

Records of Ichneumonid Wasps (Hymenoptera) from Yakushima Island, the Ryukyu Islands, Japan

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Abstract Ichneumonid wasps in Yakushima Island were collected with Malaise traps. Seventy-seven species are recognized and 62 of them are newly recorded from this island. *Enicospilus nigropectus yakushimensis* (Yasumatsu, 1934) is newly synonymized under *E. nigropectus* Cameron, 1905 (syn. nov.). The faunal relationships between Yakushima Island and other areas of Japan are discussed.

Introduction

Yakushima Island is a granite island surrounded by sedimentary rocks, and it is located 70 km south of Kyushu, Japan (Fig. 1). The climate in the central high mountains ranges from subtropical to subarctic, and many endemic insects live there (Sakamaki, 2013). It is located just north of the Watase line, the border between the Palearctic and Oriental regions.

Although many endemic species and subspecies belonging to Coleoptera, Lepidoptera, and Homoptera are found on Yakushima Island (e.g. Takakuwa & Fujita, 2010), there are few representatives of Hymenoptera. The island is the southern limit of the range of some species of Aculeata (Sakamaki, 2013), but the fauna of Parasitica is poorly known there.

Ichneumonidae is the largest family within the group Parasitica and is one of the largest taxonomic groups of terrestrial insects (Townes, 1969). Momoï (1970) reviewed this family in the Ryukyu Islands, including Yakushima Island; however, his review was based on only a few specimens and previous inadequate reports of distribution. Since his study was published, only some records have been added to the fauna of this island (e.g. Konishi, 1986, 1991, 1992, 2005, 2010). A total of 53 species of Ichneumonidae have been recorded in Yakushima Island.

Recently, one of us (TY) collected insects from Yakushima Island by using Malaise traps and captured a large number of ichneumonids. In this paper, we describe our findings and discuss the faunal characteristics of Ichneumonidae on Yakushima Island.

Materials and methods

1) Study sites

Study sites are located in the forests on Yakushima Island, Kagoshima Prefecture, Japan (Table 1). We selected two plantations of *Cryptomeria japonica* (approximately 40 years old) in each of the eastern and western parts of the island, Aikodake (CE) and Kankake (CW), and two old-growth evergreen broadleaf forests situated near the two plantations, Aikodake (OE) and Han-yama (OW) (Fig. 1). Each study site is located within a continuous stand at least 100 m apart from the boundaries between the other forest types, whereas small

patches of secondary stands of broad-leaved forests were found occasionally in the vicinity of the plantations. Both the old-growth forests are in the national forest, while both the plantations are under private ownership and their forest floors are brighter because of tree thinning. In addition, we selected a mixed forest of evergreens, conifers and broad-leaves old-growth in near the center of island, Arakawa (OH), which is relatively higher (ca. 1200 m) altitude than other locations (ca. 150–250 m) (Fig. 1).

2) Sampling and identification

Table 1. Location and forest type of the investigated sites in Yakushima Island, Japan.

Site	Locality	Forest type	Altitude (m)
CE	Aikodake	Plantation of <i>Cryptomeria japonica</i> (40 yr.)	150
CW	Kankake	Plantation of <i>Cryptomeria japonica</i> (40 yr.)	220
OE	Aikodake	Old-growth evergreen broad-leaves forest	170
OW	Han-yama	Old-growth evergreen broad-leaves forest	250
OH	Arakawa	Mixed forest of evergreens, conifers and broad-leaves old-growth	1200

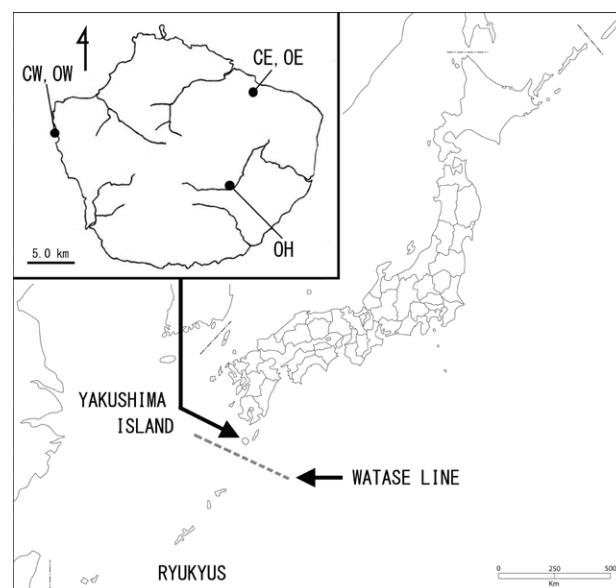


Fig. 1. Location of Yakushima Island and Watase line.

Townes-style Malaise traps (1.8 m height, 1.8m width and 1.8m length) (Townes, 1972) were set up to capture insects. In each site, three traps were set up haphazardly within the sites and maximum distance between traps was < 20 m. Trapped insects were collected every one month from July 2006 to March 2008. The collected insects were identified by KW and all of them are deposited in the Kanagawa Prefectural Museum of Natural History, Odawara, Japan. This report is a preliminary list based on the determined specimens and thus the following list is not including many undetermined or undescribed species in this study.

Results and discussion

We collected ca. 8000 specimens from Yakushima Island by the Malaise traps and 1093 specimens were determined as described species. By the result of identification, we found a total of 77 species of ichneumonid wasps on Yakushima Island, including 62 newly recorded species (*). Of the 54 species reported in the literature (Ito *et al.*, 2013; Konishi, 1985, 1986, 1991, 1992, 1996, 2005, 2010, 2014; Kusigemati, 1971, 1972, 1974, 1982; Momoi, 1966, 1970; Nakanishi, 1986; Takakuwa & Fujita, 2010; Uchida, 1934; Watanabe, 2012; Yasumatsu, 1934), our study found 16 species. A total of 38 species have been reported in the literature but were not found in the present study (Appendix). Thus, a total of 115 ichneumonid species have been recorded from this island.

Of the 115 species, (1) no species is endemic to Yakushima Island; (2) 68 species are distributed in only the Palearctic region of Japan, including three species (*Calosphyrum bimaculatum*, *Torbda takachihoensis*, and *Ischnoceros kirishimensis*) that are limited to Kyushu and Yakushima Islands; and (3) 47 species are distributed in the Oriental region of the Ryukyu Islands, including 39 species that are also distributed in the Palearctic region of Japan and seven species that are not distributed there (*Agripon seminigrum*, *Baltazaria nigrescens*, *Eriborus samuelsoni*, *Pimpla amamiensis*, *Tossinola ryukyuensis*, *Triclistus parvulus* and *Xorides nasensis*).

These findings indicate that the ichneumonid fauna of Yakushima Island is mainly composed of species from the Palearctic region, but it is highly influenced by the Oriental region. In this study, we excluded the undertermined species from this list and did not survey the high altitude localities (e.g. Hananogo). Therefore, we should be reviewed the findings, especially no endemic species, in the future study.

Family Ichneumonidae

Subfamily Acaenitinae

1) *Coleocentrus incertus* (Ashmead, 1906)*

Specimens examined. [Aikodake: CE] 5♀, 30. iii. –29. iv. 2007 (KPM–NK 5000000 ~ 5000004).

Distribution. Japan (Hokkaido, Honshu, Sado Is., Shikoku, Kyushu and Yakushima Is.).

2) *Metachorisichizus unicolor* Uchida, 1928

Specimens examined. [Han-yama: OW] 2♀, 28. vi. –30. vii. 2007 (KPM–NK 5000005 ~ 5000006).

Distribution. Japan (Honshu, Shikoku, Yakushima Is. and Amamioshima Is.).

Above specimens were already reported by Ito *et al.* (2013).

3) *Spilopteron tosaensis* (Uchida, 1934)

Specimens examined. [Aikodake: CE] 4♀, 28. vi. –29. vii. 2007 (KPM–NK 5000007 ~ 5000010). [Kankake: CW] 1♀, 22. vii. –22. viii. 2006; 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000011 ~ 5000012). [Aikodake: OE] 2♀, 28. vi. –29. vii. 2007 (KPM–NK 5000013 ~ 5000014). [Arakawa: OH] 2♀, 22. vii. –22. viii. 2006; 2♀, 28. vi. –29. vii. 2007; 1♀, 29. vii. –25. viii. 2007 (KPM–NK 5000015 ~ 5000019). [Han-yama: OW] 1♂, 8. vi. –28. vi. 2007 (KPM–NK 5000020).

