

Notes on Harpalini (Coleoptera, Carabidae) from Korea (3)

Moon, Chang-Seop and Jong-Cheol Paik*

(Division of Applied Life and Environmental Sciences, Suncheon National University, Suncheon 540-742, Korea)

韓國產 먼지벌레 족(3)

문 창 섭 · 백 종 철*

(순천대학교 농업생명과학대학 생명환경과학부)

ABSTRACT

Twenty seven species of the subtribe Harpalina from the Korean Peninsula are mentioned here, of which the following six species have not yet been collected from South Korea: *Harpalus simplicidens*, *Ophonus stricticollis*, *Trichotichnus lucidus*, *T. gerni*, *T. vicinus*, and *T. leptopus*.

Key words : Coleoptera, Carabidae, Haraplini, Taxonomy, new records, Korea

Genus *Harpalus* Latreille, 1802 머리먼지벌레 속

Subgenus *Pseudoophonus* Motschulsky, 1844

중국머리먼지벌레 아속

Pseudoophonus Motschulsky, 1844, Mém. Acad. Imp. Sci. St.-Pétersb., 5: 196.

Type-species: *Carabus ruficornis* Fabricius, 1775 (= *Carabus rufipes* DeGeer, 1774), by subsequent designation of Chenu, 1851: 124.

Ophonus sg. *Holosus* Fischer von Waldheim, 1829, Mus. Hst. Nat. Univ. Caes. Mosq., 2: 21. Nomen oblitum (see Bousquet, 2002: 176).

Type-species: *Carabus ruficornis* Fabricius, 1775 (= *Carabus rufipes* DeGeer, 1774), by subsequent designation of Bousquet, 2002: 176. Synonymized by Bousquet, 2002: 176.

Empeirus Motschulsky, 1844, Mém. Acad. Imp. Sci. St.-Pétersb., 5: v, xi.

Type-species: *Harpalus pastor* Motschulsky, 1844, by subsequent designation of Noonan, 1976: 36. Treated as a junior synonym of *Pseudoophonus* by Kataev *et al.* in Löbl & Smetana, 2003: 384.

Erpeinus Motschulsky, 1844, Mém. Acad. Imp. Sci. St.-

Pétersb., 5: 197. Incorrect subsequent spelling of *Erpeinus* by Motschulsky, 1844 (see Bousquet, 2002: 19).

Pseudoophonus Motschulsky, 1864, Bull. Soc. Nat. Mosc., 37 (2): 208. Incorrect subsequent spelling of *Pseudoophonus* Motschulsky, 1844.

Ophonus sg. *Harpalophonus* Ganglbauer, 1892, Käf. Mitteleur., 1: 341, 346.

Type-species: *Harpalus hospes* Sturm, 1818, by monotypy. Treated as a junior synonym of *Pseudoophonus* by Habu, 1968: 287.

Ophonus sg. *Migadophonus* Tschitschérine, 1897, L'Abeille, 29: 47.

Type-species: *Ophonus aenigma* Tschitschérine, 1897, by monotypy. Treated as a junior synonym of *Pseudoophonus* by Habu, 1968: 287.

Megapangus Casey, 1914, Mem. Col., 5: 71.

Type-species: *Carabus caliginosus* Fabricius, 1775, by monotypy. Treated as a junior synonym of *Pseudoophonus* by Kataev *et al.* in Löbl & Smetana, 2003: 384.

rufipes species group: Lindroth, 1968, Opusc. Ent. Suppl., 33: 758; Kataev, 1995 in Kryzhanovskij *et al.*, p. 140.

caliginosus species group: Lindroth, 1968, Opusc. Ent. Suppl., 33: 765.

Diagnostic characters. See above subgeneric key. For more detail, see Habu (1973: 75-76).

* Corresponding author
Phone) +82-61-750-3863, Fax) +82-61-750-3208
E-mail) jcpaik@sunchon.ac.kr

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Notes. This Holarctic subgenus *Pseudoophonus* is often treated as a distinct genus by some authors (Lafer 1989 etc.). Tarsi pubescent on dorsal surface. Most of species of Palaearctic Region are distributed in East Asia and replaced there by the genus *Ophonus*. Many species are common in fields or forest.

Fourteen species are listed, but one species, *H. simplicidens* Schauberger, has not yet been collected from the southern part of the Korean Peninsula. Widely distributed from East Asia and North America. For more details, see Habu (1973) and others.

***Harpalus (Pseudoophonus) aenigma* (Tschitschérine, 1897) 청동머리먼지벌레**

Ophonus (Migadophonus) aenigma Tschitschérine, 1897, L'Abeille, 29: 47 (Korea).

Harpalus (Pseudoophonus) aenigma (Tschitschérine): Paik & Moon, 2005, Korean J. Soil Zool., 10(1/2): 48 (S. Korea).

Diagnostic characters. See Młynář-(1974: 112-6) & Kataev (1997: 126-129).

Distribution. Korea (North, Central, South), Japan (Kyu-shu), China (FUJ, SCH, ZHE).

Notes. For more information, see Paik & Moon (2005).

***Harpalus (Pseudoophonus) babai* Habu, 1973**

탐라머리먼지벌레

Harpalus (Pseudoophonus) babai Habu, 1973, Harpalini, Fauna Japonica, p. 108-110 (Japan, Korea); Paik & Moon, 2005, Korean J. Soil Zool., 10(1/2): 49 (S. Korea).

Diagnostic characters. See above key to species & Habu (1973: 108-110).

Distribution. Korea (Suweon, Jeju), Japan (Honshu).

Notes. For more information, see Habu (1973) and Paik & Moon (2005).

Harpalus (Pseudoophonus) coreanus

(Tschitschérine, 1895) 고려머리먼지벌레

Ophonus (Pardileus) coreanus Tschitschérine, 1895, Horae Soc. Ent. Rossicae, 29: 156-158 (Korea).

Harpalus (Pseudoophonus) coreanus (Tschitschérine): Paik & Moon, 2005, Korean J. Soil Zool., 10(1/2): 49 (S. Korea).

Diagnostic characters. Body length 13.0-16.0 mm. Black, head and pronotum weakly shiny, elytra dull, in female. Apical spur of fore tibiae simple, but with obtuse prominence at lat-

eral margin and curved at inner sides. Head smooth and glabrous. Pronotum densely pubescent-punctate at base and along lateral gutters, finely punctate at apical angles. Hind-angles of pronotum with large denticles, thick in lateral view. Elytra mainly glabrous but finely punctate and pubescent at intervals 9 and 10. Aedeagus thin, without dark fields in endofallus. Stylus sharply curved and pointed at apex, without spines.

Materials examined. Mt. Weolaksan, Mt. Jirisan, Mt. Seolaksan (after Paik & Moon 2005).

Distribution. Korea (North, Central, South), China (BEI, FUJ, GAN, HEB, HEI, LIA, NMO, SCH, SCH, SHA, SHX), Russian Far East.

Notes. For more information, see Paik & Moon (2005).

***Harpalus (Pseudoophonus) davidi* (Tschitschérine, 1897) 민들머리먼지벌레**

Ophonus (Pardileus) davidi Tschitschérine, 1897, Abeille, 29: 45-46 (China: Pekin), Preoccupied (nec Tschitschérine, 1897: 51).

Harpalus (Pardileus) horni Jedlička, 1928, Wien Ent. Zeit., 45: 92-93, 94 (China); Schauberger, 1930, Coleopt. Centralblatt, 4: 190 (Korea). Synonymy established by Schauberger, 1932: 28.

Harpalus jedlickai Schauberger, 1929, Coleopt. Centralblatt, 3: 184 (China). Synonymy established by Schauberger, 1932: 28.

Harpalus zouhari Jedlička, 1961, Acta ent. Mus. nat. Pragae, 34: 157-158 (China). Synonymy established by Kataev, 1997: 135.

Pardileus davidi Tschitschérine: Schauberger, 1932, Wiener ent. Zeit., 49: 28 (Korea); Jedlička, 1960, Annl. hist.-nat. Mus. natn. hung., 52: 231 (N. Korea).

Harpalus davidi (Tschitschérine): Kataev, 1997, Steenstrupia, 23: 135-136 (Korea); Paik, 1998, Korean J. Soil Zool., 3(1): 4 (Is. Dok-do).

Pseudoophonus (Pseudoophonus) davidi Tschitschérine: Lafer, 1996, Key Ins. Russian Far East, (3), 3: 405 (Korea).

Harpalus (Pseudoophonus) davidi (Tschitschérine): Wu, 1937, Cat. Ins. Sinensium, 3: 153 (Korea); Krischenhofer, 1990, Koleopt. Rdschau, 60: 8 (N. Korea); Krischenhofer, 1992, Koleopt. Rdschau, 62: 25.

Harpalus (Pseudoophonus) horni Jedlička: Młynář, 1974, Acta Zool. Cracoviensia, 19(6): 107 (N. Korea); Habu, 1977, Ent. Rev. Japan, 30(1/2): 7-11 (Korea).

Diagnostic characters. The species is characterized by the

following features: Body black, legs dark brown to black; pronotum coarsely and densely punctate basally, with obtuse hind angles rounded at tip; elytra glabrous, with two lateral intervals densely punctate; elytral striae finely punctate; three last abdominal sternites glabrous; apical spur of fore tibiae simple, not dentate at margins; in male, 1st segment of mid tarsi without adhesive vestiture ventally. The internal sac of the penis in *H. davidi* has a group of rather long spines (sometimes only 1 spine) at about the middle of the right side of the median lobe (cited from Kataev 1997: 136).

Material examined. **JJ:** 1 ♂, 3-IX-2003, Is. Sasudo, Jeju-do (JFNHM). **CB:** 1 ex., 30-VII-1996, Dandon, Cheongpungmyeon, Jecheon-si (NIAS). **GB:** 1 ♂, 1 ♀, 30-IX-1981, Is. Dok-do (SCNAE). **GG:** 1 ex., 25-IX-1975, Is. Somueuido (NIAS); 2 ex., Is. So-mu-eui-do, 25. IX 1975. S.-M. Lee leg. (SJNAE). **JN:** 1 ex., 25-IX-1975, Is. Hongdo, Sinan-gun (NIAS); 1 ♂, 3 ♀, 9.-VIII-1981, Is. Hongdo, Y-K. Kwon leg. (SJNAE).

Distribution. Korea (North, Central, South), Japan (Honshu), China (GAN, JIA, LIA, SCH, SHA, SHN, SHX).

Notes. First record for Korea by Schaubberger (1930) as *H. horni*. Widely distributed including in Jeju-do, but rare. This species is similar to *H. (Ps.) sinicus*. See Habu (1977) for distinction.

Harpalus (Pseudophonus) eous Tschitscherine, 1901

가슴털머리먼지벌레

Harpalus (Pseudophonus) eous Tschitscherine, 1901, Horae Soc. Ent. ross., 35: 236 (Japan, Manchuria); Schaubberger, 1930, Col. Centrbl., 4: 170, 171.

Ophonus (Pseudoophonus) eous Tschitscherine: Nakane, 1963, Icon. Ins. Jap. Colore Nat., 2, Col., p. 43 (Korea).

Pseudophonus eous Tschitscherine: Tschitscherine, 1901, Horae Soc. Ent. Ross., 35: 130 (foot note); Yano, 1941, Nippon no Kôchû, 4(1): 30 (Korea); Jedlička, 1960, Anns hist.-nat. Mus. natn. hung., 52: 231 (N. Korea).

Pseudoophonus (Pseudoophonus) eous Tschitscherine: Lafer, 1989, Key Ins. Russian Far East, (3), 1: 182 (Korea); Lafer, 1996, Ins. Koreana, 13: 80 (N. Korea).

Harpalus eous Tschitscherine: Paik, 1988, Korean J. Entomol., 18(4): 245 (Jeju-do); Kataev, 1997, Steenstrupia, 23: 126.

Harpalus (Pseudophonus) eous Tschitscherine: Schaubberger, 1930, Col. Centralbl., 4: 170 (spp. key); Csiki, 1932, Col. Cat., 121: 1116 (cat.); Habu, 1968, Bull. Nat. Inst. Agr. Sci., (C) 22: 288, 298-300; Mlynář, 1974, Acta zool. cracov., 19(6): 106 (N. Korea); Kirschenhofer, 1990, Ko-leopt. Rundschau, 60: 8 (N. Korea).

Harpalus (Pseudoophonus) eous Tschitscherine: Habu, 1968, Bull. Nat. Inst. Agr. Sci. (C), 22: 298-300; Habu, 1973, Faun. Japonica, Harpalini, p. 96-98 (Korea).

Diagnostic characters. See above key to species & Habu (1973: 96-98).

Material examined. **JJ:** 1 ♂, 27-IX-2004, Gyorae-ri, Buk-jeju-gun (Light Trap) (SCNAE); 1 ♀, 22-VI-1984, Ara-dong, Jeju-si (SCNAE); 1 ♀, 2 ♂, 5-X-1995, Isl. Udo, Jeju-do (SCNAE); 1 ♂, 1 ♀, 6-VIII-1993, Bizarim, Gujwa-eup (SCNAE); 4 ♂, 2 ♀, 31-VII-1993, Ishidol Pasture, Hanrim-rup (SCNAE); 1 ♂, 1 ♀, 5-VII-1992, Mt. Hallasan, alt. 1,600 m (SCNAE); 1 ♂, 1 ♀, 6-IX-1983, Ara, Jeju-si (JFNHM); **CB:** 3 ex., 30-VII-1996, Dandon, Cheongpungmyeon, Jecheon-si, CB (NIAS). **CN:** 1 ♂, 19-IV-1989, Asan-si (SNUAE); 1 ex., 25-VII-1996; 1 ex., 7-VIII-1996, Is. Anmyeondo, Taean-gun (NIAS). **GB:** 1 ♂, 18-X-1987, Is. Daecheongdo, Ongjin-gun (SCNAE); 1 ♀, 10-VII-1987, Andong (SCNAE); 3 ex., 10-VIII-1988, Janggal, Andong-si (NIAS); 4 ex., 22-VIII-1992, Bonghwa, Bonghwa-gun (NIAS); 1 ♂, 1 ♀, 16-V-1999, Temple Haeinsa, Hapcheon-gun (SCNAE); 1 ♂, 10-VIII-1998, Mt. Gapjangan, Sangju-si (SCNAE); 1 ♂, 1 ♀, 28-VIII-1999, Sangju-si, (SJNAE). **GG:** 2 ex., 24-VIII-1973, Suweon, GG (NIAS); 3 ex., 19-VIII-1998, Mt. Taehwasan, Docheok-myeon, Gwangju-gun (NIAS); 1 ex., 16-VIII-1991, Anseong-si (NIAS); 1 ♂, 13-IX-1994, Ansan-si (SNUAE); 1 ♀, 10-VI-1990, Anyang-si (SNUAE); 1 ♀, 6-VI-1992, Gwanggyo, Suweon-si (SNUAE); 1 ♀, 9-IX-1993, Suweon (Light Trap) (SNUAE). **GN:** 1 ♂, 21-VIII-2000, Silmae-ri, Chahwang-myeon, Sanchong-gun (SCNAE); 1 ♀, 22-VII-2001, Temple Ssanggyesa, Hadong-gun (SCNAE). **GW:** 1 ♂, 23-VII-1995, Jiam-ri, Chuncheon-si (SCNAE); 2 ex., 10-VIII-1989, Seoseok-myeon, Hongcheon-gun (NIAS); 1 ex., 30-VII-1995, Jeonseon, Jeonseon-gun (NIAS); 1 ex., 25-VIII-1991, Yeongweol, Yeongweol-gun (NIAS). **JB:** 1 ♂, 21-X-1988; 1 ♂, 26-VI-1991; Chonbuk Univ. Campus, Jeonju-si (JBNAE); 1 ex., 11-VIII-1993, Muju, Muju-gun, JB (NIAS). **JN:** 1 ♂, 30-VII-1987, Nae-Narodo, Goheung-gun (SCNAE); 3 ♂, 20-V-2000, Is. Dolsan, Yeosu-si (SCNAE); 1 ♂, 22-VII-1981, Mt. Jirisan (SNUAE); 1 ex., 26-VIII-1975, Is. Heuksando, Sinan-gun (NIAS). **SE:** 1 ex., 15-VIII-1971, Seoul (NIAS).

