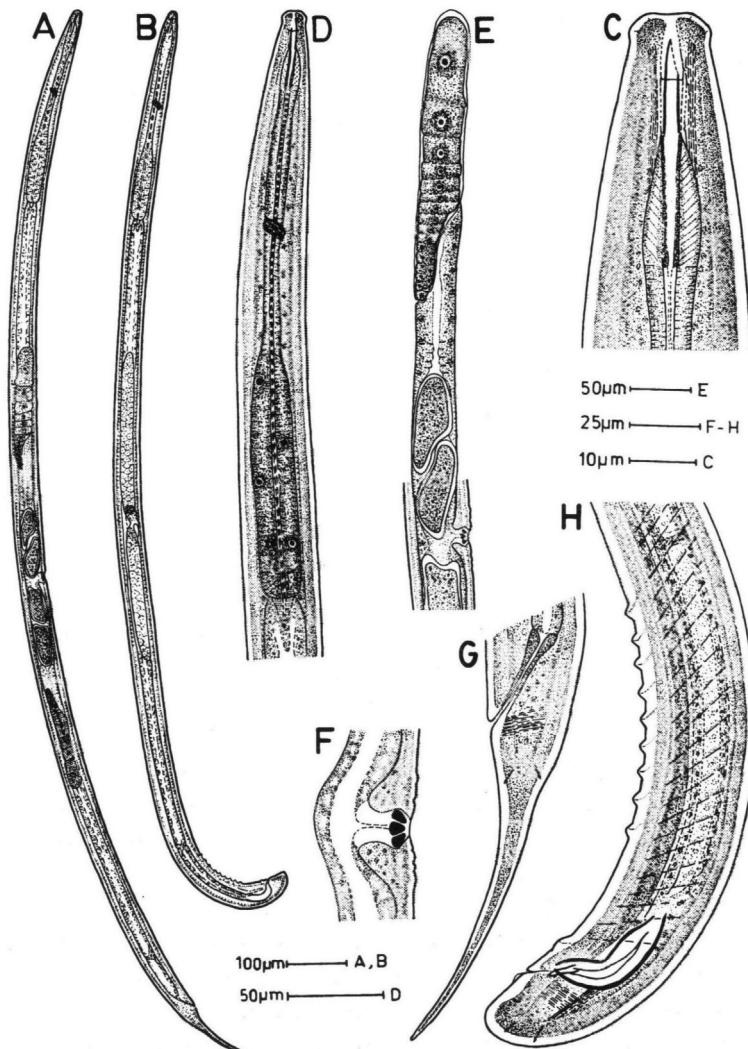


Fig. 3. *Mesodorylaimus vulvastriatus* n. sp. A=entire female; B=entire male; C=anterior region; D=oesophageal region; E=female gonad (anterior); F=vulval region; G=female tail; H=male posterior region.

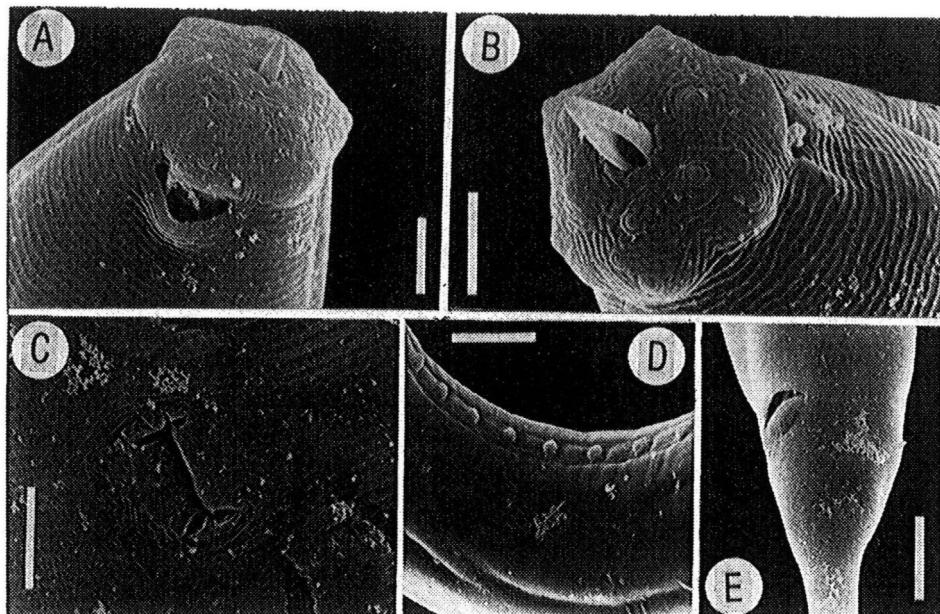


Fig. 4. *Mesodorylaimus vulvastriatus* (SEM micrographs): A & B=anterior end; C=vulval region; D=ventromedian supplements; E=female anal region (Scale bar=3 μm in A, B, C and 10 μm in D, E).

