

## ICHNEUMONIDAE (Hymenoptera) OF THE RYUKYU ARCHIPELAGO<sup>1</sup>

By Setsuya Momoi<sup>2</sup>

*Abstract:* This paper is a synopsis of the greater part of the ichneumon flies of the Ryukyu Archipelago. It concerns most of the subfamilies excepting the subfamilies Metopiinae, Microleptinae and Orthocentrinae. It treats 166 species and subspecies, of which 53 are described as new to science and 36 are new to the fauna of the islands. A small number of nomenclatorial changes are made, including 5 new synonymies.

This paper, a synopsis of the greater part of the Ichneumonidae of the Ryukyus, is based largely on material collected during the expeditions to the islands made in 1963-1964 under the auspices of the Japan-U. S. Cooperative Science Program. A good deal of other material from the Ryukyus being made available from Bishop Museum, Ehime University, Hokkaido University, Kobe University and Kyushu University is also included in the study. Japanese specimens borrowed from the Canadian National Collection and from the Dr H. Townes Collection are used in describing certain new species.

The types of the new species and subspecies described in this paper and other specimens treated in this paper are mostly housed as follows.

Bishop Museum (BISHOP). Specimens collected by G. E. Bohart, R. M. Bohart, J. L. Gressitt, J. C. Harrell, T. Kakinohana, N. L. H. Krauss, S. Kuniyoshi, G. A. Samuelson, T. Takara and C. M. Yoshimoto.

Canadian National Collection. Specimens collected by T. Hayasaka.

Ehime University (Matsuyama). Specimens collected by Y. Arita, T. Edashige, S. Hisamatsu, N. Ohbayashi, M. Sato and S. Ueda.

Hokkaido University (SAPPORO). Specimens collected by K. Kamijo, K. Kusigemati, H. Takada and A. Tanaka.

Kobe University (Momoi). Specimens collected by K. Egawa, K. Iwata, H. Kuroda, S. Momoi, A. Nagatomi, K. Nohara, K. Okamoto, M. Okamura, T. Shirozu, K. Yamaguchi and K. Yoshikawa. Also some duplicate specimens of other collections.

Kyushu University (FUKUOKA). Specimens collected by T. Esaki, Y. Hirashima, K. Kaneko, S. Miyamoto, K. Morimoto, T. Okada, M. Takahashi, K. Yano and K. Yasumatsu.

Townes Collection. Specimens collected by K. Sato.

In this synopsis, 166 species and subspecies of 92 genera and subgenera from the Ryukyus are treated. Fifty-one species and 2 subspecies are described as new to science, and 36 are newly recorded from the area. New records from the area are indicated by

1. Specimens were collected during fieldwork under the US-Japan Cooperative Sciences Program, "Systematic Studies in Pacific Area Insects," which was supported in part by grants (GF-58, GF-151) from the National Science Foundation.
2. Entomological Laboratory, Faculty of Agriculture, Kobe University, Kobe, Japan.

an asterisk at the end of each specific heading. Five new synonymies and 4 new combinations are proposed.

The subfamilies Metopiinae, Microleptinae and Orthocentrinae are excluded. The Metopiinae has already been worked out and written up jointly by me and Mr Kanetoshi Kusigemati of Kagoshima University (see following article). The subfamilies Microleptinae and Orthocentrinae, both of which have hitherto been unrecorded from the area but appear to be not less abundant there, are left for future study, since I believe that our present knowledge on the taxonomy of these groups does not permit fruitful work.

Almost all of the references are excluded and no attempt is made to provide a key to the genera. These are given recently in "A catalogue and reclassification of the Indo-Australian Ichneumonidae" (Townes, H., M. Townes & V. K. Gupta, 1961) and in "A catalogue and reclassification of the eastern Palearctic Ichneumonidae" (Townes, H., S. Momoi & M. Townes, 1965). Only in cases where new combinations occur, are original references given.

The Ryukyu Archipelago is composed of several insular groups. The components are as follows:

Tokara. Stands for Tokara Insular Group. Collections were made on Kuchineshima, Takarajima and Nakanoshima.

Amami. Stands for Amami Insular Group. Collections were made on Amami-Oshima, Tokunoshima and Okinoerabu.

Okinawa. Stands for Okinawa Insular Group. Collections were made on Okinawa and Ieshima.

Sakishima. Stands for Sakishima Insular Group. Collections were made on Iriomote, Miyako, Ishigaki and Yonakuni.

*Acknowledgement*: I am indebted to the Japan Society for the Advancement of Science and the U. S. National Science Foundation and to many collectors for making this study possible. My best thanks due to Drs J. L. Gressitt, Y. Hirashima, K. Kamiyo, W. R. M. Mason, T. Tachikawa, H. Townes, K. Yano, Mr. K. Kusigemati, Mr. H. Takada, and Prof. K. Yasumatsu for lending the material for my study. Dr H. Townes was so kind to help me in taxonomic decisions of certain species and genera and in reading the manuscript. I am also indebted to Prof. C. Watanabe for the privilege of studying the collection at Hokkaido University which contains most of the Matsumura and Uchida types and other important specimens from the area concerned.

At this time I would like to thank Prof. Emeritus T. Uchida, my teacher, whose pioneering works on Ichneumonidae of the Far East form the foundation for this study.

#### Subfamily EPHIALTINAE

##### 1. *Dolichomitus macropunctatus urainus* (Sonan, 1936)\*

AMAMI: 2 ♀♀, Yuwandake, Amami-Oshima, 550 m, 18.VII.1963, Yoshimoto.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

2. *Sericopimpla* (*Charitopimpla*)<sup>3</sup> *ryukyuensis* Momoi, new species Fig. 1.

♀. Lateral ocellus distant from eye by about 0.6 its diameter. Face about 1.1 as long as wide. Interantennal ridge keel-shaped, somewhat punctate. Temple about 0.36 as long as eye in lateral view of head. Mesoscutum with large strong punctures, the interspaces about 0.5-1.0 diameter of a puncture, punctures on median lobe mostly tending to be confluent longitudinally and those on lateral lobe rather evenly spaced and distant. Metapleurum with hairs along upper rim and in hind 0.5 except for lower 0.4. Dorsolateral keel of tergite 1 almost absent. Punctures on basal tergites large and sparse, interspaces between punctures on lateral tumidity of tergite 2, at least, about as long as diameter of a puncture. Nervellus broken at lower 0.25. Ovipositor slender for a member of *Charitopimpla*, distinctly constricted before apex. Fore wing 9-10 mm long.

Black. Palpi, under sides of scape and pedicel, a patch at humeral angle of pronotum, tegula, apical margins of tergites 1-6, fore and mid legs, tip of hind 1st trochanter, bases of hind tibia and tarsus, a pair of median spots on hind tibia, and hind tibial spurs yellowish white, pale bands at apices of tergites 1-6 narrowed medially. Apicolateral corners of tergites 2-4 each with a small black dot. Mid coxa above, mid 1st trochanter beneath, a small spot at tip of mid femur and a stripe on upper face of mid tibia blackish brown to black.

♂. Essentially similar to ♀. Tergite 7 about as long as wide at base, its dorsal convexity moderately strong.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 5.V.1966, Kusigemati.

Paratypes. Amami: ♂, Amami-Oshima, 19.VII.1955, Shirozu. ♀, Amami-Oshima, 10.V.1966, Kusigemati.

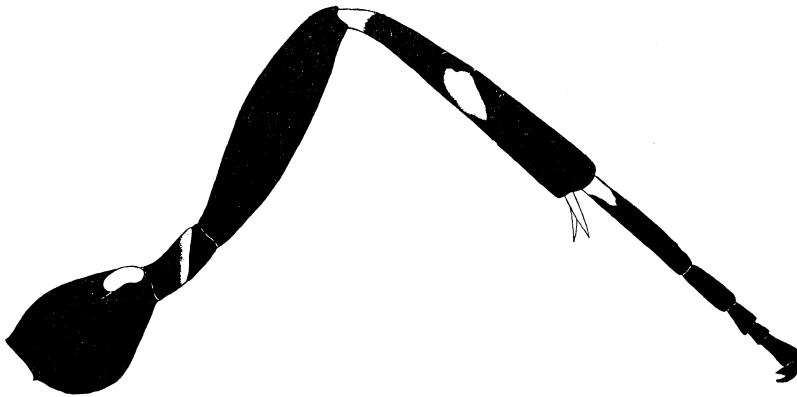


Fig. 1. *Sericopimpla* (*Charitopimpla*) *ryukyuensis*, ♀, hind leg, showing color pattern.

3. *Charitopimpla* may be distinguishable from the subgenus *Sericopimpla* by the following key.
- |   |       |                      |
|---|-------|----------------------|
| Nervellus broken at or near middle. Face with no band between antennal sockets. Abdomen red. (Ethiopian Region).  | ..... | <b>Sericopimpla</b>  |
| Nervellus broken at or near lower 0.25. Face with a band between antennal sockets. Abdomen black, with or without yellow markings. (Indo-Australian area) | ..... | <b>Charitopimpla</b> |

This species belongs to the *sagrae* species-group.<sup>4</sup> From other species of the group known to me it can, however, be distinguished by the coarser and somewhat sparser punctuation of the mesoscutum and tergites, the distinctive hair distribution of the metapleurum, the shorter ocello-ocular space, the slender ovipositor and the characteristic coloration of the hind leg.

### 3. *Tromatobia maculata* Momoi, new species

♀. Prepectal carina ending approximately at level of mesopleural pit, almost straight and vertical above lower level of pronotum, its upper end distant from front rim of mesopleurum by about 1.5 width of tegula. Metapleurum smooth, its hind corner with a few hairs. Submetapleurum carina almost complete. Propodeum with no dorsomedian carinae and dorsolateral longitudinal ridges, its upper and lateral faces with weak punctures mostly distant from one another by much more than their diameter. Tergite 1 rather evenly convex and with no dorsomedian angle as seen in lateral view, its dorsolateral keel complete and strong, and its dorsomedian keels short, extending only to spiracles. Tergites 2-6 with strong, distant and well defined punctures mostly distant from one another by much more than their diameter, the punctures slightly denser towards base of each tergite. Areolet present, just sessile above. Radius approximately at middle of stigma. Nervellus broken at upper 0.4-0.5. Ovipositor sheath about 0.7 as long as hind tibia. Fore wing 6.8 mm long.

Black. Palpi, clypeus, facial orbit broadly, frontal orbit narrowly, cheek, front and upper rims of pronotum, a pair of median longitudinal stripes on mesoscutum, tegula, subtegular ridge, a small spot at upper end of prepectal carina, scutellum, postscutellum, and a small apicolateral spot on propodeum yellowish white. Mesopleurum except for upper portion and mesosternum reddish brown. Mesoscutum often extensively reddish brown. Antenna brown, lighter beneath. Legs yellowish brown, with fore and mid coxae and trochanters, hind trochanter and hind tibia lighter. Hind coxa reddish brown, with hind face yellowish brown. Hind femur reddish brown, with tip yellowish brown. Hind tibia infuscate subbasally and apically. Hind and mid tarsal segments infuscate at apex. Stigma fuscous brown.

Holotype ♀ (BISHOP 9136), Yuwandake, Amami-Oshima, Amami, 29.VII.1963, Gressitt.

Paratypes. Amami: ♀, same as the type. Japan: ♀, Nagano, 400-800 m, 20.V.1962, Hayasaka. ♀, Hanamaki, Iwate, 4.VI.1953, K. Sato.

This species is very similar to *oculatoria* Fabricius, 1798, from which it is distinguishable by the more evenly and sparsely punctate tergites, much more sparsely punctate propodeum and much reduced rufous markings on the body.

### 4. *Zaglyptus semirufus* Momoi, new species

♀. Submetapleurum carina complete. Propodeum punctate on lateral face and on each side of median portion of dorsal face. Dorsolateral keel of tergite 1 absent. Tergites 2-6 with very dense punctures except for apical callosity of each tergite, the callosity smooth. Tergite 2 with

4. There is a number of named and unnamed species which are exceedingly similar in structure and basic color pattern to *sagrae* Vollenhoven, 1879, and it is possible to treat the entire complex as a single polytypic species as shown in Townes, Townes & Gupta (1961). However, since their ranges mostly overlap, their color differences are consistent, and some structural differences combine with the color differences, I am inclined at this time to consider each as a different species.



a pair of oblique swellings which are strongly polished and smooth, punctate only towards apical end. Tergite 3-6 each with a pair of oval swellings which are almost completely smooth and hairless. Tergite 7 distinctly punctate all over. Nervellus broken at middle. Hind tarsal segment 1 about 2.8 as long as segment 5. Fore wing 5.0-5.5 mm long.

Head black. Clypeus light brown. Palpi white. A pair of spots on face just below antennae yellowish white. Thorax reddish brown. Greater part of pronotum, upper rim of mesopleurum, scutellar and postscutellar fovea, periphery of combined metapleurum and propodeum, and metasternum black. Humeral and hind lower corners of pronotum, tegula, subtegular ridge, scutellum, postscutellum, hind tubercles of propodeum, and mesopleurum towards base of mid coxa yellowish white. Tergites whitish brown. Tergite 1, swellings and apical callosities of tergites 2-6, and dorsal faces of tergites 7 and 8 piceous black. Ovipositor sheath black. Legs light brown, with coxae and trochanters lighter. Base, apex and a stripe on hind face of hind femur, apical 0.21-0.23 and a subbasal ring on hind tibia, apical 1/2 of hind tarsal segment 1, hind tarsal segments 2 and 3 except for base, and apex of segment 5 fuscous brown. Antenna fuscous brown, its scape and pedicel beneath, and apical 3 or 4 flagellar segments light brown. Stigma fuscous brown, white at extreme base.

Holotype ♀ (BISHOP 9137), Yuwandake, Amami-Oshima, Amami, 16-17.VII.1963, Yoshimoto.

Paratypes. Amami: ♀, Amami-Oshima, 10.V.1966, Kusigemati. Okinawa: ♀, Nago-dake, Okinawa, 19.III.1965, Kuroda.

This species belongs to the *multicolor* species-group. From *indicus* Gupta, 1961, *multicolor* Gravenhorst, 1829, and *rufescens* Fonscolombe, 1854, it is distinguishable by the almost completely smooth and hairless swellings on the tergites 3-6, the different proportional length of the hind tarsal segments and in coloration.

#### 5. *Theronia (Poecilopimpla) zebra diluta* Gupta, 1962

AMAMI: 2 ♀♀, Amami-Oshima, 10.V.1966, Kusigemati.

OKINAWA: ♂, Genkayama, Okinawa, 4.V.1964, Takara & Kakinohana.

DISTRIBUTION: China, Taiwan (Formosa), Japan, Ryukyus

#### 6. *Itopectis narangae* (Ashmead, 1906)

AMAMI: ♂, Amami-Oshima, 12.III.1964, ♂, Amami-Oshima, 18.III.1964, Takada.

OKINAWA: ♀, 3 ♂♂, Yona, Okinawa, 24-25.III.1964, Yoshimoto & Harrell. ♀, Naha, Okinawa, VI.1958, Krauss. 2 ♂♂, Haneji, Okinawa 16-18.III.1965, Kuroda.

SAKISHIMA: ♂, Ishigaki, 20-30.XI.1952, Bohart. ♂, Yoshiwara, Ishigaki, 13.X.1963, 2 ♂♂, Kabira, Ishigaki, 15.X.1963, Hirashima.

DISTRIBUTION: China, Taiwan (Formosa), Hawaii, Japan, Korea, Mexico, Philippines, Ryukyus.

#### KEY TO RYUKYU SPECIES OF COCCYGOMIMUS

1. Hind tibia completely black ..... **parnarae**  
Hind tibia with a pale ring towards base ..... 2
2. Coxae black. Thorax and tergites almost completely black ..... **nipponicus**  
Coxae red and white. Thorax and tergites with conspicuous white markings ..... **amamiensis**

#### 7. *Coccygomimus parnarae* (Viereck, 1912)\*

SAKISHIMA: 2 ♀♀, ♂, Ishigaki, 20-30.XI.1952, Bohart. ♂, Karayama, Ishigaki, 14.

III.1964, ♀, Torogawa, Ishigaki, 17.III.1964, Yoshimoto & Harrell.

DISTRIBUTION: China, Taiwan (Formosa), Japan, Korea, Ryukyus.

8. *Coccygomimus amamiensis* Momoi, new species Fig. 2.

♀. Eye very large. Face nearly as wide as transverse diameter of eye, about 1.0 as long as wide, with medium-sized dense punctures, punctures denser on central portion and tending to be confluent to each other. Clypeus distinctly divided into upper and lower sections by a transverse ridge, distinctly excised on apical margin medially, with a few indistinct punctures basally. Malar space about 0.8 as long as basal width of mandible. Frons unsculptured. Pronotum unsculptured. Mesoscutum and scutellum with fine dense punctures, shiny. Mesopleurum with medium-sized dense strong punctures mostly distant from one another by about or slightly less than their diameter, its posterior portion unsculptured above and weakly and sparsely punctate below. Metapleurum smooth on lower 1/2, oblique striate and somewhat punctate on upper 1/2. Propodeum irregularly rugulose laterally, coarsely, and transversely rugulose dorsally, its apicodorsal face unsculptured. Areolet small. Fore tibia strongly depressed at basal 1/3. Fore tarsal segment 4 weakly excised at apex. Hind coxa sparsely punctate on lateral face. Tergites 1-5 with medium-sized close punctures except on apical margins, with feeble microsculpture. Tergite 6 finely sculptured, with clearly defined punctures at base. Epipleura narrow. Ovipositor weakly depressed at apex, its sheath about 2.1 as long as tergite 1. Fore wing 8.0 mm long.

Black. Clypeus and mandible piceous. Yellowish white: palpi, pronotum broadly along upper margin, a central spot on scutellum, postscutellum, tegula, subtegular ridge, an oval spot above propodeal spiracle, an oval spot on each side of apex of propodeum, tergites 1-7 at apices broadly laterally and narrowly medially, and tergite 8 apicolaterally. Scape yellow beneath at apex. Legs red. Fore and mid coxae and their trochanters white. Fore and mid tibiae and tarsi somewhat infusate. Mid and hind coxae above at apex very narrowly blackish, the hind coxa white above basally. Hind femur somewhat blackish at base and apex. Hind tibia and tarsus black, the former with a narrow white ring towards base. Mid tibia with an obscure pale ring towards base.

♂. Flagellum with no tyloids. Sculpture slightly finer than in ♀. Tergite 8 with no pale markings. Otherwise similar to ♀. Fore wing 5.3-7.0 mm long.

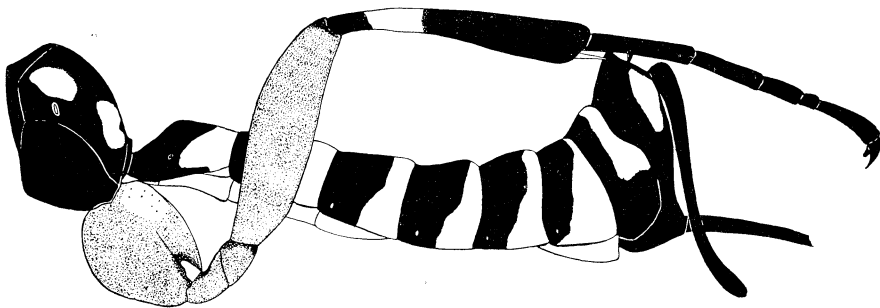


Fig. 2. *Coccygomimus amamiensis*, ♀, propodeum, hind leg and abdomen, showing color pattern.

Holotype ♀ (Momoi), Shimmura, Amami-Oshima, Amami, 26.III.1954, Ueda.

Paratypes. Amami: ♂, Yuwandake, Amami-Oshima, 30.VII.1963, Gressitt. ♂, Amami-Oshima, 13.III.1964, Takada.

This species agrees well with the description of *Coccygomimus flavipalpis* (Cameron 1899)

and may possibly be no more than a color variant of that species. In *flavipalpis*, however, it is said that the coxae are black and broadly pale banded and the propodeum has only a pair of pale markings in position of apophysis, while in this species the coxae are almost entirely white and red and the propodeum has 2 pairs of pale markings. It seems best to hold the two as different species for the time.

9. **Coccygomimus nipponicus** (Uchida, 1928)

AMAMI: ♂, Yuwan, Amami-Oshima, 19.IV.1954, Fujii. ♀, ♂, Amami-Oshima, 5.V.1966, 2 ♂♂, Amami-Oshima, 7.V.1966, 2 ♂♂, Tokunoshima, 12.V.1966, ♀, Tokunoshima, 13.V.1966, Kusigemati.

OKINAWA: ♀, Okinawa, V.1945, Bohart.

SAKISHIMA: 2 ♀♀, Ishigaki, 25-30.XI.1962, Bohart. ♀, ♂, Yaeyama, 5.III.1964, Harrell. ♂, Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap, Gressitt. ♂, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell.

DISTRIBUTION: China, Taiwan (Formosa), Japan, Korea, Kuriles, Ryukyus, Sakhalin.

SPECIES OF COCCYGOMIMUS NOT INCLUDED IN THE KEY

10. **Coccygomimus daitojimanus** (Sonan, 1940)

This species was originally described from Minami Daitojima of the Borodino Insular Group. The type is in the collection of the Taiwan National Institute of Agriculture, and was not examined. Judging from the original description, this species is very similar to *nipponicus* Uchida and could be a synonym of the latter.

DISTRIBUTION: Ryukyus.

11. **Echthromorpha agrestoria notulatoria** (Fabricius, 1804)\*

AMAMI: ♀, ♂, Tokunoshima, 12.V.1966, Kusigemati.

DISTRIBUTION: Borneo, Burma, Ceylon, Chagos Archipelago, China, Taiwan (Formosa), India, Java, Malaya, Molucca Is., New Guinea, Philippines, Ryukyus, Sarawak, Seychelles Is., Singapore, Sumatra.

KEY TO RYUKYU SPECIES OF XANTHOPIMPLA

1. Scutellum subconically elevated. Propodeum with a conical elevation before its spiracle.
  - Face scutate ..... **japonica**
  - Scutellum convex. Propodeum with no conical elevation before its spiracle. Face not scutate ..... 2
2. Areola almost trapezoid, with costula at or near its hind angle. Hind tibia black at base.
  - Tergites 2 and 4 usually immaculate ..... **punctata**
  - Areola hexagonal, with costula at or near middle of lateral side. If hind tibia black at base, then tergites 2 and 4 conspicuously bimaculate ..... 3
3. Stemmaticum and ovipositor sheath black. Antenna brown, darker above, paler beneath towards base. Entire insect otherwise immaculate ..... **emaculata**
  - Body conspicuously maculated with black spots ..... 4
4. Areolet not defined ..... **imperfecta**
  - Arolet defined ..... 5

5. Areola distinctly wider than long. Hind tibia black at base ..... **clavata**  
 Areola nearly or quite as long as wide. Hind tibia immaculate ..... 6
6. Black band on top of head broad, touching eye on each side and extending backward to occipital carina. Propodeum immaculate ..... **modesta**  
 Black band on top of head not touching eye on each side and not extending backward over stemmaticum. Propodeum bimaculate ..... **stemmator**

12. **Xanthopimpla japonica** Krieger, 1899

AMAMI: ♀, Nase, Amami-Oshima, 26.VII.1954, Ueda. 2 ♀♀, ♂, Nase, Amami-Oshima, 26.VII.1954, Hisamatsu. ♀, ♂, Tokunoshima, 12.V.1966, Kusigemati. 2 ♀♀, Okinoerabu, 31.VII.-3.VIII.1958, Okamura.

TOKARA: ♀, Takarajima, 5.VI.1962, M. Sato. 2 ♀♀, 2 ♂♂, Takarajima, 15.VII.1964, Tanaka.

DISTRIBUTION: China, Taiwan (Formosa), Japan, Ryukyus.

13. **Xanthopimpla punctata** (Fabricius, 1781)

AMAMI: ♂, Nase, Amami-Oshima, 16.VII.1954, Miyamoto. ♂, Santarotôge, Amami-Oshima, 26.VII.1954, Hirashima. ♀, Shirahama, Amami-Oshima, 18.VII.1954, Hisamatsu. ♀, Amami-Oshima, 28.VIII.1958, Okamura. ♀, Amami-Oshima, 16.III.1964, Takada. ♀, Amami-Oshima, 3.V.1959, Kamijo. ♀, Amata-Furusato, Okinoerabu, 8.VIII.1963, Yasumatsu & Yano. ♀, ♂, Tokunoshima, 12.V.1966, Kusigemati.

OKINAWA: ♀, Maeda near Naha, Okinawa, VI.1958, ♂, Yogi, Naha, Okinawa, VI.1958, Krauss. ♂, Naha, Okinawa, 29. X.1960, Morimoto. 2 ♂♂, Okinawa, VI. 1945, Bohart. ♂, Kudeken, Okinawa, 28.III.1964, Yoshimoto. ♀, Nagodake, Okinawa, 23. III.1965, Kuroda.

SAKISHIMA: ♂, Ishigaki, 17.VIII.1965, Ohga. 3 ♀♀, 2 ♂♂, Ishigaki, X.1951, Bohart. ♀, ♂, Ishigaki, 10-20.XII.1952, ♀, Ishigaki, 1-10.XII.1952, ♀, ♂, Miyako, 27.X.1952, ♂ (lacking abdomen), Ishigaki, 25-30.XI.1952, Bohart. 2 ♀♀, Ishigaki city, Yaeyama, 5. III. 1964, Harrell. ♂, Banna, Ishigaki, 70 m, 20.V.1964, ♀, Banna, Ishigaki, 70 m, 22-23.V. 1964, in Malaise trap, ♀, Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap, Gressitt. 2 ♀♀, ♂, Torogawa, Ishigaki, 17.III.1964, Yoshimoto & Harrell. ♀, Yoshiwara, Ishigaki, 15.X.1963, Morimoto. ♀, Kawaradake, Ishigaki, 28.X.1963, ♂, Kabira-Yoshiwara, Ishigaki, 13.X.1963, Hirashima. 2 ♀♀, Sonai, Iriomote, 9.X.1963, Kuniyoshi. ♂, Shirahama, Iriomote, 1.IV.1962, Arita.

DISTRIBUTION: Afganistan to Molucca Is., Ceylon, China, Taiwan (Formosa), Japan, Mauritius, Philippines, Ryukyus, Sarawak, Tibet?

14. **Xanthopimpla clavata** Krieger, 1914

*Xanthopimpla minomensis* Uchida, 1934. **New synonymy.**

OKINAWA: ♀, Nago, Okinawa, 28.XI.1963, Samuelson.

SAKISHIMA: ♀, Karayama, Ishigaki, 14. III.1964, 5 ♀♀, ♂, Karayama, Ishigaki, 14-18. III.1964, in Malaise trap, ♂, Yonehara, Ishigaki, 15.III.1964, ♀, Nakaragawa, Iriomote, 0-200 m, 12.III.1964, Yoshimoto & Harrell. ♀, 2 ♂♂, Ishigaki, 10-20.XII.1952, 2 ♀♀, Ishigaki, 1-10.XII.1952, ♂, Miyako, 16.XI.1952, Bohart. ♀, Ishigaki, X.1951, Bohart. ♀,

Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap, Gressitt.

DISTRIBUTION: Taiwan (Formosa), Japan, Ryukyus.

15. *Xanthopimpla stemmator* (Thunberg, 1822)

SAKISHIMA: ♀, Yarabu, Ishigaki, 27.III.1962, Arita. ♂, Ishigaki, 20-30.XI.1952, Bohart. ♀, Shirahama, Iriomote, 4.VII.1962, M. Sato & Arita.

DISTRIBUTION: Borneo, Ceylon, China, Taiwan (Formosa), India, Java, Krakatau Is., Lang Is., Molucca Is., Pakistan, Philippines, Ryukyus, Sarawak.

16. *Xanthopimpla modesta* (Smith, 1860)

SAKISHIMA: 2 ♂♂, Ishigaki, X. 1951, Bohart.

DISTRIBUTION: Borneo, Celebes, Taiwan (Formosa), Java, Krakatau Is., Sarawak, Sumatra, Ryukyus.

17. *Xanthopimpla emaculata* Szépligeti, 1908

SAKISHIMA: 3 ♂♂, Sonai, Iriomote, 12.X.1963, Miyamoto. ♀, Kawaradake, Ishigaki, 28.X.1963, Hirashima.

DISTRIBUTION: Taiwan (Formosa), India, Java, Micronesia, Pakistan, Philippines, Ryukyus, Sumatra.

18. *Xanthopimpla imperfecta* Krieger, 1915

No new material from the Ryukyus is available.

DISTRIBUTION: Taiwan (Formosa), Japan, Ryukyus.

SPECIES OF XANTHOPIMPLA NOT INCLUDED IN THE KEY

19. *Xanthopimpa brullei* Krieger, 1899

This species is unknown to me. No new material from the Ryukyus is available.

DISTRIBUTION: Java, Molucca Is., Ryukyus.

KEY TO RYUKYU SPECIES OF EUGALTA

Areolet present ..... *pilosa*  
 Areolet absent ..... *cameroni*

20. *Eugalta pilosa* (Szépligeti, 1914)\*

SAKISHIMA: ♀, 6 ♂♂, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, ♀, Omotodake, Ishigaki, 100-500 m, 16.III.1964, Yoshimoto & Harrell. 3 ♀♀, Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap, Gressitt.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

21. *Eugalta cameroni* Cushman, 1933\*

AMAMI: ♀, Amami-Oshima, 8.V.1966, Kusigemati.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

KEY TO RYUKYU SPECIES OF TRIANCYRA

1. Tergites 2-4 of ♂ with dense punctures. ♀ unknown. .... **taniguchiae**  
 Tergites 2-4 of ♂ virtually impunctate. .... 2
2. Mesosternum black. Mesopleurum largely black. Tergite 2 of ♀ with only a few punctures and hairs. Lateral ocellus of ♂ distant from eye by about 1.5 its diameter ....  
 ..... **striatiscutellaris**  
 Mesosternum and mesopleurum largely yellowish white. Tergite 2 of ♀ with numerous dense punctures and hairs. Lateral ocellus of ♂ distant from eye by about 1.1 its diameter ..... **hirashimai**

22. **Triancyra taniguchiae** (Uchida, 1956), n. comb.

*Epirhyssa taniguchiae* Uchida, 1956, *Insecta Matsumurana* 19: 94.

I have not seen any specimen of this species besides the type, from Tokunoshima of the Amami Insular Group.

DISTRIBUTION: Ryukyus.

23. **Triancyra striatiscutellaris** (Uchida, 1956)

The type specimens were collected on Tokunoshima of the Amami Insular Group. I have not seen any specimens besides the types.

DISTRIBUTION: Ryukyus.

24. **Triancyra hirashimai** Momoi, new species

♀. Lateral ocellus distant from eye by about 1.4 and from other lateral ocellus by about 2.3 its diameter. Temple short, convexly receding, about 0.3 as long as eye in lateral view of head. Vertex sparsely punctate laterally, trans-striate and punctate medially. Frons tumid and strongly punctate laterally, deeply concave and smooth medially, with 2 median longitudinal keels. Face with coarse dense punctures, about 0.8 as long as wide. Pronotum distinctly punctate above. Scutellum transversely striate, with a transverse keel at base. Mesoscutum vertically precipitate in front. Mesopleurum with coarse dense punctures, its speculum present. Propodeum with dense coarse punctures laterally, much more sparse punctures dorsally, its petiolar area smooth, more or less defined above by a vestigial carina. Propodeal spiracle distant from metapleural carina by about 1.5 its larger diameter. Tergite 1 about 1.0 as long as wide, virtually smooth, hairless, its sides convex as seen in dorsal view. Tergites 2-7 with numerous coarse punctures and hairs, punctures becoming denser on hind tergites and towards base of each tergite, each tergite smooth on apical margin. Tergites 2-5 each with a subbasal and subapical transverse furrow, the subbasal one diagnostic only laterally. Nervulus a little basad of basal vein. Second recurrent vein distad of intercubitus by about 0.4-0.5 length of the latter. Hind tarsus about as long as hind tibia, its segment 2 about 1.0 as long as segment 5. Fore wing 6.6mm long.

