

## **Studies on the Tribe Philonthini (Coleoptera: Staphylinidae) from Korea II. Genus *Gabronthus* Tottenham**

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### **ABSTRACT**

Genus *Gabronthus* from Korea is firstly investigated. Three species are identified. Of them, two species, *G. tenuicarpus* and *G. chejuensis*, are new species, and *G. sulcifrons* is newly recorded in Korea. A taxonomic key and species descriptions are presented.

Key words: Taxonomy, *Gabronthus*, Staphylinidae, Korea

### **INTRODUCTION**

The genus *Gabronthus* belonging to the subfamily Staphylininae was erected by Tottenham (1955) for a few species formerly included in the genus *Philonthus* (Moore, 1965). At now, about 24 species are placed in the genus *Gabronthus* and some species are worldwide in distribution (Moore, 1965; Coiffait, 1974, 1983). The distributions of these species are as following; two species from the New World (America north of Mexico and Circum-Caribbean region) (Moore, 1965; Frank, 1983, 1986), 16 from Africa (Moore, 1965), one from south Pacific Island (Tahiti Is.) (Coiffait, 1983), four from Europe (Smetana, 1959; Lohse, 1964; Coiffait, 1974), two from middle Asia (Smetana, 1978; Coiffait, 1981, 1985), one from Nepal (Scheerpeltz, 1976), and two from Taiwan (Shibata, 1973). In the Far-east Asia (northeast China, Korea, and Japan), only one species, *Gabronthus sulcifrons* (Sharp), was recorded (Shibata, 1983; Watanabe, 1985; Li, 1992) but there has been no report on this genus from Korea until now.

In this paper, the genus *Gabronthus* is newly recorded from Korea. Among three species identified, two species, *G. tenuicarpus* and *G. chejuensis* are new species, and *G. sulcifrons* is a new record from Korea.

This study is a second contribution after the first one on the genera *Neobisnius* and *Erichsonius* of

the tribe Philonthini from Korea (Cho, 1996). Type materials are preserved in Natural History Museum, Hannam University (NMHNU).

A taxonomic key and species descriptions for identification are presented here.

## SYSTEMATIC ACCOUNTS

### Genus *Gabronthus* Tottenham, 1955 애눈반날개속(신칭)

*Gabronthus* Tottenham, 1955, p. 180 (cited from Shibata, 1983).

**Type species.** *Philonthus maritimus* Motschulsky, 1858

**Diagnosis.** Body size as small as 2.5-4.5 mm in length, shining and narrow; head narrow oblong with small eye, last segment of maxillary palp acute and much narrower than 3rd segment (Fig. 1B), 3rd segment of labial palp subcylindrical and narrower than 2nd segment (Fig. 1C), temples much longer than eyes, head and pronotum with ground sculptures well marked; pronotum oblong with dorsal row of 1 + 4 punctures (see the circle of dot line, Fig. 1A); before aedeagus is removed from male body, it placed into the abdomen as turned 90 degree as in Fig. 1E in dorsal view of body, likewise in genus *Philonthus*.

### Key to species of *Gabronthus* in Korea

1. Head with median longitudinal line (Figs. 1A) ..... 2.  
    — Head without median longitudinal line (Fig. 3A) ..... *G. chejuensis* n. sp.
2. Body small size (less than 3.0 mm); elytra reddish brown; 8 sensory tubercles underside of paramere (Fig. 2D) ..... *G. tenuicorpus* n. sp.  
    — Body large size (more than 3.5 mm); elytra brownish yellow; 6 sensory tubercles underside of paramere (Fig. 1E) ..... *G. sulcifrons*

### *Gabronthus sulcifrons* (Sharp, 1889) (Figs. 1A-1F) 홍딱지애눈반날개(신칭)

*Philonthus sulcifrons* Sharp, 1889, p. 39 (cited from Shibata, 1983).