Distribution. Korea (North, Central, South, JJ), Japan (Hokkaido, Honshu, Shikoku, Kyushu), northern China, Russia (East Siberia, Far East).

Notes. First record for Korea by Yano (1941). This species is easily distinguishable by the tempora with pubescent and with additional lateral hairs on pronotum. Widely distributed

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including Jeju-do. Rather common species. Often attracted at light sources.

Harpalus (Pseudophonus) griseus (Panzer, 1797)

씨앗머리먼지벌레

Carabus griseus Panzer, 1797, Faun. Germ., 38, no.1 (Europe: Germany).

Carabus bicolor Marsham, 1802, Ent. Brit., 1: 436 (Europe: Britain). Treated as a junior synonym of Ganglbauer, 1892: 346.

Harpalus reichei Desbrochers, 1867, Not. Ent. Bourbonn., p. 42 (Europe: France). Treated as a junior synonym of Ganglbauer, 1892: 346.

Ophonus griseus Panzer: Kano, 1924, Ins. world, (Konchusekai), 28(326): 350 (Korea); Andrewes, 1927, Ann. Mag. nat. Hist. (9), 19: 99; Jedlička, 1955, Acta Ent. Mus. Nat. Pragae, 30: 191; Jedlička, 1960, Annls hist.-nat. Mus. natn. hung., 52: 231 (Korea).

Ophonus (Pseudophonus) griseus Panzer: Ganglbauer, 1892, Käf. Mitteleur., 1: 341, 346; Tschitschérine, 1895, Horae Soc. Ent. Rossicae, 29: 156 (Korea); Tschitschérine, 1897, L'Abeille, 29: 45; Jeannel, 1942, Faun. France, 40: 638; Habu, 1957, Kontyû, 25: 69; Antoine, 1959, Mém. Soc. Sci. Nat. Phys. Maroc, Zool. (N.S.), no. 6: 366, 385.

Ophonus (Pseudophonus) griseus Panzer: Nakane, 1963, Icon. Ins. Jap. Colore Nat., 2, Col., p. 43 (Korea).

Pardileus griseus (Panzer): Jedlička, 1960, Ann. Hist.-Nat. Mus. Nat. Hung., 52: 231 (N. Korea).

Pseudophonus griseus Panzer: Reitter, 1900, Verh. Naturf. Ver. Brünn, 38: 71; Reitter, 1908, Faun. Germanica, 1: 170; Okamoto, 1924, Bull. Agr. Sta. Gov.-Gen. Chosen, 1(2): 163 (Quelpart Is.); Yano, 1941, Nippon no Kôchû, 4(1): 30 (Korea).

Pseudophonus griseus Panzer: Motschulsky, 1860, Schrencks Reisen u. Forsch. Amur., 2: 92.

Pseudophonus (Pseudophonus) griseus Panzer: Lafer, 1989, Key Ins. Russian Far East, (3), 1: 182 (Korea); Lafrer, 1996, Ins. Koreana, 13: 80 (N. Korea).

Harpalus griseus Panzer: Schaum, 1860, Nat. Ins. Deutschl., Col., 1: 584; Bates, 1873, Trans. Ent. Soc. London, p. 260; Lewis, 1874, Ent. month. Mag., 10: 173; Heyden, 1879, Deutsch. Ent. Zeitschr., 23: 331; Kolbe, 1886, Archiv f. Naturgesch., 52(1): 175 (Korea); Bates, 1888, Proc. Zool. Soc. Lond., 1888: 370 (Korea); Kano, 1923, Ins. world, (Konchusekai), 27(315): 381 (Korea); Kurosa, 1949, Bull. Takarazuka Ins., 60: 9 (Korea); Cho, 1957, Hum. & Sci. Nat. Sci., Korea Univ., 2: 190 (Korea); Paik, 1988, Korean

J. Entomol., 18(4): 245 (Jeju-do).

Harpalus (Pseudophonus) griseus Panzer: Schaubberger, 1930, Col. Centralbl., 4: 171; Csiki, 1932, Col. Cat., 121: 1116 (cat.); Schaubberger, 1933, Deutsch. ent. Zeit., p. 149, 151-152; Schaubberger, 1935, Ark. Zool., 27A(4): 2; Nakane, 1948, Trans. Kinki Col. Soc., 3(1): 6; Mlynář, 1974, Acta Zool. Cracov., 19(6): 106 (N. Korea).

Harpalus (Pseudophonus) griseus Panzer: Habu, 1968, Bull. Natl. Inst. Agric. Sci., (C), 22: 288-291 (Korea); Habu, 1973, Faun. Japonica, Harpalini, p. 86-90 (Korea); Paik, 1993, J. Sci. & Education, Sunchon Natl. Univ., 1: 84 (Korea); Paik, 1997, Korean J. Soil Zool., 2(1): 33 (Korea).

Diagnostic characters. Body length 9.0-12.5 mm. Pitchy brown to black, basal two antennal segments and legs brown. Very closely allied to the *H. jureceki* and distinguished only in the following points: Clypeus with 2 hairs (6 hairs in *jureceki*), pronotum always with obtuse hind-angles, rounded at apex; its disc still more indistinctly punctate. Elytra somewhat more strongly punctate and with fainter subapical sinuation of side margin. The last three ventrites evidently punctate and hairy medially but glabrous laterally.

Material examined. **JJ:** 1 ♀, 6-IX-1985, Seongpanak, Mt. Hallasan (SCNAE); 2 ♂, 3 ♀, 27-VI-1989; 2 ♂, 2 ♀, 5-IX-1991, Jeju-do (SCNAE); 1 ♂, 20-VIII-1997, Cheju Univ. Campus, Jeju-si (JFNHM); 1 ex., 10-VII-1984, Ara, Jeju-si (NIAS); 1 ex., 9-IX-1996, Harye, Namweon-eup, Namjeju (NIAS); 1 ♂, 29-VII-1991, Mt. Hallasan (SNUAE). **CB:** 1 ♂, 1 ♀, 23-VI-1985, Mt. Weolaksan, Jecheon-si (SNUAE); 1 ex., 5-IX-1975, Jincheon, Jincheon-gun (NIAS). **CN:** 2 ex., 6-X-1990, Jochiweon, Yeongi-gun (NIAS); 1 ex., 9-VIII-1996, Is. Anmyeondo, Taean-gun (NIAS). **GB:** 1 ex., 2-IX-1976; 1 ex., 15-VII-1974, Daegu City (NIAS); 1 ♂, 10-VII-1987, Andong (SCNAE); 1 ♀, 6-VI-2000, Naribunji, Is. Ulleungdo (SCNAE); 2 ex., 10-VIII-1988, Janggal, Andong-si (NIAS); 1 ex., 31-VII-1993, Bonghwa, Bonghwa-gun (NIAS); 1 ex., 6-VI-1981, Mt. Palgongsan (NIAS); 2 ex., 16-VII-1996, Mt. Sudosan, Jeungsan-myeon, Gimcheon-si (NIAS); 1 ex., 31-VIII-1993, Gimcheon-si (NIAS); 4 ex., 11-VII-1993, Euseong, Euseong-gun (NIAS). **GG:** 3 ♂, 10-VII-1984, Suweon (Light Trap) (SCNAE); 1 ♂, 1 ♀, 13-VIII-1994, Gwangneung (SCNAE); 1 ♀, 17-X-1984, Anyang-si (SNUAE); 1 ex., 28-VIII-1999, Gapyeong, Gapyeong-gun (NIAS); 1 ♂, 3-VI-1989, Gwacheon-si (SNUAE); 1 ♂, 23-VI-1989, Ganggyo, Suweon-si (SNUAE); 1 ♀, 5-IX-1964, Suweon-si (Light Trap) (SNUAE); 3 ex., 29-VIII-1996; 1 ex., 15-III-1973, Suweon-si (NIAS). **GN:** 1 ♂, 1-VII-1994, Is. Geoje-do (SCNAE); 1 ex.,

14-VII-1980, Temple Haeinsa, Hapcheon-gun (NIAST); 1 ex., 10-II-1984, Jinju-si (NIAST). **GW**: 3 ♂, 11-VIII-1994, Hongcheon (SCNAE); 3 ♀, 30-VII-1991, Jeongseon (KWNAE); 1 ♀, 31-VII-1991, Pyeongchang (KWNAE); 1 ♂, 28-X-1984; 1 ♂, 1 ♀, 22-VII-1991, Chuncheon-si (KWNAE). **JB**: 1 ♂, 13-IX-1997, Dalgung, Mt. Jirisan, Namweon-si (SCNAE); 1 ♂, 1 ♀, 23-IX-2001, Mt. Seonunsan, Gochang-gun (SCNAE); 1 ♀, 5-X-1995, Mt. Geonjisan, Jeonju-si (JBNAE); 1 ♀, 30-VIII-1988, Deokjin-dong, Jeonju-si (JBNAE); 1 ex., 13-VIII-1975, Muju, Muju-gun (NIAST). **JN**: 3 ♀, 6-X-1988, Mt. Jogyaesan, Seungju-eup, Suncheon-si (SCNAE); 1 ♀, 23-X-2000, Temple Seonamsa, Seo-myeon, Suncheon-si (SCNAE); 6 ♂, 6 ♀, 6-IX-1987; 1 ♀, 10-XI-1989; 37 ♂, 36 ♀, 4-VII-1995, Suncheon-si (SCNAE); 1 ♂, 10-IX-2002, Joryeong-ri, Bonggang-myeon, Gwangyang-si (SCNAE); 4 ♂, 20-V-2000; 4 ♂, 10 ♀, 6-X-2000, Is. Dolsan, Yeosu-si (SCNAE); 2 ♀, 3-IX-1985; 3 ♂, 27-VI-1996, Is. Oe-Narodo, Goheung-gun (SCNAE); 1 ♀, 2-X-2004, Sinchon, Gurye-eup, Gurye-gun (SCNAE); 1 ♂, 2 ♀, 10-V-1995, Temple Dorimsa, Gokseong-eup (SCNAE); 3 ♂, 21-VIII-1994, Jangheung, Jangheung-gun (SCNAE); 1 ♀, 27-VIII-1999, Is. Hongdo, Heuksan-myeon, Sinan-gun (SCNAE); 1 ♀, 1 ♂, 23-VIII-1999, Sosari, Yae-ri, Heuksan-myeon, Sinan-gun (SCNAE); 6 ex., 1-IX-1975, Is. Heuksando, Sinan-gun, JN (NIAST).

Distribution. Korea (North, Central, South), Japan (Hokkaido, Honshu, Shikoku, Kyushu, Ryukyu), northern China, Mongolia, Central Asia, Europe, North Africa.

Notes. First record for the Korean Peninsula by Kolbe (1866). Widely distributed including in Jeju. Rather common species. Frequently attracted at light sources.

A xerophilus species which occurs on grassland or mixed forest. It is a nocturnal species, frequently coming to light at night. Hind wings well developed.

Harpalus (Pseudoophonus) jureceki (Jedlička, 1928)

수염머리먼지벌레

Pseudoophonus jureceki Jedlička, 1928, Ent. Mitt., 17: 45-46 (Ussuri, Sakhalin).

Ophonus jureceki Jedlička: Jedlička, 1960, Anns hist.-nat. Mus. natn. hung., 52: 231 (N. Korea).

Ophonus (Pseudophonus) jureceki Jedlička: Habu, 1957, Kontyu, 25: 69.

Ophonus (Pseudoophonus) jureceki Jedlička: Nakane, 1963, Icon. Ins. Jap. Colore Nat., 2, Col., p. 43 (Korea).

Pseudoophonus (Pseudoophonus) jureceki (Jedlička): Lafer, 1989, Key Ins. Russian Far East, (3), 1: 183 (Korea); Lafer, 1996, Insecta Koreana, 13: 81 (N. Korea).

Harpalus jureceki Jedlička: Paik, 1988, Korean J. Entomol., 18(4): 245 (Jeju).

Harpalus (Pseudoophonus) jureceki Jedlička: Schaubberger, 1929, Col. Centralbl., 3: 184; Schaubberger, 1930, Col. Centralbl., 4: 171; Schaubberger, 1935, Ark. Zool., 27A(4): 2; Wu, 1937, Cat. Ins. Sinensium, 3: 153 (Korea).

Harpalus (Pseudoophonus) jureceki Jedlička: Habu, 1968, Bull. Nat. Inst. agr. Sci., (C) 22: 288, 291-293 (Korea); Habu, 1968, Ent. Rev. Japan, 21: 6 (Korea); Habu, 1973, Fauna Japonica, Harpalini, p. 90-95 (Korea); Lorenz, 1998, Systematic list of ground beetles (1st ed.), p. 342 (cat.); Kataev *et al.*, 2003 in CPC, 1: 385 (Korea) (cat.); Lorenz, 2005, Nomina Carabidarum (2nd ed.), p. 543 (cat.).

Diagnostic characters. Very similar to *H. griseus* and distinguishable by the additional hairs on clypeus (without in *griseus*). For more detail, see Habu (1973: 90-95).

