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New Species of *Hoplotylus* and *Pratylenchoides*
(Tylenchida: Pratylenchidae) from Japan

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Hoplotylus montanus n. sp., which was collected from rhizosphere of *Abies* sp. in the subalpine zone of the central Japan, closely resembles *H. femina* from which it differs in longer body, longer stylet, distinct spermatheca with sperms in female, and clavate tail terminus of male. *Pratylenchoides magnicaudoides* n. sp. from rhizosphere of *Orixa japonica* in Shiobara, Tochigi Prefecture differs from the most closely related species, *P. magnicauda*, in the storter stylet and roundly conical tail terminus in female. *Jpn. J. Nematol.* 14: 15-19 (1984).

New species of *Hoplotylus* s' JACOB, 1959 and *Pratylenchoides* WINSLOW, 1958 were obtained in the central Japan and described herein by the name of *H. montanus* n. sp. and *P. magnicaudoides* n. sp. The specimens examined in this study were fixed in TAF fixative and mounted in glycerine after slow dehydration. I wish to express my hearty thanks to Mr. R. IGARASHI of the National Grassland Research Institute, now Chugoku National Agricultural Experiment Station, who helped me in collecting soil samples for examining nematodes.

HOPLOTYLUS MONTANUS N. SP. (Fig. 1)

Description. Females (paratypes) : n=19, L=620-803 μ m (709 \pm 50, mean \pm standard deviation), a=22.5-33.3 (28.4 \pm 3.3), b=5.5-7.1 (6.4 \pm 0.5), b'=3.2-4.0 (3.7 \pm 0.2), c=14.0-32.4 (17.4 \pm 3.8), c'=1.9-3.9 (2.9 \pm 0.4), V=84.7-89.0 (86.3 \pm 1.0), stylet=26.0-30.3 μ m (28.4 \pm 1.2), prorhabdion=14.0-15.3 μ m (14.7 \pm 0.5). Holotype: L=773 μ m, a=32.6, b=6.8, b'=3.7, c=16.8, c'=3.4, V=85.9, stylet=28.7 μ m, prorhabdion=14.3 μ m. Body stout, almost straight after killed by gentle heat. Lip region convex, with three or four labial annules, continuous to body contour. Body annulation fine, 0.8-1.3 μ m (1.1 \pm 0.1, n=19) around mid-body. Labial framework well developed, strongly sclerotized, arch-shaped, margin extending into body two or three body annules. Stylet strongly developed. Basal knobs 4.3-6.0 μ m (5.1 \pm 0.4) across, 4.0-5.3 μ m (4.9 \pm 0.3) high, outer margins parallel in profile. Dorsal esophageal gland orifice 5.0-6.3 μ m (6.9 \pm 1.1) behind stylet base. Distance from anterior end to esophageal-intestinal junction 93.3-122.0 μ m (110.4 \pm 8.7). Distance from anterior end to middle of median bulb 70.0-85.3 μ m (77.9 \pm 4.1). Anterior portion of procorpus massive, posterior portion slightly reduced and jointed to the median bulb by a constriction. Median bulb oval, muscular. Glandular part of esophagus overlapping intestine dorsally. Excretory pore at 96.7-122.7 μ m (113.4 \pm 6.9) from anterior end. Hemizonid a few body annules anterior to excretory pore. Lateral field 5.0-9.0 μ m wide with four incisures, inner pair obscure. Vulva slitlike; post-uterine sac 16.0-59.3 μ m (37.6 \pm 14.3) long, 0.8-2.9 times (1.8 \pm 0.7) body width at vulva. Ovary outstretched. Spermatheca distinct, round, with sperms. Tail conical, 21.3-48.7 μ m (41.9 \pm 6.4) long, with 17-28 (22 \pm 3.3) annules. Tail end usually roundly pointed, in some paratypes notched, truncate or bifurcate. Phasmid at or slightly anterior level to anus, 26.7-53.3 μ m (44.2 \pm 6.0) from posterior end.