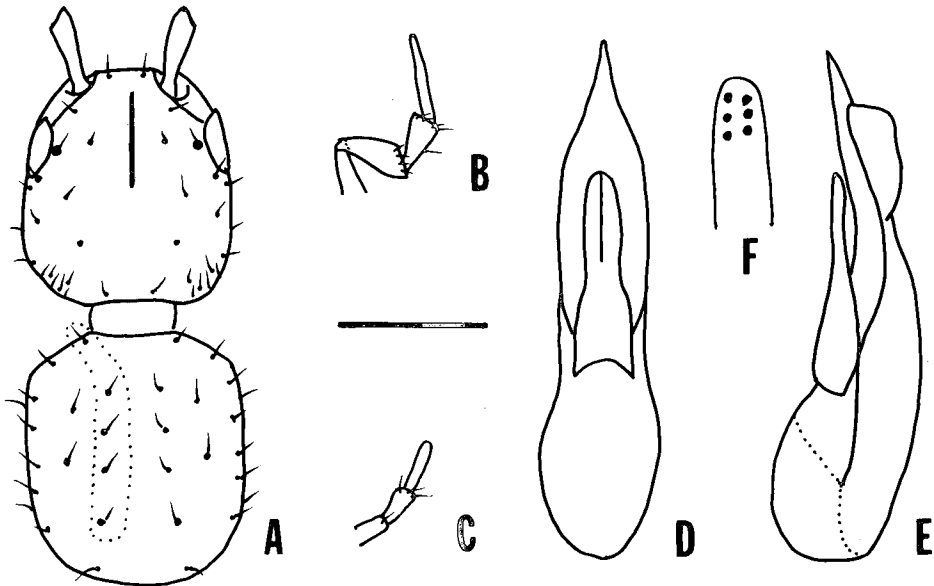
*Philonthus* (*Bisnius*) *sulfifrons*: Adachi, 1957, p. 183; Watanabe and Shibata, 1972, p. 64.

*Gabronthus sulcifrons*: Shibata, 1973, p. 60; Shibata, 1983, p. 124; Shibata, 1984, p. 76, fig. 1; Watanabe, 1985, p. 299, pl. 52, fig. 11; Li, 1992, p. 54.

**Description.** Body size 3.8-4.0 mm in length, shining; head and pronotum reddish brown, head with median longitudinal line, antennae brown but first 3 segments more paler than the others; pronotum with dorsal row of 1 + 4 punctures; legs yellow.

Head narrow oblong, with ground sculptures well marked as same as on pronotum, slightly narrower than pronotum; posterior angles rather broadly rounded. Eyes small, much shorter than temples (1 : 1.5 in 40X). Temples with a few small and large punctures scattered. Antennae with 3rd joint a little longer than 2nd (the length ratio of 1st : 2nd : 3rd = 7 : 3 : 4 in 40X), 4th and 10th transverse.

Pronotum oblong, sides almost parallel, posterial angles broadly rounded, with dorsal row of 1 + 4 punctures. Scutellum with 11 or 12 punctures, each of which bearing pubescence. Elytra longer and



**Fig. 1.** *Gabronthus sulcifrons*: A, head and pronotum part; B, maxillary palp; C, labial palp; D, male genitalia in ventral view; E, male genitalia in lateral view; F, underside of paramere. (scales: A, 0.25 mm; B and C, 0.14 mm; D and E, 0.16 mm).

broader than pronotum, brownish yellow but narrowly more darker along the anterior area bordered with scutellum, coarsely and not very closely punctured.

Abdomen finely and closely punctured with pubescence.

Male genitalia: Median lobe tapering and the tip of apex acute in ventral view. Paramere with longitudinal line, and 6 sensory tubercles underside of paramere.

