

Two new species of Dorylaimoidea (Nematoda : Dorylaimida) from Goa, India

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SUMMARY

Prodorylaimium goaense n. sp. has a long and wide odontostyle and an exceptionally long filiform tail; L = 1.6-2.0 mm; a = 44-55; b = 4.2-4.9; c = 3.1-3.8; V = 41-43; odontostyle = 25-26 μm ; odontophore = 17-18 μm and spicules = 35 μm ; *Indodorylaimus saccatus* n. sp. has well developed anterior uterine sac; L = 1.25-1.43 mm; a = 34-39; b = 5.6-6.0; c = 5.5-6.0; V = 33-36; odontostyle = 15-17 μm ; odontophore = 21-22 μm ; spicules = 31-36 μm .

RÉSUMÉ

Deux nouvelles espèces de Dorylaimoidea (Nematoda : Dorylaimida) provenant de Goa, Inde

Prodorylaimium goaense n. sp. possède un stylet long et épais ainsi qu'une queue exceptionnellement longue; L = 1,6-2,0 mm; a = 44-55; b = 4,2-4,9; c = 3,1-3,8; V = 41-43; odontostyle = 25-26 μm ; odontophore = 17-18 μm et spicules = 35 μm . *Indodorylaimus saccatus* n. sp. possède un sac utérin antérieur bien développé; L = 1,25-1,43 mm; a = 34-39; b = 5,6-6,0; c = 5,5-6,0; V = 33-36; odontostyle = 15-17 μm ; odontophore = 21-22 μm ; spicules = 31-36 μm .

Soil samples from around coconut, *Cocos nucifera* L. collected from Goa, India, yielded two new species of the superfamily Dorylaimoidea Thorne, 1934, one belonging to the genus *Prodorylaimium* Andrassy, 1969 of the family Prodorylaimidae Andrassy, 1969 and the other of the genus *Indodorylaimus* Ali & Prabha, 1974 of the family Thornenematidae Siddiqi, 1969.

Prodorylaimium goaense n. sp.

(Fig. 1)

DIMENSIONS

Female (n = 1; paratype): L = 2.0 mm; a = 55; b = 4.9; c = 3.1; c' = 26; V = 41; G₁ = 6; G₂ = 6; odontostyle = 25 μm ; odontophore = 18 μm ; oesophagus = 409 μm ; prerectum = 63 μm ; rectum = 39 μm ; tail = 630 μm ; ABD = 24 μm .

Male (n = 1; paratype): L = 1.68 mm; a = 39; b = 4.4; c = 3.2; c' = 18; T = 33; odontostyle = 26 μm ; odontophore = 17 μm ; oesophagus = 382 μm ; spicule = 35 μm ; ventromedian supple-

ments = 8; prerectum = 57 μm ; tail = 515 μm ; ABD = 28 μm .

Holotype (female): L = 1.65 mm; a = 44; b = 4.2; c = 3.8; c' = 18; V = 43; G₁ = 7; G₂ = 6; odontostyle = 25 μm ; odontophore = 18 μm ; oesophagus = 386 μm ; prerectum = 46 μm ; rectum = 39 μm ; tail = 434 μm ; ABD = 21 μm .

DESCRIPTION

Female: Body ventrally curved upon fixation, tapering slightly anterior to base of oesophagus, posteriorly ending into a very long filiform tail. Cuticle finely striated. Lateral hypodermal chords about one fourth of body width at mid-body. Lateral, dorsal and ventral body pores indistinct. Lip region narrower than adjoining body, demarcated by a slight depression, 11-12 μm or less than one-third of body width wide. Lips amalgamated, anterior sensilla not protruding above lip contour. Amphid cup-shaped, aperture 6-9 μm wide. Odontostyle 2.2-2.3 lip region widths long, its aperture about one-third of its length. Guiding ring single, at 15-16 μm or 1.4-1.5 lip region widths from anterior end. Odontophore rod-like 0.6-0.7 of odontostyle length.

