

Three Unrecorded Species of Spiral Nematode(Hoplolaimidae) from Korea

螺旋線蟲科의 韓國 3未記錄種 報告

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ABSTRACT During the survey on spiral nematode(Hoplolaimidae) from Korea, *Pararotylenchus blothrotylus* Baldwin & Bell, 1981, *Rotylenchus feroxcis* Eroshenko, 1981 and *Scutellonema conicephalum* Sivakumar, 1982 were newly recorded from Korea.

KEY WORDS Systematics. Hoplolaimidae, Korea

초 록 韓國産 螺旋線蟲類(Hoplolaimidae)를 調査하던 중 *Pararotylenchus blothrotylus* Baldwin & Bell, 1981(동근꼬리나선선충)(新稱), *Rotylenchus feroxcis* Eroshenko, 1981(주왕산나선선충)(新稱), *Scutellonema conicephalum* Sivakumar, 1982(알로에나선선충)(新稱) 등 3種이 우리나라 未記錄種으로 확인되어 보고한다.

검색어 分類, 螺旋線蟲科, 韓國

Pararotylenchus blothrotylus Baldwin & Bell, 1981

동근꼬리나선선충(新稱)

(Fig. 1)

Measurements. Female(n=18); L=830.4µm±29.6(790-900). a=29.1±2.5(25.8-35.1); b'=5.8±0.2(5.3-6.3); c=46.0±8.2(34.0-65.4); c'=1.1±0.1(0.8-1.3); O=18.8%±3.1(11.3-23.8); M=51.3%±1.1(48.8-52.3); V=57.5%±1.0(55.6-60.1); Body width=28.7µm±2.7(23.1-33.0); Stylet=30.9µm±1.6(28.4-34.5); DGO=5.9µm±0.8(3.6-7.2); Tail length=18.3µm±1.8(15.4-22.0); ABW=17.1µm±1.6(14.8-19.8); h=5.9µm±0.67(4.0-8.5); TA=11.1±1.5(8.0-13.0); Male(n=15). L=720.3µm±30.8(638.0-761.0), a=31.8±1.6(29.1-34.3); b'=5.4±0.3(5.1-6.2); c=36.1±5.3(27.9-47.9); c'=1.5±0.2(1.1-1.9); O=12.8%±3.0(6.4-18.7); M=52.4%±2.4(44.7-55.

0); Body width=22.7µm±1.3(20.9-25.3), Stylet=28.6µm±0.7(27.0-29.5), DGO=3.5µm±0.8(1.8-5.4); Tail length=20.3µm±2.6(15.4-26.4); ABW=17.25µm±1.4(15.5-19.0); Spicule=29.1µm±0.9(27-30.6); Gubemaculum=9.2µm±1.1(6.3-10.8);

Description. Female body open c type. Lip region continuous with body contour, slightly flattened anteriorly with 6~7 annuli. Stylet robust, with anteriorly flattened knobs. Excretory pore at anterior to basal bulb. Epiptygma small. Spematheca oval, with sperm. Tail tapering and more curved on dorsal surface with terminus rounded. Phasmids 3~8 annuli posterior to anus level. Male general shape similar to female. Spicule arcuate, slightly cephalated.

Habitat and locality. Soil around roots of *Acer mandshuricum* Max, *Taxus cuspidata* S. et Z, So-baeksan pirobong