Material examined. **JJ**: 2 ♀, 27-IX-2004, Gyorae-ri, Bukjeju-gun (Light Trap) (SCNAE); 1 ♀, 10-VII-1984, Aardong, Jeju-si (SCNAE); 1 ♀, 27-VI-2004, Namyang Pasture, Gyorae (JFNHM); 1 ♂, 20-VI-1983, Ara, Jeju-si (JFNHM); 1 ex., 16-IX-1996, Harye, Namweon-eup, Namjeju-gun (NIAST). **CB**: 1 ex., 1-IX-1991, Cheongju-si (NIAST); 6 ex., 5-IX-1975, Jincheon, Jincheon-gun (NIAST). **GB**: 1 ♀, 25-V-1995, Seonginbong, Is. Ulleungdo (SCNAE); 1 ex., 3-IX-1976, Daegu City (NIAST); 1 ex., 22-VIII-1992, Bonghwa, Bonghwa-gun (NIAST); 1 ex., 29-VIII-1991, Gimcheon-si (NIAST); 1 ex., 6-VI-1981, Dansan-myeon, Yeongju-si (NIAST). **GG**: 1 ♂, 1 ♀, 10-VI-1985, Suweon (Light Trap) (SCNAE); 1 ♀, 27-VI-1991, Anyang (SNUAE); 1 ex., 19-VII-1996, Mt. Taehwasan, Docheok-myeon, Gwangju-gun (NIAST); 1 ex., 19-VIII-1976, Mt. Cheonggaesan, Gwacheon-si (NIAST); 1 ex., 23-V-1981, Mt. Surisan, Gunpo-si (NIAST); 1 ex., Mt. Taehwasan, Docheok-myeon, Gwangju-gun (NAIST); 1 ex., 20-IX-1984; 1 ex. 23-VIII-1973; 7 ex., 9-VII-1973; 2 ex., 15-III-1973; 10 ex., 21-VI-1958, Suweon-si (NIAST). **GN**: 1 ♀, 20-IX-1997, Eumjeong, Mt. Jirisan, Hamyang-gun (SCNAE). **GW**: 1 ♀, 28-VI-1980, Gangreung-si (KWNAE); 1 ♀, 22-VII-1991, Chuncheon-si (KWNAE). **JB**: 1 ♀, 13-IX-1997, Dalgung, Mt. Jirisan, Namweon-si (SCNAE); 1 ♂, 9-IX-1988, Mt. Seonunsan, Gochang-gun (JBNAE); 1 ♂, 17-IX-1988, Mt. Moaksan, Jeonju-si (JBNAE); 1 ♀, 11-XI-1984, Mt. Geonjisan, Jeonju-si (JBNAE); 3 ex., 13-VIII-1975, Muju, Muju-gun (NIAST). **JN**: 1 ♂, 24-VII-1994, Temple Seonamsa, Seungju-eup, Suncheon-si (SCNAE); 1 ♀, 15-IX-1988, Suncheon-si (SCNAE); 4 ♂, 4 ♀, 8-VI-1991, Juam, Juam-myeon, Suncheon-si (SCNAE); 3 ♀, 10-IX-2002, Joryeong-ri,

Bonggang-myeon, Gwangyang-si (SCNAE); 1 ♂, 30-VII-1987, Is. Narodo, Goheung-gun (SCNAE); 1 ♀, 21-VIII-1994, Jangheung, Jangheung-gun (SCNAE); 1 ♀, 15-VI-1994, Mt. Baekunsan, Gwangyang-si (SNUAE); 1 ♀, 24-VI-1996, Chusan, Gwangyang-si (SNUAE); 3 ♂, 23-VI-1991, Mt. Baekunsan, Gwangyang-si (SNUAE); 1 ex., 25-VI-1986, Suncheon-si, JN (NIASST).

Distribution. Korea (North, Central, South, JJ), Japan (Hokkaido, Honshu, Shikoku, Kyushu), China (GAN, HEI, JIA, JIX, LIA, SCH, SHG, SHX, YUN, ZHE), Russia (Siberia, Far East), Oriental Region.

Notes. Noted from Korea by Wu (1937), but the earlier references could not be traced. Later Jedlička (1960) reported it from North Korea. This species is very easily distinguishable from other species by the additional hairs on clypeus. Widely distributed including in Jeju-do. Rather common species. Often attracted at light.

***Harpalus (Pseudoophonus) pastor pastor* Motschulsky, 1844 만주머리먼지벌레**

Harpalus pastor Motschulsky, 1844, Mém. Acad. Sci. St.-Petersb., 13: 208 (Siberia).

Harpalus tschiliensis Schaubberger, 1929, Col. Centralbl., 3: 186, 192 (China: Manchuria); Schaubberger, 1930, Col. Centralbl., 4: 199. Treated as a junior synonym of *pastor* Kataev *et al.* in Löbl & Smetana, 2003: 385.

Harpalus (Pardileus) tschiliensis sutschanensis Schaubberger, 1929, Col. Centralbl., 3: 187 (China: Tschili-Li). Treated as a junior synonym of *tschiliensis* by Csiki, 1932: 1181.

Harpalus (Pardileus) tschiliensis hweisinensis Schaubberger, 1929, Col. Centralbl., 3: 188 (China: Kansu). Treated as a junior synonym of *tschiliensis* by Csiki, 1932: 1181.

Harpalus (Pardileus) tschiliensis szetschuanensis Schaubberger, 1930, Col. Centralbl., 4(5/6): 177 (China: Szetschuan). Treated as a junior synonym of *tschiliensis* by Csiki, 1932: 1181.

Pardileus tschiliensis szetschuanensis Schaubberger: Schaubberger, 1932, Wiener ent. Zeit., 49: 31.

Pardileus tschiliensis (Schaubberger): Jedlička, 1960, Annls hist.-nat. Mus. natn. hung., 52: 231 (N. Korea).

Harpalus (Pseudoophonus) tschiliensis niigatanus Schaubberger: Mlynář, 1974, Acta zool. cracov., 19(6): 107 (N. Korea). Possibly a misidentification.

Harpalus (Pseudoophonus) tschiliensis niigatus [sic] Schaubberger: Krischenhofer, 1990, Koleopt. Rdschau, 60: 9 (Korea). Misidentification.

Harpalus (Pardileus) tschiliensis Schaubberger: Csiki, 1932,

Col. Cat., 121: 1121 (cat.).

Harpalus (Pseudoophonus) tschiliensis Schaubberger: Paik, 1993, Korean J. Entomol., 23(1): 11 (Jeju-do).

Pseudoophonus (Pseudoophonus) tschiliensis Schaubberger: Lafer, 1989, Key Ins. Russian Far East, (3), 1: 183 (Korea); Paik, 1993, J. Sci. & Education, Sunchon Natl. Univ., 1: 84 (Korea); Paik, 1997, Korean J. Soil Zool., 2(1): 33 (Korea); Lafer, 1996, Ins. Koreana, 13: 82 (N. Korea).

Harpalus (Pseudoophonus) pastor pastor Motschulsky: Lorenz, 1998, Systematic list of ground beetles (1st ed.), p. 342; Kataev *et al.* in Löbl & Smetana, 2003, p. 385 (Korea); Lorenz, 2005, Nomina Carabidarum (2nd ed.), p. 730.

Diagnostic characters. Body length 9.5-14.5 mm. Dark brown to black, antennae and legs reddish brown. Pronotum angulate, hind-angles with denticle; metepisterna shorter (L/W: 1.08-1.30). Elytra with sparsely pubescent at lateral and apical area, elytral interval 7 near apex with 1-3 additional setiferous pores. For discussion of this species, see Habu (1968: 310-1) or Kataev (1997: 133).

Materials examined. JJ: 1 ♀, 16-X-1997, Seongpanak, Mt. Hallasan (SCNAE); 1 ♀, 2-VIII-1994, Yeongsil (750 m), Mt. Hallasan (SCNAE); 1 ♀, 27-VIII-1993, Gyora, Jocheon-eup (SCNAE); 1 ♀, 23-IX-1995, Seongpan-ak, Mt. Hallasan (JFNHM); 1 ♂, 9-VI-1994, Hoesu, Seogwipo-si (JFNHM); 1 ♀, 26-V-1994, Isl. Marado (JFNHM). **GB:** 1 ♂, 10-VIII-1998, Mt. Gapjongsan, Sangju-si (SCNAE); 1 ♀, 10-VII-1987, Andong (SCNAE); 1 ♂, 1 ♀, 26-VII-1984, Mt. Juwangsan, Cheongsong (SCNAE); 1 ♂, 2 ♀, 3-X-1981, Is. Ulleung-do, Y.-J. Kwon leg. (SCNAE). **GG:** 1 ♂, 1 ♀, 13-VIII-1994, Gwangneung (SCNAE); 2 ♀, 15-VI-1974; 1 ♂, 12-VII-1974, Mt. Wangbangsan, S.-M. Lee leg. (SCNAE). **GN:** 2 ♂, 5-IX-1998, Mt. Geumsan, Is. Namhaedo (SCNAE); 1 ♂, 1 ♀, 12-V-2001, Jungsan, Mt. Jirisan, Sancheong-gun (SCNAE); 1 ♂, 28-VIII-2000, Temple Haeinsa, Gaya-myeon, Hapcheon-gun (SCNAE); 2 ♀, 22-VII-2001, Temple Ssanggyaesa, Hadong-gun (SCNAE). **GW:** 2 ♂, 11-VIII-1994, Hongcheon (SCNAE); 2 ♂, 8 ♀, 30-VII-1991, Jeongseon, K.-T. Park leg. (KWNAE); 1 ♀, 30-VII-1991, Jeongseon, (SJNAE); 1 ♀, 31-VII-1991, Pyongchang (SJNAE). **JB:** 4 ♂, 4 ♀, 13-VII-2002, Eochi-ri, Donggae-myeon, Sunchang-gun (SCNAE); 4 ♂, 5-VII-1990, Jeonju-si (SCNAE); 1 ♂, 26-IX-1991, Naeryeong-ri, Sannaemyon, Namweon-gun (SCNAE); 1 ♀, 15-X-1996, Jinan, Jinan-gun (JBNAE); 2 ♂, 14-IX-1995, Godang-ri, Unju-myeon, Wanju-gun (JBNAE); 1 ♀, 24-VIII-1990, Nae-Byeonsan, Buan-gun (JBNAE). **JN:** 2 ♂, 2 ♀, 6-IX-1988, Mt. Jogyaesan, Seungju-eup, Suncheon-si (SCNAE); 1 ♀, 27-VI-1996,

Suncheon-si (SCNAE); 5 ♂, 17-VI-1996, Is. Nae-Narodo, Goheung-gun (SCNAE); 1 ♂, 24-VII-1998, Mt. Palyeongan, Goheung-gun (SCNAE); 1 ♂, 10-V-2000, Is. Dolsan, Yeosu-si (SCNAE); 2 ♂, 2 ♀, 23-VI-2002, Joryeong-ri, Bonggang-myeon, Gwangyang-si (SCNAE); 3 ♀, 2-X-2004, Sinweol-ri, Gurye-eup, Gurye-gun (SCNAE); 1 ♂, 22-VI-1998, Mt. Jirisan (SCNAE); 3 ♂, 2 ♀, 6-X-2002, Aprok, Ogok-myeon, Gokseong-gun (SCNAE); 1 ♂, 26-VI-1994, Mt. Baekunsan, Gwangyang-si (SNUAE).

Distribution. Korea (North, Central, South, JJ), China (FUJ, GAN, GUA, GUX, HEB, HUB, JIA, LIA, NMO, SCH, SHG, SHN, SHX, ZHE), Russian Far East.

Notes. First record for North Korea by Mlynář (1974) as *H. niigatanus* Schaubberger. *H. niigatanus* regarded as a distinct species by Habu (1973), but it was treated as a subspecies of *H. tschiliensis* (= *pastor* Motschulsky) by several authors (Lafer 1989, Kataev 1997 etc.). Later Paik (1993) reported it from Jeju-do. Widely distributed. Rather common species. Often attracted to light.

This species is quite similar to *H. simplicidens* in the nature of general habitus, but can be readily distinguished by its short metaepisterna and elytra with sparsely ciliated at lateral and apical areas (in *simplicidens* glabrous).

Harpalus (Pseudoophonus) roninus Bates, 1873

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Harpalus roninus Bates, 1873, Trans. Ent. Soc. London, p. 260-261 (Japan: Nagasaki); Heyden, 1887, Horae Soc. ent. Rossicae, 29: 246, (Korea); Cho, 1957, Hum. & Sci., Nat. sci. Korea Univ., 2: 190 (Korea).

Ophonus (Pseudoophonus) roninus Bates: Tschitscherine, 1895, Horae Soc. Ent. Ross., 29: 155 (Korea).

Ophonus roninus (Bates): Kano, 1924, Ins. world, (Konchusekai), 28(326): 349 (*voninus* [sic]), (Korea); Yano, 1941, Nippon no Kôchû, 4(1): 29 (Korea).

Pseudoophonus roninus Bates: Reitter, 1900, Verh. Naturf. Ver. Brünn, 38: 72; Jedlička, 1942, Arb. Morphol. Taxon. Ent. Berlin-Dahlem, 9: 12.

Pseudoophonus (Pseudoophonus) roninus Bates: Lafer, 1989, Key Ins. Russian Far East, (3), 1: 182 (Korea); Lafer, 1996, Ins. Koreana, 13: 81 (N. Korea).

Harpalus (Pseudoophonus) roninus Bates: Schaubberger, 1930, Col. Centralbl., 4: 170.

Harpalus (Pseudoophonus) roninus Bates: Habu, 1968, Bull. Nat. Inst. Agr. Sci., (C) 22: 288, 296-298 (Korea); Habu, 1973, Fauna Japonica, Harpalini, p. 84-86 (Korea); Mlynář, 1974, Acta Zool. Cracov., 19(6): 107 (N. Korea); Paik, 1988,

Korean J. Entomol., 18(4): 246 (Jeju-do).

Diagnostic characters. Rather easily distinguished by the black legs and elytra wholly pubescent. For more detail, see Habu (1973: 84-86).

Material examined. JJ: 1 ♂, 10-VI-1984, Seogwipo-si (SCNAE); 1 ♂, 22-IV-1984, Ara, Jeju-si (SCNAE); 1 ♂, 2-VIII-1993, Temple Gwaneumsa, Jeju-si (SCNAE); 1 ♂, 10-VIII-1993, Gyorae, Gujwa-eup (SCNAE); 1 ♂, 6-VIII-1993, Bizarim, Gujwa-eup (SCNAE); 1 ♀, 28-VII-1992; 1 ♀, 31-VII-1992, Jeju-do (SCNAE); 2 ♂, 3 ♀, 5-VII-1992, Mt. Hallasan (1,600 m) (SCNAE); 1 ♂, 1 ♀, 10-X-1991, Seongsan (SCNAE); 1 ♂, 16-IX-1992, Donnaeko, Seogwipo-si (JFNHM); 1 ♂, 1 ♀, 11-X-2002, Cheju Univ. Campus (JFNHM); 1 ♂, 2 ♀, 17-VIII-1994; 1 ♂, 3 ♀, 22-VIII-1994; 2 ♂, 30-VIII-1994; 3 ♀, 3-IX-1994; 1 ♀, 8-IX-1994, Mt. Hanla (950 m); 2 ♂, 8 ♀, 15-IX-1994, Seongpanak, Mt. Halla; 5 ♂, 5 ♀, 23-IX-1994; 1 ♂, 2-IX-1999, Mt. Hanla (350 m); 1 ♀, 18-IX-2002, Mt. Hanla (450 m), (JFNHM); 1 ♀, 23-VII-1993; 1 ♀, 28-VIII-1993, Seonheul (JFNHM); 1 ♀, 1-IX-1993, Ishidol Pasture (JFNHM); 1 ♀, 5-VIII-1993; 3 ♂, 4 ♀, 12-VIII-1993; 1 ♂, 2 ♀, 13-VIII-1993; 1 ♂, 19-VIII-1993; 2 ♂, 2 ♀, 25-VIII-1993; 1 ♀, 28-VIII-1993; 7 ♂, 12 ♀, 14-IX-1993; 2 ♂, 1 ♀, 17-IX-1993; 1 ♂, 23-IX-1993; 1 ♂, 28-IX-1993, Gyorae (JFNHM); 2 ex., 6-VI-1980, Mt. Hallasan, JJ (NIAS); 1 ex., 19-VIII-1975, Seogwipo (NIAS). GG: 2 ♂, 1 ♀, 13-VIII-1994, Gwangneung (SCNAE). GW: 4 ♂, 6 ♀, Jiam-ri, Chuncheon-si (SCNAE); 1 ♂, 1 ♀, 11-VIII-1994, Hongcheon (SCNAE); 1 ♂, 30-V-1982, Geumdae-ri, Weonseong-gun (KWNAE). JN: 1 ♂, 22-VI-1988, Mt. Jirisan, Gurye-gun (SCNAE).