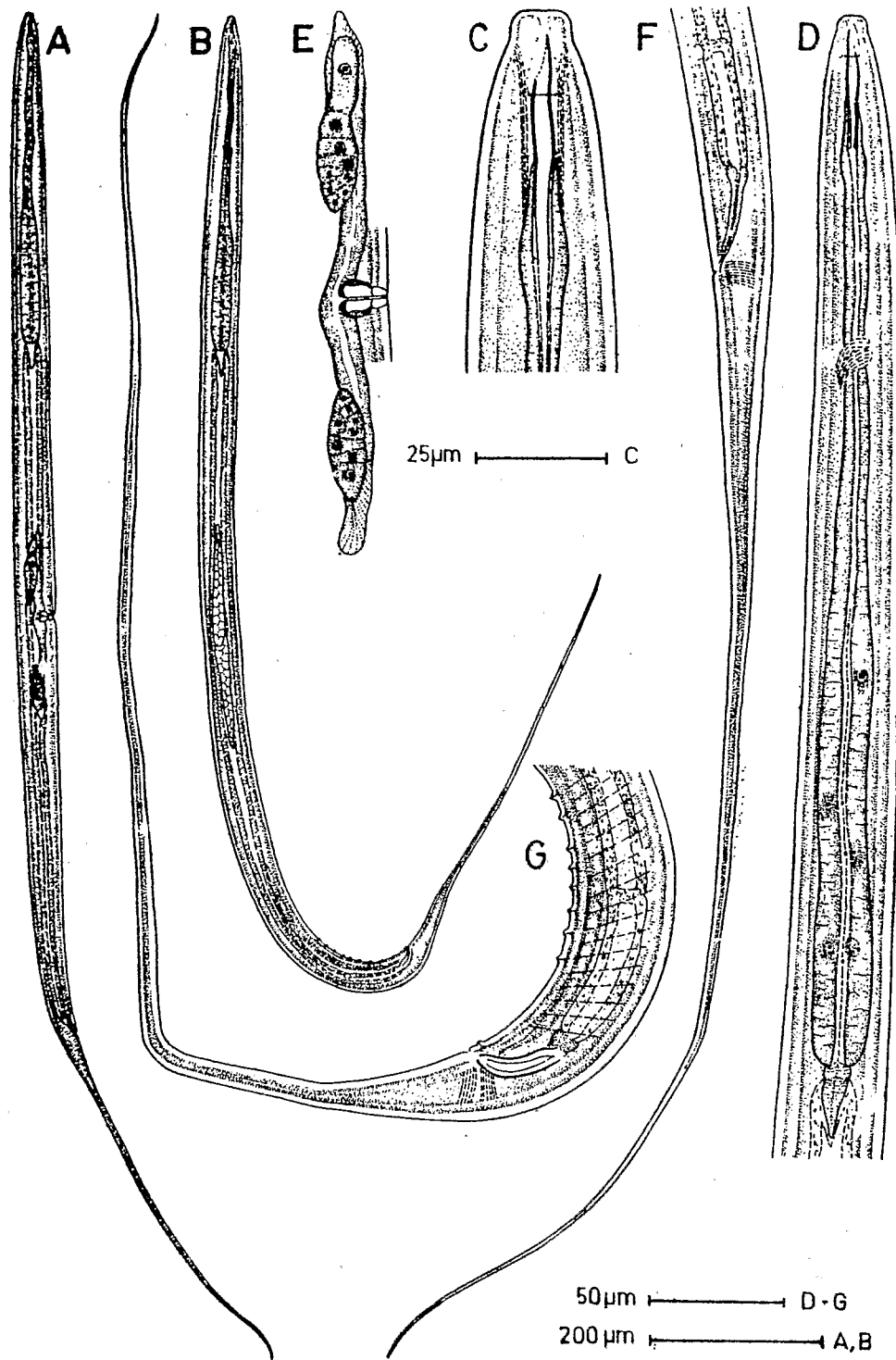


Fig. 1. *Prodorylaimium goense* n. sp. A : Entire female ; B : Entire male ; C : Anterior end ; D : Oesophageal region ; E : Female reproductive system ; F : Female posterior region ; G : Male posterior region.

