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Spider Wasps (Hymenoptera, Pompilidae) from Kyushu and the Ryukyus, Southern Japan¹⁾

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Abstract

Thirty-eight species belonging to 25 pompilid genera are recorded from Kyushu and the Ryukyus, southern Japan. *Priocnemis ishikawai* sp. nov. from Kyushu, *P. azumai* sp. nov. from Ishigaki-jima, *Ridestus sibatani* sp. nov. from Okinawa-jima, and hitherto unknown males of *Hemipepsis amamiensis* Ts. and *Arachnospila nagasei* (Ishik.) are described. *Auplopus nagatomii* nom. nov. for *A. murotai* Tsuneki 1990, non Tsuneki 1989, is proposed. Genus *Ridestus* and *Episyron kurilense* Lelej are newly recorded from Japan; *Auplopus takachihoi* (Yasum.) and *Arachnospila nagasei* (Ishik.) are newly recorded from Russia; *Auplopus aegina* (Sm.), *Batozonellus annulata* (F.) and *Tachypompilus analis* (F.) are newly recorded from Vietnam. New synonymy in three species and keys to the East Asian species of *Priocnemis* (the *unicolor* group) and of *Ridestus* are given.

Key words: Pompilidae, new species, Ryukyus, Japan, Far East Russia

The fauna of the Ryukyu Islands, southern Japan consists of a mixture of temperate and subtropical species and groups. The aculeate fauna of this archipelago has been relatively well known (e.g., Tsuneki, 1982; Yamane, 1990), but for some groups our knowledge is still quite incomplete. Until Tsuneki (1990) published the special paper which listed 42 species in 16 genera, the Pompilidae had been one of the least understood groups of Aculeata in this region. In the summer of 1991, we collected pompilid wasps in Kyushu and the Ryukyus. This collection, composed of more than fifty species in 26 genera, included some new forms and numerous new distribution records. In this paper we enumerate 38 species based upon this collection and additional materials in the following collections: Collections of Kagoshima University (KU), National Science Museum (Nat. Hist.), Tokyo (NSMT), Zoological Museum of Moscow University (ZMMU), Institute of Biology and Pedology, Vladivostok (IBPV). The genus *Anoplius* with many species which are difficult to identify is excluded

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here, and some species included in other genera will be discussed in another paper together with *Anoplius*. For some of the species treated in this paper, collection data from the Far East Russia, China and Vietnam are also cited.

Enumeration of species

Abbreviations. N. Ryukyus (=Northern Ryukyus), C. Ryukyus (=Central Ryukyus), S. Ryukyus (=Southern Ryukyus); AL (=A.S. Lelej), AN (A. Nagatomi), SKY (Sk. Yamane). Localities with an asterisk are new ones.

Subfamily Pepsinae

1. *Hemipepsis (Hemipepsis) sinensis* (Smith, 1855)

Specimens examined. C. Ryukyus: *Okinawa-jima* - 1 ♀, Hentona, 27 July 1987, SKY (KU), 7 ♂, Hedo-misaki, 15 Aug. 1991, AL & SKY (IBPV & KU). S. Ryukyus: *Miyako-jima* - 1 ♀, Gusukube, 17 July 1987, SKY (IBPV), 1 ♀, Hirara, 18 July 1987, SKY (KU); *Ishigaki-jima* - 2 ♂, Kawara-yama, 21-22 Aug. 1991, N. Kurzenko and AL (IBPV), 1 ♂, Omoto-dake, 22 Aug. 1991, SKY (KU), 2 ♂, Banna-dake, 22 Aug. 1991, SKY (KU); *Iriomote-jima* - 3 ♂, Toyohara, 30 July 1983, AN (KU), 1 ♂, Ôtomi, 29 July 1983, AN (KU), 1 ♂, Uehara, 2 July 1988, SKY (KU), 1 ♂, Toyohara, 11 Oct. 1987, AN (IBPV).

Distribution. C. Ryukyus (Okinawa-jima), S. Ryukyus (Miyako-jima, Ishigaki-jima, Iriomote-jima). China (Gansu, Jiangsu, Shanghai, Zhejiang, Sichuan); Taiwan; Burma.

2. *Hemipepsis (Hemipepsis) hanedai* Tsuneki, 1990

Specimens examined. S. Ryukyus: *Ishigaki-jima* - 1 ♀, Yonehara, 26 May 1981, AN (KU), 1 ♂, Omoto-dake, 11 June 1988, K. Nakamine (KU), 1 ♂, Sakieda, 8 Sept. 1989, SKY (KU); *Iriomote-jima* - 1 ♂, Ôtomi, 30 Apr. 1982, AN (KU), 1 ♂, Toyohara, 29 Apr. 1987, AN (IBPV).

Distribution. S. Ryukyus (Ishigaki-jima, Iriomote-jima*).

3. *Hemipepsis (Temlepis) yayeyamana* Tsuneki, 1990

Specimens examined. S. Ryukyus: *Ishigaki-jima* - 2 ♂, Tôro-gawa, 4 July 1988, 1 ♂, Banna-dake, 3 July 1988, K. Nakamine (IBPV), 1 ♂, Omoto-dake, 18 Aug. 1991, SKY (KU), 1 ♀ 1 ♂ - Kawara-yama, 21 Aug. 1991, AL & SKY (IBPV & KU); *Kohama-jima* - 1 ♂, 25 July 1987, SKY (KU); *Iriomote-jima* - 1 ♂, Ôtomi, 30 Apr. 1982, AN (KU), 1 ♀, Amitori, 3 Aug. 1983, AN (IBPV), 1 ♂, Koza-dake, 7 Aug. 1983, AN (KU), 1 ♂, Funaura, 20 Aug. 1991, AL (IBPV).

Distribution. S. Ryukyus (Ishigaki-jima, Kohama-jima*, Iriomote-jima).

4. *Hemipepsis (Temlepis) amamiensis* Tsuneki, 1990

Specimens examined. N. Ryukyus: *Iô-jima* - 1 ♂, 1-3 June 1987, SKY (IBPV); *Kuchinoerabu-jima* - 1 ♀, 15 June 1989, H. Watanabe (KU). C. Ryukyus: *Amami-ôshima* - 1 ♀, Setouchi, 23 June 1987, M. Tatsuno (KU), 2 ♀, Naze, Kinsakubaru, 14-16 July 1988, AN (IBPV & KU); *Okinawa-jima* - 1 ♀, Hentona, 27 July 1987, SKY (KU).

Distribution. N. Ryukyus (Iô-jima*, Kuchinoerabu-jima*), C. Ryukyus (Amami-ôshima, Okinawa-jima*).

Remarks. The male (hitherto unknown) of this species is similar to that of *H. yayeyamana* in the black colour of gaster, but easily distinguished from the latter by the black colour of propodeum, shape of hypopygium (Fig. 1) and posterior propodeal rim which has lateral lobes that are extremely high.

