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Selatosomus koryeoensis, a new species of the *S. puberulus* group
from Korea
(Coleoptera: Elateridae)

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ABSTRACT. *Selatosomus koryeoensis* sp. nov., has been collected from the Korean peninsula, and is described, and figured as new to sciences in the present paper. As the new species shows affinities to *S. puberulus* (CANDÈZE, 1879), it is compared with this species below.

Key words: entomology, taxonomy, Coleoptera: Elateridae, Dentrrometrinae, Prosternini, *Selatosomus* new species, Korean peninsula.

INTRODUCTION

During the study of the genus *Selatosomus* STEPHENS (1830) from China and adjacent countries, the authors encountered a new species of the *Selatosomus puberulus* group, which is characterised by its conspicuously emarginated and apically bispicate prosternal apophysis. This character is uniquely developed within the species of the genus *Selatosomus*, and therefore the new species can easily be separated from the similar *S. puberulus* (CANDÈZE, 1879). As of today, the following species of the genus *Selatosomus* are known from Korea: *S. coreanus* (MIWA, 1928), *S. gloriosus* (KISHII, 1955), and *S. puberulus* (CANDÈZE, 1879) (recorded by HEYDEN 1887; MIWA 1928, 1933; MOCHIZUKI 1937; KISHII 1955, 1993a, 1993b, and 1999). *S. grandis* PLATIA, 2008 was recently described from North Korea. *Pristilopus melancholicus* (FABRICIUS, 1798) is also known from the Korean peninsula (KISHII 1999), and *Pristilopus* has been taken as a subgenus of *Selatosomus* by various authors in the past. A worldwide overview on

the species of the genus *Selatosomus*, including some subgenera, as well as the species of the tribe Prosternini (Ctenicerini) is given by TARNAWSKI (1995, 1996, and 2001).

ABBREVIATIONS AND METHODS

The type material used in this study is preserved in the following collections:

CSV	Coll. SCHIMMEL, Vinningen (Germany)
CPG	Coll. PLATIA, Gatteo (Italia)
CTW	Coll. TARNAWSKI, Wrocław (Poland)
NAAS	National Academy of Agricultural Science, Suwon, Korea.

Abbreviations for the provinces in Korea as following:

CB	Chungcheongbuk-do
CN	Chungcheongnam-do
GB	Gyeongsangbuk-do
GG	Gyeonggi-do, including Seoul
GW	Gangwon-do
HB	Hangyeonbuk-do
HN	Hangyeongnam-do
JB	Jeonlabuk-do
JN	Jeonlanam-do

Body length has been measured in all specimens from margin of frons up to apex of elytra, body width across base of elytra.

DESCRIPTION

Selatosomus koryeoensis sp. nov.

(Figs. 1-7)

TYPE LOCALITY

Korea: Jeonlanam-do province.

TYPE MATERIAL

Holotype ♂ (NAAS): Korea: Jeonlanam-do, Jangheung-gun, Gwansan-eup, Mt. Cheongwan, from Jancheonjae to Yeondaebong peak (723 m), 14.V.2000, leg. D. S. CHOI, S. K. KIM & C. H. PARK.

