

A New Species of *Eurypauropus* (Pauropoda: *Eurypauropodidae*) from Korea

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ABSTRACT

A new species of *Eurypauropus* collected from Mt. Mudung in southwestern part of Korea is described. It related to *E. okinoshimensis* Esaki, but is distinguished from the latter species by the larger body size and unequal length of antennal braches. This is the first report of the genus in Korea.

Key words: *Eurypauropus mudungensis*, n. sp., Pauropoda, Eurypauropodidae

INTRODUCTION

Korean pauropods have been known of two species and one unidentified species belonging two genera by Scheller (1979). These Korean pauropods were caught from North Korea. They are *Allopauropus* (A.) *danicus* (Hansen, 1902), *Allopauropus* (D.) *koreanus* Scheller, 1979, and *Pauropus* sp. Scheller, 1979. In the Far East other than Korea, only two species of *Eurypauropus*, that is, *E. okinoshimensis* Esaki and *E. japonicus* Hagino and Scheller were recorded (Esaki, 1934; Hagino and Scheller, 1985).

The authors examined some litters and soil of Mt. Mudung for collecting of pauropods, using Tullgrens funnels. Among the pauropod materials collected, only five specimens of a single species belonging *Eurypauropus* were yeilded, however, after close examination of the specimens, they turned out to be a new species. This paper deals with the description of this new species.

DESCRIPTION

Order Tetramerocerata (四動節目)

Family Eurypauropodidae (좀다리과: 新稱)

Genus Eurypauropus Ryder, 1879 (남생이좀다리속: 新稱)

Eurypauropus mudungensis, n. sp. (고려남생이좀다리: 신칭) (Figs. 1, 2)

Type specimens. One female and four males (one male is holotype, 1 female allotype, and three males paratypes), collected from litters from Mt. Mudung in Kwangju, southwestern Korea, in June, 1991. Holotype, allotype, and two undissected paratypes will be deposited in the U. S. National Museum of Natural History, Smithsonian Institution. Dissected paratype is in the collection of the senior author.

Description. Body (Fig. 1A) dorsoventrally flat, yellowish brown, 1.55 mm (1.43-1.68 mm) long, and 0.68 mm (0.56-0.75 mm) wide, based on 5 specimens. Size of first to sixth tergites (measured after dissection) 300×520 , 270×650 , 313×687 , 287×666 , 263×560 , and 185×350 μm , respectively. All tergites with reticulations, and armed with spines mounted on projections, these spines composed of 3 kinds: long, irregularly spinulated spines on lateral margins; long, smooth spines on posterior margin (these spines directed to middle of tergite); shorter, smooth, membrane-bearing spines on surface other than margins (Fig. 1B, C). Anterior part of tergites 2-6 without spines or projections, but with reticulations. Tergite 1 ovoid. Tergite 2 with almost straight posterior margin and small projection near anterolateral corners. Tergite 3 longest and widest among tergites, with slightly concave anterior and posterior margins; lateral notch located on anterior 35% of lateral margin. Tergite 4 with notch in anterior 45% of lateral margins. Tergite 5 with notch in posterior 30% of lateral margins; posterior portion behind notches distinctly narrower. Tergite 6 with convex anterior margin, about anterior 40% overlapped by tergite 5; lateral margins roundly narrower posteriorly with shallow notches; posterior margin distinctly concave medially.

First trichobothrium (on tergite 2) 170 μm long, with setules on distal 56% of length (Fig. 2A). Second trichobothrium (Fig. 2B) longest, 190 μm long, with setules on distal 74%. Third trichobothrium (Fig. 2C) 175 μm long, with setules on distal 68%, terminated by ovoid thickening; setules gradually thicker and longer distally. Fourth trichobothrium (Fig. 2D) 183 μm , with setules on distal 70%. Fifth trichobothrium (Fig. 2E) 125 μm long, terminated with small globule, with setule on distal 60%.

Antenna (Fig 1D) 4-segmented, excluding tergal and sternal branches. First to third segments equal in width and broader distally. First segment 21×36 μm , with 2 plumose (or spinulated) setae; second segment 17×36 μm , with 2 setae; third segment 20×36 μm , with 4 setae and small globulus; fourth segment 33×30 μm , with 5 setae, its tergal margin distinctly longer than sternal margin. Tergal branch 58×12 μm , or about 4.8 times longer than wide, and tipped with long annulated flagellum. Sternal branch 53×18 μm , slightly shorter than tergal branch, about 3 times longer than wide, with 1 long seta on proximal 40% of branch, 2 flagella and 43 μm -long globulus.