Black. Yellowish white: palpi, clypeus, face except for a median broad stripe, frons laterally, temple to top of head, pronotum broadly above, on collar and in its lower hind corner, a central spot and a short lateral line on mesoscutum, basal lobe of scutellum, scutellum except for apex, greater part of mesosternum and mesopleurum, metapleurum except for periphery, propodeum except for petiolar area and dorsomedian portion, apical 1/2 of tergite 1 except

for lateral and apical margins, a postmedian broad band on tergites 2-7, and apicolateral margins of tergite 8. Pale band on tergites 4-7 each interrupted medially. Flagellum reddish brown at apex. Legs whitish, in part weakly infusate or piceous, the fore leg brownish apically. Hind coxa beneath and at apex, hind 1st trochanter at base, hind 2nd trochanter, hind femur except above and beneath, hind tibia except basally beneath, and hind tarsus blackish brown to black. Mid leg similar in color pattern to hind one but infuscation much weaker. Fore wing a little infumate at apex.

♂. Lateral ocellus distant from eye by about 1.0 and from the other lateral ocellus by about 2.0 its diameter. Temple about 0.37 as long as eye in lateral view of head. Face about 0.86 as long as wide. Propodeal spiracle distant from metapleural carina by about 0.5 its larger diameter. Abdomen subcylindrical. Tergite 1 about 1.7 as long as wide. Tergites 2-7 virtually smooth, with only a few sparse punctures and hairs. Tergite 2 about 1.3 as long as wide at apex. Transverse pale bands on tergites 4-6 not interrupted medially. Subbasal and subbasal furrows on tergites 2-5 almost absent. Tergites 1-4 rather broadly white at apex medially. Clasper with a lot of dense setiferous punctures apicoventrally. Fore wing 4.9 mm long. Otherwise similar to ♀.

Holotype ♀ (FUKUOKA), Shirahama, Iriomote, Sakishima, 7.X.1963, Hirashima.

Paratype. Sakishima: ♂, Omotodake, Ishigaki, 10.X.1963, Hirashima.

#### Subfamily XORIDINAE

#### 25. *Xorides* (*Moerophora*) *nasensis* Uchida, 1956

AMAMI: ♀, Koniya, Amami-Oshima, 27.III.1954, Edashige. ♀, 9 ♂♂, Amami-Oshima, 12-18.III.1964, Takada.

OKINAWA: ♀, ♂, Nanan-Gusuku, Nago, Okinawa, 12.III.1964, Yoshimoto & Harrell.

SAKISHIMA: ♀, Yarabu, Ishigaki, 28.III.1962, Arita.

Males have been unrecorded.

♂. Antenna black, without a white median ring. Fore and mid legs yellow, their tarsal segment 5 blackish brown. Hind leg black, with no white ring at base of its tibia. Tergite 2 about 1.9-2.1 as long as wide at apex. Fore wing 5.5-10.0 mm long.

DISTRIBUTION: Ryukyus.

#### Subfamily TRYPHONINAE

#### KEY TO RYUKYU SPECIES OF PHYTODIETUS

Tergite 1 constricted before its spiracles, its dorsolateral edge rounded. *Epomia* present.

Body yellow to light reddish brown, with black markings ..... **longicauda**

Tergite 1 roundly narrowing before its spiracles, its dorsolateral edge keel-shaped. *Epomia*

absent. Body black, with pale markings ..... **leucaspis**

#### 26. *Phytodietus* (*Neuchorus*) *longicauda* Uchida, 1931\*

*Phytodietus pallidus* Cushman, 1933. New synonymy.

AMAMI: ♀, Yuwandake, Amami-Oshima, 300 m, 29-31.VII.1963, Gressitt.

DISTRIBUTION: Taiwan (Formosa), Japan, Ryukyus.

27. *Phytodietus (Phytodietus) leucaspis* Momoi, new species Fig. 3-5.

♀. Body strongly shiny. Temple weakly convex. Lateral ocellus distant from eye by about 1.0 its diameter. Eyes weakly converging downward. Frons virtually unsculptured. Face about 1.0 as long as wide, subpolished, with weak indistinct punctures. Clypeus strongly convex longitudinally. Malar space about 0.25 as long as basal width of mandible. Epomia absent. Pronotum, mesoscutum and scutellum with fine indistinct punctures. Mesopleurum with weak, irregularly distributed fine to medium-sized punctures, speculum present. Prepectal carina complete ventrally. Metapleurum with indistinct punctures, with feeble dense transverse striae on lower 2/3. Mesolcus strong, broad posteriorly. Propodeum feebly mat, with fine indistinct punctures, with weak and transverse rugulae medially on dorsal face, more or less finely trans-aciculate basomedially, with no lateral crest. Tergites with moderately dense hairs. Tergite 1 about 1.2 as long as wide, evenly broadened backward behind spiracles, rounded and narrowed forward before spiracles, its dorsolateral edge keel-shaped. Tergite 2 about 0.7 as long as wide at apex. Areolet triangular, with a short petiole. Nervulus at basal vein. Fore wing 7.6 mm long.

Black. Palpi, mandible, clypeus, a small spot on gena, a large median spot on face (the spot extending downward onto clypeus and upward to antennal foramen), frontal orbit onto vertex, front rim of pronotum, humeral angle of pronotum, a sagitate lateral spot and a median round spot on mesoscutum, scutellum, postscutellum, subtegular ridge, 2 round spots on mesopleurum (1 at upper end of prepectal carina and the other on hind lower corner), mesepimeron, metapleurum before basal constriction, an elongate spot on apicodorsal part of metapleurum, a preapical, medially interrupted broad band on propodeum, apices of tergites 1-7 broadly, epipleura except for a subbasal black spot on each epipleurum, and apex of subgenital plate yellowish white. Flagellum more or less lighter beneath. Scape and pedicel yellowish beneath. Fore and mid legs yellowish brown, their coxae and trochanters lighter. Mid tibia above except for base and median 0.3, and mid tarsus above strongly infusate. Hind leg reddish brown. A pair of small apical spots on hind coxa, outer side of hind trochanters except for apices, base and apex of hind femur, hind tibia except the extreme base and a white longitudinal short stripe on inner side (the stripe about 0.4 as long as tibia), and hind tarsus blackish brown to black. Base of hind coxa above and interior side of hind trochanters yel-

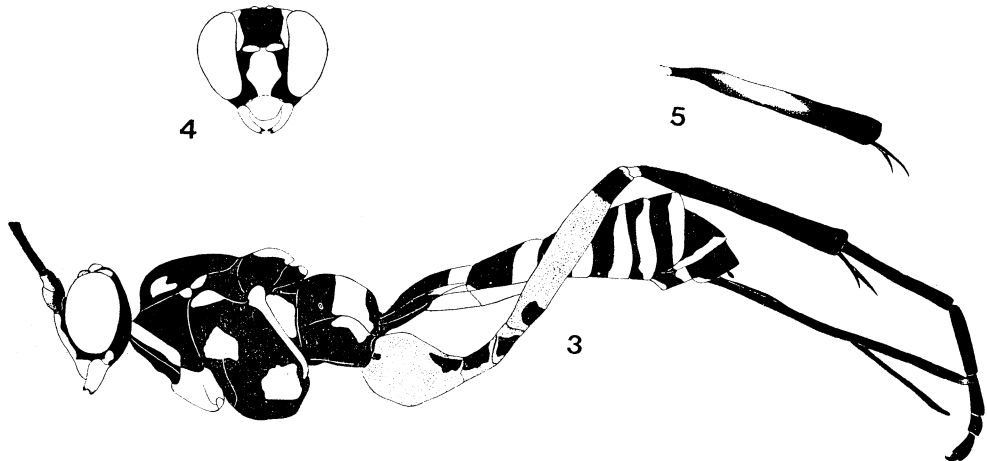


Fig. 3-5. *Phytodietus (Phytodietus) leucaspis*, ♀, showing color pattern: 3, whole insect in lateral view (excluding apical portions of antenna and fore leg, entire mid leg and wings); 4, head in frontal view; 5, hind tibia in interior view.



lowish white. Wings yellowish hyaline. Veins and stigma fuscous brown.

Holotype ♀ (BISHOP 9138), Shoshi, Okinawa, 23.III.1964, Yoshimoto & Harrell.

This species is characterized by the almost completely and strongly shiny body and the presence of abundant pale markings on the body. It is similar to *spinipes* Cameron, 1905, from which it is easily distinguishable in the distinctive coloration of the hind tibia and by the black face with only the epistoma white.

28. *Netelia* (*Netelia*) **ferruginea** (Cameron, 1899)

No specimen from the Ryukyus is available.

DISTRIBUTION: Australia, Burma?, Ceylon?, Taiwan (Formosa)?, India, Japan?, Korea?, Malaya?, Ryukyus?, Tasmania?, Tibet?

29. *Netelia* (*Netelia*) **formosana** (Matsumura, 1912)

No specimen from the Ryukyus is available.

DISTRIBUTION: Taiwan (Formosa), Japan, Ryukyus.

30. *Netelia* (*Netelia*) **ocellaris** (Thomson, 1888)

No specimen from the Ryukyus is available.

DISTRIBUTION: Burma?, Ceylon?, Europe, Taiwan (Formosa)?, India, Japan?, Korea, Pakistan, Ryukyus.

31. *Netelia* (*Netelia*) **orientalis** (Cameron, 1905)

No specimen from the Ryukyus is available.

DISTRIBUTION: Ceylon, China, Taiwan (Formosa), India, Japan, Ryukyus.

32. *Netelia* (*Netelia*) **unicolor** (Smith, 1874)

No specimen from the Ryukyus is available.

DISTRIBUTION: China, Taiwan (Formosa), Japan, Korea, Ryukyus.

33. *Hybophanes angustus* Momoi, new species      Fig. 6.

♂. Lateral ocellus distant from eye by about 1.0 its diameter. Temple about 0.36 as long as eye in lateral view of head, convex, strongly receding. Frons unsculptured medially, finely punctate laterally, with a median longitudinal keel. Malar space about 0.75 as long as basal width of mandible. Eyes distinctly hairy, almost parallel. Scutellum nearly flat, with a moderately high carina on each side extending to near apex. Mesosternum more or less mat, with medium sized very dense punctures. Mesopleurum polished, with punctures slightly finer and sparser than those on mesosternum. Postpectal carina strong, interrupted on each side. Apical transverse carina of propodeum slightly stronger than other propodeal carinae, weakly projecting on each side of dorsal face of propodeum. Tergite 1 about 2.3 as long as wide at apex, somewhat polished basally, mat apically, with dense longitudinal striae. Tergite 2 subparallel-sided, about 1.6 as long as wide, mat, densely striate punctate, the striae arranged longitudinally. Tergite 3 similar in sculpture to tergite 2. Second recurrent vein distad of intercubitus by about 1.0 length of the latter. Nervellus broken at lower 0.2-0.3. Fore wing 3.5-4.0 mm long.

♀. Temple about 0.32 as long as eye in lateral view of head. Eyes strongly converging downward, distant from clypeus by about basal width of lower mandibular tooth. Malar space about 0.5

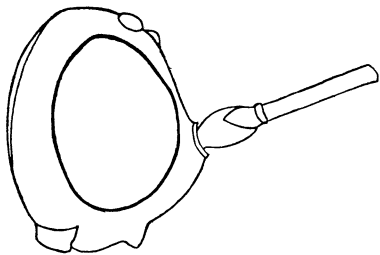


Fig. 6. *Hybophanes angustus*, head in lateral view.

as long as basal width of mandible. Clypeus rather weakly elevated medially, its median protuberance rather large, about 0.25 as wide as clypeus. Second recurrent vein distad of intercubitus by slightly more than length of the latter. Otherwise similar to ♂.

Head yellow. A median broad band on head extending from bottom of frons to occipital foramen black. Clypeus and bottom of face medially blackish in ♀. Thorax yellow and light brown. Mesoscutum, often also scutellum, red. Pronotum except above and below, wing cavities, dorsal face of propodeum, and sometimes also mesopleurum along upper margin, black. Tergites black, tergites 4-7 at apices narrowly pale. Tergites 4-8 of ♀ narrowly, laterally yellowish. Antenna fuscous brown, its scape and pedicel beneath light brownish, median 7-11 flagellar segments of ♀ white. Wings hyaline. Stigma light brown. Legs light brown. Hind tibia at apex and hind tarsus except basally fuscous brown. Hind tibia subbasally and mid tarsal segment 5 indistinctly infuscate.

Holotype ♀ (FUKUOKA), Omotodake, Ishigaki, Sakishima, 14.X.1963, Hirashima.

Paratypes. Amami: ♂, Hatsuno, Amami-Oshima, 3.IV.1963, Ohbayashi. ♀, Amami-Oshima, 8.V.1966, ♂, Amami-Oshima, 6.V.1966, Kusigemati. Okinawa: ♂, Nago, Okinawa, 28.III.1964, Kakinohana. Sakishima: ♀, Omotodake, Ishigaki, 14.X.1963, ♀, Kawaradake, Ishigaki, 30.X.1963, Hirashima. 3 ♂♂, Ushikumori, Iriomote, 3-7.XI.1963, in Malaise trap, 2 ♂♂, Ushikumori, Iriomote, 7-10.XI.1963, in Malaise trap, Samuelson. ♂, Shirahama, Iriomote, 4.X.1963, Miyamoto. ♂, Shirahama, Iriomote, 8.III.1964, Harrell.

This species is very similar to *scabriculus* Gravenhorst, 1829, from which it differs by the mesoscutum being completely red, the frons smooth beside the median longitudinal keel, the eyes of ♀ strongly converging downward and the clypeus of ♀ less strongly elevated medially than in *scabriculus*.

#### KEY TO RYUKYU SPECIES OF THYMARIS

1. Propleurum, pronotum, mesoscutum, scutellum, postscutellum and upper front corner of mesopleurum completely red or conspicuously marked with red ..... **rufomaculatus**  
 Propleurum, pronotum, mesoscutum, scutellum, postscutellum and upper front corner of mesopleurum black, sometimes marked with red only in part ..... 2
2. Lateral ocellus distant from eye by about 0.6-0.7 (♂) or 1.2-1.3 (♀) its diameter. Flagellum of both ♂ and ♀ with a white median ring ..... **taiwanensis**  
 Lateral ocellus of ♂ distant from eye by about 1.5 its diameter. Flagellum of ♂ with no white median ring. (♀ unknown) ..... **niger**

#### 34. *Thymaris taiwanensis* Uchida, 1932

AMAMI: ♀, Yuwandake, Amami-Oshima, 550 m, 18.VII.1963, Yoshimoto. ♀, Gusuku-Nishinakama, Amami-Oshima, 15.VII.1933, Esaki & Yasumatsu, 2 ♀♀, 2 ♂♂, Amami-Oshima, 6.V.1966, ♂, Amami-Oshima, 9.V.1966, Kusigemati.

OKINAWA: ♂, Benoki, Okinawa, 19.III.1965, Yamaguchi.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

**35. *Thymaris niger* Momoi, new species**

♂. Lateral ocellus distant from eye by about 1.5 its diameter. Temple moderately strongly convex, about 0.4 as long as eye in lateral view of head. Eyes weakly converging downward. Face about 0.73 as long as wide. Pronotum polished, with fine dense punctures behind epomia. Scutellum with no lateral carina. Mesopleurum, mesosternum and metapleurum with fine to medium-sized dense punctures and dense hairs, mesopleurum with large speculum. Propodeum areolated by almost uniformly weak carinae, with only apical transverse carina stronger, its dorsoapical areas finely and weakly rugulose, the other areas virtually smooth or with obscure sparse punctures or wrinkling. Areola fully as long as petiolar area, about  $2 \times$  as long as wide at costulae. Tergite 1 about 3.1 as long as wide at apex, with very fine feeble longitudinal striae, its dorsomedian carinae indistinct but extending to near apex. Tergite 2 about 1.3 as long as wide at apex, with a mixture of fine longitudinal striae and weak fine punctures basally, becoming rather coriaceous punctate apically. Tergite 3 about as long as wide, finely coriaceous punctate, with dense hairs. Tergites 4-7 with moderately dense hairs. Second recurrent vein distant from intercubitus by about 0.7 length of latter. Nervulus distad of basal vein by about its width. Nervellus broken at lower 0.3, inclivous. Fore wing 3.6 mm long.

Black. Palpi, mandible, clypeus and tegula yellow. Antenna fuscous brown, its scape and pedicel somewhat yellowish beneath. Tergites at apices narrowly brownish. Stigma fuscous brown. Wings hyaline. Fore and mid legs light brown, their tibiae and tarsi weakly infusate. Hind leg blackish brown, its trochanters partly light brown, tibia basally and femur apically beneath, more or less lighter, and coxa almost black except tip pale.

Holotype ♂ (FUKUOKA), Koniya, Amami-Oshima, Amami, 31.III.1958, Takahashi.

**36. *Thymaris rufomaculatus* Momoi, new species**

♂. Lateral ocellus distant from eye by about 0.5-0.8 its diameter. Face subparallel-sided, about 0.7-0.8 as long as wide, with fine evenly dense punctures and dense hairs. Pronotum virtually impunctate or obscurely punctate behind epomia. Mesoscutum with fine dense punctures and dense hairs, somewhat rugulose posteriorly between notauli. Scutellum with faint lateral carina at least basally. Mesopleurum and metapleurum with fine to medium-sized dense punctures and dense hairs, speculum indistinct. Propodeum with sparse punctures and, in part, with obscure rugulae, areolated by moderately strong carinae, its apical transverse carina a little stronger than other propodeal carinae, and dorsomedian longitudinal carinae weaker behind costulae. Areola about 2.0-2.2 as long as wide at costulae, about 1.2-1.4 as long as petiolar area. Tergite 1 about 2.8-3.3 as long as wide at apex, with fine feeble longitudinal striae in variable extent, its dorsomedian carinae usually distinct on postpetiole and extending to near apex. Tergite 2 about 1.4-1.5 as long as wide at apex, with fine longitudinal striae in variable extent and fine punctures, sometimes the striae strongly reduced. Tergite 3 about as long as wide, with fine dense punctures and dense hairs. Second recurrent vein distad of intercubitus by about 1.5-2.0 length of the latter. Nervulus opposite basal vein. Nervellus almost vertical, broken at lower 0.2. Fore wing 2.5-3.8 mm long.

Black. Palpi, mandible, apical 1/2 of clypeus, tegula, apices of tergites 1 and 2 distinctly, apices of other tergites indistinctly, and apex of clasper yellowish white. Propleurum, pronotum, mesoscutum except for blackish 3 stripes, upper front corner of mesopleurum, mesepimeron, scutellum and postscutellum red. Tergites somewhat brownish. Antenna fuscous brown, lighter basally, its scape and pedicel yellow beneath. Fore and mid legs light brown, their coxae, trochanters and the flexor side of their femora and tibiae lighter. Hind leg light brown to reddish brown, its coxa at apex on inner and outer side, apex of femur, and tibia except at base and beneath blackish brown. Hind tarsus weakly infusate. Wings subhyaline. Veins and stigma fuscous brown.

♀. Eyes strongly converging downward. Face narrowest just above clypeal fovea, about 1.6 as long as wide. Lateral ocellus distant from eye by about 1.0-1.2 its diameter. Tergite 2 about 1.1-1.3 as long as wide at apex. Tergite 3 about 0.8-1.0 as long as wide at base. Flagellum with a median white ring. Propodeum and tergite 1 sometimes extensively reddish. Otherwise similar to ♂.

Holotype ♂ (FUKUOKA), Bannadake, Ishigaki, Sakishima, 16.X.1963, Hirashima.

Paratypes. Amami: ♀, Amami-Oshima, 4.V.1959, Kamiyo. ♀, Amami-Oshima, 24.V.1965, Takada. ♀, Amami-Oshima, 8.V.1966, Kusigemati. Sakishima: ♀, Ishigaki, 25-30.XI.1952, Bohart. ♂, Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap, Gressitt. ♂, Sonai, Shirahama, Iriomote, 8.III.1964, Harrell. ♂, Bannadake, Ishigaki, 12.XI.1963, at light, ♀, Ushikumori, Iriomote, 3-7.XI.1963, in Malaise trap, Samuelson. ♀, ♂, Karayama, Ishigaki, 14.III.1964, ♂, Torogawa, Ishigaki, 17.III.1964, ♀, Nakaragawa, Iriomote, 0-200 m, 12.III.1964, Yoshimoto & Harrell.

This species is very variable in the size of the ocelli and the extent of the longitudinal striae on the tergites 1 and 2. In the holotype, the ocelli are larger and the tergites 1 and 2 strongly and densely striated.

#### Subfamily GELINAE

#### 37. *Bathythrix prothorax* Momoi, new species

♂. Temple moderately strongly receding, very weakly convex, about 0.4 as long as eye in lateral view of head. Occipital carina complete, meeting hypostomal carina at a point distant from mandibular base by about 1/2 basal width of mandible. Eyes strongly converging downward. Malar space about 0.3 as long as basal width of mandible. Lateral ocellus distant from eye by about 1.5 its diameter. Frons polished, slightly excised longitudinally at middle, with sparse punctures and dense hairs, the hairs becoming sparse medially. Face about 1.0 as long as wide, with dense fine punctures and dense hairs. Clypeus virtually hairless, its apical rim indistinctly bitubercled medially. Vertex with sparse hairs. Temple mostly with sparse hairs. Flagellum with 28 segments, tyloids present except on segment 1. Pronotum virtually hairless. Mesoscutum polished, with sparse hairs, its notauli extending to hind end of tegulae. Mesopleurum polished, densely hairy on periphery, its central large portion hairless. Postpectal carina incomplete. Metapleurum polished, with dense hairs. Propodeum obscurely rugulose and punctate, or nearly smooth, with a few longitudinal rugulae on dorsal face behind its apical transverse carina. Areola hexagonal, weakly narrowed backward behind costulae, about 1.3-1.6 as long as wide at costulae, costula close to base rather than to middle. Basal area distinctly trapezoidal. Petiolar area weakly separated from their lateral area. Tergite 1 slender, about 3.5-3.6 as long as wide at apex, only a little broadened at apex, about 1.3 as long as tergite 2, more or less rough basally, feebly and longitudinally striate and somewhat shagreened apically, with no dorsolateral and dorsomedian carinae. Tergite 2 strongly broadened posteriorly, about 1.5 as long as wide at apex, more or less shagreened and with dense longitudinal striae except apically, the apical 1/3 virtually unsculptured and subpolished. Tergite 3 weakly broadened posteriorly, about as long as wide at apex, subpolished, with fine very sparse punctures. Radius approximately at middle of stigma. Nervulus opposite basal vein. Postnervulus broken at middle. Nervellus broken at lower 0.25, subvertical. Fore wing 2.8-3.8 mm long.

Black. Palpi, mandible, humeral angle of pronotum, tegula, a small apicomedian spot on tergite 1, a nearly triangular apicomedian spot on tergites 2-4 (in paratype 2-3), and apices of following tergites narrowly, yellowish white. Pronotum except for a blackish narrow mark on hind vertical rim, subtegular ridge and mesepimeron red. Scutellum obscurely reddish. Anten-

na fuscous brown, lighter beneath towards base of flagellum, its scape and lower face of pedicel yellowish white. Fore and mid legs light brown. Fore tarsal segment 5 and mid tarsus weakly infusate. Hind leg fuscous brown, with its coxa and 1st trochanter light brown. Hind femur somewhat paler on inner side and beneath. Wings hyaline. Stigma fuscous brown.

Holotype ♂ (BISHOP 9139), Ushikumori, Iriomote, Sakishima, 425 m, 11.III.1964, Yoshimoto & Harrell.

Paratype. Sakishima: ♂, Nakaragawa, Iriomote, 0-200 m, 12.III.1964, Yoshimoto & Harrell.

The red prothorax and the presence of a triangular apicomedian marking on tergites 2-4 (or 2 and 3) will serve to distinguish this species from the other congeneric species occurring in the Oriental Region and the adjacent part of the Palearctic Region. The longitudinally striate tergites 1 and 2 are also distinctive.

38. **Uchidella marginata** (Uchida, 1930)\*

AMAMI: ♀, Yuwandake, Amami-Oshima, 550 m, 18.VII.1963, Yoshimoto.

DISTRIBUTION: Japan, Ryukyus.

39. **Townostilpnus (Palpostilpnus) rufinator** Aubert, 1961\*

SAKISHIMA: ♀, Shirahama, Iriomote, 4.X.1963, Miyamoto. ♀, Ishigaki, 25-30.XI.1952, Bohart.

DISTRIBUTION: Philippines, Ryukyus.

40. **Dichrogaster schaffneri** (Schmiedeknecht, 1897)\*

OKINAWA: ♀, Nago, Okinawa, 17.III.1965, Yamaguchi. ♂, Nago, Okinawa, 19.III.1965, Kuroda.

This species has hitherto been unrecorded from the outside of Europe. Besides the specimens mentioned above, there are many specimens of this species from Japan (Hokkaido) at hand.

DISTRIBUTION: Europe, Japan, Ryukyus.

41. **Brachycyrtus nawaii** (Ashmead, 1906)\*

SAKISHIMA: ♀, Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap, Gressitt.

DISTRIBUTION: Japan, Philippines, Ryukyus.

42. **Paraphylax subtilis** Momoi, 1966\*

AMAMI: ♀, Amami-Oshima, 6.V.1966, Kusigemati.

DISTRIBUTION: Japan, Ryukyus.

43. **Strepsimallus agelenae** Momoi, 1966\*

OKINAWA: ♂, Nago, Okinawa, 15.III.1964, Takara. ♂, Chinen, Okinawa, 10.V.1964, Kakinohana,

DISTRIBUTION: Japan, Ryukyus.

44. *Diatora lissonota* (Viereck, 1912)\*

OKINAWA: ♂, Haneji, Okinawa, 18.III.1965, Kuroda.

DISTRIBUTION: Taiwan (Formosa), India, Micronesia, Ryukyus.

## KEY TO RYUKYU SPECIES OF ACROLYTA

1. Nervellus broken at lower 0.4, subvertical. Greater part of mesoscutum polished. Tergites 2 and 3 unsculptured ..... **discrepa**  
 Nervellus broken at lower 0.2-0.3, distinctly inclivous. Greater part of mesoscutum mat.  
 Tergites 2 and 3 variously sculptured ..... 2
2. Propodeum moderately long, evenly convexly descending, its dorsal face much longer than the hind face. Stigma light brown, translucent ..... **excisa**  
 Propodeum short, abruptly, strongly declivous behind, its dorsal face much shorter than the hind face. Stigma fuscous brown ..... **spola**

Not a single species of the genus *Acrolyta* has been recorded from the Indo-Australian area. The following 3 species of the genus have their close affinities in Japan. Most of the Japanese species, however, are not yet described.

45. *Acrolyta discrepa* Momoi, new species

♀. Lateral ocellus distant from eye by about 1.7 its diameter. Temple about 0.64 as long as eye in lateral view of head, not broadened downward, convex, strongly receding. Malar space about 1.0 as long as basal width of mandible. Frons polished, with sparse hairs. Face polished, with dense hairs and very fine sparse punctures. Clypeus polished, with hairs basally. Mesoscutum polished, with fine punctures, posteromedially rugulose longitudinally. Scutellum polished, not carinate laterally. Mesopleurum polished, with very fine sparse punctures. Meta-pleurum polished, with very fine sparse punctures. Propodeum gradually sloped backward, polished, unsculptured on each side before its basal transverse carina, more or less rough behind the carina, with a few weak longitudinal rugulae in second lateral area. Basal area almost trapezoidal, strongly narrowing backward, longer than wide. Areola nearly confluent with 2nd lateral area, nearly 2 as long as wide at costulae. Tergite 1 strongly broadened backward, about 1.6 as long as wide at apex, virtually polished, in part with feeble longitudinal striae especially on each side except on apex. Tergites 2 and 3 polished, virtually unsculptured, with sparse hairs laterally, each with a transverse median impression. Tergite 2 about 0.7 as long as wide at apex. Stigma slender. Nervellus broken at lower 0.4, subvertical. Ovipositor sheath about 1.9 as long as tergite 2. Fore wing 2.8 mm long.

Black. Palpi, tegula and extreme apices of tergites light brown. Mandible reddish brown. Antenna fuscous brown, its scape and pedicel light reddish brown beneath. Wings hyaline. Stigma light brown, translucent. Legs light reddish brown, with coxae, trochanters and hind tibia slightly lighter. Hind tibia subbasally, apically and at extreme base indefinitely infuscate. Hind tarsus weakly infuscate, its segment 5 fuscous brown. Fore and mid tibiae and tarsi similar in color pattern to hind ones but infuscation less strong.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 24.V.1965. Takada.

46. *Acrolyta spola* Momoi, new species

♀. Head very strongly narrowed backward behind eyes. Lateral ocellus distant from eye by about 0.8-0.9 its diameter. Temple about 0.33-0.37 as long as eye in lateral view of head,

convex, gradually broadened downward. Flagellum with 18-21 segments. Occipital carina weak medially, not or barely angled at middle, joining hypostomal carina a little above base of mandible. Vertex virtually unsculptured between lateral ocellus and eye, with dense setiferous punctures on hind slope and between ocelli. Frons with fine dense punctures above, smooth below. Face with fine dense punctures. Malar space about 0.6 as long as basal width of mandible. Mesoscutum strongly mat and with dense obscure punctures on median lobe, strongly or weakly mat and with distinct punctures on lateral lobe, longitudinally striate-punctate posteromedially. Scutellum polished, not carinate laterally. Mesopleurum polished, with longitudinal dense striae below, with fine punctures and sometimes short striae in front upper corner. Metapleurum polished, with fine punctures. Propodeum short, strongly declivous behind, weakly polished or weakly mat, obscurely rugulose behind its basal transverse carina, with fine punctures before the carina, its dorsal face very short, about 0.65 as long as hind face. Basal area strongly transverse, trapezoidal. Areola weakly transverse or nearly as long as wide at costulae, costula at hind 1/3. Tergite 1 about 1.5-1.6 as long as wide at apex, strongly broadened backward, with dense longitudinal striae except on apex. Tergite 2 about 0.54-0.62 as long as wide at apex, mat, with dense longitudinal striae, its apical 1/3 smooth and polished. Tergite 3 with dense weak punctures on basal 1/2, smooth and polished on apical 1/2. Stigma broad, its apical part about 1.0 as long as wide at radius. Nervellus broken at lower 0.2-0.3, strongly inclivous. Ovipositor sheath about 2.0 as long as tergite 2. Fore wing 2.8-3.7 mm long.

Black. Palpi, humeral angle of pronotum, tegula and extreme apices of tergites light brown. Mandible reddish brown. Antenna reddish brown beneath, somewhat darkened above. Wings hyaline. Stigma fuscous brown. Legs light brown to light reddish brown, with fore and mid coxae and all trochanters lighter. Hind coxa above basally, hind femur at apex narrowly, hind tibia except for base and flexor side, and hind tarsus except for segment 4 and the apex of segments 1-3, weakly infuscate. Mid and fore tibiae and tarsi similar in color, pattern to hind ones but infuscation much less strong.

Holotype ♀ (MOMOI), Nase, Okinawa, 28.III.1965, Yamaguchi.