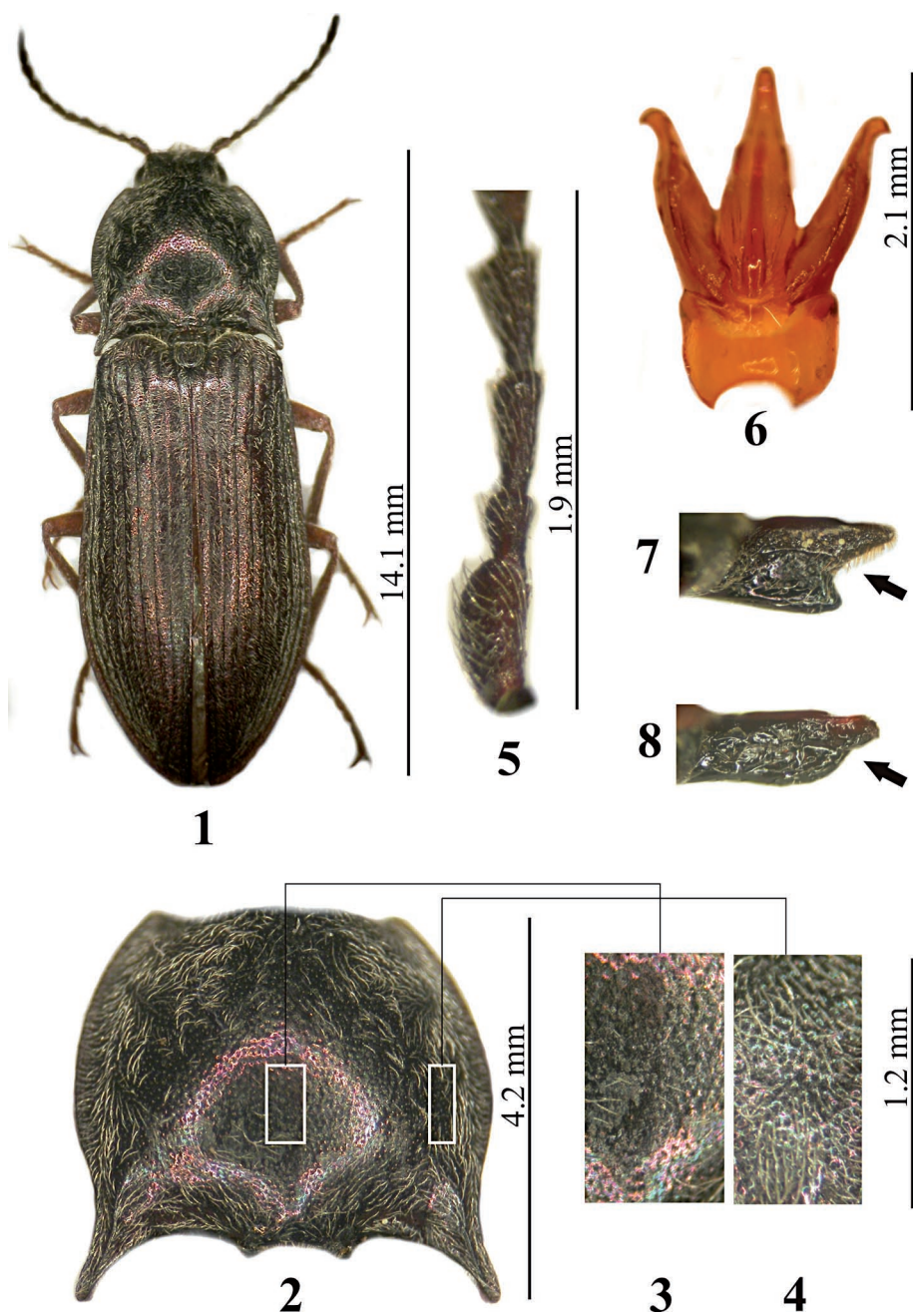
Paratypes 85 ♂♂, 43 ♀♀: Korea: [GW]-Sokcho-si, 1 male (NAAS), 6.VII.-25.VIII.2010, leg. J. C. JEONG; DNA 3028: Yangyang-gun, Seo-myeon, Osaek in Mt. Seolak, 1 male (NAAS), 12.V.1992, leg. J. H. LEE; ditto, 1 male (NAAS), 24.V.2002, leg. J. K. KIM; Goseong-gun, Ganseong-myeon, Heul-ri, 1 male (NAAS), 26.V.1986, G. S. JANG; [GG]-Seoul-si, Mt. Cheongge, 1 male (NAAS), 16.IV.1978, leg. Y. K. KANG; ditto, 1 female (NAAS), 2.V.1989, leg. J. M. KANG; ditto, 1 male (NAAS), 1.VI.1985, leg. H. M. KANG; ditto, 17.V.1997, leg. K. A. KIM; ditto, 28.V.1993, leg. M. R. KIM; ditto,

