

***Cryphodera coxi* (Wouts, 1973) Luc, Taylor and Cadet, 1978 (Tylenchida: Heteroderidae)
First Reported from Korea**

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사과둥근선충, *Cryphodera coxi* (Wouts, 1973) Luc, Taylor and Cadet, 1978 (참선충目: 씨스트선충科) 韓國未記錄屬 1種

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ABSTRACT

During the survey on apple parasitic nematodes from Korea, *Cryphodera coxi* (Wouts 1973) Luc, Taylor and Cadet, 1978 was discovered for the first time from Korea. The specimens preserved in the Nematology Laboratory, School of Bioresource Sciences, College of Natural Sciences, Andong National University.

Key words : Apple, Systematics, *Cryphodera coxi*, Redescription, Korea

INTRODUCTION

Genus *Cryphodera* Colbran, 1966 has not been reported from Korea hitherto. During the survey on apple parasitic nematodes from Korea, One of us (SCH) collected a nematode belonging to the genus *Cryphodera* from apple orchards. The nematode was identified to *Cryphodera coxi*, unrecorded species from Korea. In this paper the species was redescribed and illustrated in detail.

MATERIALS AND METHODS

The nematodes collected from apple (*Mallus pumila* Miller var. *domestica* Schneider) at Andong, Kyungsangpook Province in Korea were fixed in hot (70°C) F: G 4-1 fixative and dehydrated by Seinhorst's rapid glycerin method. Measurements were taken and drawings were made using a drawing tube attachment.

RESULTS***Cryphodera coxi*, 사과둥근선충 (신칭)****(Figs. 1-3)****Measurements**

Female: n=14. L (including neck) = 466 $\mu\text{m} \pm 52.3$ (392-597); Body length = 389 $\mu\text{m} \pm 47.7$ (307-432); Body width = 230.6 $\mu\text{m} \pm 43.4$ (140-307); Median bulb length = 26.5 $\mu\text{m} \pm 1.4$ (25.2-28.4); Median bulb width = 25 $\mu\text{m} \pm 1.9$ (23-28); Neck length = 88.9 $\mu\text{m} \pm 15$ (67-111); Stylet = 27.7 $\mu\text{m} \pm 5.1$ (24.1-31.3); Vulva anus distance = 45 $\mu\text{m} \pm 6.5$ (35-59); Vulva length = 54.3 $\mu\text{m} \pm 7.8$ (47.5-64.2); Head end to excretory pore = 134.8 $\mu\text{m} \pm 31.7$ (94-177);

Juvenile: n = 20. L = 466.7 $\mu\text{m} \pm 19.3$ (435-507); a = 24.9 ± 1.6 (21.2-27.3); b = 3.7 ± 0.9 (2.8-4.3); b' = 2.9 ± 0.5 (2.2-3.8); c = 7.3 ± 0.4 (6.4-8.1); c' = 4.4 ± 0.2 (4.1-4.9); Stylet = 33.6 $\mu\text{m} \pm 1$ (32-35); Lip height = 4.8 $\mu\text{m} \pm 0.4$ (4.3-5.4); Lip width = 10.3 $\mu\text{m} \pm 0.3$ (9.8-10.9); Oesophagus length = 170 $\mu\text{m} \pm 20.3$ (139-203); Body width = 18.9 $\mu\text{m} \pm 0.9$ (17-20); Head end to

excretory pore = $115.2 \mu\text{m} \pm 7.4$ (102-124); Tail length = $64.4 \mu\text{m} \pm 4$ (56.2-72.2); Hyaline length = $33.4 \mu\text{m} \pm 4.3$ (26.2-39.4); Head end to Median bulb = $82.4 \mu\text{m} \pm 3.2$ (77-86.8).

Female: Body shape varying from reniform to lemon-shape. Freshly collected specimens pearly white, becoming dark and yellowish-brown after fixation but non cyst forming. Cuticle annulated on entire body. Neck usually offset from body contour and frequently reflexed ventrally. Terminal protuberance well defined. Lip region with two annuli and a distinct labial disc. Stylet $24.1-31.3 \mu\text{m}$ long, cone with prominent ventral curvature. Excretory pore at $94-177 \mu\text{m}$ from head end. Gonads with two ovaries. Vulva terminal, vulval lips protruded. Anus subterminal. Vulva-anus distance $35-59 \mu\text{m}$ long.

Male: Not found.