5. *Cyphononyx dorsalis* (Lepeletier, 1845)

Specimens examined. Kyushu: *Fukuoka-ken* - 3 ♀, Kitakyûshû, 4 Aug. 1991, N. Kurzenko and AL (IBPV); *Kagoshima-ken* - 5 ♀, Kinpô-zan, 10 Aug. 1991, AL (IBPV), 1 ♀, Akune-ôshima, 5 Aug. 1983, SKY (KU), 2 ♀, Take-shima (Nagashima Is.), 28 Aug. 1984, SKY (KU), 1 ♀, Kamikoshiki-jima (Koshikijima Is.), 6 Sept. 1984, M. Maegata (KU). N. Ryukyus: *Mage-shima* - 1 ♂, 13 July 1990, Y. Kusui (KU); *Tanega-shima* - 1 ♂, Kaminaka, 12 July 1983, SKY (KU), 1 ♀, Hamada, 2 Aug. 1984, SKY (KU); *Yaku-shima* - 1 ♀, Kusugawa, 9 Aug. 1981, SKY (KU), 2 ♀, Miyanoura, 9-11 Aug. 1981, SKY (KU); *Kuro-shima* - 1 ♀ 1 ♂, Ôsato, 31 Aug. 1981, SKY (KU), 1 ♂, 3-5 Aug. 1983, K. Tomiyama (KU); *Kuchinoerabu-jima* - 3 ♂, Honmura, 19 July 1989, H. Watanabe (KU); *Kuchino-shima* - 2 ♂, 28 July 1981, K. Tomiyama (KU); *Nakano-shima* - 3 ♂, Satomura, 13 July 1981, Y. Takai (KU), 1 ♀ 1 ♂, 2-3 Aug. 1984, K. Tomiyama (KU). C. Ryukyus: *Amami-ôshima* - 1 ♀, Naze, 28 Sept. 1989, SKY (KU), 6 ♂, Tatsugô, 21 June 1987, SKY (KU), 1 ♀, Shinokawa, 23 June 1987, SKY (KU), 2 ♂, Sumiyô, 22 June 1987, SKY (KU); *Kakeroma-jima* - 1 ♀, Sesou, 22 Sept. 1984, AM (KU), 1 ♀, Shodon, 24 Sept. 1984, AN (KU), 1 ♀, Osai, 27 Sept. 1988, SKY (KU); *Tokuno-shima* - 1 ♀, 13 July 1984, SKY (KU); *Okinawa-jima* - 1 ♂, Naha, 19 June 1984, SKY (KU), 3 ♀, Yona, Kunigami, 12-14 Aug. 1991, AL (IBPV); *Sezoko-jima* - 1 ♀, 28 May - 1 June 1982, Y. Ikimori & Y. Ôhira; *Aka-shima* - 1 ♀, 8 June 1990, H. Suzuki (KU). S. Ryukyus: *Miyako-jima* - 1 ♀, Hirara, 18 July 1987, SKY (KU), 2 ♀, Hirara, 28 June 1988, SKY (KU); *Tarama-jima* - 1 ♀ 2 ♂, 18-20 July 1987, SKY (KU), 2 ♀, 30 June 1988, SKY (KU); *Ishigaki-jima* - 5 ♀ 14 ♂, Omoto-dake, 18-22 Aug. 1991, N. Kurzenko & AL (IBPV), 2 ♂, Kawara-yama, 21-22 Aug. 1991, AL (IBPV); *Kuro-shima* - 1 ♂, 22 July 1987, SKY (KU); *Kohama-jima* - 1 ♀, 25 July 1987, SKY (KU); *Iriomote-jima* - 3 ♀ 1 ♂, Uehara, 19 Aug. 1991, N. Kurzenko & AL (IBPV), 5 ♀ 1 ♂, Haemida, 20 Aug. 1991, N. Kurzenko & AL (IBPV).

Distribution. Kyushu, Akune-ôshima*, Nagashima Is.*, Kamikoshiki-jima*, N. Ryukyus (Tanega-shima, Mage-shima*, Yaku-shima, Kuro-shima*, Kuchinoerabu-jima*, Kuchino-shima*, Nakano-shima*), C. Ryukyus (Amami-ôshima, Kakeroma-jima*, Okinawa-jima, Sezoko-jima*, Aka-shima*, Kume-jima), S. Ryukyus (Miyako-jima, Tarama-jima*, Ishigaki-jima, Kuro-shima*, Kohama-jima*, Iriomote-jima). China (Jiangsu, Shanghai, Zhejiang); Taiwan; Philippines; India; Sri Lanka.

6. *Cyphononyx iridipennis* (Smith, 1859)

Specimens examined. S. Ryukyus: *Miyako-jima* - 2 ♂, 18 July 1987, SKY (KU); *Tarama-jima* - 1 ♂, 3 Oct. 1984, Y. Kusui (KU), 1 ♀ 4 ♂, 18-20 July 1987, SKY (KU); *Minna-jima* - 1 ♂, 29 June 1988, SKY (KU); *Ishigaki-jima* - 1 ♀, Omoto-dake, 8 July 1988, K. Nakamine (KU), 1 ♀ 1 ♂, Kawara-yama, 21 Aug. 1991, AL (IBPV); *Kuro-shima* - 2 ♂, 23-24 July 1987, SKY (KU); *Taketomi-jima* - 1 ♂, 24 July 1987, SKY (KU); *Kohama-jima* - 1 ♀, 25 July 1987, SKY (KU); *Iriomote-jima* - 1 ♀, Toyohara, 30 July

1983, AN (IBPV), 1 ♀, Nakano, 19 Aug. 1991, SKY (KU); *Hateruma-jima* - 3 ♂, 1-2 July 1988, SKY (IBPV & KU), 1 ♂, 8 June 1990, AN (KU); *Yonaguni-jima* - 2 ♂, Sonai, 5 July 1988, SKY (KU).

Distribution. C. Ryukyus (Okinawa-jima?, Kume-jima?), S. Ryukyus (Miyako-jima, Tarama-jima*, Minna-jima*, Ishigaki-jima, Kuro-shima*, Taketomi-jima*, Kohama-jima*, Hateruma-jima*, Yonaguni-jima*). Philippines.

7. *Leptodialepis nicevillii okinawensis* (Matsumura, 1911)

Specimens examined. S. Ryukyus: *Ishigaki-jima* - 3 ♀, Kabira, 22 July 1987, SKY (IBPV & KU); 3 ♀, Kabira, 18 Aug. 1991, AL (IBPV); 9 ♀ 4 ♂, Omoto-dake, 18-22 Aug. 1991, N. Kurzenko and AL (IBPV); 6 ♀, Kawara-yama, 21-22 Aug. 1991, N. Kurzenko and AL (IBPV); *Taketomi-jima* - 1 ♀ 2 ♂, 24-25 July 1987, SKY (IBPV & KU); *Kohama-jima* - 1 ♀ 1 ♂, 25 July 1987, SKY (KU); *Iriomote-jima* - 1 ♀, Kanpira, 8 Aug. 1983, H. Ubukata (KU), 1 ♀, Komi, 31 July 1983, AN (KU), 1 ♂, Funaura, 19 Aug. 1991, AL (IBPV); 1 ♀, Haemida, 20 Aug. 1991, N. Kurzenko (IBPV).

Distribution. S. Ryukyus (*Ishigaki-jima* *Taketomi-jima**, *Kohama-jima**, *Iriomote-jima*).

8. *Leptodialepis sugiharai* (Uchida, 1932)

Specimens examined. C. Ryukyus: *Amami-ôshima* - 1 ♀, Yuwan-dake, 20 June 1983, K. Nichô (KU), 1 ♀, Naze, 10 July 1987, AN (KU).

Distribution. Honshu, Shikoku, Kyushu, N. Ryukyus (*Yaku-shima*), C. Ryukyus (*Amami-ôshima**). Taiwan.

