

Records of Histerid Beetles from Jeju Island, Korea (Coleoptera, Histeridae)

Masahiro ÔHARA¹⁾ and Jong-Cheol PAIK²⁾

¹⁾Systematic Entomology, Faculty of Agriculture, Hokkaido University, Sapporo, 060–8589 Japan

²⁾c/o Department of Plant Medicine, Sunchon National University, 255 Jungang-ro, Jeonnam 57922, Republic of Korea

Abstract A total of 13 species of histerid beetles is reported from Jeju Islands, Korea. Biogeography among Tsushima Is., off Kyushu, Japan, the Korean Peninsula, and Jeju Is. is discussed.

Introduction

In Jeju Island (= Quelpart Islands, Cheju-do), OKAMOTO (1924) firstly recorded *Merohister jekeli* (MARSEUL, 1857) and named it as *Hister (Merohister) jekeli* MARSEUL. SEOK (1970) also listed the same species as *Hister jekeli*. KIM (1978) recorded two species: *Hister congener* SCHMIDT, 1885 and *Merohister jekeli*. Afterward, KIM and LIM (1997) revised Korean histerids and recorded eleven species (incl. subspecies) from Jeju Is.: *Onthophilus ostreatus* LEWIS, 1879, *Margarinotus (Ptomister) weymarni* (WENZEL, 1944), *Margarinotus (Grammostethus) niponicus* (LEWIS, 1895), *Hister japonicus* MARSEUL, 1854, *Hister simplicisternus* LEWIS, 1879, *Hister unicolor leonhardti* BICKHARDT, 1910, *Atholus duodecimstriatus quatuordecimstriatus* (GYLLENHAL, 1808), *Atholus piriouthous* (MARSEUL, 1873), *Hypocaccus (Baeckmanniolus) varians varians* (SCHMIDT, 1890), *Hypocaccus (Baeckmanniolus) varians hatsune* (NAKANE, 1977), and *Hypocaccus (Nessus) asticus* (LEWIS, 1911). ÔHARA and PAIK (1998) additionally recorded three species: *Zabromorphus salebrosus subsolanus* NEWTON, 1991, *Atholus depistor* (MARSEUL, 1873), and *Hypocaccus (Hypocaccus) sinae* (MARSEUL, 1862). Subsequently, ÔHARA (2015) and ÔHARA *et al.* (2016) added two species: *Margarinotus (Ptomister) cadavericola* (BICKHARDT, 1920) and *Hetaerius optatus* LEWIS, 1884, respectively. As a result, a total of 18 species were hitherto recorded from Jeju Island so far.

In this short paper, we recognize 13 species from the Island, two of which are added as newly recorded species for Jeju Island.

The specimens are deposited as follows:

CPAIK: Collection of J. C. PAIK, Korea National Arboretum, Gwangleung, South Korea;

CNUN: Collection of Chungnam University, Daejeon, South Korea;

SEHU: Collection of Systematic Entomology, Hokkaido University, Sapporo, Japan.

Enumeration

Subfamily Onthophilinae

1. *Onthophilus ostreatus* LEWIS, 1879

Onthophilus ostreatus: KIM & LIM, 1997: 69 [Jeju Is.: 1,000 m altitude, cow dung]; ÔHARA & PAIK, 1998: 3 [Jeju Is.: Kwaneumsa Temple].

Material examined. [Jeju Is.] 2 exs., Stock Farm of Jeju College of Technology (R11; 478 m alt.), N33°26'18.7", E126°34'26.7", Jeju City, 21–24.X.2005, in or under cow dung, H. YOSHITAKE &

T. KATO (SEHU).

Subfamily **Histerinae**

Tribe **Histerini**

2. *Merohister jekeli* (MARSEUL, 1857)

Hister (Merohister) jekeli: OKAMOTO, 1924: 169 [Jeju Is.].

Hister jekeli: SEOK, 1970: 70 [Jeju Is.].

Merohister jekeli: KIM, 1978: 69 [Jeju Is.].