Juveniles: Body cylindrical, slightly tapered anteriorly but sharply posteriorly. Lip region hemispherical, slightly offset with 3-4 annuli, $4.3-5.4 \mu\text{m}$ height, $9.8-11 \mu\text{m}$ wide. Lateral field with three obscured incisures. Excretory pore at $102-124 \mu\text{m}$ from head end. Hemizonid, about two annuli long, just anterior to excretory pore. Stylet $32-35 \mu\text{m}$ long. Stylet knobs well developed with anterior margin flat or slightly pointing anteriorly. Dorsal oesophageal gland orifice $3.6-6.2 \mu\text{m}$ behind from stylet knob base. Oesophageal gland lobes $139-203 \mu\text{m}$ long, dorsal overlap, with two distinct gland nuclei. Phasmid about one annule width in diameter, with broader lens-like structure beneath surface of cuticle. Hyaline portion of tail $26.2-39.4 \mu\text{m}$ long. Tail $56.2-72.2 \mu\text{m}$ long, tapering with narrow terminus.

Discussion: Korean specimens were a little different from the description of *Cryphodera coxi* (Wouts 1973) Luc, Taylor & Cadet 1978; vulva to anus distance was slightly shorter $35-59 \mu\text{m}$ vs. $38-70 \mu\text{m}$ in *C. coxi* and lip annules 3-4 vs. 4 in *C. coxi*.

Locality and habitat: Andong, Euseong, Kyungpook province. (*Malus pumila* Miller var. *domestica* Schneider).

적 요

안동대학교 자연과학대학 선충실에 보관되어있는 표본을 동정한 결과 한국 미기록종인 *Cryphodera coxi*로 밝혀져 재기재와 함께 보고한다.

검색어: 사과, 분류, 사과등근선충, 재기술, 한국.

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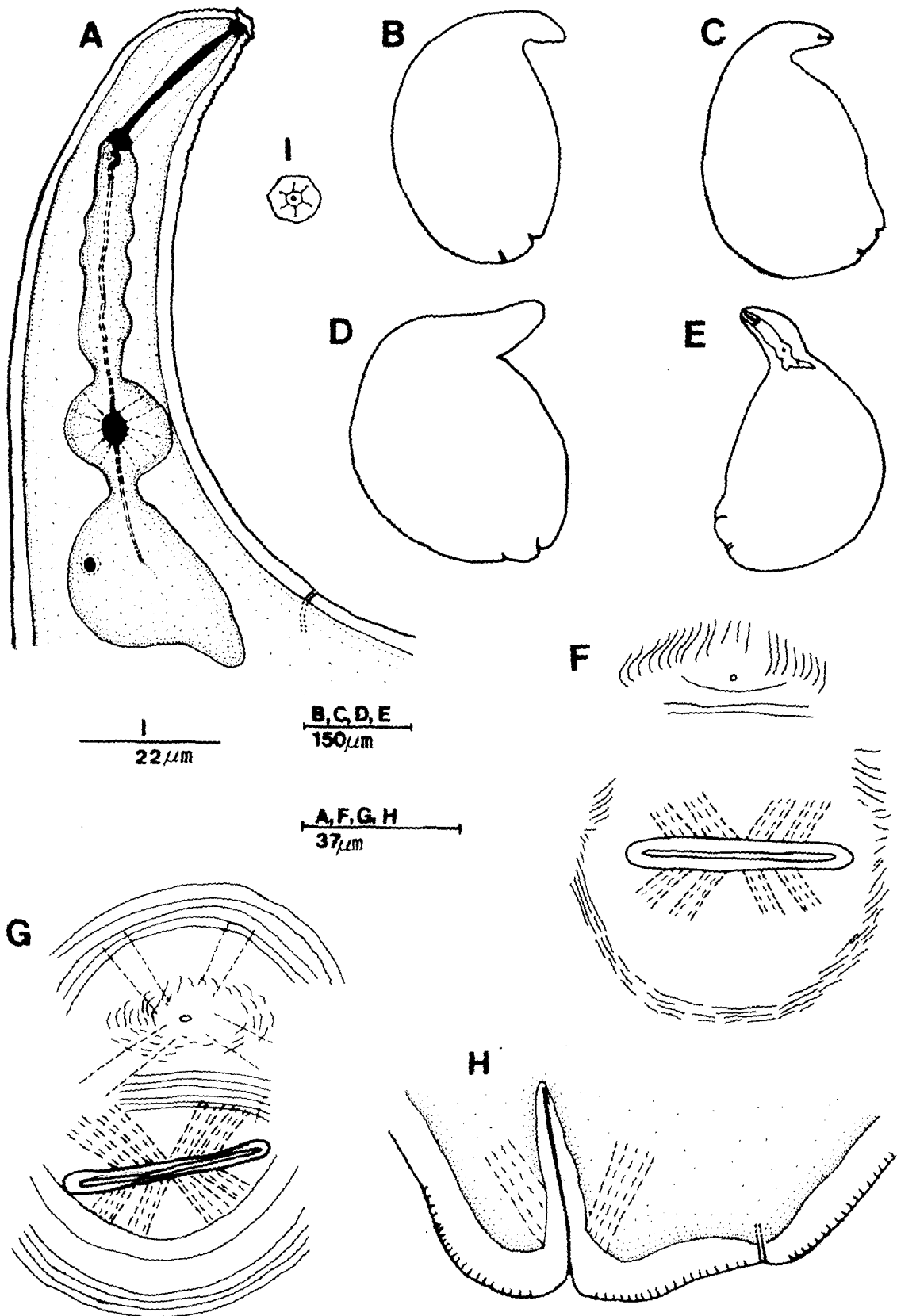


