

The Korean Species of the Genus *Baeocera* (Coleoptera: Staphylinidae: Scaphidiinae)¹

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Abstract Two new rove beetle species of the genus *Baeocera* Erichson were described from Korea by examining specimens of the subfamily Scaphidiinae. *Baeocera choi* sp. nov. is similar in appearance to *B. caliginosa* Löbl, 1984, but differs in coloration of the dorsum and in structure of the parameres. *Baeocera koreana* sp. nov. is similar in appearance to *B. takizawai* Löbl, 1984, but differs in body size and punctated elytra. *Baeocera freyi* Löbl, 1966, also was found in the collection specimens. A taxonomic key is proposed to separate these 3 species, and diagnostic characters accompanied by illustrations are included.

Key Words *Baeocera*, Scaphidiinae, Staphylinidae, taxonomic key, Korea

The genus *Baeocera* Erichson belongs to the tribe Scaphisomatini of the subfamily Scaphidiinae (Coleoptera: Staphylinidae) (Löbl 1997, Leschen and Löbl 2005). Löbl recorded 5 species of *Baeocera* from Taiwan (Löbl 1980), 10 species from Japan (Löbl 1984), and 21 species from China (Löbl 1999). Only 1 species, *B. freyi* Löbl, 1966, was heretofore described from the Korean peninsula in East Asia (Löbl 1966).

In the study presented herein, we examined specimens of Scaphidiinae collected in Korea and deposited in the Chungnam National University Insect Collection (CNUIC) located in Daejeon, Republic of Korea. We found, as expected, specimens of *B. freyi* as previously reported from Korea (Löbl 1966) and, in addition, 2 previously undescribed species. A taxonomic key of these 3 species is presented, and taxonomic characters and descriptions for the 2 new species are provided. The type series for the new species designated in this study are deposited in CNUIC.

Key to Korean species of the genus *Baeocera*

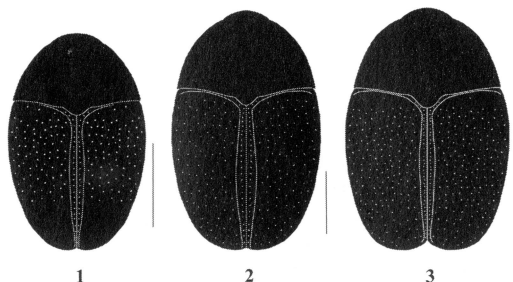
1(a). Body shorter than 1.5 mm; sutural stria reaching about basal half of basal margin of each elytron (Fig. 1); mesoventrite densely and distinctly punctate.....
..... *Baeocera choi* sp. nov.

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Figs. 1 - 3. Pronotum and elytra. (1) *Baeocera choi* sp. nov.; (2) *B. freyi* Löbl; (3) *B. koreana* sp. nov. Scales = 0.5 mm.

1(b). Body longer than 1.5 mm; sutural stria reaching near humeri (Figs. 2, 3); meso-ventrite almost impunctate except for rows of punctures along each posterior margin of mesocoxa and between metacoxae.....2

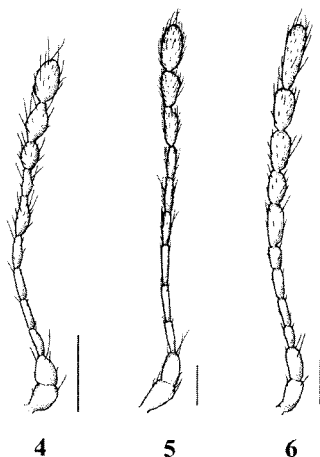
2(a). Dorsum blackish; punctures of elytra relatively minute (Fig. 2); median lobe of aedeagus long and oval (Figs. 10 - 12).....*B. freyi* Löbl

2(b). Dorsum reddish; punctures of elytra relatively large (Fig. 3); median lobe of aedeagus robust (Figs. 13 - 15).....*B. koreana* sp. nov.