1 female (NAAS), 6.V.1987, leg. J. S. KIM; ditto, 1 male (NAAS), 18.V.1991, leg. M. R. PARK; ditto, 24.V.1986, leg. H. M. PARK; ditto, 26.IV.1992, leg. M. H. SHIN; ditto, 1 female (NAAS), 11.V.1992, leg. S. N. LEE; ditto, 1 male (NAAS), 2.V.1987, leg. Y. M. LEE; ditto, 27.V.1995, leg. Y. S. YANG; ditto, 24.V.1990, leg. B. H. JEON; ditto, leg. M. S. JEONG; ditto, 1 male (NAAS), 24.V.1986, leg. U. O. JEONG; ditto, 1 female (NAAS), 1.VI.1985, leg. S. H. JO; ditto, 2.VI.1991, leg. E. K. CHOI; ditto, 1 male (NAAS), 16.V.1987, leg. S. I. HAN; ditto, 26.IV.1992, leg. E. J. HONG; ditto, 27. IV.1991, leg. S. B. KIM; ditto, 3.V.2000, leg. B. W. KIM; Seoul-si, Gangnam-gu, Wonji-dong, 1 male (NAAS), 1.VI.1985, leg. Y. S. KIM; ditto, leg. E. S. KIM; ditto, leg. J. I. KIM; ditto, leg. K. H. SHIN; ditto, leg. O. K. LEE; ditto, 1 female (NAAS), 1.VI.1985, leg. H. Y. JO; ditto, 1 male (NAAS), 1.VI.1985, leg. S. O. HAN; Seoul, Seocho-gu, Mt. Woomyeon, 1 female (NAAS), 21.V.1991, leg. Y. J. LEE; ditto, 1 male (NAAS), 12.V.1990, leg. H. Y. JANG; Uidong, 1 female (NAAS), 6.VI.1961, leg. U. J. LEE; Heoninryeung, 1 male (NAAS), 2.V.1989, leg. J. N. KANG; Nowon-gu, Mt. Surak, 1 male (NAAS), 26.V.1997, B. Y. KIM; ditto, 1 female (NAAS), 16.V.1999, leg. S. M. RU; ditto, 24.V.1986, leg. Y. J. KIM; ditto, 31.V.1986, leg. Y. J. LEE; Gwanak-gu, Mt. Gwanak, 1 male (NAAS), 20.V.1989, leg. K. J. MIN; Dobong-gu, Mt. Bukhan, 1 male (NAAS), 10.V.1992, leg. Y. H. KIM; ditto, 6.V.1996, leg. J. D. YEO; ditto, 1 female (NAAS), 4.VI.1991, leg. S. G. LEE; Dobong-gu, Mt. Dobong, 1 female (NAAS), 29.V.1985, leg. E. K. KIM; ditto, 16.V.1959, leg. Y. S. LEE; Gwangjin-gu, Mt. Acha, 1 male (NAAS), 5.V.1999, leg. H. J. KIM; ditto, leg. H. W. SHIN; Jungrang-gu, Mangwoo-dong, 1 male (NAAS), 20.V.1993, leg. Y. J. PARK; Dongdaemun-gu, Cheongryang-ri, Hongreung, 1 male (NAAS), 