Nerve ring at 122-130 μm from anterior end of body. Basal expanded portion of oesophagus occupying 42-45% of total oesophageal length. Cardia elongate-conoid, 28-29 μm long. Oesophageal gland nuclei and their orifices located as follows: DO = 57-59; DN = 61-63; DO-DN = 3-4; S_1N_1 = 75-76; S_1N_2 = 79-80; S_2N = 88-89; S_2O = 89-90. Reproductive system amphidelphic, vulva longitudinal, vagina about half of corresponding body width long. Oviduct-uterus demarcated, poorly developed sphincter present. No sperm in reproductive tract. Prerectum 2.1-2.6 anal body widths long. Rectum 1.4-1.6 anal body widths long. Tail very long, filiform, 18-26 anal body widths long with two caudal pores on each side.

Male: Testes two, opposed, sperm not developed. Supplements an adanal pair and eight closely spaced ventro-medians, the latter beginning well above range of spicules. Spicules 1.2 anal body widths long. Prerectum about two anal body widths long, terminating within range of supplements. Tail exceptionally long, filiform, 18 anal body widths long. Caudal pores indistinct.

TYPE HABITAT AND LOCALITY

Soil around roots of coconut from near Mayeem lake, Becholim, Goa.

TYPE SPECIMENS

Collected in April 1982; holotype female on slide *Prodorylaimium goense* n. sp./1; paratype male on slide *Prodorylaimium goense* n. sp./2 deposited in the nematode collection of Zoology Department, Aligarh Muslim University, Aligarh; paratype female on slide *Prodorylaimium goense* n. sp./3 deposited at Rothamsted Experimental Station, Harpenden, Herts, U.K.

DIFFERENTIAL DIAGNOSIS

Prodorylaimium goense n. sp. is characterized by having a long and wide odontostyle and an exceptionally long filiform tail. The new species differs from *P. stenosoma* (de Man, 1876) Andrásy, 1972 in having a longer odontostyle, oesophagus and tail and in the number and position of ventro-medial supplements (odontostyle 20 μm ; b = 5.2-6.3; c = 4.7-6.5; ventro-medial supplements 6-7 and the first pair is located just above the spicule in *P. stenosoma*). From *P. brigdammense* (de Man, 1876) Andrásy, 1969, it differs in having a long and wide odontostyle, slightly posterior vulva and longer tail (odontostyle 13-14 μm ; V = 38-41; c = 4.5-4.8 in *P. brigdammense*).

Indodorylaimus saccatus n. sp.

(Fig. 2)

DIMENSIONS

Females (n = 5; paratypes): L = 1.25-1.34 mm; a = 34-39; b = 5.6-6.0; c = 5.5-5.8; c' = 10-11; V = 34-36; G_1 = 6-12; G_2 = 14-17; odontostyle = 15-17 μm ; odontophore = 21-22 μm ; oesophagus = 209-234 μm ; prerectum = 42-56 μm ; rectum = 24-31 μm ; tail = 224-241 μm ; ABD = 21-22 μm .

Males (n = 5; paratypes): L = 1.33-1.38 mm; a = 37-38; b = 5.4-6.2; c = 5.7-6.2; c' = 9-10; T = 48-53; odontostyle = 16-17 μm ; odontophore = 21-22 μm ; oesophagus = 213-253 μm ; spicules = 31-36 μm ; ventro-medial supplements = 4; lateral guiding pieces = 5-7 μm ; prerectum = 80-84 μm ; tail = 220-238 μm ; ABD = 23-25 μm .