Distribution. Korea (North, Central, South, JJ), Japan (Honshu, Kyushu, Tsushima), China (HEI, JIA, LIA, SCH, SHA, SHG, SHX), Taiwan, Russia (Siberia, Far East).

Notes. First record for Korea by Heyden (1887). Widely distributed including in Jeju-do. Not common. Similar to *H. ussuriensis vicarius*, but it is easily distinguishable by the black legs.

Harpalus (Pseudoophonus) simplicidens Schaubberger,

1929 서울머리먼지벌레

Harpalus (Pardileus) simplicidens Schaubberger, 1929, Col. centralbl., 3: 185-186 (Ussuri; Mongolei; Korea: Seoul; Japan: Osaka).

Pardileus simplicidens Schaubberger: Schaubberger, 1930, Col. centralbl., 4: 183, 194 (Korea: Seoul); Jedlička, 1931, Acta Soc. Ent. Čsl., 28: 30; Jedlička, 1960, Annl. hist.-nat. Mus. natn. hung., 52: 231 (N. Korea: Sarivon).

Harpalini from Korea

- Pseudoophonus (Pseudoophonus) simplicidens* Schaubberger: Lafer, 1989, Key Ins. Russian Far East, (3), 1: 183 (Korea); Lafer, 1996, Ins. Koreana, 13: 91 (N. Korea).
- Harpalus simplicidens* Schaubberger: Kataev, 1997, Steenstrupia, 23: 134 (China).
- Harpalus (Pardileus) simplicidens* Schaubberger: Schaubberger, 1932, Wien. Ent. Zeit., 49: 30; Schaubberger, 1935, Ark. Zool., 27A(4): 3.
- Harpalus (Pseudoophonus) simplicidens* Schaubberger: Habu, 1968, Bull. Natl. Inst. Agric. Sci., (C), 22: 288, 307-311 (Korea); Habu, 1973, Fauna Japonica, Harpalini, p. 121-124 (Korea).
- Diagnostic characters.** Superficially similar to *tschiliensis* but differing by glabrous elytra. See also above species key or Habu (1973).
- Material examined.** Russian Far East: 1 ex., Ussuri (Det. G. Sh. Lafer). North Korea: Sarivon, HH (Jedlička, 1960: 231). South Korea: Seoul (after Schaubberger 1929: 186).
- Distribution.** Korea (North, Central), Japan (Hokkaido, Honshu, Shikoku, Kyushu, Ryukyu), China (GAN, HEI, HUB, LIA, NIN, NMO, SCH, SHX, YUN), Russia (Far East).
- Notes.** First record for Korea by Schaubberger (1929), but has not yet been collected from southern part of the Korean Peninsula.
- I have seen specimens from Ussuri and Japan which are kindly sent to me by Drs. Lafer, Vladivostok and S. Moria, Japan. The species is very similar to *H. pastor* but is distinguishable by the first mid tarsal segment of the male with adhesive hairs on the ventral side. The distinguishing characteristics, see above keys or notes on *H. coreanus*.
- Harpalus (Pseudoophonus) sinicus* Hope, 1845**
중국머리먼지벌레
- Harpalus sinicus* Hope, 1845, Trans. ent. Soc. London, 4: 14 (China: Canton); Andrewes, 1919, Trans. R. ent. Soc. London, p. 176 (Korea) (syn.); Kano, 1924, Ins. world, (Konchusekai), 28(326): 350 (Korea); Kurosa, 1949, Bull. Takarazuka Ins., 60: 10 (Korea); Paik, 1993, J. Sci. & Education, Sunchon Natl. Univ., 1: 84 (Korea); Paik, 1997b, Korean J. Soil Zool., 2(1): 33 (Korea).
- Platus (Harpalus) rugicollis* Motschulsky, 1860, Etud. ent. 9: 5 (Japan). Treated as a junior synonym of *sinicus* by Andrewes, 1919: 176.
- Harpalus japonicus* Morawitz, 1862, Mém. Biol., 4: 245-246 (Japan: Hakodate); Morawitz, 1863, Mém. Acad. Imp. Sci. St.-Pétersb., (7), 6(3): 69. Treated as a junior synonym of *sinicus* by Andrewes, 1919: 176.
- Harpalus tridens* var. *singularis* Tschitschérine, 1906, Horae Soc. Ent. Ross., 37: 250.
- Harpalus sinicus* var. *kiautschouensis* Schaubberger, 1930, Col. Centralbl., 4: 171 (Kiautschou).
- Harpalus sinicus* ssp. *yunnanus* Schaubberger, 1930, Col. centralbl., 4: 172 (China). Treated as a junior synonym of *sinicus* by Csiki, 1932: 1120.
- Ophonus (Pardileus) japonicus* Morawitz: Tschitschérine, 1897, L'Abeille, 29: 46 (Korea).
- Harpalus rugicollis* Motschulsky: Heyden, 1879, Deutsch. Ent. Zeitschr., 23: 332; Bates, 1883, Trans. Ent. Soc. London, p. 236; Bates, 1888, Proc. Zool. Soc. Lond., 1888: 370 (Korea); Kano, 1923, Ins. world, (Konchusekai), 27 (315): 381 (Korea); Cho, 1957, Hum. & Sci., Nat. Sci., Korea Univ., 2: 190 (Korea).
- Harpalus (Ophonus) rugicollis* Motschulsky: Tschitschérine, 1906, Horae Soc. Ent. Ross., 37: 251-253.
- Ophonus sinicus* (Hope): Yano, 1941, Nippon no Kochu, 4(1): 29 (Korea).
- Ophonus (Harpalus) sinicus* (Hope): Andrewes, 1933, Trans. R. ent. Soc. London, 81: 13.
- Ophonus (Pardileus) sinicus* Hope: Nakane, 1963, Icon. Ins. Jap. Colore Nat., 2, Col., p. 43 (Korea).
- Pardileus sinicus* Hope: Schaubberger, 1930, Col. centralbl., 4: 182, 188 (Korea); Jedlička, 1931, Acta Soc. Ent. Čsl., 28: 30; Schaubberger, 1932, Wien. Ent. Zeit., 49: 30; Jedlička, 1960, Annl. hist.-nat. Mus. natn. hung., 52: 231 (Korea).
- Pseudoophonus (Pseudoophonus) sinicus* Hope: Lafer, 1989, Key Ins. Russian Far East, (3), 1: 183 (Korea); Lafer, 1996, Ins. Koreana, 13: 81 (N. Korea).
- Harpalus sinicus* Hope: Kataev, 1997, Steenstrupia, 23: 134.
- Harpalus (Pardileus) sinicus* Hope: Jedlička, 1928, Wien. Ent. Zeit., 45: 94; Schaubberger, 1929, Col. Centralbl., 3: 193; Schaubberger, 1935, Ark. Zool., 27A(4): 2; Nakane, 1948, Trans. Kinki Col. Soc., 3(1): 6.
- Harpalus (Pseudoophonus) sinicus sinicus* Hope: Habu, 1968, Bull. Nat. Inst. Agr. Sci., (C) 22: 288, 311-315 (Korea); Habu, 1973, Fauna Japonica, Harpalini, p. 111-116 (Korea); Młynář, 1974, Acta Zool. Cracoviensia, 19(6): 107 (N. Korea); Paik, 1988, Korean J. Entomol., 18(4): 246 (Jeju-do).
- Diagnostic characters.** See above key to species. For more detail, Habu (1973: 111-116).
- Material examined. JJ:** 1 ♂, 10-VII-1984, Andeok, Andeok-myeon (SCNAE); 1 ♂, 3 ♀, 7-IX-2001, Temple Gwan-gumsa, Jeju-si (SCNAE); 4 ♀, 10-VIII-1993, Ara, Jeju-si

(SCNAE); 2 ♀, 31-VII-1993, Ishidol Pasture (SCNAE); 5 ♂, 6 ♀, 27-VIII-1993, Gyorae, Jocheon-eup (SCNAE); 1 ♂, 1 ♀, 1-VI-1992, Mt. Hallasan (800 m) (SCNAE); 2 ♀, 5-X-1991, Isl. Udo, Jejudo (SCNAE); 1 ♀, 26-V-1994, Mara-do (JFNHM); 1 ♂, 29-VI-1994, Beophocheon, Seogwipo-si (JFNHM); 4 ♂, 20-VII-2000, Seonpanak, Mt. Hallasan (JFNHM); more than 200 specimens examined from various cites from Jejudo (JFNHM); 1 ex., 6-VII-1984, Seogwipo (NIAST); 1 ex., 16-IX-1996, Namjeju-gun (NIAST). **CB**: 1 ex., 14-VII-1997, Jangyeon-myeon, Goesan-gun (NIAST); 1 ex., 5-IX-1975, Jincheon, Jincheon-gun, CB (NIAST); 1 ♀, 30-VIII-1994, Mt. Weolaksan, Jecheon-si (SNUAE). **CN**: 1 ♀, 24-VI-1992, Cheongweon, Cheongweon-gun (SNUAE); 1 ex., 12-IV-1990, Seosan (NIAST); 1 ex., 20-VIII-1996; 1 ex., 29-VII-1996, Is. Anmyeondo, Taean-gun (NIAST). **GB**: 2 ♂, 2 ♀, 30-IX-1981, Is. Dokdo (SJNAE); 1 ex., 31-VII-1993; 3 ex., 22-IX-1992, Bonghwa, Bonghwa-gun (NIAST); 1 ex., 16-VII-1996, Mt. Sudosan, Jeungsan-myeon, Gimcheon (NIAST); 3 ex., 3-IX-1976, Kyungpook Univ. Campus, Daegu (NIAST). **GG**: 1 ♀, 13-IX-1994, Ansan (SNUAE); 1 ♂, 25-VI-1991, Anyang (SNUAE); 1 ex., 11-IX-1991, Anseong (NIAST); 1 ♀, 24-V-1992, Icheon (SNUAE); 1 ♀, 25-IV-1992, Gwangju, Gwangju-gun (SNUAE); 1 ex., 19-VII-1996, Mt. Taehwasan, Docheok-myeon, Gwangju-gun, GG (NIAST); 1 ♀, 5-V-1984, Mt. Myeongjisan, Gapyeong-gun (SNUAE); 1 ♂, 23-VI-1987, Cheongpyeong, Oeseo-myeon, Gapyeong-gun (SNUAE); 1 ♀, 28-VI-1986, Mt. Cheonggaesan, Gwacheon-si (SNUAE); 1 ♂, 10-VIII-1993, Seodun-dong, Suweon (SNUAE); 8 ex., 31-VIII-1998; 6 ex., 9-IX-1996; 2 ex., 8-VII-1996, Seodun-dong, Suweon (NIAST); 1 ♀, 26-VI-1987; 1 ♂, 3 ♀, 2-7-IX-1964, Suweon (Light Trap) (SNUAE); 1 ex., 10-X-1995, Yangpyeong, Yangpyeong-gun, GG (NIAST); 1 ex., 16-IX-1988, Yongin (NIAST). **GN**: 2 ♂, 28-VIII-2000, Temple Haeinsa, Gaya-myeon, Hapcheon-gun (SCNAE); 1 ♂, 2 ♀, 21-VIII-2000, Silmae-ri, Chahwang-myeon, Sancheong-gun (SCNAE); 1 ♀, 23-VIII-1997, Baekmudong, Mt. Jirisan, Hamyang-gun (SCNAE); 1 ex., 27-IX-1984, Jinju, GN (NIAST). **GW**: 2 ♂, 11-VIII-1994, Hongcheon (SCNAE); 1 ♀, 30-VII-1991, Jeongseon (KWNAE); 1 ♀, 31-VII-1991, Pyeongchang (KWNAE); 1 ♂, 21-V-1989, Chuncheon-si (KWNAE). **JB**: 1 ♀, 6-VIII-1989, Muju, Muju-gun (SCNAE); 2 ♂, 28-VII-1990, Jeonju-si (SCNAE); 1 ♀, 19-IX-1998, Mt. Jeoksangsan, Muju-gun (SCNAE); 3 ♂, 4 ♀, 23-IX-2001, Mt. Seonunsan, Gochang-gun (SCNAE); 1 ♂, 7-VI-1987, Buan, Buan-gun (JBNAE); 1 ♀, 19-VIII-1986, Nae-Byeonsan, Buan-gun (JBNAE); 1 ♀, 7-V-1994, Oseong-ri, Ongdong-myeon, Jeongeup-si (JBNAE);

1 ex., 26-VII-1993, Muju, Muju-gun, JB (NIAST). **JN**: 2 ♂, 1 ♀, Juam, Juam-myeon, Suncheon-si (SCNAE); 21 ♂, 13 ♀, 6-IX-1988, Mt. Jogyaesan, Seungju-eup, Suncheon-si (SCNAE); 10 ex., 19-IX-1988; 1 ♀, 30-VIII-1989; 8 ♂, 3 ♀, 4-VII-1995; 1 ♂, 6-VI-1996, Suncheon-si (SCNAE); 2 ♂, 1 ♀, 10-IX-2002, Joryeong-ri, Bonggang-myeon, Gwangyang-si (SCNAE); 1 ♀, 27-VI-1995, Mt. Baekunsan, Gwangyang-si (SCNAE); 1 ♂, 20-X-2004, Sang-dong, Mokpo-si (SCNAE); 2 ♀, 3 ♂, 23-V-2000; 4 ♂, 3 ♀, 1-VI-2000; 2 ♀, 6 ♂, 6-X-2000, Is. Dolsan, Yeosu-si (SCNAE); 1 ♀, 13-VI-1997, Piagol, Mt. Jirisan, Gurye-gun (SCNAE); 15 ♂, 12 ♀, 21-VIII-1984, Jangheung, Jangheung-gun (SCNAE); 1 ♂, 8-VII-1998, Is. Nae-Narodo, Goheung-gun (SCNAE); 1 ♀, 2-V-1993; 1 ♂, 3 ♂, 1 ♀, 3-IX-1995, Is. Oe-Narodo, Goheung-gun (SCNAE); 1 ♀, ♂, 23-VIII-1999, Sosari, Yae-ri, Heuksan-myeon, Sianan-gun (SCNAE); 2 ♀, 1 ♂, 26-VI-1994; 1 ♂, 1 ♀, 13-VIII-1994, Mt. Baekunsan, Gwangyang-si (SNUAE); 1 ex., 11-VI-1996, Jangheung, Jangheung-gun (NIAST); 12 ex., 26-VIII-1975, Is. Heuksando, Sianan-gun (NIAST); 10 ex., 25-VI-1986, Suncheon (NIAST). **SE**: 1 ♀, 26-VI-1987, Seoul (SNUAE).