Distribution. Japan (Honshu, Shikoku, Kyushu and Yakushima Is.).

4) *Yezoceryx isshikii* (Uchida, 1929)

Specimens examined. [Arakawa: OH] 6♀, 22. vii. –22. viii. 2006; 3♀, 28. vi. –29. vii. 2007; 5♀, 29. vii. –25. viii. 2007; 3♀, 25. viii. –28. ix. 2007 (KPM–NK 5000021 ~ 5000037).

Distribution. Japan (Honshu and Yakushima Is.) and Taiwan.

Subfamily Anomaloninae

5) *Agripon seminigrum* (Momoi, 1970)*

Specimens examined. [Aikodake: CE] 1♀, 25. viii. –22. ix. 2006; 1♀, 25. ix. –23. x. 2006; 2♀, 26. x. –27. xi. 2006; 1♀, 25. viii. –28. ix. 2007; 1♀, 1–29. xii. 2007 (KPM–NK 5000038 ~ 5000043). [Kankake: CW] 1♀, 25. viii. –23. ix. 2006; 3♀, 26. ix. –24. x. 2006; 5♀, 1. v. –5. vi. 2007; 1♀, 25. viii. –28. ix. 2007; 2♀, 28. ix. –2. xi. 2007 (KPM–NK 5000044 ~ 5000055). [Aikodake: OE] 1♀, 26. x. –27. xi. 2006; 5♀, 30. xi. –25. xii. 2006; 2♀, 28. ix. –2. xi. 2007; 1♀, 1–29. xii. 2007 (KPM–NK 5000056 ~ 5000064). [Han-yama: OW] 2♀, 27. x. –28. xi. 2006; 1♀, 2. xi. –1. xii. 2007 (KPM–NK 5000065 ~ 5000067).

Distribution. Japan (Yakushima Is., Ishigakijima Is. and Iriomotejima Is.).

6) *Anomalon japonicum* (Uchida, 1928)*

Specimens examined. [Han-yama: OW] 1♂, 8–28. vi. 2007 (KPM–NK 5000068).

Distribution. Japan (Hokkaido, Honshu and Yakushima Is.).

7) *Habronyx insidiator* (Smith, 1874)*

Specimens examined. [Kankake: CW] 1♀, 22. vii. –22. viii. 2006 (KPM–NK 5000069). [Aikodake: OE] 1♀, 22. vii. –22. viii. 2006; 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5000070 ~ 5000071). [Han-yama: OW] 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000072). [Arakawa: OH] 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5000073).

Distribution. Japan (Hokkaido, Honshu, Izu Is., Shikoku, Kyushu, Tsushima Is. and Yakushima Is.), Sakhalin, Russian Far East, China and Korea.

8) *Heteropelma amictum* (Fabricius, 1775)

Specimens examined. [Aikodake: CE] 1♀, 2–10. v. 2007; 1♀, 8–28. vi. 2007 (KPM–NK 5000074 ~ 5000075). [Kankake: CW] 1♀, 26. ix. –24. x. 2006; 1♀, 27. x. –28. xi. 2006; 1♀, 8–28. vi. 2007 (KPM–NK 5000076 ~ 5000078). [Aikodake: OE] 1♀, 26. x. –27. xi. 2006 (KPM–NK 5000079). [Han-yama: OW] 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000080).

Distribution. Japan (Hokkaido, Chishima Is., Honshu, Shikoku, Kyushu, Tsushima Is. and Yakushima Is.), Palearctic Region, Taiwan and India.

9) *Perisphincter kiushuensis* (Uchida, 1928)*

Specimens examined. [Aikodake: CE] 1♀, 25. ix. –23. x. 2006 (KPM–NK 5000081). [Kankake: CW] 1♀, 26. ix. –24. x. 2006; 1♀, 27. x. –28. xi. 2006; 2♀♀, 1. v. –5. vi. 2007 (KPM–NK 5000082 ~ 5000085). [Arakawa: OH] 1♀, 2. v. –4. vi. 2007; 5♀♀, 7–28. vi. 2007 (KPM–NK 5000086 ~ 5000091).

Distribution. Japan (Honshu, Shikoku, Kyushu and Yakushima Is.) and Taiwan.

Subfamily Banchinae

10) *Cryptopimpla brevigena* Kuslitzky, 2007*

Specimens examined. [Aikodake: CE] 1♂, 30. iii. –29. iv. 2007; 5♂♂, 29. iv. –2. v. 2007 (KPM–NK 5000092 ~ 5000097). [Aikodake: OE] 1♂, 29. iv. –2. v. 2007 (KPM–NK 5000098).

Distribution. Japan (Hokkaido, Honshu and Yakushima Is.) and Russian Far East.

11) *Teleutaea mishae* Kuslitzky, 1973*

Specimens examined. [Arakawa: OH] 1♂, 28. vi. –29. vii. 2007 (KPM–NK 5000099).

Distribution. Japan (Shikotan Is., Hokkaido, Honshu and Yakushima Is.) and Russian Far East.

Subfamily Brachycyrtinae

12) *Brachycyrtus mawai* (Ashmead, 1906)*

Specimens examined. [Han-yama: OW] 1♀, 22. vii. –22. viii. 2006; 2♀♀, 25. viii. –28. ix. 2007 (KPM–NK 5000100 ~ 5000102).

Distribution. Japan (Honshu, Kyushu, Yakushima Is., Ishigakijima Is. and Iriomotejima Is.), Taiwan, China, Philippines, India and Hawaii.

Subfamily Campopleginae

13) *Campoplex sugiharai sugiharai* (Uchida, 1932)*

Specimens examined. [Han-yama: OW] 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000103).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu and Yakushima Is.) and Korea.

14) *Cymodusa aenigma* Dber, 1985*

Specimens examined. [Aikodake: CE] 1♀, 22. vii. –22. viii. 2006; 3♀♀, 25. viii. –22. ix. 2006; 8♀♀, 25. viii. –28. ix. 2007 (KPM–NK 5000104 ~ 5000115). [Aikodake: OE] 1♀, 22. vii. –22. viii. 2006; 1♀, 26. x. –27. xi. 2006; 1♀, 28. vi. –29. vii. 2007; 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5000116

~ 5000119).

Distribution. Japan (Hokkaido, Honshu and Yakushima Is.) and Russian Far East.

15) *Eriborus samuelsoni* Momoi, 1970*

Specimens examined. [Aikodake: CE] 1♀, 26. x. –27. xi. 2006 (KPM–NK 5000120). [Aikodake: OE] 2♀♀, 28. vi. –29. vii. 2007; 1♀, 2. xi. –1. xii. 2007; 1♀, 1–29. xii. 2007 (KPM–NK 5000121 ~ 5000124). [Han-yama: OW] 4♀♀, 27. x. –28. xi. 2006; 1♀, 31. iii. –29. iv. 2007; 16♀♀, 1. v. –5. vi. 2007; 6♀♀, 8–28. vi. 2007; 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000125 ~ 5000152).

Distribution. Japan (Yakushima Is. and Iriomotejima Is.).

16) *Eriborus vulgaris* (Morley, 1912)*

Specimens examined. [Aikodake: CE] 1♀, 22. vii. –22. viii. 2006 (KPM–NK 5000153). [Kankake: CW] 1♀1♂, 22. vii. –22. viii. 2006; 1♂, 26. ix. –24. x. 2006; 3♀♀, 1. v. –5. vi. 2007 (KPM–NK 5000154 ~ 5000159). [Aikodake: OE] 1♂, 22. vii. –22. viii. 2006; 1♀, 25. viii. –22. ix. 2006; 1♀, 26. x. –27. xi. 2006; 4♀♀, 2. v. –5. vi. 2007; 3♀♀, 28. vi. –29. vii. 2007 (KPM–NK 5000160 ~ 5000169). [Han-yama: OW] 2♀♀, 22. vii. –22. viii. 2006; 1♀3♂♂, 25. viii. –23. ix. 2006; 1♀, 1. v. –5. vi. 2007; 3♀♀, 8–28. vi. 2007 (KPM–NK 5000170 ~ 5000179).

