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New Record of *Pratylenchoides utahensis* Baldwin, Luc & Bell (Tylenchida: Pratylenchidae) from Korea*

韓國未記錄 엉겅퀴뿌리썩이선충, *Pratylenchoides utahensis* Baldwin, Luc & Bell (참선충目: 뿌리썩이선충科)*

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Abstract - *Pratylenchoides utahensis* Baldwin, Luc & Bell, 1983 is recorded for the first time from Korea. Morphological characteristics are described based on the specimens preserved in Nematology Laboratory, Entomology Division, National Institute of Agricultural Science and Technology; and Department of Agricultural Biology, Kyungpook National University.

Key Words - Systematics, Tylenchida, *Pratylenchoides utahensis*, Description, Korea.

초 록 - 농과원 곤충과 선충실에 보관되어있는 식물기생선충 표본들과 경북대학교 농과대학 농생물학과 선충연구실의 표본을 정리하던 중 한국 미기록종, *Pratylenchoides utahensis*가 동정되어 형태적 특징에 관하여 기재한다.

검색어 - 분류, 참선충목, 엉겅퀴뿌리썩이선충, 한국

In the genus *Pratylenchoides*, *Pratylenchoides clavicauda* has been reported in Korea. During the systematic study of Tylenchida from Korea, *Pratylenchoides utahensis* was newly identified from the specimens preserved in the Nematology Laboratory, Entomology Division, National Institute of Agricultural Science and Technology and also found in the soil samples collected in Euiseong-gun, Kyungsangpook-do. In this paper, morphological characteristics of the species is described and illustrated in detail.

Materials and Methods

The nematodes collected from soil around *Artemisia asiatica* Nakai in Euiseong-gun, Kyungsangpook-do in 1998 and *Cirsium coreanum* Nakai in Chuncheon-si, Kangwon-do in 1996. The nematodes extracted by modified Baermann funnel method were fixed in hot (70°C) F : G 4-1 fixative and dehydrated by Seinhorst's rapid glycerin method. Measurements and drawings were done with a microscope fitted with a drawing tube attachment.

Description of species

***Pratylenchoides utahensis* Baldwin, Luc & Bell, 1983**
(엉겅퀴뿌리썩이선충)
(Figs. 1 & 2)

Measurements: **Euiseong**. Female (n = 10). L = 701.3

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μm±108.4 (568-839); a=31.5±2.5 (27~35.3); b=5.3 ±0.6 (4.3~6.1); c=15.1±1.1 (13.4~17.6); b′=4.2±0.4 (3.3~4.7); V=57.2±1.7 (54.9~60); MB=40.5%±1.8 (38~44); Stylet=20.6 μm±0.7 (20~22); Oesophagus length=167.3 μm±13.3 (144~183); Head to excretory pore=104.4 μm±6.3 (93~117); Tail length=46.4 μm± 6.9 (37~59); Head to deirid=100 μm±2.6 (96~104); Body width=22.6 μm±2.8 (18~26.6).

Male (n=10). L=598 μm±61.3 (518~697); a=30± 2.4 (25.5~32.8); b=5.9±0.6 (5.2~7.2); c=14.2±0.8 (13.1~15.9); b′=4.2±0.3 (3.6~4.7); Stylet=19 μm±1.0 (17~20); MB=48.3%±10.1 (30.7~60.4); Oesopagus length=140 μm±25.1 (104~180); Head to excretory pore=103.7 μm±4.8 (95.6~112.4); Body width=20.2 μm±2.7 (17.1~25.5); Spicule=22.3 μm±1.1 (19.7~ 23.4); Gubernaculum=6.1 μm±0.9 (5.1~8.0); Tail Length=43 μm±3.9 (38~49).

Chuncheon. Female (n=3). L=625 μm (567~687); a= 27.4 (26.8~28.3); b=5.1 (5~5.5); b′=4.3 (4.1~4.6); c= 17.4 (16~20); V=57.6% (57.1~57.9); MB=40.6% (39.5~ 41.8); Stylet=20 μm (19.7~20.4); Oesopagus length= 151 μm (150~153); Head to excretory pore=103.3 μm (102~104); Tail length=35.9 μm (34.3~38.6);

Male (n=7). L=482 μm (410~583); a=29.8 (26.8~ 31.7); b=4.9 (4~6); b′=4.0 (3.2~4.5); c=12 (11~13); MB=48.4% (45.3~54.1); Stylet=18.6 μm (17.5~19.7); Oesopagus length=116 μm (97~128); Head to excretory pore=90.6 μm (85.4~100); Tail length=40.3 μm (33.5~ 47.4); Spicule=22.7 μm (20.4~26.2); Gubernaculum= 5.9 μm (5.2~7.3).

Female: Body straight to slightly curved ventrally when fixed by gentle heat. Lip region continuous with body contour, rounded, with 4~6 annuli; 8.7~10.2 μm wide and 2.2~6.8 μm high. Cephalic framework well developed. Stylet knobs rounded, slightly sloping. posteriorly, 4~5.4 μm wide and 2.2~3.0 μm high, opening of dorsal oesophageal gland 2.6~3.6 μm posterior to stylet. The oesophageal glands elongated, 144~183 μm long, overlaps the intestine; dorsal gland nucleus anterior to cardia; subventral gland nuclei both posterior to cardia. Lateral field with six equidistant lines; in anal region only four lines are found. Excretory pore 93~117 μm from head end, at beginning of gland lobe, hemizonid 3 annuli anterior. Deirids at level of excretory pore, 96~ 104 μm from head end. Female reproductive system amphidelphic, outstretched. Oocytes mostly in two rows; spermatheca rounded, filled with globular sperms. Tail cylindrical, ventral tail annuli 21~31; rounded tail end appears smooth or only a few coarse annuli posterior part of tail (6.5~10.9 μm) hyaline. Phasmid 15.3~31.4 μm from anus, about halfway to the tail length.

