

Some Ground Beetles (Coleoptera, Carabidae) from Jeju Island (V)

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濟州道の 먼지벌레 (V)

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ABSTRACT

Herein, 20 species of the ground beetles are reported from Jeju Island. Of these, 2 species, *Microlestes imaii* Habu, 1972 and *Oodes vicarius* Bates, 1873 are listed for the first time from Korea and 9 species are new to Jeju Island. *Pterostichus shirozui* Habu, 1985 becomes a new junior synonym of *Pt. nimbatiidius* Chaudoir, 1878.

Key words : Coleoptera, Carabidae, Jeju Island, new synonym, new record, Korea

In this paper, 20 species are reported from Jejudo (= Cheju-do, Cheju Island, Jeju Island, Quelpart Island). Of these, 2 species, *Microlestes imaii* Habu, 1972 and *Oodes vicarius* Bates, 1873 are listed for the first time from the Korean Peninsula.

Nine species, *Apristus striatus* (Motschulsky 1844), *Bembidion amurense* (Motschulsky 1859), *Bembidion niloticum batesi* (Putzeys 1875), *Bembidion scopulinum* (Kirby 1837), *Chlaenius ocreatus* Bates 1873, *Paratachys micros* (Fischer von Waldheim 1828), *Pterostichus prolongatus* Morawitz 1862, *Stenolophus castaneipennis* Bates 1873, and *Trechus (Epaphius) dorsostriatus* Morawitz 1862, are newly recorded from this island.

Habu (1985) described *Pterostichus shirozui* from this island, but this species is treated as a junior synonym of *Pt. nimbatiidius* by the original description and figure.

Materials collected by the authors were examined and deposited in Department of Applied Biology, Suncheon National University (SCNAE), and Jejudo Folklore and Natural History Museum (JFNHM), Korea.

RESULTS

1. *Apristus striatus* (Motschulsky, 1844)

꼬마선두리먼지벌레

Dromius striatus Motschulsky, 1844, Ins. Sibér., p. 63 (Siberia).

Apristus striatus (Motschulsky): Paik, 1998, Korean J. Soil. Zool., 3(1): 2 (Korea).

Materials examined. 7 ex, 21-V-1990, Jeju-si (JFNHM).

Distribution. Korea (Jejudo-new record), Japan (Hokkaido), Russian Far East.

Notes. First record in North Korea by Kirschenhofer (1997). Later Paik (1998) reported it from the southern part of the Korean Peninsula. Widely distributed. Rather common on river and valley sides. Only one species of this genus occurs in the Korean Peninsula. Rapid in action on warm days, making it not easy to collect. The generic diagnosis and a key to the Japanese species are given by Habu (1967, 1984).

2. *Archipatrobus flavipes* (Motschulsky, 1864)

습지먼지벌레

Patrobus flavipes Motschulsky, 1864, Bull. Soc. Nat. Mosc.,

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37, 3: 191 (Japan); Kühnelt, 1941, Ann. Naturh. Mus. Wien, 51: 164 (Korea); Lee *et al.*, 1985, Rept. Acad. Survey Hallasan Nat. Preser., p. 401 (Quelpart Is.); Paik, 1995, Insects of Quelpart Is., p. 138 (Jejudo).

Patrobus (Patrobus) flavipes Motschulsky: Kwon & Lee, 1986, Insecta Koreana, 6: 24 (Korea).

Archipatrobus flavipes (Motschulsky): Zamotajlov, 1992, Mitt. Schweiz. Ent. Ges., 65: 271; Yahiro & Lee, 1995, Esakia, 35: 230 (Chejudo).

Materials examined. 1 ♀, 7-V-1989, Jeju-si (SCNAE).

Distribution. Korea, Japan, Northern China, Russian Far East.

Notes. First record in Korea by Kühnelt (1941) as *P. flavipes*. Widely distributed in the Korean Peninsula including Jejudo on flat lands and hills, but not common. Recently, the genus *Patrobus* is divided into several distinct genera. For more details, refer to Zamotajlov (1992).

참고. 몸길이는 약 15 mm이며, 더듬이는 적갈색, 다리는 황갈색이고 머리와 가슴에는 커다란 점각이 있다. 앞날개의 어깨는 명확하며, 뒷날개는 발달한다.

3. *Bembidion amurense* (Motschulsky, 1859)

오늬강변먼지벌레

Peryphus amurensis Motschulsky, 1859, Bull. Soc. Nat. Mosc., 32(2): 488 (Amur).

Peryphus amurensis Motschulsky, 1860, in Schrenck's Reisen Amurl., 2: 90 (Amur: Nicolaiewsky).