9. *Cryptocheilus maruyamai* Ishikawa, 1962

Specimens examined. Kyushu: *Ôita-ken* - 1 ♀ 2 ♂, Handa-kôgen (900 m alt.), Mts. Kujû, 6 Aug. 1991, AL (IBPV); *Kumamoto-ken* - 3 ♀, Shiratori-yama (1300 m alt.), Gokanoshô, 8 Aug. 1991, AL & SKY (IBPV & KU).

Distribution. Honshu, Kyushu*

10. *Malloscelis ryoheii* Ishikawa, 1957

Specimens examined. Kyushu: *Fukuoka-ken* - 1 ♀, Yamada-ryokuchi, Kitakyûshû, 22 Aug. 1990, SKY (KU); *Ôita-ken* - 1 ♂, kyûsui-kei (ca. 600 m alt.), Kokonoe, 16 Aug. 1991, SKY (KU); *Kagoshima-ken* - 1 ♀, Kagoshima-shi, 12 July 1987, SKY (IBPV), 1 ♂, Shiroyama, Kagoshima-shi 16 June 1987, SKY (IBPV), 1 ♀, Ono-Inuzako, Kagoshima-shi, 17 June 1990, T. Iwai (KU). N. Ryukyus: *Kuchinoerabu-jima* - 1 ♀, Honmura, 15 June 1989, H. Watanabe (KU). C. Ryukyus: *Amami-ôshima* - 2 ♀, Naze, 23 June 1987, SKY (KU).

Distribution. Honshu, Shikoku, Kyushu, N. Ryukyus (*Kuchinoerabu-jima**), C. Ryukyus (*Amami-ôshima**).

11. *Clistoderes (Paraclistoderes) futabae* (Ishikawa, 1962)

Specimens examined. Kyushu: *Ôita-ken* - 1 ♀, Handa-kôgen (900 m alt.), Mts. Kujû, 6 Aug. 1991, AL (IBPV).

Distribution. Honshu, Kyushu.

Genus *Priocnemis* Schiödte, 1837

There are some revisions of this genus (Gussakovskij, 1930; Ishikawa, 1962; Lelej, 1988). Ten species have been known in Japan, of which only one, *P. irritabilis* (Sm.), has been recorded from the Ryukyus (Yaku-shima). We have collected three specimens of the subgenus *Priocnemis* from Kyushu and the S. Ryukyus.

Subgenus *Priocnemis* Schiödte

Five Japanese species of this subgenus belong to two groups: *P. mitakensis* Ishik., *P. yasumatsui* Ishik., *P. yezoensis* Ishik. have two high supraantennal carinae (Ishikawa, 1954, 1959), while *P. shidai* Ishik. and *P. uenoi* Ishik. have not such carinae and their body is black (Ishikawa, 1962). Two new species described below belong to the second group.

Key to the East Asian species of the subgenus *Priocnemis*

1. ♀ (*P. belokobylskii* is known only from the male) 2
- ♂ (*P. uenoi* and *P. azumai* are known only from the female) 7
2. At least gastral tergite 2 glabrous and impunctate 3
- Gaster strongly punctate all over 4
3. Segment 3 of antenna 3.5-4.0 times as long as width at apex and 0.65-0.74 times as long as the width of vertex. Forewing weakly infuscate in basal part and with a small subapical milky white spot. Frons with punctures separated from each other by a little less than their diameter. Hypopygium (sternite 6) with a median carina. Body 5.8-9.0 mm in length. Honshu *P. (P.) shidai* Ishikawa
- Segment 3 of antenna 4.2 times as long as width at apex and 0.94 times as long as the width of vertex. Forewing hyaline at base and with a large subapical milky white spot. Hypopygium without a median carina or median longitudinal impunctate line. Body ca. 8.0 mm in length. Ryukyus (Ishigaki-jima) *P. (P.) azumai* sp. nov.
4. Forewing short, much less than 2.0 times as long as alitrunk. Segment 3 of antenna 3.5 times as long as width at apex and 0.62 times as long as the width of vertex. Posterior margin of pronotum broadly emarginate, but not angulate medially. Preapical tooth of tarsal claws smaller than apical one. Body 7.0 mm in length. Honshu *P. (P.) uenoi* Ishikawa
- Forewing normal, 2.0 times as long as alitrunk 5
5. Metapostnotum narrow; its posterior margin triangularly emarginate; ratio of medial length of metapostnotum to medial length of metanotum 0.6. Posterior margin of pronotum arcuate but not angulate medially. Preapical tooth of tarsal claws smaller than apical one. Hypopygium with a median longitudinal impunctate line. Body 5.5-9.5 mm long. Russia (Kunashiri Is., Primorskij Krai, Khabarovskij Krai, Buryatia) *P. (P.) pseudopigonia* Guss.
- Metapostnotum usual, ratio of medial length of metapostnotum to medial length of metanotum 0.8-0.9. Posterior margin of pronotum distinctly angulate medially. Preapical tooth of tarsal claws equal to or larger than apical one. Hypopygium without median longitudinal impunctate line 6
6. Forewing weakly infuscate, with a weak subapical milky white spot. Frons with double punctures: smaller ones dense and larger ones sparse. Body 5.5-9.0 mm long. Russia (Kunashiri Is.,

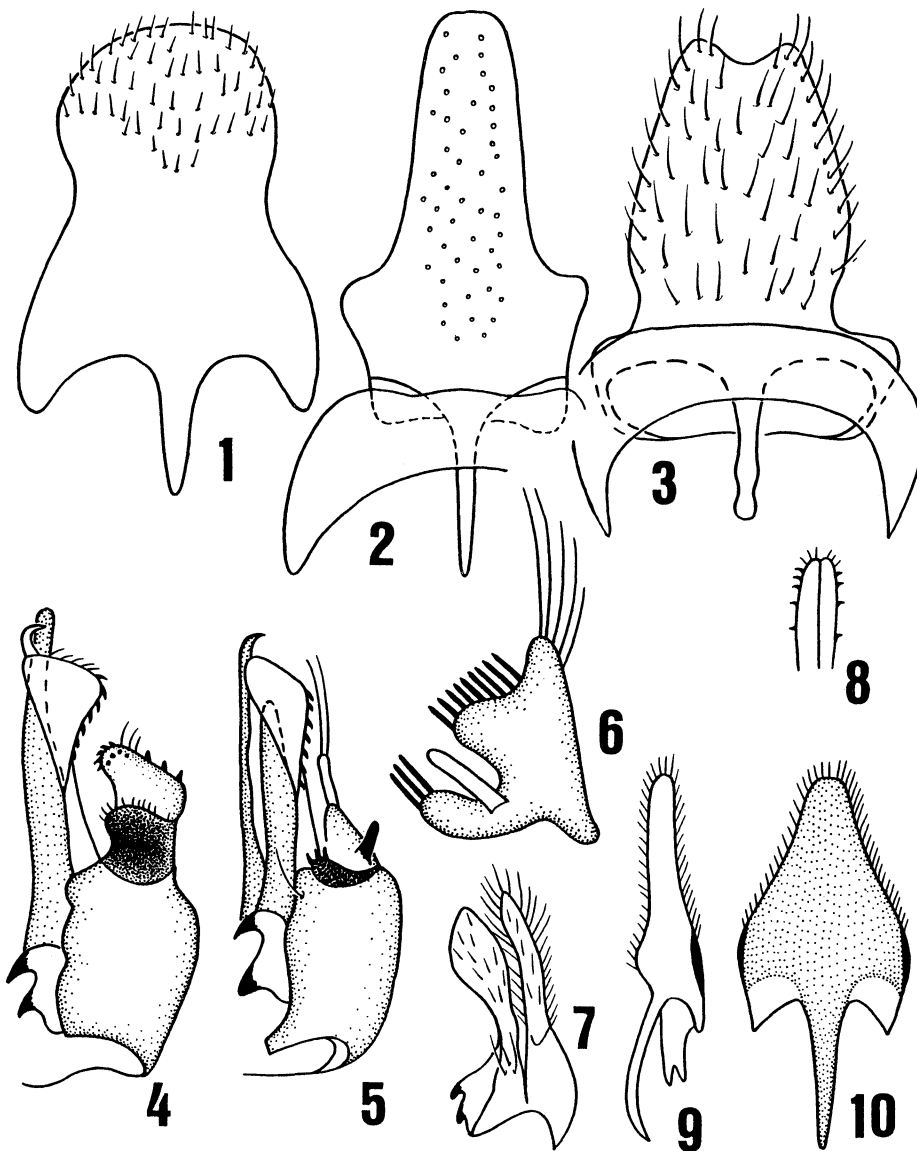
- Primorskij Krai, Khabarovskij Krai) *P. (P.) unicolor* Guss.
 — Basal half of forewing hyaline; the subapical milky white spot distinct and large. Frons with dense, sometimes confluent punctures. Body 10.0 mm long. Kyushu *P. (P.) ishikawai* sp. nov.
 7. Usually median vein of forewing reaching the margin of wing. Posterior margin of pronotum distinctly angulate medially. Hypopygium broad (Fig. 3) 9
 — Median vein of forewing lost after third radiomedial vein. Posterior margin of pronotum arcuate medially. Hypopygium narrow (Fig. 2) 8
 8. Species of Honshu. Body 4.7-6.2 mm long (we have not seen the male of this species)
 *P. (P.) shidai* Ishik.
 — Species of Far East Russia. Body 5.0-6.5 mm long *P. (P.) pseudopogonia* Guss.
 9. Posterior margin of gastral sternite 6 with two high longitudinal median carinae situated close to each other. Gonostylus of genitalia as long as parapenial valva. Body 5.5-6.0 mm long. Primorskij Krai *P. (P.) belokobylskii* Lelej
 — Posterior margin of gastral sternite 6 without such carinae. Gonostylus of genitalia considerably shorter than parapenial valva. (Figs. 4, 5) 10
 10. Genitalia as in Fig. 4. Body 5.0-6.0 mm long *P. (P.) unicolor* Guss.
 — Genitalia as in Fig. 5. Body 7.0 mm long *P. (P.) ishikawai* sp. nov.