Male: Body shape similar to female, but generally small in size. Lip region 7.3~10 μm wide and 3~4.3 μm high. Gland nuclei usually not observed. Stylet slightly shorter than the female. Oesophageal gland lobes not clearly visible. Deirid at 102~104 μm from head end. Spicules and gubernaculum slightly curved. Tail subcylindrical to conical; tail end rounded. Caudal alae envelop tail tip, start from head of spicule region. Caloaca region slightly protruding. Phasmids slightly posterior to middle of tail at 18~23 μm posterior to anus.

Locality and habitat: Euiseong-gun, Kyungsangpook-do (*Artemisia asiatica* Nakai) and Chuncheon-si, Kangwon-do (*Cirsium coreanum* Nakai).

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Fig. 1. *Pratylenchoides utahensis*: A: Female anterior part; B: Male anterior part; C: Female gonad; D, E: Male posterior region; F-H: Female tail; I-N: Variation in structure of oesophagus.

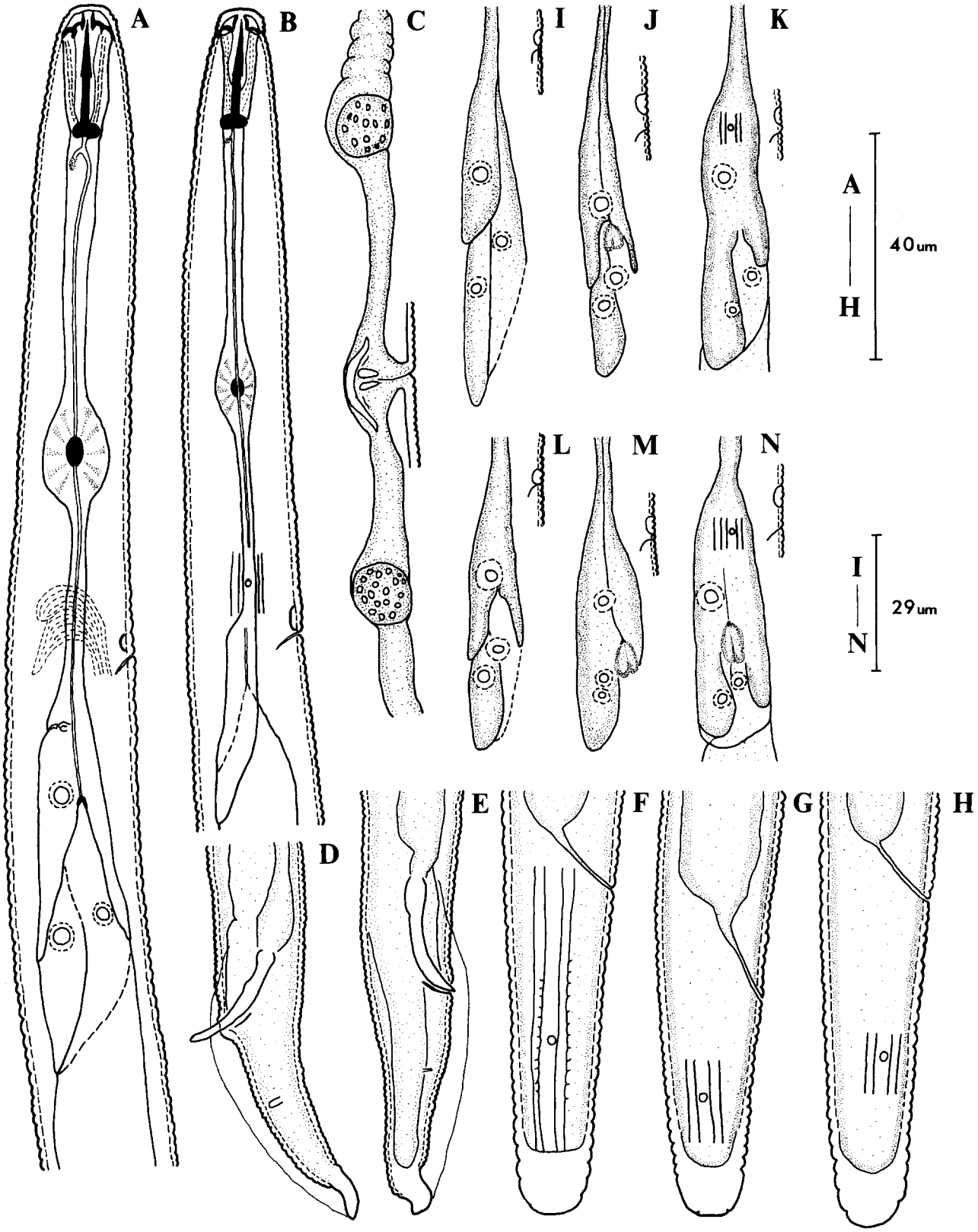

Fig. 2. *Pratylenchoides utahensis*: A: Female anterior part; B-D: Variation of oesophagus; E: C: Female gonad; F, G: Female tail; H: Male tail.