Bembidion sigma Lindroth, 1940, Notulae Ent., 19(3/4): 81 (Amur, Korea); Lindroth, 1943, Ent. Tidskr., 63: 8 (Korea).

Bembidion (Peryphus) sigma Lindroth: Netolitzky, 1943, Koleopt. Rdschau, 29(1/3): 38 (Korea); Jedlička, 1965, Ent. Abh., 32(7): 133 (Korea); Kwon & Lee, 1986, Ins. Koreana, 6: 22 (Korea); Park & Paik, 2001, Ins. Koreana, Suppl., 19: 44 (Korea).

Bembidion (Peryphus) amurense Motschulsky: Nakane, 1963, Icon. Ins. Jap. Colore Nat., 2, Col., p. 27 (Korea); Jedlička, 1965, Ent. Abh., 32(7): 138.

Material examined. 1 ♀, 1 ♂, 21-VIII-1985, Gyora (JFNHM); 1 ♂, 17-VII-1994, Seogwipo; 2 ♀, 1-VI-1992, Youngsil, Mt. Hallasan (SCNAE).

Distribution. Korea (Jejudo-new record), Russian Far East.

Notes. Belongs to subgenus *Asioperiphus* Vysoký (1986, Fauna Bohemiae Septentr., 11: 94). Prof. G. Müller-Motzfeld, Germany, who examined the male genitalia of Korean specimens, confirmed the subgeneric position of this species (per-

sonal communication in 2003).

Described from Fusenrei, northern part of the Korean Peninsula by Lindroth (1940) as *B. sigma* Lindroth, but this species was sunken to junior synonym of *B. amurense* Motschulsky (Kryzhanovskij *et al.* 1995, etc.). Dr. G. Sh. Lafer, Vladivostok, who compared with Ussurian species, confirmed our identification. The Korean specimens are darker than Ussurian ones. Widely distributed including Jejudo (= Quelpart Is.), rather common species.

참고. 오늬강변먼지벌레는 *Asioperiphus* 아속으로 다루며, 제주도도 처음으로 기록한다. 몸길이는 약 4.5 mm, 몸은 대개 검정색이지만 앞날개가 때로는 흑갈색인 개체도 있으며 다리는 황갈색이다. 5월부터 강가나 계곡의 물가에서 성충을 볼 수 있다.

4. *Bembidion niloticum batesi* (Putzeys, 1875)

검은강변먼지벌레

Notaphus batesi Putzeys, 1875, Ann. Soc. Ent. Belg. (Compt.-Rend.), 8: 52 (Japan).

Bembidion (Notaphocampa) niloticum Dejean: Matsumura, 1931, Illust. Common Ins. Jpn., 3: 2 (Jpn.), 3 (Eng.) (Korea).

Bembidion niloticum batesi Putzeys: Jedlička, 1960, Anns hist.-nat. Mus. natn. hung., 52: 230 (Korea); Kirschenhofer, 1997, Anns hist.-nat. Mus. natn. hung., 89: 106 (N. Korea).

Bembidion (Notaphocampa) niloticum batesi Putzeys: Kirschenhofer, 1984, Koleopt. Rundsch., 57: 79 (N. Korea); Paik & Paik, 2001, Ins. Koreana, Suppl., 19: 42 (Korea: Seoul).

Materials examined. 1 ♀, 6-V-1998, Seonheul, JJ (light trap).

Distribution. Korea (Jejudo-new record), Japan, NE China, Russian Far East, SE Asia.

Notes. Belongs to subgenus *Notaphocampa* Netolitzky (1914, Ent. Blätt., 10: 167). First record in Korea by Matsumura (1931) as *B. (Notaphocampa) niloticum* Dejean. Rather common species. Widely distributed in the Korean Peninsula including Jejudo. The distinguishing of subspecies, see Netolitzky (1943: 78-79).

참고. 검은강변먼지벌레는 몸길이는 3.5 mm 정도이며, 앞가슴은 뒤쪽으로 활같이 심하게 구부러져서 뒤쪽은 좁아지며 앞쪽 끝은 비스듬히 잘려있다. 습지나 저수지 또는 강가에 많이 서식하며 잘 날라서 불빛에 가끔 모여든다.

5. *Bembidion scopulinum* (Kirby, 1837) 별강먼지벌레

Peryphus scopulinum Kirby, 1837, Fauna Bor.-Amer., 4: 53

(N. America).

Bembidion thermarum (Motschulsky): Yano, 1941, Nippon no Kôchû, 4(1): 24 (Korea).

Bembidion (Ocydromus) scopulinum (Kirby): Paik and Kim, 2003, Korean J. Soil. Zool. 8(1-2).

Materials examined. 1 ex, 19-VII-2000, Temple Gwaneum-sa, Jeju-si (SCNAE).