12. *Priocnemis (Priocnemis) ishikawai* Lelej, sp. nov.

Female. Body 10.0 mm long. Median line is visible on lower frons only. POL : OOL=0.6 : 1. Temple narrow, 0.27 as broad as eye in profile. Relative lengths of antennal segments 1-4=5.0 : 1.8 : 6.9 : 6.2, segment 3 being 4.2 times as long as wide at apex and 0.96 times as long as vertex width. Posterior margin of pronotum distinctly angulate medially. Disc of metanotum without any median impression. The ratio of median length of metapostnotum to median length of metanotum 0.77. Metapostnotum with posterior margin feebly triangularly emarginate and with longitudinal median depression and distinct transverse striae. Dorsum of propodeum without any longitudinal median depression. The preapical tooth of tarsal claws more or less equal to apical one. Forewing long, 2.0 times as long as alitrunk. Forewing hyaline with a distinct dark band in apical half and a large preapical milky white spot. Darkness along the basal vein and nervulus weak. The ratio of length of 2_{rm} cell to length of 3_{rm} cell 1.0. Nervulus remotely postfurcal; ratio of postfurcal distance to nervulus length 1.5. Hypopygium (sternite 6) punctate, without median carina or longitudinal impunctate line.

Frons very strongly punctate; punctures separated from each other; interspaces considerably less than puncture diameter. Propodeal dorsum with dense punctures as on frons; posterior face of propodeum slightly transversely rugulose. Gastral tergites with smaller punctures over their surface. Frons with a few long hairs. Lateral face of propodeum with short white erect hairs sparsely. Body and legs with brownish or black pubescence; upper face of middle and posterior coxae with silver one. Body, antenna and legs black; apical half of mandible brown.

Male. Body 7.0 mm long. POL : OOL=0.6 : 1. Temple 0.5 times as broad as eye in profile. Relative lengths of antennal segments 1-4=2.2 : 1.1 : 2.3 : 2.6, segment 3 being 2.9 times as long as thick at apex and 0.96 times as long as vertex width. Posterior margin of pronotum distinctly angulate



Figs. 1-10. 1. *Hemipepsis amamiensis* Ts.; 2. *Priocnemis pseudopogonia* Guss.; 3, 5, 6. *P. ishikawai* sp. nov.; 4. *P. unicolor* Guss.; 7-10. *Arachnospila nagasei* (Ishik.). 1-3, 9, 10. hypopygium of male (1-3, 10 - ventral view; 9 - lateral view); 4, 5. male genitalia, ventral view; 6. volsella, lateral view; 7. volsella and gonostylus, ventral view; 8. apex of penial valvae.

medially. Metapostnotum with a deep longitudinal depression medially and distinct transverse striae which are curved backwards at middle. The ratio of median length of metapostnotum to median length of metanotum 1.3. Preapical tooth of tarsal claws more or less equal to apical one. Forewing hyaline; the ratio of length of 2_{rm} cell to length of 3_{rm} cell 1.15. Ratio of postfurcal distance of nervulus to nervulus length 0.5. Hypopygium (sternite 8) as in Fig. 3. Genitalia and volsella as in Figs. 5 and 6.

Frons strongly punctate. Body, antennae and legs black. Apical half of mandible brown. Anterior faces of tibiae and tarsi light brown.

Specimens examined. Holotype: ♀, Kyusui-kei (600 m alt.), Kokonoe-machi, Kyushu, 6 Aug.

1991, AL (KU); paratype: ♂, Handa-kôgen (900 m alt.), Mts. Kujû, Kyushu, 6 Aug. 1991, AL (KU).

Distribution. Kyushu.

Remarks. The female and male specimens were collected on the same day in the mountain region of Kyushu (Mts. Kujû) and we think that they belong to one and the same species. The differences between this and related species are given in the key above.

The name of this new species is dedicated to Prof. Ryôsuke Ishikawa of Tokyo Metropolitan University who has made many excellent works on the Japanese Pompilidae.

13. *Priocnemis (Priocnemis) azumai* Lelej, sp. nov.

Female. Body 8.0 mm long. Median line on frons scarcely visible. POL : OOL=0.6 : 1. Temple narrow, 0.21 times as broad as eye in profile. Relative lengths of antennal segments 1-4=4.0 : 1.5 : 5.2 : 4.8, segment 3 being 4.2 times as long as wide at apex and 0.94 times as long as vertex width. Posterior margin of pronotum arcuate medially. The ratio of median length of metapostnotum to median length of metanotum 0.83. Metapostnotum, propodeal dorsum, hypopygium, length of forewing and preapical milky white spot similar to those of *P. ishikawai*. Preapical tooth of tarsal claws larger than apical one.

Frons punctate as in *P. ishikawai*. Propodeal dorsum with confluent punctures; posterior face of propodeum distinctly transversely rugulose. Gastral tergites 1 and 2 glabrous and impunctate. Frons with a few long hairs. Lateral face of propodeum without any hairs. Body and legs with brownish or black pubescence; upper face of mid and hind coxae and lower half of mesopleuron with greyish one. Body, antenna and legs black; mandible brown.