(20); odontostyle=14-16 (15) μm ; odontophore=18-23 (20) μm ; oesophagus=307-344 (321) μm ; prerectum=53-89 (70) μm ; rectum=32-42 (36) μm ; tail=92-115 (104) μm ; ABD=23-29 (25) μm .

Paratype males (n=10): L=1.20-1.68 (1.42) mm; a=33-47 (39); b=3.7-4.9 (4.4); c=42-67 (53); c'=0.8-1.0 (0.9); T=61-66 (64); odontostyle=13-15 (14) μm ; odontophore=18-22 (20) μm ; oesophagus=302-331 (318) μm ; spicules=45-48 (47) μm ; lateral guiding pieces=10-11 (11) μm ; ventromedian supplements=9-11 (10); prerectum=142-160 (153) μm ; rectum=35-44 (39) μm ; tail=24-30 (27) μm ; ABD=26-34 (30) μm .

Female: Body slightly curved ventrally when fixed; tapering towards both extremities. Cuticle finely striated, 1.5-2.0 μm thick at mid-body and 3-4 μm on tail. Lateral chords about one third of body width at mid-body. Lateral, dorsal and ventral body pores indistinct.

Lip region offset by slight depression, 12-13 μm wide or about one third of body width at base of oesophagus. Oral aperture circular, labial papillae arranged 6+4+6. Amphids stirrup-shaped, the apertures 5-7 μm wide or about half of the corresponding body width. Odontostyle 1.1-1.3 lip region widths long, its aperture about one third of its length. Guiding ring single at 8-10 μm or 0.6-0.8 lip region width from anterior end. Odontophore rod-like, 1.3-1.6 times the odontostyle length. Nerve ring at 98-118 μm from anterior end. Expanded portion of oesophagus occupying 40-44% of total neck length.

Cardia elongate-conoid, 12-17 μm long. Oesophageal gland nuclei and their orifices located as follows: DO=59-61; DN=62-63; DO-DN=2.4-2.9; S₁N₁=75-77; S₁N₂=80-81; S₂N=89-91; S₂O=90-93.

Reproductive system amphidelphic. Vulva a longitudinal slit, 3 μm wide slightly depressed. Both sides of vulva with 3-4 distinct cuticular folds. Vagina 15-18 μm deep. Gonads well developed, uteri filled with sperms. Sphincter present at vulva-vagina junction. Prerectum 2.3-3.6 anal body widths long. Rectum 1.3-1.6 anal body widths long. Tail elongate-attenuated, 3.5-5.2 anal body widths long with a pair of caudal papillae on each side.

Male: Supplements, an adanal pair and 9-11 regularly spaced ventromedians. Spicules dorylaimoid, 1.5-1.8 anal body widths long. Lateral guiding pieces about one fifth to one fourth of spicules length. Prerectum 4.7-5.8 anal body widths long, extending anterior to the range of the supplements. Tail short, conoid, bluntly rounded, 0.8-1.0 anal body width long with a pair of caudal papillae on each side.

Type habitat and locality: Soil around water weeds from Zoology Department, Aligarh Muslim University, Aligarh.

Type Specimens: Collected in January, 1991; holotype female and a paratype male on slide *Mesodorylaimus vulvastriatus* n. sp./1; paratype females and males on slides *Mesodorylaimus vulvastriatus* n. sp./2-5 deposited in the nematode collection of Zoology Department, Aligarh Muslim University, Aligarh. A paratype female and a male deposited at Instituut voor Dierkunde, Gent, Belgium.

Differential diagnosis: *Mesodorylaimus vulvastriatus* n. sp. is characterized by the presence of a slightly offset lip region, longitudinal vulva with cuticular infoldings on both sides, elongate-attenuated female tail and males with spaced ventromedian supplements.