Fig. 1. *Cryphodera coxi*: A: Female anterior part; B-E: Entire female, various shape; F, G: Female end on view; H: Female terminal protuberance showing position of anus and vulva; I: Enface view of female.

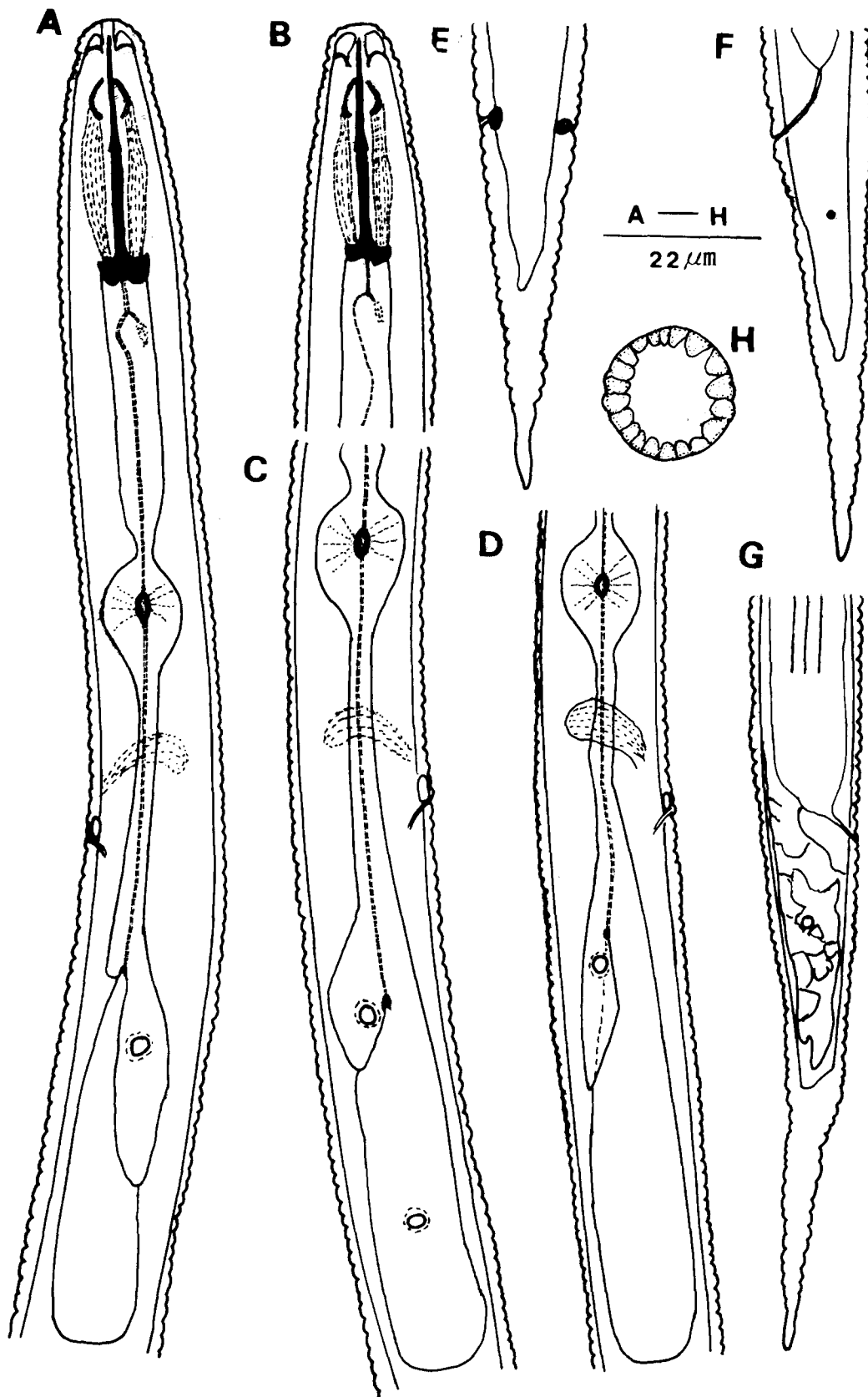


Fig. 2. *Cryphodera coxi*: Juveniles: A: Anterior part; B: Head region; C, D: Oesophageal region; E: Tail ventral; F, G: Tail lateral; H: Cross section of mid body.