Male. Unknown.

Specimens examined. Holotype: ♀, Omoto-dake, Ishigaki-jima, S. Ryukyus, 18 Aug. 1991, AL (KU).

Distribution. S. Ryukyus (Ishigaki-jima).

The name of the new species is dedicated to Prof. Seiji Azuma of the University of the Ryukyus who is a leading entomologist in the Ryukyus.

14. *Calicurgus ussuriensis* (Gussakovskij, 1932)

Calicurgus shirakii Yasumatsu, 1943: 446, ♀ (holotype: ♀, Hikosan, Buzen, Kyushu, 30 Aug. 1938, K. Yasumatsu).

Specimens examined. N. Ryukyus: *Yaku-shima* - 1 ♀, Hanayama Natr. Forest (1000 m alt.), 20 Aug. 1983, SKY (KU); *Kuchinoerabu-jima* - 3 ♀, 16-17 May 1982, SKY (KU).

Distribution. Hokkaido, Honshu, Kyushu, N. Ryukyus (*Yaku-shima**, *Kuchinoerabu-jima**). Russia (Kunashiri Is., Sakhalin, Primorskij Krai, Amur region); China (northeastern part); Taiwan.

15. *Eopompilus minor* Gussakovskij, 1932

Specimen examined. Kyushu: *Kumamoto-ken* - 1 ♀, Mts. Ichifusa, 30 Aug. 1988, E. Matsui (KU).

Distribution. Hokkaido, Honshu, Kyushu, N. Ryukyus (*Yaku-shima*).

16. *Eopompilus internalis* (Matsumura, 1911)

Specimens examined. Kyushu: *Kagoshima-ken* - 1 ♀, Kurino (750 m alt.), Kirishima, 10 July 1988,

SKY (KU).

Distribution: Hokkaido, Honshu, Shikoku, Kyushu, N. Ryukyus (Tanega-shima). Russia (Kunashiri Is., Sakhalin, Primorskij Krai, Khabarovskij Krai*, Amur region).

17. *Macromerella honesta* (Smith, 1855)

Macromeris apicalis Matsumura and Uchida, 1926: 49, ♀ (holotype: ♀, Ishigaki-jima).

Specimens examined. S. Ryukyus: *Ishigaki-jima* - 5 ♀, Kawara-yama, 21-22 Aug. 1991, N. Kurzenko and AL (IBPV); 1 ♂, Kabira, 22 July 1987, SKY (IBPV); *Kohama-jima* - 1 ♀, 25 July 1987, SKY (KU); *Iriomote-jima* - 2 ♀, Koza-dake, 7 Aug. 1983, AN (KU), 1 ♂, Komi, 29 July 1983, AN (KU), 1 ♂, Amitori, 3 Aug. 1983 (KU). Vietnam: 1 ♀, Quangninh, Dong Kho, 20 Mar. 1987, V. Kuznetsov (IBPV).

Distribution. S. Ryukyus (Tarama-jima, Ishigaki-jima, Kohama-jima*, Iriomote-jima). Philippines; Vietnam*; India.

18. *Phanagenia yaeyamaensis* (Shimizu, 1986)

Specimens examined. S. Ryukyus: *Miyako-jima* - 1 ♂, Hirara, 28 June 1985, SKY (IBPV); *Tarama-jima* - 1 ♀, 20 July 1987, SKY (IBPV); *Ishigaki-jima* - 1 ♀ 1 ♂, Kabira, 22 July 1987, SKY (KU), 3 ♀, Omoto-dake, 18, 22 Aug. 1991, AL (IBPV); *Iriomote-jima* - 2 ♀, Amitori, 30 July 1985, AN (IBPV & KU).

Distribution. C. Ryukyus (Amami-ôshima), S. Ryukyus (Miyako-jima*, Tarama-jima*, Ishigaki-jima, Iriomote-jima).

19. *Auplopus (Auplopus) takachihoi* (Yasumatsu, 1943)

Specimens examined. Kyushu: *Ôita-ken* - 1 ♀, Kyusui-kei (600 m alt.), Kokonoe-machi, 6 Aug. 1991, AL (IBPV); *Kagoshima-ken* - 1 ♀, Takakuma (500 m alt.), 27 June 1987, SKY (IBPV). C. Ryukyus: *Amami-ôshima* - 2 ♀, Naze, 10-14 July 1988, AN (IBPV & KU); *Okinawa-jima* - 2 ♀, Yona, 6-8 Oct. 1987, AN (IBPV & KU).

Distribution. Hokkaido, Honshu, Shikoku, Kyushu, C. Ryukyus (Amami-ôshima*, Okinawa-jima*). Korea; Russia* (Primorskij Krai).

20. *Auplopus (Auplopus) pygialis* (Pérez, 1905)

Specimens examined. Kyushu: *Fukuoka-ken* - 1 ♀, Yamada, Kitakyûshû, 4 Aug. 1991, AL (IBPV); *Kumamoto-ken* - 2 ♀, Seiwa-mura, Kyushu-sanchi, 7 Aug. 1991, AL (IBPV); 2 ♀, Momiki (700 m alt.), Gokanoshô, 8 Aug. 1991, AL (IBPV); *Kagoshima-ken* - 1 ♀, Akune-ôshima, 5 Aug. 1983, SKY (IBPV).

Distribution. Hokkaido, Honshu, Kyushu, Akune-ôshima*, N. Ryukyus (Yaku-shima). Korea; Russia (Irkutsk region, Amur region, Khabarovskij Krai, Primorskij Krai, Sakhalin, Kunashiri I.).

21. *Auplopus (Auplopus) nagatomii* Lelej et Sk. Yamane, nom. nov.

Auplopus murotai Tsuneki, 1990: 30, ♀ (holotype: ♀, Banna-dake, Ishigaki-jima, 4 Aug. 1985, T. Murota), nom. praeocc., non Tsuneki, 1989.

Specimens examined. S. Ryukyus: *Iriomote-jima* - 1 ♀, 25 July 1985, AN (IBPV), 1 ♀, Komi, 12

Oct. 1987, AN (KU).

Distribution. S. Ryukyus (Ishigaki-jima, Iriomote-jima*).

Remarks. K. Tsuneki described two different species in the genus *Auplopus* with the same name *murotai*: one from Taiwan (Tsuneki, 1989) and the other from the Ryukyus (Tsuneki, 1990). These names are homonyms. We propose for *A. murotai* Tsuneki, 1990 a new name, *A. nagatomi*, which is dedicated to Prof. A. Nagatomi who has much helped us in collecting wasps.

22. *Auplopus (Auplopus) nozakae* Tsuneki, 1990

Specimens examined. S. Ryukyus: *Ishigaki-jima* - 1 ♂, Kabira, 22 July 1987, SKY (IBPV); *Iriomote-jima* - 1 ♀, Komi, 29 July 1983, AN (KU).

Distribution. S. Ryukyus (Ishigaki-jima, Iriomote-jima, Yonaguni-jima)

23. *Auplopus (Conagenia) constructor* (Smith, 1873)

Specimens examined. Kyushu: *Fukuoka-ken* - 13 ♀ 12 ♂, Yamada, Kitakyûshû, AL & T. Saigusa (IBPV); *Ôita-ken* - 2 ♀ 1 ♂, Kyusui-kei (600 m alt.), Kokonoe-machi, 6 Aug. 1991, AL (IBPV); *Kumamoto-ken* - 1 ♀, Seiwa-mura, Kyushu-sanchi, 7 Aug. 1991, AL (IBPV), 3 ♀ 2 ♂, Momiki (700 m alt.), Gokanoshô, 8 Aug. 1991, AL (IBPV); *Kagoshima-ken*: 1 ♀, Jiganji, Kagoshima-shi, 12 July 1987, SKY (IBPV). China: 1 ♀, Guangdong, Prov., Chebaling, 21 June 1990, AL (IBPV).

