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LONGIDORUS RASKII SP.N. (NEMATODA: DORYLAIMIDA) FROM SWITZERLAND

by

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Summary. *Longidorus raskii* sp.n. is described from specimens collected from the rhizosphere of apple trees in the Province of Lausanne in Switzerland. It is a bisexual species with a body length of ca. 7.5 mm, odontostyle length ca. 100 μ m, lip region continuous with the rest of the body, bilobed amphidial pouches and bluntly rounded, hemispherical tail. *L. raskii* resembles *L. profundorum* Hooper, 1965, *L. belloi* Andrés et Arias, 1988 and *L. atbesinus* Lamberti, Coiro et Agostinelli, 1991.

An examination of longidorid nematodes deposited in the collection of the Department of Nematology of the University of California at Davis, United States of America, revealed the presence of a population of *Longidorus* collected in July 1961, by Professor Dewey J. Raski in Switzerland, which in our opinion represents an undescribed species. The species is described here as *Longidorus raskii* sp.n.

Nematodes were extracted from soil by Cobb's wet sieving technique, killed and fixed in 5% hot formalin,

processed by the slow method and mounted in dehydrated glycerin. Specimens were measured with the aid of a camera lucida.

***LONGIDORUS RASKII* sp.n.**

(Figs. 1 and 2; Table I)

Holotype female: L = 7.1 mm; a = 79.4; b = 12.6; c = 151; c' = 0.8; V = 52; odontostyle = 96.5 μ m; odontophore

TABLE I - *Morphometrics of paratypes of Longidorus raskii* sp.n.

	Means \pm standard deviation (range)	
n.	16 ♀♀	8 ♂♂
L mm	7.4 \pm 0.475 (6.5-8.1)	7.6 \pm 0.6923 (6.5-8.6)
a	82.6 \pm 7.0075 (71.9-96)	86.3 \pm 8.2095 (75.7-97.2)
b	14.1 \pm 1.3065 (12.3-17.7)	13.7 \pm 1.1045 (12.5-16.2)
c	174.7 \pm 18.5736 (147.4-211.7)	179.6 \pm 11.2173 (167.5-197.5)
c'	0.7 \pm 0.0485 (0.7-0.8)	0.8 \pm 0.0463 (0.7-0.8)
V	51 \pm 2.3994 (47-56)	-
Odontostyle μ m	98.0 \pm 3.2406 (90-103)	99.4 \pm 4.1265 (92.9-105.9)
Odontophore μ m	66.1 \pm 3.2675 (61.2-72.9)	66.5 \pm 2.1274 (63.5-70.6)
Oral aperture to guiding ring μ m	35.8 \pm 1.6227 (32.9-38.2)	37.2 \pm 1.6737 (34.7-39.4)
Tail μ m	42.6 \pm 3.3373 (35.9-47)	41.9 \pm 4.2833 (36.5-50)
J (hyalin portion of tail) μ m	16.2 \pm 1.122 (14.7-17.6)	13.4 \pm 1.125 (11.8-14.7)
Body diam at lip region μ m	17.1 \pm 1.0973 (15-19)	17.3 \pm 0.5099 (16.5-18.2)
Body diam at guiding ring μ m	31.4 \pm 1.8299 (27-34)	32.3 \pm 1.5884 (30.6 \pm 34.7)
Body diam at base of oesophagus μ m	69.0 \pm 8.7422 (57-88)	73.9 \pm 4.3397 (65.9-77.6)
Body diam at mid body or vulva μ m	90.1 \pm 8.835 (70-101)	87.9 \pm 5.1624 (82.3-98.2)
Body diam at anus μ m	58.5 \pm 3.2748 (52-63.5)	53.7 \pm 2.7282 (50.6-58.8)
Body diam at beginning of J μ m	43.1 \pm 2.6597 (38-49)	33.9 \pm 2.6096 (30.6-38)
Spicules μ m	-	92.7 \pm 6.2712 (82.3-102.9)

