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TWO NEW SPECIES OF *IOTONCHUS* COBB
(NEMATODA: MONONCHIDA) FROM FIJI ISLANDS

by
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Two new species of *Iotonchus* Cobb, *I. kirbyi* n. sp. and *I. rapidulus* n. sp. collected in Fiji Islands by Marshall F. Kirby in 1976 are described.

The specimens were heat-relaxed, fixed in 3-5% formaldehyde solution and mounted in dehydrated glycerin; all measurements are from glycerin-mounted specimens.

IOTONCHUS KIRBYI n. sp.

Measurements

Paratypes: 4 ♀♀ (long-tailed): L = 2.95-3.31 (3) mm; a = 40-46 (44); b = 4.2-4.6 (4.3); c = 6.8-7.8 (7.4); c' = 7.8-9.1 (8.4); V = 67-72 (70); stoma = 58-64 × 32-33 μm; oesophagus = 675-740 (715) μm; tail = 370-425 (410) μm; anterior end to vulva = 2090-2285 (2140) μm.

5 ♀♀ (short-tailed): L = 2.84-3.27 (2.95) mm; a = 37-40 (38); b = 3.6-4.2 (3.8); c = 13.5-17.8 (15); c' = 3.1-4.2 (3.8); V = 72.0-74.3 (73); stoma = 60-62 × 31-33 μm; oesophagus = 690-740 (710) μm; tail = 160-220 (190) μm; anterior end to vulva = 1820-2390 (2100) μm.

Holotype ♀: L = 3.1 mm; a = 46; b = 4.2; c = 7.38; c' = 8.4; V = 70.5; stoma = 63 × 32 μm.

Description

Female: Body ventrally arcuate to C-shaped. Lip region continuous or slightly offset; 44-54 μm wide, 12-15 μm high; papillae raised; amphids oval, 5-7 μm in diameter, 13-21 μm from anterior end. Stoma cylindroid, about twice as long as wide, with metarhabdions 33-39 (36) μm long. Dorsal tooth at base of metarhabdion, small, pointing forwardly and ventrally, its tip 60-64 μm from anterior end of body. Telorhabdions forming a deep trough, dorsal and two inner subventral geusids 67-72 μm from anterior end; Geusid (from Greek *geusis* = taste) is a new name given to the chemoreceptors which open in the telostome through foramina — one dorsal, 2 inner subventrals at the junction of the meta — and telorhabdions and two subventrals near to and at the same radius as the inner subventrals (cf. Fig. 1, N). Excretory pore opposite anterior edge of nerve ring, 215-240 (225) μm from anterior end. Nucleus of dorsal gland about midway between orifices of dorsal and anterior subventral glands. Orifices of posterior subventral glands 3-10 μm apart, 15 μm behind gland nuclei; near base of oesophagus. Oesophageal base tuberculate, tubercles not sclerotized. Pseudo-monodelphic (Fig. 1, D). Vulva lips slightly raised. Vagina 0.3-0.4 times body width, with distinct sclerotization. Posterior branch of reproductive system reduced, non-functional, 170-260 μm long, with rudiments of ovary at end; anterior branch well developed, with conspicuous valve at end of glandular part of uterus, and a reflexed ovary. Uterine eggs 120-150 \times 62-68 μm . Tail elongate conoid, ventrally arcuate, with rounded tip bearing terminal pore; variable in length; caudal glands distinct.

Male: Not found.

Type habitat and locality: Soil around roots of *Pinus elliottii*, Viti Levu Island, Fiji.

Type specimens: Collected by Marshall F. Kirby, after whom this species is named, in 1976. Holotype and female paratypes at C.I.P., St. Albans, England; 3 paratype females at Indian Agricultural Research Institute (IARI), New Delhi, India.

Relationship: *Iotonchus kirbyi* n. sp. is close to *I. pseudodigonicus* Ahmad *et* Jairajpuri, 1983, the only known species of *Iotonchus* with a pseudo-monodelphic gonad (Ahmad *et* Jairajpuri, 1983), but differs in having a longer body, a larger stoma, a longer posterior branch of the reproductive organs and a terminal caudal pore (\varnothing L = 1.45-1.58, stoma = 36-39 \times 25-27 μm and caudal pore ventrally subterminal in *I. pseudodigonicus*).