Distribution. Korea (North, Central, South, JJ), Japan (Hokkaido, Honshu, Shikoku, Kyushu), China (ANH, FUJ, GAN, GUA, GUX, HEB, HEN, HUB, HUN, JIA, JIX, LIA, SCH, SHA, SHG, SHN, YUN, ZHE), Taiwan, Russian Far East.

Notes. First record for Korea by Bates (1888) as *H. rugicollis* Motschulsky. Widely distributed including in Jejudo. Very common species. Hind wings are well developed, often come to the light at night. Kataev (1997) said that this species is rather variable but no distinct subspecies has been recognized. See also note on above species, *H. babai* and *H. pastor*.

Harpalus (Pseudoophonus) suenisoni Kataev, 1997

청도머리먼지벌레 (신칭)

Harpalus suenisoni Kataev, 1997, Steenstrupia, 23: 131-134 (China, Korea); Paik & Moon, 2005, Korean J. Soil Zoology, 10(1/2): 50 (S. Korea).

Diagnostic characters. Very similar to *tridens*, but easily distinguishable by the apical area of elytra bare. For more details, see original description.

Distribution. Korea (South), China (JIA, SCH, SHA, ZHE).

Notes. Described from China and Korea by Kataev (1997).

Notes. For more information, see Paik & Moon (2005).

***Harpalus (Pseudoophonus) tridens* Morawitz, 1862**

꼬마머리먼지벌레 [노란머리먼지벌레, 가시머리먼지벌레]

- Harpalus tridens* Morawitz, 1862, Mém. Biol., 4: 245 (Japan: Hakodate); Morawitz, 1863, Mém. Acad. Imp. Sci. St.-Pétersb., (7), 6(3): 69; Bates, 1873, Trans. R. ent. Soc. London, p. 261; Heyden, 1879, Deutsch. Ent. Zeitschr., 23: 331 (Japan); Bates, 1883, Trans. R. ent. Soc. London, p. 236; Kolbe, 1886, Archiv f. Naturgesch., 52(1): 175 (Korea); Matsumura, 1931, 6000 Illustr. Ins. Japan-Empire, p. 113; Matsumura, 1931, Illust. Common Ins. Jpn., 3: 9 (Jpn.), 13 (Eng.) (Korea); Kurosa, 1949, Bull. Takarazuka Ins., 60: 10 (Korea); Cho, 1957, Hum. & Sci., Nat., Sci., Korea Univ., 2: 190 (Korea); Paik, 1993, J. Sci. & Education, Sunchon Natl. Univ., 1: 84 (Korea); Paik, 1997b, Korean J. Soil Zool., 2(1): 33 (Korea).
- Harpalus pecirkai* Jedlička, 1928, Wien. Ent. Zeit., 45: 33 (China: Szetschuan). Treated as a junior synonym of *tridens* by Csiki, 1932: 1121.
- Harpalus magnodentatus* Schauburger, 1929, Col. centralbl., 4: 190 (China). Treated as a junior synonym of *tridens* by Csiki, 1932: 1121.
- Ophonus (Pardileus) tridens* Morawitz: Tschitschérine, 1895, Horae Soc. Ent. Rossicae, 29: 156 (Korea); Tschitschérine, 1897, Abeille, 29: 46 (Korea); Nakane, 1963, Icon. Ins. Jap. Colore Nat., 2, Col., p. 43 (Korea).
- Ophonus tridens* Morawitz: Kano, 1924, Ins. world, (Konchusekai), 28(326): 350 (Korea).
- Pardileus tridens* Schauburger: Schauburger, 1930, Col. Centralbl., 4: 184, 197 (Korea); Jedlička, 1931, Acta Soc. Ent. Čsl., 28: 30.
- Pseudophonus tridens* (Morawitz): Matsumura, 1905, Thousand Ins. Japan, 2: 142, pl. 33, fig. 2; Yano, 1941, Nippon no Kôchû, 4(1): 30 (Korea).
- Pseudophonus (Pseudoophonus) tridens* (Morawitz): Lafer, 1989, Key Ins. Russian Far East, (3), 1: 183 (Korea); Lafer, 1996, Insecta Koreana, 13: 82 (N. Korea).
- Harpalus tridens* Morawitz: Kataev, 1997, Stenstrupia, 23: 129 (diagnosis).
- Harpalus (Ophonus) tridens* Morawitz: Tschitschérine, 1905, Horae Soc. Ent. Ross., 37: 247-249.
- Harpalus (Pardileus) tridens* Morawitz: Jedlička, 1928, Wien. Ent. Zeit., 45: 94; Schauburger, 1929, Col. Centralbl., 3: 189-190, 192; Schauburger, 1932, Wien. Ent. Zeit., 49: 30; Nakane, 1948, Trans. Kinki Col. Soc., 3(1): 6.
- Harpalus (Pseudoophonus) tridens* Morawitz: Mlynář, 1974, Acta Zool. Cracoviensia, 19(6): 107 (N. Korea); Habu, 1968, Bull. Nat. Inst. agr. Sci., (C) 22: 288, 302-305 (Korea);

Habu, 1973, Fauna Japonica, Harpalini, p. 103-108 (Korea); Paik, 1988, Korean J. Entomol., 18(4): 246.

Diagnostic characters. See above key to species. For more detail, see Habu (1973: 103-108).

Material examined. **JJ:** 2 ♀, 28-VIII-2001, Temple Gwan-cumsa, Jeju-si (SCNAE); 4 ♂, 2 ♀, 2-VIII-1994, Yeongsil (750 m), Mt. Hallasan (SCNAE); 1 ♂, 2 ♀, 27-IX-2004, Gyora-ri, Jocheon-eup (Light Trap) (SCNAE); 1 ♀, 7-IX-2001, Seongeup (JFNHM); 1 ♂, 28-IX-1999, Is. Gapado (JFNHM); more than 300 specimens from various localities of Jeju-do (JFNHM). **GB:** 1 ♀, 23-V-1995; 1 ♂, 6-VI-2000, Nari-bunji, Is. Ulleungdo (SCNAE); 2 ♀, 16-V-1999, Temple Haeinsa, Hapcheon-gun (SCNAE); 1 ex., 22-VIII-1992, Bonghwa, Bonghwa-gun, GB (NIAS). **GG:** 3 ♀, 13-VIII-1994, Gwangneung (SCNAE); 1 ex., 20-VIII-1984, Anyang (NIAS); 1 ♀, 11-VI-1990, Weoncheon, Suwon-si (SNUAE); 1 ex., 23-VII-1977, Gwangneung, GG (NIAS). **GN:** 22 ♂, 39 ♀, 16-V-1999, Temple Haeinsa, Gayamyon, Hapcheon-gun (SCNAE); 2 ♂, 1 ♀, 22-VII-2001, Temple Ssanggyaesa, Hadong-gun (SCNAE); 6 ♂, 12 ♀, 1-VII-1994, Is. Geojedo (SCNAE); 1 ♀, 23-VII-2001, Eusin, Mt. Jirisan, Hadong-gun (SCNAE); 1 ♀, 23-VIII-1997, Baekmudong, Mt. Jirisan, Hamyang-gun (SCNAE). **GW:** 1 ♂, 9-VIII-1994; 1 ♂, 23-VII-1995, Jiam-ri, Chuncheon-si (SCNAE); 3 ♂, 3 ♀, 11-VIII-1994, Hongcheon (SCNAE). **JB:** 1 ♀, 23-IX-2001, Mt. Seon-unsan, Gochang-gun (SCNAE); 1 ♂, 26-IX-1991, Naeryeong-ri, Sannae-myon, Namweon-gun (SCNAE); 1 ♀, 21-VI-1991; 1 ♀, 17-VIII-1991, Nae-Byeonsan (JBNAE); 1 ♀, 10-VI-1994, Mt. Geonjisan, Jeonju-si (JBNAE); 1 ♀, 19-IX-1988, Imsil, Imsil-gun (JBNAE); 1 ♂, 30-VII-1994, Jinan (SNUAE); 1 ♂, 31-VIII-1997, Manbokdae, Mt. Jirisan, Namweon-si (JBNHM). **JN:** 6 ♂, 4 ♀, 24-VII-1994, Temple Seonamsa, Suncheon-si (SCNAE); 1 ♂, 4 ♀, 10-IX-1987; 1 ♂, 10-VI-1992; 1 ♀, Suncheon-si (SCNAE); 1 ♀, 10-IX-2002, Joryeong-ri, Bonggang-myeon, Gwangyang-si (SCNAE); 2 ♀, 18-V-1994, Mt. Baekunsan, Gwangyang-si (SCNAE); 1 ♀, 21-VIII-1994, Jangheung, Jangheung-gun (SCNAE); 3 ♂, 2 ♀, 23-VII-1994, Temple Heungguksa, Yeosu-si (SCNAE); 2 ♂, 20-V-2000; 1 ♀, 23-VI-2000; 3 ♀, 6-X-2000, Is. Dolsan, Yeosu-si (SCNAE); 1 ♂, 1 ♀, 10-V-1995, Temple Dorimsa, Gokseong-eup (SCNAE); 2 ♀, 2-IX-1989, Temple Taeansa, Gokseong-eup (SCNAE); 2 ♀, 2-X-2004, Sinchon, Gurye-eup, Gurye-gun (SCNAE); 3 ♂, 2 ♀, 13-VI-1997; 1 ♀, 27-IX-2000, Piagol, Mt. Jirisan, Gurye-gun (SCNAE); 1 ♀, 1 ♂, 23-VIII-1999, Sosari, Yae-ri, Heuksan-myeon, Sianan-gun (SCNAE); 1 ♀, 25-VIII-1988, Temple Songkwangsa, Suncheon-si (JBNAE);

1 ♀, 24-VII-1981, Mt. Jirisan (SNUAE).

Distribution. Korea (North, Central, South), Japan (Hokkaido, Honshu, Shikoku, Kyushu), China (FUJ, GAN, GUA, HEB, HUB, JIX, LIA, SCH, SHA, SHG, SHX, YUN, ZHE), Russian Far East.

Notes. First record for the Koran Peninsula by Kolbe (1886). Widely distributed including Jeju-do. Common species. Often attracted to light sources at night.

This species is easily distinguishable by having the elytra well pubescent at apical and lateral areas, the fore tibial spur with distinct tooth, and the pronotum with angulate basal angles. See also notes on above species *H. coreanus*.

***Harpalus (Pseudoophonus) ussuriensis* Chaudoir, 1863**

우수리먼지벌레 (북방머리먼지벌레)

Harpalus ussuriensis Chaudoir, 1863, Bull. Soc. Nat. Mosc., 36(1): 219 (Ussuri); Schaubberger, 1930, Col. Centralbl., 4: 170; Nakane, 1963, Icon. Ins. Jap. Colore Nat., 2, Col., p. 43 (Korea).

Harpalus vicarius Harold, 1878, Deutsch. Ent. Zeitschr., 22: 66 (Japan); Bates, 1883, Trans. Ent. Soc. London, p. 236; Kurosa, 1949, Bull. Takarazuka Ins., 60: 9 (Korea). Treated as a junior synonym of *ussuriensis* by Csiki, 1932: 1118.

Harpalus (Pseudoophonus) sadoensis Schaubberger, 1929, Col. Centralbl., 3: 183 (Japan: Insel Sado); Schaubberger, 1930, Col. Centralbl., 4: 170, 171. Treated as a junior synonym of *vicarius* by Habu, 1968: 293.

Ophonus (Pseudophonus) vicarius Harold: Tschitscherine, 1895, Horae Soc. Ent. Ross., 29: 155 (Korea).

Ophonus vicarius Harold: Kano, 1924, Ins. world, (Konchusekai), 28(326): 350 (Korea).

Ophonus (Pseudophonus) ussuriensis Chaudoir: Jakobson, 1907, Col. Russ., 5: 377 (partim).

Ophonus (Pseudoophonus) ussuriensis Chaudoir: Nakane, 1963, Icon. Ins. Jap. Colore Nat., 2, Col., p. 43 (Korea).

Pseudophonus sadoensis (Schaubberger): Yano, 1941, Nippon no Kôchû, 4(1): 30 (Korea).

Pseudophonus ussuriensis (Chaudoir): Yano, 1941, Nippon no Kôchû, 4(1): 30 (Korea).

Pseudophonus vicarius (Harold): Reitter, 1900, Verh. Naturf. Ver. Brünn, 38: 71. Yano, 1941, Nippon no Kochu, 4(1): 30 (Korea).

Harpalus (Pseudophonus) ussuriensis (Chaudoir): Csiki, 1932, Col. Cat., 121: 1118 (cat.).

Pseudoophonus (Pseudoophonus) ussuriensis Chaudoir: Lafer, 1989, Key Ins. Russian Far East, (3), 1: 182 (Korea); Lafer, 1996, Ins. Koreana, 13: 82 (N. Korea).

Harpalus (Pseudoophonus) vicarius Harold: Habu, 1968, Bull. Nat. Inst. Agr. Sci., (C) 22: 288, 293-296 (Korea); Habu, 1973, Fauna Japonica, Harpalini, p. 77-84 (Korea).

Diagnostic characters. See Kataev (1997: 125).

Material examined. **JJ:** 1 ♀, 10-VIII-1995, Isl. Udo, Jeju-do (SCNAE); 3 ♂, 5 ♀, 2-VIII-1994, Yeongsil (750 m), Mt. Hallasan (SCNAE); 1 ♂, 28-VIII-2001, Temple Gwaneumsa, Jeju-si (SCNAE); 1 ♂, 2 ♀, 2-VIII-1993, Bizarim, Gujwa-eup (SCNAE); 2 ♀, 30-VII-1992, Jeju-do (SCNAE); 1 ♀, 7-IX-2001, Seongeup (JFNHM); 1 ♀, 20-IV-1994, Topyeong, Seowipo-si (JFNHM); 1 ♀, 20-VIII-2001, Temple Gwangumsa, Jeju-si (JFNHM); 2 ♀, 18-IX-1994, Jungmun, Seogwipo-si (JFNHM). **GB:** 1 ♀, 7-X-2001, Mt. Cheongryangsan, Bonghwa-gun (SCNAE). **GG:** 2 ♀, 13-VIII-1994, Gwangneung (SCNAE). **GW:** 3 ♂, 3 ♀, 11-VIII-1994, Hongcheon (SCNAE); 1 ♂, 24-VII-1998, Jiam-ri, Chuncheon-si (SCNAE). **JB:** 1 ♀, 15-X-2004, Chonbuk Univ. Campus (JBNAE); 1 ♀, 17-VIII-1991, Nae-Byeonsan, Buan-gun (JBNAE); 1 ♀, 21-IX-2000, Mt. Geonjisan, Jeonju-si (JBNAE); 1 ♀, 9-IX-1996, Jeonbuk Univ. Campus (JBNAE); 1 ex., 26-VII-1993, Muju, Muju-gun (NIAS). **JN:** 1 ♀, 7-VII-2005, Yongdang-dong, Suncheon-si (SCNAE).