Distribution. Korea (Jejudo-new record), Japan, China, Mongolia, Russian Far East, North America.

Notes. First record in Korea by Yano (1941) as *B. thermarum* Motschulsky. Common and widely distributed from the Korean Peninsula including Jejudo.

6. *Brachynus macrocerus* Chaudoir, 1876

긴목가는먼지벌레

Brachynus macrocerus Chaudoir, 1876, Ann. Soc. ent. Belg., 19: 51, 67 (new name for *B. longicornis* Motschulsky, 1860).

Brachynus stenoderus Bates: Paik, 1988, Korean J. Entomol., 18(4): 242. [Misidentification]

Materials examined. Many specimens collected from Mt. Hallasan (JFNHM).

Distribution. Korea, Northeast China, Russian Far East.

Notes. Five species are listed from Korea (ESK & KSAE, 1994), but 3 species has not yet been collected from southern part of the Korean Peninsula. The Korean species may be easily separated by the mentum with or without several additional setae, and the pronotum with or without marginal setae. For more details, refer to Jedlička (1962) and Habu (1967, 1984).

7. *Chlaenius ocreatus* Bates, 1873 민무늬먼지벌레

Chlaenius ocreatus Bates, 1873, Trans. R. Ent. Soc. Lond., p. 252-253 (Japan); Heyden, 1887, Horae Soc. ent. Rossicae, 29: 246 (Korea); Kano, 1924, Ins. world, 28(326): 349 (Korea); Yano, 1941, Nippon no Kôchû, 4(1): 35 (Korea); Okura, 1946, Trans. Kinki Coleopt. Soc., 1(1): 8-9 (Korea); Kurosa, 1949, Bull. Takarazuka Ins., 60: 16 (Korea).

Chlaenius (Chlaeniellus) ochreatus [sic] Bates: Wu, 1937, Cat. Ins. Sinensium, 3: 145 (Korea).

Chlaenius (Chlaeniellus) ocreatus Bates: Kwon & Lee, 1986, Ins. Koreana, 6: 46 (Korea); Paik, 1997, Korean J. Soil Zool., 2(1): 20 (Korea).

Chlaenius (Achlaenius) ocreatus Bates: Mandl, 1992, Ann.

Naturhist. Mus. Wien, 93(B): 94; Kirschenhofer, 1997, Anns hist.-nat. Mus. natn. hung., 89: 108 (N. Korea).

Materials examined. 1 ♂, 26-VI-2000, Dongsuak, alt. 630 m, Mt. Hallasan (JFNHM); 4 ♂, 3 ♀, 16-X-1997, Seongpanak, Mt. Hallasan (SCNAE).

Distribution. Korea (Jejudo-new record), Japan, China.

Notes. Belongs to subgenus *Achlaenius* Mandl, 1992 (*in litt.*, p. 93). First record in Korea by Heyden (1887). Widely distributed in Korea including Jejudo, common. Found near water of hillside valleys

참고. 몸길이는 11-12 mm, 몸 색깔은 대개 암녹색이며, 더듬이는 제1마디를 제외하고는 암갈색이다. 앞가슴 양쪽 가장자리는 밑 쪽에서 약간 구부러지며 모서리각은 둔각으로 둥글다. 앞가슴과 앞날개에는 점각이 매우 많다. 가슴의 방패판 (scutellum)은 앞쪽 부분이 약간 우묵하게 패여 있다.

8. *Elaphropus exaratus* (H. Bates, 1873) 꼬마강변먼지벌레

Tachys exaratus Bates, 1873, Trans. R. ent. Soc. Lond., p. 296 (Japan); Andrewes, 1925, Ann. Mus. Civ. Stor. Nat., Genoa, 51: 392; Yano, 1941, Nippon no Kôchû, 4: 25 (Korea); Kurosa, 1949, Bull. Takarazuka Ins., 60: 6 (Korea); Jedlička, 1965, Ent. Abh., 32: 170.

Tachys (Tachyura) exaratus Bates: Pawłowski, 1974, Acta Zool. Cracoviensia, 19(9): 184-186 (N. Korea).

Tachyura exaratus Bates: Kwon & Lee, 1986, Ins. Koreana, 6: 20 (Korea); Yahiro & Lee, 1995, Esakia, 35: 229 (Chejudo).

Tachys (Paratachys) exaratus Bates: Lafer, 1989, Keys Id. Ins. Russian Far East, 3(1): 137 (Russian Far East); Kryzanovskij *et al.*, 1995, Checklist of ground-beetles of Russia, p. 74.

Elaphropus (Tachyropsis) exaratus (Bates): Shilenkov, 2002, Ent. Obozr., 58(1): 37.

