



A New Cave Dwelling Species of the Genus *Coreoblemus* Ueno, 1969 (Coleoptera: Carabidae: Trechinae) from Korea

Jong-Kyun Park*, German Sh. Lafer¹⁾ and Shinzaburo Sone²⁾

Department of Sericulture and Entomology Resources, Sangju National University, Sangju 742-711, Korea. E-mail: jgpark@sangju.ac.kr

¹⁾Entomological Laboratory, Institute of Biology and Pedology, Far East Branch, Russian Academy of Sciences, Vladivostok-22, 690022, Russia

²⁾Nihon Bayer Agrochem. K. K., Yuki Research Center, Yuki 9511-4, Ibaraki 307, Japan

Abstract A new species of the genus *Coreoblemus* Ueno, 1969, *Coleoblemus namkungi* sp. nov. is described from Korea.

Key words *Coleoblemus namkungi*, new species, Systematics

INTRODUCTION

Up to now, two species of the genus *Coreoblemus*, *C. parvicollis* from Chungpung-pung-hyeol cave of Korea and *C. venustus* from Is. Tshima of Japan, are known in the world (Ueno, 1969). Ueno (1969) noted that he found other *Coleoblemus* species in the caves of Hogle-hwantigi-gul and Seogryu-gul of Korea during the expedition of the speleological survey of Korea in 1966, but they were not described. We recently collected two males and three females from caves by Park in 1999, 2001 and Sone in 2001, but no species was founded in Seogryu-gul cave, maybe due to the environmental destructions by human.

In this paper, the collected species is described as new in the genus *Coreoblemus*, *C. namkungi* sp. nov.

Abbreviations used are: L: body length (from apex of labrum to apices of elytra), EW: width of elytra, PW: width of pronotum, HL: length of head, HW: width of head, PA: apical width of pronotum, PB: basal width of pronotum, PLt: largest length of pronotum; PLm: median length of pronotum; EL: length of elytra (from tip of scutellum to apices of elytra).

Coreoblemus namkungi, sp. nov. 남궁장님좁먼지벌레 (신창)
(Figs. 1, 2)

Types. Holotype: 1 ♂, Hogle-hwantigi-gul Cave, GB, Korea, 9. IX 2001 (J.K. Park) Paratypes: 1 ♂, 1 ♀, the same locality as holotype, 20. IV 1999 (J.K. Park); 1 ♀, ditto, 9, IX, 2001 (S. Sone). Holotype and two paratypes are deposited in the Entomological Laboratory of Sangju National University, Korea.

Type locality. The Hogle-hwantigi-gul (= Hogle-hangtigi-gul) is a limestone cave and located near Hogle-ri, Hogle-myeon, Mungyeong City, GB, Korea (36° 39' 29" N, 128° 10'

* To whom correspondence should be addressed.

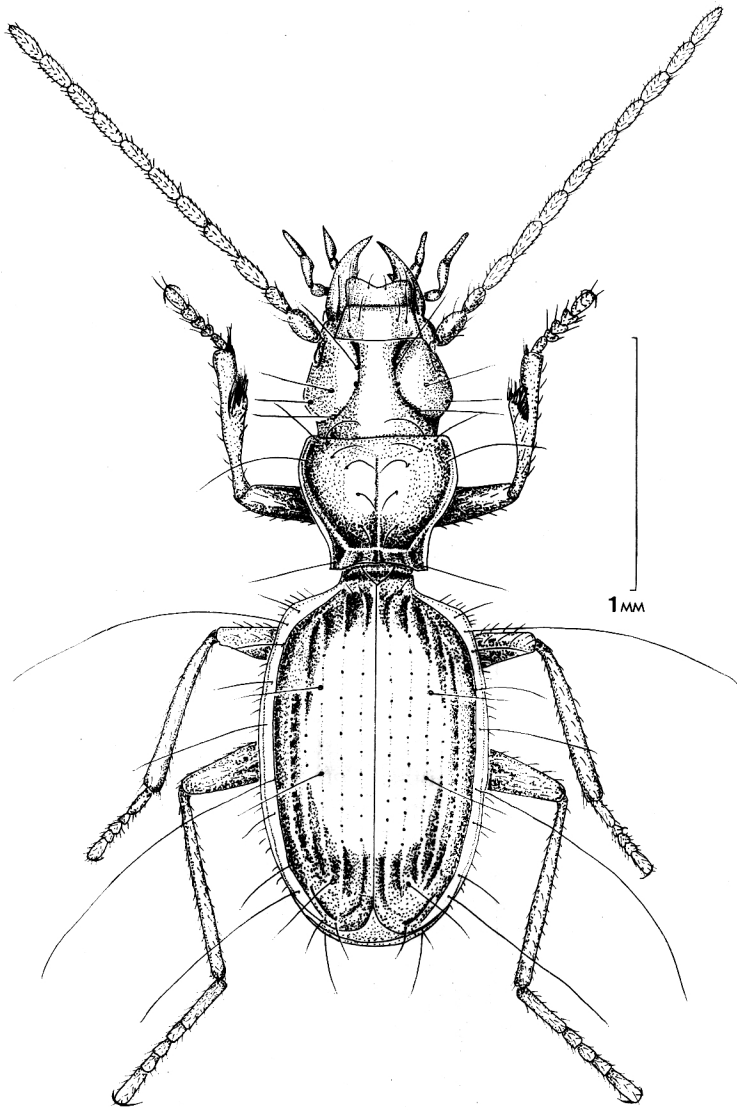


Fig. 1. *Coreoblemus namkungi* sp. nov., ♂, from Hogle-hwantigi-gul Cave, Korea.