Because of the presence of cuticular infoldings near the vulval region the new species comes close to *M. plicatus* Andrassy, 1986; *M. intervallis* (Thorne & Swanger, 1936) Andrassy, 1959 and *M. imperator* Loof, 1975 but differs from them in having a longitudinal vulva. It further differs from *M. plicatus* in having a smaller odontostyle and tail (odontostyle 17-19 μm , vulva transverse and tail 5.8-7.0 anal body diameter in *M. plicatus*). From *M. intervallis* it differs in having a longer odontostyle, greater c value and in the nature of cuticular ornaments near vulva (odontostyle as long as lip region width, c=12, vulva transverse and the cuticular ornaments in the form of two innervated organs located anterior and posterior to vulva in *M. intervallis*). From *M. imperator* it differs in having a longer and more slender body, in the nature of cuticular ornaments near vulva, in having fewer ventromedian supplements and in the position of intestine prerectum junction in males ($L=1.19-1.50$ mm; $a=26-30$; vulva transverse, cuticle anterior and posterior to vulva irregularly wrinkled, ventromedian supplements 11-13 and prerectum in males terminating within the range of supplements in *M. imperator*).

The new species is also related to *M. vulvapapillatus* Bagaturia & Eliava, 1966 but distinctly differs in the shape of lip region and vulva, in the nature of vulval papillae and the number of ventromedian supplements (lip region set off, vulva transverse with distinct papillae on both sides, ventromedian supplements 16 in *M. vulvapapillatus*).

Mesodorylaimus bastiani (Thorne & Swanger, 1936)
Andrássy, 1959 (Fig. 2, A-E)

Females (n=4): L=1.2-1.4 (1.36) mm; a=29-33 (32); b=4.4-5.0 (4.8); c=21-27 (24); c'=2.1-2.7 (2.5); V=47-54 (52); G₁=22-27 (25); G₂=23-28 (26); odontostyle=14-15 (15) µm; odontophore=15-16 (15) µm; oesophagus=272-297 (278) µm; prerectum=80-90 (84) µm; rectum=25-31 (28) µm; tail=53-60 (56) µm; ABD=21-25 (23) µm.

Males (n=2): L=1.10-1.16 mm; a=27-31; b=3.8-4.0; c=53-64; c'=0.8-0.9; T=47-48; odontostyle=14 µm; odontophore=15-16 µm; oesophagus=287-291 µm; spicules=41-42 µm; lateral guiding pieces=7-8 µm; ventromedian supplements=9-11; prerectum=120-122 µm; tail=18-21 µm; ABD=23 µm.

Female: Lip region offset by slight depression, 10.5-12.0 µm wide or about one third of the body width at base of oesophagus. Amphids cup shaped, the apertures 4-5 µm wide or about half of the corresponding body width. Odontostyle 1.2-1.3 lip region widths long with aperture about one third of its length. Guiding ring single at 6.0-7.5 µm or 0.6-0.7 lip region width from anterior end. Expanded portion of oesophagus occupying 39-42% of total neck length. Cardia elongate conoid, 17-22 µm long. Oesophageal gland nuclei and their orifices located as follows: DO=60-62; DN=61-63; DO-DN=1.9-2.2; S₁N₁=76-80; S₁N₂=83-85; S₂N=90-92; S₂O=91-93.

Reproductive system amphidelphic. Vulva transverse, vagina 15-18 µm or about one third of the corresponding body width. Strong cuticularized pieces present at vulva-vagina junction. Prerectum about 3-4 anal body widths long. Rectum 1.3-1.5 anal body widths long. Tail dorsally convex-conoid then subcylindroid, gradually tapering to a narrowly rounded terminus.

Male: Supplements, an adanal pair and 9-11 regularly spaced ventromedians. Spicules dorylaimoid, 1.8-1.9 anal body widths long. Lateral guiding pieces about one fifth of spicules length. Prerectum 5.3-5.4 anal body widths long, terminating within the range of supplements. Tail short, dorsally convex-conoid, 0.8-0.9 anal body width long with a pair of caudal papillae on each side.

Habitat and locality: Rhizosphere of paddy (*Oryza sativa* L.) from Jamalpur, District Aligarh, Uttar Pradesh.