Materials examined. 1 ex, 21-V-1990, Ora, Jeju-si (SCNAE).

Distribution. Korea, Japan.

Notes. Belongs to subgenus *Tachyropsis* Shilenkov (2002, Ent. Obozr., 58(1): 35).

This species has been treated as subgenus *Tachyura* or *Paratachys* by the incomplete 8th elytral stria and flat body, etc. Recently Shilenkov (2002: 35-36) clarified this species to supraspecific position. First record in Korea by Yano (1941) as *Tachys exaratus* Bates. Recently Yahiro & Lee (1995) reported it from Jejudo. Widely distributed from Korea includ-

ing Jejudo. Rather common. Adults seen from April on hill-sides and near water.

9. *Lebia bifenestrata* Morawitz, 1862

쌍점십자무늬먼지벌레

Lebia bifenestrata Morawitz, 1862, Mémoires de la Société Entomologique de France, 4: 200 (E. Siberia). [For other synonymy, see Habu, 1967 & 1983].

Lebia (Poecilothais) bifenestrata Morawitz: Kwon & Lee, 1986, Ins. Koreana, 6: (Chejudo).

Materials examined. 1 ♂, 30-IV-1994, Yeongsil, Mt. Hallasan (JFNHM).

Distribution. Korea, Japan, Russian Far East.

Notes. First record in Korea by Jedlička (1960). Later Kwon & Lee (1986) reported it from Jejudo (=Chejudo). Very rare.

참고. 몸길이는 4-5 mm, 머리와 가슴 그리고 날개에는 미세무늬가 뚜렷하고 앞가슴에는 가로주름이 많으며, 날개홈은 뚜렷하다. 대개 나무 위에서 산다. 날개 밑 쪽에 황색반점이 있는 개체 (*f. lucescens* Bates)도 있지만, 앞날개에 반점이 없는 개체 (*f. ogurai* Habu)도 있다.

10. *Lebia retrofasciata* Motschulsky, 1864

한라십자무늬먼지벌레

Lebia retrofasciata Motschulsky, 1864, Bull. Soc. Nat. Mosc., 43(1): 227 (Japan); Kirschenhofer, 1997, Annls hist.-nat. Mus. natn. hung., 89: 115 (N. Korea);

Lebia (Poecilothais) retrofasciata Motschulsky: Kwon et Lee, 1986, Ins. Koreana, 6: 52 (Korea). [For other synonymy, see Habu, 1967 & 1983].

Materials examined. 1 ♀, 21-V-1990, Oradong, Jeju-si; 1 ♀, 7-V-1994, Hyeopjae (JFNHM).

Distribution. Korea, Japan, Russian Far East.

Notes. First record in Korea including Jejudo by Kwon & Lee (1986). Later Kirschenhofer (1997) reported it from North Korea. Widely distributed, but rare.

참고. 몸길이는 5.5-6.5 mm, 몸은 대개 황갈색에서 적갈색이지만 머리는 약간 짙은 색깔이다. 앞날개 앞쪽인 제1-4날개실과 가운데부분의 십자무늬는 검정색이다. 앞가슴에는 가로 주름이 많이 있으며, 앞날개의 날개홈은 뚜렷하고, 날개실은 불룩하며 미세무늬로 덮여있다. 대개 나무 위에서 생활하며, 꽃에도 날아온다. 이 종은 날개에 반문이 있는 것과 없는 두 가지 형태가 있다.

11. *Microlestes imaii* Habu, 1972

꼬마밀빠진먼지벌레 (新稱)

Microlestes imaii Habu, 1972, Ent. Rev. Japan, 24(1): 19-20 (Japan); Habu, 1983, Ent. Rev. Japan, 38(2): 143 (Japan).

Materials examined. 2 ♀, 1 ♂, 20-IV-1999, Myosanbong, Gujwa-eup (JFNHM).

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

Notes. New to Korea. The specimens examined from Jejudo agree well with the original description given by Habu (1972). For the generic diagnosis and more details, refer to Habu (1967, 1983).

참고. 몸길이는 약 2.5 mm이며, 몸은 검정색이다. 머리에는 미세무늬가 있으며, 작은 점각이 퍼져있다. 겹눈의 센털구멍은 2개로 뒤쪽 것은 겹눈에서 약간 떨어져 있다. 앞가슴의 앞 모서리는 둥글게 돌출하지만 뒤 모서리는 둔각으로 좁으며, 밀면 중앙은 불룩하게 돌출한다. 앞가슴 앞쪽 1/4지점과 뒤 모서리 근처에 각각 1쌍의 센털이 있으며, 미세무늬와 주름도 있다. 앞날개의 날개홈은 얇으며, 날개실에 미세무늬가 있고, 제2날개홈에는 2개의 센털구멍이 있다. 우리나라는 처음으로 보고한다. 이 종은 몸의 크기가 매우 작아서 우리말 이름을 꼬마밀빠진먼지벌레로 붙였다.