Material examined. [Jeju Is.] 1 ex., Ora, Jeju City, 26.VI.1993 [320-26], J.-C. PAIK (CPAIK); 1 ex., Seonheul, 22.VII.1993 [320-41], J.-C. PAIK (SEHU); 9 exs., Napeub, 23.VIII.1993, J.-C. PAIK [320-58, 60, 62, 64, 65, 66, 67, 68] (CPAIK) [320-61] (SEHU); 2 exs., same locality but different date, 30.VIII.1993 [320-85, 86], J.-C. PAIK (CPAIK); 2 exs., same locality but different date, 1.X.1993 [320-90, 91], J.-C. PAIK (CPAIK); 2 exs., Yongsu, 23.VIII.1993 [320-70], J.-C. PAIK (CPAIK); 1 ex., same locality but different date, 1.IX.1993 [320-97], J.-C. PAIK (CPAIK); 1 ex., Ishidol Pasture, 20.VIII.1993 [320-52], J.-C. PAIK (CPAIK); 2 exs., same locality but different date, 15.IX.1993 [320-99, 100], J.-C. PAIK (CPAIK).

3. *Hister simplicisternus* LEWIS, 1879

Hister simplicisternus: KIM & LIM, 1997: 68 [Jeju Is.: Aeweol, Mt. Hallasan]; ÔHARA & PAIK, 1998: 18 [Jeju Is.: Jeju City, 300 m, Hagwi, Donnaeko, Woo-do].

Material examined. [Jeju Is.] 1 ex., Ara, Jeju City, 28.V.1993 [320-8], J.-C. PAIK (CPAIK); 7 exs., same locality but different date, 13.VI.1993 [320-18, 19, 20, 21, 22, 23, 24], J.-C. PAIK (CPAIK); 4 exs., Wasan, 3.VI.1993 [320-10, 11, 12, 13], J.-C. PAIK (CPAIK); 1 ex., same locality but different date, 6.VI.1993 [320-15], J.-C. PAIK (CPAIK); 2 exs., Ishidol Pasture, 6.VI.1993 [320-16, 17], J.-C. PAIK (CPAIK); 4 exs., same locality but different date, 29.VII.1993 [320-42, 43, 44, 45], J.-C. PAIK (CPAIK); 1 ex., same locality but different date, 15.IX.1993 [320-98], J.-C. PAIK (CPAIK); 4 exs., Temple Kwaneum-sa, 4.VIII.1993, J.-C. PAIK [320-49, 50] (CPAIK) [320-47, 48] (SEHU); 1 ex., Napeub, 23.VIII.1993 [320-55], J.-C. PAIK (CPAIK); 1 ex., Shinchang, 23.VIII.1993 [320-69], J.-C. PAIK (SEHU); 8 exs., Kyorae, 24.VIII.1993, J.-C. PAIK [320-73, 74, 76, 78, 79, 84] (CPAIK) [320-82, 83] (SEHU); 1 ex., Bonggae, 17.IX.1993 [320-102], J.-C. PAIK (CPAIK); 1 ex., Seongpanak, 750 m, 12.VI.1982 [321-7], J.-C. PAIK (CPAIK). [Woo-do] 1 ex., Woo-do Isl., 22.V.1982 [321-4, 5, 6], J.-C. PAIK (CPAIK). [Mara-do] 1 ex., Mara-do Isl., 15.VI.1994 [J-04], J.-C. PAIK (CPAIK).

4. *Hister japonicus* MARSEUL, 1854

Hister japonicus: KIM & LIM, 1997: 67 [Jeju Is.: Aeweol, Jungmun, Donneko].

Material examined. [Jeju Is.] 1 ex., Ishidol Pasture, 4.VI.1993 [320-14], J.-C. PAIK (CPAIK); 2 exs., Hanrim, 27.V.1993, J.-C. PAIK [320-6] (CPAIK) [320-5] (SEHU); 1 ex., Jeoji, 1.VI.1993 [320-9], J.-C. PAIK (CPAIK).

5. *Hister congener* SCHMIDT, 1885

Hister congener: KIM, 1978: 67 [Jeju Is.: Chonjiyon]; KIM & LIM, 1997: 69 [Jeju-do]; ÔHARA & PAIK, 1998: 19 [Jeju Is.: Yongsil, 1,200 m alt.].