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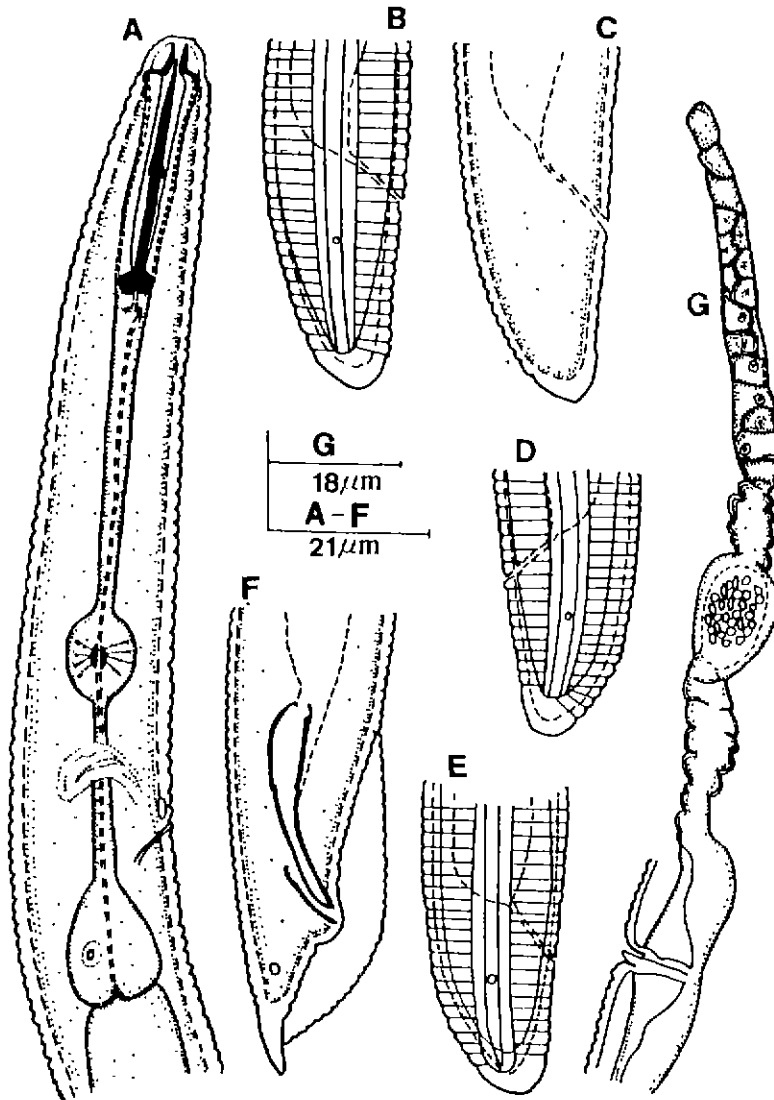


Fig. 1. *Pararotylenchus blothroytus*: A; Anterior part of female, B-E; Various female tail shape, F: Male tail, G; Female gonad

***Rotylenchus ferox* Eroshenko, 1981**

주왕산나선선충(신칭)

(Fig. 2)

$\mu\text{m} \pm 4.1(32.4-50.4)$; $\text{TA} = 25.1 \pm 2.4(20.0-29.0)$; $\text{P} = 13.9 \pm 2.2(10-19)$.

Measurements. Female(n=12). $L = 809.3 \mu\text{m} \pm 25.7(756-846)$; $a = 28.9 \pm 2.6(26-36.3)$; $b = 6.6 \pm 0.5(5.6-7.6)$; $b' = 5.8 \pm 0.4(5.2-6.5)$; $c = 20.9 \pm 3.1(16.5-26.3)$; $c' = 2.4 \pm 0.3(2-3)$; $V = 55.8\% \pm 2.6(51.8-60.9)$; $\text{Stylet} = 29.8 \mu\text{m} \pm 1.1(28-31.6)$; $\text{DGO} = 3.8 \mu\text{m} \pm 0.6(2.5-5.0)$; $\text{O} = 12.9\% \pm 1.6(10.4-15.6)$; $\text{Tail length} = 39.5$

Description. Body open spiral shape. Lip region flattened anteriorly, with 6~7 annuli. Stylet knobs rounded or anteriorly flattened. Dorsal oesophageal gland orifice open at 2.5~5.0 μm from the stylet base($\text{O} = 10.4-15.6$). Oesophageal glands overlapping intestine dorsally and laterally. Tail almost cylindrical, with rounded tip, cuticle smooth and someti-