12. *Oodes vicarius* Bates, 1873 허벅호리병먼지벌레 (新稱)

Oodes vicarius Bates, 1873, Trans. R. ent. Soc. Lond., p. 254 (Japan).

Oodes (Oodes) vicarius Bates: Habu, 1956, Bull. Nat. Inst. Agr. Sci., Ser. C, 6: 85-87.

Materials examined. 1 ♀, 1 ♂, 13-VI-2000, Dongsuak, alt. 630 m, Mt. Hallasan (JFNHM).

Distribution. Korea (Quelpart Is.), Japan.

Notes. New to Korea. The above specimens well agree with the original description given by Habu (1956). For the generic diagnosis, as well as a key to the species, refer to Habu (1956).

참고. 몸길이는 12-13.5 mm이며, 몸은 검정색이다. 앞가슴의 밑홈(basal fovea)는 매우 얇아서 거의 보이지 않는다. 앞날개의 날개홈은 날개 끝까지 뻗어있으며, 제8날개실은 넓으며 뒤쪽은 날개 끝에 닿아 있다. 앞다리 종아리마디 바깥쪽에 세로홈은 없다. 습기가 많은 연못가나 습지에서 볼 수 있다. 6월부터 성충을 볼 수 있으며, 성충으로 월동한다. 우리나라는 처음으로 보고하며, 우리말 이름은 배가 불룩하고 주둥이가 매우 좁은 '불둥이'의 제주도 방언인 허벅에서 따왔다.

13. *Paratachys micros* (Fischer von Waldheim, 1828)

어리에강변먼지벌레

Dromius micros F.-Waldheim, 1828, Entomogr. imp. Rossici, 3: 97, tab. 4, fig. 10 (Caucasus).

Tachys pallescens Bates, 1873, Trans. R. ent. Soc. Lond., p. 297 (Japan).

Tachys (Eotachys) pallescens Bates: Pawłowski, 1974, Acta zool. cracov., 19(9): 161 (N. Korea).

Paratachys pallescens (Bates): Kwon & Lee, 1986, Ins. Koreana, 6: 20 (Korea); Park & Paik, 2001, Ins. Koreana, Suppl., 19: 39.

Paratachys micros (F.-W.): Shilenkov, 2002, Ent. Obozr., 81(1): 39.

Materials examined. 1 ex, 14-VII-1985, Seogwipo (SCNAE).

Distribution. Korea (Jejudo-new record), Japan, Northern China, Russian Far East.

Notes. First record in North Korea by Pawłowski (1974) as *T. (Eotachys) pallescens* Bates. This species recorded from southern part of the Korean Peninsula for the first time. Widely distributed including Jejudo, but rare. Seen from May at wet spots near rivers or valleys

참고. 몸길이는 약 2.0 mm, 몸은 황갈색으로 납작하며, 머리의 뒷부분은 짙은 새까이다. 앞가슴은 1/3지점에서 뒤쪽으로 좁아지며 모서리는 직각이다. 앞날개의 제3날개홈의 앞부분은 깊이 패여 있지만, 뒷부분은 점점 없어지며 셀털 구멍은 제4날개실에 있다.

14. *Pheropsophus javanus* (Dejean, 1825)

남방폭탄먼지벌레

Brachinus javanus Dejean, 1825, Spec. Gén. Col., 1: 305-306;

Lee & Kwon, 1974, Nature & Life, 4: 32 (Jejudo); Paik, 1997, Korean J. Soil Zool., 2(1): 34 (Korea).

Materials examined. 1 ♀, 10-VIII-1993, Ara, Jeju-si; 1 ♀, 28-VII-1993, Ishidol Pasture, Hanlim-eup (SCNAE).

Distribution. Korea, Japan, China, Taiwan, SE Asia, India, New Guinea, Russian Far East.

Notes. First record in Jejudo, Korea by Lee & Kwon (1974). Later Paik (1997) recorded it from southern part of the mainland. For more synonymy and other information, see Habu, 1967 & 1984.

참고. 몸길이는 17-20 mm이며, 몸의 크기나 색깔은 폭탄먼지벌레와 매우 비슷하지만 머리와 날개옆구리(epipleuron) 색깔로 쉽게 구별할 수 있는데, 폭탄먼지벌레는 날개옆

구리가 노랑색이지만 남방폭탄먼지벌레는 검정색이다. 제주도 와 한반도 남부지역에 분포한다.