Distribution. Japan (Shikoku, Kyushu, Yakushima Is., Tokunoshima Is., Okinawajima Is. and Ishigakijima Is.), Taiwan, India, Sri Lanka and Pakistan.

Subfamily Cremastinae

17) *Trathala flavoorbitalis* (Cameron, 1907)*

Specimens examined. [Aikodake: CE] 3♀♀, 25. viii. –22. ix. 2006; 1♀, 25. ix. –23. x. 2006; 1♀, 26. x. –27. xi. 2006; 2♀♀, 29. vii. –25. viii. 2007; 7♀♀, 25. viii. –28. ix. 2007; 8♀♀, 28. ix. –2. xi. 2007 (KPM–NK 5000180 ~ 5000201). [Kankake: CW] 1♀, 22. vii. –22. viii. 2006 (KPM–NK 5000202).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Yakushima Is. and Okinawajima Is.) and widely distributed in the East and Southeast Asia and the Pacific islands.

Subfamily Cryptinae

18) *Acroricnus ambulator ambulator* (Smith, 1874)*

Specimens examined. [Han-yama: OW] 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000203).

Distribution. Japan (Chishima Is., Honshu, Sado Is., Shikoku, Kyushu, Tsushima Is. and Yakushima Is.), China, Taiwan and Korea.

19) *Baltazaria nigrescens* Momoi, 1970*

Specimens examined. [Aikodake: CE] 1♀, 25. ix. –23. x. 2006 (KPM–NK 5000204). [Kankake: CW] 1♀, 25. ix. –23. x. 2006; 2♀♀, 1. v. –5. vi. 2007 (KPM–NK 5000205 ~ 5000207). [Aikodake: OE] 1♀, 25. viii. –22. ix. 2006; 1♀, 2. v. –5. vi. 2007; 1♀, 28. vi. –29. vii. 2007 (KPM–NK 5000208 ~ 5000210).

Distribution. Japan (Yakushima Is. and Amamioshima Is.).

- 20) *Brussinocryptus orientalis* (Uchida, 1932)*
Specimens examined. [Kankake: CW] 1♂, 22. vii. –22. viii. 2006 (KPM–NK 5000211). [Aikodake: OE] 1♂, 22. vii. –22. viii. 2006; 1♂, 29. iv. –2. v. 2007; 5♂♂, 8–28. vi. 2007; 8♂♂, 28. vi. –29. vii. 2007 (KPM–NK 5000212 ~ 5000226). [Han-yama: OW] 1♂, 26. ix. –24. x. 2006; 2♂♂, 8–28. vi. 2007 (KPM–NK 5000227 ~ 5000229).
Distribution. Japan (Hokkaido, Honshu and Yakushima Is.), China and Korea.
- 21) *Calosphyrum bimaculatum* Kusigemati, 1987
Specimens examined. [Kankake: CW] 3♀♀, 26. ix. –24. x. 2006 (KPM–NK 5000230 ~ 5000232). [Aikodake: OE] 1♀, 28. vi. –29. vii. 2007; 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000233 ~ 5000234). [Han-yama: OW] 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000235).
Distribution. Japan (Kyushu and Yakushima Is.).
- 22) *Dichrogaster liostylus* (Thomson, 1885)
Specimens examined. [Kankake: CW] 1♀, 22. vii. –22. viii. 2006 (KPM–NK 5000236). [Aikodake: OE] 1♀, 22. vii. –22. viii. 2006; 1♀, 30. xi. –25. xii. 2006; 1♀, 27–30. iii. 2007 (KPM–NK 5000237 ~ 5000239).
Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima Is., Yakushima Is. and Okinawajima Is.), Palearctic Region, Taiwan and India.
- 23) *Eurycryptus unicolor* (Uchida, 1932)*
Specimens examined. [Aikodake: CE] 1♀, 25. ix. –23. x. 2006; 1♂, 25. viii. –28. ix. 2007 (KPM–NK 5000240 ~ 5000241). [Kankake: CW] 1♀, 23–26. ix. 2006 (Collision trap); 1♀, 26. ix. –24. x. 2006; 1♂, 1. v. –5. vi. 2007; 1♂, 25. viii. –28. ix. 2007 (KPM–NK 5000242 ~ 5000245). [Aikodake: OE] 3♂♂, 2. v. –5. vi. 2007 (KPM–NK 5000246 ~ 5000248). [Han-yama: OW] 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000249).
Distribution. Japan (Honshu, Shikoku, Yakushima Is. and Amamioshima Is.) and Taiwan.
- 24) *Glabridorsum acroclitae* Kusigemati, 1982*
Specimens examined. [Arakawa: OH] 4♀♀, 2. v. –4. vi. 2007; 1♀, 4–7. vi. 2007; 1♂, 7–28. vi. 2007 (KPM–NK 5000250 ~ 5000255).
Distribution. Japan (Honshu, Kyushu and Yakushima Is.).
- 25) *Hedycryptus tenuiabdominalis* (Uchida, 1930)*
Specimens examined. [Aikodake: CE] 1♀, 25. ix. –23. x. 2006; 1♀, 26. x. –27. xi. 2006; 1♀, 27–30. iii. 2007 (Collision trap); 2♀♀, 30. iii. –29. iv. 2007; 1♀, 2–10. v. 2007 (KPM–NK 5000256 ~ 5000261). [Kankake: CW] 1♀, 28. ix. –2. xi. 2007; 1♀, 30. x. –2. xi. 2007 (KPM–NK 5000262 ~ 5000263). [Aikodake: OE] 3♀♀, 2. v. –5. vi. 2007 (KPM–NK 5000264 ~ 5000266). [Han-yama: OW] 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000267). [Arakawa: OH] 2♀♀, 28. vi. –29. vii. 2007 (KPM–NK 5000268 ~ 5000269).
Distribution. Japan (Hokkaido, Honshu, Sado Is., Shikoku, Kyushu and Yakushima Is.) and China.
- 26) *Listrognathus (Listrognathus) coreensis* Uchida, 1930*
Specimens examined. [Han-yama: OW] 1♀, 22. vii. –22. viii. 2006 (KPM–NK 5000270).
Distribution. Japan (Hokkaido and Yakushima Is.), China and Korea.
- 27) *Mesostenus funebris* Gravenhorst, 1829*
Specimens examined. [Aikodake: CE] 1♀, 22. vii. –22. viii. 2006 (KPM–NK 5000271).
Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu and Yakushima Is.) and Palearctic Region.
- 28) *Myrmeleonostenus babai* Uchida, 1936*
Specimens examined. [Han-yama: OW] 1♀5♂♂, 28. vi. –30. vii. 2007 (KPM–NK 5000272 ~ 5000277).
Distribution. Japan (Honshu, Izu Isls., Kyushu, Yakushima Is. and Amamioshima Is.).
- 29) *Nematopodius (Nematopodius) oblongs* Momoi, 1967*
Specimens examined. [Aikodake: CE] 1♀, 2–10. v. 2007 (KPM–NK 5000278). [Aikodake: OE] 1♀, 30. iii. –29. iv. 2007; 3♀♀, 2. v. –5. vi. 2007 (KPM–NK 5000279 ~ 5000282). [Han-yama: OW] 2♀♀, 1. v. –5. vi. 2007 (KPM–NK 5000283 ~ 5000284). [Arakawa: OH] 2♀♀, 28. vi. –29. vii. 2007; 1♀, 29. vii. –25. viii. 2007 (KPM–NK 5000285 ~ 5000287).
Distribution. Japan (Hokkaido, Chishima Isls., Honshu, Shikoku, Kyushu and Yakushima Is.).
- 30) *Picardiella tarsalis* (Matsumura, 1912)*
Specimens examined. [Kankake: CW] 1♀, 22. vii. –22. viii. 2006; 1♀, 27. x. –28. xi. 2006; 1♀, 1. v. –5. vi. 2007 (KPM–NK 5000288 ~ 5000290). [Han-yama: OW] 1♀, 1. v. –5. vi. 2007; 1♀, 26. ix. –24. x. 2006 (KPM–NK 5000291 ~ 5000292). [Arakawa: OH] 1♀, 22–25. viii. 2006 (KPM–NK 5000293).
Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu and Yakushima Is.).
- 31) *Schreineria cingulipes japonica* Momoi, 1965*
Specimens examined. [Han-yama: OW] 3♀♀, 26. ix. –24. x. 2006; 1♀, 27. x. –28. xi. 2006; 1♀, 5–8. vi. 2007 (KPM–NK 5000294 ~ 5000298).
Distribution. Japan (Hokkaido, Honshu, Shikoku and Yakushima Is.).
- 32) *Torbda takachihoensis* Momoi, 1966*
Specimens examined. [Aikodake: CE] 1♀, 22. vii. –22. viii. 2006; 1♀, 30. iii. –29. iv. 2007; 2♀♀, 8–28. vi. 2007 (KPM–NK 5000299 ~ 5000302). [Kankake: CW] 1♀, 19–22. vii. 2006; 4♀♀, 22. vii. –22. viii. 2006; 1♀, 5–8. vi. 2007; 2♀♀, 8–28. vi. 2007; 1♀, 25. viii. –28. ix. 2007; 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000303 ~ 5000312). [Aikodake: OE] 1♀, 22. vii. –22. viii. 2006; 2♀♀1♂, 27–30. iii. 2007; 2♀♀, 30. iii. –29. iv. 2007; 1♀, 29. iv. –2. v. 2007; 8♀♀, 2. v. –5. vi. 2007; 2♀♀2♂♂, 5–8. vi. 2007; 1♀, 8–28. vi. 2007; 4♀♀, 28. vi. –29. vii. 2007; 1♀, 25. viii. –28. ix. 2007; 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000313 ~ 5000338). [Han-