Distribution. Honshu, Shikoku, Kyushu. Russia (Amur region*, Primorskij Krai); China (Guangdong*); Taiwan.

24. *Auplopus (Conagenia) williamsi* (Rohwer, 1919)

Specimens examined. C. Ryukyus: *Okinawa-jima* - 2 ♀, Yona, Kunigami, 14-15 Aug. 1991, AL (IBPV). S. Ryukyus: *Ishigaki-jima* - 1 ♀, Omoto-dake, 22 Aug. 1991, N. Kurzenko (IBPV). China: 1 ♀, Guangdong, Wenjuan, 30 Nov. 1959, B. Rodendorf (ZMMU).

Distribution. C. Ryukyus (Okinawa-jima*), S. Ryukyus (Ishigaki-jima*, Iriomote-jima). China (Guangdong*); Taiwan; Philippines; Borneo.

Subfamily Pompilinae

Genus *Ridestus* Banks, 1912

Two species of this genus were known from East Asia (only from the female sex): *R. philippinensis* from the Philippines and Taiwan (Banks, 1934; Tsuneki, 1988, 1989) and *R. udegeicus* from Far East Russia (Lelej, 1990). We have collected on Okinawa-jima two females which belong to a new species related to *R. philippinensis*. The characteristics separating the female of the new species from the known ones are given in the key below. The genus *Ridestus* is newly recorded from Japan.

Key to the East Asian species of the genus *Ridestus* (females)

1. Body more than 15 mm long. Body black. 3rd antennal segment 6.2 times as long as wide at apex and 1.5 times as long as vertex width. 16.5-17.5 mm in length. Primorskij Krai
..... *R. udegeicus* (Lelej), comb. nov.

- Body less than 10 mm long. Head and alitrunk more or less ferruginous red. 3rd antennal segment 3.9-4.5 times as long as wide at apex and 0.7-0.8 times as long as vertex width 2
2. 3rd antennal segment 4.5 times as long as wide at apex. POL : OOL=0.8. Longer spur of hind tibia measuring half of basitarsus. 7.0-7.5 mm in length. Philippines, Taiwan
..... *R. philippinensis* (Banks), comb. nov.
- 3rd antennal segment 3.0-4.0 times as long as wide at apex. POL : OOL=1.0. Longer spur of hind tibia 0.6 times as long as basitarsus. 7.3-8.3 mm in length. Ryukyus (Okinawa-jima)
..... *R. sibatani* Lelej, sp. nov.

25. *Ridestus sibatani* Lelej, sp. nov.

Female. Body 7.3-8.3 mm long. Head width : length=84 : 73 in frontal view. Vertex width : maximum width of frons : width of frons just above antennal base : clypeal width=40 : 49 : 47 : 50. POL : OOL=17 : 17. Relative lengths of antennal segments 1-5=38 : 13 : 55 : 39 : 38, segment 3 being 3.9-4.0 times as long as wide at apex and 0.75-0.78 times as long as vertex width. Temples 0.4 times as broad as eye in profile. Forewing with distal 2/3 darkened, most marked in apical third. Relative lengths of abscissae of radius from base in the holotype=9(8),26(27),17(16),38(38) (measurements for the paratype are given in parentheses); relative lengths of abscissae of medius within radio-medial cells 2 and 3=45(25+20) and 36(20+16). Ratio of postfurcal distance of nervulus to nervulus length 0.33. In hindwing transverse anal vein antefurcal.

Body, antenna and legs black. Frons, vertex, occiput, upper half of temple, pronotum, scutum, tegula ferruginous red (holotype and paratype), and scutellum brownish red (paratype).

Male. Unknown.

Specimens examined. Holotype: ♀, Yona, Kunigami, Okinawa-jima, 14 Aug. 1991, AL (KU); paratype: 1 ♀, same data as holotype (IBPV).

Distribution. C. Ryukyus (Okinawa-jima).

Remarks. Both the specimens were collected in small glades in the forest after sunset. The collection sites had clay soil with stones and very poor vegetations.

26. *Pompilus cinereus* (Fabricius, 1775)

Pompilus (Pompilus) ami Tsuneki, 1989: 117, ♀ ♂ (holotype: ♀, Kuangyin, Taoyuan Pref., Taiwan, 14 June 1968, K. Tsuneki), **syn. nov.**

Pompilus (Pompilus) bunun Tsuneki, 1989: 118, ♀ (holotype: ♀, Chuchi, Chaiyi Pref., Taiwan, 20 July 1966, K. Tsuneki), **syn. nov.**

Pompilus (Pompilus) tsou Tsuneki, 1989: 118, ♂ (holotype: ♂, Laonei, Taipei Pref., Taiwan, 6 Aug. 1980, T. Nambu), **syn. nov.**

Specimens examined. N. Ryukyus: *Tanega-shima* - 2 ♀, Hamada, 2 Aug. 1984, SKY (IBPV & KU). S. Ryukyus: *Minna-jima* - 2 ♀, 29 June 1988, SKY (IBPV & KU).

Distribution. Throughout the continental Old World including Mediterranean Islands, Canary Islands, Madagascar, Sri Lanka, Japan, Taiwan, Philippines, Borneo, Java and Australia (Day, 1981). Localities in Japan: Honshu, N. Ryukyus (*Tanega-shima* *), S. Ryukyus (*Tarama-jima*, *Minna-jima* *, *Ishigaki-jima*).

Remarks. Among the four "species" of this group described by Tsuneki (1989) from Taiwan only *P. taiwanus* differs well from *P. cinereus*. The others belong to the widely distributed *P. cinereus*. A revision of this species with distributional and variation data was made by Day (1981).

27. *Arachnospila (Ammosphex) nagasei* (Ishikawa, 1966), comb. nov.

Pompilus (Ammosphex) nagasei Ishikawa, 1966: 85, ♀ [holotype (♀, Kamakura, Kanagawa Pref., 7 Apr. 1954, H. Nagase in NSMT) was studied].

Male (hitherto unknown). Body 6.0-10.0 mm long. Interocular distance in the middle 0.6 times as long as the width of head. POL : OOL=0.9-1.2. Temple 0.44-0.50 as broad as eye in profile. 3rd antennal segment 2.0-2.1 times as long as its maximum width and 0.50-0.52 times as long as the vertex width. Antennal segment 12 dorsally 3.2-4.0 times as long as its maximum width. Ratio of abscissa 2 of R to abscissa 3 of R 0.7-2.3; ratio of radiomedial cell 3 to 2=0.92-1.12. Transverse second radiomedial vein perpendicular. Nervulus interstitial or slightly postfurcal. Hypopygium (sternite 8) narrowed to apex with conspicuous lateral carinae basally (Figs. 9,10). Gonostylus and volsella as in Fig. 7; penial valvae as in Fig. 8.

Body and legs black. Temple with a more or less visible yellowish stripe near the upper portion of the posterior orbit. Gastral segment 1 (except the basal portion) and segment 2 (except apical portion) sometimes or tergite 1 laterally and tergite 2 basally brownish red.