15. *Poecilus fortipes* (Chaudoir, 1850) 왕금빛먼지벌레

Feronia (Poecilus) fortipes Chaudoir, 1850, Bull. Soc. Imp. Nat. Mosc., 23(3): 131 (Siberia).

Platysma (Poecilus) fortipes Chaudoir: Jakobson, 1906, Beetles of Russia, p. 337 (Korea).

Feronia (Poecilus) fortipes Chaudoir: Tschitschérine, 1895, Horae Soc. Ent. Rossicae, 29: 178 (Korea); Yano, 1941, Nippon no Kôchû, 4(1): 26 (N. Korea).

Pterostichus (Poecilus) fortipes (Chaudoir): ESK & KSAE, 1994, Check List Ins. Korea, p. 124 (Korea).

Pterostichus quelpartensis Habu: Yahiro & Lee, 1995, Esakia, 35: 230 (Chejudo). [Misidentification]

Poecilus fortis [sic] Chaudoir: Habu, 1985, Ent. Rev. Japan, 40(2): 79 (Quelpart Is.).

Poecilus (Macropoecilus) fortipes (Chaudoir): Lafer, 1989, Key Ins. Russian Far East, (3), 1: 148 (Korea).

Material examined. 1 ♀, 1 ♂, 9-VIII-1996, Temple Kwa-neumsa, Jeju-si (SCNAE).

Distribution. Korea, China, Mongolia, Russia (Transbaikalia, Far East).

Notes. First record in Korea by Heyden (1887). Widely distributed from southern part of the Korean Peninsula including Jejudo. Recently Yahiro & Lee (1995) reported the 37 species of carabid beetles from Jejudo (Chejudo). According to their pictures of habitat and collections of Kyushu University, *Anchista binotata* (Dejean) is misidentification of *Euplynes batesi*, *Harpalus (Acardystus) rubefactus* Bates is misidentification of *Harpalus* sp., and *Pterostichus quelpartensis* Habu is misidentification of *Poecilus fortipes*, respectively. Seven species of this genus are listed in Korea (ESK & KSAE, 1994), but the Korean species need additional attention.

참고. 이 종은 일본에 분포하는 일본금빛먼지벌레, *Poecilus samurai* (Lutshnik 1916)와 매우 비슷하지만, 앞가슴의 모양과 수컷의 생식기로 쉽게 구별할 수 있다. 높은 산에서 자주 볼 수 있다. 한편, 일본금빛먼지벌레는 Yano (1941)가 처음으로 기록했지만, 그 분포는 매우 의심스럽다.

16. *Pterostichus nimbatidius* (Chaudoir, 1878)

아라길쭈먼지벌레

Feronia nimbatidia Chaudoir, 1878, Bull. Soc. Nat. Mosc., 53(2): 63 (Japan).

Pterostichus (Rhagadus) shirozui Habu, 1985, Ent. Rev. Jap.,

15(2): 73 (Quelpart Is.). Syn. nov.

Lagarus nimbatidius Chaudoir: Bates, 1883, Trans. R. ent. Soc. Lond., p. 251.

Pterostichus (Badistrinus) nimbatidius Chaudoir: Jedlička, 1962, Ent. Abh., 26(21): 206.

Materials examined. 1 ♀, 2 ♂, 5-VII-1992, Mt. Hallasan, alt. 1600 m (SCNAE); 1 ♀, 20-VI-2000, Mt. Hallasan, 1100 m (SCNAE).

Distribution. Korea, China (Manchuria), Japan, Russian Far East.

Notes. Belongs to subgenus *Rhagadus* Motschulsky (1865, Bull. Soc. Nat. Mosc. 38(4): 261). Described from Quelpart Island (= Jeju), Korea by Habu (1985) as *Pt. shirozui* Habu, but this species is a junior synonym of *Pt. nimbatidius* Chaudoir by the original description and figure. This figure designated as *Pt. quelpartensis* Habu (= *Pt. solsky* Chaudoir) is *Pt. nimbatidius*. Rare species. Three species are listed from Korea which are distinguished by the following simple key.

Key to the species of the subgenus *Pterostichus (Rhagadus) Motschulsky*

1(2) Basal angle of pronotum rounded, without tooth.

..... *Pt. (Rhagadus) nimbatidius* (= *shirozui* Habu, 1985)

2(1) Basal angle of pronotum with tooth.

3(4) Apical angle of pronotum sharply prominent, basal angle retangular with small tooth.

..... *Pt. (Rhagadus) microcephalus*

4(3) Apical angle of pronotum moderately prominent, round-ed at apex, basal angle rather large tooth.