**Type locality.** Japan (Nagasaki).

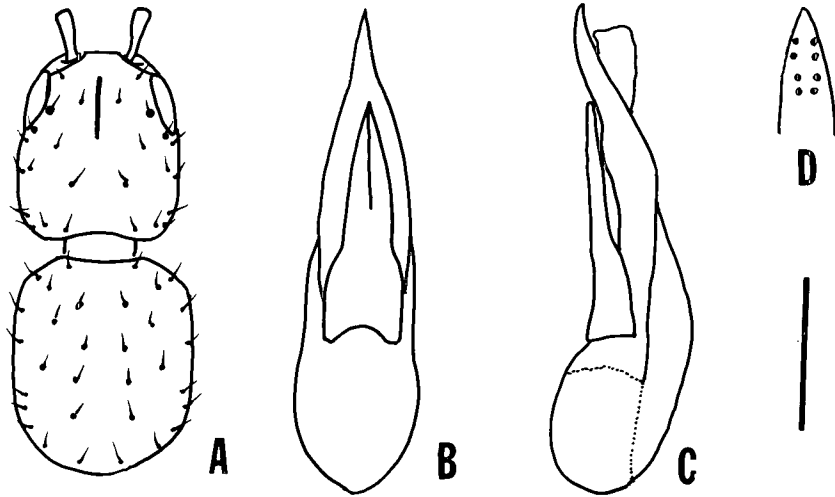
**Specimens examined.** Kyōngsangbukdo: 2 ♀♀, Mt. Chuwangsan, 28-29 Jun. 1987, Y.B. Cho; 1 ♂, 2 ♀♀, Chilgok, Dongmyoung, 23 Jul. 1986, Y.B. Cho; Kyōngsangnamdo: 1 ♂, 2 ♀♀, Sachōn, Suchung, 10 Jun. 1986, K.S. Lee; 1 ♀, Sachōn, Guam, 25 May 1986, K.S. Lee; Chejudo: Sōgwip'o, 1 ♀, 29 Jan. 1984, K.S. Lee; Sōgwip'o, 1 ♂, 2 ♀♀, 29 Nov. 1984; 2 ♀♀, Sōgwip'o, 24 Dec. 1984; 1 ♀, Sōgwip'o, 2 Dec. 1984; 1 ♀, Sōgwip'o, 15 Jul. 1985, K.S. Lee; 1 ♂, 1 ♀, Sōgwip'o, ? Sep. 1985; 2 ♀♀, Kyoraeri, 27 Aug. 1985, K.S. Lee; 1 ♂, Donnaeko, 10 Oct. 1985, K.S. Lee.

**Distribution.** Korea (South, Chejudo; new record), Japan (Honshu, Kyushu), northeast China, and Taiwan.

***Gabronthus tenuicarpus* n. sp. (Figs. 2A-2D) 꼬마애눈반날개(신칭)**

**Description.** Body size 2.6-2.8 mm in length, shining, entirely reddish brown; head with median longitudinal line, well marked ground sculptures, antennae brown but first two segments yellow; scutellum smoothed with 5 or 6 punctures; 8 sensory tubercles underside of paramere.

Head narrow oblong with median longitudinal line and ground sculptures well marked, more or less narrower than pronotum, slightly broadening toward posterior. The eyes small, much shorter than temples (1 : 2 in 40X). Temporal area with a few punctures well separated. 3rd segment of antennae



**Fig. 2.** *Gabronthus tenuicarpus* n. sp.: A, head and pronotum part; B, male genitalia in ventral view; C, male genitalia in lateral view; D, underside of paramere. (scales: A, 0.25 mm; B and C, 0.16 mm).

a little longer and narrower than 2nd (length ratio of 1st to 3rd = 6 : 3 : 4 in 40X), 4th about as long as broad, 5th to 10th transverse.

Pronotum oblong, sides almost parallel, posterior angles obtusely rounded, with dorsal row of 1 + 4 punctures, with ground sculpture as on head, anterior area much convex than posterior in lateral view. Scutellum smooth, 5 or 6 punctures with pubescence. Elytra reddish brown, coarsely and not closely punctured with pubescence.

Abdomen reddish brown but the posterior margin of each segment yellow, finely and closely punctured with pubescence.

Male genitalia: Apex of median lobe narrowed, somewhat curved in lateral view, and acutely ended in ventral view. Paramere blunted pen-chalk shaped, with longitudinal line, and tip of apex acutely ended in ventral view, with 8 sensory tubercles underside of paramere.

**Type series.** Holotype, ♂, Korea: Kyöngsangbukdo, Taegu, Sankyükdong, Campus of Kyungpook National University, 6 Sep. 1986, Y.B. Cho. Allotype, 1 ♀, same data as holotype.

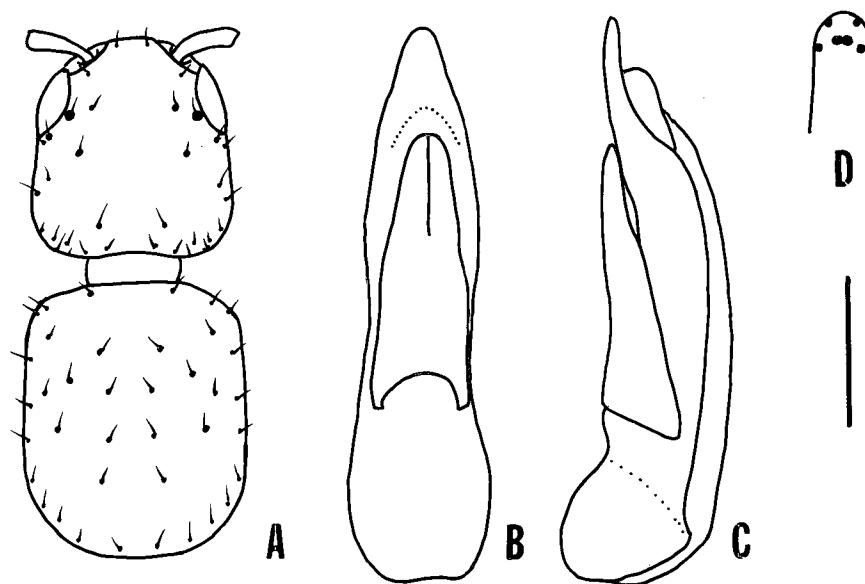
**Distribution.** Korea.