Holotype (Female): L = 1.43 mm; a = 38; b = 5.8; c = 6.0; c' = 10; V = 33; G_1 = 9; G_2 = 20; odontostyle = 17 μm ; odontophore = 21 μm ; oesophagus = 244 μm ; prerectum = 56 μm ; rectum = 25 μm ; tail = 238 μm ; ABD = 24 μm .

DESCRIPTION

Female: Body almost straight upon fixation, tapering slightly anterior to base of oesophagus, and posteriorly ending into a filiform tail. Cuticle finely striated, lateral hypodermal chords about one third of body width at mid-body. Lateral, dorsal and ventral body pores indistinct. Lip region slightly narrower than adjoining body, demarcated by a slight depression, cheilostome moderately sclerotized, lips amalgamated, anterior sensilla not protruding above lip contour. Amphid funnel-shaped, aperture 6-9 μm wide, odontostyle 1.4-1.7 lip region widths long, its aperture about one-third of its length. Guiding ring single, at 9-10 μm or about one lip region width from anterior end, odontophore rod-like, 1.2-1.3 of odontostyle length. Nerve ring at 91-106 μm from anterior end of body. Expanded portion of oesophagus occupying 37-41% of total oesophageal length. Cardia conoid, 11-13 μm long. Oesophageal gland nuclei and their orifices located as follows: DO = 61-63; DN = 62-64; DO-DN = 1.8-2.6; S_1N_1 = 74-75; S_1N_2 = 78-80; S_2N = 88-90; S_2O = 90-91. Reproductive system mono-opisthodelphic, vulva transverse, vagina less than half corresponding body width long. Anterior genital branch a sac, 74-165 μm long; posterior branch with usual structures. Sperm present in both genital branches. Prerectum 1.9-2.5 anal body widths long. Rectum 1.1-1.5 anal body widths long. Tail long filiform, 9-11 anal body widths long with two or three caudal pores on each side.

