

Taiwanese Species of the Genus *Pristocera* (Hymenoptera, Chrysidoidea, Bethylidae)

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Abstract The bethylid wasp genus *Pristocera* of Taiwan is revised, and descriptions of three new species, *P. mieae*, *P. tainanensis* and *P. takasago* are given. A key to the Taiwanese species is also prepared.

The genus *Pristocera* Klug belonging to the subfamily Pristocerinae of the family Bethylidae is represented by about 96 species including 3 East Asian species, and is distributed in the world. All the *Pristocera* species are strongly sexual dimorphic; fully winged and ocelli present in males, and completely apterous and ocelli lacking in females.

From Taiwan, only one species, *Pristocera (Pristocera) formosanus* Miwa et Sonan, 1935, which is the parasite of elaterid larvae, has been known in this genus. In this paper, three more species of the genus *Pristocera* are described as new, together with a key to the Taiwanese species.

Measurements, indices and special terms used in this paper follow those in Evans (1964). The following abbreviation of institutions are also used; EUM: Entomological Laboratory, Ehime University, Matsuyama; HUS: Entomological Institute, Hokkaido University, Sapporo; KUF: Entomological Laboratory, Kyushu University, Fukuoka; NASM: National Science Museum, Tokyo; NIAES: National Institute of Agro-Environmental Sciences, Tsukuba; TARI: Taiwan Agricultural Research Institute, Taichung.

Key to the Taiwanese species of *Pristocera*

1. Male (wings present). 2
– Female (completely wingless). 4
2. Gaster petiolate; subgenital plate deeply incised, so divided into two lobes.
..... *Pristocera (Pristocera) formosana* Miwa et Sonan
– Gaster sessile; subgenital plate simple, not divided into two lobes. 3
3. Propodeum without transverse carina; propodeal disc reticulate in most part; mandibles with 5 teeth.
..... *Pristocera (Acrepyris) tainanensis* sp. nov.
Propodeum with a transverse carina, propodeal disc mostly smooth except for basal triangular area;
mandibles with 4 teeth. *Pristocera (Acrepyris) takasago* sp. nov.
4. Anterior border of propodeal disc V-shaped. *Pristocera (Pristocera) formosana* Miwa et Sonan
– Anterior border of propodeal disc U-shaped. *Pristocera (Acrepyris) mieae* sp. nov.

Pristocera (Pristocera) formosana Miwa et Sonan, 1935 (Figs. 1-9)

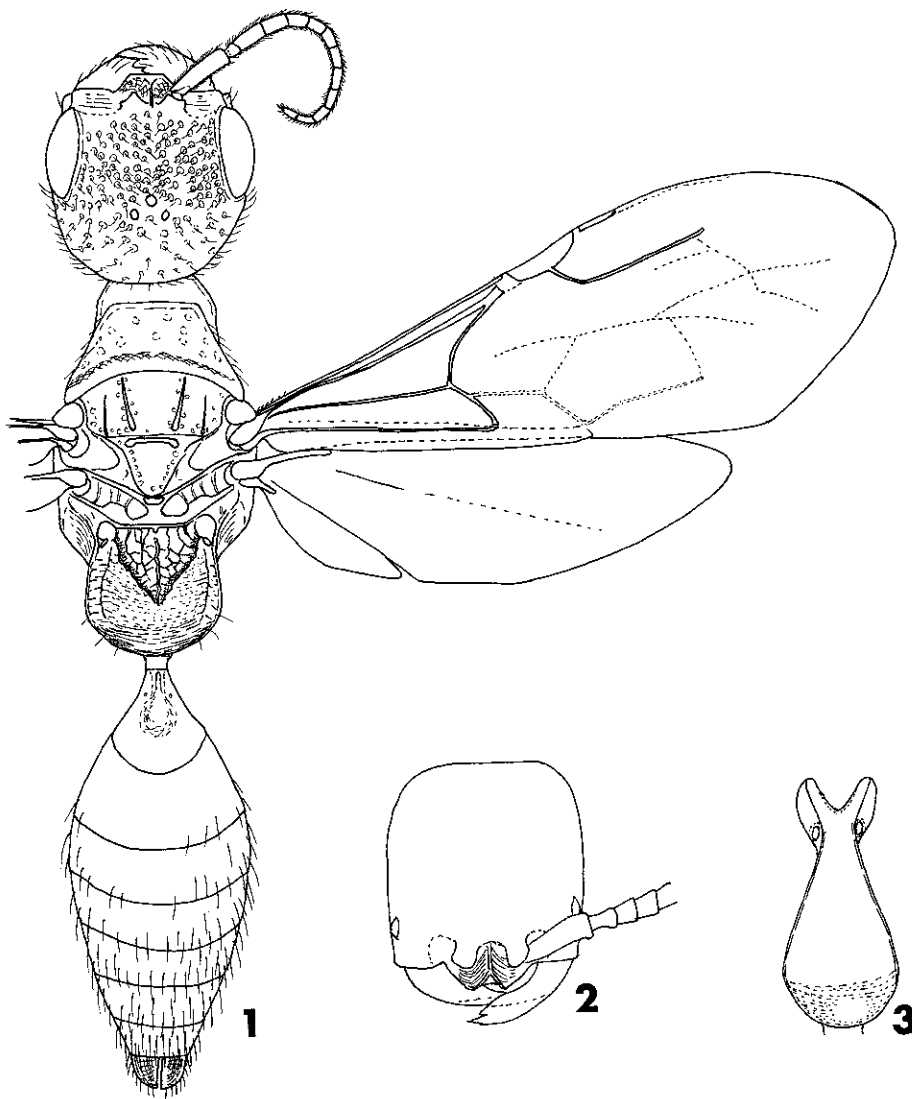
Pristocera formosana Miwa et Sonan, 1935, Trans. nat. Hist. Soc. Formosa, 25: 91.