30° E) (See Ueno *et al.*, 1966).

Description. Adults. Body and appendages brownish yellow throughout. Dorsal surface of body shiny and with large isodiametric reticulation but with gently impressed meshes throughout.

Body glabrous; legs pubescent throughout. Integuments thin, transparent. Head big; tempora with angulated convex; frontal furrows fully developed, not angulated, deeper from posterior margin of clypeus to middle of frons not invading into clypeus; sharply narrowed into broad neck behind tempora. Clypeus transverse, trapezoid, narrowed forwards, apical margin straight and with two pairs of setae at each side. Eyes absent. Labrum transverse; apex trian-

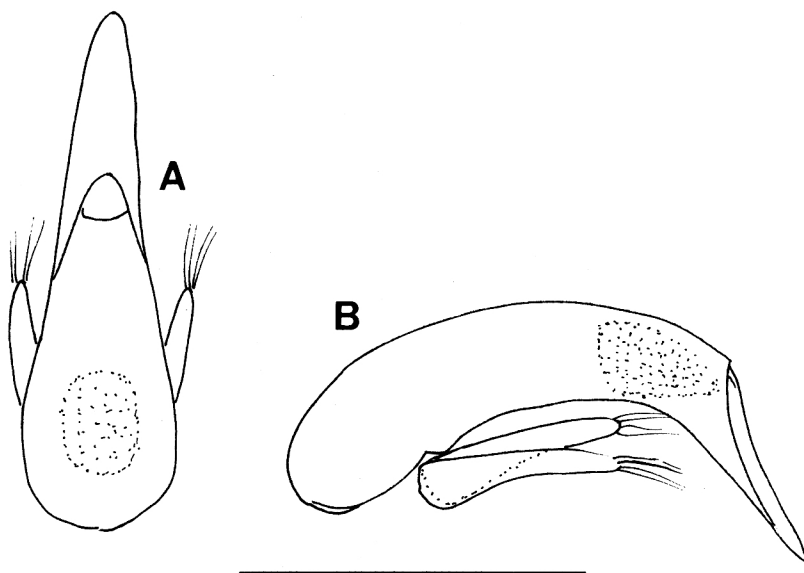


Fig. 2. Male genitalia of *Coreoblemus namkungi* sp. nov., from Hogle-hwantigi-gul Cave, Korea: A. dorsal view; B. left lateral view (scale : 0.25 mm).

gularly emarginate, with six setae along margin. Upper surface of head with superfluous chaetotaxy besides two usual supraorbital setae (anterior one slightly inserted in front of widest part of temple and posterior one on frontal furrow at vertex), with two long setae at each side of head; anterior one situated on frontal furrow at about 1/3 of frons and posterior one inserted just under widest part of temple and with two arcuate short setae situated outside of lateral bead of frons. Mandibles moderate-size, weakly arcuate, with one seta at apex of scabre; right mandible with bifid retinaculum. Antennae rather long, exceeding to pronotum, normally pubescent beginning segment 3, segments 1 and 2 also with seta sparsely; antennal segments about equal in size, segment 2 slightly shorter than others. Mentum usual shape, deeply emarginate at apex, with acute tooth at middle, with arcuate impression beyond it, with two setae in outside of tooth and one seta at lateral side near base. Submentum not fused with mentum, with a row of six setae. Two setae in under surface of genae. Gula broad, parallels. Ligula with 6 setae at apex. Palpi medium size; apical segments coniform.

Pronotum relatively small, distinctly shorter than head including mandibles (PW/HW 1.09–1.13; PW/PLt 1.19–1.24; PW/PLm 1.25–1.30), weakly transverse, broadest at about apical 1/5, strongly narrowed posteriad; lateral margins strongly concaved before hind angles and at basal part almost parallel with outer sides (PW/PA 1.19; PW/PB 1.63–1.67); with superfluous chaetotaxy besides two usual lateral setae at each side; anterior one inserted at about widest part of pronotum, posterior one just before hind angles. Hind margin near lateral sides more or less transverse but emarginate at middle, distinctly narrower than front marginal width (PB/PA 0.71–0.73). Hind angles rectangular with tiny denticle. Pronotal apex nearly transverse; front angles obtuse and rounded. Lateral beads and lateral gutters thick. Disk more or less convex, anterior and posterior with distinct transverse impressions; median line fine and developed only between transverse impressions. Pronotal base at each side with one short oblique longitudinal basal fovea. Pronotal disk with six superfluous setae; setae more or less curved, shorter than usual lateral setae, first longitudinal three setae from pronotal disk at each side more

or less farther from middle line than two setae situated at middle and posterior part of pronotum. Scutellum large, triangular.