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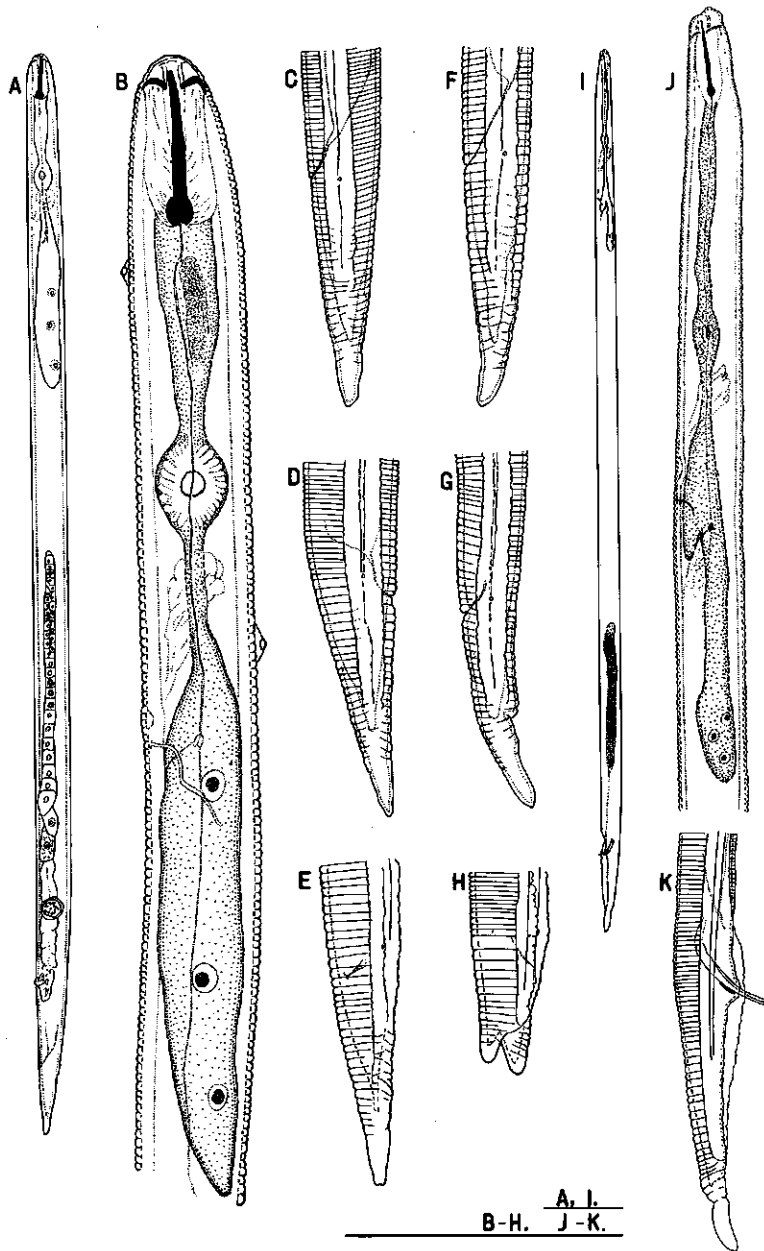


Fig. 1. *Hoplotylus montanus* n. sp.

Female. A, general view; B, anterior body; C-H, tail. Male. I, general view; J, anterior body; K, posterior body. Scales indicate 50 μ m.

Male (paratype) : $n=1$, $L=549\mu\text{m}$, $a=42.2$, $b=6.3$, $b'=3.9$, $c=12.1$, $c'=4.0$, stylet= $14.7\mu\text{m}$, prorhabdion= $10.7\mu\text{m}$, spicules= $18.0\mu\text{m}$, gubernaculum= $4.7\mu\text{m}$. Body much shorter and slender than female. Lip region asymmetrical, setoff from the body, with three faint annules. Sclerotization of cephalic framework weak. Stylet thin; knobs rounded, $1.3\mu\text{m}$ high and across. Esophagus weakly developed; median bulb elongate-oval, valve feeble; glandular lobes overlapping intestine dorsally. Excretory pore $86.7\mu\text{m}$, 15.8% of body, from anterior end. Hemizonid at the level of esophageal-intestinal junction, $4\mu\text{m}$ anterior to excretory pore. Deirid minute, at around the level of excretory pore in lateral field. Lateral field $3.3\mu\text{m}$ wide, with four incisures. Testis outstretched; sperms round. Tail $45.3\mu\text{m}$ in length, terminal part clavate. Phasmids on tail, small, $34.7\mu\text{m}$ from posterior end. Bursa well developed. Spicules arch shaped, gubernaculum short.

Type specimens. Holotype (female) and paratypes (19 females, 1 male and 12 juveniles) deposited in the Herbarium and Insect Museum of the National Institute of Agro-Environmental Sciences, Yatabe, Tsukuba, Ibaraki Prefecture, Japan. Additional paratype specimens deposited in the following collections: USDA Nematode Collection, Beltsville, Maryland, USA (2 females); University of California Nematode Survey Collection, Davis, California, USA (1 female); Department of Nematology, Rothamsted Experimental Station, Harpenden, Herts., England (1 female); and Department of Nematology, Landbouwhogeschool, Wageningen, the Netherlands (1 female).