***Baeocera choi* Hoshina and Park, sp. nov.**

Type series. Holotype, ♂, Gacheon-ri, Sumnam-myeon, Uju-gun, Ulsan City, 30. VI. 2003, Y. B. Cho, M.-J. Jeon, and D.-H. Lee leg. Paratypes, 6 exs., same data as holotype; 1 ex., Mt. Baekhwasan, Taean-gun, Chungnam prov., 6. VII. 2001, S.-J. Park, C.-W. Shin leg.; 1 ex., Chungnam National University, Yuseong-gu, Daejeon, Chungnam prov., 28. VII.–20. VIII. 2003, J.-H. Choi, D.-H. Lee, and S.-M. Choi leg. (collected by the flight intercept traps). All type series except for a last specimen were collected by the sifting.

Male and female. Body length 1.3 - 1.4 mm. Dorsum shining, head, pronotum, and elytra blackish brown or black, propygidium and pygidium brown; antennomeres 1 and 2 reddish brown, 3 - 5 light brown; others brown; legs reddish brown with light brown tarsi; meso- and metaventrite blackish; abdominal sternite brown. Measurement of holotype: body 1.3 mm in length; head 0.28 mm in length (from anterior margin of labrum to the base) and 0.33 mm in width; pronotum 0.46 mm in length and 0.79 mm in width; elytra 0.83 mm in length and 0.85 mm in width. Body almost glabrous, about 1.6 times as long as wide. Head about 1.2 times as wide as long, almost impunctate and smooth, and about 0.60 times as long as and about 0.43 times as wide as pronotum; frons flat; all antennomeres longer than wide; relative lengths from second to 11th as follows: 1.0: 0.8: 0.8: 1.0: 0.8: 1.2: 0.8: 1.0: 1.1: 1.3; antennomere 11 slender and oval (Fig. 4). Pronotum about 1.6 times as wide as long, about 0.51 times as long as and about 0.93 times as wide as elytra, widest at the base, simply curved and narrowing toward the apex along lateral margins, smooth, and very sparsely and minutely punctate (Fig. 1). Scutellum usually covered with the projected portion of pronotum and invisible in dorsal view. Elytra widest at about basal 2/5 (Fig. 1), almost as long as wide, smooth, densely and distinctly punctate (Fig. 1); sutural stria fine, very feebly curved outward from the apex to near the base, turning to the outside near



Figs. 4 - 6. Antenna. (4) *Baeocera choi* sp. nov.; (5) *B. freyi* Löbl; (6) *B. koreana* sp. nov. Scales = 0.1 mm.

scutellum, and reaching near basal half of basal margin of each elytron (Fig. 1). Propygidium and pygidium smooth, and minutely and sparsely punctate. Mesoventrite pubescent, smooth, and densely and strongly punctate; metaventrite pubescent, smooth, and more sparsely and minutely punctate than mesoventrite, but bearing a row of large punctures along each posterior margin of metacoxa; abdominal sternite smooth, pubescent, and very sparsely and minutely punctate. Legs simply slender as other species of *Baeocera*.

Male. Protarsi widen on basal three tarsomeres; aedeagus about 0.20 mm in length (from the base of the median lobe to the apex of parameres) and about 0.09 mm in width in ventral and dorsal views; median lobe long and oval in ventral and dorsal views (Figs. 7 - 8), widest at about basal half, sharply narrowed from apical 1/4 to apex, bluntly pointed apically in ventral and dorsal views, and sharply pointed apically in lateral view; parameres slender and almost symmetrical, without apical setae, about straight at external margins, and sharply narrowed from basal half to apex at inner margins, apically round, in ventral and dorsal views, bat-like shaped in general, and apically round in lateral view; sclerites of inner sac as shown in Figs. 7 - 9.

Female. Protarsi simply slender on all tarsomeres.

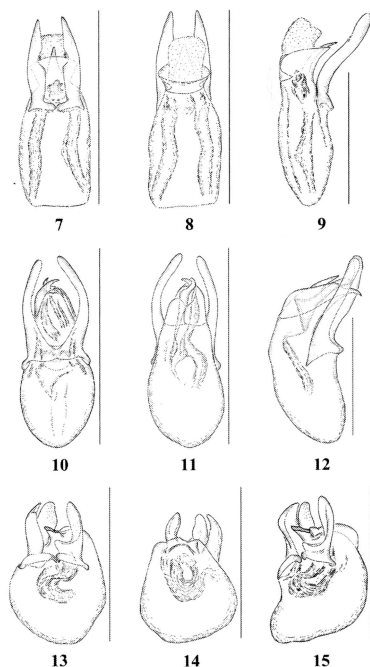
Distribution. Korea.