Paratypes. Amami: ♀, Amami-Oshima, 24.V.1965, Takada. Okinawa: ♀, same data as the type. ♀, Okinawa, 19.III.1965, Kuroda. Sakishima: 4 ♀♀, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell. ♀, Bannadake, Ishigaki, 27-31.X.1963, in Malaise trap, Hirashima & Samuelson. ♀, Omotodake, Ishigaki, 14.X.1963, Hirashima.

#### 47. *Acrolyta excisa* Momoi, new species

Occipital carina notch-shaped at middle, narrowly interrupted or very much weakened medially, joining hypostomal carina at base of mandible. Lateral ocellus distant from eye by about 1.0 its diameter. Frons polished, with dense hairs above, hairless below. Vertex and temple polished, with dense hairs, space between lateral ocellus and eye hairless and virtually smooth. Face with fine sculpture and dense hairs. Clypeus more or less flattened apicomediaally, flat part polished with sparse hairs. Flagellum with 23-25 segments. Malar space about 1.0 as long as basal width of mandible. Pronotum rugulose in lateral scrobe, punctate on upper margin, between the punctate and rugulose parts and also below lateral scrobe smooth and polished. Mesoscutum about 1.1 as long as wide, strongly mat, longitudinally striate posteromedially. Scutellum polished, with ill-defined punctures, not carinate laterally. Mesopleurum largely with dense longitudinal striae except for speculum (♀) or also median part (♂). Metapleurum polished, with a few fine punctures. Propodeum polished, with fine weak punctures before its basal transverse carina, weakly rugulose behind apical transverse carina, with longitudinal striae between the 2 carinae, gradually descending backward, its dorsal face about 1.3 as long as hind face. Basal area about as long as wide at base, trapezoidal. Areola distinctly longer than

wide at costulae, sometimes confluent with 2nd lateral area, its costula approximately at middle. Tergite 1 about 1.3-1.5 as long as wide at apex, strongly broadened backward, with dense longitudinal striae except on apex. Tergite 2 about 0.7 (♀) or 0.9 (♂) as long as wide at apex, with strong dense punctures, on basal portion the punctures tending to be confluent longitudinally, its apical 1/3 smooth and polished. Tergite 3 similar in sculpture to tergite 2, its apical 2/5 smooth and polished. Ovipositor sheath about 1.8 as long as tergite 2. Stigma slender, its apical part about 1.7 as long as wide at radius. Nervellus broken at lower 0.25-0.3, strongly inclivous. Fore wing 2.7-3.8 mm long.

♀. Black. Palpi, mandible, humeral angle of pronotum, tegula and extreme apices of tergites light brown. Apical tergites laterally rufescent. Antenna fuscous brown, slightly lighter beneath. Legs light reddish brown, with fore and mid coxae and trochanters, and lower face of hind tibia lighter. Hind coxa above, hind femur often above, hind tibia towards apex and above, and hind tarsus, very weakly infuscate. A similar but weaker color pattern occurs on fore and mid femora, tibiae and tarsi. Wings hyaline. Stigma light brown, translucent.

♂. Black. Palpi, mandible, humeral angle of pronotum and tegula light brown. Antenna blackish brown, its scape and pedicel yellowish beneath. Legs light brown, with fore and mid coxae and all trochanters lighter. Hind coxa black, its tip light brown. Hind femur infuscate apically. Hind tibia apically and above and hind tarsus fuscous brown. Fore and mid tarsi weakly infuscate. Wings hyaline. Stigma light brown, translucent.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 24.V.1965, Takada.

Paratypes. Amami: ♀, Amami-Oshima, 8.V.1966, ♀, Amami-Oshima, 9.V.1966, Kusi-gemati. ♀, same data as the type. ♂, Amami-Oshima, 12.III.1964, Takada, 2 ♂♂, Amami-Oshima, 25.VI.1959, ♂, Amami-Oshima, 4.V.1959, ♂, Amami-Oshima, 28.V.1959, Kamijo. Okinawa: ♂, Okinawa, 10.III.1956, Kuroda. ♀, Izumi-gogayama, Okinawa, 22.III.1964, Yoshimoto & Harrell. Sakishima: 3 ♀♀, 3 ♂♂, Nakaragawa, Iriomote, 0-200 m, 12.III.1964, 3 ♂♂, Yonehara, Ishigaki, 15.III.1964, ♀, ♂, Karayama, Ishigaki, 18.III.1964, Yoshimoto & Harrell.

#### KEY TO RYUKYU SPECIES OF NIPPONAEETES

Tergite 2 largely shagreened. Malar space with a triangular pale marking. Hind coxa of ♀ usually reddish brown, of ♂ sometimes blackened. .... **haeusseri**  
 Tergite 2 largely striate. Malar space with no triangular pale marking. Hind coxa black. .... **striatus**

#### 48. *Nipponaetes striatus* Momoi, new species

Lateral ocellus distant from eye by about 1.0-1.2 its diameter. Temple about 0.75 as long as eye in lateral view, strongly receding backward, convex. Flagellum with 20 or 21 segments, the segment 3 about 2.0 (♀) or 2.5 (♂) as long as wide. Pronotum smooth and polished above its lateral scrobe except for finely punctate upper margin. Mesoscutum with moderately dense hairs, more or less mat especially on median lobe and adjacent part of lateral lobe, with fine weak punctures and feeble microsculpture, posteriorly between notauli rugulose. Scutellum polished, with some punctures, carinate laterally to near apex. Mesopleurum polished, with fine sparse punctures anteriorly and ventrally. Sternaulus extending about 0.7 length of mesopleurum. Metapleurum polished, with fine sparse punctures, its juxtacoxal carina strong. Propodeum polished, more or less rough, with indistinct fine sculpture in part, the costula weak, often incomplete. Tergite 1 polished, with dense longitudinal striae except on apex. Tergite 2 subpolished, with dense longitudinal striae, its apex broadly smooth and polished. Tergite 3



subpolished, with fine punctures, the punctures dense basally, becoming much sparse apically, sometimes with obscure longitudinal striae, with moderately dense ( $\sigma$ ) or sparse hairs. Fore wing 2.4-3.0 mm long.

Black. Palpi, mandible and tegula yellowish white. Humeral angle of pronotum tinged with red. Tergites sometimes slightly brownish. Cheek at mandibular base slightly reddish but with no triangular yellow spot. Antenna fuscous brown, its scape and pedicel light brown beneath, its basal 1-2 flagellar segments slightly light brownish beneath and at apex. Legs light brown, with hind leg slightly darker. Mid and hind coxae blackish brown to black. Hind femur more or less dark brown, at apex slightly infuscate. Hind tibia at base and apex and also on upper face indefinitely infuscate. Hind tarsus fuscous brown. Similar color pattern repeated on mid leg, but weakly. Wings hyaline. Stigma fuscous brown.

Holotype  $\sigma$  (BISHOP 9140), Karayama, Ishigaki, Sakishima. 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell.

Paratypes. Sakishima: 2  $\sigma\sigma$ , same data as the type.  $\varphi$ , Iriomote, 11-12.III.1964, Yoshimoto & Harrell.  $\varphi$ , Omotodake, Ishigaki, 17-20.XI.1963, Samuelson.

49. **Nipponaetes haussleri** Uchida, 1933\*

AMAMI:  $\sigma$ , Amami-Oshima, 7.V.1966, Kusigemati.

OKINAWA:  $\varphi$ , Nagodake, Okinawa, 23.III.1965,  $\varphi$ , Ushikura, Okinawa, 18.III.1965, Kuroda.

DISTRIBUTION: India, Japan, Korea, Philippines, Ryukyus.

50. **Gelis takadai** Momoi, new species Fig. 7 & 8.

Apterous. Temple about 0.4-0.5 ( $\varphi$ ) or 0.6-0.7 ( $\sigma$ ) as long as eye in lateral view of head, convex, strongly receding. Lateral ocellus distant from eye by about 1.2 ( $\varphi$ ) or 2.0 ( $\sigma$ ) its diameter. Flagellum with 17-18 ( $\varphi$ ) or 18-20 ( $\sigma$ ) segments, its segment 3 about 2.5-2.7 ( $\varphi$ ) or 2.7-2.8 ( $\sigma$ ) as long as wide. Malar space about 1.0 as long as basal width of mandible. Eyes weakly diverging downward. Head shagreened, mat, with clypeus at apex and cheek more or less polished. Thorax of moderate length, shagreened, its median constriction very strong. Scutellum weakly differentiated. Propodeum distinctly tubercled basomedially in  $\varphi$ , with a transverse apical carina, median, 1/3 of carina bowed forward and often vestigial except for foremost part. Tergite 1 shagreened, strongly mat, about 2.2-2.4 as long as wide at apex, gradually, weakly broadened backward, its dorsolateral carina complete and dorsomedian carina absent, distance between its spiracles about as great as distance between a spiracle and apex. Tergite 2 about 0.54-0.60 as long as wide at apex, about 1.1-1.2 as long as tergite 3. Tergites 2 and 3 obscurely and sparsely shagreened, feebly mat, with very sparse hairs. Ovipositor sheath about 1.0 as long as tergite 1. Body 3-4 mm long, excluding ovipositor.

Dark reddish brown. Palpi, mandible, clypeus, inner orbit, often face, front part of pronotum, mesoscutum, tergites 1 and 2 broadly at apex, and dorsal faces of apical 2-3 tergites light brown. Antenna light reddish brown, light brown basally. Legs light reddish brown, with tibiae whitish. Hind tibia with subbasal 0.2 and apical 0.2 fuscous brown. Fore and mid tibiae similar in color pattern to hind tibia but infuscation much less strong. Tarsi weakly infuscate. In  $\sigma$  often coxae and femora dark brownish.

Holotype  $\varphi$  (SAPPORO), Amami-Oshima, Amami, 24.V.1965, Takada.

Paratypes. Amami: 3  $\varphi\varphi$ ,  $\sigma$ , same data as the type. Okinawa:  $\sigma$ , Haneji, Okinawa, 11.III.1965, Kuroda.

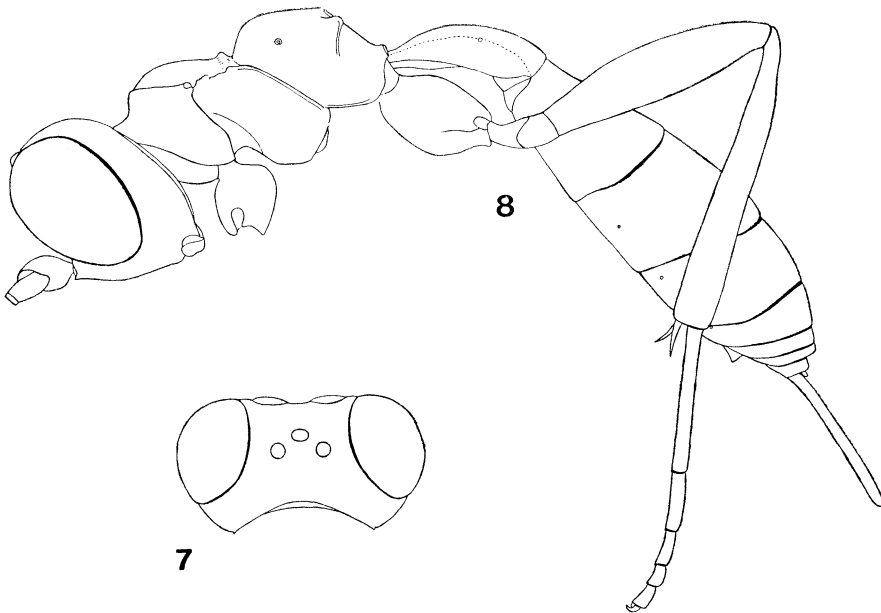


Fig. 7-8. *Gelis takadai*, ♀ : 7, head in dorsal view ; 8, whole insect in lateral view (excluding flagellum, mid leg and apical portion of fore leg).

This species is characterized by the alternatively pale and black banded tibiae. In this feature and in general structure and coloration, it is similar to *apantelicida* Viereck, 1913 (= *Pezomachus asozanus* Uchida, 1930, n. syn.). From *apantelicida* it is distinguishable by the differentiated scutellum of ♀, the smaller (♂) or larger (♀) ocelli, the slender flagellum of ♀, and in coloration of ♂.

#### 51. *Tricholinum orientalis* Momoi, new species

Flagellum with 18 or 19 segments. Lateral ocellus distant from eye by about 1.7 its diameter. Temple about 0.7 (♀) or 0.8 (♂) as long as eye in lateral view of head. Frons, vertex and face strongly mat. Temple weakly mat. Clypeus polished, with a few fine punctures. Vertex flattened from stemmaticum to occipital carina. Pronotum polished below, weakly mat above, with no striae. Mesoscutum strongly mat, obscurely punctate, its lateral portion narrowly polished. Scutellum weakly mat, not carinate laterally. Mesopleurum subpolished, with obscure longitudinal striae ventrally, with fine remote punctures, especially anterodorsally, its speculum present. Prepectal carina reaching to subtegular ridge. Metapleurum mat, obscurely punctate, somewhat rugulose ventrally. Propodeum mat, with a transverse apical carina, a dorsolateral longitudinal carina extending backward over transverse apical carina, a pair of dorsomedian longitudinal carinae, and a sublateral longitudinal carina on dorsal face between transverse apical carina and apex of propodeum, dorsomedian longitudinal carinae extending backward to middle of dorsal face and weak (♀) or to apical transverse carina and strong (♂). Costulae absent (♀) or present (♂). Tergite 1 strongly mat, about 1.3 (♀) or 1.6 (♂) as long as wide at apex, strongly and evenly broadened backward, its dorsomedian carinae absent (♀) or present but vestigial (♂). Tergite 2 strongly mat, its apical rim polished. Tergite 3 similar in sculpture to tergite 2 but microsculpture slightly finer. Tergite 4 mat basally, becoming subpolished

apically. Ovipositor sheath about 1.3 as long as tergite 1. Areolet pentagonal, with 2nd recurrent vein approximately at middle, its 2nd intercubitus almost absent. Nervulus a little distad of basal vein. Nervellus broken at lower 0.4, subvertical. Fore wing 3.6 mm long.

Black. Palpi, mandible and tegula light brown. Tergite 2 on each side of median portion and at base and apex narrowly, tergite 3 except for lateral margins and a narrow preapical band, tergite 4 except for lateral margins and a rather broad preapical band, and tergite 5 of ♂ basally, reddish brown. Antenna blackish brown, paler beneath in ♀, its scape reddish brown or yellowish beneath. Legs light reddish brown. Hind tibia above and at apex, and hind tarsus infusate. Fore and mid tibiae and tarsi similar in color pattern to hind ones but the infuscation less strong. Wings subhyaline. Stigma fuscous brown, whitish at base.

Holotype ♂ (SAPPORO), Amami-Oshima, Amami, 13.III.1964, Takada

Paratype. Okinawa: ♂, Nagodake, Okinawa, 12.III.1965, Kuroda.

This species is distinguishable from *pimploides* Roman, 1930, in many minor characters, and most conspicuously by the absence of second intercubitus, the longer ovipositor and the coloration of the legs and body.

## 52. *Gnotus chionops* (Gravenhorst, 1829)\*

AMAMI: ♀, Amami-Oshima, 8.V.1966, Kusigemati. ♂, Yuwandake, Amami-Oshima, 31.VII.1963, Hirashima. 2 ♂♂, Amami-Oshima, 24.V.1965, Takada. ♀, Oyama, Okinoerabu, 28-30.VII.1963, Yoshimoto.

OKINAWA: ♂, Ieshima, 13.III.1965, Kuroda.

Besides the specimens mentioned above, there are 4 ♀ from Japan (Hokkaido) at hand.

DISTRIBUTION: Europe, Japan, Ryukyus.

## 53. *Hemiteles hirashimai* Momoi, new species Fig. 9 & 10.

♀. Flagellum with 23 or 24 segments, strongly thickened subapically, the subapical segments mostly about as long as wide or shorter than wide and weakly depressed beneath, segment 5 about 1.8-1.9 as long as wide. Head thin, very strongly narrowed behind eyes, almost entirely mat and without punctures. Lateral ocellus distant from eye by about 0.9-1.0 its diameter. Temple about 0.23-0.26 as long as eye in lateral view of head, gradually broadened downward, weakly convex. Eyes weakly diverging downward. Face about 0.8 as long as wide at middle. Malar space about 0.9 as long as basal width of mandible. Clypeus weakly mat and with fine punctures basally, polished and unsculptured apically. Antennal scrobe of frons weakly subpolished. Occipital carina meeting hypostomal carina a little above base of mandible, distance between base of mandible and occipital carina usually about as great as basal width of lower mandibular tooth. Thorax, including propodeum, evenly mat, virtually with no punctures. Epomia present. Notaulus sharp, extending barely to front line of tegulae. Prepectal carina ending at level of median notch of hind rim of pronotum. Speculum absent. Mesopleurum with fine rugulae in upper front corner, usually with a row of fine rugulae on ventral portion. Mesolcostate. Juxtacoxal carina absent. Propodeum faintly areolated, with only apical transverse carina strong, the carina more or less strengthened on each side of dorsal face. Areola about as long as wide, often confluent with 2nd lateral area. Third lateral area not or barely defined. Tergites 1 and 2 evenly mat, and following tergites progressively more weakly mat. Tergite 1 strongly, evenly broadened backward, about 1.4-1.6 as long as wide at apex, its dorsomedian carinae weak but extending to spiracles, chitinized portion of its sternite not extending to spiracles. Tergite 2 about 0.55-0.60 as long as wide at apex, strongly broadened backward.

Epipleurum 2 narrow, about as wide as length of hind tarsal segment 3. Tergite 3 narrowed backward. Apical portion of abdomen more or less compressed. Ovipositor sheath about 1.2-1.3 as long as tergite 1. Areolet broadly open distally. Second recurrent vein inclivous, with only 1 bulla. Nervellus broken at lower 0.2-0.3, strongly inclivous. Fore wing 3.0-4.4 mm long.

Black. Palpi light brown. Mandible and tegula infusate light brown. Scape and pedicel light brown. Flagellar segment 1 light brownish basally. Flagellar segments 5-8 white above. Tergites 1 and 2 tinged with brown at apex. Tergite 7 with a conspicuous apicomedian white spot. Wings subhyaline. Stigma fuscous brown, not white basally. Legs light brown, with fore and mid coxae and all trochanters somewhat paler, hind tibia and tarsus often faintly infusate in variable extent.

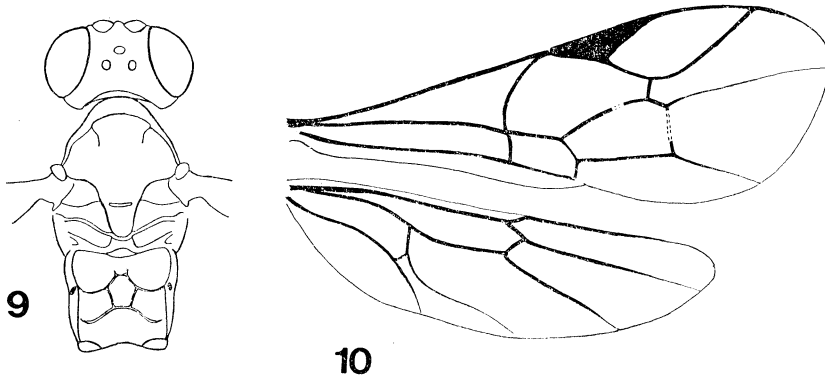


Fig. 9-10. *Hemiteles hirashimai*, ♀: 9, head, thorax and propodeum in dorsal view; 10, right wings.

Holotype ♀ (FUKUOKA), Amami-Oshima, Amami, 31.VII.1963, Hirashima.

Paratypes. Amami: 2 ♀♀, Amami-Oshima, 9.V.1966, Kusigemati. Sakishima: ♀, Nakaragawa, Iriomote, 0-200m, 12.III.1964, Yoshimoto & Harrell. ♀, Ishigaki, 20-30.XI.1952, Bohart. 2 ♀♀, Ushikumori, Iriomote, 7-10.XI.1962, Samuelson, in Malaise trap. Japan: ♀, Hakusan, Ishikawa, 19.VII.1953, Nohara.

This species is distinguished by the subclavate flagellum of which the apical portion is somewhat flattened beneath, the short but distinct notaulus, the absence of speculum, the apically more or less compressed abdomen, the strongly inclivous nervellus, the presence of white markings on flagellum and on apical portion of abdomen, the absence of rufous markings on tergites, and the absence of clouding on fore wing. The short distance between base of the mandible and occipital carina is also characteristic.

#### 54. *Eriplanus striatus* Momoi, new species

♀. Flagellum with 18-21 segments, thickened apically, its segment 5 about 1.5-1.6 as long as wide and subapical segments mostly about as long as wide. Lateral ocellus distant from eye by about 1.0 its diameter. Temple strongly receding backward, convex, buccate downward, about 0.5 as long as eye in lateral view of head. Malar space about 0.9 as long as basal width of mandible. Eyes weakly diverging downward. Occipital carina meeting hypostomal carina a little above base of mandible. Frons and face subpolished, with fine dense punctures. Clypeus

polished, with some distinct punctures, its apical rim weakly bitubercled at middle. Vertex and temple polished, with fine punctures. Pronotum polished, with some rugulae below, with fine punctures above, smooth between, epomia present. Mesoscutum mat centrally, subpolished anteriorly and laterally, with fine dense punctures and short dense hairs, finely striate punctate posteromedially, notaulus distinct but short. Scutellum polished, with fine dense punctures, carinate laterally to near apical 1/3, its basal groove more or less costate. Mesopleurum polished, with fine dense punctures except centrally, obscurely striate ventrally, speculum present. Prepectal carina almost reaching to front end of subtegular ridge. Metapleurum weakly mat, obscurely punctate, juxtacoxal carina complete. Propodeum subpolished or weakly mat and with obscure punctures on dorsal face, mat on apical and lateral faces, with longitudinal rugulae apically on each side, areolated by almost uniformly strong carinae. Basal area trapezoidal. Areola slightly broader than long, with costulae at middle, separated from 2nd lateral area. Third lateral area not defined. Tergite 1 about 2.0-2.1 as long as wide at apex, with dense longitudinal striae, its dorsomedian carinae extending to near spiracles, distance between spiracles about 0.9 as great as distance between a spiracle and apex. Tergite 2 about 0.66-0.68 as long as wide at apex, mat, strongly shagreened, with traces of dense longitudinal striae, especially apically, the extreme apex smooth and polished. Tergite 3 faintly mat, becoming more or less polished apically, with fine indistinct punctures. Epipleura 2 and 3 moderately wide, not linear. Ovipositor sheath about 1.5 as long as tergite 1. Stigma broad. Areolet open distally. Second recurrent vein inclivous, with 2 short-distanced bullae. Nervellus broken at lower 0.25, subvertical. Fore wing 4.4 mm long.

Black. Palpi and tegula light brown. Mandible dark reddish brown. Tergite 3 broadly at base and narrowly at apex, and tergites 2, 4 and following tergites at apices narrowly, light brown. Base of tergite 2 broadly and indefinitely reddish brown. Antenna fuscous brown, darkened apically, paler basally, light brown basally beneath. Legs light reddish brown, with fore coxa and all trochanters paler. Hind femur at apex indefinitely, hind tibia towards apex, and hind tarsal segments 1-3 and 5, weakly infusate. Wings slightly brownish. Stigma blackish brown, basally white.

♂. Flagellum of almost uniform thickness from base to apex. Lateral ocellus distant from eye by about 1.3 its diameter. Eyes subparallel. Temple about 0.6 as long as eye in lateral view of head, not or weakly buccate downward. Tergite 2 with dense longitudinal striae except on apex. Legs, especially fore and mid legs, somewhat paler. Hind tibia weakly infusate apically and above. Otherwise similar to ♀.

Holotype ♀ (MOMOI), Nago, Okinawa, Okinawa, 21.III.1965, Kuroda.

Paratypes. Okinawa: ♂, Nago, Okinawa, 23.III.1965, ♂, Hentona, Okinawa, 11.III.1965, Kuroda. Amami: ♀, Amami-Oshima, 8.V.1966, Kusigemati.

This species is somewhat atypical in having the tergites 1 and 2 strongly sculptured and sculpture on the body slightly stronger than in usual. It may not be a true *Eriplanus*.

#### KEY TO RYUKYU SPECIES OF MASTRUS

- Epomia present. Dorso-median carinae of tergite 1 present. Clypeus with a pair of small median tubercles at apex. Tergites 2 and 3 narrowly light brown at apices. .... **takadai**
- Epomia absent. Dorso-median carinae of tergite 1 absent. Clypeus with a blunt median point at apex. Tergites 2 and 3 broadly light brown at apices. (♀ unknown). .... **ecornutus**

55. **Mastrus takadai** Momi, new species

♀. Flagellum weakly thickened apically, with 21 segments, its segment 5 about 2.8 as long as wide and subapical segments mostly about as long as wide or slightly longer than wide. Head as seen from above convexly narrowing directly behind eyes, as seen in front much broader than deep. Lateral ocellus distant from eye by about 1.3 its diameter. Malar space about 1.0 as long as basal width of mandible. Temple about 0.54 as long as eye in lateral view of head, broadened downward. Face about 0.44 as long as wide. Vertex, frons and face strongly mat, obscurely punctate, with antennal scrobe of frons weakly polished. Temple polished, with fine punctures. Clypeus polished, with fine dense punctures basally, its apical margin bitubercled at middle. Occipital carina meeting hypostomal carina distinctly above base of mandible, distance between base of mandible and occipital carina about 0.5 as great as basal width of mandible. Pronotum polished, rugulose towards hind vertical margin, punctate on upper margin. Epomia present. Mesoscutum strongly mat, with fine dense punctures posteromedially. Mesopleurum and metapleurum polished, with medium-sized dense punctures, in and around juxtacoxal area punctures denser and tending to be confluent, juxtacoxal carina complete. Propodeum polished or subpolished, with fine sparse punctures, areolated normally, its apical transverse carina stronger than other carinae. Basal area distinctly trapezoidal. Areola about as long as wide, with costulae at middle, separated from 2nd lateral area. Tergite 1 about 1.5 as long as wide at apex, shagreened, with dense longitudinal striae apically, especially laterally, with dorsomedian carinae. Tergites 2 and 3 shagreened, subrugulose punctate, at apices smooth and polished. Tergite 2 about 0.73 as long as wide at apex. Tergite 4 coriaceous basally, smooth apically. Epipleura 2 and 3 broad. Ovipositor sheath about 2.1 as long as tergite 1. Second recurrent vein inclivous, with 2 long distanced bullae. Areolet open distally. Nervellus broken at lower 0.15, strongly inclivous. Stigma broad, with radius approximately at middle. Fore wing 5.0 mm long.

Black. Palpi, mandible at base and tegula white. Tergites at apices narrowly light brown. Scape light brownish beneath. Legs reddish brown. Fore and mid coxae and all trochanters whitish. Hind coxa except above, beneath and apex, hind femur except for base, hind tibia above and apically, and hind tarsus, except for bases and apices of segments 1-3 and all of segment 4, fuscous brown to black. Hind tibia whitish at base. Fore and mid tibiae and tarsi similar in color pattern to hind ones but infuscation much less strong. Wings weakly infumate. Stigma blackish brown, with base somewhat paler.

♂. Flagellum slender, not thickened apically. Malar space about 0.7 as long as basal width of mandible. Tergite 1 slender, about 1.9 as long as wide at apex. Tergites 2 and 3 with sculpture much weaker than in ♀. Tergites 2 and 3 narrowly pale at apices, other tergites not pale at apices. Hind femur infuscate only at apex. Hind tarsus entirely fuscous brown. Hind tibia not white at base. Otherwise similar to ♀.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 24.V.1965, Takada.

Paratype. Amami: ♂, Amami-Oshima, 6.V.1966, Kusigemati. Okinawa: ♀, Nagodake, Okinawa, 19.III.1965, Kuroda.

56. **Mastrus ecornutus** Momoi, new species

♂. Flagellum not thickened apically, with 21-23 segments. Eyes almost parallel. Lateral ocellus distant from eye by about 0.6-1.0 its diameter. Temple about 0.6 as long as eye in lateral view of head, weakly buccate downward, convex. Malar space about 0.6-0.8 as long as basal width of mandible. Occipital carina meeting hypostomal carina distinctly above base of mandible, distance between base of mandible and occipital carina about 0.5 as great as basal width of mandible. Clypeus with a blunt median point at apex. Head strongly

mat, with no distinct punctures, its clypeus polished apically, weakly mat basally. Mesoscutum, scutellum and mesosternum strongly mat, with no distinct punctures and rugulae. Pronotum weakly mat. Mesopleurum subpolished, in part weakly mat, largely with fine weak rather longitudinal striae, its speculum strongly polished. Epomia absent. Notaulus weak, sometimes absent. Prepectal carina ending at level of median notch of hind rim of pronotum. Metapleurum subpolished or weakly mat, with irregular fine sculpture, juxtacoxal carina usually incomplete. Propodeum strongly mat and not rugulose in 1st lateral area, the other areas weakly mat or weakly subpolished and with irregular weak rugulae, its apical transverse carina stronger than other carinae. Areola usually confluent with basal area, often confluent with 2nd lateral area, about as long as wide or slightly longer than wide. Tergite 1 about 2.5-2.8 as long as wide at apex, usually without dorsomedian carinae, sometimes carinae present as obtuse ridges, rather evenly mat, distance between its spiracles about 1.2 as great as distance between a spiracle and apex. Tergites 2 and 3 strongly shagreened, less strongly sculptured apically. Stigma very broad, with radius approximately at middle. Second recurrent vein inclivous, with 2 distant bullae. Areolet open distally. Nervellus broken at lower 0.2, weakly inclivous. Mediella strongly curved apically. Fore wing 3.3-4.4 mm long.

Black. Palpi, mandible, humeral angle of pronotum, tegula, tergites 2 and 3 broadly at apices, tergites 1 and 4 narrowly at apices, other tergites at extreme apices, and genital clasper light brown. Clypeus reddish brown except on base. Antenna fuscous brown, its scape, pedicel and basal 1/2 of flagellar segment 1 light reddish brown. Legs light reddish brown, with coxae and trochanters paler. Hind tibia subbasally and apically, and hind tarsus except on bases of segments fuscous brown. Wings weakly infumate. Stigma blackish brown, with base somewhat paler.

Holotype ♂ (SAPPORO), Amami-Oshima, Amami, 24.V.1965, Takada.

Paratypes. Amami: 6 ♂♂, same data as type.

#### 57. *Atractodes paucus* Momoi, new species

♀. Flagellum weakly moniliform at apex (3-4 apical segments), with short hairs, with 18 segments, 5th segment from apex about 1.3 as long as wide and 4th segment from base about 3.0 as long as wide. Temple strongly convex, slightly narrowed backward for considerable distance behind eye, about 0.6-0.7 as long as eye in lateral view of head. Occipital carina meeting hypostomal carina at a point distant from base of mandible by about basal width of upper mandibular tooth. Malar space about 0.7 as long as basal width of mandible. Head as seen in front transverse. Frons, vertex and temple polished, with fine scattered punctures. Face polished, with fine dense punctures. Clypeus polished, with fine dense punctures except on apex, the apical portion more or less reflexed with rim somewhat produced medially. Pronotum polished, virtually unsculptured. Mesoscutum highly polished, with very fine punctures. Scutellum strongly convex, polished, with fine punctures. Mesopleurum polished, with fine sparse punctures, its central portion, including speculum, unsculptured and hairless. Metapleurum polished, with fine sparse punctures, juxtacoxal carina absent or vestigial. Propodeum polished, virtually unsculptured, sometimes in petiolar area with obscure transverse rugulae, normally areolated. Combined areola and petiolar area subparallel-sided behind costulae, slightly broader than 2nd lateral area. Tergite 1 very slender, about 3.4-3.8 as long as wide at apex, polished, with some obscure punctures laterally, distance between its spiracles slightly less than distance between a spiracle and apex. Tergite 2 and following tergites polished. Stigma about 2.8 as long as wide, with radius distinctly apicad of middle. Areolet longer than wide, with 2nd recurrent vein basad of middle. Nervellus broken at lower 0.2-0.3, weakly inclivous or subvertical. Fore wing 5.1-5.5 mm long.