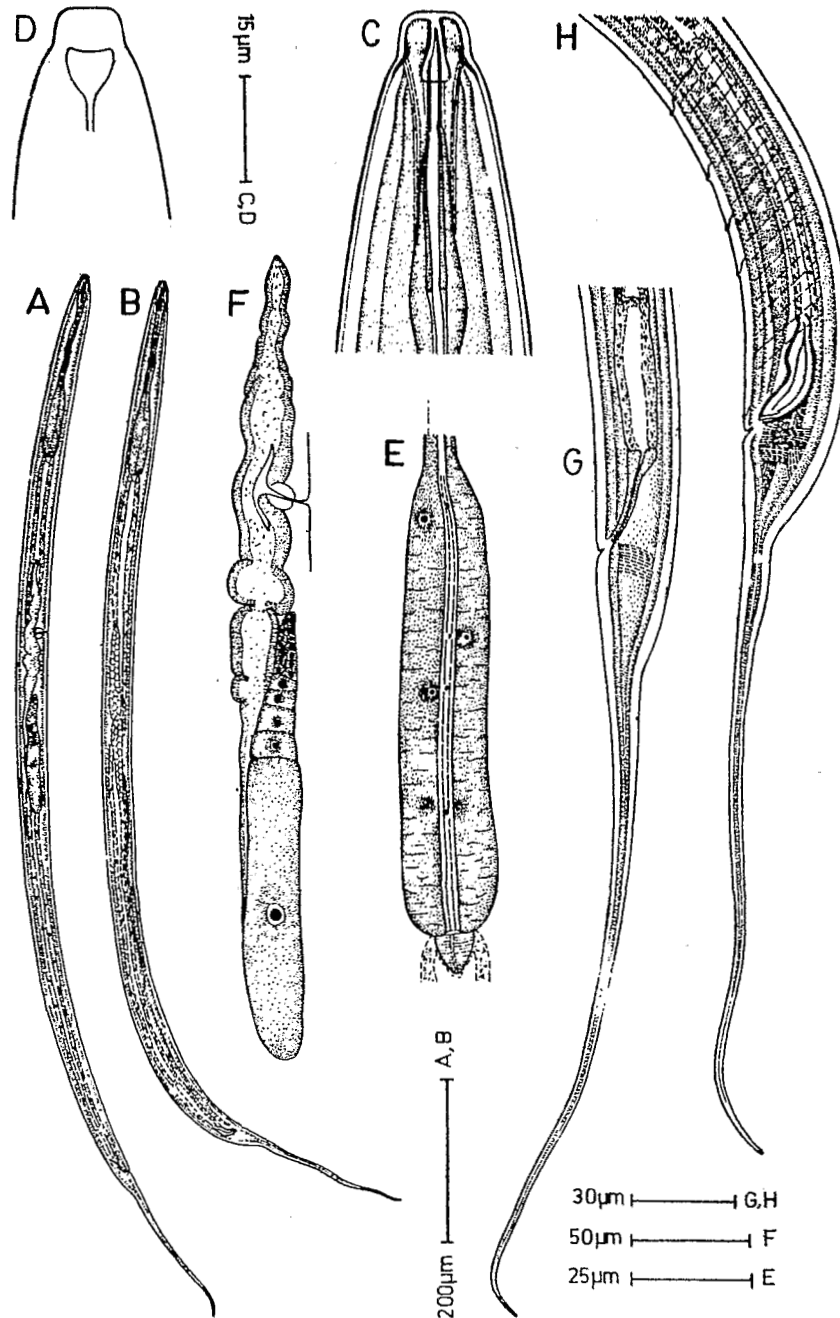


Fig. 2. *Indodorylaimus saccalus* n. sp. A : Entire female ; B : Entire male ; C : Anterior end ; D : Anterior end showing amphid ; E : Expanded part of oesophagus ; F : Female reproductive system ; G : Female posterior region ; H : Male posterior region.

Male : Testes two, opposed, sperm fully developed. Supplements an adanal pair and four well spaced ventro-medians. First pair situated slightly above range of spicules. Spicules 1.2-1.5 anal body-widths long, lateral guiding pieces rod-like, about one fifth of spicule length. Prerectum 3.3-3.6 anal body-widths long. Tail long filiform, 9-10 anal body-widths long with three or four caudal pores on each side.

TYPE HABITAT AND LOCALITY

Soil around roots of coconut from near Mayeem lake, Becholim, Goa.

Type specimens

Collected in April 1982; holotype female and a paratype male on slide *Indodorylaimus saccatus* n. sp. / 1; paratype females and males on slides *Indodorylaimus saccatus* n. sp. / 2-6 deposited in the nematode collection of Zoology Department, Aligarh Muslim University, Aligarh. A paratype female and a male deposited at Rothamsted Experimental Station, Harpenden, Herts, U.K.

DIFFERENTIAL DIAGNOSIS

Indodorylaimus saccatus n. sp. differs from the other two known species of *Indodorylaimus* in having a very long anterior uterine sac. In addition, it differs from *I. wickeni* apud Ali & Prabha, 1974 in having longer narrower body, longer odontostyle and odontophore, shorter spicules, in the presence of lateral guiding pieces and in the position of the first ventro-median supplement ($L = 0.96-1.22$ mm; $a = 23-31$; odontostyle = 12-13 μm ; odontophore = 16-29 μm ; spicules = 37-39 μm lateral guiding pieces

absent and first pair of ventro-median supplements within the range of spicules in *I. wickeni*). From *I. kanhobia* Thomber *et al.*, 1980 it differs in having smaller body and odontostyle, and in the presence of lateral guiding pieces and ventro-median supplements ($L = 1.47-1.79$ mm; odontostyle = 18-20 μm ; lateral guiding pieces and ventro-median supplements absent in *I. kanhobia*).

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