**Remarks.** This species is close to *G. sulcifrons* (Sharp) but differs in the smaller body size, reddish brown elytra, 5 or 6 punctured scutellum, and paramere with 8 sensory tubercles.

***Gabronthus chejuensis* n. sp. (Figs. 3A-3D) 민머리아눈반날개(신칭)**

**Description.** Body size 3.4-3.6 mm in length, shining; head reddish brown, more darker than pronotum, antennae brownish yellow but 3rd more darker than first two segments; elytra brownish yellow; legs brownish yellow.

Head narrow oblong with ground sculptures well marked, slightly narrower than pronotum, reddish brown but darker than pronotum. The posterior angles rather broadly rounded. Eyes small, distinctly shorter than temples (2 : 3 in 40X). Temples with a few punctures scattered. Antennae with 3rd segment as long as but narrower than 2nd (length ratio of first three segments = 3 : 2 : 2 in 40X),



**Fig. 3.** *Gabronthus chejuensis* n. sp.: A, head and pronotum part; B, male genitalia in ventral view; C, male genitalia in lateral view; D, underside of paramere. (scales: A, 0.25 mm; B and C, 0.16 mm)

4th as long as broad, 5th to 10th transverse.

Pronotum oblong with ground sculptures well marked, sides parallel but slightly narrowed in front, with dorsal row of 1 + 4 punctures. Scutellum with 11 or 12 punctures each of which bearing pubescence. Elytra brownish yellow with coarsely and not closely punctures.

Abdomen reddish brown as head, posterior margin of segments reddish yellow.

Male genitalia: median lobe narrowing from subapex to apex and the tip of apex obtusely rounded in ventral view. Paramere with longitudinal line and the tip of apex rather rounded in ventral view, 6 sensory tubercles underside of paramere, 2 on upper site and 4 on under site.

**Type series.** Holotype, ♂, Korea: Chejudo, Sögwip'o, 25 Jul. 1985, K.S. Lee. Paratypes, 2 ♀♀, same data as holotype; 1 ♂, Chejudo, Sögwip'o, 29 Nov. 1984; 1 ♂, 2 ♀♀, Chejudo, Sögwip'o, 15 Jul. 1985, K.S. Lee; 1 ♀, Chejudo, Sögwip'o, 4 Aug. 1985, K.S. Lee; 2 ♀♀, Chejudo, Sögwip'o, ? Sep. 1985.

**Additional materials examined.** Chejudo, Kyoraeri, 1 ♀, 18 Jul. 1985, K.S. Lee; 1 ♀, Chejudo, Kyoraeri, 2 Aug. 1985, K.S. Lee; 1 ♂, Chejudo, Kyoraeri, 7 Aug. 1985, K.S. Lee; 1 ♂, Chejudo, Kyoraeri, 10 Aug. 1985, K.S. Lee; 1 ♂, 1 ♀, Chejudo, Kyoraeri, 21 Aug. 1985, K.S. Lee.

**Distribution.** Korea (Chejudo).

**Remarks.** This species can be easily separated from the other Korean species by the absence of the longitudinal line on head. Also the pattern of sensory tubercles underside of paramere is quite different. The lateral sides of pronotum in *G. sulcifrons* and *G. tenuicarpus* are slightly narrowing to posterior whilst in *G. chejuensis* it is narrowing to anterior.

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## 한국산 좀반날개족(딱정벌레목: 반날개과)의 분류학적 연구

### II. 애눈반날개속

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### 요 약

한국산 좀반날개족의 미기록속인 애눈반날개속을 분류한 결과, 3종이 동정되었다. 이들 중, *Gabronthus tenuicarpus*와 *G. chejuensis*는 신종이었고 *G. sulcifrons*는 미기록종이었다. 이들에 대한 분류 검색표 및 종 기재를 작성하였다.