한국동물분류학회지 제14권 제4호
The Korean Journal of Systematic Zoology
Vol. 14, No. 4: 357-360 (December 1998)

Nemoura gemma, a New Species of the Nemouridae (Insecta: Plecoptera) from Korea

Soon Ah Ham and Jong Bin Lee
(Department of Biology, Chonnam National University, Kwangju 500-757, Korea)

ABSTRACT

A new species of the genus *Nemoura* is described from Korea. *Nemoura gemma* sp. n. is close to *Nemoura jezoensis* Okamoto and *Nemoura alaica* Zhiltzova, but can be distinguished by the entire shape, dorsal sclerite, and the presence of spines on ventral sclerite of epiproct, and the existence of cercal hooks.

Key words: *Nemoura gemma*, Description, Plecoptera, Korea

INTRODUCTION

Nemouridae, which contains the most species of Plecoptera, includes 15 genera in the world (Baumann, 1975). Among the genera, *Nemoura* (Nemourinae), and *Amphinemura* and *Protonemoura* (Amphinemurinae) are recorded by Yoon (1988) in Korea. The genus *Nemoura* comprises two species, *Nemoura jezoensis* Okamoto (1922) and *Nemoura tau* Zwick (1973) in Korea.

The males of the genus *Nemoura* have distinctive sclerotized cerci with terminal hooks. The females have a large pregenital plate and slightly sclerotized truncate cerci (Baumann, 1975; Shimizu, 1996). In this paper *Nemoura gemma* sp. n. is described.

DESCRIPTION

***Nemoura gemma* sp. n.** 꽈리민강도래 **(Fig. 1)**

Materials examined. Holotype: ♂ (CNU), Tugyusan National Park, Chollabuk-do, 28 IV 1998,