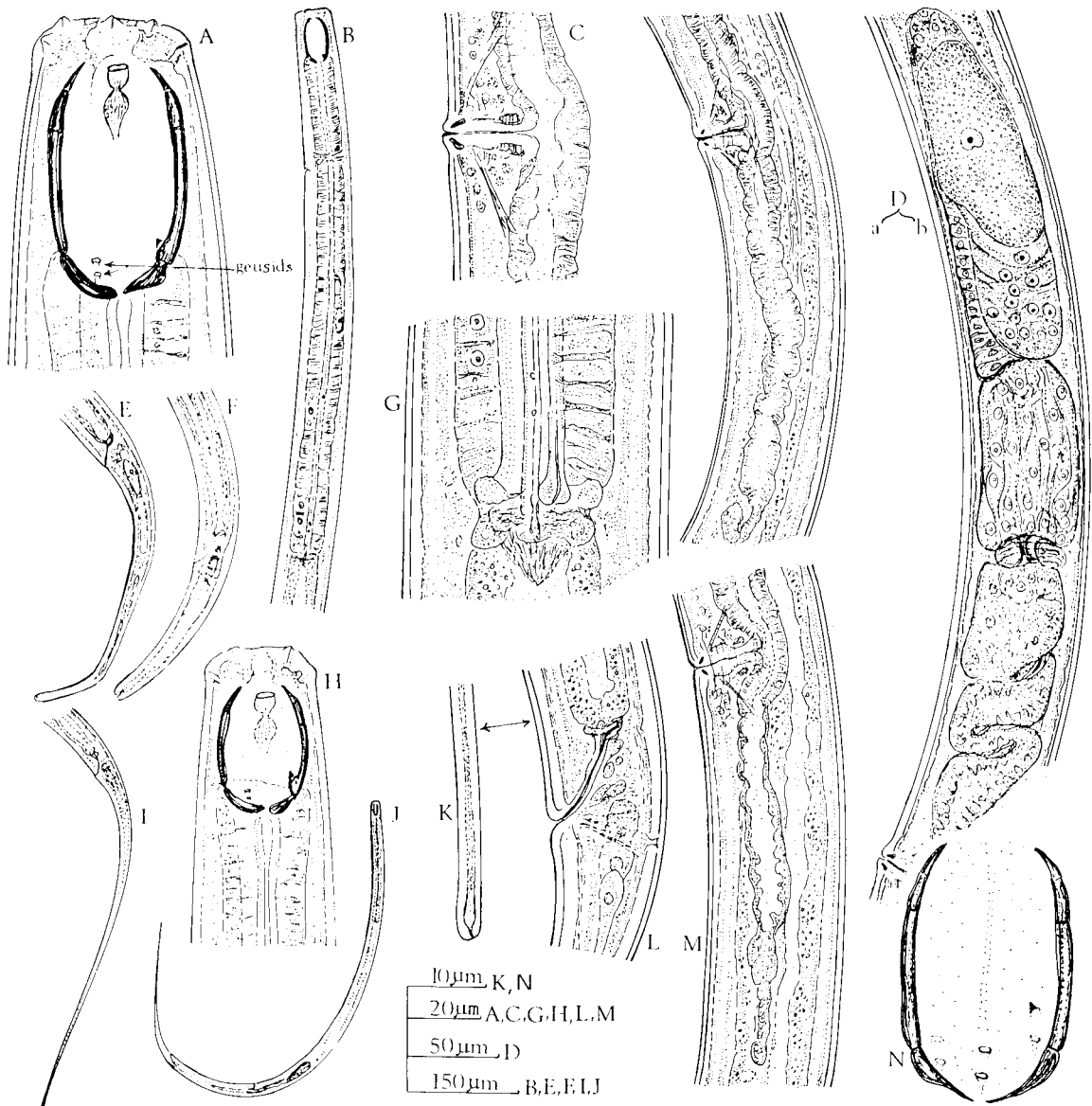


Fig. 1 - A-G, *Iotonchus kirbyi* n. sp.; H-N, *Iotonchus rapidulus* n. sp.: B, E, H-J, M and N, Holotype females, remainder paratype females; A and H, Stoma regions; B, Oesophagus; C, Vulva region; Da and Db, Posterior and anterior branch of reproductive organs respectively; E, F, I and K, Tail ends; G, Oesophageal base; J, Entire female; L, Anal region; N, Stoma in subventral view showing 5 geusids.