Black. Palpi, mandible and tegula light brown. Tergites 2-4, except for crest of tergite 2

or also that of other tergites, red. Antenna fuscous brown, with basal flagellar segments lighter, its scape and pedicel light brown beneath, and median 2-3 flagellar segments white. Legs light brown, with hind leg beyond trochanters light reddish brown. Hind tibia above and hind tarsus, faintly darkened. Wings subhyaline. Stigma blackish brown.

♂. Flagellum with 20 or 21 segments, segment 10 apically, 11 and 12, and 13 basally, with a tyloid, with no white median ring. Temple about 1.0 as long as eye in lateral view of head, not narrowed directly behind eye. Tergites 2-4 black, with only tergite 2 apically and tergite 3 basally and laterally reddish brown. Otherwise similar to ♀.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 8.V.1966, Kusigemati.

Paratypes. Amami: ♀, 2 ♂♂, same data as the type. ♂, Amami-Oshima, 5.V.1966, ♂, Amami-Oshima, 6.V.1966, ♂, Amami-Oshima, 9.V.1966, Kusigemati.

This species is easily distinguished from *muiri* Bridwell, 1919, by the white ringed flagellum of ♀, and the less strongly sculptured and much more strongly polished body.

58. **Rhembobius 4-striatus** (Uchida, 1956)

No new material is available. The generic placement was not verified.

DISTRIBUTION: Ryukyus.

59. **Jarva taniguchiae** (Uchida, 1956), n. comb.

*Microcryptus taniguchiae* Uchida, 1956, *Ins. Matsumurana* **19**: 90.

*Aptesis? taniguchiae* Townes, Townes & Gupta, 1961, *Mem. Amer. Ent. Inst.* **1**: 138.

AMAMI: ♀, Amami-Oshima, 10.V.1966, Kusigemati.

The ♀ of this species has hitherto been unknown.

♀. Flagellum with 24 segments, its segment 2 about 3.3 as long as wide. Frons excised longitudinally at middle, subpolished, with fine dense punctures, its bottom almost unsculptured. Face faintly mat, with fine dense punctures, somewhat rugulose on each side of median portion, the punctures becoming sparser on lateral portion. Clypeus subpolished and punctate basally, smooth and polished on apex, its apical rim truncate, thin, weakly reflexed. Mesoscutum subpolished, with very fine punctures, its notauli extending barely to hind end of tegulae. Scutellum polished, with fine dense punctures. Mesopleurum polished and with fine sparse punctures above, weakly mat and with fine weak rather longitudinal striae and medium-sized dense punctures below. Metapleurum sculptured like lower portion of mesopleurum. Propodeum nearly unsculptured on dorsal face basally (in 1st lateral and basal areas and areola), other part weakly, irregularly rugulose, its apical transverse carina stronger than other carinae. Areola rather hexagonal, a little longer than wide. Costula absent. Tergite 1 about 1.5 as long as wide at apex, weakly mat dorsolaterally and apicomediaally. Tergite 2 about 0.66 as long as wide at apex, strongly mat, with traces of fine oblique striae, its apicomedian portion subpolished. Areolet about as long as wide, subparallel-sided, with 2nd recurrent vein approximately at middle. Ovipositor sheath about 2.0 as long as tergite 1. Fore wing 5.0 mm long.

Black. Median 4 flagellar segments above, an apicomedian spot on abdomen, base of hind tibia and tibial spurs white. Legs mainly black but partly tinged with red. Wings weakly infumate. Stigma blackish brown, somewhat paler at base.

DISTRIBUTION: Ryukyus.



60. **Neoparacryptus formosanus** (Uchida, 1932)

No new material is available.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

61. **Myrmeleonostenus babai** Uchida, 1936\*

*Myrmeleonostenus secundus* Momoi, 1966. **New synonymy.**

In coloration there are considerable differences between the types of *babai* and *secundus*, and the present specimen from the Ryukyus. However, since their coloration is somewhat variable, their color pattern appears basically the same, and since among them there are but only a few structural differences which do not appear definitely reliable, it seems best for the present to treat the entire specimens as representatives of a single polytypic species.

AMAMI: ♀, Amami-Oshima, 5.V.1966, Kusigemati.

The above noted specimen is colored as follows:

Black. A small median spot on face, a small spot on cheek adjacent to lower end of eye, frontal orbit broadly on top of head except for lower 1/3, median 5 flagellar segments above, front rim of pronotum, a small spot on pronotum at upper end of epomia, a pair of short stripes on mesoscutum, apices of tergites 1 and 2 rather broadly, and apices of tergites 3-8 narrowly on dorsal faces, yellowish white. Palpi, tergite 1 except for apex and legs red. Fore and mid coxae white beneath. Hind femur at apex narrowly, hind tibia at base and apex narrowly, hind tarsus and fore and mid tarsal segment 5 black. Wings hyaline, a little infumate apically. Stigma blackish brown.

DISTRIBUTION: Japan, Ryukyus.

62. **Aritranis sumiyonus** (Uchida, 1956)

I have not examined specimens of this species except for the type, from Amami-Oshima of the Amami Insular Group.

DISTRIBUTION: Ryukyus.

63. **Phaedraspis fulvitergus** (Tosquinet, 1903)

No new material from the Ryukyus is available.

DISTRIBUTION: Taiwan (Formosa), India, Java, Ryukyus, Sumatra.

64. **Menaforia formosana** (Szépligeti, 1916)

SAKISHIMA: ♀, Miyako, X-XII. 1952, Bohart.

DISTRIBUTION: Lambeh Is., Ryukyus.

65. **Frinona okinawana** Uchida, 1930

AMAMI: ♂, Yuwandake, Amami-Oshima, 550 m, 18.VII.1963, Yoshimoto. ♀, Amami-Oshima, 25.VI.1959, Kamijo. ♂, Amami-Oshima, 10.V.1966, Kusigemati.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

## KEY TO RYUKYU SPECIES OF GORYPHUS

- Scutellum, postscutellum, greater part of mesopleurum and mesosternum, metapleurum, propodeum, tergite 1 except on apex, hind coxa, hind trochanters and hind femur red.  
 ..... **basilaris**
- Scutellum, postscutellum, mesopleurum, mesosternum, metapleurum, propodeum, tergite 1 except on apex, hind trochanters and hind femur black ..... **albofasciatus**

66. **Goryphus basilaris** Holmgren, 1868

TOKARA: ♀, Kuchineshima, 22.V.1962, ♀, Nakanoshima, 28.V.1962, M. Sato.

AMAMI: ♂, Yuwandake, Amami-Oshima, 27-31.VII.1963, in Malaise trap, Gressitt. ♀, Naze, Amami-Oshima, 3.VIII.1963, Okada. ♂, Amami-Oshima, 6.V.1966, ♀, ♂, Tokunoshima, 12.V.1966, Kusigemati.

DISTRIBUTION: China, Taiwan (Formosa), Lambeh Is., Ryukyus.

67. **Goryphus albofasciatus** (Matsumura & Uchida, 1926)

AMAMI: ♂, Oyama, Okinoerabu, 28-30. VII. 1963, Yoshimoto.

OKINAWA: ♀, Naha, Okinawa, 29.X.1963, Morimoto. 2 ♂♂, Shoshi, Okinawa, 23.III. 1964, ♂, Izumi-Gogayama, Okinawa, 22.III.1964, Yoshimoto & Harrell. ♂, Nagodake, Okinawa, 12.III.1965, Kuroda.

DISTRIBUTION: Ryukyus.

## KEY TO RYUKYU SPECIES OF BALTAZARIA (♀)

- Face, clypeus, frons, vertex, scutellum and postscutellum conspicuously marked with white. Tergites 2 and 3 at apices and tergites 4-6 laterally, conspicuously marked with reddish brown. Hind coxa black beneath, light brown above. .... **albomaculata**
- Face, clypeus, frons, vertex, scutellum and postscutellum immaculate black. Tergites 2-6 black, only at apices of tergites 2 and 3 narrowly light brown. Hind coxa black.  
 ..... **nigrescens**

68. **Baltazaria albomaculata** Momoi, new species      Fig. 11 & 12.

♀. Frons finely sculptured, mat, medioventrally concave and unsculptured. Face about 0.7-0.8 as long as wide, mat, with fine weak punctures that are denser on each side of median portion. Clypeus weakly polished, with fine dense punctures except on apex, apex polished and with a pair of obtuse tubercles. Malar space about 0.6 as long as basal width of mandible. Flagellar segment 4 about 2.5-2.7 as long as wide. Mesoscutum polished, with fine dense punctures and moderately dense hairs, somewhat rugulose posteriorly between notauli. Mesopleurum largely mat and finely rugulose, somewhat polished and densely punctate above towards prepectal carina, its speculum polished and finely punctate. Metapleurum and side of propodeum finely and densely rugulose and mat. Mesosternum polished, with fine to medium-sized punctures that are mostly distant from one another by less than their diameter. Propodeum finely and densely rugulose behind its basal transverse carina, polished and with crowded strong punctures before basal carina, both the basal and apical transverse carinae complete on dorsal face. Areolet slightly longer than wide, with 2nd recurrent vein approximately at middle. Nervulus at or a little basad of basal vein. Nervellus broken at lower 0.25, subvertical. Brachiella short but present, usually shorter than lower abscissa of nervellus. Tergite 1 about 1.7-1.8 as long as wide at apex, unsculptured and polished dorso medially, weakly mat

dorsolaterally. Tergites 2 and 3 strongly mat, with very fine and dense punctures, punctures indistinct on tergite 3 apically. Tergite 2 about 0.83-0.84 as long as wide at apex. Ovipositor sheath about 1.1-1.2 as long as tergite 1. Hind tarsal segment 3 about 2.6 as long as wide, segment 4 slightly asymmetrical. Fore wing 5.5-6.0 mm long.

Head white. Occiput, stemmaticum, bottom of frontal scrobe, a pair of median longitudinal lines on face, apical rim of clypeus and mandible apically blackish brown to black. Thorax, propodeum and tergites black. Front rim and a line on upper rim of pronotum, a small median spot on mesoscutum, scutellum except on base, postscutellum, tegula, subtegular ridge, hind lower corner of mesopleurum, hind end of metapleurum, mesepimeron dorsally, propodeum laterally before its basal constriction, and dorsal faces of tergites 7 and 8 white. Apical 0.35 of tergite 2, apical 0.5 of tergite 3, lateral faces of tergites 4-6, and subgenital plate reddish brown. Antenna fuscous brown, its flagellar segments 4-9 white above, its scape, pedicel and flagellar segment 1 light brown beneath. Legs light reddish brown. Fore and mid coxae and

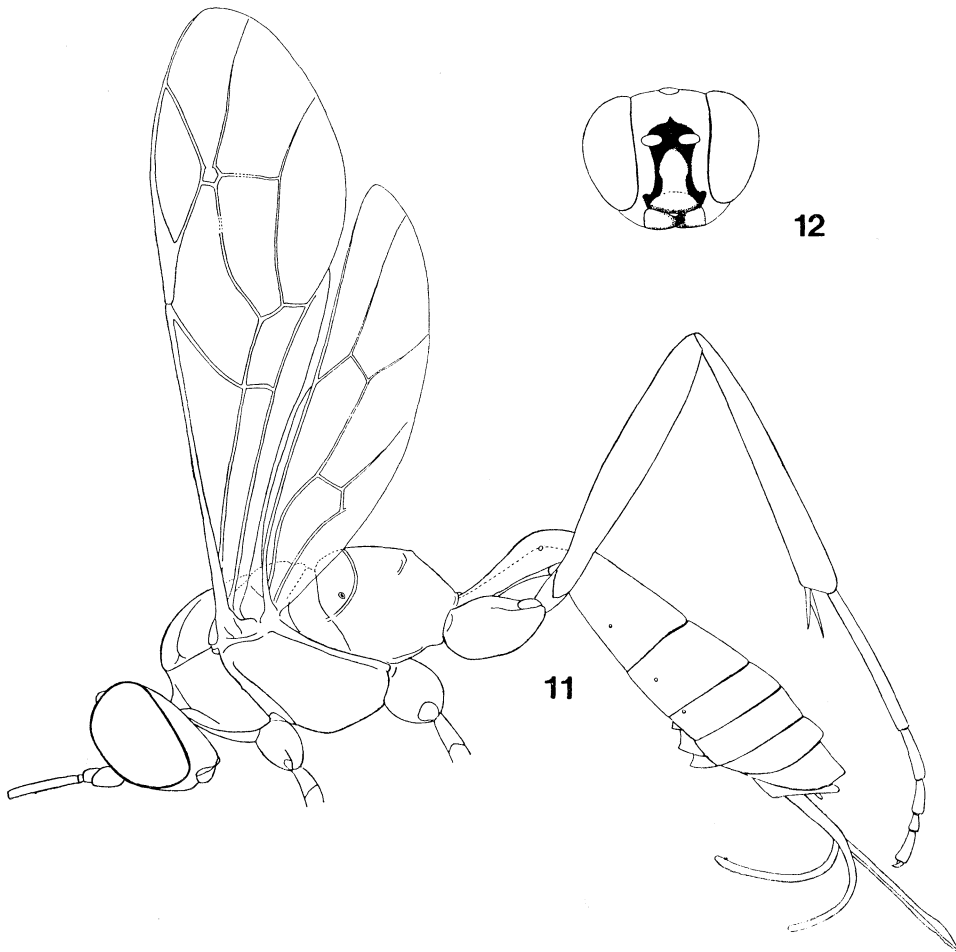


Fig. 11-12. *Baltazaria albomaculata*: 11, whole insect in lateral view (excluding apical portions of antenna, fore and mid legs); 12, head in frontal view, showing color pattern.

trochanters stramineous. Fore and mid legs beyond their trochanters above, outer faces of hind coxa and trochanters, hind tibia except beneath, and hind tarsal segments 1-3 except for extreme bases and apices fuscous brown. Hind femur infusate at base and apex, sometimes also above. Hind tarsal segments 4 and 5 weakly infusate reddish brown. Mid and fore tarsi essentially similar in color pattern to hind tarsus but the infuscation less strong. Wings subhyaline. Stigma blackish brown, at extreme base pale.

Holotype ♀ (BISHOP 9141), Ishigaki, Sakishima, 25-30.XI.1952, Bohart.

Paratypes. Sakishima: 2 ♀♀, Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap, Gressitt. ♀, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell.

This species disagrees with any other members of the genus in having the brachiella of the hind wing present. It is further distinguishable from the other species by the extensive white markings on the head and the presence of a pale broad marking on tergite 3.

69. **Baltazaria nigrescens** Momoi, new species

This species is very similar in structure and sculpture to *albomaculata*, from which it differs in the following points:

♀. Flagellar segment 4 about 1.8-2.0 as long as wide. Mesosternum with very fine punctures that are mostly distant from one another by much more than their diameter. Tergite 2 about 0.75 as long as wide at apex. Nervellus broken at lower 0.3. Fore wing 4.5-6.5 mm long.

Black. Palpi light brown. Mandible medially and at base, subtegular ridge, tegula, upper end of mesepimeron, hind end of metapleurum, and tergites 2 and 3 at apices narrowly, light brown to reddish brown. Tergite 1 at apex tinged with red. Dorsal faces of tergites 7 and 8 white. Antenna fuscous brown, the flagellum beneath basally, scape beneath at apex, and pedicel at apex paler, the flagellar segments 4-9 white above. Legs reddish brown. Fore and mid coxae and trochanters, and hind 1st trochanter light brown. Hind coxa blackish brown, paler beneath. Hind 2nd trochanter, hind femur at apex, hind tibia and hind tarsus, strongly infusate. Fore and mid tibiae and tarsi weakly infusate. Hind tibia reddish brown beneath basally. Fore and mid tibiae light brown beneath. Tarsal segments 1-3 at extreme bases and apices, and segment 4 obscurely light brownish. Wings subhyaline. Stigma blackish brown, somewhat paler at base.

Holotype ♀ (FUKUOKA), Yuwandake, Amami-Oshima, Amami, 20.VII.1963, Hirashima.

Paratypes. Amami: ♀, Amami-Oshima, 25.V.1965, Takada. ♀, Yuwandake, Amami-Oshima, 7.VIII.1963, Okada. ♀, Amami-Oshima, 8.V.1966, Kusigemati.

KEY TO RYUKYU SPECIES OF *NECOLIO* (♀)

- Frons laterally white. Face with a narrow lateral white line. Scutellum carinate laterally only at base. Mesoscutum polished, with fine punctures mostly distant from one another by much more than their diameter. Abdominal segment 1 with no dorsolateral and lateroventral longitudinal ridges. Tergites 1-3 broadly white at apices .....  
 ..... **sidereus**
- Frons entirely black. Face with no lateral pale line. Scutellum carinate laterally to near basal 0.4-0.5. Mesoscutum mat, with fine punctures mostly distant from one another by less than their diameter. Abdominal segment 1 with distinct dorsolateral and lateroventral longitudinal ridges. Tergites 1 and 2, often also 3, indefinitely reddish brown

at apices ..... **sugiharai**

70. **Necolio sidereus** Momoi, new species Fig. 13-16.

♀. Flagellum with 26-28 segments, 2th segment from apex about 1.0 as long as wide, the other segments usually longer than wide. Frons almost polished, with fine punctures, somewhat subrugulose punctate just below median ocellus, longitudinally excised at middle, with a median longitudinal keel. Face polished, with fine dense punctures, its orbit feebly mat, with a few obscure punctures. Clypeus finely punctate basally, almost impunctate apically, more or less

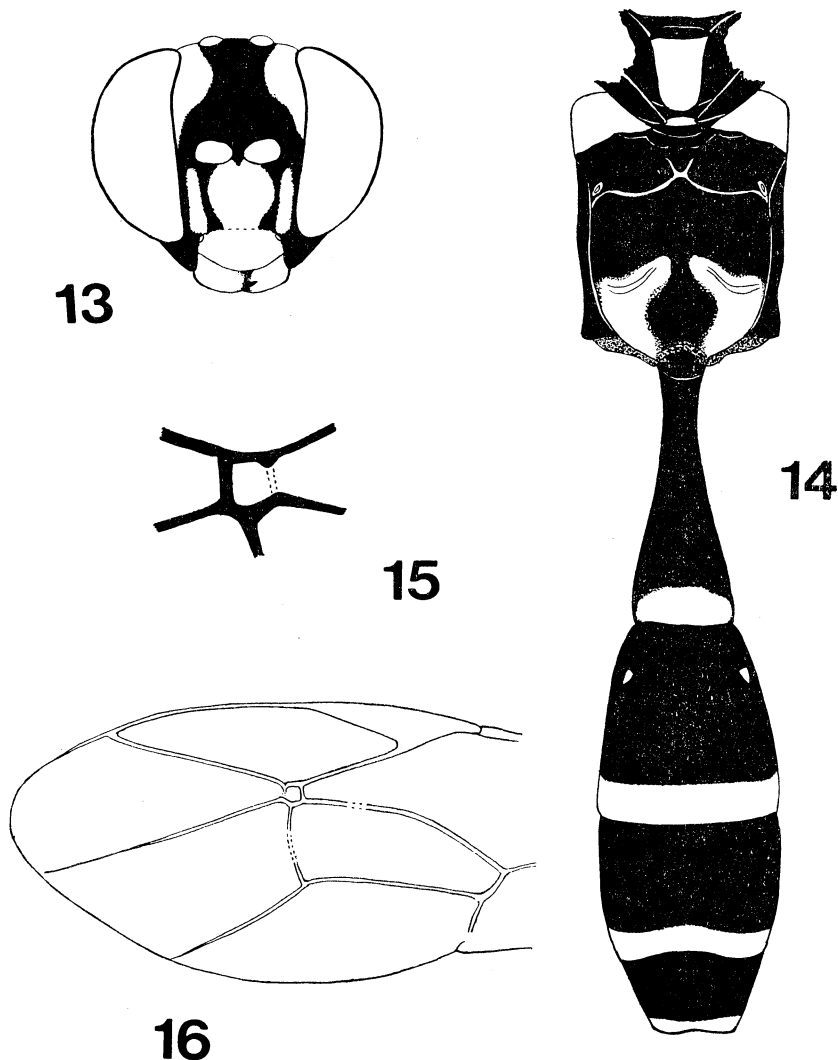


Fig. 13-16. *Necolio sidereus*, ♀: 13, head in frontal view, showing color pattern; 14, hind part of thorax, propodeum and tergites 1-4 in dorsal view, showing color pattern; 15, areolet of right fore wing; 16, part of left fore wing.

impressed medially just before apex, its apical rim almost truncate medially, more or less reflexed. Malar space about 0.5 as long as basal width of mandible. Lateral ocellus distant from eye by about 0.8 its diameter. Mesoscutum polished, with fine punctures that are mostly distant from one another by slightly more than their diameter. Pronotum polished, punctate above its lateral scrobe, striate punctate towards hind vertical rim, the lateral scrobe striate. Scutellum carinate laterally only at base. Mesopleurum with rather regular longitudinal striae above, with a mixture of dense longitudinal striae and punctures below, front part just above sternaulus densely punctate but not striate, the speculum almost unsculptured and polished. Metapleurum irregularly and densely rugulose, finely punctate. Propodeum polished and with only fine sparse punctures before its basal transverse carina, densely and rather reticulately rugulose behind basal carina, its apical transverse carina often absent at middle, lateral crest of moderate strength. Tergite 1 slender, about 2.6-2.8 as long as wide at apex, unsculptured, polished, its lateral face rounded ventrad and dorsad, with no ridges between lateral face and its sternite and between lateral face and dorsal face. Tergite 2 about 1.1-1.2 as long as wide at apex, feebly mat, densely shagreened. Tergite 3 similar in sculpture to tergite 2. Ovipositor slender and long tapering at apex, its sheath about 2.0 as long as tergite 1. Areolet about as long as wide, with 2nd recurrent vein approximately at middle. Fore wing 4.5-.55 mm long.

Black. Palpi, mandible, clypeus, facial orbit narrowly, epistoma, frontal orbit broadly onto top of head, front rim of pronotum, subtegular ridge, tegula, scutellum, postscutellum, upper end of mesepimeron, hind end of metapleurum, propodeum laterally before its basal constriction, a pair of longitudinal marks on propodeum extending forward from apex, apices of tergites 1-3, often also 4, an apicomedian spot on tergite 6, and tergites 7 and 8, yellowish white. Antenna blackish brown, its flagellar segments 6-11 or 12 white above, its scape at apex beneath and pedicel at apex light brownish. Legs light brown, with fore and mid coxae and trochanters lighter. Hind coxa above, hind trochanters except beneath, hind femur above apically, hind tibia except beneath, hind tarsal segment 1 except for apex, and hind tarsal segment 5 fuscous brown. Median segments of hind tarsus more or less whitish. Fore and mid legs beyond their trochanters similar in color pattern to hind leg but infuscation less strong. Wings hyaline. Stigma light brown, with front rim blackish brown.

Holotype ♀ (BISHOP 9142), Karayama, Ishigaki, Sakishima, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell.

Paratypes. Sakishima: 3 ♀♀, same data as the type. 3 ♀♀, Banna, Ishigaki, 70 m, 21-22. V. 1964, in Malaise trap, Gressitt. ♀, Inaba, Iriomote, 10.III.1964, Yoshimoto & Harrell. ♀, Ishigaki, 25.XI.1952, ♀, Ishigaki, 10-20.XII.1952, Bohart. ♀, Shirahama, Iriomote, 5.X. 1963, Kuniyoshi. ♀, Omotodake, Ishigaki, 17-20.XI.1963, Samuelson. Amami: ♀, Amami-Oshima, 6.V.1966, Kusigemati,

This species is similar to *sumatrensis* Betrem, 1941, from which it is distinguishable by the laterally noncarinate scutellum and the white inner orbit.

71. *Necolio sugiharai* (Uchida, 1932)\*

AMAMI: ♀, Amami-Oshima, 4.V.1966, Kusigemati.

DISTRIBUTION: Japan, Ryukyus.

KEY TO RYUKYU SPECIES OF ATELEUTE

Second recurrent vein approximately at basal 0.3 of areolet. Thorax of ♀ black, with scutellum, postscutellum, mesosternum, often hind part of mesopleurum, and metapleu-

rum reddish brown. Propodeum of ♀ reddish brown. ♂ genital clasper broad... **densistriata**  
 Second recurrent vein approximately at middle of areolet. Thorax of ♀ reddish brown,  
 often somewhat darkened on metapleurum, pronotum and mesoscutum. Propodeum of  
 ♀ blackish brown. ♂ genital clasper very slender ..... **mesorufa**

72. **Ateleute densistriata** (Uchida, 1955)\* Fig. 17 & 18.

AMAMI: ♂, Amami-Oshima, 5.V.1959, Kamiyo. ♂, Amami-Oshima, 6.V.1966, ♂, Amami-Oshima, 9.V.1966, ♀, Amami-Oshima, 10.V.1966, ♀, Tokunoshima, 12.V.1966, Kusigemati.

OKINAWA: 3 ♂♂, Yona, Okinawa, 24-25.III.1964, Yoshimoto & Harrell.

SAKISHIMA: ♀, Ushikumori, Iriomote, 425 m, 11.II.1964, 4 ♀♀, 2 ♂♂, Karayama, Ishi-

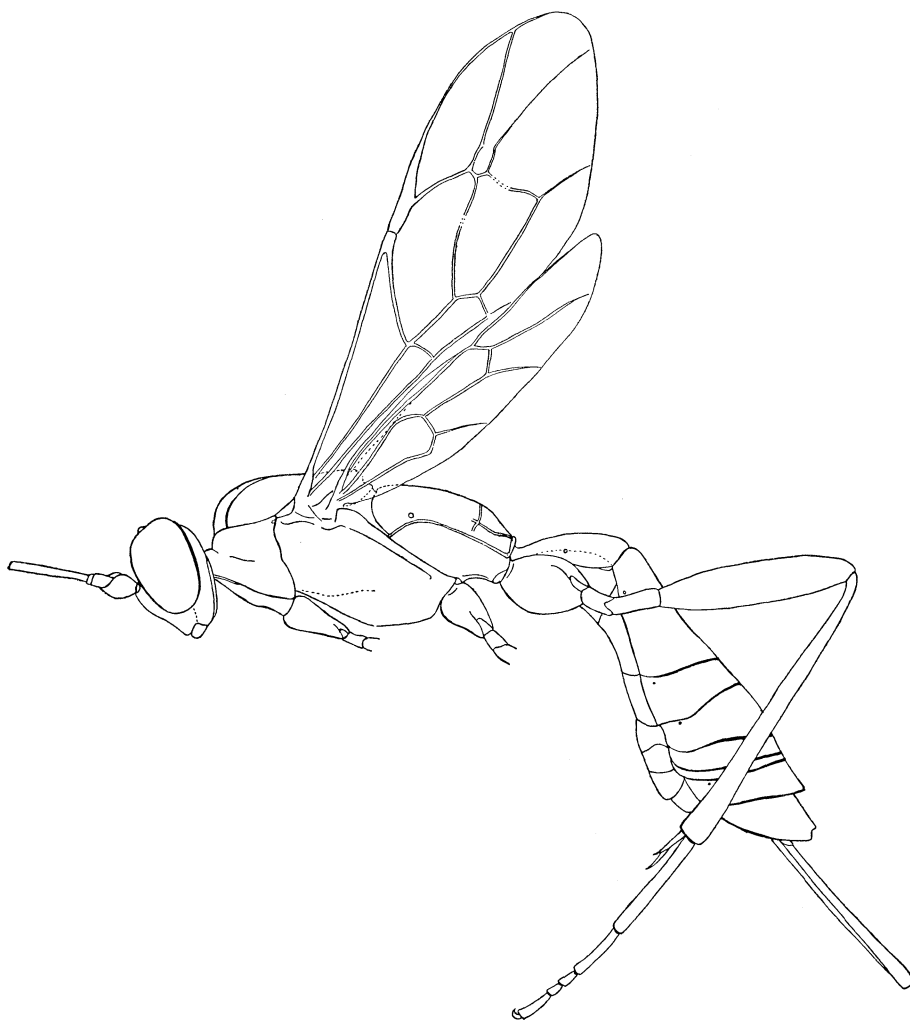


Fig. 17. *Ateleute densistriata*, ♀, whole insect in lateral view (excluding apical portions of antenna and fore and mid legs)

gaki, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell. ♂, Bannadake, Ishigaki, 28. X.1963, Samuelson.

Clypeus mat. Scutellum carinate laterally to near apex. Prepectal carina present for some distance on mesopleurum, completely absent on mesosternum. Nervulus at or a little distad of basal vein, subvertical. Radius slightly apicad middle of stigma, distant from base of stigma by about 3.0 width of stigma at radius. Second recurrent vein almost straight, slightly inclivous, situated at basal 0.3 of areolet. Nervellus broken at lower 0.4-0.5, strongly reclivous. Tergite 1 mat, covered with dense longitudinal striae. Tergites 2 and 3 mat, coriaceous. Ovipositor blunt apically, with a short taper, its sheath truncate at apex, about 1.6-1.7 as long as tergite 1. Male genital clasper broad, as seen in lateral view slightly concave on dorsal line, the apex broad with a point upward. Fore wing ♀ 4.4-5.5 mm, ♂ 3.2-4.6 mm long.

♀. Black. Palpi, mandible, tegula, apical 1/3 of tergite 1 and apical 1/2 of tergite 2 light brown. Dorsal face of tergite 7 and a pair of apicomedian markings on tergite 8 white. Scutellum, postscutellum, mesosternum, often hind part of mesopleurum, metapleurum, mesepimeron and propodeum reddish brown, the propodeum often blackened dorsobasally. Tergites more or less brownish apicoventrally, apices of tergites 3-6 narrowly light brownish. Antenna blackish brown, its scape, pedicel and median 8-10 flagellar segments white. Legs light brown, partly, weakly infuscate, with fore and mid coxae, all 1st trochanters and lower face of hind coxa lighter. Upper face of hind coxa, hind 2nd trochanter, hind femur towards apex and often also above, hind tibia except for base and lower face, and hind and mid tarsal segment 5 infuscate. Wings subhyaline. Veins blackish brown. Stigma light fuscous brown.

♂. Black. Palpi, mandible and tegula light brown. Antenna blackish brown, its scape and pedicel light brown, especially beneath. Legs light brown. Hind coxa above, hind 2nd trochanter, apex and upper face of hind femur, hind tibia except for base, and hind tarsus infuscate. Wings subhyaline. Stigma blackish brown.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

73. *Ateleute mesorufa* Momoi, new species Fig. 19.

This species differs from *densistriata* in structure only as follows:

Second recurrent vein situated approximately at middle of areolet. Nervulus distinctly distad of basal vein, weakly inclivous. Male genital clasper very slender, the apex pointed. Fore wing ♀ 3.8-4.2 mm long, ♂ 2.7-3.3 mm long.