Distribution. Korea (North, Central, South), Japan (Hokkaido, Honshu, Shikoku, Kyushu), northern China, Russian Far East.

Notes. First record for the Korean Peninsula by Tschitscherine (1895) as *Ophonus vicarius* Harold. Widely distributed including Jeju-do. Rather common. Often attracted at light source.

It is divided into two subspecies, ssp. *vicarius* Harold differs from nominotypical subspecies *ussuriensis* Chaudoir in having the pronotum a little narrower, with the lateral margins more or less roundly contracted towards the basal angles which are fairly rounded, and the shorter metepisterna (Habu, 1973; Kataev, 1997). The subspecies *vicarius* Harold treated as a distinct species by some Japanese authors (Habu, 1973 etc.).

Kataev (1997) noted that the subspecies *vicarius* is distributed in Russian Far East (Sakhalin; Kunashir), Japan (Hokkaido) and China (Yunnan), but the nominotypical subspecies *ussuriensis* is widely distributed in mainland of China, Russian Far East and the Korean Peninsula. However, the South Korean species is regarded as subspecies *vicarius*, but I can not clarify whether the North Korean species is *vicarius* Harold or *ussuriensis* Chaudoir.

Genus *Nipponoharpalus* Habu, 1973 일본머리먼지벌레 속
Harpalus sg. *Nipponoharpalus* Habu, 1973, Harpalini, Fauna

Japonica, p. 194-195.

Type-species: *Harpalus discrepans* A. Morawitz, 1862, by monotypy.

Diagnostic characters. See above generic key.

Notes. Kataev (1995 in Kryzhanovskij *et al.*, p. 139, foot note 292) raised to the generic by the protruded frontal furrow (fovea) and the structure of male genitalia, glabrous paraglossae, ect. I follow this treatment.

It is similar to the genus *Trichotichnus*, but distinguishable by the robust body shape and more numerous spines at the outer margin of the protibiae.

This genus is represented by only one species in Palaearctic Region.

***Nipponoharpalus discrepans* (Morawitz, 1862)**

일본머리먼지벌레

Harpalus discrepans Morawitz, 1862, Mém. Biol., 4: 246 (Japan: Hakodate); Morawitz, 1863, Mém. Acad. Imp. Sci. St.-Pétersb., (7), 6(3): 70-71; Bates, 1873, Trans. ent. Soc. London., p. 265; Heyden, 1879, Deutsch. Ent. Zeitsch., 23: 332; Bates, 1883, Trans. Ent. Soc. London, p. 238; Heyden, 1887, Horae Soc. ent. Rossicae, 29: 246, (Korea); Tschitschérine, 1897, Abeille, 29: 51 (Korea); Tschitschérine, 1901, Horae Soc. Ent. Ross., 35: 135 (foot-note); Tschitschérine, 1901, Horae Soc. Ent. Ross., 35: 220 (foot-note); Kano, 1924, Ins. world, (Konchusekai), 28(326): 350 (Korea); Yano, 1941, Nippon no Kôchû, 4(1): 31 (Korea); Nakane, 1948, Trans. Kinki Col. Soc., 3(1): 5-6; Kurosa, 1949, Bull. Takarazuka Ins., 60: 10 (Korea); Cho, 1957, Hum. & Sci., Nat. Sci., Korea Univ., 2: 190 (Korea); Nakane, 1963, Icon. Ins. Jap., Colore natur. edit., 2 (Col.): 44, pl. 22, fig. 16; Habu & Baba, 1963, Akitu, 11: 25, fig. 3; Habu, 1968, Ent. Rev. Japan, 12: 6, pl. 2; Habu, 1968, Ent. Rev. Japan, 12: 19-21; Paik, 1988, Korean J. Entomol., 18(4): 245 (Jejudo).

Harpalus flavitarsis Dejean var. *nipponensis* Bates, 1883, Trans. Ent. Soc. London, p. 239 (Japan). Synonym established by Habu, 1968: 21.

Harpalus (Harpalus) discrepans Morawitz: Wu, 1937, Cat. Ins. Sinensium, 3: 160 (Korea).

Harpalus (Nipponoharpalus) discrepans Morawitz: Habu, 1973, Fauna Japonica, Harpalini, p. 195-201.

Nipponoharpalus discrepans Morawitz: Kryzhanovskij *et al.*, 1995, Checklist of the ground beetles of Russia, p. 139.

Diagnostic characters. See above generic key. For more

detail, see Habu (1973: 195-201).

Material examined. **JJ:** 1 ♀, 23-IV-2004, Hyeobjae Beach, Hallim-eup (SCNAE); 1 ♂, 21-VIII-1985, Seogwipo, K.-S. Lee leg. (SCNAE); 1 ♂, Yeongsil, Mt. Hallasan (750 m) (SCNAE); 5 ♂, 3 ♀, 9-VI-2001, Sangumburi, Jocheon-eup (SCNAE); 1 ♂, 24-VI-1989; 5 ♂, 11 ♀, 7-V-1989, Jeju-si (SCNAE); 8 ex., 13-VII-1999, Mt. Hanla (250 m), Muljangol, Jeju-si (JFNHM); 2 ex., 20-VII-1999, Mt. Hallasan (550 m), (JFNHM); 1 ♂, 1 ♀, 30-V-1999; 1 ♀, 15-VI-1999; 1 ♀, 26-VI-1999, Mt. Hanla (250 m); 1 ♀, 9-V-1999, Mt. Hanla (550 m); 2 ♂, 3 ♀, 30-V-1999 Mt. Hanla (650 m); 1 ♀, 19-VI-1999, Mt. Hanla (650 m), Jeju-si (JFNHM); 1 ♂, 2 ♀, 12-VI-1999, Jeju-si (250 m) (JFNHM); 1 ♂, 19-IV-1996, Sangumburi (JFNHM); 1 ♂, 20-III-1994, Sumang, Namweon-eup (JFNHM); 1 ♂, 17-IV-1987, Eoeum (JFNHM); 1 ♀, 5-VI-1983, Yonggang (JFNHM). **CN:** 1 ex., 27-V-1982, Mt. Deoksungsan, Deoksan-myeon, Yesan-gun, CN (NIAS). **GB:** 2 ♀, 27-V-1981, Is. Ulleungdo (SCNAE); 1 ♂, 2-VIII-1977, Is. Ulleungdo (SCNAE); 2 ex., 27-V-1981, Is. Ulleungdo (NIAS). **GG:** 1 ♀, 24-V-1987, Suweon (SCNAE). **GW:** 2 ♀, 25-V-2002, Sogeumgang, Mt. Odaesan (SCNAE); 3 ♀, 11-VIII-1994, Hongcheon (SCNAE); 1 ♀, 5-VI-1988, Chuncheon (KWNAE). **JN:** 2 ♂, 2 ♀, 10-IV-1994, Mt. Baekunsan, Gwangyang-si (SCNAE); 1 ♀, 16-IV-1994; 1 ♀, 20-V-2000, Suncheon-si (SCNAE); 1 ♂, 3 ♀, 2-V-1994, Cheongso-ri, Seo-myeon, Suncheon-si (SCNAE).

Distribution. Korea (North, Central, South), Japan (Hokkaido, Honshu, Shikoku, Kyushu), China (BEI, LIA, SCH, SHA), Russian Far East, Oriental Region.

Notes. First record for the Korean Peninsula by Heyden (1887). Widely distributed including in Jejudo. Overwinter as adults. Rather common. This species is easily separable from other Korean harpaline genera by the frontal furrows protruding toward eyes; elytra convex, without the discal setiferous pores; with hmeral tooth well developed, and ect. For more details, see Habu (1973: 195-201).

Genus *Ophonus* Dejean, 1821 구멍머리먼지벌레 속
Ophonus Dejean, 1821, Cot. coll. Coleopt., p. 13.

Type-species: *Carabus sabulicola* Panzer, 1796, by subsequent designation of Hope, 1838: 84, and under the plenary power Opinion 1598 (1990), ICZN.

Diagnostic characters. Rather easily separable; pronotum transverse, strongly narrowed towards hind-angles, its lateral margins before hind angles almost parallel. Upper surface of body with punctuation and erect hairs throughout.

Notes. *Harpalus* and *Ophonus* are sometimes treated as two distinct genera, sometimes regarded congeneric as stated by Ball and Anderson (1962). Quite recently Sciaky (1987) revised the western Palaearctic species. This genus is divided into several forms. For more details, see Sciaky (1987) and Kataev (2001). Many authors consider *Ophonus* as a distinct genus and distinguishable from other harpaline genera by the body with many punctation, ciliate labrum, mandibles, and eyes.

The Palaearctic genus, spreaded mainly in the Mediterranean and Central Asian Regions. The adults of some species store immature seeds in their burrow, upon which their larvae feed.

In the Korean Peninsula, only one species occurs from northern part of the Korean Peninsula. Lafer (1989: 180) distinguishes the Russian Far East species as follows.

- 1(2) Elytra shiny, with very fine and scarce punctation on intervals; upper surface pitchy brown to black, antennae and legs brown. Larger, 7.4-8.0 mm.
 *Ophonus stricticollis* (구멍머리먼지벌레)
- 2(1) Elytra feebly shiny or mat, with rough and dense punctation on intervals; brown, antennae tibiae and tarsi slightly lighter. Smaller, 4.9-6.0 mm.
 *Ophonus hystrix* Reitter, 1894

***Ophonus (Metophonus) stricticollis* (Tschitschérine, 1893)**
 구멍머리먼지벌레

Harpalus stricticollis Tschitschérine, 1893, Horae Soc. ent. Ross., 27: 371 (Russia: Gormy Zercenty).

Ophonus chinensis Tschitschérine, 1895, Horae Soc. ent. Rossicae, 29: 500 (China: Vutschi, Gansu). Synonymized by Kataev, 2001: 181.

Ophonus nikolskyi Jedlička, 1932, Wiener Entomol. Zeitung., 49(4): 326 (Russia: Nikolsk Ussurijsk). Synonymized by Schaubberger, 1933: 129.

Harpalus (Ophonus) stricticollis (Tschitschérine): Lorenz, 1998, Systematic list of extant ground beetles, p. 342.

Ophonus stricticollis (Tschitschérine): Lafer, 1989, Keys Id. Ins. Russian Far East, 3, Coleopt., 1: 180 (Korea: locality unknown); Lafer, 1996, Insecta Koreana, 13: 78.

Ophonus (Metophonus) stricticollis (Tschitschérine): Kryzhanovskij *et al.*, 1995, Checklist of the ground beetles of Russia, p. 152; Kataev, 2001, Zoosyst. Rossica, 9(1): 181.

Diagnostic characters. See above generic key or Kataev (2001).

Materials examined. Russian Far East: 1 ex. Ussuri (Det. by G. Sh. Lafer). Korean Peninsula: Unknown place (after

Lafer 1989). South Korea: No specimen was available for the present study.

Distribution. Korea (after Lafer 1989), China (BEI, GAN, LIA, SCH, SHX), East Mongolia, Russia (W & E Siberia, Far East).

Notes. First record for the Korean Peninsula by Lafer (1989), but has not yet been collected from South Korea. This species may be restricted in only northern part of North Korea, very rare. For more details, see Kataev (2001: 181).

Genus *Oxycentrus* Chaudoir, 1854 긴머리먼지벌레 속
Oxycentrus Chaudoir, 1854, Bull. Soc. Nat. Mosc., 27(2): 345-347.

Type-species: *Oxycentrus parallelus* Chaudoir, 1854 from India, by monotypy.

Agreuter Schmidt-Goebel, 1846, Faun. Col. Birm., pl. 3, fig. 2 on back cover. Preoccupied (nec Lepeletirr & Serville 1828).

Type-species: *Agreuter melas* Schmidt-Goebel, 1846 from Burma, by monotypy.

Diagnostic characters. The chief diagnostic characters are, body cylindrical form, and flattened; elongated deep pit like frontal foveae, each with clypeal prolongation; pronotum short and cordate with complete pronotal anterior bead, a pair of long setae on the lateral margins, basal margin coarsely, densely and closely punctured. Elytra elongate, striae extended to apex, impunctate, intervals convex.

Notes. This genus is rather easily distinguished from other harpaline genera by the narrow body and the frontal impressions extending in posterolateral direction; metum with long median tooth; scutellar striole short, etc. For more detail, see Habu (1973). Only one species occurs from the Korean Peninsula including Jejudo.

***Oxycentrus argutoroides* (Bates, 1873)** 긴머리먼지벌레
Harpalus argutoroides Bates, 1873, Trans. Ent. Soc. London, p. 261-262 (Japan: Nagasaki).

Oxycentrus argutoroides Bates: Bates, 1876, Trans. Ent. Soc. London, p. 3-4, pl. 1, fig. 3; Bates, 1883, Trans. Ent. Soc. London, p. 207; Habu, 1947, Mushi, 18: 28; Habu, 1950, Icon. Ins. Jap. (rev. ed.), p. 954, fig. 2714; Jedlička, 1955, Acta Ent. Mus. Nat. Praga, 30: 220; Habu, 1961, Bull. Nat. Inst. Agr. Sci., (C), 13: 156-157, 164, figs. 9-11; Habu, 1968, Ent. Rev. Japan, 21: 6, pl. 2; Habu, 1973, Fauna Japonica, Harpalini, p. 221-223; Paik, 1988, Korean J. Entomol., 18(4): 247 (Korea); Paik, 1993, J. Sci. & Education, Suncheon Natl. Univ., 1: 85 (Korea); Paik, 1997, Korean

J. Soil Zool., 2(1): 34 (Korea).

Diagnostic characters. See above generic key. For more detail, see Habu (1973: 221-223).

Material examined. **JJ:** 1 ♀, 4-VIII-1993; 1 ♂, 1 ♀, 29-VII-1989, Jejudo (SCNAE); 1 ♂, 5 ♀, 3-VII-1994, Donnaeko, Seogwipo-si (SCNAE); 2 ♀, 2-VIII-1992, Yeongsil, Mt. Hallasan, alt. 750 m (SCNAE). **CB:** 4 ♂, 2 ♀, 4-VII-1999, Ssangyong valley, Mt. Soklisan (SJNAE). **GB:** 2 ♂, 10-VIII-1998, Mt. Gapjongsan, Sangju-si (SCNAE); 1 ♀, 1 ♂, 10-VIII-1988, Janggal, Andong-si (NAIST); 3 ex., 6-VII-1993, Bonghwa, Bonghwa-gun (NIASST); 1 ♂, 20-VII-1998, Sangju-si (SJNAE); 2 ex., 28-VI-1991, Yeongcheon-si (NIASST). **GG:** 1 ♀, 4-V-1985, Mt. Ungilsan, Joan-myeon, Namyangju-si (SCNAE); 1 ♀, 13-VII-1984, Suweon-si (SCNAE); 1 ♀, 29-VII-1999, Gwangneung (SJNAE); 1 ex., 2-VII-1982, Suweon (NIASST); 1 ex., 5-X-1996; 1 ex., 14-IX-1996; 3 ex., 11-VII-1996; ex., 22-VI-1996, Seodun-dong, Suweon (NIASST). **GN:** 1 ♀, 23-VII-2001, Eusin, Mt. Jiri-san, Hadong-gun (SCNAE). **JB:** 3 ♀, 13-VII-2002, Eochi-ri, Donggye-myon, Sunchang-gun (SCNAE); 2 ♀, 28-VI-1990, Jeonju-si (SCNAE); 2 ♀, 27-VI-1986, Temple Naesosa, Busan-gun (JBNAE); 1 ♀, 27-VI-1986, Temple Naesosa, Busan-gun (JBNAE); 1 ex., 28-VII-1993, Muju, Muju-gun, JB (NIASST). **JN:** 1 ♂, 18-V-1984; 1 ♀, 29-IV-1995, Cheongso-ri, Seo-myeon, Suncheon-si (SCNAE); 1 ♂, 20-VII-1987, Is. Nae-Narodo, Goheung-gun (SCNAE).

