

Pentagonica subcordicollis Bates (Coleoptera, Carabidae, Lebiinae), New to Korea

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한국산 미기록종 빛나육모먼지벌레(신칭)의 보고 (딱정벌레목, 딱정벌레과, 십자무늬먼지벌레아과)

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ABSTRACT: A Truncatipennes species, *Pentagonica subcordicollis* Bates is newly recorded in Korea. Here we provide a diagnosis and systematic accounts of *P. subcordicollis*. Consequently, a total of three species of *Pentagonica* have been recorded in the Korea, including the present species.

Key words: Taxonomy, Truncatipennes, *Pentagonica subcordicollis*, New record, Korea

초 록: 본 연구를 통한 한국산 육모먼지벌레속의 한국미기록 1종, *Pentagonica subcordicollis* Bates [빛나육모먼지벌레(신칭)], 을 보고한다. 본 연구를 통해서 한국산 육모먼지벌레속은 3종으로 정리된다. 한국산 육모먼지벌레속의 정확한 분류동정을 위해 종별로 분류학적 정보를 정리하였으며 종별 성충사진 및 생식기, 분류 key, 그리고 표본현황 등을 기술하였다.

검색어: 분류, 육모먼지벌레속, 미기록종, 한국

The genus *Pentagonica* Schmidt-Gobel belonging to the tribe Pentagonicini of the subfamily Lebiinae is distributed from northeast part of India in the Himalayas, and through the almost southern part of China, including Hong Kong and Taipei, and Korea, Japan, to Russian Far east (Fig. 1, Jedlicka, 1963).

Maybe we expect that more species of *Pentagonica* will occur in areas of inside circle of Fig. 1, for example, Myanmar, Bhutan, Bangladesh etc. This genus is characterized by hexagonal shape of pronotum, which is background of Korean name, Yuk-mo-meon-gi-beol-re (ESK and KSAE, 1994; Paik and Jung, 2004,). Body size is usually under

the 6mm and generally very small and short species. They

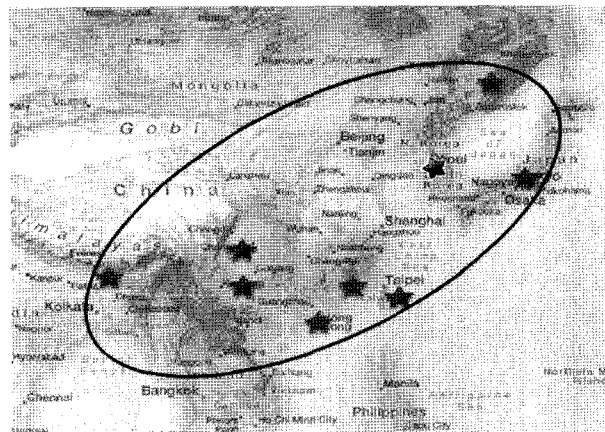


Fig 1. World distribution of the genus *Pentagonica* [from left star: India, China (Hong Kong, Taipei), Korea, Japan, Russian Far East].

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Received November 1 2010; revised November 9 2010;
accepted November 22 2010

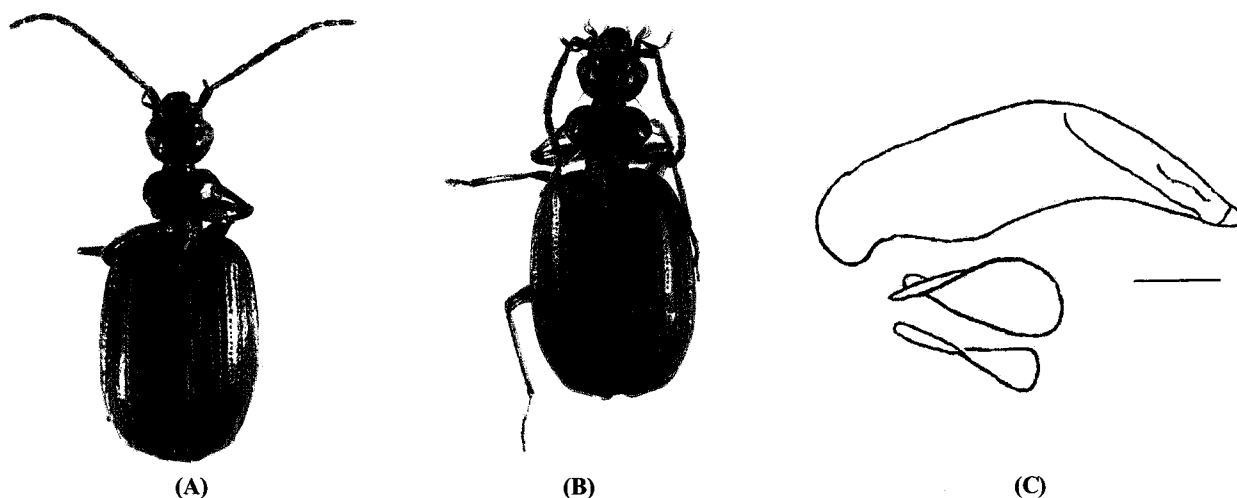


Fig. 2. *Pentagonica subcordicollis* (A) Male, 4.5 mm (B) Female, 4.7 mm (C) Genitalia (aedeagus, paramere) scale: 0.16 mm

often live on the broad-leaf trees, shrub and grass as predator of small worms. There were only known 11 species all over the world (Löbl and Smetana, 2003). Among them, all described species of the this genus were find in China, and from Japan 7 species were mentioned. The other side, only 2 species, *P. daimiella* Bates and *P. angulosa*, Bates, were known in Korea until now by Kwon and Lee (1986) and Paik and Jung (2004) respectively (ESK and KSAE, 1994, Park and Paik, 2001). In this paper, the species, *P. subcordicollis* Bates, will be report newly from Korea. Abbreviations are as follows; LP, Length of pronotum; WP, width of pronotum, WH, width of head, WF, width of narrowest part of frons between eyes; KNU, Kyungpook National University; SCU, Sunchon National University; SNU, Seoul National University; SWU, Seoul Women's University.

