

## A Taxonomic Review of Agyrtidae (Insecta, Coleoptera) in Korea

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### ABSTRACT

A taxonomic review of the Korean Agyrtidae is presented. Two species are recognized, one of which is reported for the first time in Korea (*Pteroloma koebelei* Von Dyke). The diagnoses, illustrations of male genitalia, habitus photos, and a key to the species of Korean Agyrtidae are presented.

Key words: Coleoptera, Agyrtidae, *Pteroloma koebelei*, taxonomy, Korea

### INTRODUCTION

Members of the Agyrtidae, one of the most primitive and basal staphylinoid families, have been treated as a part of Silphidae until they are recognized as a separate family and more closely related to Leiodidae than Silphidae (Newton and Thayer, 1992; Newton, 1997; Peck, 2001). The family contains about seven genera and 60 species in the world (Newton, 1997).

They are scavengers of dead or decaying organic materials and found in wet conditions, particularly along or under rocks at the margins of mountain streams (Peck, 2001) or cave. Adults can be recognized by the combination of: body oval to oblong-elongate and slightly flattened shape; generally small to medium (4-14 mm); antennae filiform to gradually clavate; tarsal formula 5-5-5; elytra with nine or ten striate, non truncated; aedeagus very large tubular, basally asymmetrical; parameres either fused to one another, reduced to small remnants or absent (Newton, 1997; Peck, 2001).

The first Korean Agyrtidae was reported by Mroczlowski (1966). He described *Garytes coreanus*

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as a new genus and a new species from northern Korea. However, this species was synonymized under *Apteroloma potanini* (Semenow) by Schawaller (1991) and have been known to occur in southern Korea by Nomura and Lee (1993).

Recently, we had an opportunity to study many agyrtid specimens from various localities in southern Korea through collections of several institutions. In this paper we report two Korean agyrtid species and *Pteroloma koebelei* is recorded for the first time in Korea. Also we provide diagnoses, illustrations of male genitalia, habitus photos, and a key to the species of Korean Agyrtidae.

## RESULTS

Key to the species of the family Agyrtidae in Korea

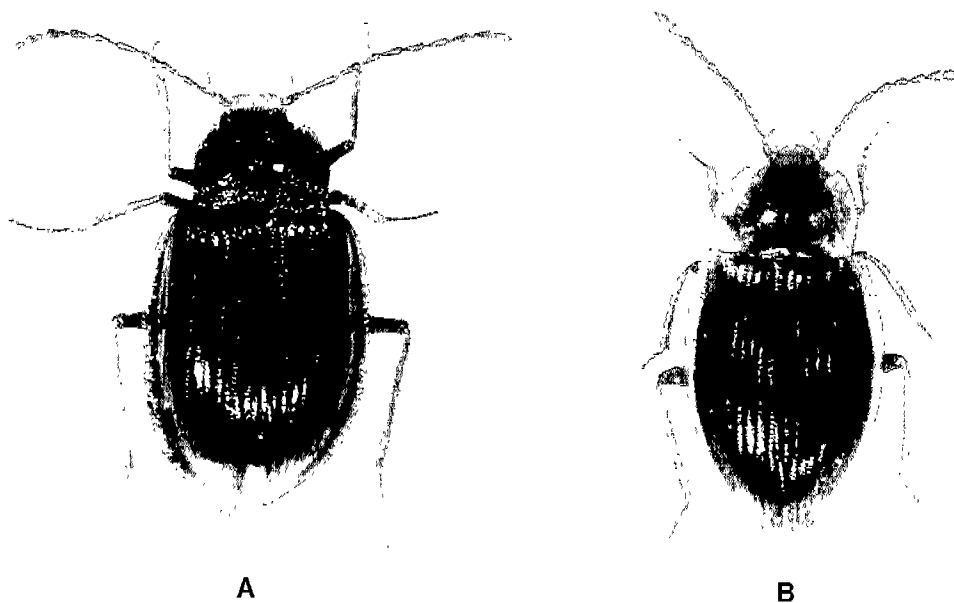
1. Body without microsculptures; head with one pair of mounds (ocelli) on vertex; lateral sides of elytra with serrate; paramere present (Fig. 2A) ..... *Pteroloma koebelei*
- Body with microsculptures; head without one pair of mounds (ocelli) on vertex; lateral sides of elytra without serrate; paramere absent (Fig. 2C) ..... *Apteroloma potanini*

Subfamily Pterolomatinae Thomson 먼지송장벌레아과 (신칭)

Genus *Pteroloma* Gyllenhal 큰먼지송장벌레속 (신칭)

**1. *Pteroloma koebelei* Von Dyke** 큰먼지송장벌레 (신칭) (Figs. 1A, 2A, B)

*Pteroloma koebelei* Von Dyke, 1928: 25; Newton, 1997: 149.



