

# A New Species of the Genus *Crepidophorus* Mulsant and Guillebeau, 1853 (Coleoptera, Elateridae, Denticollinae) from Korea

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## 한국산 *Crepidophorus* 속 (딱정벌레목, 방아벌레과, 주홍방아벌레아과)의 1 신종 보고

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**ABSTRACT:** We found a new species, *Crepidophorus bangtaesanensis* sp. nov., collected from Mt. Bangtae-san, Gangwon-do, Korea. The description and photos of this new species are provided. The genus *Crepidophorus*, belonging to the subfamily Denticollinae, is also recorded for the first time.

**Key words:** Taxonomy, Coleoptera, Elateridae, *Crepidophorus bangtaensis* sp. nov., Korea

**조 록:** 강원도 방태산에서 채집된 방아벌레과의 1 신종, *Crepidophorus bangtaesanensis* sp. nov. 를 보고한다. 본 신종에 대한 기재 및 형태사진을 제공하며, 이종을 기초로 하여 *Crepidophorus* 속은 국내에 처음 보고된다.

**검색어:** 분류, 딱정벌레목, 방아벌레과, 톱더듬이방아벌레(신칭), 신종, 한국

The genus *Crepidophorus* Mulsant and Guillebeau, 1853 was established by type species *Crepidophorus anthracinus* Mulsant and Guillebeau. But the genus and species were synonymized to *Athous mutilatus* Rosenhauer, 1847 by Candèze (1860). After then, the type species of *Crepidophorus*, *A. mutilatus*, was subsequently designated by Reitter (1905). The genus is separately characterized from related genera, *Athous* and *Hemicrepidius*, and *Elathous* by as follows: 1) well carinated front margin of head. 2) pronotum with ocellated punctures; hind angles short and wide at base, with unicarina.

3) 5th interval of elytron with a ridged carina at base. 4) pronotosternal sutures simple, not groove at anterior. Members of *Crepidophorus* consist of three palaeartic species (Cate, 2007). In this study, a new species, *C. bangtaesanensis* sp. nov., discovered from Korea is described and also its photos are provided.

## Materials and Methods

One male specimen was collected at Mt. Bangtae-san, Inje-gun, Gwangwon-do, Korea (Fig. 1). For morphological study, the general structures of specimens were observed under a stereoscopic microscope (MZ16A and MZ6; Leica, Solms,

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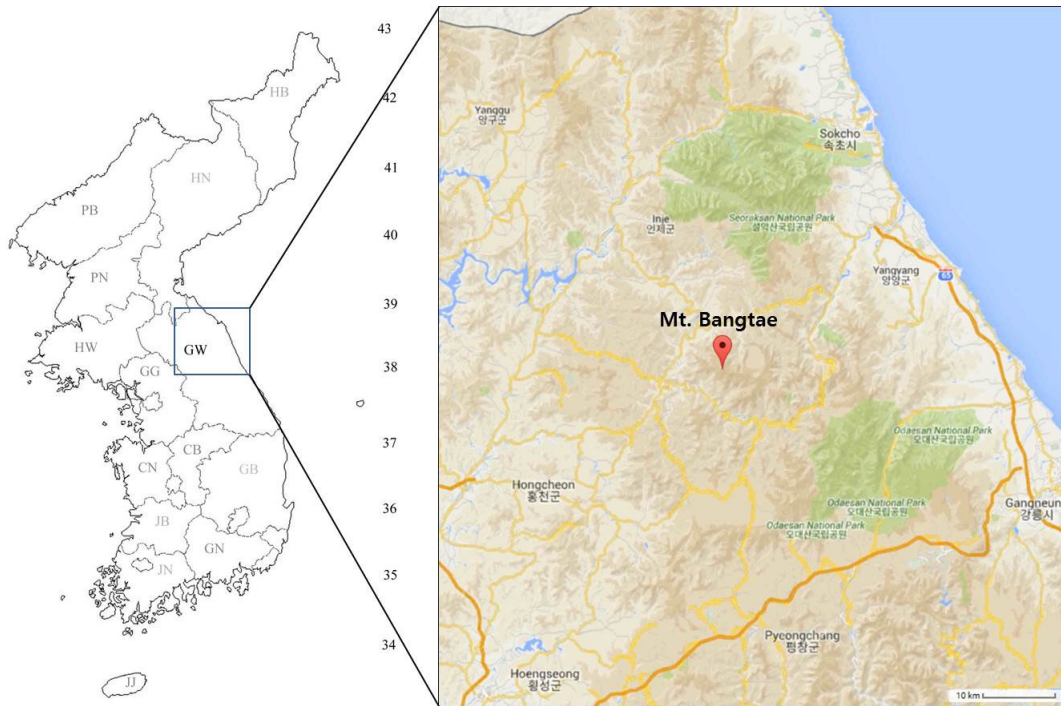