..... *Pt. (Rhagadus) solskyi* (= *quelpartensis* Habu, 1985).

참고. 이 종은 잔머리먼지벌레 (*Pt. microcephalus*)와 매우 비슷하지만, 가슴의 폭이 넓으며, 앞가슴 뒤쪽 모서리는 둥글고, 앞쪽 모서리는 돌출하지 않는다. 제주도를 포함하여 전국에 분포하며, 흔한 종은 아니다. 한편, Kirschenhofer (1997)가 북한에서 기록한 *Pterostichus kalyis* Motschulsky, 1865)는 이 종을 잘못 동정한 것으로 생각한다.

17. *Pterostichus prolongatus* Morawitz, 1862

참길쭈먼지벌레

Pterostichus (Eosteropus) prolongatus Morawitz, 1862, Mel. Biol. Acad. Sci. St.-Petersb., 4: 209 (E Siberia).

Omaseus japonicus Motschulsky, 1860, Etud. Ent., 9: 6 (Japan).

P. tropidurus Bates, 1873, Trans. R. ent. Soc. Lond., p. 288 (Japan).

P. (Lyperus) prolongatus Morawitz: Bates, 1873, Trans. R.

ent. Soc. Lond., p. 286.

P. (Lyperus) prolongatus Morawitz: Morawitz, 1863, Mém. Acad. Sci. St.-Petersb. (7), 6: 52 (Japan).

P. (Omaseus) prolongatus Morawit: Bates, 1883, Trans. R. ent. Soc. Lond., p. 249.

Feronia (Lypersomus) prolongata Morawitz: Tschitschérine, 1898, Horae Soc. Ent. Ross., 32: 196.

P. (Eosteropus) prolongatus Morawitz: Jedlička, 1962, Ent. Abh., 26(21): 243 (Korea); Kwon et Lee, 1986, Ins. Kor. 6: 28 (Korea).

Material examined. 1 ♀, 10-V-1992, Mt. Hallasan, 600 m; 1 ♀, 10-VII-1992, Mt. Hallasan, 1600 m; 1 ♀, 10-VIII-1993, Ara-dong, Jeju-si (SCNAE).

Distribution. Korea (Jeju-do-new record), China, Japan (Hokkaido, Honshu, Kyushu), Russian Far East.

Notes. Belongs to subgenus *Eosteropus* Tschitschérine (1902, Hor. Soc. Ent. Ross., 35: 500). First record in Korea by Jedlička (1962), but has not yet been collected from the mainland of the Korean Peninsula.

참고. 몸길이는 14.5-18.0 mm로 몸은 검정색이며 약한 광택이 있다. 앞가슴 뒤쪽 모서리는 둥글며, 가운데 부근에 초생달모양의 얇은 홈이 있다. 날개홈은 분명하며, 전반부에는 약한 점자이크이 있고 날개실은 평평하며, 날개 양쪽 가장자리는 제9날개실보다 좁다. 수컷 배 끝마디의 기다란 돌기는 구부러져서 배판과 거의 붙어있다. 평지나 야산의 습기가 많은 곳에서 볼 수 있다. 제주도는 처음으로 기록한다.

18. *Stenolophus castaneipennis* Bates, 1873

검정쭈쭈먼지벌레

Stenolophus castaneipennis Bates, 1873, Trans. R. ent. Soc. Lond., 269; Matalin, 1996, Ent. Obozr., 75(1): 77; Paik, 1997, Korean J. Soil Zool., 2(1): 37 (Korea).

Stenolophus iridicolor Redtenbacher: Paik, 1988, J. Agric. Sci. Res. Suncheon Natl. Univ., 2: 16 (misidentification).

Materials examined. 5 ex., 20-IX-1990, Donnaeko, Seogwipo (SCNAE).

Distribution. Korea (Jeju-do-new record), Japan, China, Russian Far East.

Notes. Belongs to subgenus *Stenolophus* s. str. First record in Korea by Kolbe (1886) as *St. iridicolor* Redtenbacher. Widely distributed including Jeju in wet grassland, fairly common.

참고. 몸길이는 5.5-6.5 mm이며, 앞날개에 무지개 광택이 있다. 앞가슴의 뒤쪽 모서리는 둥글다. 넓적마디와 종아리마

더 앞부분과 가운데 다리 발목마디는 검정색이다. 이전에는 중국 남부지역에 분포하는 *Stenolophus (Egadroma) iridicolor* Redtenbacher의 synonym으로 다루었지만, 현재는 서로 독립한 종으로 다룬다(Matalin, 1996). 자세한 것은 Matalin (1996)을 참고하기 바란다.