**Fig. 1.** Habitus. A. *Pteroloma koebelei*. Body length 6.5 mm; B, *Apteroloma potanini*. Body length 4.5 mm.

*Apteroloma gotoi* Nakane, 1955: 29; Schawaller, 1985: 3.

*Pteroloma koebelei japonica* Hlisnikovsky, 1963: 80; Schawaller, 1985: 3.

*Pteroloma magnifica* Hlisnikovsky, 1963: 80; Schawaller, 1985: 3.

**Materials examined.** 15 ♂♂, 9 ♀♀, Sangwonsa, Mt. Odaesan, Dongsan-ri, Jinbu-myeon, Pyungchang-gun, Gangwon Prov., 30 IV-4 VI 2001, K.-J. Ahn, S.-J. Park, M.-S. Kim & M.-J. Jeon, ex FIT; 1 ♀, Chongmyobogung, 7-9 VII 1998, K.-L. You & H.-J. Lim, ex FIT.

**Daagnosis.** Length 6.3-6.7 mm. Body oval, strongly shining, blackish brown but lateral margins of pronotum and elytra, legs and basal half of antennae reddish brown. Head distinctly and irregularly punctured. Mandibles with 3 teeth. Pronotum deeply emarginate in front margin but nearly straight in middle of emargination, lateral margins broadly explanate, strongly but sparsely punctured, with lateral sides distinctly sinuate before base. Scutellum triangular, impunctate. Elytra with 9 striate, elongate-oval, ordinally convex, broader than pronotum at base, lateral margins narrowly explanate and sides feebly and sparsely serrate. Median lobe (Fig. 2A, B) spatulate, slightly narrowing to apex, the apex truncated, anterior area flattened in lateral view. Paramere located in lateral sides of median lobe. Apical half branched into 2 stems like whips.

**Distribution.** Korea, Japan.

Genus *Apteroloma* Hatch 먼지송장벌레속 (신칭)

## 2. *Apteroloma potanini* (Semenov) 먼지송장벌레 (Figs. 1B, 2C, D)

*Pteroloma potanini* Semenov, 1893: 338.

*Apteroloma kozlovi* Senenov & Znojko, 1932: 341; Schawaller, 1991: 16.

*Garytes coreanus* Mroczkowski, 1966: 434; Schawaller, 1991: 16.

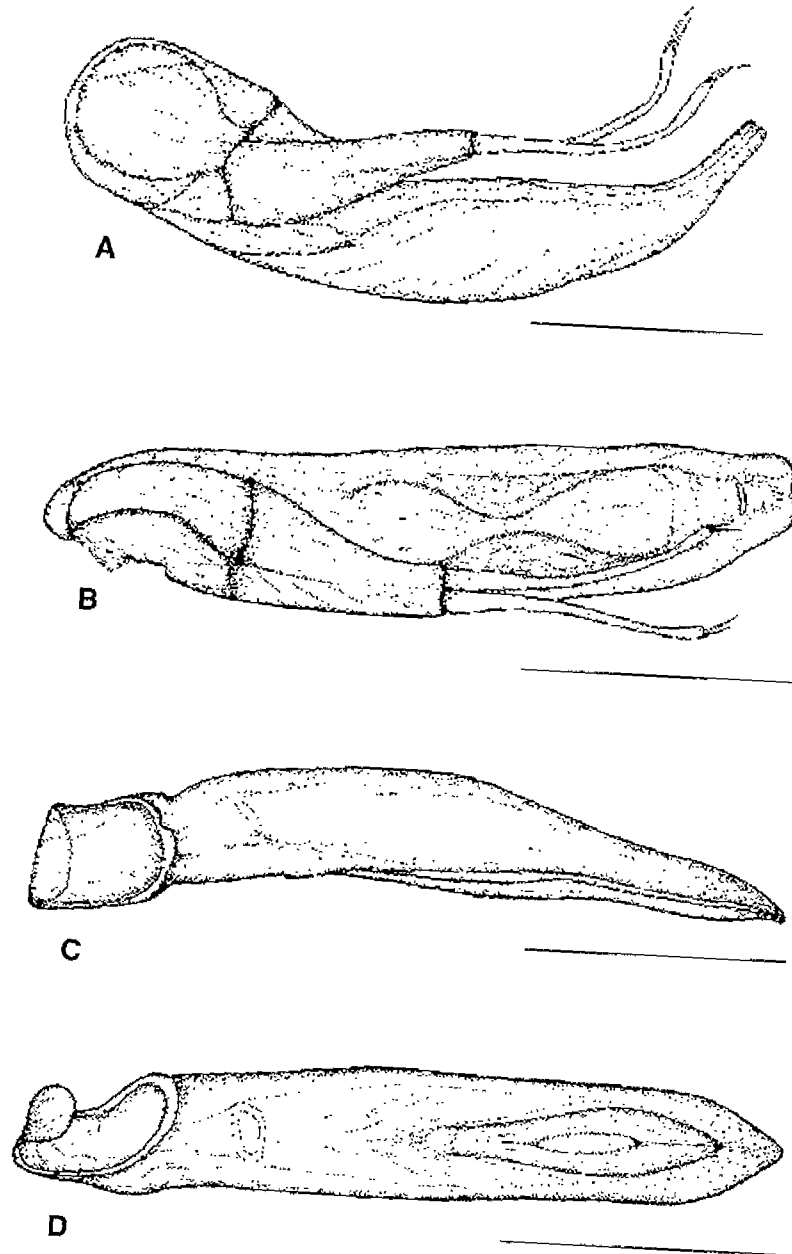
*Apteroloma potanini*: Nomura & Lee, 1993: 49; Newton, 1997: 150.