16.V.1961, leg. J. G. YOU; Gwangju-si, Mt. Taewha, 1 female (CSV), 9.V.2007, leg. I. O. IM; GG, Goyang-si, Temple Bogwangsa, 1 female (CSV), 28.V.1978, leg. I. KIM; [GG]-Yangphyeong, Mt. Yongmun, 1 spm. (CTW), 28.V.1982, leg. I. S. HONG; Uiwang-si, Hakui-dong, Mt. Cheonggye, 1 male (NAAS), 28.V.2009, leg. T. HAN, DNA 854; ditto, 1 male (NAAS), 12.V.1990, leg. S. I. KIM; ditto, 24.V.1986, leg. E. O. JEONG; ditto, 21.IV.1985, leg. J. W. JIN; ditto, 4.V.1984, leg. M. S. HYEON; ditto, 6.V.1988, leg. H. J. D; Anyang-si, Mt. Suri, 1 male (NAAS), 9.V.1992, leg. H. J. SIM; Inchoen, 1 male (NAAS), 15.IV.1961, leg. Y. B. YOU; ditto, 1 female (NAAS), 15. IV. 1961, leg. J. S. LEE; Goyang-si, Mt. Aengmubong, 1 male (NAAS), 6.V.1974, leg. J. S. PARK; Hanam-si, Mt. Geumdan, 1 male (NAAS), 15. V. 1985, leg. J. S. KIM; ditto, leg. S. S. JEONG; Paju-si, Gwangtan-myeon, Youngjiang-ri, Temple Bogwang-sa, 1 female (NAAS), 24.VI.1978, leg. K. S. LEE; ditto, 1 female (NAAS), 28.V.1978, leg. I. S. KIM; ditto, 1 male (NAAS), 22.V.1985, leg. M. K. SHON; ditto, 22.V.1986, leg. J. Y. LEE; ditto, 9.V.1982, leg. Y. W. GO; ditto, 20. V. 1986, leg. K. H. LEE; Dongducheon-si, Sangbongam-dong, Mt. Soyo, 1 male (NAAS), 4.V.1941, unknown collector; ditto, 1 female (NAAS), 9.V.1937, unknown collector; ditto, 1 male (NAAS), 25.IV.1939, unknown collector; ditto, 10.V.1939, unknown collector; ditto, 9.VI.1937, unknown collector; ditto, 16.V.1936, unknown collector; ditto, 1 female (NAAS), 25.IV.1939, unknown collector; ditto, 10.VI.1956, leg. K. N. LEE; Gwangju-si, Namhansanseong, 1 male (NAAS), 5.V.1995, leg. H. E. GO; Eungogae, 1 male (NAAS), 14.VI.1985, leg. E. H. NO; ditto, 1 female (NAAS), 5.VI.1982, leg. Y. H. CHOI; Seongnam-si, 1 female (NAAS), 21.V.1991, leg. H. J. AN; ditto, 1 male (NAAS), 2.V.1999, leg. Y. J. LEE; ditto, 1 female (NAAS), 7.VI.1986, leg.