Remarks. The present new species is similar to *B. caliginosa* Löbl, 1984 in appearance, but can be distinguished from it by having blackish dorsum and parameres with inner margins sharply narrowed from basal half to the apex in ventral view (Fig. 7). In contrast, *B. caliginosa* has the reddish brown dorsum and simply straight parameres.

Etymology. This new species is dedicated to Dr. Y. B. Cho, who collected some type series.

***Baeocera freyi* Löbl, 1966**

Baeocera freyi Löbl, 1966: 129; Löbl, 1968: 421; Jablokov-Khnzorian, 1985: 138; Löbl, 1997: 53; Löbl, 1999: 725. *Eubaeocera freyi* Löbl, 1969: 338.



Figs. 7 - 15. Aedeagus. (7 - 9) *Baeocera choi* sp. nov., ventral, dorsal and lateral views, respectively; (10 - 12) *B. freyi* Löbl, ventral, dorsal and lateral views, respectively; (13 - 15) *B. koreana* sp. nov., ventral, dorsal and lateral views, respectively. Scales = 0.1 mm.

Diagnosis. Body length 1.9 - 2.3 mm. Dorsum shining; head, pronotum, and elytra black; propygidium and pygidium reddish brown; antennomeres 1 and 2 reddish brown, 3 - 5 light brown; others brown; legs reddish brown with light brown tarsi; body almost glabrous, and a little slender or oval, about 1.5 - 1.8 times as long as wide; head smooth, and sparsely and very minutely punctuate; antennomere 11 slender oval (Fig. 5); pronotum punctate as head; elytra a little wider than pronotum, smooth, and punctate more distinctly and densely than pronotum (Fig. 2); sutural stria fine, very feebly curved outward from apex to near base, turning to outside near scutellum, and reaching near humeri (Fig. 2); mesoventrite sparsely pubescent, smooth, and almost impunctate except for a row of distinct punctures along each posterior margin of mesocoxa and between metacoxae; aedeagus as shown in Figs. 10 - 12.

Distribution. Korea, China, and Russia (Far East).

Korean specimens examined. 1 ex., Hûksuk-dong, Daejeon, Chungnam prov., 25. VI. 1999, H.-J. Kim leg.; 1♂, 1♀, Camp Humphreys, Pyeongtaek, Gyeonggi-do, 27. VI. 2001, Y. B. Cho leg.; 1♂, Mt. Sikjangan, Daejeon, 28. VI. 2001, Y. B. Cho leg.; 1 ex., Mt. Bukhansan, Songchu, Jangheung-myeon, Yangju-gun, Gyeonggi prov., 31. VIII. 2001, K.-J. Ahn, S.-J. Park, and C.-W. Shin, leg.; 1 ex., Chungnam National University, Daejeon, Chungnam prov., 27. VIII. 2002, S.-J. Park, and J.-H. Choin, leg.; 1 ex., Eumseong-gun, Ohyang-ri, Seyeon Iron Museum, Chungbuk prov., 8. VII. 2003, Y. B. Cho leg. All specimens were collected by the sifting.

***Baeocera koreana* Hoshina and Park, sp. nov.**

Type series. Holotype, ♂, Geumsubong, Gyesab-myeon, Yuseong-ri, Daejeon, Chungnam prov., 23. IX. 2001, S.-J. Park leg. Paratypes, 5 exs., same data as holotype.