Elytra oval, weakly convex lateral sides, broadest near middle (EL/EW 1.50–1.54; EL/PLt 2.57–2.86; EW/PW 1.44–1.50), shoulders rounded but weakly angulate; apex rounded, forming large re-entrant angle at suture. Elytral disk weakly convex in lateral view, with depressed area near shoulders. Lateral bead thick and reflexed; at shoulder weakly serrate along margin and furnished throughout short hairs sparsely. Outer stria bent at shoulder inside, reaching level of base of stria 3. Though traces of all striae (punctate rows) distinct, only six striae remarkably presented and elytral stria (punctate rows) almost obliterated and vanished at base, apices and lateral sides. All striae (punctate rows) fine, with sparse punctator; the first three striae weakly impressed at inner part of disk, broad, gutter-shaped, two outer ones (stria 6 and stria 7) also distinctly impressed but stria 4 and 5 are presented only as rows of punctures. Sutural stria fully vanished with its outer and inner branches, basal setiferous pores inserted independently at the level of stria 3. Elytral intervals rather broad, flat, interval 3 with three discal setiferous pores: anterior and median ones adjoining stria 3 (anterior pore at 1/3 of elytra and median pore at about the middle), posterior one (in Trechinae, this setiferous pore usually are regarded as pre-apical pore) located near elytral apex at middle of interval. Apical striae weakly developed, directed closer to lateral margin than to the middle. At apex of each elytron with two apical setiferous pores. Marginal umbilicate series located between stria 6 and 7 in interval 7 (instead of interval 9) and of these with nine large pores, more or less evenly stretched along the lateral margin. Setae 2nd, 6th and 9th unusually longer than others.

Ventral side mainly glabrous, smooth. Prosternal intercoxal process rounded and not marginated at tip. Mesothorax comparatively large; intercoxal process splitted at tip. Metathorax short, lozenge-shaped in middle, with a few hairs, its front process long, triangular, narrowly marginate, outer metathoracic lobes rather short, not marginate. Metepisterna short, length and width about equal. Middle and hind coxae strongly closed each other. Abdominal sternite 2 with a few hairs between hind coxa. Last visible abdominal sternite widely rounded at apex; male with two setae but female with four setae, inner ones more removed from margin than outer ones.

Legs medium-sized, slender. Hind coxae without inner seta. Hind trochanter with a seta. Hind tarsi elongate. Last tarsal segment with setae beneath. Two proximal segment of protarsi dilated in male, with spur inwardly at apices and furnished beneath with adhesive appendages.

Measurements. One male and female were measured. L (from apex of labrum to apices of elytra) 2.68–2.73 mm, EW 0.90–0.98 mm, PW 0.63–0.65 mm. The full standard measurements the beetles (in mm) are as follows (male and female): HL 0.55, 0.53; HW 0.58, 0.58; PA 0.53, 0.55; PW 0.63, 0.65; PB 0.38, 0.40; PLt 0.53, 0.53; PLm 0.50, 0.50; EL (from tip of scutellum to apices of elytra) 1.35, 1.50; EW 0.90, 0.98; L 2.68, 2.73; Ls 2.43, 2.56.

Male genitalia. Penis tube-shaped at basal and middle parts, arcuate in lateral view, nearly parallel each side, more sharply bent ventrad (below about 60–70°) at apical part and narrowed to apical part; apical lamella wedge-shape, narrowly rounded at tip. Penis transparent throughout. Basal bulb without sagittal aileron; basal orifice large, oval. In endophallus near its tip with a large darker conical area and with visible reticulate sculpture in lateral view but ground of this area like having two parallel stripes in dorsal and ventral views. Parameres small, narrow, rounded at tips and furnished with setae; apices slightly stretched beyond middle of penis; apex of right paramere wider than left one.

Diagnosis. The new species is closely related to the type species of the genus *Coreoblemus* Ueno, 1969, *C. parvicollis* Ueno, but can be distinguished by more prominent tempora, triangular emargination of labrum, shape of pronotum that is noticeably wide anteriad (PW/PA 1.19; 1.27–1.33 in *C. parvicollis*) and narrowed posteriad (PW/PB 1.63–1.67; 1.53–1.57 in

C. parvicollis); width of pronotal apex distinctly wider than that of the base (PA/PB 1.36–1.40; 1.18–1.21 *C. parvicollis*); elytra with shoulder more or less angulate; elytral stria distinctly punctate. Loss of two elytral intervals is an interesting morphological feature, but it is uncertain whether the intervals are disappeared or not. Aedeagus of the new species is rather similar to one of *C. parvicollis* but basal bulb lacks sagittal aileron, apical part is more elongated, more sharply bent ventrad, and apical lamella is long and narrowly rounded at apex.

Distribution. Korea. This species is only known at the type locality.

Etymology. The specific name is derived from Mr. J. Namkung who is a well-known Korean biospeleologist.

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