H. S. LEE; ditto, 6.VI.1992, leg. H. M. CHOI; Namyangju-si, Gwangreungnae, 1 female (NAAS), 3.V.1992, leg Y. G. KWAK; Mt. Cheonma, 1 female (NAAS), 30.V.1984, leg. S. G. KIM; ditto, 1 male (NAAS), 19.IV.1987, leg S. J. KIM; ditto, 22.V.1976, leg Y. E. KIM; ditto, 11.VI.1961, leg. J. I. PARK; ditto, 7.V.1961, leg. J. G. YU; ditto, 19.IV.1987, leg. J. I. LEE; ditto, 1 female (NAAS), 7.V.1961, leg. J. U. JEONG; ditto, 1 male (NAAS), 19.IV.1987, leg. S. J. CHOI; ditto, 2.V.1986, leg. KIM & YOON; ditto, 20.V.1992, leg. B. G. GU; Playa-ri, 1 male (NAAS), 3.V.1986, leg H. S. KIM; ditto, leg. M. K. JANG; ditto, 1 female (NAAS), 3.V.1986, leg. E. O. JEONG; Paldang, 2 males (NAAS), 14.V.1961, leg J. I. KIM; ditto, 1 male (NAAS), 14.V.1961, leg J. I. PARK; ditto, 1 male and 1 female (NAAS), 14.V.1961, leg J. S. PARK; ditto, 1 female (NAAS), leg. S. S. JEONG; ditto, 1 male (NAAS), 14.V.1961, leg J. J. YU; ditto, 1 male and 1 female (NAAS), 14.V.1961, leg. B. O. LEE; ditto, 1 male (NAAS), 14.V.1961, leg. J. H. Ji; ditto, 1 male and 2 females (NAAS), 14.V.1961, leg Y. S. CHOI; ditto, 1 male (NAAS), 21.V.1967, leg. H. C. LEE; Pocheon-si, Gwangreung, 1 female (NAAS), 12.V.1957, leg. G. J. PARK; ditto, 1 male (NAAS), 22.V.1965, leg J. S. YOU; ditto, 1 female (NAAS), 3.V.1967, leg Y. H. LEE; Mt. Wangbang, 1 female (NAAS), 23.V.1976, Y. S. KIM; ditto, 1 female (NAAS), 16.V.1982, leg. K. Y. CHEON; ditto, 29.V.1985, leg J. S. KIM; Gapyeong-gun, Mt. Unak, 1 female (NAAS), 31.V.1992, leg. J. M. MIN; ditto, 1 male (NAAS), 19.V.1992, leg K. W. LEE; Hyeon-ri, 1 male (NAAS), 4.V.1991, leg. Y. L. S.; Yangpyeong-gun, Mt. Yongmun, 1 female (NASS), 26.V.1982, leg S. P. HONG; [CB]-Danyang-gun, Danyang, 1 male (CSV), 5.V.1984, leg. S. KIM; Daegang, 1 male (NAAS), 20.V.1984, S. G. KIM; [CN]-Gongju, Banpo-myeon, Mt. Gyeryong, 1 male (NAAS), 2.V.2010, leg. T. HAN, DNA 2511; ditto, 2 males (NAAS), 16.IV.2011, leg. T. HAN, DNA 3053-3054; ditto, 1 male (NAAS), 20.V.1984, leg. J. H. GO; ditto, 1 female (NAAS), 16.V.1974, leg. D. H. YANG; ditto, 1 male (NAAS), 26.IV.1999, leg. Y. E. KIM; ditto, 1 male (NAAS), 26.IV.1999, leg. J. A. YOON; ditto, leg. J. S. CHOI; ditto, 2 males (NAAS), 26.IV.1999, leg. T. HAN; [JN]-Gurage-gun, Mt. Jiri, 2 males and 1 female (NAAS), 6. IX. 2011 (pit fall trap), leg. S. PARK, DNA 3338~3340; Temple Hwaesamsa in Mt. Jiri, 1 male (NAAS), 4. V. 1984, leg. J. H. GO; Jangheung-gun, Mt. Cheongwan, 1 male (NAAS), 14.V.2000, leg. D. S. CHOI et al; [JB]-Muju-gun, Seolcheon-myeon, Daebul-ri, 1 male (NAAS), 15.V.1993, leg. E. H. GWAK; Samgong-ri, 1 male (NAAS), 24.V.1993, leg. E. H. KIM; Gucheondong, 1 female (NAAS), 10.VI.1972, leg. J. H. YOU; Mt. Deokyou, 1 male (NAAS), 25.V.1993, leg J. S. HEO; [GB]-Yeongju-si, Mt. Sobaek, 1 male (NAAS), 8.VI.1974, leg. J. H. SHIN; ditto, 28. V. 1999, leg. H. Y. CHAE.