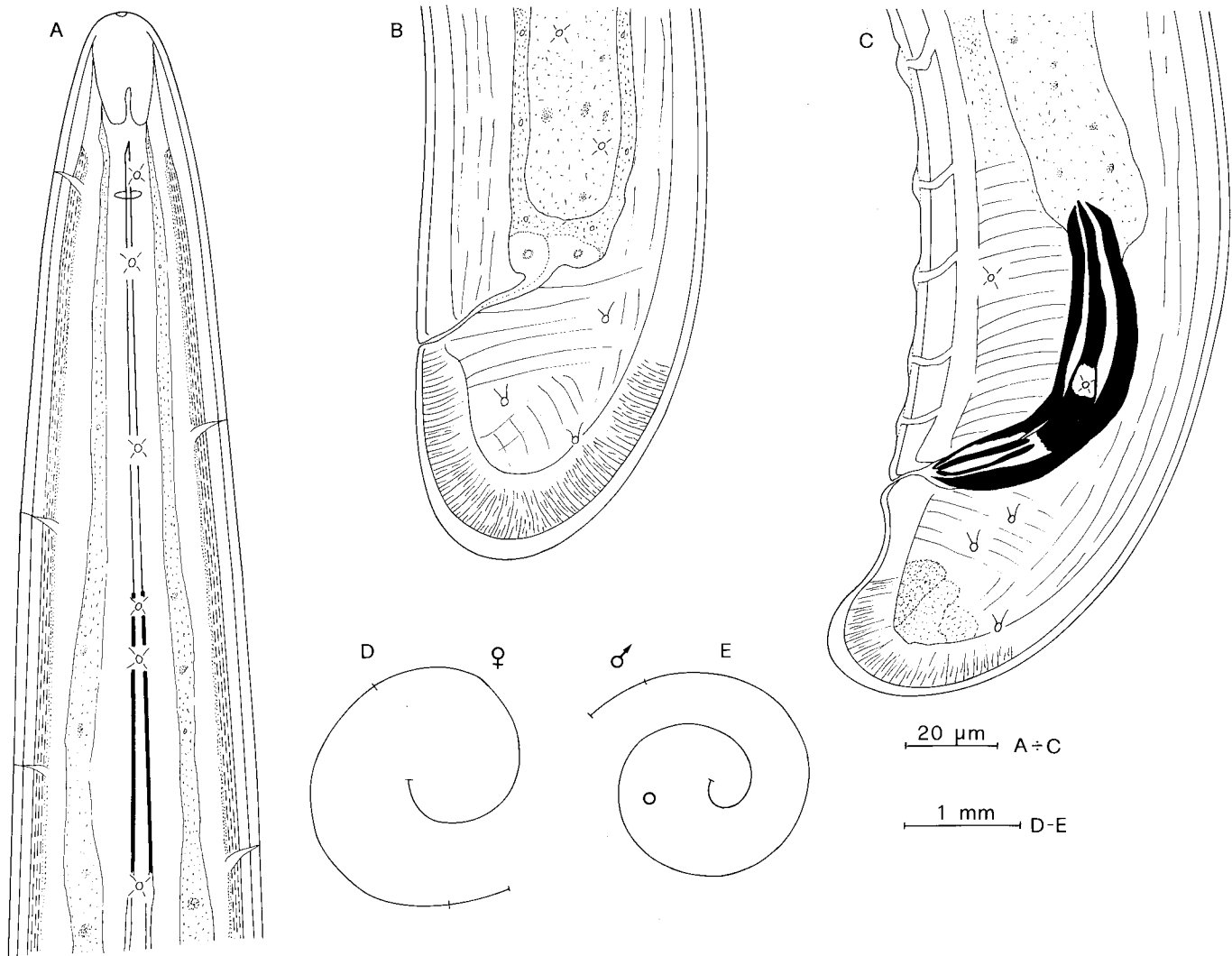


Fig. 1 - *Longidorus raskii* sp.n.: A, female anterior region; B, females posterior region; C, male posterior region; D, *habitus*.