Fig. 1. The type locality of *Crepidophorus bangtaesanensis* sp. nov. from Korea. Red circular mark indicates the topotype, Mt. Bantae in Gangwon-do, Korea. The map was extracted from Google maps <https://www.google.co.kr/maps>.

Germany). The holotype specimen was preserved at the insect collection of Applied Entomology Division, Department of Agricultural Biology, National Institute of Agricultural Science, Jeonju, Korea.

## Result

### Systematics

Family Elateridae Leach, 1815 방아벌레과

Subfamily Denticollinae Stein and Weise, 1877

주홍방아벌레과

Tribe Hemicrepidini Champion 1894 다색방아벌레족

Genus *Crepidophorus* Mulsant and Guillebeau, 1853

톱더듬이방아벌레속(신칭)

*Crepidophorus* Mulsant and Cuillebeau, 1853: 189. Type species: *Athous mutilatus* Rosentauer, 1847: 16 (Europe), subsequently designation by Reitter, 1905: 32.

**Diagnosis.** Body medium; frontal margin of head distinctly, straightly expanded anteriorly, not obsolete in median; antennae

strongly serrated from 3rd antennomere, with 3rd to 10th subtriangular; frontal groove broadly excavated at median; pronotal hind angle with a distinct carina; posterior margin of pronotum without basal incisures near hind angles; pronotosternal sutures simple; posterior margin of hypomeron nearly straight, not emarginated, or slightly convex at posterior angle; 7th stria interval of elytron clearly elevated, forming humeral carina from base to one fifth (Leseigneur, 1972).

**Distribution.** Three species in Palaearctic regions (Cate, 2007).

**Remarks.** This genus is new to fauna in Korea.

*Crepidophorus bangtaesanensis* sp. nov. 톱더듬이방아벌레(신칭) (Fig. 2A~L)

**Description.** Body (Fig. 2A) length 12.8 mm, width 3.4 mm, rather stout, elongate; color black except for blackish brown femora and anterior part of each antennomere, dusky reddish brown base of each antennomere, tibia, hind angles of pronotum; pubescence pale reddish brown, short; punctures ocellate, large, distinct in head, pronotum, scutellum, and ventral surface. **Head** 1.44 times as wide as long, with subquadrate impression;

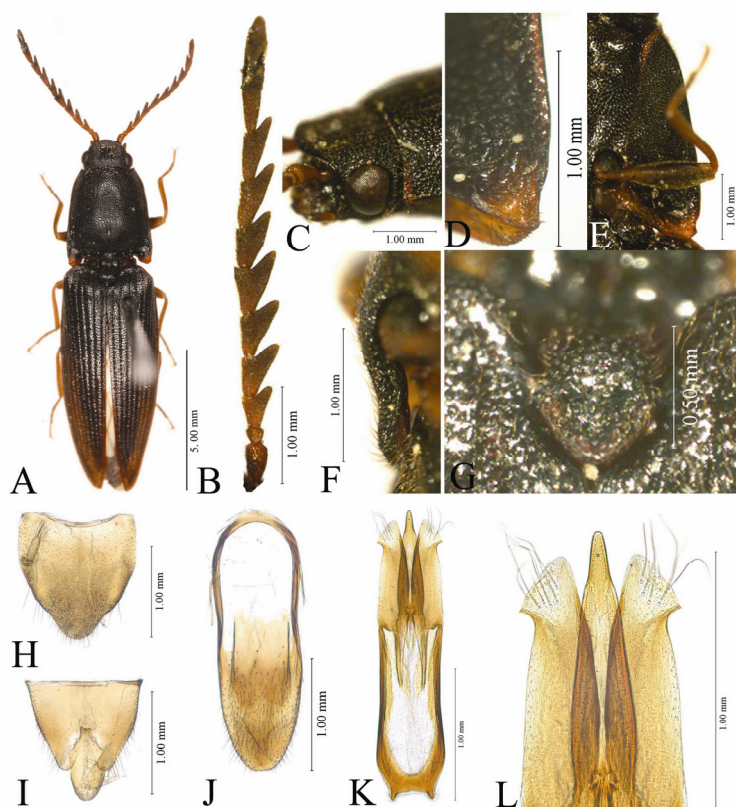


Fig. 2. *Crepidophorus bangtaesanensis* sp. nov. from Korea. A: holotype in dorsal view; B: left antenna; C: head part in profile; D: hind angle of pronotum; E: hypomeron; F: prosternal process in profile; G: scutellum; H: 8th tergite; I: 9th and 10th tergites; J: 9th and 10th sternites; K: aedeagus in dorsal view; L: median lobe and parameres of aedeagus.