DIAGNOSIS

♂: Metallic lustrous, oval, regular vaulted, silk-matt species, integument micro-reticulated, with eleven-segmented, moniliform antennae reaching pronotal apices, pronotum campaniform, conspicuously convex laterally, with divergent hind angles, lateral edge of pronotum conspicuously coronal and fully visible in dorsal view, elytra becoming slightly wider from base to apex, apically semi-circular; prosternal apophysis emarginated and bi-spicate apically; length: 14.8 mm, width: 4.9 mm; sepia brown, integument with purple violet metallic shine, legs, lateral parts of ventral side, antennae and mouth-parts castaneous; pubescence golden-yellow, declined, bristly and dense, on



1-8. *Selatosomus koryeoensis* sp. nov., and *S. puberulus* (CANDÈZE, 1879). 1-7: *S. koryeoensis*. 1 – habitus, 2 – pronotum, 3 – punctures, medially on pronotum, 4 – punctures, laterally on pronotum, 5 – antennomeres 1-4, 6 – aedeagus, 7 – prosternal apophysis. 8: prosternal apophysis of *S. puberulus*

pronotum declined to base and to lateral sides, on elytra declined to apex; pubescence on ventral side of body nearly twice as long as that on dorsal body-parts.

DESCRIPTION

Head declined from base to apex, disk slightly triangular depression centrally, with median basal carina remnant on vertex; frons slightly elevated above base of antenna, apically edged, and with dense and umbilicate punctures, interstices of punctures twice their diameters; pubescence short and declined to apex; eyes small and spherical, extremity of trochanter dolabriform; mandible bispicate apically, the longer apex conspicuously cuspidate; antennae moniliform from second antennomere on, just reaching apices of pronotum; second antennomere short almost sub-globular, 1.5 times as long as wide apically, third antennomere 2.5 times longer than second and of the same width apically, the following antennomeres of reducing length, approximately 1.6 times as long as wide apically and truncate, extremity oblong-elliptic, sub-apically very slightly constricted, pubescence especially long at apical edges.

Pronotum campaniform, along median line as wide as at posterior angles (length: 4.4 mm, width: 4.4 mm), conspicuously vaulted sub-apically, and declined to base; center of pronotum basally with a very short median carina; posterior angles divergent, forming an angle of approximately 15 degrees to an imaginary median line parallel to body axis, and with an vaulted carina, reaching apical fifth of pronotum; lateral edge completely visible from dorsal view; pronotum laterally distinctly convex; sub-basally conspicuously constricted, and with a very flat dropping at base; punctures medially on pronotum simple with interstices 2-3 times their diameter, punctures laterally dense with interstices 1-2 their diameter and conspicuously vaulted, surface of pronotum micro-reticulate; pubescence bent from median line to lateral sides.

Pro-, meso- and metathorax densely punctured with interstices flat and shiny; pubescence conspicuously long and accumbent; metacoxal plates rectangular, conspicuously angulate sub-medially.

Sides of mesosternal fossa elevated, gradually, and slightly declivous throughout length and nearly sub-parallel to body axis.

Prosternal apophysis slightly bent to body axis, with some transverse wrinkles and punctures, apex emarginated and bi-spicate.

Sternites finely but densely punctured (interstices of punctures twice their diameter) and covered with bristly and accumbent hairs.

Scutellum lingulate, slightly convex basally, laterally sub-parallel, surface very slightly raised, clypeate apically; punctures dense, coarse, and rough, interstices reduced to transverse wrinkles; pubescence dense, fine, directed from base to apex.

Elytra sub-parallel for basal half, becoming slightly wider apically, apices of elytra semi-circular; base as wide as that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species); elytra with very vaulted interstices of striae, punctures slightly impressed, but dense and simple; pubescence short, bristly, and declined to apex.

Alae transparent and densely covered with very small, almost invisible brownish bristles.

Legs elongate, moderately long and thin, tarsomeres of decreasing length up to claws; ventrally with hardly visible, fine pubescence, tibiae covered with longer and protruding bristles, base of claws laterally with a long, bristly seta.

Aedeagus has a triangular median lobe, apically acuminate, just exceeding the apexes of the parameres, the latter conspicuously hook-like apically with short bristles, and with a long lateral edge.

Females are little wider on elytral apical half than males, antennae are slightly shorter.

Morphology of larvae is unknown.

DIFFERENTIAL DIAGNOSIS

Selatosomus koryeoensis n. sp. is closely allied to *S. puberulus*, but may be easily distinguished from this species by the emarginated prosternal apophysis which is bispicate apically, by the microreticulated integument, castaneous legs, and by the form of aedeagus.