yama: OW] 1♀, 23–26. ix. 2006; 2♀♀, 31. iii. –29. iv. 2007; 7♀♀, 1. v. –5. vi. 2007; 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5000339 ~ 5000349). [Arakawa: OH] 2♀, 29. vii. –25. viii. 2007 (KPM–NK 5000350 ~ 5000351).

Distribution. Japan (Kyushu, Tanegashima Is. and Yakushima Is.).

Subfamily Diacritinae

33) *Diacritus aciculatus japonicus* Momoi, 1966*

Specimens examined. [Kankake: CW] 1♀1♂, 22. vii. –22. viii. 2006 (KPM–NK 5000352 ~ 5000353). [Arakawa: OH] 1♀, 22. vii. –22. viii. 2006; 1♀1♂, 22–25. viii. 2006; 1♀1♂, 25. viii. –22. ix. 2006; 1♀, 29. vii. –25. viii. 2007 (KPM–NK 5000354 ~ 5000359).

Distribution. Japan (Honshu, Kyushu and Yakushima Is.).

Subfamily Diplazontinae

34) *Diplazon orientalis* (Cameron, 1905)*

Specimens examined. [Aikodake: CE] 1♀, 30. iii. –29. iv. 2007 (KPM–NK 5000360). [Han-yama: OW] 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000361).

Distribution. Japan (Hokkaido, Honshu and Yakushima Is.), Taiwan, Sri Lanka, India and Iran.

Subfamily Eucerotinae

35) *Euceros superbus* Kriechbaummer, 1888*

Specimens examined. [Aikodake: CE] 1♀, 30. iii. –29. iv. 2007 (KPM–NK 5000362). [Kankake: CW] 1♀, 1. v. –5. vi. 2007 (KPM–NK 5000363).

Distribution. Japan (Chishima Is., Kyushu and Yakushima Is.), Sakhalin, Russia, Europe.

Remarks. Horstmann (2006) synonymized *E. kiushuensis* Uchida, 1958, under *E. superbus* Kriechbaummer.

Subfamily Mesochorinae

36) *Mesochorus semirufus* Holmgren, 1860*

Specimens examined. [Arakawa: OH] 1♀, 25. viii. –22. ix. 2006; 1♀, 25. viii. –28. ix. 2007; 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000364 ~ 5000366).

Distribution. Japan (Honshu and Yakushima Is.), Russia, Sweden and Nepal.

Subfamily Metopiinae

37) *Acerataspis clavata* (Uchida, 1934)

Specimens examined. [Aikodake: CE] 1♂, 22. vii. –22. viii. 2006; 2♀♀, 8–28. vi. 2007; 1♀, 29. vii. –25. viii. 2007 (KPM–NK 5000367 ~ 5000370). [Aikodake: OE] 1♀1♂, 28. vi. –29. vii. 2007; 1♀, 26. x. –27. xi. 2006 (KPM–NK 5000371 ~ 5000373).

Distribution. Japan (Hokkaido, Honshu, Izu Is., Kyushu and Yakushima Is.).

38) *Exochus affinis* Momoi & Kusigemati, 1970*

Specimens examined. [Kankake: CW] 1♀, 23–26. ix. 2006; 2♀♀, 30. vii. –25. viii. 2007 (KPM–NK 5000374 ~ 5000376). [Han-yama: OW] 2♀♀, 28. ix. –2. xi. 2007 (KPM–NK 5000377 ~ 5000378).

Distribution. Japan (Honshu, Shikoku, Kyushu, Yaku-

shima Is., Okinoerabujima Is. and Iriomotejima Is.).

39) *Exochus ornatus* Momoi & Kusigemati, 1970

Specimens examined. [Aikodake: CE] 1♀, 2–10. v. 2007 (KPM–NK 5000379). [Kankake: CW] 4♀♀, 31. iii. –28. iv. 2007; 1♀, 28. iv. –1. v. 2007; 1♀1♂, 1. v. –5. vi. 2007; 1♂, 8–28. vi. 2007 (KPM–NK 5000380 ~ 5000387). [Aikodake: OE] 1♀, 26. x. –27. xi. 2006; 3♀♀, 30. xi. –25. xii. 2006; 1♀, 29. iv. –2. v. 2007; 1♀, 2. v. –5. vi. 2007 (KPM–NK 5000388 ~ 5000393). [Han-yama: OW] 1♀, 2–28. iii. 2007; 1♀, 1. v. –5. vi. 2007; 1♀, 30. xii. 2007–29. i. 2008 (KPM–NK 5000394 ~ 5000396). [Arakawa: OH] 1♀, 25. viii. –22. ix. 2006; 3♀♀1♂, 28. vi. –29. vii. 2007 (KPM–NK 5000397 ~ 5000401).

Distribution. Japan (Hokkaido, Rishiri Is., Rebun Is., Honshu, Kyushu, Yakushima Is. and Amamioshima Is.) and Taiwan.

40) *Hypsicera carinata* Momoi & Kusigemati, 1970

Specimens examined. [Han-yama: OW] 2♀♀, 1. v. –5. vi. 2007 (KPM–NK 5000402 ~ 5000403). [Arakawa: OH] 1♀, 22. vii. –22. viii. 2006; 13exs. 25. viii. –22. ix. 2006 (KPM–NK 5000404 ~ 5000417).

Distribution. Japan (Hokkaido, Honshu, Kyushu, Yakushima Is. and Okinawajima Is.).

41) *Hypsicera harrelli* Momoi & Kusigemati, 1970

Specimens examined. [Kankake: CW] 5♀♀7♂♂, 1. v. –5. vi. 2007 (KPM–NK 5000418 ~ 5000429). [Aikodake: OE] 1♂, 22. vii. –22. viii. 2006; 3♀♀, 2. v. –5. vi. 2007; 2♂♂, 28. vi. –29. vii. 2007 (KPM–NK 5000430 ~ 5000435). [Han-yama: OW] 4♀♀, 25. viii. –23. ix. 2006; 1♀, 1. v. –5. vi. 2007 (KPM–NK 5000436 ~ 5000440). [Arakawa: OH] 2♂♂, 22. vii. –22. viii. 2006; 5♀♀, 25. viii. –22. ix. 2006; 1♀, 7–28. vi. 2007 (KPM–NK 5000441 ~ 5000448).