Male and female. Body length 2.4 - 2.6 mm. Dorsum shining, head dark brown; pronotum dark brown with brown marginal area; elytra brown; propygidium and pygidium dark brown; antennomeres 1 and 2 reddish brown, 3 - 5 light brown; others brown; legs reddish brown with light brown tarsi; mesoventrite dark brown on anterior half and reddish brown on posterior half; metaventrite and abdominal sternite reddish brown. Measurement of holotype: body 2.4 mm in length; head 0.40 mm in length (from anterior margin of labrum to base) and 0.52 mm in width; pronotum 0.85 mm in length and 1.3 mm in width; elytra 1.4 mm in length and width. Body almost glabrous, about 1.6 times as long as wide. Head about 1.3 times as wide as long, almost impunctate and smooth, and about 0.44 times as long as and about 0.39 times as wide as pronotum; frons flat; all antennomeres longer than wide; relative lengths from second to 11th as follows: 0.9: 0.6: 0.7: 0.9: 0.6: 1.1: 0.9: 1.2: 1.0: 1.9; antennomere 11 slender and oval (Fig. 6). Pronotum about 1.5 times as wide as long, about 0.62 times as long as and about 0.91 times as wide as elytra, widest at the base, simply curved and narrowed toward apex along lateral margins, smooth, punctate sparsely and very minutely (Fig. 3). Scutellum usually covered with projected portion of pronotum and invisible in dorsal view. Elytra widest at about basal 1/3 (Fig. 3), almost as long as wide or a little longer than wide, smooth, densely and distinctly punctate (Fig. 3); sutural stria fine, very feebly curved outward from apex to near base, turning to outside near scutellum, and reaching near humeri (Fig. 3). Propygidium smooth, and minutely and densely punctate; pygidium smooth, and minutely and densely punctate on about basal half. Mesoventrite sparsely pubescent, smooth, and almost impunctate except for a row of distinct punctures along each posterior margin of mesocoxa and a row of minute punctures between metacoxae; metaventrite sparsely pubescent, smooth, almost impunctate, but bearing a row of distinct punctures along each posterior margin of metacoxa; abdominal sternite smooth, sparsely pubescent, and sparsely and minutely punctate. Legs simply slender as other species of *Baeocera*.

Male. Protarsi widen on basal three tarsomeres; aedeagus about 0.46 mm in length (from base of median lobe to apex of parameres) and about 0.33 mm in width in ventral and dorsal views; median lobe apple-shaped, and widest at about basal half in ventral and dorsal views (Figs. 13 - 14), and sharply curved near apex and pointed apically in lateral view (Fig. 15); parameres short, complex, and clearly asymmetrical, without apical setae; right paramere more slender than left and projected inwardly near base in ventral view (Fig. 13); sclerites of inner sac as shown in Figs. 13 - 15.

Female. Protarsi simply slender on all tarsomeres.

Distribution. Korea.

Remarks. The present new species is similar to *Baeocera takizawai* Löbl, 1984, but can be separated from it by having a relatively large body (2.4 - 2.6 mm) and elytra distinctly and densely punctate (Fig. 3). In contrast, *B. takizawai* has a small body (about 1.8 mm) and elytra minutely and sparsely punctate.

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References Cited

- Jablokov-Khnzorian, S. A. 1985.** Zhuki-tchelnovidki (Coleoptera, Scaphidiidae) fauny SSSR. Entomol. Obozr. 64: 132-143. (in Russian).
- Leschen, R. A. B. and I. Löbl. 2005.** Phylogeny and classification of Scaphisomatini (Staphylinidae: Scaphidiinae) with notes on mycophagy, termitophily, and functional morphology. Coleopt. Soc. Monogr. 3: 1-63.
- Löbl, I. 1966.** Neue und interessante paläarktische Scaphidiidae aus dem Museum G. Frey. Entomol. Arbeit. Mus. G. Frey. Tützing 17: 129-134.
- Löbl, I. 1968.** Beitrag zur Kenntnis der Scaphidiidae und Pselaphidae von Korea (Coleoptera). Annal. Zool., Warszawa 25: 419-423.
- Löbl, I. 1969.** Revision der paläarktischen Arten der Gattungen *Pseudobironium* Pic, *Scaphisoma* Reitter und *Eubaeocera* Cornell der Tribus Scaphisomini (Col. Scaphidiidae). Mitt. Schweiz. Entomol. Ges. 42: 321-343.
- Löbl, I. 1980.** Beitrag zur Kenntnis der Scaphidiidae (Coleoptera) Taiwans. Rev. Suisse Zool. 87: 91-123.
- Löbl, I. 1984.** Contribution a la connaissance des Baeocera du Japon (Coleoptera, Scaphidiidae). Arch. Sc. Genève 37: 181-192.
- Löbl, I. 1997.** Instrumenta biodiversitatis, I. Catalogue of the Scaphidiinae (Coleoptera: Staphylinidae). 190 pp. Muséum d'Histoire naturelle, Genève.
- Löbl, I. 1999.** A review of the Scaphidiinae (Coleoptera: Staphylinidae) of the People's Republic of China, I. Rev. Suisse Zool. 106: 691-744.