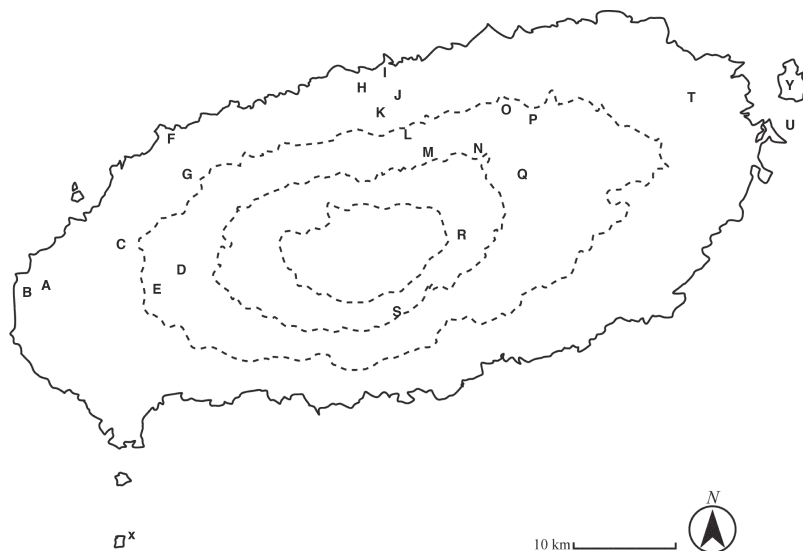


Fig. 1. Map of Jeju Island. — A, Sinchang; B, Yongsu; C, Hanrim; D, Ishidol; E, Jeoji; F, Aewol; G, Napeub; H, Ora; I, Sara-bong; J, Ara; K, Jeju Univ.; L, Myeongdoam; M, Temple Kwaneum-sa; N, Bonggae; O, Wasan; P, Seonheul; Q, Kyorae; R, Seongpanak; S, Donnaeko; T, Bijarim; U, Seongsan-eup; X, Mara-do; Y, Woo-do.

Material examined. [Jeju Is.] 2 exs., Jeju Univ., Campus, 7.VI.1993 [320-1, 2], J.-C. PAIK (CPAIK); 1 ex., Bijarim, 12.V.1993 [320-3], J.-C. PAIK (CPAIK); 3 exs., Jeju, 1.V.1992, no collector's name (SEHU); 2 exs., same but different date, 13.IV.1992, no collector's name (SEHU); 1 ex., same but different date, 5.V.1992, M.-R. SU (SEHU).

6. *Zabromorphus salebrosus subsolanus* NEWTON, 1991

Zabromorphus punctulatus: ÔHARA & PAIK, 1998: 21 [Jeju Is.: Kyorae; Mara-do].

Material examined. [Jeju Is.] 2 exs., Myeongdo-am, 26.VI.1993 [320-27, 28], J.-C. PAIK (SEHU); 2 exs., Sara-bong, 26.VI.1993 [320-29, 30], J.-C. PAIK (CPAIK); 7 exs., Bijarim, 13.VII.1993 [320-31, 32, 33, 34, 35, 36, 37], J.-C. PAIK (CPAIK); 1 ex., Ishidol Pasture, 29.VII.1993 [320-46], J.-C. PAIK (SEHU); 1 ex., Napeub, 23.VIII.1993 [320-57], J.-C. PAIK (SEHU); 1 ex., Donnaeko, Seogwipo, 1.VIII.1983 [321-8], J.-C. PAIK (CPAIK); 1 ex., same locality but different date, 30.IV.1994 [J-03], J.-C. PAIK (CPAIK). [Mara-do] Mara-do Is., 15.VI.1994 [43], J.-C. PAIK (SEHU).

7. *Atholus depistor* (MARSEUL, 1873)

Atholus depistor: ÔHARA & PAIK, 1998: 23 [Jeju Is.: Hagwi].

Material examined. [Jeju Is.] 1 ex., Myeongdo-am, 19.VI.1993 [320-25], J.-C. PAIK (CPAIK).

8. *Atholus pirithous* (MARSEUL, 1873)

Atholus pirithous: KIM & LIM, 1997: 67 [Jeju Is.].

Material examined. [Jeju Is.] 1 ex., Ara, Jeju City, 28.V.1993 [320-7], J.-C. PAIK (CPAIK).

Table 1. List of species of the family Histeridae recorded from Jeju Is., its neighboring islands and the Korean Peninsula.