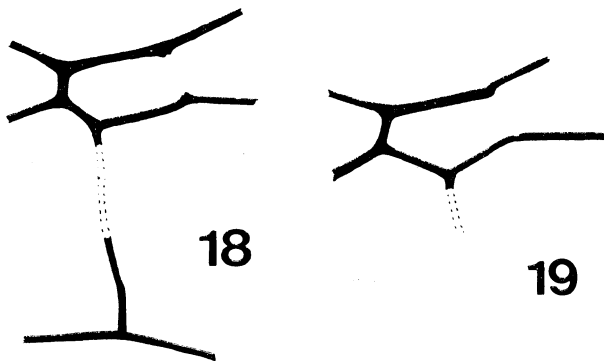


Fig. 18-19. Areolet and adjacent part of right fore wing: 18, *Ateleute densistriata*; 19, *Ateleute mesorufa*.

♀. Black. Palpi, mandible, tegula, apices of tergites 1-3, and apicomedian small spot on tergite 6 white. Thorax, excluding metapleurum, reddish brown. Propodeum and metapleurum blackish brown. Tergites 1-3 apically basad of white marking, and tergites 4-8, including or excluding their dorsal face, reddish brown. Antenna black, its scape, pedicel and 8-11 median flagellar segments white. Fore and mid legs light brown, their coxae and trochan-



ters paler, and their tarsal segment 5 fuscous brown. Hind leg reddish brown or light brown, its coxa above towards apex, 2nd trochanter, femur towards apex, tibia and tarsus weakly darkened, and tarsal segment 5 weakly or strongly infusate. Wings subhyaline. Stigma light brown.

♂. Black. Palpi, mandible and tegula light brown. Mesosternum somewhat brownish. Antenna blackish brown, its scape and pedicel light brown. Legs light brown. Hind coxa above, hind 2nd trochanter, hind tibia and hind tarsus weakly infusate. Fore and mid tarsal segment 5 fuscous brown. Wings subhyaline. Stigma fuscous brown.

Holotype ♀ (BISHOP 9143), Ushikumori, Iriomote, Sakishima, 7-10.XI.1963, in Malaise trap, Samuelson.

Paratypes. Amami: ♀, ♂, Amami-Oshima, 6.V.1966, Kusigemati. ♂, Amami-Oshima, 28.VI.1959, ♂, Amami-Oshima, 1.V.1959, Kamiyo. ♀, Amami-Oshima, 24.V.1965, Takada. ♂, Yuwandake, Amami-Oshima, 29.VII.1963, Gressitt. Sakishima: ♀, Bannadake, Ishigaki, 15.X.1963, in Malaise trap, Hirashima. ♂, Bannadake, Ishigaki, 27-31.X.1963, in Malaise trap, Hirashima & Samuelson.

#### 74. *Picardellia rufa* (Uchida, 1932)

AMAMI: 2 ♀♀, Amami-Oshima, 25.VI.1959, Kamiyo.

SAKISHIMA: ♀, Ishigaki, X.1951, Bohart.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

#### 75. *Nematopodius (Nematopodius) kusigematii* Momoi, new species

♀. Prepectal carina ending at mid distance between median notch of hind rim of pronotum and hind lower angle of pronotum, its upper end conspicuously distant from front rim of mesopleurum. Mesopleurum and metapleurum faintly mat, with medium-sized weak punctures, those on mesopleurum irregularly distributed but generally distant from one another by about their diameter, and those on metapleurum mostly distant from one another by about their diameter. Propodeum polished, with fine very sparse punctures. Tergite 1 about 0.8 as long as tergite 2. Ovipositor sheath about 1.0 as long as tergite 1. Second recurrent vein more or less inclivous. Nervellus broken at middle. Brachiella present. Fore wing 6.6 mm long.

Black. Yellowish white: palpi, mandible, face, clypeus, cheek, orbit broadly with an interruption on upper part of temple, lower 1/2 of pronotum, a line on hind vertical rim of pronotum, a central spot on mesoscutum, tegula, scutellum except basomedially, postscutellum, subtegular ridge, mesopleurum except for upper 2/5, mesosternum, metapleurum and its adjacent part of propodeum, a small apicomedian spot on propodeum, apices of tergites narrowly, lateral face of tergite 1, chitinized portion of sternite 1, fore and mid legs, hind coxa except for basal 2/3 of upper face, and lower faces of hind 2nd trochanter, hind femur and hind tibia. Fore and mid femora, tibiae and fore tarsus fuscous brown above. Mid and hind tarsi fuscous brown, their segments 1-4 somewhat paler at apices. Scape, pedicel and basal flagellar segments brownish beneath. Wings hyaline. Stigma blackish brown.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 6.V.1966, Kusigemati.

This species is similar to *formosus* Gravenhorst, 1829, in coloration and in the shape of prepectal carina. It differs from *formosus* in having the mesopleurum less strongly and less densely punctate, the pale markings on the thorax much more extensive

and tergite 1 with a pale stripe on the lateral face. It is easily distinguishable from *flavoguttatus* Uchida, 1930, and *oblongus* Momoi, 1967, by the mesopleurum and metapleurum less strongly and less densely punctate, the flagellum lacking a white median ring, the pronotum not pale on hind margin, the hind tarsus lacking a white ring, and the scutellum not entirely pale.

76. *Schreineria geniculata* (Uchida, 1932)\* Fig. 20.

OKINAWA: ♂, Yona, Okinawa, 24-25.III.1964, in Malaise trap, ♀, Izumi-gogayama, Okinawa, 22.III.1964, Yoshimoto & Harrell.

SAKISHIMA: ♂, Ishigaki, 25-30.X.1952, Bohart. ♂, Banna, Ishigaki, 70 m, 21-22.V. 1964, in Malaise trap, Gressitt. ♀, Omotodake, Ishigaki, 17-20.XI.1963, Samuelson. ♀, Shirahama, Iriomote, 7.X.1963, Hirashima. 2 ♀♀, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, ♂, Karayama, Ishigaki, 18.III.1964, ♀, Iriomote, 11-12.III.1964, Yoshimoto & Harrell.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.



Fig. 20. *Schreineria geniculata*, ♀, thorax, propodeum and coxae, showing color pattern.

KEY TO RYUKYU SPECIES OF TORBDA (♀)

1. Body reddish brown, with pale markings. Areolet strongly transverse. Tergites 2-4 flat, with no basal triangular swelling ..... **rufa**  
 Body black, with pale markings. Areolet about as long as wide. Tergites 2-4 each with a basal triangular swelling ..... 2
2. Fore wing with 2 fuscous spots, 1 at postnervulus and other at apex. Dorsal face of propodeum with transverse rugulae between basal and apical transverse carinae. Apical white band on tergite 7 broadened on each side of dorsal face..... **sauteri**  
 Fore wing with no fuscous spots. Dorsal face of propodeum reticulate rugulose between basal and apical transverse carinae. Apical white band on tergite 7 of uniform width on dorsal face. .... **parallela**

77. *Torbda rufa* Uchida, 1956

I have not seen any specimen of this species besides the type, from Tokunoshima of the Amami Insular Group.

DISTRIBUTION: Ryukyus.

78. *Torbda sauteri* Uchida, 1932\*

OKINAWA: 2 ♀♀, Izumi-gogayama, Okinawa, 21.X.1963. Hirashima. ♀, Yona, Okinawa 25.II.1963, Kaneko.

DISTRIBUTION: China?, Taiwan (Formosa), Ryukyus.

79. *Torbda parallela* Momoi, new species      Fig. 21 & 22.

♀. Temple convex, strongly receding, about 0.38 as long as eye in lateral view of head, virtually impunctate. Malar space about 0.63 as long as basal width of mandible. Clypeus with a postmedian transverse ridge, the ridge strong medially and weak laterally. Face faintly shagreened, with weak coarse punctures. Pronotum polished, with weak coarse punctures above, with short rugulae along hind vertical rim, and with a mixture of fine punctures and striae between epomia and front lower rim. Mesoscutum polished, with moderately coarse dense punctures mostly distant from one another by slightly less than their diameter. Mesopleurum very faintly shagreened, with coarse weak punctures distant mostly from one another by about, or less than, their diameter, speculum smooth and polished. Metapleurum very feebly shagreened, with weak coarse punctures. Propodeum polished, with coarse very dense punctures before its basal transverse carina, longitudinally rugulose behind its apical transverse carina, and reticulate rugulose between the 2 carinae. Basal transverse carina of propodeum strong, of uniform strength. Apical transverse carina of propodeum weaker medially, somewhat strengthened dorsolaterally, evenly arcuate. Tergite 1 about 2.1 as long as wide at apex, smooth, polished, with some strong coarse punctures apicolaterally. Tergite 2 about 0.76 as long as wide at apex, polished, with strong coarse punctures mostly distant from one another by much less than their diameter, unsculptured at base, with a weak triangular swelling basally. Tergite 3 with a weak triangular swelling basally, similar in sculpture to tergite 2. Tergite 7 about as long as tergite 1, faintly shagreened, with evenly dense weak punctures. Areolet almost as long as wide, weakly narrowed forward, with 2nd recurrent vein at distal 0.3. Nervellus broken at upper 0.3. Hind tarsal segment 3 about 2.5 as long as wide. Fore wing 13.3 mm long.

Black. Yellowish white: face except for bottom and a dorsomedian small elongate spot, clypeus except for apex and an apicomedian small spot, temple, orbits of frons and vertex,



Fig. 21. *Torbda parallela*, ♀, whole insect in lateral view (excluding apical portions of antenna, fore and hind legs, and ovipositor wing, and entire mid leg), showing color pattern.

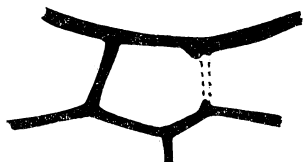


Fig. 22. *Torbda parallela*, areolet of right fore wing.

at extreme base and apically, hind tarsal segments 1-3 at apices, and hind tarsal segment 4 strongly infuscate. Hind tarsal segments 1-3 whitish except for apices. All tarsal segment 5 black. Wings a little yellowish. Stigma blackish brown.

♂. Tergite 2 virtually polished, with fine weak punctures. Flagellum with no median white ring. Hind femur black at apex. Mid and hind tibiae and tarsi black. Fore tibia above and its tarsus apically infuscate. Otherwise similar to ♀. Fore wing 11 mm long.

Holotype ♀ (BISHOP 9144), Karayama, Ishigaki, Sakishima, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell.

Paratype. Sakishima: ♂, same data as the type.

#### KEY TO RYUKYU SPECIES OF EURYCRYPTUS

- Mesal side of areolet distinctly longer than distal side. Tergites 1-3 light reddish brown, with no black markings ..... **unicolor**  
 Mesal side of areolet only slightly longer than distal side. Tergites 1-3 light reddish brown, each with a black marking ..... **sakaguchii**

#### 80. *Eurycryptus unicolor* (Uchida, 1932)\*

AMAMI: ♀, Amami-Oshima, 10.V.1966, ♀, Amami-Oshima, 18.V.1966, Kusigemati.

DISTRIBUTION: Taiwan (Formosa), Japan, Ryukyus.

#### 81. *Eurycryptus sakaguchii* (Uchida, 1932)

I have not examined specimens of this species besides the types, from Okinawa and Taiwan.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

#### KEY TO RYUKYU SPECIES OF XORIDESCOPIUS

- Speculum of mesopleurum largely white. ♀: Tergite 7 with a white mark on each side, its dorsal face immaculate black. Tergite 8 with its dorsal face white from base to apex, its lateral face immaculate black. ♂: Tergite 7 with or without narrow white

median 5 flagellar segments, pronotal collar, pronotum above and in hind lower corner, hind 1/2 of propleurum, median lobe of mesoscutum posteriorly, scutellum except for apex, basolateral lobe of scutellum, subtegular ridge, a large elongate spot on mesopleurum, tegula except for inner rim, upper end of mesepimeron, propodeum laterally before its basal constriction, a large oval spot on metapleurum, a large transverse basal and apical reversed T-shaped mark on propodeum, apices of tergites 1-7, lateral part of tergite 8, subgenital plate and epipleura. Sternites blackish brown except for pale apex and base of sternite 2 and apices of other sternites. Legs red. Fore and mid coxae white, with their bases, apices and upper sides black. Hind coxa black, with a large basal mark on upper side white. Fore and mid trochanters white beneath, blackish above. Hind tibia

mark at apex ..... **taihokensis**  
 Speculum of mesopleurum immaculate black. ♀: Tergite 7 with a white transverse band at dorsoapical face. Tergite 8 with a U-shaped median white mark at apex, its lateral face white. ♂: Tergite 7 with a broad white mark at apex ..... **nigrispeculum**

82. *Xoridescopus taihokensis* Uchida, 1932

AMAMI: ♀, Yuwandake, Amami-Oshima, 31.VII.1963, Hirashima. ♂, Yuwandake, Amami-Oshima, 31.VII.1963, Gressitt. ♂, Amami-Oshima, 13.III.1964, Takada. ♂, Tokunoshima, 12.V.1966, ♂, Amami-Oshima, 8.V.1966, Kusigemati.

OKINAWA: ♂, Yona, Okinawa, 24-25.III.1964, ♀, Izumi-Gogaya, Okinawa, 22.III.1964, Yoshimoto & Harrell. ♀, Benoki, Okinawa, 19.III.1965, Yamaguchi.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

83. *Xoridescopus nigrispeculum* Momoi, new species Fig. 23-25.

♀. Frons polished, coarsely subrugulose punctate above medially, finely punctate above laterally, smooth below, with a median weak longitudinal excision. Face with medium-sized dense punctures, the punctures denser and somewhat tending to be confluent on each side of median portion. Lower part of occipital carina turned outward. Pronotum not swollen in humeral corner. Mesoscutum shiny, with very fine dense punctures, rugulose posteriorly between notauli. Basal groove of scutellum with fine longitudinal rugulae. Mesopleurum shiny, densely subrugulose punctate above, densely punctate below, its speculum unsculptured. Prepectal carina extending at least to level of median notch of hind rim of pronotum. Metapleurum with a mixture of dense punctures and fine rugulae. Propodeum with fine very dense punctures before its basal transverse carina, rather longitudinally rugulose behind its apical transverse carina, and rather reticulate rugulose between the 2 carinae. Basal transverse carina of propodeum strong, of uniform strength. Apical transverse carina of propodeum indistinct, weaker medially, somewhat strengthened dorsolaterally, the median portion slightly pushed forward. Sternite 1 with a few short hairs basally. Tergite 2 about 0.75 as long as wide at apex, with a shallow oblique impression on each side basally, mat, with medium to fine dense punctures

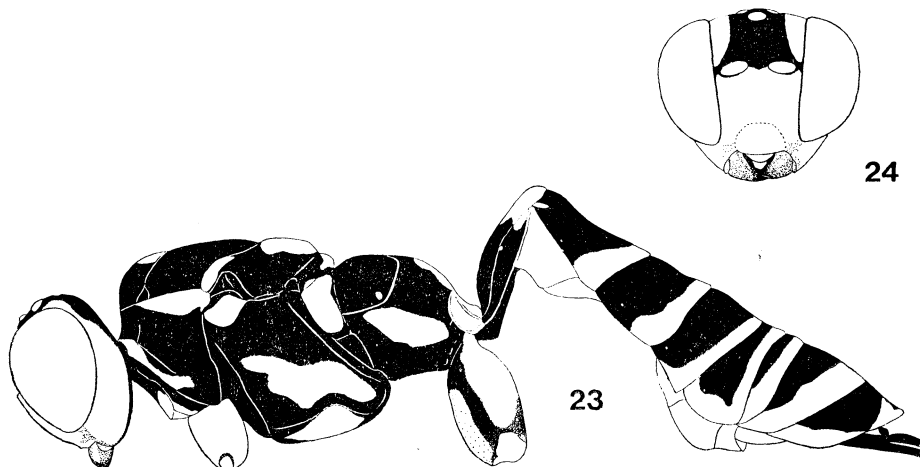


Fig. 23-24. *Xoridescopus nigrispeculum*, ♀, showing color pattern: 23, head, thorax, abdomen and fore and hind coxae in lateral view; 24, head in frontal view.

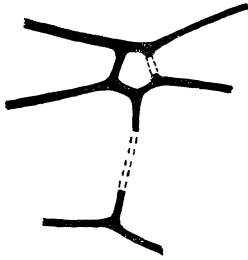


Fig. 25. *Xoridescopus nigrispeculum*, areolet of right fore wing.

that are mostly distant from one another by about 1/2 their diameter, the punctures becoming somewhat weaker and finer on posterior portion. Tergite 3 similar in sculpture to tergite 2, more or less, transversely impressed medially. Ovipositor sheath about 2.5 as long as tergite 1, about 1.0 as long as hind tibia. Areolet about 0.8 as long as wide, with 2nd recurrent vein approximately at middle. Nervellus broken at or below lower 0.4. Hind tarsal segment 3 about 1.8 as long as wide. Fore wing 7.0-9.0 mm long.

Black. Yellowish white: flagellar segments 5 or 6-12 or 13, palpi, clypeus, face, cheek, temple, frontal orbit, vertex in orbit narrowly, propleurum at hind rim, front rim of pronotum, a mark along upper rim of pronotum extending from humeral angle to base of notaulus, a small median spot on pronotum directly before mesoscutum, median lobe of mesoscutum posteriorly, scutellum, postscutellum, tegula, subtegular ridge, a large spot on mesopleurum, an elongate mark on each side of mesosternum, propodeum laterally before basal constriction, a large oval spot on metapleurum, a large reversed T-shaped apical spot on propodeum, apices of tergites 1-7, lateral part of apex of tergite 8, an apico-median U-shaped mark on tergite 8, epipleura, and subgenital plate. Apical part of flagellum light brown beneath. Fore and mid legs light brown. Fore and mid coxae and lower faces of their trochanters white. Mid coxa at extreme base and apex, fore and mid femora and tibiae above, and their tarsal segments 1-4 weakly infuscate. Fore and mid tarsal segment 5 blackish brown. Hind leg reddish brown. Hind coxa with a white large mark above, with a blackish stripe on exterior side extending from base to apex. Hind trochanters above, hind femur at apex narrowly, hind tibia except beneath from base to near apex, hind-tibial spurs, and hind tarsal segment 5 fuscous brown to black. Hind tarsal segments 1-4 white. Wings a little yellowish. Stigma blackish brown.

♂. Tergite 1 about 2.7 as long as wide, weakly mat apically, polished basally, with some coarse punctures. Tergite 2 about 1.6 as long as wide at apex, strongly mat, with weak fine punctures, without oblique impressions. Tergite 3 with no median transverse impression. Tergite 8 medially at apex white. Mid tarsus, hind tarsal segment 1 and hind femur above from base to apex strongly infuscate. Flagellum with no median white ring. Mesosternum and lower 1/2 of mesopleurum except for prepectus white. Fore wing 7.0-8.5 mm long.

Holotype ♀ (BISHOP 9145), Karayama, Ishigaki, Sakishima, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell.

Paratypes. Sakishima: 5 ♀♀, 2 ♂♂, same data as the type. ♀, Inaba, Iriomote, 10.III.1964, ♀, Iriomote, 11-12.III.1964, Yoshimoto & Harrell. 2 ♀♀, ♂, Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap, ♂, Omotodake, Ishigaki, 100-200 m, 22.V.1964, Gressitt. 2 ♂♂, Shirahama, Ushikumori, Iriomote, 382 m, 9.III.1964, ♂, Yaeyama, 5.III.1964, Harrell. ♀, Ishigaki, X.1951, ♀, Ishigaki, 1-10.XII.1952, Bohart. 2 ♀♀, Shirahama, Iriomote, 7.X.1963, Hirashima.

This species is very similar to *taihokensis* Uchida, 1932, from which it is distinguishable by the broader areolet of the fore wing, the more strongly sculptured mesopleurum and in the color characters given in the preceding key.

#### Subfamily BANCHINAE

84. *Lycorina ornata* Uchida & Momoi, 1959\*

AMAMI: ♀, Yuwandake, Amami-Oshima, 650 m, 18.VII.1963, Yoshimoto. ♀, Amami-Oshima, 25.V.1965, Takada. ♀, Amami-Oshima, 5.V.1966, ♀, Amami-Oshima, 9.V.1966, Kusigemati.

DISTRIBUTION: Japan, Ryukyus.

85. *Apophua kikuchii* (Uchida, 1932)\*

SAKISHIMA: 2 ♂♂, Ishigaki, 25-30.XI.1952, Bohart. ♀, Shirahama, Iriomote, 6.III.1964, ♂, Yonehara, Ishigaki, 15.III.1964, Yoshimoto & Harrell. ♀, Yarabu, Ishigaki, 28.III.1962, Arita.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

KEY TO RYUKYU SPECIES OF GLYPTA

1. Clypeus black basally, brown apically. Frons with no transverse carina. Wings slightly yellowish ..... **annulata**  
Clypeus entirely yellow. Frons with 1 or 2 transverse carinae above each antennal socket. Wings subhyaline ..... 2
2. Frons with a median projection. Hind tarsus blackish brown. Occipital carina complete on midline ..... **tumor**  
Frons with no median projection. Hind tarsal segments fuscous apically, yellowish basally. Occipital carina incomplete on midline ..... **densa**

86. *Glypta annulata* Momoi, new species      Fig. 26.

♀. Frons with medium-sized dense punctures that are tending mostly to be confluent transversely, with no transverse keel, with a weak small protuberance between antennal sockets. Face with fine dense punctures that are mostly distant from one another by slightly less than their diameter. Clypeus about 0.57 as long as interfoveal space. Malar space about 0.7 as long as basal width of mandible. Occipital carina narrowly interrupted on midline, scarcely sinuate opposite lower end of eye, meeting hypostomal carina at base of mandible. Flagellum with 31 segments, apical 6 segments except for last one wider than long. Pronotum, mesoscutum, scutellum, mesopleurum and metapleurum with medium-sized to large, dense punctures, those on mesoscutum densest, distant from one another mostly by slightly less than their diameter and tending to be confluent except on lateral lobes where punctures are slightly sparser and well distant from one another. Punctures on central portion of mesopleurum distant from one another by about or slightly less than their diameter. Speculum present. Prepectal carina ending at level of lower angle of pronotum. Metapleurum distinctly rugulose ventrally. Propodeum moderately short, divided into dorsal and hind faces by a transverse apical carina, its dorsal face about as long as hind face, the hind face strongly precipitate. Basal area and areola confluent, the combined area well defined, with no costulae. Propodeum with punctures similar to those on metapleurum, tending to be confluent irregularly on dorsal face and rather longitudinally on hind face. Tergite 1 about 1.0 as long as wide at apex, its dorsomedian carinae extending to apical 0.2. Tergite 2 about 0.6 as long as wide at apex, with coarse dense punctures mostly distant from one another by much less than their diameter and tending to be confluent. Tergites 3 and 4 with punctures a little finer and denser than those on tergite 2. Tergite 1 with punctures slightly sparser and a little coarser than those on tergite 2. Oblique impressions on tergites 2-4 quite distant at base. Intercubitus about as long as distance between intercubitus and 2nd recurrent vein. Nervulus distad of basal vein by about 0.5 its length. Nervellus broken at lower 0.25, weakly inclivous. Ovipositor sheath about 1.2 as long as fore wing. Fore wing 7.0 mm long.

Black. Palpi light brown. Mandible apically and clypeus apically dark reddish brown. A short patch at humeral angle of pronotum and tegula yellow. Antenna fuscous brown, blackish brown basally, reddish brown beneath except for a few basal and apical segments. Legs reddish brown. Fore 1st trochanter beneath, 2nd trochanters, apices of fore and mid femora, hind tibia and hind tarsus yellowish. Apex of hind femur, a subbasal ring, apical 0.3 and lower face of hind tibia, apical 0.6 of hind tarsal segments 1-3, hind tarsal segments 4 and 5 except for their bases, and fore and mid tarsal segment 5 largely, blackish brown to black. Wings slightly tinged with yellow. Stigma light brown.

Holotype ♀ (SAPPORO), Okinoerabu, Amami, 27.III.1964, Takada.

This species belongs to the *sculpturata* species group which in the Oriental Region is possibly represented by *nursei* Cameron, 1902, and *taiheizana* Sonan, 1936. From these 2 species, this species differs in the characteristic coloration of the hind tibia and tarsus, as well as the absence of costula. It is also similar to the Japanese *maruyamensis* Uchida, 1928, from which it is distinguished by the black scutellum and the prepectal carina not extending onto mesopleurum.

87. *Glypta densa* Momoi, new species      Fig. 27.

♀. Head more or less mat, with coarse close punctures mostly tending to be confluent, punctures on face finer and weaker, and on temple sparser. Temple weakly convex, strongly narrowing backward, about 0.4 as long as eye in lateral view of head. Frons with a pair of trans-

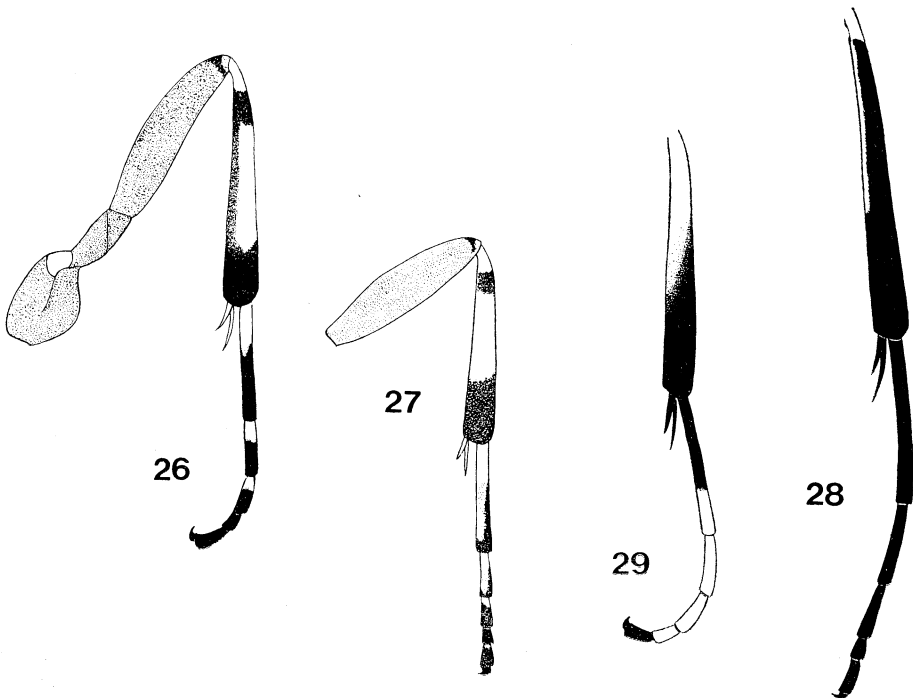


Fig. 26-29. Part or entire left hind leg, showing color pattern: 26, *Glypta annulata*; 27, *Glypta densa*; 28, *Glypta tumor*; 29, *Cryptopimpla procul*.



verse short carinae a little above antennal sockets, with a pair of closely spaced longitudinal keels between antennal sockets, below the transverse carina polished and with transverse striae. Malar space about 0.8 as long as basal width of mandible. Clypeus about 0.5 as long as wide, with a strong median transverse convexity as in species of *Apophua*. Occipital carina rather broadly interrupted on midline. Flagellum with 28 segments, its apical 5 segments except for last one shorter than wide. Thorax more or less mat, with coarse very dense punctures that are mostly distant from one another by much less than their diameter. Prepectal carina ending at or slightly above level of lower angle of pronotum. Propodeum sculptured like thorax, weakly areolated, its apical transverse carina strong, almost of uniform strength throughout, other propodeal carinae very weak and incomplete, the dorsal face about 1.7 as long as hind face. Tergites 1-4 with coarse very dense punctures that are mostly tending to be confluent longitudinally. Tergite 5 polished, with coarse sparse punctures. Tergite 1 about 1.1 as long as wide at apex, its dorsomedian carinae extending to near middle. Tergite 2 about 0.7 as long as wide. Tergite 4 about 0.6 as long as wide, its oblique impressions very weak. Oblique impressions on tergites 2-4 distant from each other at their bases. Ovipositor sheath about 1.7 as long as tergite 1. Fore wing 6.5 mm long.

Black. Palpi, mandible, clypeus, propleurum, lower hind angle and upper rim of pronotum, tegula and subtegular ridge yellow. Scutellum at apex, front rim and hind lower angle of mesopleurum, mesepimeron, hind end of metapleurum, and extreme apical rim of tergites reddish. Antenna blackish brown, its scape and pedicel somewhat yellowish beneath. Legs light reddish brown, with fore and mid coxae, upper face of hind coxa, all trochanters, hind tibia and mid and hind tarsi yellowish white. Hind femur at apex narrowly infuscate. A subbasal ring and apical 0.3 of hind tibia, hind tarsal segments 2-5 except for bases of segments 2 and 3, apex of hind tarsal segment 1, and mid tarsal segment 5 blackish brown. Wings subhyaline. Stigma blackish brown.

♂. Flagellum with 33 segments. Punctures on pronotum, mesopleurum and mesosternum finer than those in ♀. Tergite 1 about 1.2 as long as wide at apex. Tergites 2 and 4 about 0.9 as long as wide. Tergite 5 sculptured like tergites 1-4. Humeral angle of pronotum yellow but a yellow line on upper rim of pronotum absent. Subtegular ridge black, obscurely brownish posteriorly. Antenna fuscous brown, light brownish basally beneath. Otherwise similar to ♀.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 8.V.1966, Kusigemati.

Paratype. ♂, Amami: Amami-Oshima, 6.V.1966, Kusigemati.

In coloration and general sculpture, this species shares some affinities with species of *Apophua*. It is, however, undoubtedly a member of the genus *Glypta*. In my opinion it belongs to the *ceratites* species-group, though it lacks median projection on the frons.

#### 88. *Glypta tumor* Momoi, new species Fig. 28.

♂. Flagellum with 45 segments. Temple almost flat, moderately strongly receding, about 0.4 as long as eye in lateral view of head. Malar space about 0.7 as long as basal width of mandible. Occipital carina slightly weakened on midline but not incomplete. Clypeus about 0.6 as long as wide, with no median transverse convexity. Frons with a median projection, which is excavated, and a transverse carina extending outward from the projection. Face with rather fine to medium-sized very dense punctures. Clypeus feebly mat, with a few indistinct punctures. Frons densely punctate laterally, smooth medially. Vertex and temple with medium-sized to large, moderately dense punctures. Thorax with coarse dense punctures that are mostly distant from one another by slightly less than their diameter and often tending to be confluent, in

lower part of mesopleurum the punctures slightly sparser, being distant from one another by about their diameter. Prepectal carina ending at mid distance between lower hind angle of pronotum and median notch of hind rim of pronotum. Speculum conspicuous, large. Propodeum sculptured like metapleurum, moderately long, its dorsal face about 2.0 as long as hind face, normally areolated, with areola almost open laterally behind costulae. Combined areola and basal area broadened at costulae, the costula situated at middle. Tergites 1-5 with coarse dense punctures mostly tending to be confluent, punctures on tergite 5 slightly finer and sparser than those on tergites 1-4. Tergite 1 about 1.3 as long as wide at apex, its dorsomedian carinae extending to middle. Tergite 2 about 1.0 as long as wide. Tergite 4 about 1.2 as long as wide. Tergites 2-4 with their oblique impressions deep, their median and lateral parts strongly swollen. Intercubitus about 1.3 as long as distance between intercubitus and 2nd recurrent vein. Narvellus broken at lower 0.3, subvertical. Fore wing 8.8 mm long.

Black. Palpi, mandible, clypeus, an elongate patch on humeral angle of pronotum, tegula and a central large spot on scutellum yellow. Tergites at extreme apices reddish. Antenna fuscous brown to blackish brown, slightly reddish beneath, its scape and pedicel yellowish white beneath. Legs light reddish brown, with fore and mid coxae, upper face of hind coxa, all trochanters, and base and lower face of hind tibia yellowish white. Hind 2nd trochanter more or less infuscate in part. Hind femur at apex narrowly, hind tibia except for base and lower face from base to near apex, hind tarsus and greater part of mid tarsus blackish brown. Wings subhyaline. Stigma black.