Female. Body 6.0-10.5 mm long. POL : OOL=0.94-1.15. Third antennal segment 3.5-3.75 times as long as wide and 0.72-0.79 times as long as vertex width; segment 12 from above 3.4-3.8 times as long as wide. Temple 0.65-0.67 as wide as eye in profile. Ratio of abscissa 2 of R to abscissa 3 of R 0.8-2.2; ratio of radiomedial cell 3 to 2=0.8-1.1. Temple often with a yellowish stripe. Vertex very often with two conspicuous elongate punctures.

Specimens examined. Kyushu: *Kumamoto-ken* - 1 ♀ 1 ♂, Shiratori-yama (1300 m alt.), Gokanoshô, 8 Aug. 1991, AL (IBPV). Russia: *Kunashiri I.* - 2 ♀ 2 ♂, Dubovoe, 8 Aug. 1980, 31 Aug. 1989, AL, P. Nemkov and V. Sidorenko (IBPV); 1 ♀ 1 ♂, Yuzhno-Kurilsk, 3-28 Aug. 1980, AL (IBPV); Primorskij Krai - 4 ♀ 25 ♂ (IBPV); Amur region - 1 ♂ (IBPV); *Irkutsk region* - 4 ♀ 2 ♂ (IBPV).

Distribution. Honshu, Kyushu*. Russia* (*Kunashiri I.*, Primorskij Krai, Amur region, Irkutsk region).

Remarks. Male of *A. nagasei* is very similar to that of *A. yasumatsui* described from Mongolia (Wolf and Móczár, 1972) in having similar structure of hypopygium, but in the latter hypopygium lacks lateral carinae basally and penial valvae have characteristic preapical lobe.

The problem concerning the sex combination in this species has been solved after studying the material from Kyushu and Kunashiri Island. Thanks to Prof. R. Ishikawa we have the possibility to study the holotype of *A. nagasei*.

28. *Anopilus carbonicolor* (Gussakovskij, 1932)

Anopilus (Pompilinus) yamamotoi Ishikawa, 1958: 109, ♀ ♂ [holotype: ♀, Tochimoto, Chichibu Co., Saitama Pref., 21 July 1955, H. Nagase and R. Ishikawa (NSMT)].

Specimens examined. Kyushu: *Fukuoka-ken* - 1 ♀, Kitakyûshû, 4 Aug. 1991, AL (IBPV).

Distribution. Honshu, Kyushu*.

29. *Batozonellus annulatus* (Fabricius, 1793)

Specimens examined. Kyushu: *Fukuoka-ken* - 1 ♀, Yamada-ryokuchi, Kitakyûshû, 22 Aug. 1990, SKY (KU), 1 ♀, Kitakyûshû, 4 Aug. 1991, AL (IBPV); *Kagoshima-ken* - 1 ♀, Izumi, 21 July 1983, Y. Takai (KU). N. Ryukyus: *Yaku-shima* - 1 ♀, Miyanoura, 11 Aug. 1981, SKY (KU). C. Ryukyus: *Takara-jima* - 1 ♀, 30 June 1982, K. Tomiyama (KU). S. Ryukyus: *Taketomi-jima* - 1 ♀, 24 July 1987, SKY (KU); *Iriomote-jima* - 1 ♂, Haemida, 20 Aug. 1991, AL (IBPV). Vietnam: 1 ♀, Quangnum-Danang, Culao Cham, 29 Mar. 1987, V. Kuznetsov (IBPV).

Distribution. Honshu, Shikoku, Kyushu, N. Ryukyus (*Yaku-shima* *), C. Ryukyus (*Takara-jima* *, *Okinawa-jima*, *Yagaji-jima*), S. Ryukyus (*Miyako-jima*, *Ishigaki-jima*, *Iriomote-jima*). Korea; China; Taiwan; Philippines; Vietnam *; Malaysia; Burma; India.

30. *Batozonellus maculifrons* (Smith, 1873)

Specimens examined. Kyushu: *Fukuoka-ken* - 1 ♀, Yamada-ryokuchi, Kitakyûshû, 4 Aug. 1991, SKY (KU); *Kumamoto-ken* - 1 ♀, Seiwa-mura, Kyushû-sanchi, 7 Aug. 1991, AL (IBPV); *Kagoshima-ken* - 1 ♀, Tashiro, Kawanabe, 8 Sept. 1978, T. Tanbe (KU). N. Ryukyus: *Kuro-shima* - 3 ♀, Ôsato, 3-4 Sept. 1981, SKY (KU); *Kuchinoerabu-jima* - 1 ♀, Nazaki, 22 July 1989, H. Watanabe (KU); *Nakano-shima* - 1 ♀, Satomura, 13 July 1982, Y. Takai (KU); *Akuseki-jima* - 1 ♀, 10 Aug. 1981, K. Tomiyama (KU), 1 ♀, 29 July 1982, M. Ohara (KU). C. Ryukyus: *Amami-ôshima* - 1 ♀, Setouchi, 23 June 1987, M. Tatsuno (KU), 1 ♀, Akazaki, Naze, 10 July 1987 AN (KU); *Tokuno-shima* - 1 ♀, Kametoku, 13 July 1984, SKY (KU); *Yoron-jima* - 1 ♀, 6 June 1985, SKY (KU). S. Ryukyus: *Miyako-jima* - 4 ♀, Hirara, 18 July 1987, SKY (IBPV & KU); *Tarama-jima* - 1 ♀ 1 ♂, 19-20 July 1987, SKY (IBPV & KU); *Ishigaki-jima* - 1 ♀, Banna-dake, 8 July 1988, K. Nakamine (KU), 1 ♀, Omoto-dake, 18 Aug. 1991, AL (IBPV); *Iriomote-jima* - 1 ♀, Toyohara, 20 Apr. 1982, AN (KU), 1 ♀, Uehara, 9 Sept. 1989, SKY (KU), 1 ♂, Uehara, 19 Aug. 1991, AL (IBPV).

Distribution. Honshu, Shikoku, Kyushu, N. Ryukyus (*Yaku-shima*, *Kuro-shima* *, *Kuchinoerabu-jima* *, *Nakano-shima* *, *Akuseki-shima* *), C. Ryukyus (*Amami-ôshima*, *Tokuno-shima* *, *Okinawa-jima*, *Yagaji-jima*, *Kume-jima*, *Miyako-jima*, *Tarama-jima*, *Ishigaki-jima*, *Iriomote-jima*). China; Taiwan; Philippines, Burma, East India.

31. *Parabatozonus jankowskii* (Radoszkowski, 1887)

Pompilius jankowskii Radoszkowski, 1887: 51, ♀ (type locality: "environs de Wladivostok").

Pompilius hakodadi Dalla Torre, 1897: 293, ♂ [new name for *Pompilius bilunatus* Smith, 1873 from Japan, nec Haliday, 1836 from south America], **syn. nov.**

Specimen examined. N. Ryukyus: *Yaku-shima* - 1 ♀, Miyanoura, 5 Aug. 1986, SKY (KU).

Distribution. Hokkaido, Honshu, Kyushu, Tsushima, N. Ryukyus (*Yaku-shima* *). Korea; China (Beijing).