19. *Stenolophus fulvicornis* Bates, 1873

꼬마좁쌀먼지벌레

Stenolophus proximus Dejean var. *fulvicornis* Bates, 1873, Trans. Ent. Soc. Lond., p. 269-270 (Japan, China).

Stenolophus proximus Dejean: Okamoto, 1924, Bull. Agr. Exp. Sta. Gov.-Gen. Chosen, 1(2): 163 (Quelpart Is.).

Stenolophus fulvicornis Bates: Paik, 1995, Insects of Quelpart Island, p. 139 (Jejudo).

Material examined. 11 ex., 16-VII-1994, Yeongsil, Mt. Hallasan (JFNHM).

Distribution. Korea, Japan, China.

Notes. Belongs to subgenus *Astenolophus* Habu (1973, 1973, Fauna Japonica, Harpalini, p. 365). First recorded in Quelpart Island (= Jejudo), Korea by Okamoto (1924) as *S. proximus* Dejean. Later this species reported from Jejudo by Paik (1995). Widely distributed in Korea. Rather common.

참고. 몸길이는 4.5-5.0 mm, 몸은 대체로 짙은 흑갈색이고 날개에는 무지개 광택이 있으며, 더듬이와 입틀의 수염과 다리는 옅은 황갈색이다. 무지개좁쌀먼지벌레와 비슷하지만 몸이 작으며, 날개도 짧고 날개벼금흠도 짧다. 수컷의 배 끝 마디에는 1쌍의 센털만 있다. 제주도를 비롯하여 전국에 널리 분포한다.

20. *Trechus (Epaphius) dorsostriatus* Morawitz, 1862

등줄꼬마먼지벌레

Trechus dorsostriatus Morawitz, 1862, Mém. Biol. Acad. Sci. St.-Pétersb., 4: 224 (E Siberia).

Trechus (Epaphius) dorsostriatus Morawitz: Csiki, 1928, Col. Cat., 98: 244.

Epaphius dorsostriatus (Morawitz): Casale et Laneyrie, 1982, Mém. Biospéologie, 9: 79 (*dorsistriatus* [sic]); Lafer, 1989, Key Ins. Russian Far East, (3), 1: 142 (?Korea).

Materials examined. 1 ♀, 16-VII-1982, Kyorae, Kim. W.-T. leg. (SCNAE).

Distribution. Korea (Jejudo-new record), N. China, Russia (East Siberia, Far East).

Notes. Noted from the Korean Peninsula by Lafer (1989: 142) with a question mark. Three species of *Epaphius* Samou-

elle are listed from Korea, but *E. chinensis* Jeannel (1920, Ann. Mag. Nat. Hist. (9), 5: 110) has not yet been collected from southern part of the Korean Peninsula. It is treated as a distinct genus by some authors. Thanks to Dr. G. Sh. Lafer, Vladivostok, who compared with Ussurian species and confirmed our identification of this species. The distribution of this species is confirmed from southern part of the Korean Peninsula. This species is very similar to *T. (Epaphius) ephippiatus* Bates. The distinguishing characters are as follows.

Key to the species of the genus *Trechus*

- 1(2) Hind angle of pronotum very obtuse; body reddish brown, elytra at hind half often darkened; wingless. Smaller, length of body 3.7-4.1 mm. *T. (Epaphius) dorsistriatus* Morawitz
- 2(1) Hind angles of pronotum with tip pointed; dorsum of head, pronotum and four inner intervals at either elytron red-dish brown, the latter behind middle with dark or black patch; lateral sides of elytra yellowish brown. Larger, length of body 4.5-4.9 mm. *T. (Epaphius) ephippiatus* Bates

참고. 흔한 종은 아니지만, 제주도를 비롯하여 전국에 널리 분포하며, 야산이나 계곡의 물가에서 5월부터 성충을 볼 수 있다.

적 요

제주도에 분포하는 딱정벌레과 20종을 보고한다. 이 중에서 *Microlestes imaii* (꼬마밑빠진먼지벌레: 신칭)와 *Oodes vicarius* (허벅호리병먼지벌레: 신칭)는 우리 나라에서, 그리고 9종, *Apristus striatus* (꼬마선두리먼지벌레), *Bembidion amurense* (오늬강변먼지벌레), *Bembidion niloticum batesi* (검은강변먼지벌레), *Bembidion scopulinum* (별강먼지벌레), *Chlaenius ocreatus* (민무늬먼지벌레), *Paratachys micros* (어리에강변먼지벌레), *Pterostichus prolongatus* (참길쪽먼지벌레), *Stenolophus castaneipennis* (검정좁쌀먼지벌레)와 *Trechus (Epaphius) dorsostriatus* (등줄꼬마먼지벌레)는 제주도에 처음으로 기록한다.

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