Holotype ♂ (SAPPORO), Amami-Oshima, Amami, 10.V.1966, Kusigemati.

This species is similar to *densa* but is easily distinguishable by the presence of a projection on the frons and the different coloration of the hind leg. It is also very similar to *orientalis* Cushman, 1933, from which it may be distinguished by the different coloration of the clypeus and the different proportional length of the tergites.

89. *Zygoglypta iwatai* (Momoi, 1963)\*

AMAMI: ♂, Amami-Oshima, 6.V.1966, Kusigemati.

The present specimen differs from the type series as follows: Scape and pedicel light brown, with a lateral line fuscous brown. Tergites 2-7 at apex narrowly light brown. Legs light brown, with fuscous markings on hind leg stronger.

I would like to correct and add to the original description of *iwatai* as follows: Occipital carina complete apically, meeting hypostomal carina at a point distant from base of mandible by about apical width of mandible. Tergite 1 of ♂ about 1.8 as long as wide at apex. Tergite 2 of ♂ about 1.2 as long as wide. Tergites 2-4 each with a median longitudinal keel at base.

DISTRIBUTION: Japan, Ryukyus.

90. *Teleutaea minamikawai* Momoi, 1963\*

AMAMI: ♀, Amami-Oshima, 8.V.1966, Kusigemati.

DISTRIBUTION: Japan, Ryukyus.

KEY TO RYUKYU SPECIES OF LEPTOBATOPSIS

Mesoscutum entirely, densely punctate. Black, with sparse white markings. Hind tibia black, with a subbasal ring white. .... **indica**

Mesoscutum unsculptured posteriorly. Yellowish brown, with sparse black markings.

Hind tibia yellowish brown, with base and apical 0.3 fuscous brown ..... **badia**

91. **Leptobatopsis indica** (Cameron, 1897)\*

SAKISHIMA: ♂, Shirahama, Iriomote, 7.X.1962, Hirashima.

DISTRIBUTION: Australia, Ceylon, Taiwan (Formosa), India, Java, Philippines, Ryukyus, Singapore, Sumatra.

92. **Leptobatopsis badia** Momoi, new species

♂. Inner margins of eyes divergent ventrad. Malar space about 1.0 as long as basal width of mandible, slightly longer than shortest distance between eye and occipital carina. Lateral ocellus distant from eye by about 0.5 its diameter. Distance between eyes at antennae about 0.66 as great as large diameter of eye. Hypostomal carina weakly lobed apically, higher than occipital carina. Epomia present, extending mid way to upper rim of pronotum. Areolet with a short petiole. Postnervulus broken slightly above middle. Nervellus broken at lower 0.45, reclivous. Mid and fore tarsal claws pectinate. Hind tarsal claw simple. Trochanters simple. Tergite 1 about 0.9 as long as hind femur, its spiracle situated at middle. Tergite 2 about 2.4 as long as wide at apex, about 0.53 as long as tergite 1. Head smooth and polished. Face with medium-sized dense punctures, mostly distant from one another by about their diameter, punctures in orbit sparser. Clypeus faintly mat apically, with a few punctures basally. Thorax, excluding metapleurum, with medium-sized dense punctures that are mostly distant from one another by about their diameter or slightly less than their diameter, hind 2/3 of mesoscutum and entire scutellum virtually unsculptured and highly polished. Metapleurum and propodeum with coarse dense punctures that are mostly distant from one another by much less than their diameter, punctures on propodeum tending to be confluent transversely. Tergite 1 unsculptured and polished, the other tergites weakly mat. Fore wing 6.7 mm long

Yellow to yellowish brown, with hind 2/3 and front slope of mesoscutum, propodeum and tergites reddish brown. Head behind eyes, except for lower part of temple and all of cheek, median part of frons, mesoscutum posteriorly just before scutellum, tergite 2 apically, and tergites 5-7 except for base of tergite 5, black. Flagellum fuscous brown, light reddish brown beneath and apically. Scape and pedicel yellow, somewhat infuscate above. Hind 2nd trochanter above, apex of hind femur narrowly above, base and apical 0.3 of hind tibia except beneath, hind tarsal segment 1 except for apex, and apical 1/2 of hind tarsal segment 5 blackish brown. Mid tarsus and fore tarsal segment 5 weakly infuscate. Wings hyaline, fore wing weakly infumate at apex. Stigma black.

Holotype ♂ (SAPPORO), Amami-Oshima, Amami, 9.V.1966, Kusigemati.

Paratype. ♂, Japan: Miyazaki, 18.V.1954, Nohara.

This species is distinguishable from the other species of *Leptobatopsis* known to me by the presence of epomia, the posteriorly unsculptured mesoscutum and the much more extensively pale colored body.

KEY TO RYUKYU SPECIES OF PIMPLOPTERUS

Propodeum with no apical transverse carina. Pronotum, mesoscutum, scutellum and mesopleurum largely reddish brown. Mesoscutum with a yellow shoulder marking.

..... **mesorufus**

Propodeum with an apical transverse carina. Pronotum, mesoscutum, scutellum and

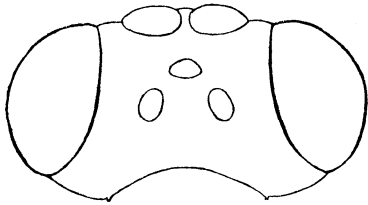
mesopleurum largely or entirely black. Mesoscutum with no yellow shoulder marking.

..... *samuelsoni*

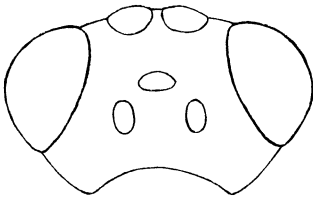
93. *Pimpla mesorufus* Momoi, new species Fig. 30.

♀. Flagellum with 31 or 32 segments. Head moderately strongly constricted behind eyes, mat, with fine to medium-sized dense weak punctures except for clypeus which is subpolished and with only a few punctures, punctures on face mostly distant from one another by about their diameter. Temple convex, about 0.38 as long as eye in lateral view of head. Lateral ocellus distant from eye by about 1.1 its diameter. Malar space about 0.8 as long as basal width of mandible. Thorax mat, with fine to medium-sized rather evenly dense punctures, those on mesoscutum a little finer than those on other portions, and those on mesopleurum mostly distant from one another by about their diameter. Scutellum evenly and weakly convex. Speculum small. Propodeum moderately slender, with no median carinae or sulcus, faintly mat, sculptured like metapleurum, the punctures tending to be confluent, its apical transverse carina absent or vestigial. Tergite 1 about 1.6 as long as wide at apex, almost straight broadened backward, weakly polished, very feebly shagreened and coriaceous, with some longitudinal striae and sparse punctures laterally. Tergite 2 about 1.0 as long as wide at apex, weakly mat, finely coriaceous, with very fine dense obscure punctures, towards apex subpolished. Tergites

3 and 4 similar to tergite 2 in sculpture. Tarsal claws slightly longer than arolia, with 2 or 3 small teeth. Nervulus basad of basal vein by about 4-5 × its width, strongly inclivous. Areolet sessile above, with 2nd recurrent vein apicad of middle. Nervellus with discoidella at lower 0.3, slightly reclivous. Ovipositor sheath about 2.2-2.4 as long as tergite 1. Fore wing 5.1 mm long.



31



30

Fig. 30-31. Head in dorsal view: 30, *Pimpla mesorufus*; 31, *Pimpla samuelsoni*.

Black. Palpi, mandible, clypeus, pronotum along upper margin, a sagittate shoulder marking on mesoscutum, subtegular ridge, tegula, a basolateral spot on scutellum, a small spot at lower hind angle of mesopleurum, upper end of mesepimeron, apical rims of tergites 1 and 2, apical and lateral rims of tergites 3-7, and subgenital plate yellow. Pronotum except for its collar, mesoscutum, scutellum, mesopleurum including mesopleural part of prepectus, mesepimeron, and hind end of metapleurum reddish brown. Legs light reddish brown, with fore and mid coxae, all trochanters, lower sides of fore and mid femora, and apex and upper face of hind coxa lighter. Hind tibia subbasally and towards apex, and hind tarsus weakly darkened, often fuscous brown. Fore and mid tarsi weakly infuscate, at least apically. Antenna fuscous brown, the apex of scape and pedicel light brown. Wings subhyaline. Stigma light brown, with rim fuscous brown. Veins fuscous brown.

Holotype ♀ (BISHOP 9146), Izumi-gogayama, Okinawa, 22.III.1964, Yoshimoto & Harrell.

Paratypes. Amami: ♀, Amami-Oshima, 21.III.1964, Takada. Okinawa. ♀, Hentona, Okinawa, 25.III.1964, Yoshimoto. ♀, Nago, Okinawa, 19.III.1965, Kuroda.

94. *Pimplopterus samuelsoni* Momoi, new species Fig. 31.

♀. Head very strongly constricted behind eyes. Temple and vertex strongly precipitate backward. Lateral ocellus distant from eye by about 1.0 its diameter. Temple about 0.15 as long as eye in lateral view of head, weakly convex. Malar space about 0.9 as long as basal width of mandible. Head mat, with fine dense but obscure punctures, subpolished and virtually impunctate on clypeus. Thorax mat, with fine punctures mostly distant from one another by about their diameter. Speculum weakly mat, impunctate. Propodeum mat, with punctures a little coarser than those on thorax and distant from one another mostly by slightly less than their diameter, its apical transverse carina complete, distinct, behind carina weakly mat and virtually impunctate. Propodeal spiracle small, subcircular. Tergite 1 about 1.6 as long as wide at apex, evenly broadened backward, mat, with some weak short longitudinal striae and some punctures apicolaterally, with a few punctures dorsolaterally, its extreme apical margin smooth and polished. Tergite 2 about 1.0 as long as wide, mat, with fine to medium-sized dense punctures that are mostly distant from one another by about their diameter, in a median narrow longitudinal portion virtually impunctate, its apical margin virtually unsculptured and polished. Tergite 3 similar to tergite 2 in sculpture but punctures mostly obscure within fine dense coriacea. Tergite 4 similar in sculpture to tergite 3. Ovipositor sheath about 3.5 as long as tergite 1. Tarsal claws slightly longer than arolia, with no teeth. Areolet narrowly sessile above, with 2nd recurrent vein at distal 0.4, its 2nd intercubitus vestigial. Nervulus distad of basal vein by about 2 × its width. Nervellus with discoidella at lower 0.2, weakly inclivous. Fore wing 4.2 mm long.

Black, Palpi, mandible, clypeus, pronotal collar, lower hind corner and humeral angle of pronotum, hind rim of propleurum, upper part of front rim of mesopleurum, subtegular ridge, mesepimeron, tegula and apical rim of tergites light brown to reddish brown. Antenna fuscous brown, its scape and pedicel light brown, with dorsal faces slightly infusate. Legs light reddish brown, with fore and mid coxae and trochanters lighter, and hind tibia above and tarsus weakly infusate. Wings hyaline. Stigma fuscous brown.

Holotype ♀ (BISHOP 9147), Ohara, Iriomote, Sakishima, 15-16.XI.1963, Samuelson.

95. *Fintona tertia* Momoi, new species Fig. 32-34.

♀. Flagellum slender, weakly attenuate apically, with 47 segments, all the segments longer than wide. Head moderately strongly constricted behind eyes. Occipital carina complete, weakly turned inward at lower end, meeting hypostomal carina slightly above base of mandible. Lateral ocellus distant from eye by about 1.7 its diameter. Clypeus about 0.4 as long as wide, weakly convex in profile, its apical rim evenly and weakly convex. Face about 0.7 as long as wide. Malar space about 0.6 as long as basal width of mandible. Temple convex, about 0.4 as long as eye in lateral view of head. Head mat, with medium-sized dense punctures, those on face stronger, mostly distant from one another by slightly less than their diameter. Clypeus mat, including its apical rim with weak punctures. Epomia absent. Scutellum evenly strongly convex. Prepectal carina ending a little above level of lower end of pronotum. Propodeum with no carinae. Propodeal spiracle medium-sized, elongate oval. Thorax, including propodeum, mat, with evenly dense, medium-sized punctures that are mostly distant from one another by slightly less than their diameter, punctures on propodeum slightly coarser than those on other portions. Speculum absent. Tergite 1 about 2.2 as long as wide at apex, weakly protuberant basomedially, its lateral rim weakly bowed inward, its spiracle at basal 0.4, its basal width about 0.5 as great as apical width. Tergite 2 about 0.9 as long as wide at apex, strongly broadened backward. Epipleura 2 and 3 narrow, linear. Tergites 1 and 2 mat, tergite 1 apicolaterally and tergite 2 entirely with medium-sized dense punctures, at apex both tergites subpolished and almost unsculptured. Tergite 3 a little shiny, with weak dense punctures basally, on hind portion the punctures becoming obscure within coriacea. Tergite 4 faintly mat,

subpolished, with fine indistinct punctures. Ovipositor weakly downcurved, its sheath about 1.1 as long as tergite 1. Tarsal claws long, stout, pectinate, hind tarsal claw with about 6 teeth. Areolet narrow, about 1.3 as long as wide, nearly sessile above, with 2nd recurrent vein slightly distad of middle. Nervulus opposite basal vein. Nervellus broken at lower 0.3, subvertical. Fore wing 8.3 mm long.

Black. Yellowish white: palpi, mandible, clypeus, lower 2/3 of inner and outer orbits, a triangular large spot on each side of top of head, front rim and humeral angle of pronotum, a shoulder marking and a central spot on mesoscutum, scutellum except for base, subtegular ridge, upper end of mesepimeron, a round small basolateral spot and a quadrate apicolateral spot on propodeum, a circular small spot near upper end of prepectal carina, a small spot in lower hind corner of mesopleurum, basal 1/3 of dorsal face of tergite 1, apices of all tergites, and apex of subgenital plate. Clypeus and mandible darkened apically. Antenna fuscous brown apically, black basally, its median 7 or 8 segments and apex of lower face of scape yellowish white, and apices of pedicel and basal flagellar segments narrowly pale. Legs red. Hind coxa, hind 2nd trochanter, bases and apices of hind femur and tibia, hind tarsal segments 1 and 5, bases of fore and mid coxae, and mid tarsus black. Fore and mid 2nd trochanters and fore tarsus weakly infusate. Hind tarsal segments 2-4 white. Fore and mid coxae and their 1st trochanters largely white. Wings subhyaline. Stigma blackish brown.

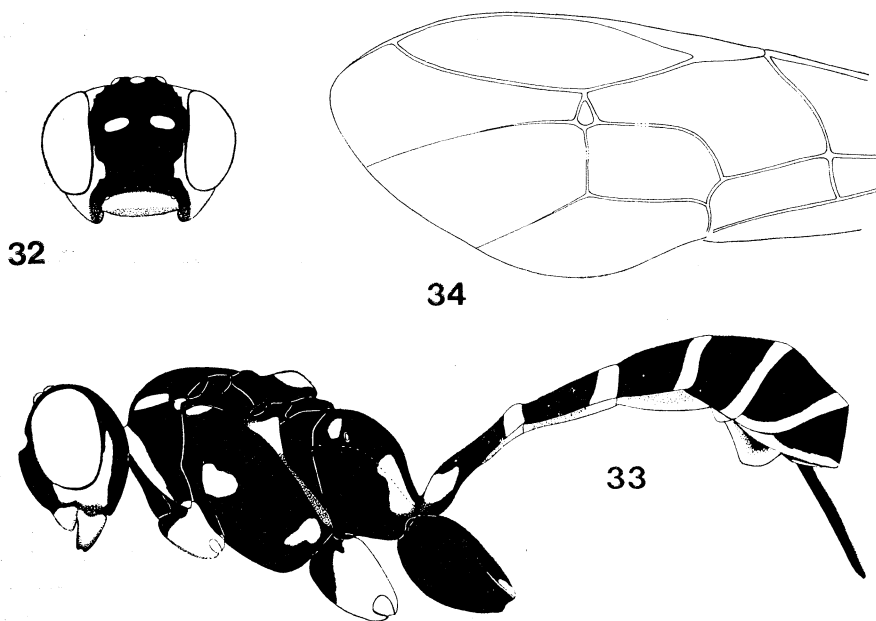


Fig. 32-34. *Fintona tertia*, ♀: 32, head in frontal view, showing color pattern; 33, whole insect in lateral view (excluding antenna, wings, and apical portions of legs), showing color pattern; 34, part of left fore wing.

Holotype ♀ (Momoi), Amami-Oshima, Amami, 6.V.1959, Kamiyo.

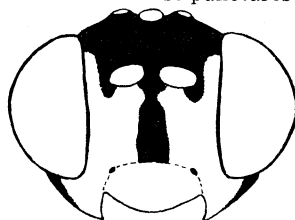
This species is easily distinguishable from *nigripalpis* Cameron, 1909, and *taiwanensis* Momoi, 1968, by the distinctive coloration of the body as well as by the absence of a median impression on frons and the absence of the apical transverse carina of the propodeum.

This species may not be a true *Fintona*. However, on the strength of the long, stout and pectinate tarsal claws, the elongate tergite 1, the short ovipositor, the long and slender flagellum, the low situation of the discoidella and the less conspicuous vestiture, I am inclined to place it in *Fintona* until the genera of this area are better understood.

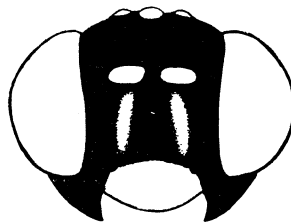
96. ***Cryptopimpla procul*** Momoi, new species      Fig. 29, 35 & 36.

♀. Flagellum with 31-33 segments, weakly attenuate apically, almost not moniliform, all segments longer than wide. Head moderately strongly constricted behind eyes. Temple strongly convex, about 0.44-0.46 as long as eye in lateral view of head. Lateral ocellus distant from eye by about 1.4-1.5 its diameter. Malar space about 0.4 as long as basal width of mandible. Occipital carina complete, meeting hypostomal carina at a point distant from base of mandible by about basal width of mandibular teeth. Clypeus about 0.5 as long as wide, weakly convex longitudinally, its apical rim broadly convex. Face about 0.7 as long as wide. Epomia absent. Prepectal carina ending a little above level of hind lower angle of pronotum. Propodeal spiracle small, subcircular. Apical transverse carina of propodeum often strong, sometimes weak or vestigial. Tergite 1 about 1.7 as long as wide at apex, evenly broadened backward, very weakly elevated basally before its spiracles, its basal width about 0.56 as great as apical width. Tergite 2 about 0.8-0.9 as long as wide. Head weakly mat, with fine to medium-sized dense punctures, punctures on frons and face coarser and denser, distant from one another mostly by less than their diameter. Thorax subpolished, with medium-sized dense punctures mostly distant from one another by slightly less than their diameter, punctures on mesoscutum a little finer and those on propodeum a little coarser than the other portions. Speculum absent. Tergites 1 and 2 subpolished, with medium-sized to large dense punctures that are mostly distant from one another by much less than their diameter, basal concavity of tergite 1 and apices of these 2 tergites smooth. Tergite 3 weakly mat, with weak, medium-sized dense punctures that are sometimes tending to be confluent transversely, its apex smooth. Tergite 4 with fine indistinct punctures. Ovipositor straight, its sheath about 1.1-1.2 as long as tergite 1. Areolet shortly petiolate, small, with 2nd recurrent vein distinctly distad of middle. Nervulus distad of basal vein by about  $2 \times$  its width, strongly inclivous. Nervellus strongly broken at lower 0.3 subvertical or weakly inclivous. Tarsal claws slightly longer than arolia, not pectinate. Fore wing 6.3-6.6 mm long.

Black. Mandible except for base and apex, clypeus, 2 or 4 longitudinal stripes on face (sometimes these confluent to each other), sometimes also cheek, a spot on subtegular ridge, the apex of tergites 1 and 2 rather broadly, apex of tergite 3 narrowly, lower faces of scape and pedicel, median 6 or 7 flagellar segments, lower face of fore coxa, a spot on upper face of mid coxa, bases of mid and hind tibiae, sometimes base of fore tibia, apex of hind tarsal segment 1, and hind tarsal segments 2-4, white. Fore and mid femora apically, and their tibiae and tarsi dark brown. Palpi and stigma blackish brown. Wings subhyaline. In the specimen from the Ryukyus, the legs are paler, the fore and mid legs being mainly reddish brown.



35



36

Fig. 35-36. *Cryptopimpla procul*, ♀, face in frontal view, showing variation of color pattern.

Holotype ♀ (Momoi), Oginosen, Hyogo, Japan, 28.V.1954, Momoi.

Paratypes. Amami: ♀, Amami-Oshima, 8.V.1966, Kusigemati. Japan: ♀, Hikosan, Fukuoka, 26.V.1956, ♀, Sasayama, Hyogo, 14-15.VI.1955, Momoi. ♀, Nabarakyo, Hiroshima, 29.IX.1935, Egawa. ♀, Higashiyama, Kyoto, 26.V.1957, Iwata.

This species is somewhat atypical for a member of *Cryptopimpla* in having the flagellum of ♀ almost not moniliform. It agrees, however, in the other main characters with the members of the genus and does not deserve generic distinction.

#### Subfamily PORIZONTINAE

#### 97. *Chriodes (Klutiana) pentagonus* Momoi, new species Fig. 37.

Face about 0.6 (♀) or 3.0 (♂) as wide as subapical width of mandible. Eye weakly hairy. Temple about 0.2 (♀) or 0.75 (♂) as long as eye in lateral view of head. Lateral ocellus distant from eye b about 1.0 (♀) or 1.6 (♂) its diameter. Mesoscutum virtually unsculptured, polished, hairless,

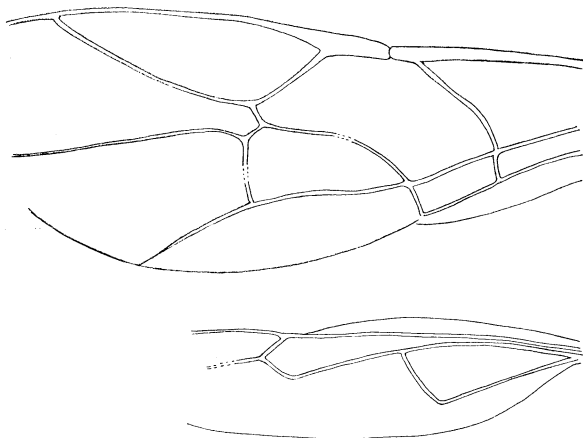


Fig. 37. *Chriodes (Klutiana) pentagonus*, part of left wings.

its notauli sharp to hind line of tegulae, nearly confluent to each other posteriorly. Mesosternum mat, with fine punctures. Mesopleurum polished and unsculptured above, with feeble fine sparse sculpture and sparse punctures below, its median impression most often costate. Sternaulus narrow but sharp, extending to hind rim of mesopleurum. Metapleurum weakly mat or subpolished, with fine to medium-sized punctures, more or less rugulose posteriorly. Propodeum almost unsculptured in basal areas, 2nd lateral area and basal part of areola, with weak fine transverse rugulae in the other areas. Areola confluent with petiolar area, pentagonal, pointed above. Second lateral area separated from pleural area. Tergite 1 polished, unsculptured, without glymma. Tergite 2 polished, almost unsculptured. Ovipositor sheath about 1.7 as long as tergite 1. Intercubitus about as long as distance between intercubitus and 2nd recurrent vein, meeting cubitus at angle of about 90°. Nervellus weakly reclivous. Second discoidal cell of ♀ pointed at base. Fore wing 3.0-3.1 mm long.

Black. Palpi, mandible, tegula, scape, pedicel, basal flagellar segments, especially beneath, and tergite 3 basally, light brown. Flagellar segments 10-13 of ♀ white. Fore and mid legs light brown, their tarsal segment 5 weakly infuscate. Hind leg dark brown. Hind coxa most often black. Hind 1st trochanter light brown. Hind tibia medially and beneath light brownish. Wings subhyaline. Stigma fuscous brown.

Holotype ♀ (FUKUOKA), Shirahama, Iriomote, Sakishima, 4.X.1963, Miyamoto.

Paratypes. Amami: ♂, Yuwandake, Amami-Oshima, 31.VII.1963, Hirashima. ♂, Yuwandake, Amami-Oshima, 29.VII.1963, Gressitt. ♂, Amami-Oshima, 24.V.1965, Takada.



♂, Amami-Oshima, 3.V.1959, ♂, Amami-Oshima, 2.V.1959, Kamijo. Okinawa: ♂, Yona, Okinawa, 26.XI.1963, Samuelson. ♂, Yona, Okinawa, 19.X.1963, Miyamoto. 4 ♂♂, Nago, Okinawa, 28.III.1964, Kakinohana. 2 ♂♂, Nago, Okinawa, 15.III.1964, ♂, Nago, Okinawa, 5.IV.1964, Takara. Sakishima: 2 ♂♂, same data as the type. ♀, Shirahama, Iriomote, 4.X.1963, ♂, Omotodake, Ishigaki, 29.X.1963, ♀, Izumi, Okinawa, 21.X.1963, Hirashima. 2 ♂♂, Nakaragawa, Iriomote, 0-200 m, 12.III.1964, ♂, Karayama, Ishigaki, 18.III.1964, ♀, Karayama, Ishigaki, 14.III.1964, Yoshimoto & Harrell. ♀, Omotodake, Ishigaki, 17.XI.1963, Samuelson. Japan: ♀, Kyoto, 13.VIII.1961, Takada.

This species differs from *jezoensis* Uchida, 1957, in having the areola of the propodeum pentagonal and pointed above, the 2nd lateral area separated from the pleural area, and the 2nd discoidal cell of ♀ pointed at base.

#### KEY TO RYUKYU SPECIES OF CASINARIA

- Abdomen strongly compressed. Hind and mid legs black, with only bases of their tibiae white ..... **daitojimensis**  
 Abdomen subcylindrical. Hind and mid legs mostly light brown, with hind coxa except for apex, upper face of hind femur towards apex, hind tibia basally and apically, and hind tarsus fuscous brown to black. .... **cylindrator**

#### 98. *Casinaria daitojimensis* (Sonan, 1940)

*Casinaria shirowana* Uchida, 1956. New synonymy.

AMAMI: 2 ♂♂, Tokunoshima, 25.III.1964, Takada.

OKINAWA: ♀, Yona, Okinawa, 19.X.1963, Hirashima.

DISTRIBUTION: Ryukyus.

#### 99. *Casinaria cylindrator* Momoi, new species Fig. 38 & 39.

Temple receding straight for considerable distance behind eye, then sharply and angularly inflexed inward. Occipital carina meeting hypostomal carina at base of mandible. Hypostomal costa carina-shaped. Gena adjacent to hypostomal carina flat. Lateral ocellus distant from eye by about 0.7-0.8 its diameter. Face, including clypeus, about 1.2 as long as wide. Malar space about 0.5 as long as basal width of mandible. Lower lamina of mandible broad basally, gradually narrowing distally, extending to near base of apical teeth. Clypeus distinctly convex, impressed along apical rim, moderately narrow. Frons and face strongly mat, without distinct punctures. Flagellum with 32-34 segments. Mesoscutum

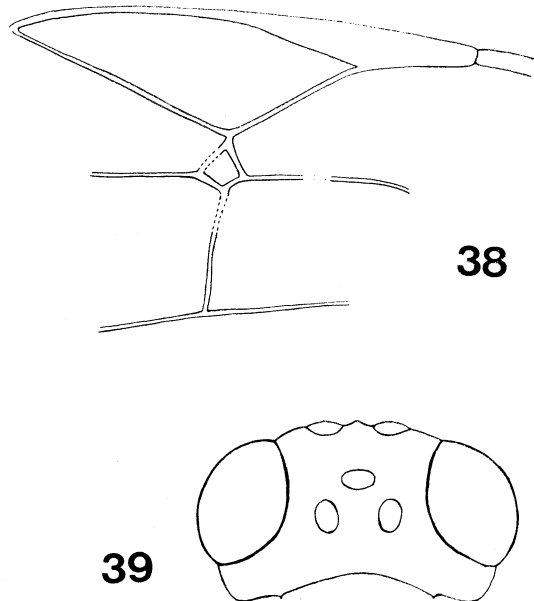


Fig. 38-39. *Casinaria cylindrator*, ♀: 38, part of left fore wing; 39, head in dorsal view.

strongly mat, with indistinct punctures. Mesopleurum strongly mat, rugulose along front rim and prepectal carina, just below subtegular ridge and in its oblique impression. Metapleurum strongly mat. Propodeum slender, extending to middle of hind coxa, strongly mat, finely rugulose, with only basal area, 1st lateral area and basal 1/2 of areola defined, usually with lateral portions of apical transverse carina present, with a moderately narrow shallow median longitudinal sulcus which is trans-rugulose. Abdomen slender, subcylindrical. Tergite 2 about 1.8 as long as wide at apex. Tergite 3 about 1.1-1.2 as long as wide, its epipleurum separated by a crease. Ovipositor sheath about as long as hind tarsal segment 2, about 0.3 as long as tergite 1. Male genital clasper rather slender, rounded at apex. Areolet petiolate, nearly symmetrical. Nervellus distad of basal vein by about its width. Nervellus subvertical. Fore wing 3.4-3.8 mm long.

Black. Palpi, mandible and tegula yellowish white. Tergite 2 at apex laterally, tergite 3 apically and on extreme lateral rim, tergite 4 apically and laterally, and tergites beyond 4 laterally, reddish brown to light brown. Legs light brown. Hind coxa except for apex black. Hind femur above, hind tibia at base and apically, and often also above, and hind tarsus strongly infusate. Mid tibia at apex, and fore and mid tarsi apically, weakly infusate. Wings subhyaline. Stigma fuscous brown. Antenna fuscous brown, its scape and pedicel light brown beneath.

Holotype ♀ (BISHOP 9148), Karayama, Ishigaki, Sakishima, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell.

Paratypes. Amami: ♀, Amami-Oshima, 5.V.1966, Kusigemati. Sakishima: 2 ♀♀, same data as the type. ♀, Torogawa, Ishigaki, 17.III.1964, ♀, Ushikumori, Iriomote, 425 m, 11.III.1964, Yoshimoto & Harrell. ♂, Shiharama, Iriomote, 3km E, 100 m, 9.III.1964, Harrell. ♂, Ishigaki, 25-30.XI.1952, Bohart. ♂, Ohara, Iriomote, 15-16.XI.1963, in Malaise trap, 3 ♂♂, Ushikumori, Iriomote, 3-10.XI.1963, in Malaise trap, ♀, Shirahama-Sonai, Iriomote, 5.XI.1965, Samuelson.

This species is very similar to *formosana* Momoi<sup>3</sup>, from which it differs in the presence of propodeal carinae, the vertical nervellus, and the pale hind 1st trochanter, lower face of scape and fore and mid coxae.