Taxonomic accounts

Genus *Pentagonica*

Faun. Col. Birm.: 47-48 type species *Pentagonica ruficollis* Schmidt-Gobel, 1846

Didentus LeConte, 1853: 377 type species *Didentus flavipes* LeConte, 1853

Elliotia Nietner, 1856: 524 type species *Elliotia pallipes* Nietner, 1856

Rhombodera Reiche, 1842: 313 (HN) type species

Rhombodera virgata Reiche, 1842 (= *Lebia trivittata* Dejean, 1831)

Trichothotax Montrouzier 1860: 235 type species
Trichothotax cyaneus Montrouzier, 1860

Wakefieldia Broun, 1880: 62 type species *Wakefieldia vittata* Broun, 1880 (= *Pentagonica vittipennis* Chaudoir, 1877)

Xenothorax Wolaston, 1867: 15 type species *Xenothorax hexagonus* Wollaston, 1867

Pentagonica daimiella Bates, 1892 육모먼지벌레

Ann. Mus. civ. Stor. Nat. Genova (2), 12 (32): 426 (Japan; Nagasaki).

Material examined: 1ex, Sogeuimgang, GW, 21, VIII, 1981; 2♀, Hongcheon, GW, 11, VII, 1994; 1ex, Mt. Seoraksan, GW, 2, VII, 1984; 1ex, Ibid, 17, VI, 1978; 1ex, Ibid, 27, VII, 1982; 1ex, Mt. Odeasan, GW, 4, VIII, 1983; 1 ex, Juwangsan, GB, 14, VI, 1991; 1ex, Dansan-Myeon, GB, 18, VIII, 1983, all materials deposited in KNU.

Distribution: Korea, Japan, China, Russian Far East

Remarks: This species was reported firstly from Korea by Kwon and Lee (1986).

Pentagonica angulosa, Bates, 1883 검정육모먼지벌레

Trans. R. ent. Soc. Lond., p. 286 (Japan)(see Paik and Jung, 2004)

Distribution: Korea (South), Japan, Russian Far East

Remarks: Paik and Jung (2004) reported this species firstly from Jeju-do in Korea. But we couldn't comparative work this material because first recorder of Korea did not find out this specimen from their collections (by personal communication with Paik), But we can confirm by other references (Habu, 1982; Jedlicka, 1963; Ueno *et al.*, 1985).

Pentagonica subcordicollis Bates, 1873 빛나육모먼
지벌레(신칭)

Trans. Ent. Soc. Lond. : 321 (Japan: Nagasaki).

Diagnosis: Body size, male, 4.5mm, female 4.7 mm, body colour mostly black and dark brown, head, pronotum and elytra black or a little dark brown. Labial palpus, legs yellowish brown. Antennae pubescent from 4th to end segment, colour of 1st segment more dark brown than a little dark yellow segment of 2nd to 4th, and the remaining segment of 5th to 11th more light colour than others. Head with deep and compactly punctuated in frons area like microsculpture. Pronotum black or dark brown, with strong luster, almost cardiac shape. Ventrally 1st to 4th segment of male tarsus of fore leg with adhesive hairs. Aedeagus 0.8mm (from apical lamella to end of base), apical lamella wider than length, and left paramere fully wider than right one (Fig. 2C, Habu, 1982).

WH/WF ♂ 1.63, ♀ 1.67, WP/WH ♂ 1.20, ♀ 1.25, WE/WP ♂ 1.87, ♀ 1.92. WP/LP ♂ 1.46, ♀ 1.45.

Material examined: 1♂, Wansan-gu, Jeonju city, JB, 23, VIII, 2008, (35° 47' N, 127° 9' E, coll. J.K. Jung) (SNU); 1♀, Mt. Sori-bong, Pocheon city, GG, April~August (western part of Mountain, alt., 350m, *Pinus koreiensis* trees, artificial forest, collected by pitfall trap, coll. H.J. Kim) (SWU).

Distribution: Korea (new record), Japan, China (Taipei, Hong Kong), Russian Far East, India (north-eastern part).

Remarks: Korean name of this species derived from brilliance of pronotum.

Key to species of the genus *Paentagonica* from Korea (modified from Habu, 1982)

1. Pronotum colour orange or reddish orange, body size over 5 mm *P. daimiella*
- Pronotum colour black or blackish, body size under 5 mm 2
2. Pronotum without microsculpture, with strongly lustrous, elytral striae strongly punctate *P. subcordicollis*
- Pronotum with microsculpture, without polish, elytral striae normal *P. angulosa*

Acknowledgements

This work was supported by the Kyungpook National University Research Grant, 2010, and was partly supported Korea Forest Research Institute.

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