Penis slightly longer than wide, with spines on inner side in circular arrange; apical setae about 0.7 times as long as penis (Fig. 2G).

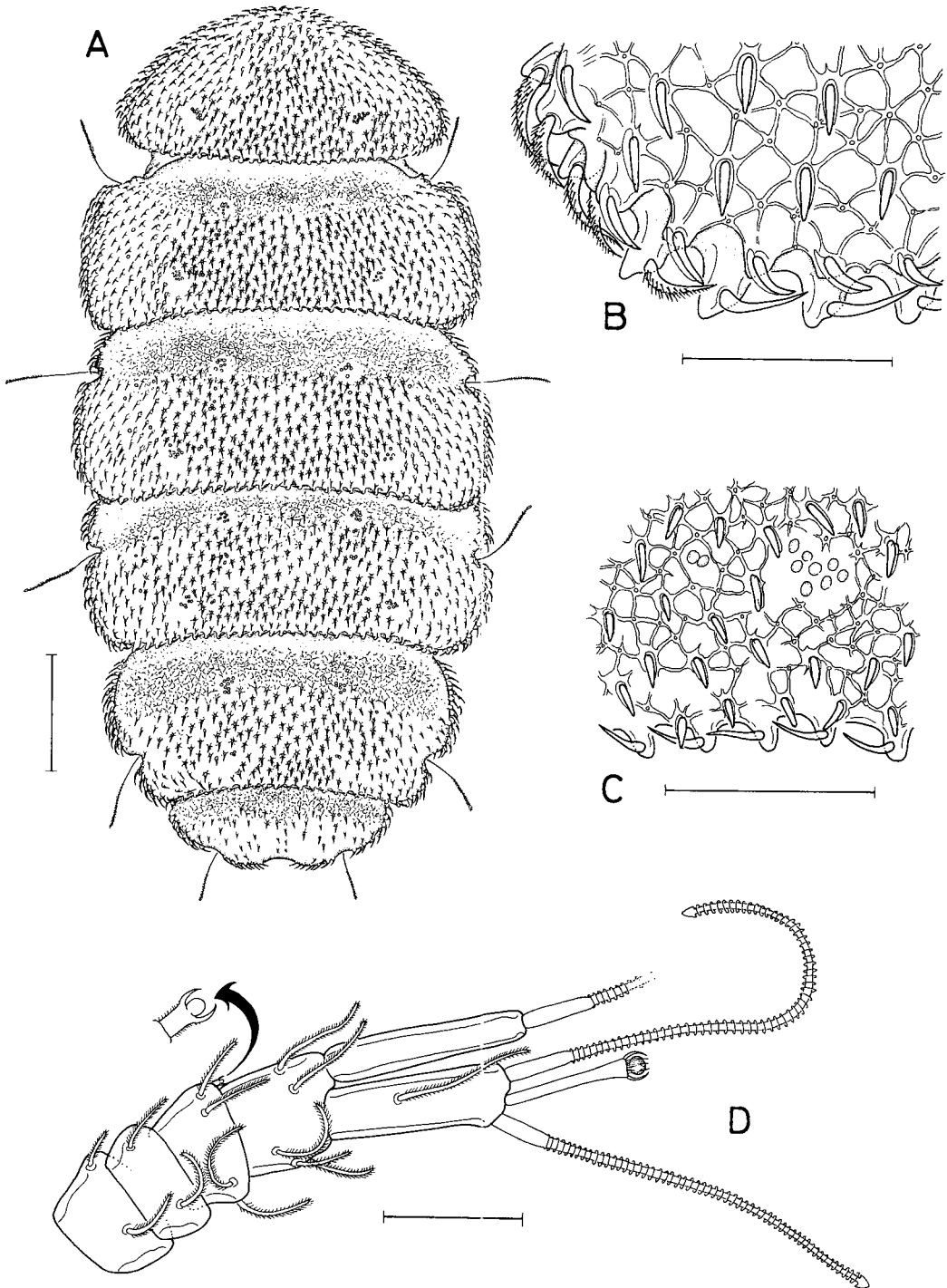


Fig. 1. *Eurypauropus mudungensis*, n. sp.: A, dorsal view of body; B, posterolateral part of fourth tergite, dorsal view; C, right posterior part of third tergite, dorsal view; D, antenna (scales: 0.2 mm in A; 0.05 mm in B-D).