#### KEY TO RYUKYU SPECIES OF VENTURIA

1. Areolet absent. Hind coxa light brown ..... **exareolata**  
Arolet present. Hind coxa black, with apex light brown. .... 2
2. Tergite 2 about 1.3 as long as tergite 1, these 2 tergites almost completely black. Lateral ocellus distant from eye by about 0.9 its diameter ..... **linearis**  
Tergite 2 about 0.84 as long as tergite 1, these 2 tergites conspicuously marked with reddish brown apically. Lateral ocellus distant from eye by about 1.3 its diameter. .... **aritai**

#### 100. *Venturia linearis* Momoi, new species

♀. Lateral ocellus distant from eye by about 0.9 its diameter. Temple convex, strongly receding, about 0.47 as long as eye in lateral view of head. Occipital carina meeting hypostomal carina at base of mandible. Frons and face strongly mat, becoming weakly polished

#### 5. *Casinaria formosana* Momoi, new name.

*Casinaria insularis* Uchida, 1932. *J. Fac. Agr., Hokkaido Imp. Univ.* 33: 205 (nec *Campoplex insularis* Cresson, 1865. *Proc. Ent. Soc. Philad.* 4: 42).

on clypeus and orbital part of face. Face about 1.2 as long as wide. Mesoscutum strongly mat, with fine punctures, its notauli almost obscure. Mesopleurum and metapleurum weakly mat, with weak fine to medium-sized punctures mostly distant from one another by about, or slightly less than, their diameter, with some striae just below subtegular ridge and just before speculum, the speculum smooth and polished. Mesosternum weakly mat, with punctures slightly finer than those on mesopleurum and metapleurum. Propodeum extending over apical 1/3 of hind coxa, strongly mat, weakly, irregularly rugulose, with only 1st lateral area, basal area and basal part of areola defined, more or less transversely rugulose dorsomedially behind basal transverse carina. Tergite 1 about 1.0 as long as propodeum, its dorsal line strongly convex apically. Tergite 2 about 1.3 as long as tergite 1. Ovipositor upcurved apically, its sheath about 1.7 as long as tergite 2. Areolet small, petiolate, with 2nd recurrent vein slightly distad of middle. Nervulus opposite basal vein. Nervellus unbroken, subvertical. Fore wing 3.6 mm long.

Black. Palpi, mandible, tegula, lower faces of scape and pedicel, and legs light brown. Tergite 3 and following tergites light reddish brown except for their crests. Scape and pedicel above and flagellum fuscous brown. Hind coxa blackish brown basally, light brown apically. Hind tibia subbasally and towards apex (in paratype also above), and hind tarsus weakly darkened. Wings subhyaline. Stigma fuscous brown.

Holotype ♀ (BISHOP 9149), Ishigaki, Sakishima, 1-10.XII.1952, Bohart.

Paratype, Sakishima: ♀, Ushikumori, Iriomote, 7-10.XI.1963, in Malaise trap, Samuelson.

#### 101. *Venturia aritai* Momoi, new species

♂. Flagellum with 43 segments, its segment 3 about 1.7 as long as wide. Lateral ocellus distant from eye by about 1.3 its diameter. Temple receding rather straight for most part, then inflexed inward, about 0.7 as long as eye in lateral view of head. Occipital carina angled on midline, meeting hypostomal carina at a point distant from base of mandible by about 0.5 basal width of mandible. Face, including clypeus, about 0.9 as long as wide. Frons and face strongly mat, subrugulose punctate. Clypeus weakly mat, with dense distant punctures. Mesoscutum strongly mat, with medium-sized dense punctures, its notauli almost obscure. Mesopleurum and metapleurum weakly mat, with medium-sized dense punctures, more or less striate just below subtegular ridge and just before speculum, the speculum subpolished and smooth. Propodeum extending beyond middle of hind coxa, strongly mat, areolated distinctly, not rugulose and with some weak punctures on basal areas and basal 1/2 of areola, irregularly rugulose on 2nd lateral area, the other portions distinctly, transversely rugulose. Basal area triangular, longer than wide. Areola confluent with petiolar area, subequal in width to 2nd lateral area at costulae. Petiolar area almost separated from 3rd lateral area. Second lateral area barely separated from pleural area. Tergite 1 about 1.1 as long as propodeum, its dorsal line weakly convex apically. Tergite 2 about 0.86 as long as tergite 1. Male genital clasper broad apically, with a notch dorsally, its tip pointed. Areolet small, petiolate, with 2nd recurrent vein slightly distad of middle. Nervulus a little distad of basal vein. Nervellus unbroken, subvertical. Tarsal claws pectinate basally, the hind tarsal claw with about 3 teeth at base. Fore wing 5.3 mm long.

Black. Palpi, mandible and tegula light brown. Postpetiole, about 2/5 of tergite 2, and tergites 4-8 reddish brown. Male genital clasper dark reddish brown. Antenna fuscous brown, its scape and pedicel light brown beneath. Legs light reddish brown. Coxae black, their tips and lower faces of fore and mid coxae light brown. Trochanters light brown. Apices of fore and mid femora narrowly light brownish. Hind tibia towards apex and hind tarsus weakly fuscous. Wings hyaline. Stigma fuscous brown.

Holotype ♂ (Matsuyama), Yarabu, Ishigaki, Sakishima, 28.III.1962, Arita.

102. *Venturia exareolata* Momoi, new species

♂. Flagellum with 36 segments, its segment 3 about 3.1 as long as wide. Head thick. Lateral ocellus distant from eye by about 1.5 its diameter. Temple receding straight backward for considerable distance behind eye, then inflexed inward, about 0.7 as long as eye in lateral view of head. Face, including clypeus, about 0.8 as long as wide. Occipital carina not angled on midline, meeting hypostomal carina at a point distant from base of mandible by about 1.0 basal width of mandibular teeth. Frons, vertex, and face, including clypeus, evenly strongly mat, with fine punctures on frons, with much finer punctures on other portion. Frons with a weak almost obscure median longitudinal keel. Mesoscutum strongly mat, with fine dense punctures, its notauli almost obscure. Mesopleurum and metapleurum strongly mat, with fine dense punctures which are mostly distant from one another by about, or slightly less than, their diameter, mesopleurum with rugulae just below subtegular ridge and just before speculum, which is smooth and polished. Mesosternum strongly mat, with punctures much finer than those on mesopleurum and metapleurum. Propodeum extending more than basal 1/3 of hind coxa, mat, obscurely punctate, transversely rugulose only dorsoapically (on petiolar area), distinctly areolated. Basal area long, almost triangular, about  $2 \times$  as long as wide. Areola barely separated from 2nd lateral area, not closed behind but separated from petiolar area in sculpture, about  $2 \times$  as long as wide, at costulae less wider than 2nd lateral area. Petiolar area confluent with 3rd lateral area. Second lateral area separated from pleural area. Tergite 1 about 0.9 as long as propodeum, its dorsal line virtually straight. Tergite 2 about 1.2 as long as tergite 1. Male genital clasper broad apically, not pointed. Areolet absent, with 2nd recurrent vein distad of intercubitus by about  $2 \times$  its width. Nervellus a little distad of basal vein. Nervellus unbroken, subvertical. Tarsal claws pectinate only basally. Fore wing 4.7 mm long.

Black. Palpi, mandible, tegula and lateral portions of tergites 4-7 light brown. Antenna fuscous brown, its scape and pedicel light brown beneath. Legs light brown. Hind femur, hind tibia apically, basally and above, and hind tarsus, weakly darkened. Fore and mid tarsal segment 5 weakly infusate. Wings hyaline. Stigma fuscous brown.

Holotype ♂ (SAPPORO), Amami-Oshima, Amami, 24.V.1965, Takada.

## KEY TO RYUKYU SPECIES AND SUBSPECIES OF CAMPOPLEX

1. Clypeus unusually long, its apical rim conspicuously below lower level of eyes. Propodeum with no median longitudinal sulcus ..... **notabilis**  
 Clypeus of normal form, its apical rim near lower level of eyes. Propodeum with a narrow and deep median longitudinal sulcus ..... 2
2. Scape and pedicel light brown beneath. Tergites 3-8 light reddish brown with their crests black. Hind coxa black with apex light brown. Hind 1st trochanter entirely light brown ..... **sugiharai australis**  
 Scape and pedicel entirely black. Tergites 3-8 entirely black. Hind coxa entirely black. Hind 1st trochanter largely black ..... **sugiharai okinawensis**

103. *Campoplex notabilis* Momoi, new species      Fig. 40 & 41.

♀. Flagellum with 30 segments. Lateral ocellus distant from eye by about 1.3 its diameter. Temple weakly convex, about 0.55 as long as eye in lateral view of head. Eye small, its larger diameter about 1.2 as long as distance between eyes. Face, including clypeus, elongate conspicuously downward, about 1.1 as long as wide, its lower rim (apical rim of clypeus) conspicuously below lower level of eyes. Malar space about 1.0 as long as basal width of mandible. Occipital carina meeting hypostomal carina at base of mandible. Frons and face mat, with

very fine dense punctures. Pronotum mat above, polished below, striate between. Mesoscutum mat, with fine dense punctures. Mesopleurum mat, with fine dense punctures that are distant from one another mostly by about, or slightly less than, their diameter, with a few short striae just before speculum, which is smooth and polished. Metapleurum mat, with fine dense punctures. Propodeum with basal area and 1st lateral area defined, with a weak dorsolateral longitudinal carina, mat, more or less rugulose apically, with some punctures, not sulcate dorsomedially. Basal area trapezoidal, weakly narrowed backward. Tergite 2 about 1.6 as long as wide at apex, about 0.75 as long as tergite 1. Ovipositor weakly and evenly, upcurved for most part, its apical part strongly upcurved, the sheath about 1.2 as long as tergite 1. Areolet petiolate, with 2nd recurrent vein distinctly distad of middle. Nervulus opposite basal vein. Nervellus broken at lower 0.3, weakly inclivous. Tarsal claws with a few teeth basally. Fore wing 4.2 mm long.

Black. Palpi, mandible and tegula yellow. Lateral parts of tergites 3-6 (tergites 7 and 8 obscure within tergite 6 in the type specimen) and apicolateral corner of tergite 2 light reddish brown, the reddish part becoming larger on hind tergites. Fore and mid legs light reddish brown, with coxae and trochanters yellowish, the coxae blackened at base. Hind 2nd trochanter and hind tibial spurs yellowish. Wings hyaline. Stigma fuscous brown.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 21.III.1964, Takada.

#### 104. *Campoplex sugiharai okinawensis* Momoi, new subspecies

Black. Palpi, mandible and tegula light brown. Apical tergites tinged with brown on extreme lateral portion and on extreme apical margin. Legs light reddish brown, with hind leg slightly darker. Hind coxa and greater part of hind 1st trochanter black. Hind femur towards apex above (♀) or largely (♂), hind tibia basally and apically, hind tarsus except for bases of segments 1-4, fore and mid coxae basally (♀) or largely (♂), and apical segments of fore and mid tarsi slightly infuscate. Wings hyaline. Stigma fuscous brown. Fore wing 3.6-4.2 mm long.

Holotype ♀ (Momoi), Nagodake, Okinawa, 12.III.1965, Kuroda.

Paratypes. Amami: 5 ♂♂, Tokunoshima, 26.III.1964, Takada. Okinawa: ♀, same data as type. ♀, ♂, 13.III.1965, 2 ♀♀, 18.III.1965, ♀, 25.III.1965, ♂, 11.III.1965, 2 ♂♂, 16.III.1965, all on Okinawa, Kuroda. ♀, ♂, Izumigogayama, Okinawa, 22.III.1964, ♀, Yona, Okinawa, 24-25.III.1965, Yoshimoto & Harrell.

#### 105. *Campoplex sugiharai australis* Momoi, new subspecies

♀. Black. Palpi, mandible and tegula light brown. Tergite 3 and following tergites light reddish brown, with their crests blackish brown or black. Tergite 1 at apex and tergite 2 at apex and on extreme lateral margin, obscurely tinged with reddish brown. Antenna blackish brown, its scape and pedicel light brown beneath. Legs light brown to light reddish brown, with fore and mid coxae and all trochanters paler. Hind coxa black, with tip light brown. Hind tibia at base and apex, and hind tarsus dark brown, tarsal segments paler at bases. Wings

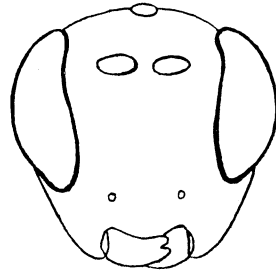


Fig. 40. *Campoplex notabilis*, head in frontal view.

hyaline. Stigma fuscous brown. Fore wing 3.9-4.4 mm long.

Holotype ♀ (BISHOP 9150), Omotodake, Ishigaki, Sakishima, 17-20.XI.1963, Samuelson.  
Paratypes. Thailand: ♀, Prew, 13.I.1963, Nagatomi. ♀, Doi Intanon, 6.I.1958, Yoshikawa.

The two subspecies described above may be distinguishable from *s. sugiharai* Uchida, 1932, which occurs in Japan and Korea, as follows:

1. Scape and pedicel light brown beneath. Hind 1st trochanter light brown. Mid coxa light brown. Tergites 3-8 light reddish brown, with their crests blackish ..... **sugiharai australis**
- Scape and pedicel entirely black. Hind 1st trochanter largely black ..... 2
2. Tergites 3-8 extensively reddish brown laterally. Hind femur blackish brown. Mid coxa extensively blackish brown. .... **sugiharai sugiharai**
- Tergites 3-8 almost entirely black. Hind femur light reddish brown, slightly infuscate towards apex. Mid coxa light brown. .... **sugiharai okinawensis**

106. **Cymodusa orientalis** Uchida, 1956

AMAMI: 2 ♀♀, Amami-Oshima, 25.VI.1959, Kamiyo. 2 ♂♂, Amami-Oshima, 6.III.1964, Takada.

OKINAWA: ♀, Nago, Okinawa, 12.III.1965, ♂, Haneji, Okinawa, 16.III.1965, ♀, ♂ Nago, Okinawa, 23.III.1965, Kuroda.

Males have not previously been recorded.

♂. Malar space about 0.4 as long as basal width of mandible. Face subparallel-sided, about 1.1 as long as wide. Otherwise similar to ♀.

DISTRIBUTION: Japan, Ryukyus.

KEY TO RYUKYU SPECIES OF ERIBORUS

1. Tergites 3-8 entirely black. .... 2
- Tergites 3-8 reddish brown, often their crests blackish. .... 3
2. Hind leg black, with only tibial spurs light brown ..... **niger**
- Hind leg light brown and reddish brown, with coxa, 1st trochanter, base and apex of tibia, and tarsus blackish brown to black. .... **acutulus**
3. Ovipositor sheath much shorter than tergite 1. Mid coxa largely black. .... **vulgaris**
- Ovipositor sheath much longer than tergite 1. Mid coxa largely light brown. .... 4
4. Ovipositor upcurved only at apex, its sheath whitish at apex. Tergite 2 about as long as wide at apex. .... **ryukyuensis**
- Ovipositor evenly and strongly upcurved, its sheath with no white mark at apex. Tergite 2 much longer than apical width. .... 5
5. Lateral ocellus distant from eye by about 0.7-0.8 its diameter. Face and clypeus evenly and strongly mat. Tergite 2 evenly and strongly mat. .... **samuelseni**
- Lateral ocellus distant from eye by about 1.0 its diameter. Face strongly mat dorsally, much less strongly mat on lower portion and on clypeus. Tergite 2 strongly mat basally, weakly polished apically. .... **similis**

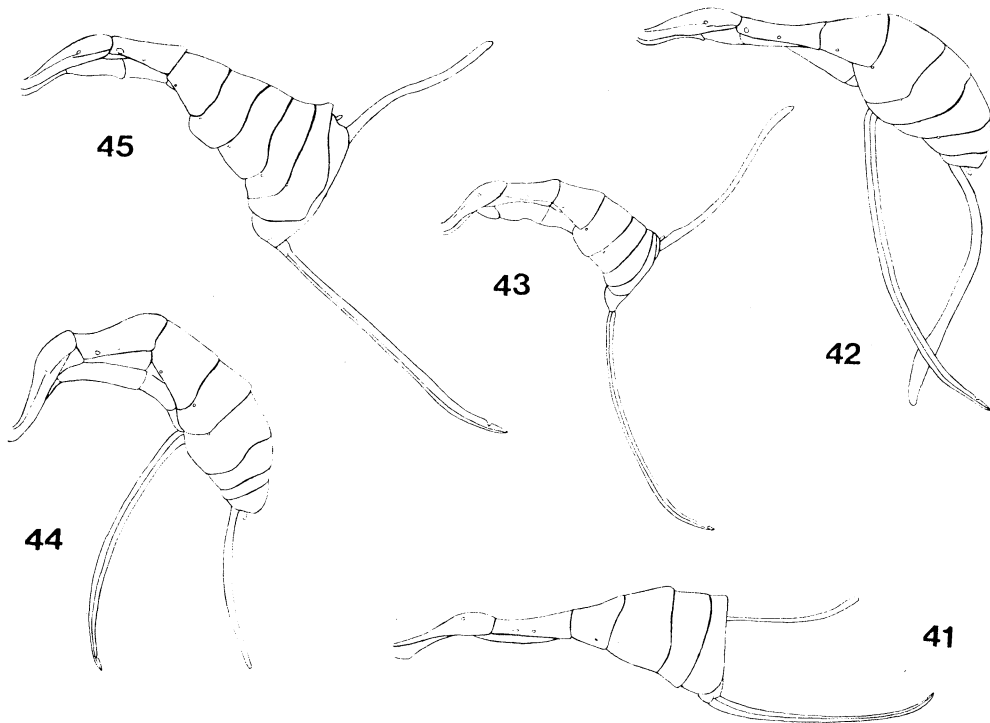


Fig. 41-45. Abdomen in lateral view: 41, *Campoplex notabilis*; 42, *Eriborus acutulus*; 43, *Eriborus niger*; 44, *Eriborus samuelsoni*; 45, *Eriborus ryukyuensis*.

107. *Eriborus acutulus* Momoi, new species Fig. 42.

Flagellum with 30 or 31 segments. Lateral ocellus distant from eye by about 0.6-0.7 its diameter. Malar space about 0.5 as long as basal width of mandible. Occipital carina meeting hypostomal carina a little above base of mandible. Temple weakly convex in dorsal view, about 0.72 (♀) or 0.74-0.87 (♂) as long as eye in lateral view of head. Frons mat, with obscure punctures, polished at bottom of its antennal scrobes. Face, including clypeus, about 1.0 as long as wide, mat, with medium-sized weak dense punctures, slightly shiny towards eye. Mesoscutum mat, with fine weak punctures, the punctures becoming larger on posteromedian portion. Scutellum weakly mat, with fine punctures. Postscutellum mat, with a few indistinct punctures. Mesopleurum and metapleurum mat, with medium-sized dense punctures that are distant from one another mostly by slightly less than their diameter, with no striae, the speculum weakly mat or subpolished, impunctate. Propodeum mat, with fine punctures basally, finely striate and rugulose posteriorly. Basal area triangular, about as long as wide. Areola pentagonal, pointed above, with costulae near middle, slightly longer than wide, not closed behind. Costula weak and incomplete. Second lateral area not or weakly separated from pleural area. Tergite 2 about 1.2 as long as wide at apex, about 0.8 as long as tergite 1, mat. Ovipositor evenly and strongly upcurved, its sheath about 2.5 as long as tergite 1. Intercubitus about as long as distance between intercubitus and 2nd recurrent vein. Nervulus distad of basal vein by about 2 × its width. Nervellus subvertical. Hind tarsal segment 3 about 1.2 as long as segment 5. Tarsal claws densely pectinate. Fore wing 4.2-4.4mm long.

Black. Palpi, mandible, lower faces of scape and pedicel, and tegula yellowish brown. Extreme apices of tergites obscurely brown. Legs light reddish brown. Fore and mid coxae and trochanters, hind 2nd trochanter and hind tibia yellowish. Hind coxa, hind 1st trochanter, base and apex end often also upper face of hind tibia, and hind tarsus blackish brown to black. Mid coxa blackened at base. Hind femur infuscate basally on outer side. Mid tarsus weakly infuscate apically. Wings hyaline. Stigma fuscous brown.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 24.V.1965, Takada.

Paratypes. Amami: ♂, Amami-Oshima, 12.III.1964, Takada. Sakishima: ♀, Iriomote, 3 km E, 100 m, 11-12.III.1964, ♂, Karayama, Ishigaki, 14.III.1964, Yoshimoto & Harrell.

This species differs from *terebrans* Gravenhorst, 1829, and *sinicus* Holmgren, 1868, in having the areola open behind, the mid coxa largely light yellowish brown and the hind femur infuscate on the outer side. It differs, furthermore, from *sinicus* by having the tarsal claws pectinate from the base to near the apex and the hind tarsal segment 3 longer than the segment 5.

108. **Eriborus niger** Momoi, new species      Fig. 43.

Flagellum with 36-39 segments. Lateral ocellus distant from eye by about 0.8 its diameter. Occipital carina meeting hypostomal carina slightly above base of mandible, the distance about as great as basal width of upper mandibular tooth. Face, including clypeus, about 1.0 as long as wide. Malar space about 0.4 as long as basal width of mandible. Temple almost flat in dorsal view, about 0.60-0.61 as long as eye in lateral view. Frons and face, including clypeus, mat, with fine dense punctures, those on face slightly coarser than those on frons and distant from one another by less than their diameter, and those on median portion of frons tending to be confluent transversely, bottom of antennal scrobe polished. Pronotum, mesoscutum, scutellum, mesopleurum, mesosternum and metapleurum mat, with fine dense punctures mostly distant from one another by less than their diameter, those on mesoscutum, scutellum and mesosternum a little finer than on other portion, on lower parts of pronotum and metapleurum, and on apex of scutellum somewhat rugulose. Postscutellum subrugulose punctate. Speculum smooth and polished. Propodeum mat and finely punctate on 1st lateral area, subpolished and smooth on basal area and adjacent part of areola and 1st lateral area, other portions of propodeum mat and finely rugulose. Basal area triangular. Areola pentagonal, pointed above, with costula at or slightly behind middle, slightly longer than wide, closed behind, hind rim bowed inward. Second lateral area not or irregularly separated from pleural area. Tergite 1 with fine obscure punctures apicolaterally. Tergite 2 about 1.3 as long as wide at apex, about 0.7 as long as tergite 1, mat, with exceedingly fine punctures. Ovipositor weakly upcurved, its apex strongly upcurved, sheath about 2.4 as long as tergite 1. Intercubitus slightly longer than distance between intercubitus and 2nd recurrent vein. Nervulus opposite basal vein. Nervellus subvertical. Hind tarsal segment 3 about 1.3 (♀) or 1.5 (♂) as long as segment 5. Tarsal claws densely pectinate. Fore wing 5.8-8.0 mm long.

Black. Palpi, mandible, tegula, fore and mid trochanters, the apex of fore and mid coxae, and hind tibial spurs light yellowish brown. Fore and mid legs beyond their trochanters light reddish brown (♀) or dark brown (♂), with mid tarsus weakly infuscate. Hind tibia stained with brown beneath from base to apical 0.25. Wings subhyaline. Stigma black.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 12.III.1964, Takada.

Paratypes. Amami: ♀, same data as the type. ♀, Tokunoshima, Mikyo, 26.VII.1963, in Malaise trap, Yoshimoto. Sakishima: ♀ (lacking head), Ishigaki, 21-30.XI.1954, Bohart.

This species is somewhat similar to *terebrans* and *sinicus*. However, it is easily dis-



tinguishable from both of the species by the characteristic shape of the ovipositor and the almost entirely black hind leg.

109. **Eriborus samuelsoni** Momoi, new species      Fig. 44.

♀. Flagellum with 33 segments. Lateral ocellus distant from eye by about 0.8 its diameter. Face, including clypeus, about 1.2 as long as wide. Malar space about 0.3 as long as basal width of mandible. Temple almost flat in dorsal view, about 0.50-0.56 as long as eye in lateral view. Frons and face, including clypeus, evenly and strongly mat, with fine dense punctures, those on clypeus somewhat sparse. Mesoscutum mat, with medium-sized dense punctures. Scutellum mat, sculptured like mesoscutum. Postscutellum mat, with a few indistinct punctures. Mesopleurum and metapleurum weakly mat, with medium-sized dense punctures distant from one another mostly by much less than their diameter. Speculum smooth and polished. Propodeum mat, finely punctate on 1st lateral area, finely rugulose on apical areas, obscurely rugulose or obscurely punctate on 2nd lateral area, impunctate and unrugulose on basomedian areas. Basal area very small, triangular, petiolate. Areola pentagonal, pointed above, slightly longer than wide, open behind, weakly separated from 2nd lateral area. Second lateral area weakly separated from pleural area. Tergite 1 about 1.2 as long as propodeum, with no distinct punctures. Tergite 2 about 0.8 as long as tergite 1, about 1.7 as long as wide at apex, evenly mat. Tergites beyond 3 rather evenly and weakly mat. Ovipositor evenly and moderately strongly upcurved, its sheath about 1.6 as long as tergite 2. Intercubitus slightly longer than distance between intercubitus and 2nd recurrent vein. Nervulus distad of basal vein by about 1.0-2.0 its width. Nervellus subvertical. Tarsal claws finely pectinate, hind tarsal claw with a gap between apex of claw and apical tooth of pecten. Fore wing 4.5 mm long.

Black. Palpi, mandible and tegula yellow. Tergite 3 laterally and apically, and tergites 4-8 dirty light reddish brown, tergites 4-8 each somewhat darkened basally, apically and along their dorsal edges. Antenna fuscous brown, its scape and pedicel yellow beneath. Legs light reddish brown, with fore and mid coxae and all trochanters yellowish. Hind coxa black, with apex light brown. Hind tibia basally and apically, and hind tarsus infuscate, often basal and apical infuscations of tibia confluent on outer side. Hind femur usually slightly infuscate on outer side basally and above towards apex. Wings subhyaline. Stigma fuscous brown.

Holotype ♀ (BISHOP 9151), Ushikumori, Iriomote, Sakishima, 7-10.XI.1963, in Malaise trap, Samuelson.

Paratypes. Sakishima: 2 ♀♀, same data as type.

110. **Eriborus similis** Momoi, new species

This species differs from *samuelsoni* only in the following features:

♀. Lateral ocellus distant from eye by about 1.0 its diameter. Face, including clypeus, about 1.1 as long as wide, strongly mat dorsally, weakly polished on lower portion and on clypeus. Tergite 1 about 1.1 as long as propodeum. Tergite 2 mat basally, somewhat polished apically. Tergite 3 and following tergites more or less distinctly polished apically and laterally. Hind tarsal claw pectinate to near apex. Ovipositor sheath about 1.6 as long as tergite 1. Tergites 4-8 clear reddish brown, with only their crests black. Hind femur with no infuscation. Hind tibia with basal and apical infuscations distinct, not confluent. Fore wing 3.9 mm long.

Holotype ♀ (BISHOP 9152), Ushikumori, Iriomote, Sakishima, 3-7.XI.1963, in Malaise trap, Samuelson.

Paratype. Sakishima: ♀, Ushikumori, Iriomote, 7-10.XI.1963, in Malaise trap, Samuelson.

111. *Eriborus ryukyuensis* Momoi, new species Fig. 45.

♀. Flagellum with 31-33 segments. Lateral ocellus distant from eye by about 0.9-1.0 its diameter. Occipital carina meeting hypostomal carina a little above base of mandible. Face, including clypeus, about 1.0-1.1 as long as wide. Malar space about 0.3 as long as basal width of mandible. Temple weakly convex in dorsal view, about 0.75 as long as eye in lateral view. Frons and face, including clypeus, mat, with fine obscure dense punctures mostly tending to be confluent. Clypeus weakly polished apically, a little impressed along apical margin. Mesoscutum mat, with fine to medium-sized dense weak punctures. Scutellum and postscutellum mat, with indistinct punctures. Mesopleurum mat, with medium-sized dense punctures distant from one another mostly by less than, or about their diameter, subrugulose punctate before speculum, with short striae just before speculum, the speculum smooth and polished. Propodeum mat, with fine indistinct punctures on 1st lateral area, with obscure rugulae on pleural area, with transverse rugulae on petiolar area, impunctate and not rugulose on basal area, areola and 2nd lateral area, which is sometimes obscurely rugulose posteriorly. Basal area triangular, about as long as wide. Areola pentagonal, pointed above, slightly longer than wide, not closed behind, confluent with or barely separated from 2nd lateral area. Second lateral area separated from pleural area. Tergite 1 about 1.1 as long as propodeum. Tergite 2 about 1.0 as long as wide at apex, about 0.64 as long as tergite 1, weakly mat. Tergite 3 and following tergites more or less subpolished, especially laterally. Intercubitus slightly longer than distance between intercubitus and 2nd recurrent vein. Nervulus opposite basal vein. Nervellus slightly reclivous. Hind tarsal segment 3 about 1.0 as long as segment 5. Tarsal claws with 3 or 4 distinct teeth, one of the teeth longer than the others. Ovipositor almost straight for most of its length, its apex weakly upcurved, the sheath about 1.7 as long as tergite 1. Fore wing 4.6-5.0 mm long.

Black. Palpi, mandible, lower faces of scape and pedicel, and tegula yellowish brown. Apex of tergite 2 narrowly, and tergites 3-8, except for basomedian portion of tergite 3 and sometimes also that of tergite 4, light reddish brown. Ovipositor sheath whitish at apex. Legs light reddish brown, with fore and mid coxae and all trochanters yellowish. Hind coxa black, with apex pale. Hind tibia at base and apex, and hind tarsus, weakly infusate. Wings subhyaline. Stigma fuscous brown.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 14.III.1964, Takada.

Paratypes. Amami: ♀, Amami-Oshima, 5.V.1966, ♀, Amami-Oshima, 7.V.1966, ♀, Amami-Oshima, 8.V.1966, Kusigemati. ♀, Amami-Oshima, 16.III.1964, Takada. Sakishima: ♀, Ishigaki, 25-30.XI.1952, ♀, Kobo, Miyako, Ishigaki, 20-30.XII.1952. G. Bohart, Okinawa: ♀, Okinawa, 18.III.1964, Kuroda.

112. *Eriborus vulgaris* (Morley, 1912)\*

AMAMI: ♀, Tokunoshima, Mikyo, 26.VII.1963, in Malaise trap, Yoshimoto.

OKINAWA: ♀, Yona, Okinawa, 24-25.III.1964, Yoshimoto & Harrell.

SAKISHIMA: 4 ♀♀, ♂, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, 2 ♂♂, Iriomote, 3 km E, 100 m, 11-12.III.1964, Yoshimoto & Harrell. ♀, Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap. Gressitt. ♀, Bannadake, Ishigaki, 27-31.V.1964, in Malaise trap, Hirashima & Samuelson. ♀, Bannadake, Ishigaki, 15.X.1963, Hirashima. ♀, Omotodake, Ishigaki, 17-20.XI.1963, Samuelson.

DISTRIBUTION: Ceylon, Taiwan (Formosa), India, Japan?, Pakistan, Seychelle Is., Ryukyus.

## Subfamily CREMASTINAE

113. *Pristomerus punctatus* Uchida, 1932\*

OKINAWA: ♀, Kudeken, Okinawa, 28.III.1964, Yoshimoto.

SAKISHIMA: 2 ♀♀, Bannadake, Ishigaki, 27-31.X.1963, in Malaise trap, Hirashima & Samuelson. ♀, Shirahama-Sonai, Iriomote, 5.XI.1963, Samuelson.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

114. *Trathala flavo-orbitalis* (Cameron, 1907)

OKINAWA: ♀, Genkayama, Okinawa, 3.V.1964, Takara.

DISTRIBUTION: Burma, Ceylon, China, Fiji, Taiwan (Formosa), Hawaii, Hong Kong, India, Japan, Micronesia, Philippines, Singapore, Ryukyus.