= 61 μ m; oral aperture to guiding ring = 38 μ m; tail = 47 μ m; J (hyalin portion of tail) = 18 μ m; body diameter at lip region = 19 μ m; body diameter at guiding ring = 32 μ m; body diameter at base of oesophagus = 71 μ m; body diameter at vulva = 89 μ m; body diameter at anus = 59 μ m; body diameter at beginning of J = 44 μ m.

Description: female *habitus* curved in a closed C. Body of large size, very robust, cylindrical, tapering gradually towards anterior. Cuticle finely striated transversely, 3-3.5 μ m thick at mid-body. Lip region rounded, continuous with the rest of the body. Amphidial pouches bilobed extending to about half way to the guiding ring; their apertures were not observed. Odontostyle and odontophore slender; guiding ring typical of the genus; oesophagus

dorylaimoid with the basal bulb measuring 140-160 μ m long and 25-30 μ m wide, occupying about 1/3 of the total oesophagus length and containing three glandular nuclei; oesophageal intestinal valve large and amorphous. Vulva slit-like, almost mid-body; vagina with thick walls occupying about 1/2 of the corresponding body diameter; gonads amphidelphic with reflexed ovaries; long, strongly muscularized uteri, containing many large sperms, but without a well defined spermatheca; they are separated from the oviduct, starting with a pouch, by a sphincter. Prerectum not distinguished; rectum extending 2/3 of the body width at anus. Tail bluntly rounded, hemispherical, with three caudal pores on each side.