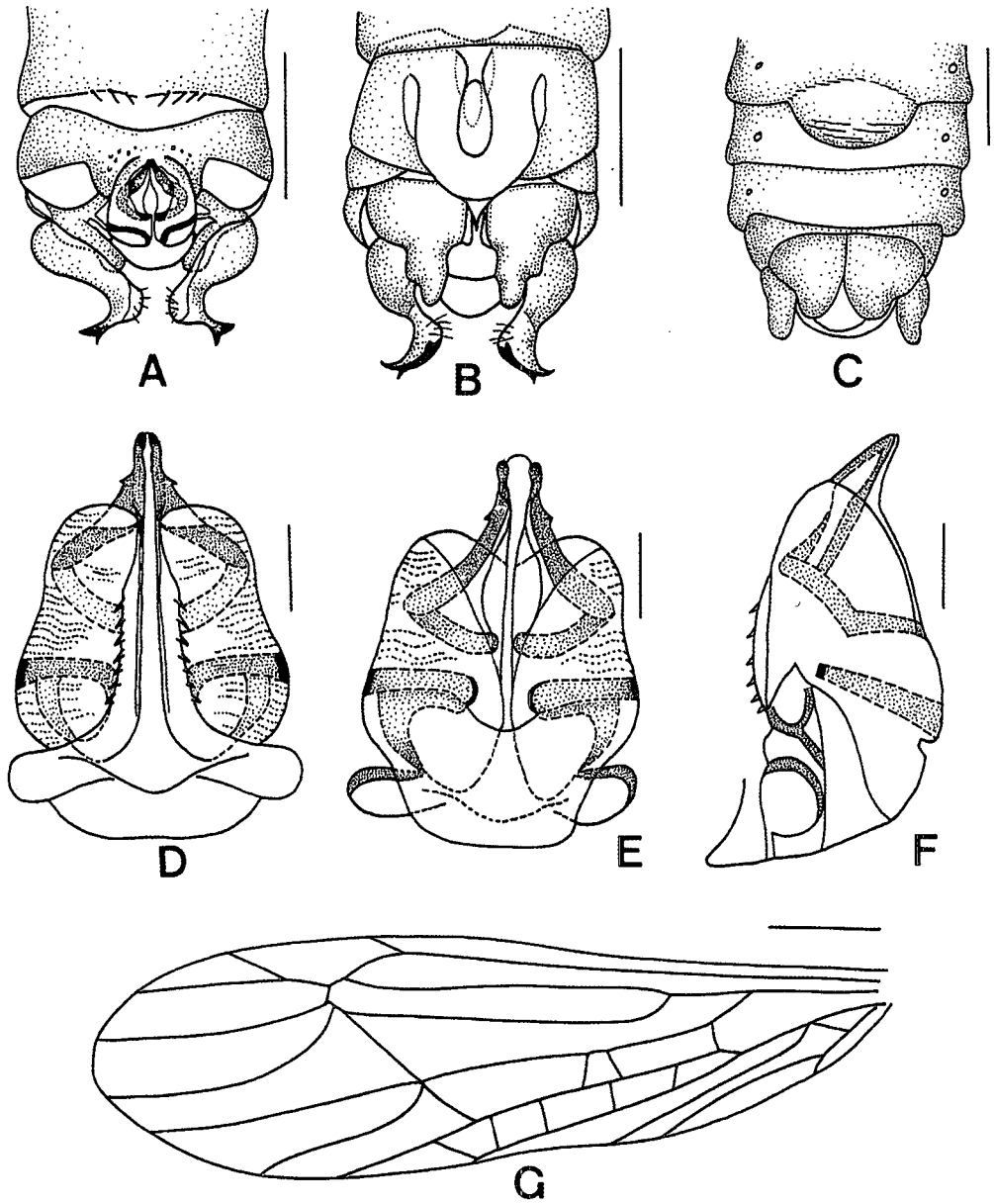

Fig. 1. *Nemoura gemma* sp. n.: A, male terminalia, dorsal; B, male terminalia, ventral; C, female terminalia, ventral; D, epiproct, dorsal; E, epiproct, ventral; F, epiproct, lateral; G, male left forewing (scale bars: A, B, C = 0.5 mm; D, E, F = 0.3 mm; G = 1 mm).

S. A. Ham. Paratypes: 1♀ (CNU), same data as holotype; 1♂, 1♀, Mudungsan Sanjang Valley, 23 IV 1997, S. A. Ham; 1♂, Myongjisan, Kyongi-do, 18 IV 1994, J. S. Kim; 1♂, Myongjisan, Chollabuk-do, 28 IV 1991, Y. G. Cho; 6♂, 6♀, the region between Mujuguchondong and Najetongmun, Chollabuk-do, 28 IV 1991, Y. G. Cho.

Male. Body brown and 4.0-5.0 mm long; forewing 5-6 mm long. Wings almost hyaline, with dark, X-shaped mark; veins brown. Cerci long pineal and curved inward with two hooks at base, mostly sclerotized except inner margins. Sternite IX with a slender vesicle. Hypoproct wide and round with a small sharp-pointed apex; extended weakly to sternite X. Tergite IX strongly sclerotized with several long setae at posterial margin. Tergite X poorly concave below epiproct, with many stout spines over the concave region. Epiproct small pear-shaped in dorsal aspect, base rounded, apex recurved and sclerotized, bilaterally symmetrical; dorsal sclerite large and triangular; ventral sclerite weakly sclerotized, broad at base, with lateral knobs at basolateral corners; forming parallel ridges with a row spines on each side; lateral arms slender and long.

Female. Body brown and 4.5-6.0 mm long; forewing 6-7 mm long. Cerci conic without any hooks. Sternite VII strongly sclerotized and extended distally; covering half of sternite VIII and forming half-moon pregenital plate with transverse gutters.

Larva. Unknown.

Etymology. *Gemma* is a latin, meaning provided with bud, and refers to the shape of dorsal sclerite on epiproct.

Remarks. The species of *Nemoura* can be easily distinguished by epiproct (aedegus) of males. *Nemoura gemma* sp. n. is close to *Nemoura* jozoensis Okamoto (1922) from Korea and *Nemoura alaica* Zhiltzova (1976) from Russia.

The male of *Nemoura jozoensis* has epiproct which is long columnar and lacking sclerotized apex, and cerci curved inward and recurved outward at the apices without hooks. In *Nemoura alaica* male, the dorsal sclerite of epiproct is small and round, and the ventral sclerite weakly sclerotized without spines. Accordingly, *Nemoura gemma* sp. n. can be separated from the two related species by the entire shape, dorsal sclerite, and the presence of spines on ventral sclerite of epiproct, and the existence of cercal hooks.

REFERENCES

Baumann, R. W., 1975. Revision of the stonefly family Nemouridae (Plecoptera): a study of the world fauna at generic level. Smiths. Contr. Zool., **211**: 3-74.

Okamoto, H., 1922. Zeiter Beitrag zur Kenntnis der Japanischen Plecoptera. Bull. Arg. Exp. Sta. Chosen, **1**(1): 1-46.

Shimizu, T., 1996. A Contribution to the Knowledge of the Family Nemouridae from East Asia (Insecta, Plecoptera). Tokyo Agricutural Univ. Ph. D. thesis, pp. 305.

Yoon, I. B., 1988. Illustrated Encyclopeia of fauna and flora of Korea., Vol 30. Aquatic Insects. Ministry of Education, Korea, pp. 840.

Zhiltzova, L. A., 1976. Additions to the fauna of stonefly Nemouridae (Insecta, Plecoptera) from central Asia. J. Zool., **55**(10): 1476-1479.

Zwick, P., 1973. On the Stoneflies from Korea (Insecta, Plecoptera). Fragm. Faun., **19**(8): 149-157.

RECEIVED: 6 November 1998
ACCEPTED: 30 November 1998

한국산 강도래 목 (민강도래 과)의 1신종, *Nemoura gemma* sp. n.

함 순 아 · 이 종 빈
(전남대학교 생물학과)

요 약

한국산 민강도래 속의 신종인 *Nemoura gemma* sp. n.의 성충을 삽화와 함께 기재한다. 본 종은 *Nemoura jezoensis* Okamoto와 *Nemoura alaica* Zhiltzova와 유사하나, 항상판의 외형 및 배부경판의 형태, 복부 경판의 가시의 유무와 미모에서의 갈고리의 유무 등으로 쉽게 구별된다.