frontal margin round, well developed ahead (Fig. 2C); puncture ocellate, large, dense, interval surface between punctures narrower than diameter of puncture. *Antennae* (Fig. 2B) sublamellate shaped from 3rd to 10th; length/width (mm) of all antennomeres as follows: 0.500/0.250, 0.163/ 0.195, 0.375/0.400, 0.425/0.450, 0.425/0.450, 0.475/0.450, 0.475/0.475, 0.475/0.450, 0.500/0.400, 0.500/0.350, 0.575/0.238; 11th longest. *Pronotum* convex, with a shallow median longitudinal furrows from posterior base to middle, with two small circular impressions at posterior 1/3; lateral margin slightly arched to anterior and then, distinctly convergent inwardly at anterior part, widest at base of hind angle; punctures large, dense; hind angle (Fig. 2D) short, stout, not divergent laterally, having short, distinctly ridged carina which not reaching to apex. *Prosternum* weakly convex ventrally; anterior rim expanded, round, well carinate; prosternal process slightly bent beyond procoxae, elongated (Fig. 2F); pronosternal suture simple, weakly carinate anteriorly; posterior border of hypomeron almost straight; posterior margin

of procoxa narrowly opened (Fig. 2E). *Metasternum* with simple, small punctures. Scutellum tongue shaped, 1.23 times as long as wide, feebly depressed at posterior part; anterior margin indistinct; punctures large, dense (Fig. 2G). *Elytra* 2.47 times as long as wide, anterior base well depressed; striae distinct, with large punctures; intervals well convex above, coarsely punctured; 5th interval with well ridged carina at anterior base. *Legs* moderate; tarsus with distinct lobes from 1st to 3rd beneath, 4th tarsomere smallest, simple; claws simple. *Abdominal tergites* 8 and 9 to 10 as figured (Fig. 2H and I); abdominal sternites 9 to 10 as figured (Fig. 2J). *Aedeagus* (Fig. 2K and L), clearly elongate; basimere longer than parameres, slightly sinuate; paramere parallel sided, with elongate triangular expansion bearing 8 to 11 long setae in dorsal surface as figured (Fig. 2L); median lobe a little longer than apex of paramere.

**Female.** unknown.

**Specimen examined.** Holotype. 1 male, Mt. Bangtae, Girin-myeon, Inje-gun, Gangwon-do, Korea. 5. VI. 2000. B. K. Byun.

**Distribution.** Korea.

**Etymology.** This new species is named from the collecting site, Mt. Bangtae, GW, Korea.

**Remarks:** This new species, *Crepidophorus bangtaesanensis* sp. nov., is extremely resemble *C. rufiventris* Gebler, 1833 known from Russia (Don't confuse with a Nearctic species, *Athous rufiventris* Eschscholtz, 1829, see Becker, 1979: 601), but can be easily distinguished by the subquadrate impression on the head, the semi-equal 3rd and 4th antennomeres in length, and the narrow triangular apico-lateral expansion of the paramere of the aedeagus. Whereas, *C. rufiventris* Gebler is characterized by the inverted triangular impression on the head, the distinctly longer 4th antennomere than 3rd one, and the broad triangular apico-lateral expansion of the paramere. The new species is also resemble *C. exopolitus* Gurjeva, 1987 known from the maritime province in Far East Russia by a homologous character, the subquadrate impression on the front of the head, which can be separated with other Palaeartic species, *C. laetus* (Candèze, 1879) known from Far East Russia (Gurjeva, 1989) and *C. mutilates* (Rosenhauer, 1847) known from Europe, having the inverted triangular impression on the head. However, this new species can be easily distinguished from them by more dark and blackish color of body, distinctly round frontal margin of the head, more sub-lamellate antennal segments, the longer basimere than the length of median lobe of male genitalia and differently expanded apico-lateral triangular lobes of the parameres.

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