IOTONCHUS RAPIDULUS n. sp.

(Fig. 1, H-N)

Measurements

Paratypes: 14 ♀ ♀: L = 1.7-2.3 (2) mm; a = 41-51 (47); b = 4.2-5.1 (4.7); c = 3.9-4.4 (4.2); c' = 13-18 (15.5); V = 55-66 (60); stoma = 30-36 × 19-27 μm.

Holotype ♀: L = 2 mm; a = 48; b = 4.5; c = 4; c' = 15.3; V = ¹¹-60^{-5.6}; stoma = 34 × 21 μm.

Description

Female: Body arcuate to C-shaped; maximum width 41-56 (45) μm. Lip region slightly wider than adjacent body; 31-33 μm wide, 10-13 μm high. Amphid apertures oval to slit-like, 4-5 μm long, 11-14 μm from anterior end of lip region. Stoma oval, metarhabdions 17-20 μm long. Dorsal tooth on a large elevation on proximal end of metarhabdion, forwardly pointing; its tip 32-35 μm from anterior end of body. Dorsal and inner subventral geusids 35-44 μm from anterior end. Excretory pore 143-166 μm from anterior end. Oesophagus 405-477 (440) μm long, base distinctly tuberculate. Orifice of dorsal gland 160-196 μm from base of stoma. Vulva a small transverse slit, 1150-1421 (1280) μm from anterior end. Vagina about half body-width long; sclerotization distinct, roughly triangular in lateral view. Pseudo-monodelphic. Posterior branch poorly developed, with a rudimentary non-functional ovary; its total length 90-125 μm or 2.7-3.4 times body-width (Fig. 1, M). Anterior branch well developed, with a prominent valve at the distal end of glandular part of uterus.

Vulva-anus distance 250-355 (310) μm. Tail filiform, 430-540 (480) μm long; tip rounded, with terminal pore slightly eccentric to the dorsal side; caudal glands distinct (Fig. 1, I-K).

Male: Not found.

Type habitat and locality: Soil around roots of *Pinus elliottii* in Viti Levu Island, Fiji. Also collected from soils of coconut and oilpalm in Vanua Levu Island, Fiji.

Type specimens: Recovered from sample collected by Marshall F. Kirby in 1976. Holotype and 10 paratype females at C.I.P., St. Albans, England; 4 paratype females at I.A.R.I., New Delhi, India.

Relationship: In having a pseudo-monodelphic reproductive system, *Iotonchus rapidulus* n. sp. come close to *I. pseudodigonicus*

Ahmad *et* Jairajpuri, 1983 but differs from it in having a longer but less robust body (♀ L = 1.45-1.58 mm; a = 31-34 in *I. pseudodigonicus*), and a longer posterior reproductive branch and tail (tail 326-371 µm long; c' = 11-12 in *I. pseudodigonicus*) and a terminal caudal pore slightly directed dorsally. It is also related to *I. bangkokensis* Buangsuwon *et* Jensen, 1966 from which it differs in having a larger body size and buccal cavity, a suprabasal dorsal tooth and tail tip not clavate.

S U M M A R Y

Iotonchus kirbyi n. sp. and *I. rapidulus* n. sp. are described from Fiji Islands. Both species are pseudo-monodelphic having a reduced, non-functional posterior branch of reproductive organs. *I. kirbyi* has females 2.84-3.31 mm long, vulva 1.82-2.39 mm from anterior end of body and stoma 58-64 µm long by 31-33 µm wide. *I. rapidulus* females are 1.7-2.3 mm long and have vulva at 1.15-1.42 mm from anterior end and stoma 30-36 µm long by 19-27 µm wide.

L I T E R A T U R E C I T E D

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- BUANGSUWON D. K. and JENSEN H. J., 1966 - A taxonomic study of Mononchidae inhabiting cultivated areas of Thailand. *Nematologica*, 12: 259-274.