Male morphologically similar to females with the pos-

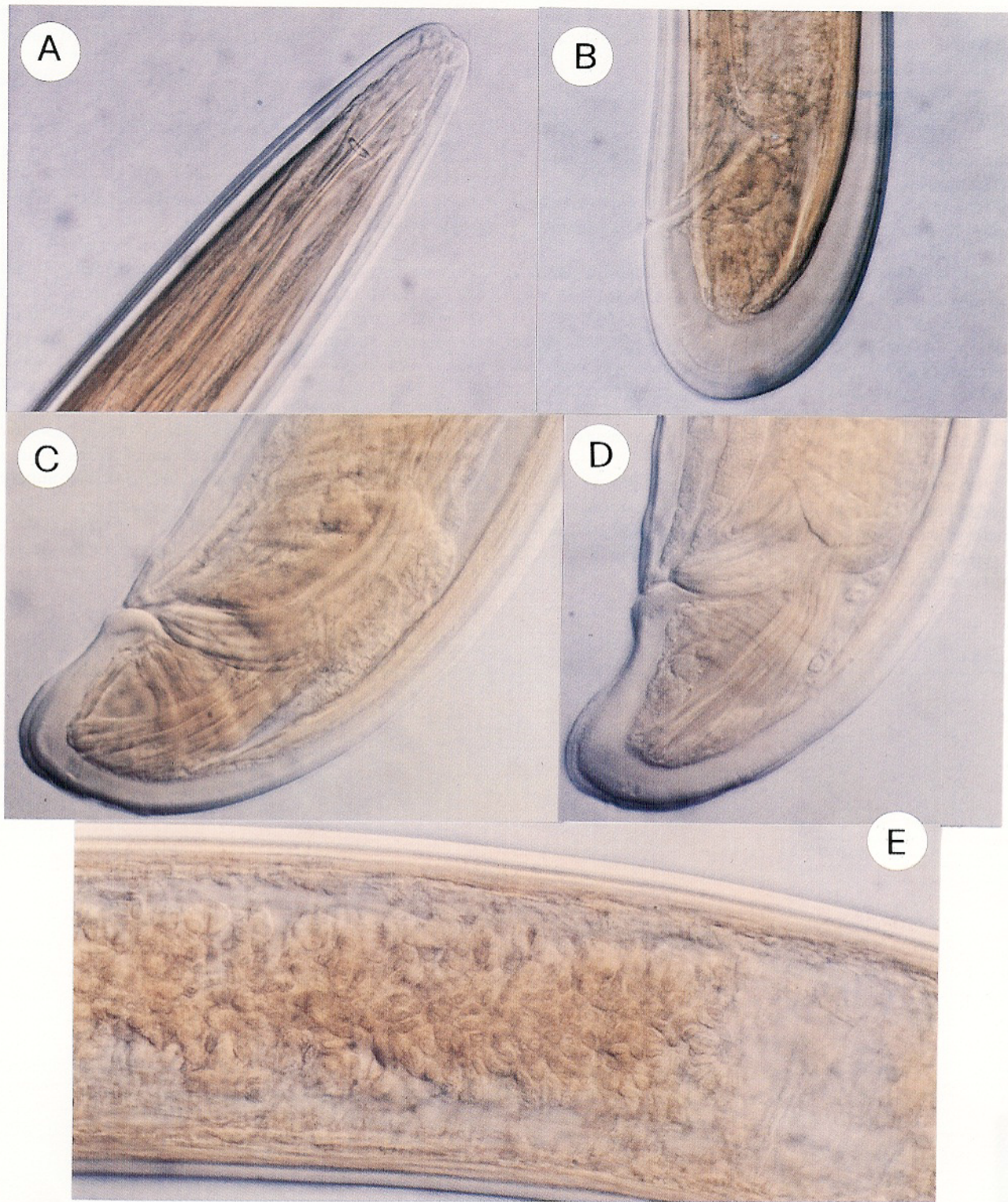


Fig. 2 - Photomicrographs of *L. raskii* sp.n.: A, female anterior region; B, female posterior region; C and D, male posterior regions; E, sperms in the testis.

terior part of body more curved. Testis paired, very long and well developed, full of oblong sperms measuring 4-6.5 x 2-4.5 (3.5) μm . Spicules thick, ventrally curved, with lateral guiding pieces 20-22.5 (22) μm long; the adanal pair of supplements is preceded by a row of 10 - 13 ventromedian supplements. Tail dorsally convex and deeply concave ventrally, with bluntly rounded terminus and three caudal pores on each side.

Type habitat and locality: rhizosphere of apple trees, *Malus sylvestris* Mill., at Etoy in the province of Lausanne, Switzerland.

Type material: holotype female, 7 paratype females and 3 paratype males in the collection of the Department of Nematology, University of California, Davis, United States of America; 7 paratype females and 3 paratype males in the collection of the Istituto di Nematologia Agraria del Consiglio Nazionale delle Ricerche, Bari, Italy; 2 paratype females and 2 paratype males in the collection of the Entomology and Nematology Department Rothamsted Experimental Station, Harpenden, Herts, United Kingdom.

Differential diagnosis: *Longidorus raskii* sp.n. is characterized by a total body length of ca. 7.5 mm, odontostyle length of ca. 100 μm , lip region continuous with the rest of the body, bilobed amphidial pouches, mid-body vulva, bluntly rounded tail and presence of males.

It resembles *L. profundorum* Hooper, 1965, *L. belloi* André et Arias, 1988 and *L. atbesinus* Lamberti, Coiro et Agostinelli, 1991.

However, compared with *L. profundorum*, *L. raskii* has lip region frontally rounded (flat in *L. profundorum*), hemispherical tail (hemielliptical in *L. profundorum*), lower a value (105 in *L. profundorum*), higher c value (154 in *L. profundorum*), slightly anterior vulva (V = 53 in *L. profundorum*) and longer spicules in the male (ca. 70 μm in *L. profundorum*).

Compared with *L. belloi*, *L. raskii* has longer body (ca. 7 mm in *L. belloi*), less deeply bilobed amphidial pouches, lower a value (ca. 100 in *L. belloi*), slightly anterior vulva (V = 52 - 53 in *L. belloi*), longer odontophore (ca. 50 μm in *L. belloi*) and in the male longer spicules (70 μm in *L. belloi*) and lower number of ventromedian supplements (13 - 17 in *L. belloi*). Finally compared with *L. atbesinus*, *L. raskii* has longer body (ca. 5 mm in *L. atbesinus*), higher c value (ca. 120 in *L. atbesinus*), lower c' value (0.9 in *L. atbesinus*) and in the male longer spicules (ca. 80 in *L. atbesinus*) and higher number of ventromedian supplements (9 - 12 in *L. atbesinus*).

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