Locality	Habitat	Korea	Jeju			Korean Pen.	
		Japan	Tsushima	Iki	Kyushu		
Species name							
<i>Onthophilus ostreatus</i>	dung		●			●	●
<i>Notodoma fungum</i>	mushroom			●		●	●
<i>Hololepta amurensis</i>	under bark			●		●	●
<i>Platysoma (Platysoma) rasile</i>	under bark			●		●	●
<i>Platysoma (Platysoma) tsushimae</i>	under bark			●			
<i>Niposoma lewisi</i>	under bark			●		●	●
<i>Platysoma (Cylister) lineicolle</i>	carcass			●		●	●
<i>Margarinotus (Ptomister) cadavericola</i>	carcass		●			●	●
<i>Margarinotus (Ptomister) weymarni</i>	carcass		●		●	●	●
<i>Margainotus (Grammostethus) niponicus</i>	carcass		●	●		●	●
<i>Hister congener</i>	dung		●			●	●
<i>Hister simplicisternus</i>	dung		●	●		●	●
<i>Hister japonicus</i>	dung		●	●		●	●
<i>Hister unicolor leonhardti</i>	dung		●			●	●
<i>Merohister jekeli</i>	dung		●	●	●	●	●
<i>Zabromorphus salebrosus subsolanus</i>	dung		●			●	●
<i>Atholus bimaculataus</i>	dung			●	●	●	●
<i>Atholus duodecimstriatus quatuordecimstriatus</i>	dung		●	●		●	●
<i>Atholus pirithous</i>	dung		●	●		●	●
<i>Atholus depistor</i>	dung		●			●	●
<i>Hetaerius optatus</i>	ant nest		●			●	●
<i>Mullerister niponicus</i>	litter			●		●	●
<i>Bacanius (Bacanius) mikado</i>	litter			●		●	
<i>Platylomalus viaticus</i>	under bark			●		●	●
<i>Eulomalus tardipes</i>	under bark			●		●	
<i>Paromalus vernalis</i>	under bark			●		●	
<i>Saprinus splendens</i>	dung		●			●	●
<i>Saprinus planiusculus</i>	dung		●			●	●
<i>Hypocaccus (Baeckmanniolus) varians varians</i>	coastal carcass		●	●		●	●
<i>Hypocaccus (Baeckmanniolus) varians hatsune</i>	coastal carcass		●*				
<i>Hypocaccus (Hypocaccus) sinae</i>	coastal carcass		●			●	●
<i>Hypocaccus (Nessus) asticus</i>	coastal carcass		●			●	●
<i>Eopachylopus ripae</i>	coastal carcass			●		●	●
A total of			20	20	3	(31)**	(28)**

* We guessed that the subspecies is misidentified.

** The total numbers are for calculation of %, not of the species recorded from Kyushu and Korean Peninsula.

9. *Margarinotus (Ptomister) cadavericola* (BICKHARDT, 1920)

Margarinotus (Ptomister) cadavericola: ÔHARA, 2015: 314 [Jeju Is.: Mt. Halla, Plantation of Shiitake mushroom, 1,200 m alt.].

Material examined. [Jeju Is.] 1 ex., Bijarim, 12.V.1993 [320-4], J.-C. PAIK (SEHU); 1 male, 1 ex., Ishidol Pasture, 20.VIII.1993 [320-51, 53], J.-C. PAIK (CPAIK); 2 females, 1 ex., Napeub, 23.VIII.1993 [320-56, 59, 63], J.-C. PAIK (CPAIK); 1 ex., Kyorae, 24.VIII.1993 [320-724], J.-C. PAIK (CPAIK); 1 female, Donnaeko, Seogwipo, 20.VI.1981 [321-2], J.-C. PAIK (CPAIK); 1 male, Seongsan, 27.VII.1981, [321-3], J.-C. PAIK (CPAIK); 2 exs., Bonggae, 17.IX.1993, J.-C. PAIK [320-104] (CPAIK) [320-103](SEHU); 1 male, Jeju-do, 3.V.1992, M.-R. SU (SEHU).

10. *Margarinotus (Grammostethus) niponicus* (LEWIS, 1895)

Margarinotus (Grammostethus) niponicus: ÔHARA & PAIK, 1998: 26 [Jeju Is.: Hallasan, 400 to 600 m alt., Georinsaseum, Seongpanak].