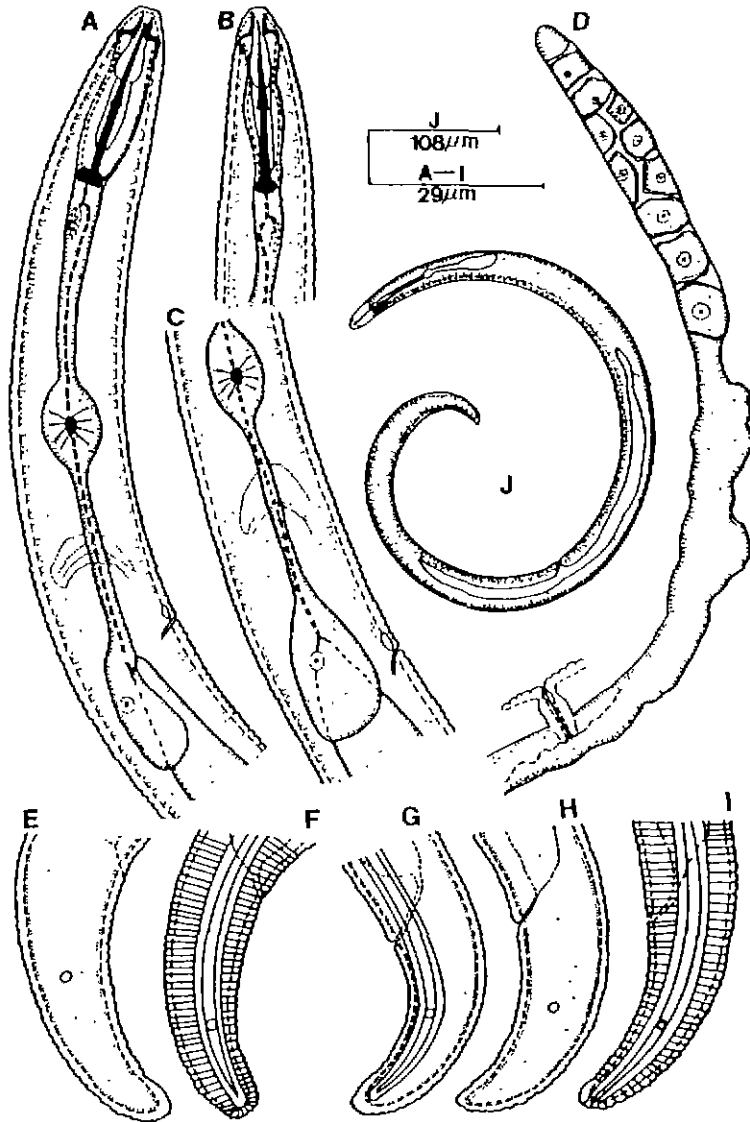


Fig. 2. *Rotylenchus ferox*: A; Anterior part of female. B. Head region, C; Oesophageal region, D; Female gonad, E-I. Various tail shape, J; General shape of female.

mes annulated on the ventral side of the tip. Ventral side of the tail with 20~29 annuli. Phasmids large 18~20μm in diameter, situated 10~19 annuli behind the anus.

Male not found.

Habitat and locality. Soil around roots of *Buxus microphylla* var. *koreana* Nak., Chuwangsan, Chongsong-gun, Kyongsangbuk-do

***Scutellonema conicephalum* Sivakumar, 1982**

알로에나선선충(신칭)

(Fig. 3)

Measurements. Female(n=8) L=712-782μm; a=26-27; b=5.7-6.5, c=60-78; V=60-61.4%; Stylet=27-29μm; TA=8-10; Diameter of scutellum=3.2-4μm.