Pristocera formosana: Yasumatsu, 1955, J. Fac. Agr. Kyushu Univ., 10: 235.

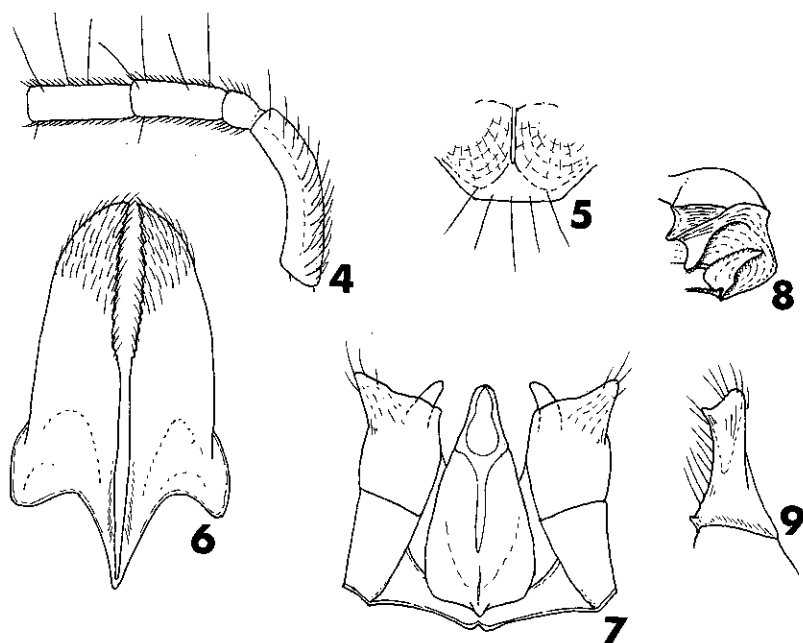
Diagnosis. Male. HL 1.65 - 2.15 mm; HW 1.55 - 2.10 mm; WF 1.00 - 1.40 mm; AL 2.85 - 3.70 mm; LP 1.00 - 1.10 mm; WPD 1.10 - 1.45 mm; FWL 5.2 - 6.4 mm; TL 8.0 - 9.5 mm.

Head and alitrunk black; gaster dark reddish brown; mandibles, antennae and legs reddish brown.

Head almost as long as wide. Mandibles with 4 teeth. Anterior border of clypeus broadly rounded. Antennae short, not reaching the posterior end of propodeum; funiculus with short subdecumbent and long erect hairs (Fig. 4). Eyes 0.70 - 0.85 mm in length.



Figs. 1-3. *Pristocera (Pristocera) formosana* Miwa et Sonan, male and female. — 1, Male; 2, head of female, frontal view; 3, propodeum of female, dorsal view.



Figs. 4-9. *Pristocera (Pristocera) formosana* Miwa et Sonan, male. — 4, First to fourth segments of antenna; 5, clypeus; 6, subgenital plate; 7, genitalia, dorsal view; 8, paramere, end-on view; 9, ditto, lateral view.

Pronotal disc trapezoidal, $0.36 \times$ as long as wide; anterior border carinate; surface smooth and scattered with shallow punctures. Propodeum slightly wider than long in dorsal view; median carina almost reaching the posterior corner of disc; basal triangular area reticulate.

Gaster petiolate, 4.4 - 4.7 mm in length. Subgenital plate deeply incised (Fig. 6). Genitalia short and broad (Fig. 7). Parameres short and truncate apically, with a dully angulate posterolateral corner; in lateral view, narrowest in about middle (Fig. 9). Aedoeagus broad, tapering toward the apex.

Female. HL 1.20 mm; HW 1.00 mm; AL 1.85 mm; LP 0.98 mm; WPD 0.53 mm; TL 5.0 mm.

Body castaneous; legs and antennae yellowish brown.

Head as shown in Fig. 2, smooth and shining and moderately punctate; punctures of occiput sparser than those on front.

Pronotal disc smooth and shining, scattered with relatively large punctures; mesonotum smooth, shining and impunctate. Propodeal disc (Fig. 3) smooth, shining and impunctate; declivity with transverse rugulae.