Distribution. Japan (Kyushu, Yakushima Is., Amamioshima Is., Okinoerabujima Is., Okinawajima Is. and Ishigakijima Is.).

42) *Hypsicera incarinata* Momoi & Kusigemati, 1970*

Specimens examined. [Han-yama: OW] 1♀, 25. viii. –23. ix. 2006 (KPM–NK 5000449).

Distribution. Japan (Kyushu, Yakushima Is., Ishigakijima Is. and Iriomotejima Is.).

43) *Hypsicera makiharai* Kusigemati, 1971*

Specimens examined. [Arakawa: OH] 5♂♂, 22. vii. –22. viii. 2006 (KPM–NK 5000450 ~ 5000454).

Distribution. Japan (Kyushu, Yakushima Is. and Yonagunijima Is.).

44) *Hypsicera nigribasis* Momoi & Kusigemati, 1970

Specimens examined. [Aikodake: OE] 1♂, 2. v. –5. vi. 2007 (KPM–NK 5000455). [Arakawa: OH] 5♂♂, 22. vii. –22. viii. 2006 (KPM–NK 5000456 ~ 5000460).

Distribution. Japan (Honshu, Kyushu, Tsushima Is., Yakushima Is., Amamioshima Is. and Okinawajima Is.).

45) *Metopius (Ceratopius) dissectorius* (Panzer, 1805)*

Specimens examined. [Han-yama: OW] 1♀, 8–28. vi. 2007 (KPM–NK 5000461).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Yakushima Is. and Amamioshima Is.), Taiwan and widely distributed in the Palaearctic region.

46) *Triclistus aitkeni* (Cameron, 1897)*

Specimens examined. [Aikodake: CE] 1♀, 19–22. vii. 2006; 1♀, 22. vii. –22. viii. 2006; 1♀, 22–25. viii. 2006; 2♀♀1♂, 25. viii. –28. ix. 2007; 1♂, 28. ix. –2. xi. 2007 (KPM–NK 5000462 ~ 5000468). [Aikodake: OE] 1♂, 8–28. vi. 2007 (KPM–NK 5000469).

Distribution. Japan (Hokkaido, Honshu, Kyushu, Yakushima Is., Amamioshima Is. and Ogasawara Is.), Taiwan and India.

47) *Triclistus japonicus* Kusigemati, 1971*

Specimens examined. [Aikodake: CE] 3♀♀, 22. vii. –22. viii. 2006; 1♀, 25. viii. –22. ix. 2006 (KPM–NK 5000470 ~ 5000473).

Distribution. Japan (Hokkaido, Honshu, Izu Is., Kyushu and Yakushima Is.) and Mongolia.

48) *Triclistus nigripes* Momoi & Kusigemati, 1970*

Specimens examined. [Aikodake: CE] 1♂, 25. viii. –22. ix. 2006 (KPM–NK 5000474). [Kankake: CW] 1♂, 31. iii. –28. iv. 2007 (KPM–NK 5000475).

Distribution. Japan (Hokkaido, Honshu, Kyushu, Yakushima Is. and Amamioshima Is.).

Subfamily Nesomesochorinae

49) *Chriodes (Klutiana) pentagonus* Momoi, 1970

Specimens examined. [Kankake: CW] 1♂, 22. vii. –22. viii. 2006; 1♂, 25. viii. –23. ix. 2006; 1♀, 1. v. –5. vi. 2007; 2♀♀2♂♂, 8–28. vi. 2007; 1♂, 25. viii. –28. ix. 2007 (KPM–NK 5000476 ~ 5000483). [Aikodake: OE] 3♀♀1♂, 28. vi. –29. vii. 2007 (KPM–NK 5000484 ~ 5000487). [Han-yama: OW] 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000488).

Distribution. Japan (Honshu, Kyushu, Yakushima Is., Amamioshima Is., Okinawajima Is., Ishigakijima Is. and Iriomotejima Is.).

Subfamily Ophioninae

50) *Enicospilus lineolatus* (Roman, 1913)*

Specimens examined. [Aikodake: CE] 1♀, 5–8. vi. 2007; 26♀♀, 8–28. vi. 2007 (KPM–NK 5000489 ~ 5000514). [Aikodake: OE] 1♀, 5–8. vi. 2007; 4♀♀, 8–28. vi. 2007; 1♀, 28. vi. –29. vii. 2007 (KPM–NK 5000515 ~ 5000520). [Kankake: CW] 3♀♀, 8–28. vi. 2007 (KPM–NK 5000521 ~ 5000523).

Distribution. Japan (Honshu, Yakushima Is., Tokara Nakanoshima Is. and Okinawajima Is.), Russia, China, Taiwan, Southeast Asia, New Guinea, Australia.

51) *Enicospilus nigropectus* Cameron, 1905

Specimens examined. [Aikodake: CE] 3♂♂, 22. vii. –22. viii. 2006; 6♀♀1♂, 25. viii. –22. ix. 2006; 6♀♀1♂, 25. ix.

–23. x. 2006; 3♀♀1♂, 28. vi. –29. vii. 2007; 6♀♀, 29. vii. –25. viii. 2007; 1♀, 22–25. viii. 2007; 4♀♀1♂, 25. viii. –22. ix. 2007; 1♀, 25. viii. –28. ix. 2007; 4♀♀2♂♂, 28. ix. –2. xi. 2007; 1♀, 26. x. –27. xi. 2007 (KPM–NK 5000524 ~ 5000564). [Kankake: CW] 1♀, 25. viii. –23. ix. 2006; 2♂♂1♀, 26. ix. –24. x. 2006; 1♀5♂♂, 1. v. –5. vi. 2007; 1♀, 28. vi. –30. vii. 2007; 1♀, 30. vii. –25. viii. 2007; 5♀♀1♂, 25. viii. –28. ix. 2007; 5♀♀, 28. ix. –2. xi. 2007 (KPM–NK 5000565 ~ 5000587). [Han-yama: OW] 1♀, 1–25. xii. 2006 (KPM–NK 5000588).

Distribution. Japan (Honshu, Shikoku, Kyushu, Yakushima Is., Amamioshima Is.), Taiwan, Korea, India and South East Asia.

Remarks. *Henicospilus fuscomaculatus* Uchida, 1928, was synonymized under *E. nigropectus* by Gauld & Mitchell (1981) and a subspecies of this species, *Henicospilus fuscomaculatus yakushimensis* (Yasumatsu, 1934), was also treated as a subspecies of *E. nigropectus* in recent classification (e.g. Yu *et al.*, 2012). According to the original description of this subspecies (Yasumatsu, 1934), its diagnosis is based on the colouration. We examined the holotype of this subspecies deposited in Kyushu University (♀, 21. vii. 1930, Yakushima Is., M. A. Umeno leg.) and recognized the diagnosis, dark colouration. However the colouration of the additional specimens collected from Yakushima Island and other localities are gradually varied from dark brown to pale reddish-yellow and some pale-coloured specimens are not separable from *E. nigropectus nigropectus*. Therefore, we conclude that there is no need to separate it as a subspecies (**syn. nov.**).

Subfamily Pimplinae

Tribe Delomeristini

52) *Perithous albicinctus* (Gravenhorst, 1829)*

Specimens examined. [Kankake: CW] 1♀, 24–27. x. 2006 (KPM–NK 5000589). [Aikodake: OE] 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000590). [Han-yama: OW] 1♀, 1. v. –5. vii. 2007 (KPM–NK 5000591). [Arakawa: OH] 2♀♀, 28. vi. –29. vii. 2007; 4♀♀, 25. viii. –28. ix. 2007 (KPM–NK 5000592 ~ 5000597).

Distribution. Japan (Hokkaido, Honshu and Yakushima Is.), Russian Far East, Europe.

Tribe Ephialtini

53) *Acropimpla leucostoma* (Cameron, 1907)*

Specimens examined. [Aikodake: CE] 2♀♀2♂♂, 22. vii. –22. viii. 2006; 1♀, 26. x. –27. xi. 2006; 1♀, 27–30. iii. 2007; 2♀♀, 28. ix. –2. xi. 2007 (KPM–NK 5000598 ~ 5000605). [Kankake: CW] 1♀, 1. v. –5. vi. 2007; 1♀, 28. vi. –30. vii. 2007; 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000606 ~ 5000608). [Aikodake: OE] 1♀, 22. vii. –22. viii. 2006 (KPM–NK 5000609). [Han-yama: OW] 1♀, 1. v. –5. vi. 2007 (KPM–NK 5000610).