**Materials examined.** 1 ♀, Mt. Myeongjisan, Gyeonggi-do, 23 V 1976, S. M. Lee; 2 ♀♀, Mt. Odaesan, Pyungchang-gun, Jinbu-myeon, Kangwon-do, 19 IX 1982, Y. J. Kwon; 1 ♀, Mt. Chiaksan, Gangwon-do, 30 IV 1972, S. M. Lee; 2 ♂♂, 4 ♀♀, Sudalgul Cave, Yeongwol-gun, Gangwon-do, 10 VII 1999, Y. G. Choi; 10 ♂♂, 10 ♀♀, Mt. Minjujisan, Mungyeongsaejae Provincial Park, Mungyeong-shi, Kyeongsangbuk-do, 22 V 1999, Y. B. Cho, ex sifting; 1 ♂, 3 ♀♀, Mt. Sobaeksan, Kyeongsangbuk-do, 10 V 1985, Y. J. Kwon; 1 ♂, 1 ♀, ditto, 15 V 1981, Y. J. Kwon.

**Daagnosis.** Length 4.5-5.0 mm. Body oval, slightly depressed, dully shining, with microsculptures, reddish brownish but lateral margins of pronotum and elytra yellowish brown, antennae and legs reddish brown. Head clearly and sparsely punctured, without trace of mounds (ocelli) on vertex. Mandibles with 3 teeth. Pronotum deeply emarginate in front margin but straight in middle of emargination, lateral margins broadly explanate and strongly but sparsely punctured. Scutellum with microsculptures, triangular and impunctate. Elytra elongate-oval with 9 striate, lateral margins narrowly explanate, sides without serrate. Median lobe (Fig. 2C, D) very elongate, the apex abruptly narrowed, ventral middle area from subapex to basal half with membranous longitudinally. Paramere absent.

**Distribution.** Korea, China, Tibet, Russia (Siberia).

**Remarks.** This species was collected generally from under the stones along mountain stream but some specimens were also collected from cave (underside near entrance). Nomura and Lee (1993)



**Fig. 2.** Aedeagus. *Pteroloma koebelei*: A, lateral view; B, ventral view. *Apteroloma potanini*: C, lateral view D, ventral view. Scales = 0.5 mm.

reported this species from Chuncheon (Gangwon-do), Hongcheon (Gangwon-do), and Macheon (Jeonlabuk-do). We think that this species is distributed broadly through Korea.

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## 한국산 먼지송장벌레과 (곤충강, 딱정벌레목)의 분류학적 연구

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## 요 약

한국산 먼지송장벌레과의 분류학적 연구를 수행하였다. 지금까지 먼지송장벌레과에 한 종만이 보고되고 있었으나 큰먼지송장벌레 (*Pteroloma koebelei*)를 국내에서 처음으로 보고한다. 두 종에 대한 진단형질, 수컷 생식기의 그림, 성충사진 및 분류 검색표를 제시하였다.