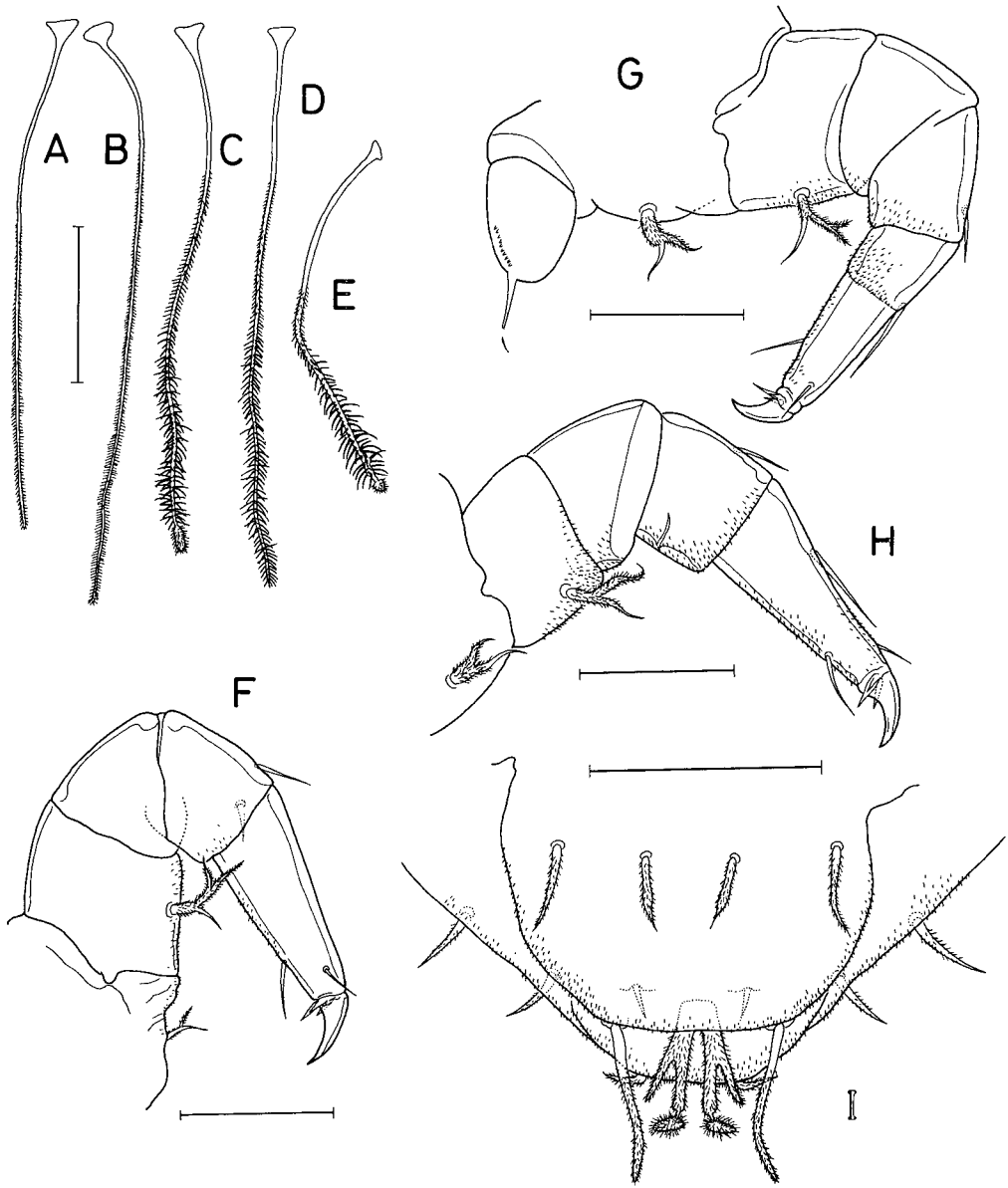


Fig. 2. *Eurypauropus mudungensis*, n. sp.: A-E, trichobothrium 1-5; F, leg 1; G, leg 2; H, leg 9; I, pygidium (scales: 0.05 mm in all).