Type habitat and locality. Collected from the rhizosphere of *Abies* sp. in Shibu Pass (2,172 m alt.), Shiga-Kogen Heights, the borders between Gunma and Nagano Prefecture, Japan.

Diagnosis. *Hoplotylus montanus* n. sp. is closely related to *H. femina* s' JACOB, 1959, but differs in the following characters; longer body ($620-803\mu\text{m}$ vs. $521-787\mu\text{m}$), longer stylet ($26.0-30.3\mu\text{m}$ vs. $21-29\mu\text{m}$), distinct spermatheca with sperms, more anterior location of phasmids of female; and the clavate tail end of male^{3,4,5}. The present new species can be separated from *H. silvaticus* BERNARD & NIBLACK, 1982 by its longer stylet ($20.4-22.9\mu\text{m}$ in latter), and longer and smooth end of female tail⁹. Most specimens were infected with *Bacillus penetrans*-like organisms⁶ at a high rate similarly to *H. silvaticus*³.

PRATYLENCHOIDES MAGNICAUDOIDES N. SP. (Fig. 2)

Description. Females : $n=4$ (holotype and paratypes), $L=840-1067\mu\text{m}$ ($969\mu\text{m}$:mean), $a=35.1-44.1$ (40.8), $b=5.6-7.1$ (6.1), $c=16.6-18.6$ (17.5), $c'=2.8-3.2$ (3.0), $V=56.6-58.6$ (57.8), stylet= $22.0-23.7\mu\text{m}$ (22.6), prorhabdion= $11.3-12.3\mu\text{m}$ (11.9). Body curved ventrally by gentle heat treatment. Head with five or six annules, subspherical or slightly truncate, continuous to body contour. Cephalic framework moderately developed. Stylet stout; knobs flattened in anterior surface, $3.3\mu\text{m}$ high and $6.0-7.7\mu\text{m}$ across. Dorsal esophageal gland orifice at $3.0-3.3\mu\text{m}$ from stylet base. Median bulb of esophagus well developed; basal part not overlapping intestine, dorsal side more elongated than ventral one, adjacent to intestine with distinct cardia. Excretory pore at $116.7-128.7\mu\text{m}$, 11.7-15.3% (mean: 13.0%) of body from anterior end. Hemizonid two body annule long, two or three annules anterior to excretory pore. Vulva around middle of body. Spermatheca round, filled with sperms. Tail $45.3-60.0\mu\text{m}$ long, with 29-42 annules (36). Phasmid at the middle or slightly posterior portion of tail. Tail terminus round conical, extremity annules larger than body ones. Body annules $1.4-1.8\mu\text{m}$ around mid-body. Lateral field with six incisures, inner four sometimes obscure, areolated. Four incisures on tail.

Males : $n=6$ (paratypes), $L=500-910\mu\text{m}$ ($708\mu\text{m}$:mean), $a=34.6-41.4$ (37.7), $b=4.9-7.8$ (5.6), $c=13.7-20.4$ (16.2), $c'=2.1-3.1$ (2.6), stylet= $17.3-21.3\mu\text{m}$ (19.6), prorhabdion= $9.0-11.3\mu\text{m}$ (10.4), spicules= $24.7-28.7\mu\text{m}$ (27.8), gubernaculum= $9.0-10.0\mu\text{m}$ (9.7). Body shape similar to female, but more slender. Stylet slightly shorter and more slender than those of females; knobs