115. *Temelucha confusa* Momoi, new species

♀. Flagellum with 29-34 segments. Lateral ocellus distant from eye by about 1.0 its diameter. Median interruption of occipital carina about as long as distance between hind ocelli. Face about 0.53 as long as wide. Malar space about 0.8 as long as basal width of mandible. Clypeus about 0.6 as long as wide. Face mat, with weak medium-sized punctures, those on central portion mostly distant from one another by about their diameter, and those on orbital portion much sparser. Pronotum weakly mat, with some weak punctures above. Mesoscutum mat, with medium-sized dense punctures, notaulus obsolete. Mesopleurum polished, with medium-sized dense punctures that are mostly distant from one another by about their diameter, the speculum polished and impunctate. Metapleurum subpolished, with medium-sized punctures mostly distant from one another by less than their diameter. Propodeum weakly mat, punctate on basal areas and 2nd lateral area, subrugulose punctate on pleural area, obscurely rugulose and somewhat punctate on areola, and transversely rugulose on petiolar area. Basal area longer than wide, trapezoidal or nearly triangular. Areola about 1.7 as long as wide, about 1.5 as wide as 2nd lateral area, open behind. Tergite 1 not contiguous but nearly so beneath. Tergite 2 about 4.0-4.2 as long as wide at base. Hind femur about 5.0 as long as wide. Ovipositor sheath about 2.5 as long as tergite 1. Second recurrent vein opposite or a little distad of intercubitus. Postnervulus broken slightly above middle. Radius distad middle of stigma. Fore wing 3.8-3.9 mm long.

Head yellowish brown. Occiput and a median band on vertex extending forward to bottom of frons black. Thorax and tergites yellowish brown and reddish brown. A large spot on mesoscutum, mesoscutum before scutellum, wing cavities, postscutellum, sometimes mesopleurum above next to subtegular ridge, lower portion of metapleurum, propodeum (sometimes only on dorsal face), tergite 1 basally and on dorsal face except for apex, tergite 2 except apically and often also laterally, and usually dorsal face of following tergites, blackish brown to black. Antenna fuscous brown, paler beneath and at apices of segments. Scape and pedicel yellowish beneath. Legs yellowish brown to light reddish brown, with coxae and trochanters paler. Hind tibia basally and apically, indefinitely darkened. Hind tarsus weakly infuscate. Wings subhyaline. Stigma fuscous brown.

Extent of blackish markings is variable. In a paratype from Ishigaki the thorax and tergites are mainly blackish, having the pronotum, the mesoscutum except 3 stripes, the scutellum, the apex of each tergite, and the tergites 3-8 laterally, yellowish or reddish brown.

Holotype ♀ (Matsuyama), Takeda, Ishigaki, Sakishima, 14.IV.1962, Arita.

Paratypes. Sakishima: ♀, Karayama, Ishigaki, 14.III.1964, Yoshimoto & Harrell. Korea:

♀, Suigen (=Su-Won), 18.VII.1932, bred from *Grapholitha molesta* Japan: ♀, Kibune, Kyoto, 8.IX.1957, ♀, "253", Iwata.

This species seems very close to *japonica* Ashmead, 1906. In this species, however, the lateral ocellus is distant from the eye by about 1.0 its diameter and the tergite 2 is about 4.0-4.2 as long as wide at the base, while in *japonica* it is said that "diameter of an ocellus" is "shorter than ocell-ocular line" and "second tergite" is "fully five times as long as broad at base".

#### Subfamily MESOCHORINAE

##### 116. *Mesochorus discitergus* (Say, 1836)\*

AMAMI: ♀, Yuwandake, Amami-Oshima, 16-17.VII.1963, Yoshimoto.

SAKISHIMA: 2 ♀♀, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, 2 ♀♀, Nakaragawa, Iriomote, 0-200 m, 12.III.1964, Yoshimoto & Harrell, ♂, Ishigaki, 25-30.XI.1952, Bohart.

DISTRIBUTION: Bering Is., China, England, India, Japan, Russia, Ryukyus, Sakhalin, N. America.

#### Subfamily OPHIONINAE

##### 117. *Dicamptus nigropictus* (Matsumura, 1912)

AMAMI: ♂, Yuwandake, Amami-Oshima, 19-20.VII.1963, Yoshimoto.

DISTRIBUTION: China, Taiwan (Formosa), Japan, Korea, Ryukyus.

##### 118. *Ophion luteus* (Linnaeus, 1758)

No new material from the Ryukyus is available.

DISTRIBUTION: Australia, Europe, Taiwan (Formosa), India, Japan, Korea, Kuriles, New Zealand, Ryukyus, Sakhalin, Tibet.

##### 119. *Enicospilus analis* (Matsumura & Uchida, 1926)

SAKISHIMA: ♀, Ishigaki, X.1951, G. Bohart, ♂, Tendabana, Yonakuni, 13.V.1963, Arita.

OKINAWA: ♀, Okinawa, VI.1945, Bohart.

DISTRIBUTION: Taiwan (Formosa), Hainan I., Ryukyus.

##### 120. *Enicospilus shinkanus* (Uchida, 1928)

OKINAWA: ♀ (lacking abdomen), Genkayama, Okinawa, 4.V.1965, Kakinohana.

SAKISHIMA: ♀, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

##### 121. *Enicospilus uniformis* Chiu, 1954\*

TOKARA: ♀, Nakanoshima, 30.V.1962, M. Sato.

DISTRIBUTION: Taiwan (Formosa), Hungtow Is., Japan, Ryukyus.

122. *Enicospilus okinawensis* (Matsumura & Uchida, 1926)

TOKARA: ♀, Takarajima, 6.VI.1962, ♂, Takarajima, 5.VI.1962, M. Sato.

AMAMI: ♀, Shinjo, Okinoerabu, 7.VIII.1963, Yasumatsu & Yano.

DISTRIBUTION: Ryukyus.

123. *Enicospilus microstriatellus* Uchida, 1956

AMAMI: ♀, Amami-Oshima, 6.V.1959, Kamiyo. ♀, Yuwandake, Amami-Oshima, 30.VII.1963, Gressitt.

OKINAWA: ♀, Yona, Okinawa, 22.IV.1962, Arita. 2 ♂♂, Koza, Okinawa, VI.1958, Krauss. ♂, Nago, Okinawa, 28.III.1964, Takara.

SAKISHIMA: 2 ♂♂, Banna, Ishigaki, 70 m, 21-22.V.1964, ♀, Banna, Ishigaki, 23.V.1964, Gressitt. ♂, Bannadake, Ishigaki, 28.X.1963, ♀, Ohara, Iriomote, 15-16.XI.1963, in Malaise trap, Samuelson. ♂, Miyako, 16.XI.1952, Bohart.

DISTRIBUTION: Ryukyus.

124. *Enicospilus dasychirae* (Cameron, 1905)

No new material from the Ryukyus is available.

DISTRIBUTION: Borneo, Ceylon, China, Taiwan (Formosa), India, Ryukyus.

125. *Enicospilus erythrocerus* (Cameron, 1905)

No new material from the Ryukyus is available.

DISTRIBUTION: Ceylon, China, Taiwan (Formosa), Ryukyus.

126. *Enicospilus flavicaput* (Morley, 1912)

No new material from the Ryukyus is available.

DISTRIBUTION: Burma, Ceylon, India, Krakatau I., Land I., Philippines, Ryukyus, Sumatra.

127. *Enicospilus flavocephalus* (Kirby, 1900)

No new material from the Ryukyus is available.

DISTRIBUTION: Australia, China, Christmas I., Taiwan (Formosa), Malaya, Ryukyus, Singapore.

128. *Enicospilus merdarius* (Gravenhorst, 1829)

No new material from the Ryukyus is available.

DISTRIBUTION: Burma, Ceylon, China, Europe, Taiwan (Formosa), India, Japan, Malaya, Ryukyus.

129. *Enicospilus mushanus* (Uchida, 1928)

No new material from the Ryukyus is available.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

130. *Enicospilus nocturnus* (Kohl, 1908)

No new material from the Ryukyus is available.

DISTRIBUTION: Banks I., Ceylon, India, Japan, Java, Micronesia, New Caledonia, New Guinea, New Hebrides I., Philippines, Ryukyus, Samoa, Society I., Solomon Is., Sumatra, Waigeu I.

131. *Enicospilus pungens* (Smith, 1874)

No new material from the Ryukyus is available.

DISTRIBUTION: China, India, Japan, Ryukyus, Singapore.

132. *Enicospilus sakaguchii* (Matsumura & Uchida, 1926)

No new material from the Ryukyus is available.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

133. *Enicospilus semiopacus* (Matsumura, 1912)

No new material from the Ryukyus is available.

DISTRIBUTION: Ceylon, China, Taiwan (Formosa), Hungtow Is., Japan, Korea, Philippines, Ryukyus, Sumatra.

134. *Enicospilus striolatus* Townes, Townes & Gupta, 1961

No new material from the Ryukyus is available.

DISTRIBUTION: China, Taiwan (Formosa), India, Philippines, Ryukyus, Sarawak, Singapore.

135. *Enicospilus tripartitus* Chiu, 1954

No new material from the Ryukyus is available.

DISTRIBUTION: China, Taiwan (Formosa), Japan, Korea, Ryukyus.

136. *Enicospilus tristrigatus* (Enderlein, 1921)

No new material from the Ryukyus is available.

DISTRIBUTION: Taiwan (Formosa), Hainan I., Japan, Micronesia, Ryukyus.

137. *Enicospilus uncivena* (Enderlein, 1921)

No new material from the Ryukyus is available.

DISTRIBUTION: Burma, Celebes, Ding Ding I., Taiwan (Formosa), India, Japan, Malaya, Maldive Is., Molucca I., New Guinea, Ryukyus, Sarawak.

138. *Enicospilus yanagiharai* (Sonan, 1940)

No new material from the Ryukyus is available.

DISTRIBUTION: Ryukyus.

139. *Enicospilus yonezawanus* (Uchida, 1928)

No new material from the Ryukyus is available.

DISTRIBUTION: Taiwan (Formosa), Japan, Ryukyus.

Subfamily TERSILOCHINAE

140. **Ischnobatis concavus** Uchida, 1956

I have not seen any specimens of this species besides the type. The generic placement has not been verified.

DISTRIBUTION: Ryukyus.

Subfamily ANOMALINAE

141. **Habronyx heros** (Wesmael, 1849)\*

SAKISHIMA: ♂, Shirahama, Iriomote, 21.V.1963, Arita.

DISTRIBUTION: Europe, Japan, Korea, Kuriles, Ryukyus, Russia, Sakhalin.

142. **Aphanistes wadai** Uchida, 1958\* Fig. 46 & 47.

AMAMI: ♀, Yuwan, Amami-Oshima, 6.VIII.1963, Okada. ♀, Yuwan, Amami-Oshima, 24.VII.1963, Gressitt. ♂, Amami-Oshima, 3.V.1959, Kamijo.

DISTRIBUTION: Japan, Ryukyus.

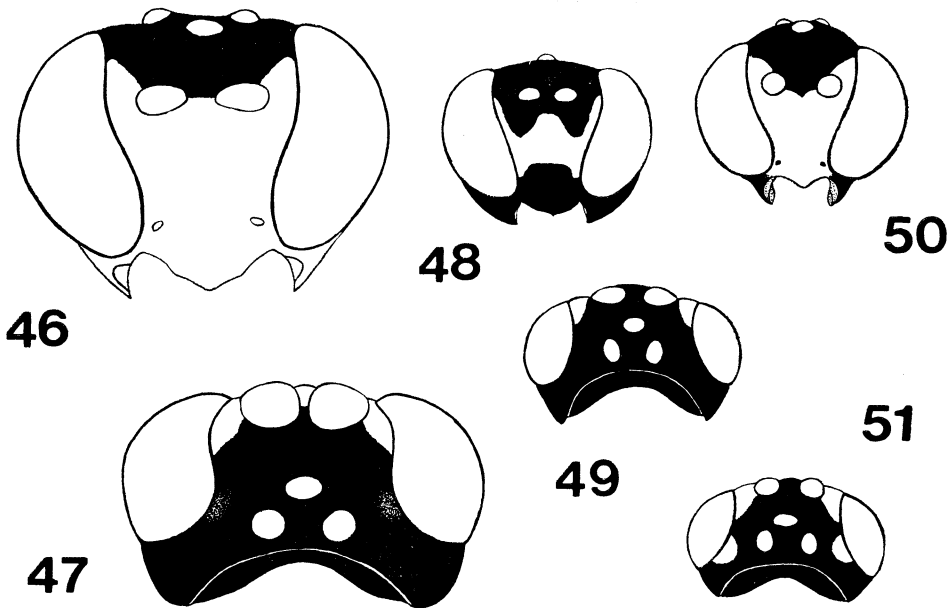


Fig. 46-51. Head in frontal and dorsal view: 46 & 47, *Aphanistes wadai*; 48 & 49, *Trichonotus diminutus*; 50 & 51, *Trichonotus seminiger*.

KEY TO RYUKYU SPECIES OF TRICHONOTUS

- 1. Propodeum extending to near middle of hind coxa ..... 2
- Propodeum extending to near apex of hind coxa ..... 3
- 2. Body, including antenna and legs, largely reddish brown ..... **suzukii**

- Body including antenna and legs, black, with yellow or reddish brown markings. ... **seminiger**  
 3. Clypeus black. Vertex and cheek with no yellow markings. Hind tibia entirely reddish  
 brown. .... **diminutus**  
 Clypeus yellow. Vertex with a yellow marking next to eye. Cheek largely yellow. Hind  
 tibia reddish brown, with apex blackish. .... **facetus**

143. *Trichonotus suzukii* (Matsumura, 1912)

OKINAWA: ♀, Genkayama, Okinawa, 4.V.1964, Takara & Kakinohana. ♂, Kaya-  
 uchibanda, Okinawa, 20.X.1963, Hirashima. ♀, 3 ♂, Nago, Okinawa, 12.III.1965, Kuroda.

SAKISHIMA: ♂, Kawaradake, Ishigaki, 28.X.1963, Hirashima.

DISTRIBUTION: Japan, Korea, Formosa, Ryukyus.

144. *Trichonotus seminiger* Momoi, new species      Fig. 50 & 51.

♀. Flagellum slightly shorter than body, with 42-45 segments, segment 1 about 2.1-2.2 as long as segment 2. Head strongly constricted behind eyes. Lateral ocellus distant from eye by about 1.2 and from occipital carina by about 0.3 its diameter. Temple almost flat in dorsal view, about 0.35 as long as eye in lateral view, with weak dense punctures. Vertex with fine punctures, on stemmaticum with coarse strong punctures. Frons striate or striate-punctate, with no median carina. Eyes very strongly converging downward. Face narrowest a little above clypeal fovea, its upper rim carinate, carina notched downward at middle. Clypeal fovea very close to eye. Malar space nearly obliterated. Face with weak indistinct punctures. Clypeus polished, with a few punctures. Pronotum and mesopleurum with dense rather longitudinal rugulae, the former with a large unsculptured area dorsally just behind epomia. Speculum absent. Mesoscutum with strong dense punctures, posteromedially irregularly rugulose, its notauli weak. Scutellum flattened, somewhat excavated, striate punctate. Metapleurum and propodeum reticulate rugulose. Propodeum extending backward slightly behind middle of hind coxa, with 1st lateral area defined, this area almost unsculptured. Mesosternum with fine punctures. Tergite 1 straight, slightly swollen at spiracles in lateral view, about 0.9 as long as tergite 2 and about 1.7 as long as propodeum. Ovipositor sheath about 0.6 as long as tergite 1. Nervulus distad of basal vein by about  $2 \times$  its width, subvertical. Postnervulus broken very near its upper end, weakly reclivous. Second recurrent vein distad of intercubitus by slightly short distance than length of intercubitus. Nervellus reclivous. Legs slender. Hind tibia and tarsus hardly swollen. Fore wing 4.0-5.8 mm long.

Black. Palpi, mandible, clypeus, cheek, face, frontal orbit, and a triangular spot on each side of top of head yellow. Front rim of pronotum, humeral angle of pronotum, tegula, subtegular ridge, mesepimeron, and ovipositor sheath reddish brown. Tergites mostly piceous. Tergites 3-7 reddish brown laterally in variable extent, usually tergite 8 extensively reddish brown. Antenna fuscous brown, somewhat paler basally beneath, its pedicel beneath and scape yellow. Fore and mid legs reddish brown, their coxae and trochanters yellowish, and their tibiae and tarsi more or less infuscate. Hind leg piceous reddish brown, its coxa apically above, greater part of trochanters, and base, apex and upper face of femur slightly darkened. Hind tibia and tarsus fuscous brown, the tibia pale basally, especially beneath. Wings subhyaline. Stigma fuscous brown.

Holotype ♀ (BISHOP 9153), Nakaragawa, Iriomote, Sakishima, 0-200 m, 12.III.1964, Yoshimoto & Harrell.

Paratypes. Sakishima: ♀, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, Yoshimoto & Harrell. ♀, Ishigaki, 10-20.XII.1952, ♀, Ishigaki, 20-30.XI.1952, Bohart. ♀,



Shirahama, Iriomote, 4.IV.1962, Arita.

145. **Trichonotus diminutus** Momoi, new species Fig. 48 & 49.

♀. Flagellum slightly shorter than body, with 41-43 segments, the segment 1 about  $2 \times$  as long as segment 2. Head narrower behind eyes. Lateral ocellus distant from eye by about 1.2 and from occipital carina by about 0.2 its diameter. Temple almost flat in dorsal view, about 0.3 as long as eye in lateral view, with very fine dense punctures. Vertex with fine dense punctures, on stemmaticum with coarse punctures. Frons striate punctate. Face narrowest at clypeal fovea, with a transverse carina above, carina notched downward and a little interrupted at middle. Face and clypeus obscurely punctate. Eyes strongly converging downward, almost touching clypeal fovea. Malar space almost absent. Pronotum longitudinally rugulose, with no unsculptured area. Mesoscutum with strong dense punctures, irregularly rugulose on notauli and posteromedially. Scutellum rugulose, flattened. Mesopleurum rather reticulate rugulose, the speculum absent. Mesosternum with fine dense punctures. Metapleurum and propodeum reticulate rugulose, 1st lateral area of the latter unsculptured. Propodeum extending to near apex of hind coxa. Tergite 1 weakly swollen near spiracles, about 1.4 as long as propodeum, about 0.9 as long as tergite 2. Ovipositor sheath about 0.7 as long as tergite 1. Legs slender. Hind tibia and tarsus hardly swollen. Nervulus distad of basal vein by about  $3 \times$  its width, subvertical. Postnervulus broken very near upper end, its lower section rather strongly reclivous. Second recurrent vein distad of intercubitus by about 0.5 length of the latter. Nervellus weakly reclivous. Fore wing 4.4-4.7 mm long.

Black. Palpi, mandible, face except for bottom and a triangular spot just below each antenna, and tegula yellow, yellow marking on face extending upward to near middle of frons along orbit. Tergites reddish brown, with dorsal edges of tergites 2, 3, 5 and 7, and greater part of tergite 6 blackish brown. Antenna fuscous brown apically, reddish brown basally, its scape and lower face of pedicel yellow, upper face of pedicel black. Fore and mid legs light reddish brown, with coxae and trochanters yellowish. Hind leg reddish brown, with trochanters piceous above, and tarsus a little infuscate on apical segments. Wings subhyaline. Stigma fuscous brown.

Holotype ♀ (BISHOP 9154), Ohyama, Okinoerabu, Amami, 28-30.VII.1963, in Malaise trap, Yoshimoto.

Paratypes. Okinawa: ♀, Kayauchibanda, Okinawa, 20.X.1963, Hirashima. Amami: 2 ♀♀, same data as the type.

146. **Trichonotus facetus** (Enderlein, 1921)

*Agrypon taniguchiae* Uchida, 1956, *Ins. Matsumurana* 19: 96.

No new material from the Ryukyus is available.

DISTRIBUTION: Taiwan (Formosa), Hong Kong, Philippines, Ryukyus, Sumatra.

Subfamily ACAENITINAE

147. **Metachorischizus unicolor** Uchida, 1928\*

AMAMI: 2 ♂♂, Yuwandake, Amami-Oshima, 550 m, 18.VIII.1963, Yoshimoto.

DISTRIBUTION: Japan, Ryukyus.

148. **Ishigakia exetasea** Uchida, 1928

No new material from the Ryukyus is available.

DISTRIBUTION: Ryukyus.

Subfamily DIPLAZONTINAE

149. **Homotropus tarsatorius** (Panzer, 1809)

AMAMI: ♂, Amami-Oshima, 21.III.1964, Takada. ♀, Amami-Oshima, 6.V.1966, Kusigemati.

DISTRIBUTION: China, Europe, Japan, Kamchatka, Korea, N. America, Ryukyus.

KEY TO RYUKYU SPECIES OF DIPLAZON

Tergites 2 and 3 red. Hind tibia tricolored, black, white and red ..... **laetatorius**  
 Tergites 2 and 3 black, with apices yellow. Hind tibia bicolored, black and white .....  
 ..... **ryukyuensis**

150. **Diplazon laetatorius** (Fabricius, 1781)

No new material from the Ryukyus is available.

DISTRIBUTION: Almost worldwide.

151. **Diplazon ryukyuensis** Nakanishi, 1967

No new material from the Ryukyus is available.

DISTRIBUTION: Ryukyus.

Subfamily ICHNEUMONINAE

152. **Neotypus taiwanus** Uchida, 1929\*

SAKISHIMA: ♂, Miyako, 27.X.1952, Bohart.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

153. **Ischnojoppa luteator** (Fabricius, 1798)\*

SAKISHIMA: ♀, ♂, Ishigaki, X. 1951, Bohart. ♀, Ishigaki, XII. 1952, Bohart. ♀, Shirahama, Iriomote, 20 m, 6.III.1964, Yoshimoto & Harrell.

DISTRIBUTION: Australia, Burma, Celebes, Ceylon, China, Taiwan (Formosa), India, Japan, Java, Malaya, Philippines, Ryukyus, Sarawak, Singapore.

154. **Platylabus okui** Uchida, 1956

No new material is available.

DISTRIBUTION: Ryukyus.

155. **Callajoppa formosana** (Uchida, 1925)

No new material from the Ryukyus is available.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

156. **Amblyjoppa yayeyamensis** (Matsumura, 1912)

SAKISHIMA: ♀, Ishigaki, X. 1951, Bohart.

DISTRIBUTION: Taiwan (Formosa), China, Ryukyus.

157. *Dimaetha tibialis takanonis* (Matsumura, 1912)\*

SAKISHIMA: ♀, Ishigaki, X. 1951, Bohart.

The subspecific status has not been verified.

DISTRIBUTION: Taiwan (Formosa), Ryukyus.

158. *Intermedichneumon ocellus* (Tosquinet, 1903)

OKINAWA: ♀, Nakagusuku park, Okinawa, 100-150 m, 25.V.1964, in Malaise trap, Gressitt.

DISTRIBUTION: Celebes, Taiwan (Formosa), Java, Ryukyus, Singapore.

159. *Lissosculpta javanica* (Cameron, 1905)

AMAMI: ♀, Amami-Oshima, 28.VI.1959, Kamiyo. ♀, Yuwandake, Amami-Oshima, 17.VII.1963, Yoshimoto. ♀, Yuwan, Amami-Oshima, 31.VII.1963, Hirashima.

DISTRIBUTION: China, Taiwan (Formosa), India, Japan, Java, Ryukyus.

160. *Cratichneumon amami-oshimensis* Uchida, 1956

AMAMI. 7 ♂♂, Amami-Oshima, 28.IV.1959, ♂, Amami-Oshima, 2.V.1959, ♂, Amami-Oshima, 3.V.1959, Kamiyo. 2 ♂♂, Amami-Oshima, 16.III.1964, 2 ♂♂, Amami-Oshima, 13.III.1964, Takada.

DISTRIBUTION: Ryukyus.

161. *Barichneumon leucomelas* (Gmelin, 1790)

This species was recorded from Okinawa by Matsumura & Uchida (1926, *Ins. Matsu-murana* 1: 70). However, no specimen from the Ryukyus is available in the collection of the Entomological Institute of Hokkaido University, nor in the present series of specimens.

DISTRIBUTION: Europe, Japan, ? Ryukyus.

KEY TO RYUKYU SPECIES OF VULGICHNEUMON

1. Tergites always black. Hind leg largely black ..... 2  
    Tergites, at least 2 and 3, red. Hind leg bicolored, black and red. .... 3
2. Hind 1st trochanter white ..... *leucaniae*  
    Hind 1st trochanter black ..... *taiwanensis*
3. ♀ ..... 4  
    ♂ (♂ of *uchidai* unknown) ..... 6
4. Scutellum black. Thyridium close to base of tergite 2 and a keel-shaped ridge absent  
    between base of tergite and outside of thyridium. .... *takagii*  
    Scutellum white. Thyridium distant from base of tergite 2 by near its width, and a  
    distinct keel-shaped ridge present between base of tergite and outside of thyridium ..... 5
5. Tergites 2 and 3 heavily punctate. Frons with no white orbital marking. Hind coxa red  
    ..... *diminutus*

- Tergite 3 with punctures much sparser and finer than those on tergite 2. Frons with a white orbital marking. Hind coxa black ..... **uchidai**  
 6. Tergites 2-4 red. Frons with orbit white ..... **takagii**  
 Tergites 2 and 3 red. Tergite 4 black. Frons with no white orbital marking ..... **diminutus**

162. **Vulgichneumon taiwanensis** (Uchida, 1927)

AMAMI: ♂, Amami-Oshima, 4.V.1966, Kusigemati.

OKINAWA: ♂, Shoshi, Okinawa, 23.III.1964, Yoshimoto & Harrell.

SAKISHIMA: ♀, Yonehara, Ishigaki, 15.III.1964, Yoshimoto & Harrell. ♀, Banna, Ishigaki, 70 m, 23.V.1964, Gressitt. ♀, Kubo, Miyako, Ishigaki, 20-30.XII.1952, Bohart.

Besides the specimens mentioned above, I have examined a few specimens from Japan (Kyushu and Honshu).

DISTRIBUTION: Taiwan (Formosa), Hong Kong, Japan, Ryukyus.

163. **Vulgichneumon leucaniae** (Uchida, 1924)\*

AMAMI: ♀, Shinmura, Amami-Oshima, 10.IV.1954, Takagi.

DISTRIBUTION: China, Japan, Ryukyus, Sakhalin.

164. **Vulgichneumon diminutus** (Matsumura, 1912), n. comb.

*Ichneumon diminutus* Matsumura, 1912, *Thousand insects of Japan*, supplement 4: 241.

*Melanichneumon (Barichneumon) amamiensis* Uchida, 1956, *Ins. Matsumurana* 19: 84. New Synonymy.

AMAMI: ♀, ♂, Yuwandake, Amami-Oshima, 21.VII.1963, 2 ♀♀, Yuwandake, Amami-Oshima, 29.VII.1963, Hirashima. 3 ♂♂, Yuwandake, Amami-Oshima, 29-31.VII.1963, Gressitt. ♂, Yuwandake, Amami-Oshima, 16-17.VII.1963, Yoshimoto. 2 ♂♂, Amami-Oshima, 12.III.1964, Takada. 2 ♂♂ Amami-Oshima, 25.VI.1959, ♂, Amami-Oshima, 28.VI.1959, Kamiyo. ♂, Amami-Oshima, 6.V.1966, Kusigemati.

OKINAWA: ♀, Izumi-gogayama, Okinawa, 21.X.1963, Miyamoto. ♂, Nago, Okinawa, 15.III.1964, Takara.

SAKISHIMA: 2 ♀♀, Karayama, Ishigaki, 14-18.III.1964, in Malaise trap, ♀, Torogawa, Ishigaki, 17.III.1964, ♂, Shirahama, Iriomote, 20 m, 6.III.1964, Yoshimoto & Harrell. ♀, Banna, Ishigaki, 70 m, 21-22.V.1964, in Malaise trap, Gressitt. ♂, Ishigaki, X.1951, Bohart.

The hind coxa is often extensively or entirely blackish in the ♂, while it is always entirely red in the ♀.

♀. Flagellum with 27 or 28 segments, the segment 1 about 1.5 as long as wide and segment 5 about 1.3 as long as wide. Tergites 2 and 3 heavily punctate, thyridium distant from base of tergite 2 by about its width.

♂. Flagellum with 30 segments, the segment 2 about 1.9-2.0 as long as wide and segment 5 about 1.6 as long as wide. Transverse ridge on basal flagellar segments very weak, so the flagellum less strongly moniliform in basal 1/2.

DISTRIBUTION: Ryukyus.

165. *Vulgichneumon uchidai* Momoi, new species

♀. Flagellum with 22 or 23 segments, the segment 1 about 1.5 as long as wide and segment 5 about as long as wide. Clypeus with no row of punctures on apex. Pronotum, mesoscutum, mesopleurum and metapleurum with coarse dense punctures, those on pleura slightly coarser than those on mesoscutum and mostly tending to be confluent longitudinally. Areola broader than long, hexagonal, with costula approximately at middle, its hind rim bowed inward. Postpetiole heavily punctate, its median area not or barely defined. Tergite 2 heavily punctate, its apex smooth, the thyridium distant from base by near its width, a keel-shaped ridge present between base of tergite and outside of thyridium. Tergite 3 with fine and sparse punctures. Fore wing 5.5-6.1 mm long.

Black. Palpi, a small spot on each side of top of face, a narrow short line on frontal orbit, scutellum, postscutellum, apices of tergites 2-7 narrowly, and median 7 or 8 flagellar segments yellowish white. Mandible, clypeus, a short patch at humeral angle of pronotum and tegula dark reddish brown. Tergites 2 and 3 red, tergite 3 blackened apically. Legs reddish brown. Fore and mid coxae and trochanters, hind trochanters and apex of hind coxa white. Hind coxa largely black. Hind femur at apex, hind tibia and hind tarsus blackish brown to black, the tibia somewhat reddish beneath. Fore and mid tibiae and tarsi fuscous brown, with front face of fore tibia whitish. Wings subhyaline.

Holotype ♀ (SAPPORO), Amami-Oshima, Amami, 8.V.1966, Kusigemati.

Paratypes. Amami: ♀, Amami-Oshima, 25.VI.1959, Kamiyo. 2 ♀♀, Amami-Oshima, 13.III.1964, ♀, Amami-Oshima, 21.III.1964, Takada.

166. *Vulgichneumon takagii* (Uchida, 1956), n. comb.

*Melanichneumon (Barichneumon) takagii* Uchida, 1956, *Ins. Matsumurana* 19: 83.

AMAMI: ♂, Amami-Oshima, 12.III.1964, Takada. ♂, Amami-Oshima, 5.V.1966, ♀, Amami-Oshima, 6.V.1966, Kusigemati.

Females of this species have not hitherto been recorded.

♀. Flagellum with 27 segments, slightly flattened apically beneath, the segment 1 about 1.2 as long as wide and segment 4 about as long as wide. Occipital carina meeting hypostomal carina very near base of mandible. Mesoscutum with coarse dense punctures distant mostly from one another by about, or slightly more than, their diameter. Areola hexagonal, slightly longer than wide, subparallel-sided behind costulae, the costula approximately at middle, its hind rim almost straight. Basal area and areola almost unsculptured. First and 2nd lateral area with coarse dense punctures. Postpetiole with dense punctures laterally, polished with only a few punctures medially, its median area not clearly defined. Tergite 2 with coarse dense punctures that are distant from one another mostly by slightly less than their diameter, its thyridium and gastrocoelus indistinct, very close to base of tergite. Tergite 3 sculptured like tergite 2. Fore wing 5.3 mm long.

Black. Palpi, upper face of median flagellar segments, a narrow orbital marking on top of head, and a median spot at apex of abdomen yellowish white. Mandible reddish brown. Tergites 1-3 and base of tergite 4 red, the tergite 1 more or less blackened basally. Legs red. Coxae, all 1st trochanters except for the apex, fore and mid 2nd trochanters, apex of hind femur, apex of hind tibia, and hind tarsus blackish brown to black. Fore and mid tibiae apically more or less infuscate. Fore and mid tarsi weakly fuscous brown except for extreme bases and apices of segments 1-4 pale.

DISTRIBUTION: Ryukyus.