Remarks: The present specimens agree well with those described by Thorne & Swanger (1936) and Loof (1969) except that these have a slightly smaller body, longer tail and prerectum in males terminating either within the range of

supplements or at most extending up to first ventromedian supplements ($L=1.60-1.64$ mm, $c=19-22$, $c'=3-4$, prerectum in males extending 13-18 μm beyond the range of supplements in the specimens described by Loof (1969).

Mesodorylaimus clavicaudatus (Thorne & Swanger, 1936)
Andrássy, 1959 (Fig. 5)

Pampore Population

Females (n=6): $L=1.56-1.65$ (1.61) mm; $a=29-39$ (34); $b=5.5-6.0$ (5.8); $c=14-18$ (16); $c'=3-4$ (3); $V=49-52$ (50); $G_1=15-18$ (17); $G_2=14-19$ (17); odontostyle=10-12 (11) μm ; odontophore=22.5 μm ; oesophagus=281-304 (295) μm ; prerectum=76-105 (93) μm ; rectum=30-38 (33) μm ; tail=106-117 (112) μm ; ABD=30 μm .

Males (n=2): $L=1.34-1.67$ mm; $a=35-42$; $b=4-5$; $c=51-74$; $c'=0.76-0.90$; $T=48-49$; odontostyle = 10-12 μm ; odontophore = 22.5 μm ; oesophagus

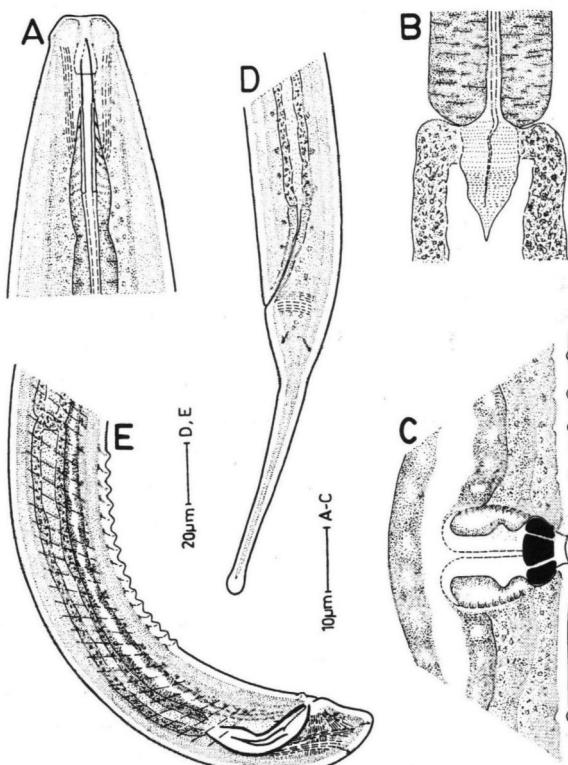


Fig. 5. *Mesodorylaimus clavicaudatus*: A=anterior end; B=oesophago-intestinal junction; C=vulval region; D=female tail; E=male posterior region.

=296-325 μm ; spicules=38-45 μm ; lateral guiding pieces=19-20 μm ; ventromedian supplements=17-19; tail=18-23 μm ; ABD=29-30 μm .

Safapora population

Females (n=5): L=1.39-1.74 (1.55) mm; a=31-39 (37); b=4.9-5.6 (5.2); c=13-15 (14); c'=4-5 (5); V=46-56 (50); G₁=14-17 (15); G₂=14-19 (15); odontostyle=11-13 (12) μm ; odontophore=16-18 (17) μm ; oesophagus=276-311 (293) μm ; prerectum=73-118 (89) μm ; rectum=32-35 (34) μm ; tail=95-129 (110) μm ; ABD=21-26 (23) μm .

Males (n=3): L=1.30-1.40 (1.35) mm; a=31-36 (34); b=4.1-4.9 (4.5); c=52-62 (58); c'=0.8-1.0 (0.9); T=56-60 (57); odontostyle=11-13 (12) μm ; odontophore=15-19 (17) μm ; oesophagus=284-312 (296) μm ; spicules=41-43 (42) μm ; lateral guiding pieces=12-13 (13) μm ; ventromedian supplements=15-16; prerectum=124-150 (138) μm ; rectum=37-41 (40) μm ; tail=21-26 (24) μm ; ABD=26 μm .