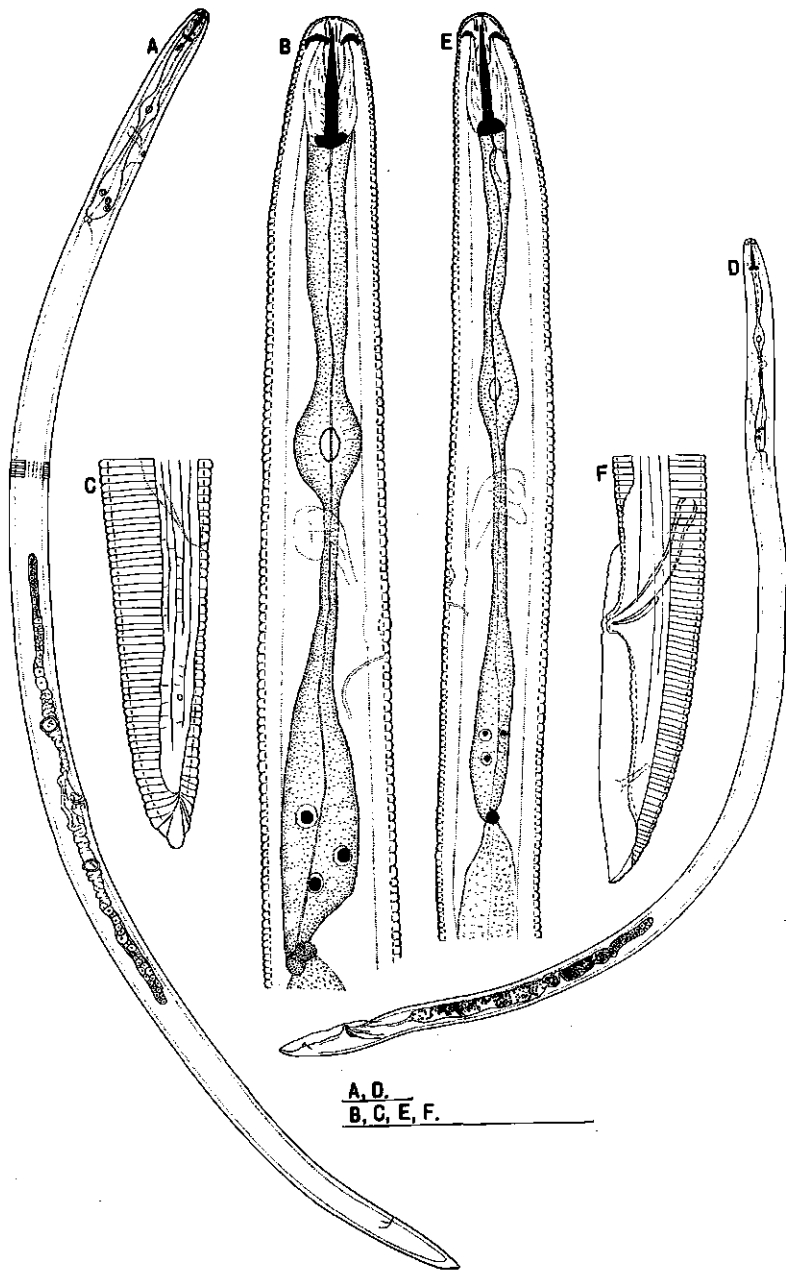


Fig. 2. *Pratylenchoides magnicaudoides* n. sp.
 Female. A, general view; B, anterior body; C, tail. Male. D, general view; E,
 anterior body; F, posterior body. Scales indicate 50 μ m.

2.0-2.7 μm (2.4 μm : mean, n=6) high and 4.0-5.3 μm (4.9) across. Morphology of esophageal gland similar to female, but reduced in size. Excretory pore at 92.7-118.0 μm , 12.9-18.5% of body from anterior end. Testis outstretched, with round sperms. Spicules arch shaped, gubernaculum simple, not projecting from croaca. Tail 31.3-58.0 μm (44.0) long. Bursa well developed, enveloping tail. Phasmid rod like, on bursa, 14.0-30.0 μm (20.3) from tail terminus.

Type specimens. Holotype (female) and paratypes (3 females, 6 males and 9 juveniles) deposited in the Herbarium and Insect Museum of the National Institute of Agro-Environmental Sciences, Yatabe, Tsukuba, Ibaraki Prefecture, Japan.

Type habitat and locality. Collected from the rhizosphere of *Orixa japonica* THUNBERG (Rutaceae) in Hikinuma (400m alt.), Shiobara, Tochigi Prefecture, Japan.

Diagnosis. *Pratylenchoides magnicaudoides* n. sp. resembles *P. magnicauda* (THORNE, 1935) BALDWIN, LUC & BELL, 1983 and *P. erzurumensis* YÜKSEL, 1977 by the practically enclosed esophageal gland, but can be distinguished from the former species by the shorter stylet (56.6-58.6 μm vs. 56-64 μm) and the roundly conical tail end of female^{1,2,7)}, and from the latter by larger body, more lip annules (5-6 vs. 3-4) and roundly conical tail terminus⁹⁾.

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和文摘要

日本産 *Hoplolytus* 属及び *Pratylenchoides* 属の新種

皆 川 望

群馬・長野県境の志賀高原渋峠のモミ類の根辺から検出した *Hoplolytus* 属線虫を *H. montanus* (新種) と命名し、記載した。本種は本属の模式種 *H. femina* に近似するが、雌成虫では体長が長く、口針長も長い、受精嚢が発達しており内部に精子が見られる、また、雄成虫では尾部が棍棒状である等の違いにより区別される。栃木県那須郡塩原町のコクサギ根辺から検出した *Pratylenchoides* 属線虫は、食道腺の形態は *P. magnicauda* に似るが、雌成虫の口針長・尾端部の形態等に違いが見られるため、*P. magnicaudoides* (新種) と命名し記載した。