PHYLOGENETIC REMARKS

Selatosomus koryeoensis has many common and homologous characters together with the species *S. puberulus* to which it is compared in the differential diagnosis. Therefore, both species can be included in a provisional species-group.

ETYMOLOGY

The name of the new species refers to the name of the Koryeo Dynasty which existed once in the Korean history. The Korean pronunciation of the new species *Selatosomus koryeoensis* is following: Koryeo-cheong-dong-bang-a-beul-rea.

DISTRIBUTION

Korean provinces: Gyeonggi-do, including Seoul; Gangwon-do; Chungcheongbuk-do; Chungcheongnam-do; Jeonlabuk-do; Jeonlanam-do; and Gyeongsangbuk-do.

KOREAN RECORDS

Selatosomus puncticollis MOTSCHULSKY: KIM, YOON & KIM 1975: 18, misidentification; KIM, YOON & KIM 1978: 115, misidentification; KIM 1995: 166, misidentification.

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REFERENCES

- CANDÉZE, E., 1879. Elatérîdès de l' Amur. Dt. Entomol. Z., **23**(2): 281-284.
- HEYDEN, L.VON. 1887. Verzeichniss der von Herrn Otto HERZ auf der Chineschen Halbinsel Korea Gesammelten Coleoptera; Hor. Soc. Ent. Ross., **21**: 243-278.
- KIM, C. W., 1978. Distribution Atlas of Insects of Korea. II. Kor. Univ., p. 413.
- KIM, C. W., YOON, I. B., KIM, J. I., 1975. Distribution Atlas of Insects of Korea. Entomol. Research, **6**: 1-64.
- KIM, J. I., 1995. Coleoptera and Diptera(Insecta) from Mt. Sobaek. Rep. KACN, **33**: 157-179.
- KISHII, T., 1955: Some new forms of Elateridae in Japan. I. Akitu, **4**: 77-82.
- , 1993a. Elaterid-beetles from North Korea. Entomol. Review of Japan, **48** (2): 92.
- , 1993b On *Corymbites coreanus* Miwa and *Selatosomus reichardti* DENISOVA (Coleoptera, Elateridae). Entomol. Review of Japan **48**(2): 154.
- , 1999. A Check-list of the Family Elateridae from Japan (Coleoptera). Bulletin of the Heian high school Kyoto, Japan, No. 42, July 31, 1-144.
- MIWA, Y., 1928. New and some rare species of Elateridae from the Japanese Empire. Ins. Matsu, **2**(3): 133-146.
- , 1933. On the Elateridae of Korea. Trans. Nat. Hist. Soc. Formosa, **23**(125): 151-160.
- MOCHIZUKI, M., 1937. On Some Species of Elateridae from Korea. (II) J. Chosen. Nat. Hist. Soc. no. **22**: 55-56.
- PLATIA, G., 2008. Descriptions of new species of Click-beetles from the Palearctic region and Taiwan with chorological and synonymical notes (Insecta: Coleoptera: Elateridae). Quad. Studi Nat. Romagna, **27**: 187-215.
- REITTER, E., 1910. Beschreibungen neuer Coleopteren aus der Familie der Elateriden und Bemerkungen über bekannte Arten. Wien. Entomol. Ztg., **29**: 165-178.
- TARNAWSKI, T., 1995. A revision of the genus *Selatosomus* STEPHENS, 1830 (Coleoptera: Elateridae: Athoinae: Ctenicerini). Genus (Supplement), Wrocław, 183 pp.
- , 1996. A world catalogue of Ctenicerini FLEUTIAUX, 1936 (Coleoptera: Elateridae: Athoinae). Genus, Wrocław, **7**(4): 587-663.
- , 2001. A world catalogue of Ctenicerini FLEUTIAUX, 1936. Part II (Coleoptera: Elateridae: Athoinae). Genus, Wrocław, **12**(3): 277-323.