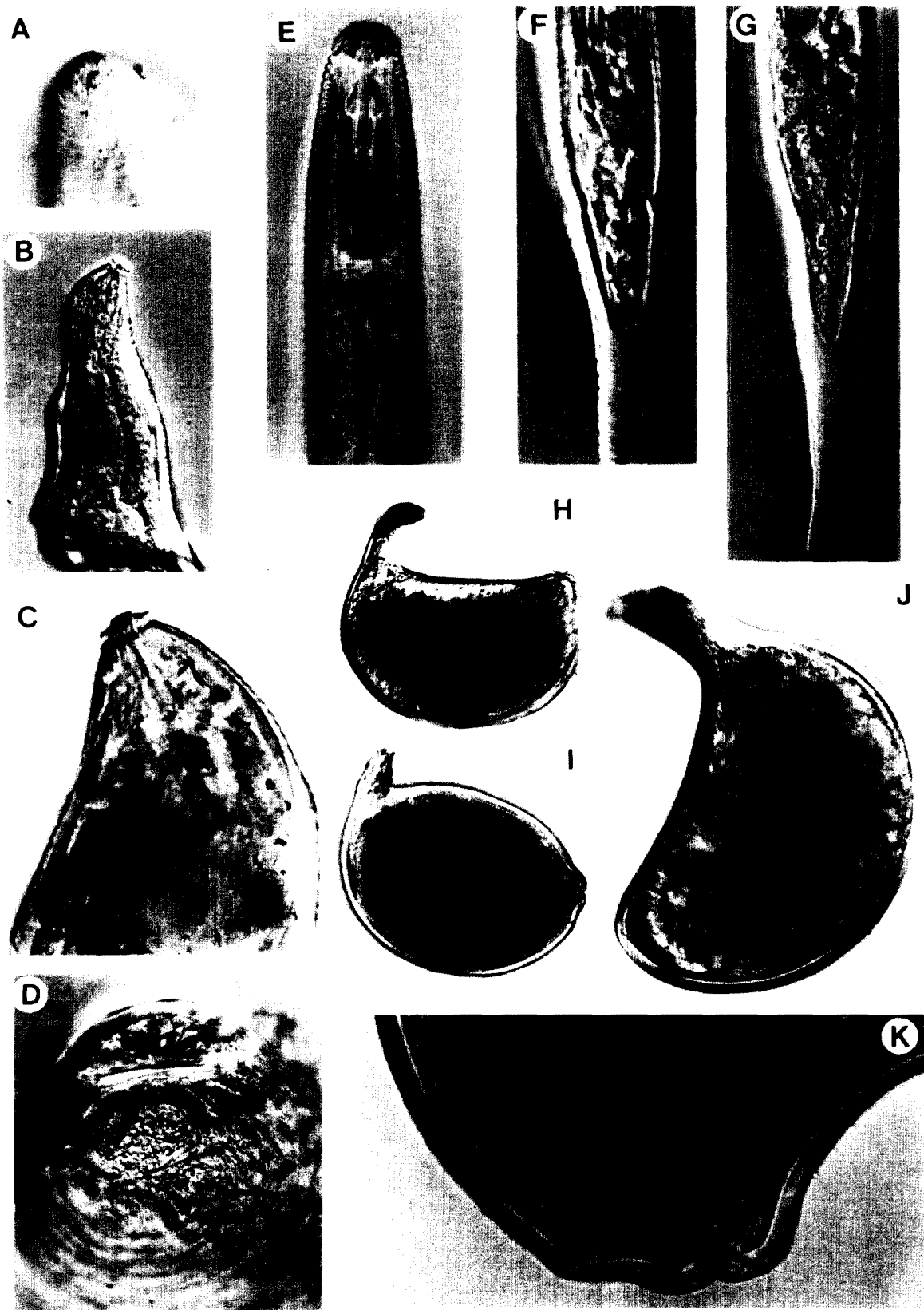


Fig. 3. *Cryphodera coxi*: A: Enface view of female; B: Female anterior part; C: Female head region; D: end on view of female; E: Head region of juvenile; F: Juvenile tail ventral; G: Juvenile tail lateral; H-J: Female; K: Terminal protuberance showing position of anus and vulva.