Distribution. Japan (Honshu and Yakushima Is.), Taiwan, China, Southeast Asia, India and Sri Lanka.

54) *Dolichomitus matsumurai* (Uchida, 1928)*

Specimens examined. [Han-yama: OW] 1♀, 8–28. vi.

2007 (KPM–NK 5000611).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu and Yakushima Is.) and Sakhalin.

55) *Dolichomitus melanomerus macropunctatus* (Uchida, 1928)

Specimens examined. [Aikodake: CE] 1♀, 22–25. ix. 2006; 2♀♀, 25. viii. –28. ix. 2007 (KPM–NK 5000612 ~ 5000614). [Kankake: CW] 1♀, 25. viii. –23. ix. 2006; 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5000615 ~ 5000616). [Aikodake: OE] 1♀, 25. viii. –22. ix. 2006; 1♀, 26. x. –27. xi. 2006; 1♀, 30. xi. –25. xii. 2006; 1♀, 29. vii. –25. viii. 2007; 1♀, 2. xi. –1. xii. 2007 (KPM–NK 5000617 ~ 5000621). [Han-yama: OW] 1♀, 27. x. –28. xi. 2006; 1♀, 30. vii. –25. viii. 2007 (KPM–NK 5000622 ~ 5000624). [Arakawa: OH] 1♂, 25. ix. –23. x. 2007 (KPM–NK 5000625).

Distribution. Japan (Hokkaido, Chishima Isls., Honshu, Sado Is., Shikoku, Kyushu and Yakushima Is.).

56) *Dolichomitus nakamurai* (Uchida, 1928)*

Specimens examined. [Aikodake: OE] 1♀, 2. v. –5. vi. 2007 (KPM–NK 5000626). [Han-yama: OW] 1♀, 26. ix. –24. x. 2006. 1♀, 27. x. –28. xi. 2006; 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000627 ~ 5000629).

Distribution. Japan (Hokkaido, Honshu, Kyushu and Yakushima Is.).

57) *Eriostethus rufus* (Uchida, 1932)*

Specimens examined. [Aikodake: OE] 1♀, 25. viii. –22. ix. 2006 (KPM–NK 5000630).

Distribution. Japan (Honshu, Shikoku and Yakushima Is.).

58) *Gregopimpla himalayensis* (Cameron, 1899)*

Specimens examined. [Aikodake: OE] 1♀, 26. x. –27. xi. 2006 (KPM–NK 5000631). [Han-yama: OW] 1♀, 26. ix. –24. x. 2006; 2♀♀, 27. x. –28. xi. 2006 (KPM–NK 5000632 ~ 5000634).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu and Yakushima Is.), China, Korea and India.

59) *Paraperithous chui* (Uchida, 1934)*

Specimens examined. [Aikodake: CE] 1♀, 8. vi. –28. vi. 2007; 1♀, 2. xi. –1. xii. 2007 (KPM–NK 5000635 ~ 5000636). [Aikodake: OE] 1♀, 26. x. –27. xi. 2006; 1♀, 2. xi. –1. xii. 2007 (KPM–NK 5000637 ~ 5000638). [Han-yama: OW] 1♀, 27. x. –28. xi. 2006; 1♀, 8–28. vi. 2007; 1♀, 2. xi. –1. xii. 2007 (KPM–NK 5000639 ~ 5000641). [Arakawa: OH] 12♀♀, 22. vii. –22. viii. 2006; 1♀, 25. viii. –22. ix. 2006; 2♀♀, 28. vi. –29. vii. 2007; 1♀, 29. vii. –25. viii. 2007 (KPM–NK 5000642 ~ 5000657).

Distribution. Japan (Honshu, Kyushu and Yakushima Is.), China, Korea and Russia.

60) *Reclinervellus nielsenii* (Roman, 1923)*

Specimens examined. [Aikodake: CE] 1♀, 23–26. x. 2006 (KPM–NK 5000658). [Kankake: CW] 1♀, 27. x. –28. xi. 2006; 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000659 ~ 5000660). [Han-yama: OW] 5♀♀, 27. x. –28. xi. 2006; 2♀♀,

2. xi. –1. xii. 2007 (KPM–NK 5000661 ~ 5000667).

Distribution. Japan (Honshu and Yakushima Is.) and widely distributed in the Palaearctic region.

61) *Zaglyptus semirufus* Momoi, 1970*

Specimens examined. [Aikodake: OE] 1♀, 30. iii. –29. iv. 2007; 1♀, 2–30. iii. 2008 (KPM–NK 5000669 ~ 5000670).

Distribution. Japan (Honshu, Yakushima Is., Amami-oshima Is. and Okinawajima Is.).

62) *Zatypota albicoxa* (Walker, 1874)*

Specimens examined. [Aikodake: OE] 1♀, 25. ix. –23. x. 2006; 1♀, 2. v. –5. vi. 2007 (KPM–NK 5000671 ~ 5000672). [Han-yama: OW] 1♀, 1. v. –5. vi. 2007 (KPM–NK 5000673).

Distribution. Japan (Kunashiri Is., Hokkaido, Honshu, Izu Isls., Shikoku, Kyushu Is., Tsushima Is., Yakushima Is. and Okinawajima Is.) and widely distributed in the Palaearctic region.

63) *Zatypota dendrobia* Matsumoto, 2010*

Specimens examined. [Han-yama: OW] 1♀, 1. v. –5. vi. 2007 (KPM–NK 5000706).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu Is., Tsushima Is. and Yakushima Is.).

Tribe Pimplini

64) *Pimpla amamiensis* (Momoi, 1970)*

Specimens examined. [Aikodake: CE] 1♀, 29. iv. –2. v. 2007 (KPM–NK 5000707). [Kankake: CW] 1♀1♂, 22. vii. –22. viii. 2006; 1♀, 2. iii. –28. iii. 2007; 1♀, 31. iii. –28. iv. 2007; 1♀, 28. iv. –1. v. 2007; 2♀♀, 1. v. –5. vi. 2007; 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000708 ~ 5000715). [Aikodake: OE] 1♂, 28. vi. –29. vii. 2007 (KPM–NK 5000716). [Han-yama: OW] 1♀, 28. iii. –31. iii. 2007; 1♀, 1. v. –5. vi. 2007; 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5000717 ~ 5000719). [Arakawa: OH] 2♀♀14♂♂, 22. vii. –22. viii. 2006; 6♂♂, 25. viii. –22. ix. 2006; 8♀♀10♂♂, 28. vi. –29. vii. 2007; 4♀♀3♂♂, 29. vii. –25. viii. 2007; 5♂♂, 25. viii. –28. ix. 2007 (KPM–NK 5000720 ~ 5000771).

Distribution. Japan (Yakushima Is. and Amami-oshima Is.).

65) *Pimpla luctuosa* Smith, 1874*

Specimens examined. [Aikodake: CE] 3♂♂, 22. vii. –22. viii. 2006; 1♂, 5–8. vi. 2007; 2♂♂, 8–28. vi. 2007 (KPM–NK 5000772 ~ 5000777). [Kankake: CW] 1♂, 22. vii. –22. viii. 2006; 1♂, 25. ix. –23. x. 2006; 1♂, 27. x. –28. xi. 2006; 1♀, 31. iii. –28. iv. 2007 (KPM–NK 5000778 ~ 5000781). [Aikodake: OE] 2♂♂, 19–22. vii. 2006; 4♂♂, 22. vii. –22. viii. 2006; 2♂♂, 25. viii. –22. ix. 2006; 1♂, 25. ix. –23. x. 2006; 4♂♂, 26. x. –27. xi. 2006; 1♀, 2. v. –5. vi. 2007; 2♂♂, 5–8. vi. 2007; 2♂♂, 8–28. vi. 2007; 1♀16♂♂, 28. vi. –29. vii. 2007; 1♂, 29. vii. –25. viii. 2007; 1♂, 25. viii. –22. ix. 2007 (KPM–NK 5000782 ~ 5000818). [Han-yama: OW] 1♂, 19–22. vii. 2006; 5♂♂, 22. vii. –22. viii. 2006; 1♂, 25. viii. –22. ix. 2006; 3♂♂, 26. ix. –24. x. 2006; 9♂♂, 27. x. –28. xi. 2006; 1♂, 1. v. –5. vi. 2007; 2♀♀, 8–28. vi. 2007; 4♀♀2♂♂, 28. vi. –30. vii. 2007; 1♂, 30. vii. –25. viii. 2007; 3♂♂, 25. viii. –28. ix. 2007; 2♂♂, 2. xi. –1. xii. 2007 (KPM–NK

5000819 ~ 5000852). [Arakawa: OH] 1♂, 28. vi. –29. vii. 2007 (KPM–NK 5000853).