Leg 1 (Fig. 2F) and leg 9 (Fig. 2H) 5-segmented. Legs 2-8 6-segmented. All legs with numerous minute setules on surface, with bifurcate seta on coxa and tri-furcate seta on trochanter, except for leg 9 in which the latter being bifurcate; secondary branch of these setae glabrous, thin, usually shorter than main branch. Tarsus of leg 1 without proximal tergal seta; main claw about 0.38 times as long as tarsus. Tarsus of leg 9 about 2.2 times as long as wide, tapering toward its tip, with proximal tergal seta, which is slightly shorter than half length of tarsus, on proximal 44% of length.

Pygidium as Fig. 2I. Tergum with truncated posterior margin, numerous minute spinules on all

surface, and 3 setae on each side; posteriormost setae separated from each other by distance of 21 μm , each bent near base and directed toward outside; middle seta 13 μm long, located at distance of 27 μm from posteriormost seta; proximal seta 15 μm , located at distance of 21 μm from middle seta; all of these setae pointed.

Sternum with truncated posterior margin, numerous minute spinules on all surface, 4 pairs of setae. Two proximal pairs of setae located in same level; inner pair separated from each other by distance of 19 μm , each 17 μm long, broadened distally, but sharply pointed at tip; outer pair separated from each other by distance of 60 μm , each 19 μm long, evenly tapering. Subdistal pair of setae (as shown by dotted lines in Fig. 2I) separated from each other by distance of 24 μm . Distal pair of setae longest, 35 μm long, with 35 μm distance from each other, slightly bent outward subdistally, and rather blunt at tip. Anal plate being 2 bifurcated branches as in Fig. 2I; inner ramus of each branch terminated in subovoid body, with thin connection between body and ramus.

Etymology. The specific name *mudungensis* is derived from the type locality, Mt. Mudung.

Remarks. *Eurypauropus mudungensis*, n. sp. is distinguished from *E. cycliger* Latzel and *E. ornatus* Latzel by the absence of the raised lines on dorsal tergites, from *E. spinosus* Ryder and *E. japonicus* Hagino and Scheller by the sixth tergite which is not hidden under the fifth tergite, and from *E. hastatus* Attems by the protuberances on tergites which are hook- or spine-like rather than leaf-like.

The new species resembles *Eurypauropus okinoshimensis* Esaki, 1934 in the body form and the shape of tergites. Moreover, both species possess in common the features that the tergites have no raised lines, and covered with reticulations and wart-like protuberances bearing hook-like spines.

Esaki (1934) described his species with general features of the genus and gave no detailed illustrations of the appendages, and therefore it is difficult to make a close comparison between the two species. However, according to Esaki's description, it is certain that *E. okinoshimensis* is distinctly smaller (1.16 mm) than *E. mudungensis*, n. sp. (1.55 mm), and the branches of antenna of the former species are of same length but these branches are unequal in length in the new species.

REFERENCES

- Esaki, T., 1934. Two new forms of the Pauropoda from Japan. *Annot. Zool. Japon.*, **14**: 339-345.
- Hagino, Y. & U. Scheller. 1985. A new species of the genus *Eurypauropus* (Pauropoda: Eurypauropodidae) from central Japan. *Proc. Jap. Soc. syst. Zool.*, **31**: 38-48.
- Scheller, U., 1979. First record of Pauropoda in Korea. *Acta Zool. Acad. Sci. Hung.* **25**(3-4): 375-381.

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*Eurypauropus*속의 소각류 1 신종

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요 약

광주직할시의 무등산에서 채집된 *Eurypauropus*속의 소각류 1 종을 신종으로 기재한다. 이 종은 일본산 *E. okinoshimensis* Esaki와 형태적으로 유사하나 몸의 크기가 더 크고 촉각의 2 개의 가지가 서로 다른 길이를 가지고 있어서 일본산 종과 구별된다. 한국내에서 *Eurypauropus*에 대한 기록은 이 보고가 최초이다.