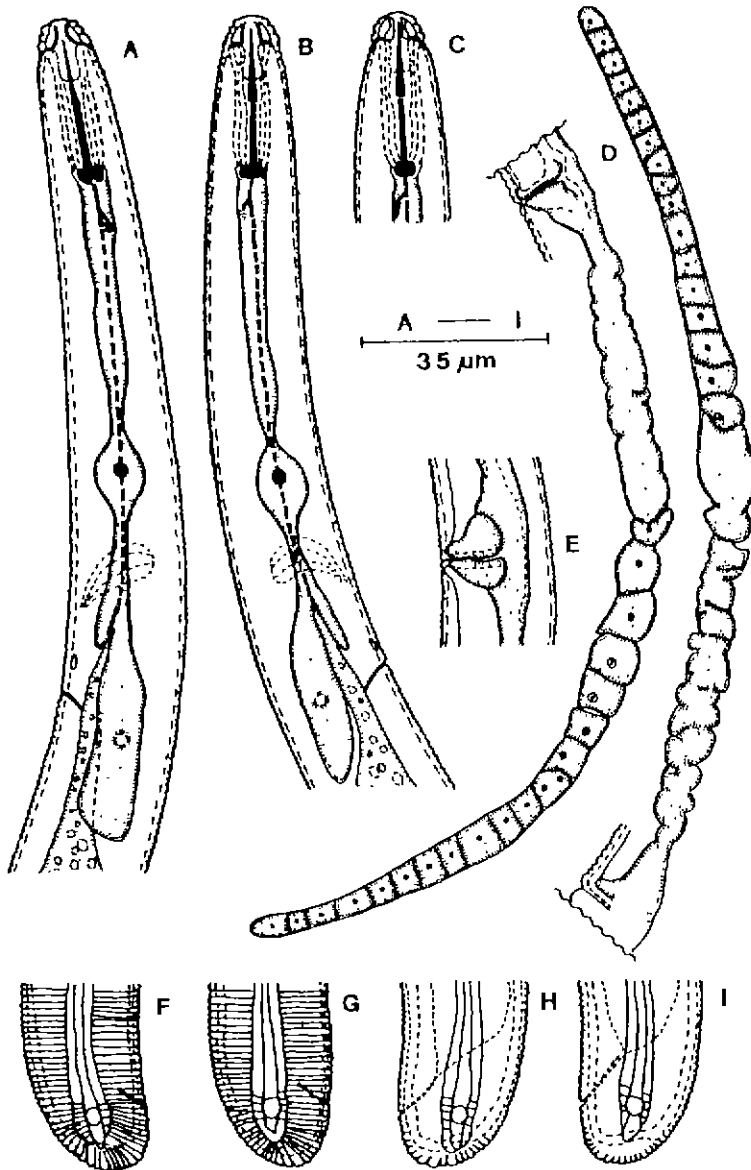


Fig. 3. *Scutellonema conicephalum*: A, B; Anterior part, C; Head region, D; Female gonad, E; Vulva region, F-I: Various tail shape.

Description. Body loose spiral, lateral fields areolated anteriorly and at level of scutellum Lip region hemispherical slightly set-off with three annulus. Basal lip annulus without longitudinal striations, stylet well developed, basal knobs oval and rounded. Excretory pore at middle of oesophageal gland lobe. Epiptygma absent. Spermatheca not seen. Scutellum

large 3.2~4μm in diameter, located at annus level. Tail rounded with 8-10 annuli, terminus striated.

Male not found.

Habitates and localities. Soil around root of *Aloe arborescens* Mill, Chich'ukri, Chido-ŭp. Koyang-gun, Kyōnggi-do and *Hoya carnosa* var. *variegata* De Vries, Kumi-dong, Sōngnam-shi. Kyōnggi-do.

REFERENCES

- Baldwin J.G. & A.H. Bell. 1981. *Pararotylenchus* n. gen. (Pararotylenchinae n. subfam, Hoplolaimidae) with six new species and two new combinations. *Journal of Nematology* 13(2): 111-128.
- Castillo, P., N. Vovias, A. Gomez-Barcina & F. Lamberti 1993. The plant parasitic nematode *Rotylenchus* (a monograph). Supplemento Nematologia Mediterranea. vol.21
- Eroshenko, A.S. 1981. Phytopathogenic nematodes of forest undergrowth of the families Tylenchorhynchidae and Hoplolaimidae(Nematoda) in Eroshenko, A. C. and Belogurov, O.I.(Eds.). Freelifving and plant-parasitic nematodes in the Far-East Valdivostok Dal'nev. Nauch Tsentr Akad. Nauk. SSR. 22-27 & 85-92.
- Germani, G., J.G. Baldwin, A.H. Bell & Xui-Ying Wu. 1985. Revision of the genus *scutellonema* Andrassy, 1958 (Nematoda : Tylenchida). *Revue Nematol.* 8(4): 289-320
- Sivakumar, C.V. & E. Selvasekaran. 1982. Description of two new species of *Scutellonema* Andrassy, 1958 (Hoplolaimida · Nematoda). *Indian J. Nematol.* 12. 118-123.

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