Distribution. Japan (Hokkaido, Honshu, Izu Isls., Shikoku, Kyushu and Yakushima Is.) and Taiwan.

66) *Theronia laevigata nigra* Uchida, 1928*

Specimens examined. [Kankake: CW] 1♀, 31. iii. –28. iv. 2007 (KPM–NK 5000854). [Aikodake: OE] 2♂♂, 30. iii. –29. iv. 2007; 1♀, 2. v. –5. vi. 2007 (KPM–NK 5000855 ~ 5000857). [Han-yama: OW] 1♂, 28. iii. –29. iv. 2007 (KPM–NK 5000858). [Arakawa: OH] 3♂♂, 22. vii. –22. viii. 2006. 3♀♀, 7–28. vi. 2007; 1♂, 28. vi. –29. vii. 2007 (KPM–NK 5000859 ~ 5000865).

Distribution. Japan (Hokkaido, Honshu, Sado Is., Shikoku and Yakushima Is.).

67) *Theronia zebra diluta* Gupta, 1962*

Specimens examined. [Aikodake: CE] 1♀, 30. iii. –29. iv. 2007; 1♀, 29. iv. –2. v. 2007; 2♀♀, 8–28. vi. 2007; 1♂, 28. vi. –29. vii. 2007 (KPM–NK 5000866 ~ 5000870). [Kankake: CW] 1♀, 26. ix. –24. x. 2006; 2♀♀, 31. iii. –28. iv. 2007; 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5000871 ~ 5000874). [Aikodake: OE] 1♂, 26. x. –27. xi. 2006; 2♀♀, 2. v. –5. vi. 2007 (KPM–NK 5000875 ~ 5000877). [Han-yama: OW] 1♀, 22. vii. –22. viii. 2006; 1♀, 25. viii. –23. ix. 2006; 1♀, 23–26. ix. 2006; 1♀2♂♂, 26. ix. –24. x. 2006; 3♀♀1♂, 31. iii. –28. iv. 2007; 1. v. –5. vi. 2007; 1♀1♂, 28. vi. –30. vii. 2007; 1♂, 30. vii. –25. viii. 2007 (KPM–NK 5000878 ~ 5000890). [Arakawa: OH] 1♀, 22. vii. –22. viii. 2006; 2♀♀, 28. vi. –29. vii. 2007 (KPM–NK 5000891 ~ 5000893).

Distribution. Japan (Honshu, Izu Isls., Kyushu, Yakushima Is., Amamioshima Is. and Okinawajima Is.), China, Taiwan, Myanmar and India.

68) *Xanthopimpla clavata* Krieger, 1914*

Specimens examined. [Aikodake: CE] 5♀♀, 30. iii. –29. iv. 2007; 5♀♀, 29. iv. –2. v. 2007; 7♀♀, 2–10. v. 2007; 1♀, 5–8. vii. 2007; 2♀♀1♂, 8–28. vi. 2007; 1♀, 28. vi. –29. vii. 2007; 1♀, 29. vii. –25. viii. 2007; 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5000894 ~ 5000917). [Kankake: CW] 1♀, 22. vii. –22. viii. 2006; 1♀, 25. viii. –22. ix. 2006; 3♀♀, 31. iii. –28. iv. 2007; 4♀♀, 28. iv. –1. v. 2007; 40♀♀, 1. v. –5. vi. 2007; 1♀, 5. vii. –8. vii. 2007; 6♀♀1♂, 8–28. vi. 2007; 1♀, 28. vi. –30. vii. 2007; 1♀, 30. vii. –25. viii. 2007; 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5000918 ~ 5000977). [Aikodake: OE] 1♀, 30. iii. –29. iv. 2007; 2♀♀, 29. iv. –2. v. 2007; 11♀♀, 2. v. –5. vi. 2007; 1♂, 8–28. vi. 2007; 3♀♀, 28. vi. –29. vii. 2007 (KPM–NK 5000978 ~ 5000995). [Han-yama: OW] 1♀, 25. viii. –22. ix. 2006; 1♀, 26. ix. –24. x. 2006; 1♀, 28. iv. –1. v. 2007; 5♀♀, 1. v. –5. vi. 2007; 1♀, 5–8. vii. 2007; 1♀, 8–28. vi. 2007 (KPM–NK 5000996 ~ 5001005). [Arakawa: OH] 1♀, 22. vii. –22. viii. 2006; 1♀, 28. vi. –29. vii. 2007 (KPM–NK 5001006 ~ 5001007).

Distribution. Japan (Honshu, Izu Isls., Shikoku, Kyushu, Tsushima Is., Yakushima Is., Okinawajima Is., Miyakojima Is., Ishigakijima Is. and Iriomotejima Is.), China and Taiwan.

Remarks. This species is the most common and wide-spread species in Southern Islands of Japan.

69) *Xanthopimpla naenia* Morley, 1913*

Specimens examined. [Aikodake: CE] 1♀, 28. vi. –29. vii. 2007 (KPM–NK 5001008). [Kankake: CW] 1♀, 26. ix. –24. x. 2006; 1♀, 27. x. –28. xi. 2006; 1♀, 28. vi. –30. vii. 2007 (KPM–NK 5001009 ~ 5001011). [Aikodake: OE] 1♀, 19–22. vii. 2006; 1♀, 23–26. x. 2006; 1♀, 28. vi. –29. vii. 2007; 1♀, 29. vii. –25. viii. 2007 (KPM–NK 5001012 ~ 5001015).

Distribution. Japan (Kyushu, Yakushima Is. and Okinawajima Is.), Taiwan, the Philippines and India.

Subfamily Poemeninae

70) *Eugalta albimarginalis* (Uchida, 1928)

Specimens examined. [Aikodake: CE] 2♀♀, 30. iii. –29. iv. 2007; 2♀♀1♂, 2–10. v. 2007; 1♀, 8–28. vi. 2007 (KPM–NK 5001016 ~ 5001021). [Kankake: CW] 1♀, 19–22. vii. 2006; 1♀, 22. vii. –22. viii. 2006; 1♀1♂, 31. iii. –28. iv. 2007; 5♀♀, 1. v. –5. vi. 2007; 2♀♀, 8–28. vi. 2007; 1♀, 28. vi. –30. vii. 2007; 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5001022 ~ 5001034). [Aikodake: OE] 2♀♀, 22. vii. –22. viii. 2006; 1♀, 27–30. iii. 2007; 2♀♀2♂♂, 30. iii. –29. iv. 2007; 1♀, 29. iv. –2. v. 2007; 9♀♀, 2. v. –5. vi. 2007; 1♀, 5–8. vi. 2007; 3♀♀, 28. vi. –29. vii. 2007; 1♀, 29. vii. –25. viii. 2007; 2♀♀, 28. ix. –2. xi. 2007 (KPM–NK 5001035 ~ 5001058). [Han-yama: OW] 1♀, 19–22. vii. 2006; 2♀♀, 22. vii. –22. viii. 2006; 2♀♀3♂♂, 31. iii. –28. iv. 2007; 2♀♀, 28. iv. –1. v. 2007; 9♀♀, 1. v. –5. vi. 2007; 2♀♀, 5–8. vi. 2007; 1♀, 25–28. vi. 2007; 3♀♀, 28. vi. –30. vii. 2007; 2♀♀, 28. ix. –2. xi. 2007 (KPM–NK 5001059 ~ 5001085). [Arakawa: OH] 1♀, 28. vi. –29. vii. 2007 (KPM–NK 5001086).