Distribution. Korea (Central, South), Japan (Honshu, Shikoku, Kyushu, Ryukyu), China.

Notes. First record for Jejudo, South Korea by Paik (1988). Widely distributed including in Jejudo. Rather common species in South Korea. Often attracted to light sources. It is rather easily distinguished from related species by the clypeus with extension of the frontal impressions reaching the clypeal setae. Body length 7-9 mm, shiny black; antennae, mouth, abdominal sternites, and legs from yellowish brown to reddish brown.

Genus *Platymetopus* Dejean, 1829 털머리먼지벌레 속
Platymetopus Dejean, 1829, Species Général Coléopt., 4: 68.

Type-species: *Platymetopus vestitus* Dejean, 1829 by subsequent designation of Hope, 1838: 88.

Diagnostic characters. The chief diagnostic characters are; body medium size and elongate. Labrum anteriorly rounded. Clypeus not deeply emarginate; upper surface closely and deeply punctured with hairs. For more detail, see Habu (1973:

204).

Notes. Medium-sized, dull black Harpalini, distinguished from other Korean harpaline genera by the dorsal surface entirely coarsely punctate and pubescent.

Widely distributed from SE. Asia, Madagascar, Philippines, and New Guinea. A single widely distributed Oriental species of this genus occurs from southern part of the Korean Peninsula including in Jejudo. Only one species is known to Korea.

***Platymetopus flavilabris* (Fabricius, 1798)** 털머리먼지벌레
Carabus flavilabris Fabricius, 1798, Supp. Ent. Syst., p. 59 (India)

Harpalus thunbergi Quensel in Schönherr, 1806, Syn. Ins., 1: 188 (Cape of Good Hope). Synonymized by Andrewes, 1921: 160.

Harpalus punctulatus Macleay, 1825, Ann. Jav., p. 21 (Java). Synonymized by Andrewes, 1921: 160.

Harpalus (Ophonus) senilis Nietner, 1857, Ann. Mag. nat. Hist. (2), 20: 372-373 (Ceylon). Synonymized by Andrewes, 1921: 160.

Platymetopus corrosus Bates, 1873, Trans. Ent. Soc. London, p. 270-271. Synonymized by Andrewes, 1921: 160.

Platymetopus obscuripes Schaufuss, 1889, Horae Soc. ent. Ross., 21: 106 (Sunda Is.). Synonymized by Andrewes, 1921: 160.

Platymetopus punctulicollis Bates, 1889, Ann. Soc. Ent. France, (6), 9: 269-270 (Indo-China: Mytho). Synonymized by Andrewes, 1921: 160.

Dioryche formosana Dupuis, 1912, Ann. Soc. Ent. Belg., 56: 324-328 (Taiwan). Synonymized by Csiki, 1932: 1202.

Platymetopus punctulatus MacLeay: Andrewes, 1919, Trans. Ent. Soc. London, p. 151-152.

Platymetopus thunbergi Quensel: Bates, 1873, Trans. Ent. Soc. London, p. 270-271.

Platymetopus flavilabris var. *thunbergi* Quensel: Andrewes, 1924, Ann. Mag. nat. Hist. (9), 13: 469.

Platymetopus flavilabris var. *obscuripes* Schaufuss: Andrewes, 1927, Ann. Mag. nat. Hist. (9), 19: 110. [Synonymized by Andrewes, 1927: 110.]

Platymetopus flavilabris var. *corrosus* Bates: Schaubberger, 1933, Wien. Ent. Zeit., 50: 75.

Platymetopus flavilabris var. *punctulicollis* Bates: Schaubberger, 1933, Wien. Ent. Zeit., 50: 76; Andrewes, 1947, Ark. Zool., 38A(20): 7.

Platymetopus flavilabris var. *puncticollis* Bates: Csiki, 1932, Col. Cat., 121: 1206; Louwerens, 1964, Ent. Tidskr., 85: 179. Unjustified emendation.

Platymetopus flavilabris var. *thunbergi* Quensel: Schauberger, 1933, Wien. Ent. Zeit., 50: 75.

Platymetopus flavilabris thunbergi Quensel: Habu, 1961, Nature & Life in Southeast Asia, 1: 274-275; Habu, 1968, Ent. Rev. Japan, 21: 6.

Platymetopus flavilabris Fabricius: Schaum, 1847, Stett. Ent. Zeit., 8: 48; Motschulsky, 1855, Etud. Ent., 4: 43; Andrewes, 1921, Trans. Ent. Soc. London, p. 160 (syn.); Andrewes, 1927, Ann. Mag. Nat. Hist., (9), 19: 107 (syn.); Csiki, 1932, Col. Cat., 121: 1202 (cat.); Miwa, 1932, Bull. Biogeog. Soc. Japan, 3: 134; Nakane, 1963, Icon. Ins. Jap., Colore natur. edit., 2 (Col.): 42, pl. 21, fig. 17; Louwerens, 1967, Ent. Meddel., 35: 199-200; Habu, 1973, Fauna Japonica, Harpalini, p. 205-215; Paik, 1988, Korean J. Entomol., 18(4): 247 (Korea).

Diagnostic characters. See above generic key. For more detail, see Habu (1973: 205-215).

Material examined. JJ: 1 ♀, 23-IV-2004, Hyeobjae Beach, Hallim-eup (SCNAE); 1 ♀, 29-VI-1983, Ara, Jeju-si (JFNHM); 1 ♀, 28-IX-1999, Is. Gapado (JFNHM). CN: 1 ex., 10-VII-1996, Is. Anmyeondo, Taean-gun, CN (NIAS). GB: 1 ♂, 1 ♀, 10-VIII-1998, Mt. Gapjongsan, Sangju-si, (SCNAE); 1 ex., 11-VI-1993, Gimcheon (NIAS). JB: 1 ♀, 22-VI-2001, Mt. Seon-un-san, Gochang-gun (SCNAE). JN: 1 ♀, 25-VI-2000, Suncheon-si (SCNAE); 3 ♀, 10-IX-2002, Bonggang, Gwangyang-si (SCNAE); 1 ♀, 23-VIII-1999, Sosari, Yae-ri, Is. Heuksando (SCNAE); 1 ex., 26-VII-1993, Damyang, Damyang-gun (NIAS).

Distribution. Korea (Central, South), Japan (Hokkaido, Honshu, Shikoku, Kyushu, Ryukyu), China (FUJ, YUN), Taiwan, Oriental Region.

Notes. First record for Jeju-do, South Korea by Paik (1988). This species confirmed to distribution from mainland of the Korean Peninsula (at present). Widely distributed including Jeju-do. Lives in grassy fields. Very seldom.

According to Habu (1973), this species shows many geographical variations. For more details, see Habu (1973: 209-212).

Genus *Trichotichnus* A. Morawitz, 1863

윤머리먼지벌레 속

Trichotichnus A. Morawitz, 1863, Mem. Acad. Sci. St. Petersburg, (7), 6(3): 63-64.

Type-species: *Trichotichnus longitarsus* A. Morawitz, 1863, by monotypy.

Iridessus H. Bates, 1883, Trans. R. ent. Soc. Lond., p. 240.

Type-species: *Harpalus lucidus* A. Morawitz, 1863, by subsequent designation of Habu, 1954: 245. Treated as a junior synonym by Habu, 1954: 245.

Asmerinx Tschitschérine, 1898, Ann. Soc. Ent. France, 67: 183.

Type-species: *Carabus laevicollis* Duftschmid from Europe, by subsequent designation of Tschitschérine, 1900: 363. Treated as a junior synonym by Csiki, 1932: 1217.

Pteropalus Casey, 1914, Mem. Col., 5: 64, 131.

Type-species: *Harpalus vulpeculus* Say, 1823, by subsequent designation of Habu, 1954: 245. Treated as a junior synonym by Csiki, 1932: 1217.

Episcopellus Casey, 1914, Mem. Col., 5: 220, 235-236.

Type-species: *Feronia autumnalis* Say, 1823, by original designation. Treated as a junior synonym by Csiki, 1932: 1217.

Carbanus Andrewes, 1937, Treubia, 16: 27.

Type-species: *Carbanus flavipes* Andrewes, 1937 (= *Trichotichnus claripes* Lorenz, 1998), by monotypy. Synonymized by Noonan, 1976, Quaest. Ent., 12(1): 43.

Velimius Jedlička, 1952, Acta Mus. Silesiae, 2(A): 51.

Type-species: *Velimius edai* Jedlička, 1952 from Japan, by subsequent designation of Jedlička, 1958: 51 and monotypy. Synonymized by Habu, 1973: 224.

Lyter Darlington, 1968, Bull. Mus. Comp. Zool., 137(1): 40, 63.

Type-species: *Lyter glaber* Darlington, 1968, by original designation and monotypy. Synonymized by Noonan, 1985: 67.

Diagnostic characters. See above generic key and Noonan (1985: 67).

Notes. This genus is rather easily distinguishable by the frontal impressions extending postero-laterally; mentum with simple tooth; pronotum without posterior lateral setae; interval 3 with one dorsal pore adjoining stria 2, & etc. For generic diagnosis, see Habu (1973).

In Korea 9 species are listed from the Korean Peninsula, but four species (*T. gorni*, *leptopus*, *lucidus* & *vicinus*) has not yet been collected from South Korea.

Divided into several subgenera, but the nominotypical subgenus *Trichotichnus* occurs from the Korean Peninsula. The supraspecific rank varied by authors. The *orientalis*-species group of Habu (1973) treated as a subgenus *Iridessus* H. Bates, 1883 by Ball & Bousquet (2001). *Pseudotrichotichnus* Habu has sunken to junior synonym of *Trichotichnus* s. str. by Noonan (1985), but Kataev *et al.* (2003 in Löble & Smetana)

treats it full subgenus. Quite recently, Morita (1997) revised Japanese *leptopus*-species group. A series of South Asian species are published by Ito (1993-2003). The following key is based on Habu (1973) and literature.

Key to the Korean species (based on literature)

- 1(2) Frontal impression fully deep, distinctly reaching deep frontal lateral furrows; postgenae relatively developed, sparsely cilliate; tarsi short, hind tarsi fully shorter than width of head (subgenus *Pseudotrichotichnus* Habu, 1973).
- 2(1) Frontal impression shallow to moderately deep, becoming shallower or faint near eyes; postgenae glabrous (subgenus *Trichotichnus* s. str.).
 - 1(2) Hind-angles of pronotum rounded; ligula narrow, not dilated at apex (*orientalis*-group). Head and pronotum reddish brown or orange; abdominal sternites, legs, antennae and palpi brownish yellow, elytra black. *T. lucidus* (참윤머리먼지벌레)
 - 2(1) Hind-angles of pronotum obtusely angulate, sometimes narrowly rounded, or rectangular; ligula widely dilated at apex.
 - 3(12) Sternite 6 with two setae on either side in male and female; fore tibiae without longitudinal furrow (*congruus*-group).
 - 4(5) 3rd elytral interval without setigerous puncture; elytral striae impunctate, with scutellar basal pore. *T. gerini* (검정윤머리먼지벌레)
 - 5(4) 3rd elytral interval with one setigerous puncture.
 - 6(9) 3rd elytral interval with one pore situated at two-third.
 - 7(8) 5th hind tarsal segment as long as 1st; pronotum widest behind one-third. *T. congruus* (애기윤머리먼지벌레)
 - 8(7) 5th hind tarsal segment shorter than 1st; pronotum widest before middle. *T. nishioi* (백윤머리먼지벌레)
 - 9(6) 3rd elytral interval with one pore behind middle, adjoining stria 2.
 - 10(11) Hind-angles of pronotum obtuse to rectangular; disk densely fine punctures on surface, weakened only in the center of the disc. *T. coruscus* (긴윤머리먼지벌레)
 - 11(10) Hind-angles obtuse with a tiny denticle; disk almost smooth, except the areas of basal fovea, lateral area, and between basal fovea with very fine punctures. *T. vicinus* (북윤머리먼지벌레)
- 12(3) Sternite 6 with one setae in male, two setae in female, on either side.
- 13(16) Metepisterna fairly longer than width; fore tibiae longitudinal furrow and carinate (*longitarsis*-group).
- 14(15) Head and pronotum reddish black to black; pronotum with basal angle more or less rounded; wings developed; fore tibiae distinctly sulcated. *T. noctuabundus* (검윤머리먼지벌레)
- 15(14) Head and pronotum reddish brown to reddish black; pronotum with basal angle more or less angulate; fore tibiae faintly sulcated. *T. longitarsis* (붉은윤머리먼지벌레)
- 16(13) Metepisterna short, almost as long as width; fore tibiae with or without longitudinal furrow (*leptopus*-group). Elytra not punctate, fairly iridescent; lateral margin of pronotum almost black (sometimes brown). *T. leptopus* (윤머리먼지벌레)

Subgenus *Trichotichnus* A. Morawitz, 1863

윤머리먼지벌레 아속

Trichotichnus A. Morawitz, 1863, Mem. Acad. Sci. St.-Petersburg, (7), 6(3): 63-64.

Type-species: *Trichotichnus longitarsus* A. Morawitz, 1863, by monotypy.

Trichotichnus (Trichotichnus) congruus

(**Motschulsky, 1866**) 애기윤머리먼지벌레

Platus congruus Motschulsky, 1866, Bull. Soc. Nat. Mosc., 39(1): 164 (Japan).

Tachycellus falsus Bates, 1876, Trans. Ent. Soc. London, p. 3 (Japan). Treated as a junior synonym of *congruus* by Csiki, 1932: 1218.

Harpalus laeivcollis Duftschmid: Morawitz, 1863, Mém. Acad. Imp. Sci. St.-Petersb., (7), 6(3): 71-72; Bates, 1873, Trans. Ent. Soc. London, p. 261.

Harpalus congruus (Motschulsky): Bates, 1883, Trans. Ent. Soc. Lond.: 207, 237; Tschitschérine, 1895, Horae Soc. Ent. Rossicae, 29: 161 (Korea); Kano, 1924, Ins. world, (Konchusekai), 28(326): 350 (Korea).

Harpalus (Asmerinx) congruus (Morawitz): Reitter, 1900, Verh. Naturf. Ver. Brünn, 36: 96.