Material examined. [Jeju Is.] 1 ex., Napeub, 23.VIII.1993 [320-54], J.-C. PAIK (CPAIK); 4 exs., Kyorae, 24.VIII.1993, J.-C. PAIK [320-75, 80] (CPAIK) [320-77, 81](SEHU); 1 ex., Bonggae, 17.IX.1993 [320-101], J.-C. PAIK (CPAIK); 3 exs., Namjeju-gun, Goemiorum, 28.V-26.VI.2003, Y.-B. CHO, S.-J. PARK, C.-W. SHIN, ex. FIT. (CNUN). [Mara-do] 1 ex., Mara-do Isl., 26.VII.1994 [J-02], J.-C. PAIK (CPAIK).

Subfamily Sapriniinae

11. *Saprinus splendens* (PAYKULL, 1811)

Material examined. [Jeju Is.] 3 exs., Seonheul, 22.VII.1993, J.-C. PAIK [320-39] (CPAIK) [320-38, 40](SEHU); 7 exs., Napeub, 1.IX.1993, J.-C. PAIK [320-87, 89, 92, 93, 94, 95] (CPAIK) [320-88] (SEHU); 2 exs., Aeweol, 24.V.1992 [J-05, 06], J.-C. PAIK (CPAIK).

New to Jeju Island.

12. *Saprinus planiusculus* (MOTSCHULSKY, 1849)

Material examined. [Jeju Is.] 1 ex., Ara, Jeju City, 1.V.1981 [321-1], J.-C. PAIK (CPAIK); 1 ex., Yongsu, 23.VIII.1993 [320-71], J.-C. PAIK (CPAIK).

New to Jeju Island.

13. *Hypocaccus (Baecknomanniulus) varians varians* (SCHMIDT, 1890)

Hypocaccus (Baecknomanniulus) varians varians: KIM & LIM, 1997: 63 [Jeju Is.]; ÔHARA & PAIK, 1998: 30 [Jeju Is.: Hanrim].

Material examined. [Jeju Is.] 25 exs., Namjeju-gun, Daejeong-eup., Sagye-ri, 27.V.2003, M.-J. JEON, ex. under seaweeds (CNUN); 1 ex., Jeju City, Iho2-dong, Iho beach, 21.V.2006, D.-H. LEE, S.-I. LEE, ex. under seaweed. (CNUN)

Discussion

A total of 20 species of the family Histeridae is recorded from Jeju Is., while 20 and three species are recorded from the neighboring Islands, Tsushima and Iki, off Kyushu, respectively (Table, 1). Among the islands, there are seven (Tsushima and Jeju Iss.) and two common species (Iki and Jeju

Iss.), respectively. The faunal research of the histerid beetles on Iki Island is still poor, but those of Jeju Island and Tsushima are worthy of consideration. Twelve plus three species (79 %) from Jeju Island are attracted to dung and carcass on land, and four species (21 %) are occurred beneath the coastal drifted carrion along the sandy beach. On the other side, on Tsushima the seven species (35 %) are associated with cow dung and carcass on land, two (10 %) are inhabited sandy beach and eight (40 %) are found beneath the bark of older dead trees. The ratio of the habitats varies, which might reflect the landscape of the islands: Jeju Island has highland pastures with domestic animals (cow and horse) and sand beaches in good condition, while Tsushima is very mountainous without pastures and good sandy beaches.

All the species recorded from Jeju are distributed in Kyushu and the Korean Peninsula as well, except for *Hypocaccus (Baecknomanniolus) varians hatsune* which has only been recorded from the Ogasawara Islands as a subspecies (NAKANE, 1977) and of which the record (KIM & LIM, 1997) is probably overlooked as just one of variation of *H. (B.) v. varians* in color.

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要 約

大原昌宏・白 種哲：韓国濟州島のエンマムシ科甲虫（鞘翅目）の記録。——— 韓国濟州島から13種のエンマムシ科甲虫を記録した。このうち2種ルリエンマムシ *Saprinus splendens*, ドウガネエンマムシ *S. planiusculus* は濟州島初記録であった。濟州島に分布する種について、対馬、壱岐、韓国半島部、九州の比較を行い、濟州島と対馬の種構成の違いは地形および牧畜、良好な海浜環境の有無によるものと論じた。

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