32. *Episyron arrogans* (Smith, 1873)

Specimens examined. Kyushu: *Fukuoka-ken* - 1 ♀, Yamada-ryokuchi, Kitakyûshû, 22 Aug. 1990, SKY (KU); *Kumamoto-ken* - 3 ♀, Momiki (700 m alt.), Gokanoshô, 8 Aug. 1991, AL (IBPV), 1 ♀, Shoutai-san, Tamana, 11 Sept. 1991, I. Otsuka (KU); *Kagoshima-ken* - 1 ♀, Sata-misaki, 6 Oct. 1987,

M. Tatsuno (IBPV). N. Ryukyus: *Tanega-shima* - 1 ♀, Ikeno, 25 July 1984, M. Tatsuno (KU); *Iô-jima* - 2 ♀, 1-3 June 1982, SKY (KU), 2 ♂, 19-22 May 1983, SKY (IBPV & KU). C. Ryukyus: *Amami-ôshima* - 2 ♂, Nishinakama, 25 July 1987, AN (IBPV & KU); *Kakeroma-jima* - 1 ♀, Nishiamuro, 27 Sept. 1987, SKY (KU); *Uke-shima* - 1 ♂, 12 Aug. 1987, M. Tatsuno (KU).

Distribution. Widely distributed from Western Europe to the Philippines in the east. Localities in Japan: Hokkaido, Honshu, Kyushu, N. Ryukyus (*Iô-jima**, *Tanega-shima*), C. Ryukyus (*Amami-ôshima*, *Kakeroma-jima**, *Uke-shima**, *Okinawa-jima*, *Yagaji-jima*, *Kume-jima*), S. Ryukyus (*Ishigaki-jima*).

33. *Episyron kurilense* Lelej, 1980.

Specimens examined. N. Ryukyus: *Tanega-shima* - 2 ♀, Hamada, 1-2 Aug. 1984, SKY (IBPV & KU).

Distribution. N. Ryukyus (*Tanega-shima**). Russia (*Kunashiri I.*). New to Japan.

34. *Paracyphononyx alienus* (Smith, 1879)

Specimens examined. N. Ryukyus: *Tanega-shima* - 1 ♂, Kadokura, 11 July 1983, SKY (KU); *Kuroshima* - 3 ♀, Ôsato, 2-5 Sept. 1981, SKY (IBPV & KU).

Distribution. Honshu, Kyushu, N. Ryukyus (*Kuro-shima**, *Tanega-shima**).

35. *Tachypompilus analis* (Fabricius, 1781)

Specimens examined. C. Ryukyus: *Kikai-jima* - 1 ♀ 1 ♂, Nakazato, 27 Aug. 1984, S. Watahiki (KU); *Tokuno-shima* - 1 ♀, Tate, 7 Sept. 1983, M. Ohara (KU); *Yoron-jima* - 1 ♂, 4 June 1985, SKY (KU), 1 ♀, 24-28 May 1986, SKY (KU), 1 ♂, Chabana, 23 May 1990, SKY (KU); *Okinawa-jima* - 1 ♀ 1 ♂, Hentona, 27-28 1987, SKY (KU), 2 ♀ 4 ♂, Yona, Kunigami, 13-14 Aug. 1991, AL (IBPV), 1 ♀, Ada, 15 Aug. 1991, AL (IBPV). S. Ryukyus: *Miyako-jima* - 1 ♀, Bora, 17 July 1987, SKY (KU), 1 ♂, Hirara, 18 July 1987, SKY (KU), 1 ♀, Gusukube, 17 July 1987, SKY (IBPV); *Tarama-jima* - 2 ♂, 19-20 July 1987, SKY (KU); *Iriomote-jima* - 1 ♀, Ôhara, 29 July 1983, AN (KU); *Hateruma-jima* - 1 ♂, 2 July 1988, SKY (KU); *Yonaguni-jima* - 1 ♀, Sonai, 5 July 1988, SKY (KU). China: 1 ♀, Guangzhou, 24 June 1990, AL (IBPV). Vietnam: 1 ♀, Namsu I., 20 Apr. 1984, N. Kurzenko (IBPV), 1 ♂, Misang I., 7 May 1984, N. Kurzenko (IBPV).

Distribution. C. Ryukyus (*Kikai-jima**, *Amami-ôshima*, *Tokuno-shima**, *Yoron-jima**, *Okinawa-jima*, *Yagaji-jima*, *Kume-jima*), S. Ryukyus (*Miyako-jima*, *Tarama-jima*, *Ishigaki-jima*, *Iriomote-jima*, *Hateruma-jima**, *Yonaguni-jima*). South China (*Guangzhou**); Taiwan; Philippines; Vietnam*; Malaysia; Sulawesi; Burma; India; Sri Lanka.

36 a. *Marochares nigripennis yayeyamana* Tsuneki, 1990

Specimens examined. S. Ryukyus: *Ishigaki-jima* - 1 ♀, Kawara-yama, 22 Aug. 1991, AL (IBPV); *Iriomote-jima* - 5 ♀, Funaura, 20 Aug. 1991, A (IBPV).

Distribution. S. Ryukyus (*Miyako-jima*, *Ishigaki-jima*, *Iriomote-jima**).

36 b. *Marochares nigripennis okinawana* Tsuneki, 1990

Specimens examined. C. Ryukyus: *Okinawa-jima* - 1 ♀, Yona, Kunigami, 15 Aug. 1991, AL (IBPV).

Distribution. C. Ryukyus (Okinawa-jima).

37. *Ferreola hirayamae* [sic!] (Matsumura et Uchida, 1926), comb. nov.

Ceropales hirayamae Matsumura et Uchida, 1926: 50, ♀ (holotype: ♀, Ishigaki-jima).

Ferreola yayeyamaensis Tsuneki, 1990: 31, ♀ (holotype: ♀, Inaba, Iriomote-jima, 26 July 1969, T. Tano), **syn. nov.**

Ferreoloides ryukyuensis Tsuneki, 1990: 33, ♂ (holotype: ♂, Omoto-dake, Ishigaki-jima, 22 Apr. 1989, Y. Haneda), **syn. nov.**

nov.

Specimens examined. S. Ryukyus: *Ishigaki-jima* - 1 ♂, Omoto-dake, 8 July 1988, K. Nakamine (KU); *Iriomote-jima* - 1 ♂, Komi, 1 Aug. 1983, AN (KU), 1 ♂, Funaura, 20 Aug. 1991, AL (IBPV), 1 ♀ 1 ♂, Haemida, 20 Aug. 1991, SKY (KU).

Distribution. S. Ryukyus (Ishigaki-jima, Iriomote-jima).

Remarks. The male specimens here studied well agree with the description of *Ferreoloides ryukyuensis* (Tsuneki, 1990), but they really belong to the genus *Ferreola* (*Ferreoloides* Haupt is a synonym of *Aporinellus* Banks).

The black body with short greyish pubescence, dark wings with hyaline base, yellowish basal patch on mandible and large body size permit us to consider that the female of *Ferreola yayeyamensis* Ts. and the male of *Ferreoloides ryukyuensis* Ts. are opposite sexes of one and the same species, which was described as *hirayamae* (Matsumura and Uchida, 1926).

In Iriomote-jima the male of this species was collected by A. Lelej in a small glade with dense and tall grass in a forest. It was caught just before the sunset while it was flying slowly above the grass.

38. *Homonotus okinawanus* Tsuneki, 1990

Specimens examined. C. Ryukyus: *Amami-ōshima* - 1 ♀, Naze, 28 Sept. 1988, AN (KU). S. Ryukyus: *Iriomote-jima* - 1 ♂, Komi, 1 May 1982, AN (KU), 1 ♀, Funaura, 20 Aug. 1991, AL (IBPV).

Distribution. C. Ryukyus (*Amami-ōshima**, *Okinawa-jima*), S. Ryukyus (*Iriomote-jima**).

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