Trichotichnus congruus Tschitschérine: Jedlička, 1960, Anns hist.-nat. Mus. natn. hung., 52: 231 (Korea).

Trichotichus (Trichotichnus) congruus (Motschulsky): Andrewes, 1933, Trans. Ent. Soc. Lond., 81: 5; Habu, 1954, Bull. Nat. Inst. Agr. Sci., (C), no. 4: 247, 250-251; Habu, 1961, Bull. Nat. Inst. Agr. Sci., (C), no. 13: 133, 140-141; Nakane, 1963, Icon. Ins. Jap., Colore natur. edti., 2 (Col.), p. 42 (Korea); Habu, 1968, Ent. Rev. Japan, 21: 6; Habu, 1969, Kontyu, 37: 250; Habu, 1973, Fauna Japonica,

Harpalini, p. 248-251; Kryzhanovskij *et al.*, 1995, Checklist of ground-beetles of Russia, p. 139; Paik, 1997, Korean J. Soil Zool., 2(1): 25 (Korea).

Diagnostic characters. See above key for species. For more detail, see Habu (1973).

Material examined. **GG:** 1 ♂, 13-VIII-1994, Gwangneung (SCNAE). **GN:** 1 ♀, 26-VI-1997, Chilseon, Mt. Jirisan, Hamyang-gun, GN (SCNAE). **JN:** 1 ♀, 8-IV-1995, Mt. Baik-un-san, Gwangyang-si, JN (SCNAE); 1 ♀, 27-IV-1994, Cheongdo-ri, Seo-myeon, Suncheon-si (SCNAE).

Distribution. Korea (Central, South), Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Notes. First record for the Korean Peninsula by Tschitschérine (1895). Found throughout the Korean Peninsula in hills and flat lands. Widely distributed in mainland, but no record from Jeju. Body 5-9 mm in length, pitchy brown. Antennae, palpi, and legs orange brown to reddish brown.

Trichotichnus (Trichotichnus) coruscus

(Tschitschérine, 1895) 긴윤머리먼지벌레

Harpalus coruscus Tschitschérine, 1895, Horae Soc. Ent. Ross., 29: 161-164 (Korea: Olchonsa; Mt. Sansanbon); Tschitschérine, 1900, Horae Soc. Ent. Ross., 34: 362; Kano, 1924, Ins. world, (Konchusekai), 28(326): 350 (*corseus*) (Korea); Jedlička, 1949, Acta Soc. Ent. Cechosl., 46(3/4): 108 (Vladivostok); Paik, 1997, Korean J. Soil Zool., 2(1): 25 (Korea).

Trichotichnus sachalinensis Habu, 1954, Bull. Nat. Inst. Agr. Sci. (C), 4: 233-234 (Sakhalin). Treated as a junior synonym of *coruscus* by Kryzhanovskij *et al.*, 1995: 139.

Trichotichnus (Trichotichnus) coruscus (Tschitschérine): Csiki, 1932, Col. Cat., 121: 1218 (cat.); Lafer, 1973, Ent. Obotz., 52(4): 851 (spp. key); Młynář, 1974, Acta Zool. Cracoviensia, 19(6): 108 (N. Korea); Lafer, 1989, Keys Ins. Russian Far East., (3), 1: 195 (spp. key); Kryzhanovskij *et al.*, 1995, Checklist of ground-beetles of Russia, p. 139; Lafer, 1996, Ins. Korana, 13: 87 (Korea).

Diagnostic characters. See above key to species. For more detail, see redescription of *T. sachalinensis* Habu, 1954.

Material examined. **JJ:** 1 ♂, 5-VII-1994, Yeongsil, Mt. Hallasan (SCNAE); 1 ♂, 25-VIII-1985, Gyrae, Jocheon-eup (SCNAE); 1 ♀, 1 ♂, 11-VI-1992, Seonheul, Jocheon-eup (SCNAE); 1 ♀, 26-VI-1992, Bijarim, Gujwa-eup (SCNAE); 2 ex., 15-V-1983, Sujangol, Mt. Hallasan (NIAS). **GB:** 1 ♂, 10-VII-1987, Andong (SCNAE). **GN:** 1 ♂, 2 ♀, 20-IX-1997,

Eumjung, Mt. Jiri-san, Hamyang-gun (SCNAE).

Distribution. Korea (North, South), Russian Far East.

Notes. First record for the Korean Peninsula by Tschitschérine (1895). Later Paik (1997) reported it from South Korea. Body 9.0-10.5 mm in length, shiny black. Head and thorax reddish brown. Widely distributed throughout the Korean Peninsula including in Jeju, in hills and low lands.

Trichotichnus (Trichotichnus) nishioi Habu, 1961

백운윤머리먼지벌레

Trichotichnus (Trichotichnus) nishioi Habu, 1961, Bull. Nat. Inst. Agr. Sci., (C) no. 13: 132, 141-142 (Japan); Kryzhanovskij *et al.*, 1995, Checklist of ground-beetles of Russia, p. 139; Paik, 1997, Korean J. Soil Zool., 2(1): 26 (Korea).

Trichotichnus (Trichotichnus) congruus Tschitschérine [sic]: Lafer, 1973, Ent. Obotz., 52(4): 851 (spp. key); Lafer, 1889, Key Ins. Russian Far East., (3), 1: 195. Misidentification.

Diagnostic characters. See above key to species. For more detail, see Habu (1973).

Material examined. **GB:** 1 ♀, 10-IX-1982, Mt. Palgongsan (SCNAE). **GG:** 1 ♂, 1 ♀, 13-VIII-1994, Gwangneung, Soheul-eup, Pocheon-gun (SCNAE). **JN:** 1 ♀, 10-V-1995, Templ Dorimsa, Gokseong-eup (SCNAE); 1 ♀, 8-IV-1995, Mt. Baekunsan, Gwangyang-si (SCNAE).

Distribution. Korea (Central, South), Japan (Hokkaido, Honshu), Russian Far East.

Notes. First record for South Korea by Paik (1997). Very seldom. In general, similar to *T. (T.) congruus* but slightly bigger with 6-10 mm in body length. Pronotum flat but rapidly narrows posteriorly. Distributed throughout the Korean Peninsula but not common.

Trichotichnus (Trichotichnus) gerni Noonan, 1985

검정윤머리먼지벌레

Trichotichnus (Trichotichnus) gerni Noonan, 1985, Milwaukee Public Museum, 64: 68.

New name for *Trichotichnus niger* Jedlička, 1962 (nec Louwerens, 1951).

Trichotichnus niger Jedlička, 1962, Ent. Arb. Mus. Frey, 13: 496 (Korea: Seoul); Kirschenhofer, 1997, Annls hist.-nat. Mus. natn. hung., 89: 109 (N. Korea: Mt. Kumgangsan).

Diagnostic characters. See above key to species. For more detail, see original description as *Trichotichnus niger*.

Materials examined. No specimen was available for the present study. North Korea: Mt. Kumgangsan (after Kirschen-

hofer, 1997: 109). South Korea: Seoul (after Jedlička 1962).

Distribution. Korea (North, Central: Seoul).

Notes. Described from Seoul, Korea by Jedlička (1962) as *T. niger*, but has not yet been collected from southern part of the Korean Peninsula. This species is rather easily separable from other Korean relatives by the lack of setigerous puncture on 3rd elytral interval (other species with one pore). Elytral intervals flat.

Trichotichnus (Trichotichnus) vicinus (Tschitschérine,

1897) 북윤머리먼지벌레

Harpalus vicinus Tschitschérine, 1897, L'Abeille, 29: 56-57 (China).

Trichotichnus vicinus (Tschitschérine): Młynář, 1974, Acta zool. cracov., 19(6): 108 (N. Korea: Mjohjang-san).

Trichotichnus (Trichotichnus) vicinus (Tschitschérine): Csiki, 1932, Col. Cat., 121: 1219.

Diagnostic characters. See above key to species.

Material examined. No specimen was available for the present study. North Korea: Mjohjang-san (after Młynář 1974: 108).

Distribution. Korea (North: Mt. Myohyangsan), China (SCH).

Notes. First record for North Korea by Młynář (1974), but has not yet been collected from southern part of the Korean Peninsula.

Trichotichnus (Trichotichnus) longitarsis Morawitz, 1863

붉은윤머리먼지벌레

Trichotichnus longitarsis Morawitz, 1863, Mém. Acad. Imp. Sci. St.-Pétersb., (7), 6(3): 65 (Japan); Bates, 1873, Trans. Ent. Soc. Lond.: 268; Harold, 1877, Deutsch. Ent. Zeits., 21: 339; Tschitscherin, 1900, Horae Soc. Ent. Ross., 34: 362; Matsumura, 1931, Illust. Common Ins. Japan, 3: 10, 15; Jedlička, 1955, Acta Ent. Mus. Nat. Pragae, 30: 219; Nakane, 1963, Icon. Ins. Japa., Colore natur edit., 2 (Col.), p. 42.

Trichotichnus (Trichotichnus) longitarsis Morawitz: Csiki, 1932, Col. Cat., 121: 1219 (cat.); Habu, 1954, Bull. Nat. Inst. Agr. Sci., (C), no. 4: 247, 254-255; Habu, 1961, Bull. Nat. Inst. Agr. Sci., (C), no. 13: 133, 146-147; Habu, 1968, Ent. Rev. Japan, 21: 6; Ball, 1970, Col. Bull., 24: 101, 103, 110; Habu, 1973, Fauna Japonica, Harpalini, p. 267-270; Paik, 1997, Korean J. Soil Zool., 2(1): 25 (Korea).

Diagnostic characters. See above key to species. For more

detail, see Habu (1973).

Material examined. GN: 4 ♀, 20-IX-1997, Eumjeong, Mt. Jirisan, Hamyang-gun (SCNAE); 1 ♀, 23-VIII-1997, Baekmudong, Mt. Jirisan, Hamyang-gun (SCNAE). GW: 1 ♂, 1 ♀, 11-VIII-1994, Hongcheon (SCNAE). JB: 1 ♀, 13-IX-1997, Dalgung, Mt. Jiri-san, Namweon-si (SCNAE). JN: 2 ♀, 13-VI-1977, Piagol, Mt. Jirisan, Gurye-gun (SCNAE); 3 ♀, 1 ♂, 24-VII-1994, Seonam-sa, Seunju-eup, Sunchon-si (SCNAE).

Distribution. Korea (South), Japan (Hokkaido, Honshu, Shikoku, Kyushu), China, Russian Far East.

Notes. First record for South Korea by Paik (1997). Body 8-10 mm in length, head and thorax from yellowish brown to reddish brown. Elytra except at both edges and elytral suture, dark brown. Widely distributed throughout the Korean Peninsula, though not common.

Trichotichnus (Trichotichnus) leptopus (Bates, 1883)

윤머리먼지벌레

Harpalus leptopus Bates, 1883, Trans. Ent. Soc. Lond.: 237-238 (Japan).

Trichotichnus leptopus (Bates): Tschitschérine, 1900, Horae Soc. Ent. Ross., 34: 362; Tschitschérine, 1900, Horae Soc. Ent. Rossicae, 34: 362; Yano, 1941, Nippon no Kôchû, 4(1): 32 (Korea: Shuotsu).

Trichotichnus (Trichotichnus) leptopus (Bates): Csiki, 1932, Col. Cat., 121: 1219; Habu, 1961, Bull. Nat. Inst. Agr. Sci., (C) no. 13: 135, 150-151; Habu, 1973, Fauna Japonica, Harpalini, p. 282.

Diagnostic characters. See above key to species. For more detail, see Habu (1973).

Materials examined. No specimens were available for the present study. North Korea: Shuotsu (after Yano 1941).

Distribution. Korea (North), Japan (Honshu), Russian Far East.

Notes. First record for Korea by Yano (1941), but has not yet been collected from southern part of the Korean Peninsula. It is probably overlooked *T. coruscus*. by Yano. Body 9-12 mm in length, pitchy black and shiny. Pronotum narrows strongly posteriorly making a heart-like shape.

Trichotichnus (Trichotichnus) lucidus (Morawitz, 1863)

참윤머리먼지벌레

Harpalus lucidus A. Morawitz, 1863, Mém. Acad. Imp. Sci. St.-Pétersb. (7), 6(3): 72-73 (Japan: Hakodate); H.W. Bates, 1873, Tarns. Ent. Soc. London, p. 265.

Iridessus lucidus (Morawitz): H.W. Bates, 1883, Trans. Ent.

Soc. London, p. 207, 240; Nakane, 1963, Icon. Ins. Jap., Colore natur. edit., 2 (Col.), p. 42, pl. 21, fig. 19.

Trichotichnus (Trichotichnus) lucidus (Morawitz): Csiki, 1932, Col. Cat., 121: 1219 (cat.); Habu, 1954, Bull. Nat. Inst. Agr. Sci. (C), 4: 246, 247-248; Habu, 1961, Bull. Nat. Inst. Agr. Sci. (C), 13: 130, 135-136; Habu, 1968, Ent. Rev. Japan, 21: 6, pl. 2; Habu, 1973, Fauna Japonica, Harpalini, p. 237-239; Lafer, 1973, Ent. Obotz., 52(4): 851 (spp. key); Kwon & Lee, 1986, Insecta Koreana, 6: 39 (Korea).

Diagnostic characters. See above species key. For more detail, see Habu (1973).

Materials examined. Japan: 1 ♂, 10-8-1916, Oogaki, Prov. Mino, by M. Suzuki (Kyushu Univ.). Korea: Unknown place of central part of the Korean Peninsula (after Kwon & Lee 1986: 39).

Distribution. ?Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), Russian Far East.

Notes. Listed for Korea by Kwon & Lee (1986), but the earlier references could not be traced. Also, it has not yet been collected from southern part of the Korean Peninsula. This record could be an error or misidentification of other species. This species is easily distinguishable by the body color. Body length 7-8 mm, head and thorax reddish brown, elytra dark

brown and shiny. We have seen one male specimen at Entomological Laboratory, Kyushu University when we visited in 2003. It is easily separable by the color of body.

***Trichotichnus (Trichotichnus) noctuabundus* Habu, 1954**

섬윤머리먼지벌레

Trichotichnus noctuabundus Habu, 1954, Mushi, 26: 56-57 (Japan); Paik, 1995, Insects of Quelpart Is., p. 140 (Jejudo).

Trichotichnus (Trichotichnus) noctuabundus Habu: Habu, 1954, Bull. Nat. Inst. Agr. Sci., (C), 4: 246, 253-254; Habu, 1957, Kontyu, 25: 68; Habu, 1961, Bull. Nat. Inst. Agr. Sci., (C), 13: 131, 145; Habu, 1973, Fauna Japonica, Harpalini, p. 259.

Diagnostic characters. See above key to species. For more detail, see Habu (1973).

Material examined. JJ: 1 ♂, 3 ♀, 14-VII-1985, Seogwipo (SCNAE); 1 ♂, 15-VI-1983, Jeju (SCNAE).

Distribution. Korea (Jejudo), Japan (Honshu, Kyushu).

Notes. First record for South Korea by Paik (1995). Found only in Jejudo.

< Please find references at the end of the 4th article of the Harpalini series >