Distribution. Japan (Hokkaido, Honshu, Sado Is., Shikoku and Yakushima Is.).

71) *Podoschistus alpenis* (Uchida, 1928)*

Specimens examined. [Han-yama: OW] 1♀, 28. ix. –2. xi. 2007 (KPM–NK 5001087).

Distribution. Japan (Hokkaido, Honshu, Shikoku and Yakushima Is.) and Russian Far East.

Subfamily Rhyssinae

72) *Megarhyssa praeclens* (Tosquinet, 1889)*

Specimens examined. [Aikodake: CE] 1♂, 22. vii. –22. viii. 2006; 1♂, 2–10. v. 2007; 3♀♀1♂, 28. vi. –29. vii. 2007 (KPM–NK 5001088 ~ 5001093). [Kankake: CW] 1♂, 22. vii. –22. viii. 2006; 1♀, 1. v. –5. vi. 2007; 2♂, 28. vi. –29. vii. 2007; 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5001094 ~ 5001098). [Aikodake: OE] 1♀, 29. vii. –25. viii. 2007; 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5001099 ~ 5001100). [Arakawa: OH] 1♀, 28. vi. –29. vii. 2007 (KPM–NK 5001101).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu and Yakushima Is.), Russia, China, Taiwan and Korea.

73) *Triancyra striatiscutellaris* (Uchida, 1956)*

Specimens examined. [Han-yama: OW] 1♀, 30. vii. –25. viii. 2007 (KPM–NK 5001102). [Arakawa: OH] 1♂, 29. vii. –25. viii. 2007 (KPM–NK 5001103).

Distribution. Japan (Tokunoshima Is. and Yakushima Is.).

Subfamily Tryphoninae

74) *Thymaris taiwanensis* Uchida, 1932*

Specimens examined. [Kankake: CW] 1♀, 25. viii. –23. ix. 2006; 1♀, 1. v. –5. vi. 2007 (KPM–NK 5001104 ~ 5001105). [Aikodake: OE] 1♂, 2. v. –5. vi. 2007 (KPM–NK 5001106). [Han-yama: OW] 3♀, 25. viii. –23. ix. 2006 (KPM–NK 5001107 ~ 5001109).

Distribution. Japan (Honshu, Yakushima Is. and Amami-oshima Is.) and Taiwan.

Subfamily Xoridinae

75) *Ischnoceros kirishimensis* Kusigemati, 1984*

Specimens examined. [Kankake: CW] 5♀, 22. vii. –22. viii. 2006; 1♀, 31. iii. –28. iv. 2007; 2♀, 1. v. –5. vi. 2007 (KPM–NK 5001110 ~ 5001117).

Distribution. Japan (Kyushu and Yakushima Is.).

76) *Odontocolon rufum* (Uchida, 1928)*

Specimens examined. [Aikodake: CE] 1♀, 30. iii. –29. iv. 2007 (KPM–NK 5001118). [Kankake: CW] 1♀, 24–27. x, 2007 (KPM–NK 5001119). [Aikodake: OE] 1♀, 30. iii. –29. iv. 2007; 1♀, 25. viii. –28. ix. 2007 (KPM–NK 5001120 ~ 5001121).

Distribution. Japan (Kunashiri Is., Hokkaido, Honshu, Shikoku and Yakushima Is.) and Russian Far East.

77) *Xorides nasensis* Uchida, 1956*

Specimens examined. [Aikodake: OE] 1♀, 1–27. iii. 2007 (KPM–NK 5001122). [Han-yama: OW] 1♀, 28. iv. –1. v. 2007; 1♀, 1. v. –5. vi. 2007 (KPM–NK 5001123 ~ 5001124).

Distribution. Japan (Yakushima Is., Amami-oshima Is., Okinawajima Is. and Ishigakijima Is.).

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Appendix: Thirty-eight species recorded from Yakushima Island but not found in this study.

Subfamily Anomaloniinae

- 1) *Aphanistes jozankeanus* (Matsumura, 1912) (Yasumatsu, 1934)

Subfamily Banchinae

- 2) *Tossinola ryukyuensis* Watanabe, Ishikawa & Konishi, 2010 (Watanabe, 2012)

Subfamily Campopleginae

- 3) *Lemophagus diversae* Kusigemati, 1972 (Kusigemati, 1972)
4) *Xanthocampoplex caloptiliae* Kusigemati, 1982 (Kusigemati, 1982)

Subfamily Diplazontinae

- 5) *Promethes melanaspis daschi* Nakanishi, 1986 (Nakanishi, 1986)

Subfamily Ichneumoninae

- 6) *Amblyjoppa cognatoria* (Smith, 1874) (Yasumatsu, 1934)
7) *Amblyjoppa forticornis maculifemorata* (Matsumura, 1912) (Yasumatsu, 1934)
8) *Ulesta agitata* (Matsumura & Uchida, 1926) (Yasumatsu, 1934)

Subfamily Metopiinae

- 9) *Colpotrochia (Colpotrochia) fusca* Matsumura, 1931 (Yasumatsu, 1934)
10) *Colpotrochia (Colpotrochia) pilosa sinensis* Uchida, 1940 (Momoi, 1966)
11) *Colpotrochia (Scallama) osuzensis* Kusigemati, 1971 (Kusigemati, 1971)
12) *Triclistus glabrosus* Momoi & Kusigemati, 1970 (Kusigemati, 1971)
13) *Triclistus parvulus* Kusigemati, 1980 (Kusigemati, 1971)

Subfamily Ophioninae

- 14) *Enicospilus signativentris* (Tosquinet, 1903) (Yasumatsu, 1934)

Subfamily Orthopelmatinae

- 15) *Orthopelma simile* Kusigemati, 1974 (Kusigemati, 1974)

Subfamily Tryphoninae

- 16) *Netelia (Amebachia) fulvistigma* Konishi, 2010 (Konishi, 2010)
17) *Netelia (Amebachia) rasilella* Konishi, 2010 (Konishi, 2010)
18) *Netelia (Apatagium) longicauda* Konishi, 1986 (Konishi, 1986)
19) *Netelia (Apatagium) vulgaris* Konishi, 1986 (Konishi, 1986)
20) *Netelia (Bessobates) yakushimensis* Konishi, 2014 (Konishi, 2014)
21) *Netelia (Netelia) fulvator* Delrio, 1971 (Konishi, 2005)
22) *Netelia (Netelia) gotoi* Konishi, 2005 (Konishi, 2005)
23) *Netelia (Netelia) melanura* (Thomson, 1888) (Konishi, 2005)
24) *Netelia (Netelia) nigrinota* (Uchida, 1928) (Konishi, 2005)
25) *Netelia (Netelia) nomurai* Konishi, 2005 (Konishi, 2005)
26) *Netelia (Netelia) oharai* Konishi, 2005 (Konishi, 2005)
27) *Netelia (Netelia) rapida* Tolkanitz, 1981 (Konishi, 2005)
28) *Netelia (Netelia) unicolor* (Smith, 1874) (Konishi, 2005)
29) *Netelia (Parabates) ishiharai* Uchida, 1953 (Konishi, 1985)
30) *Netelia (Prosthodocis) aestiva* Konishi, 1992 (Konishi, 1992)
31) *Netelia (Prosthodocis) australis* Konishi, 1992 (Konishi, 1992)
32) *Netelia (Prosthodocis) baibarensis* (Uchida, 1928) (Konishi, 1992)
33) *Netelia (Prosthodocis) japonica* (Uchida, 1928) (Konishi, 1992)
34) *Netelia (Prosthodocis) kodai* Konishi, 1992 (Konishi, 1992)
35) *Netelia (Prosthodocis) major* Konishi, 1991 (Konishi, 1992)
36) *Netelia (Prosthodocis) uchidai* Karl & Jonathan, 1979 (Konishi, 1992)
37) *Netelia (Toxochiloides) latro latro* (Holmgren, 1868) (Konishi, 1996)

Subfamily Xoridinae

- 38) *Xorides investigator* (Smith, 1874) (Takakuwa & Fujita, 2010)

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