Female: Lip region offset by depression, 10-13 μm wide or about one fourth of body width at base of oesophagus. Labial papillae slightly protruding from lip contour. Amphids cup-shaped, the apertures 5-6 μm wide or about half of the corresponding body width. Odontostyle about one lip region width long with aperture about one third of its length. Guiding ring single at 9-10 μm from anterior end. Expanded portion of oesophagus occupying 39-51% of total neck length. Cardia elongate conoid, 17-23 μm long. Oesophageal gland nuclei and their orifices located as follows: DN=58-60; DN=60-63; DO-DN=1.9-2.4; S₁N₁=71-74; S₁N₂=76-80; S₂N=89-91; S₂O=90-92.

Reproductive system amphidelphic. Vulva longitudinal, vagina 19-22 μm or about half of the corresponding body width. Vulval papillae present, 3-4 anterior and one posterior to vulva. Strong cuticularized pieces present at vulva-vagina junction. Prerectum 4-5 anal body widths long. Tail elongate conoid, 3-5 anal body widths long with a clavate terminus.

Male: Supplements, an adanal pair and a contiguous series of 15-16 ventromedians. Spicules dorylaimoid, 1.5-1.6 anal body widths long. Lateral guiding pieces about one fourth of spicules length. Prerectum 5-6 anal body widths long, terminating slightly anterior to the range of supplements. Tail short, dorsally convex-conoid, 0.8-0.9 anal body width long with a pair of caudal papillae on each side.

Habitat and locality: Rhizosphere of *Solanum tuberosum* from Pampore, Kashmir and *Oryza sativa* from Safapora, Kashmir.

Remarks: The present specimens conform well with those described by Thorne & Swanger (1936) except that they have a slightly longer body and the odontostyle is shorter in relation to lip region width (L=1.2 mm, odontostyle 1.5 lip region widths long as per original description). The spicules are distinctly shorter than those of the type specimens (spicules 54 μm according to Fig. 60a of the original description).

Status of *Thornenema nodicaudatum* Dey & Baqri, 1986; *T. conura* Dey & Baqri, 1986 and *T. novum* Dey & Baqri, 1986

Dey & Baqri (1986) described three species of *Thornenema* Andrassy, 1959 from West Bengal, India, all having amphidelphic gonads. The genus *Thornenema* is characterized by having labial and post-labial sclerotization and mono-opisthodelphic gonads. However, some species, viz., *T. cavalcantii* and *T. pseudosartum* may sometimes have an almost fully developed anterior uterine branch but it is never functional. The study of type specimens of these three species revealed that labial and post-labial sclerotization is absent, the position of S₂N and S₂O is not far anterior (characteristically anterior in *Thornenema* sp.) and both the genital branches are equally developed in all three species. On the basis of these characters the placement of the above species in *Thornenema* is not justified and hence they are transferred to *Mesodorylaimus* as *M. nodicaudatus* (Dey & Baqri, 1986) n. comb.; *M. conurus* (Dey & Baqri, 1986) n. comb. and *M. novus* (Dey & Baqri, 1986) n. comb. Since *M. conurus* (Dey & Baqri, 1986) is preoccupied, a new name *M. baqrii* nom. nov. is proposed for this species. *M. conurus* (Dey & Baqri, 1986) is a junior homonym of *M. conurus* (Thorne, 1939).

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RÉSUMÉ

Études sur le genre Mesodorylaimus Andrassy, 1959 provenant de l'Inde

Trois nouvelles espèces, et deux autres déjà connues, appartenant au genre *Mesodorylaimus* Andrassy, 1959 sont décrites et illustrées. *M. caudatus* n.sp. possède un corps mince, un odontostyle effilé, une vulve transversale et une queue allongée, presque droite; il est proche de *M. nigritulus* (Schneider, 1937) Andrassy, 1959, *M. adalberti* Andrassy, 1963 et *M. parasubtilis* (Meyl, 1957) Andrassy, 1959. *M. loofi* n. sp. se distingue par un anneau-guide "double", une vulve transversale, une partie postérieure de l'intestin avec une structure allongée, en forme de langue, une queue longue, filiforme. Chez *M. vulvastriatus* n. sp. la vulve est longitudinale avec replis cuticulaires de chaque côté. *M. bastiani* (Bütschli, 1873) Andrassy, 1959 et *M. clavicaudatus* (Thorne & Swanger, 1936) Andrassy, 1959 sont redécrits. Des observations au MEB ont été faites sur *M. vulvastriatus*.

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