Specimens examined. Taiwan. One male, Taichung, Lincuo, 25. V. 1933 [holotype; TARI, Type No. 209.]; 4 males, Shinchiku (Shinzhu Hsien), 1-30. VII. 1918, J. Sonan & K. Miwa leg. [paratypes, TARI]; 1 male, Funkiko (Chiayi Hsien), 26. VII. 1927, J. Sonan & K. Miwa leg. [paratype, TARI]; 1 male, Taichung, Lincuo, 25. V. 1933 [paratype, TARI]; 1 male, 1 female, Tyokakurai, Daibu, 27. VII. 1936, S. Asahina leg. [KUF]; 1 male, Kenting Park, Pingtung Hsien, 15. VI. 1970, Y. Hori leg. [EUM].

Host. *Melanotus tamsuyensis* and *Agonischius obscuripes* (Coleoptera: Elateridae)

(Miwa & Sonan, 1935).

Pristocera (Acrepyris) mieae sp. nov.
(Fig. 10)

Holotype. Female. HL 1.23 mm; HW 0.94 mm; AL 1.90 mm; LP 0.85 mm; WPD 0.51 mm; TL 6.3 mm.

Head and alitrunk black; gaster brown; mandibles reddish brown; antennal scapes reddish brown; funiculus and legs yellowish brown.

Head $1.3 \times$ as long as wide, with straight posterior border and rounded posterolateral corners, parallel-sided in anterior half; frons and vertex shining, very weakly microreticulate, with strong punctures; punctures separated by $1-2 \times$ their own diameter. Mandibles with 4 teeth. Anterior clypeal margin broadly rounded with a median notch. Antennae 13-segmented; scape widest at apicalmost, $2.9 \times$ as long as wide; 2nd and 3rd segments each as long as wide; 4th to 12th each wider than long; apical segment $1.5 \times$ as long as wide. Eyes 0.06 mm in length, each consisting of 4 facets.

Pronotal disc slightly longer than wide, weakly microreticulate, rather smooth and shining; median longitudinal portion impunctate; lateral and anterior portions

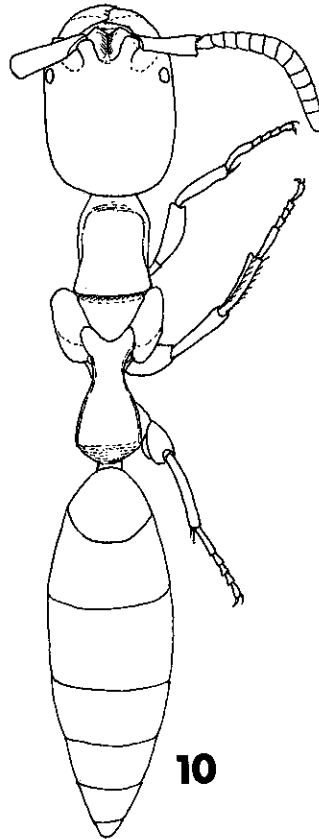


Fig. 10. *Pristocera (Acrepyris) mieae* sp. nov., female.

moderately punctate, punctures separated by ca. $2.0 \times$ their own diameter. Mesonotal dorsum with about 12 punctures. Propodeal disc with U-shaped anterior border; maximum width $2.5 \times$ minimum width; anterior $4/5$ of surface smooth and shining with scattered punctures; posterior $1/5$ and declivity strongly microreticulate. Dorsal surface of mesopleura smooth and shining, with 4-5 punctures; lateral surface almost smooth to weakly microreticulate and moderately punctate.

Gaster ca. 3.0 mm in length; maximum width 1.05 mm as seen from above.

Holotype. Female, Fenchifu, Chiayi Hsien, 1. VI. 1981, M. Isono leg. [NIAES].

Paratype. One female, Wushe, Nantou Hsien, 1. V. 1929. [NASM].

Remarks. This species resembles *P. japonica* from Japan. However, it is distinguished from the latter by the small eyes consisting of 4 facets (more than 10 facets in *P. japonica*), black head and alitrunk (castaneous in *P. japonica*), and sparser punctuation on pronotal disc (punctures separated by ca. $2.0 \times$ their own diameter in *P. mieae*, while $1.5-1.0 \times$ in *P. japonica*).

***Pristocera (Acrepyris) tainanensis* sp. nov.**

(Figs. 11-14)

Holotype. Male. HL 1.78 mm; HW 1.73 mm; WF 1.15 mm; LA 3.60 mm; LP 1.30 mm; WPD 1.20 mm; FWL 6.1 mm; TL 8.6 mm.

Body black; gaster black with brownish tinge; tip of mandibles reddish brown; legs blackish brown; forewings subhyaline and tinged with brown; hindwings almost hyaline.

Head as long as wide, with posterior margin roundly produced, coarsely punctate; punctures strong, separated by less than $0.5 \times$ their own diameter. Mandibles with 5 teeth. Clypeus truncate apically. Eyes 0.70 mm in length; WF $1.64 \times$ EL. First 5 segments of antennae in a ratio of 27 : 5 : 21 : 18 : 18 in length. Ocelli forming a compact triangle; OOL $1.4 \times$ WOT.

Pronotal disc trapezoidal, with 6 - 7 relatively irregular transverse rugae. Mesoscutum coarsely punctate; scutellum rather smooth, scattered with small punctures. Propodeum almost as long as wide in dorsal view; weak but complete transverse carina present; disc reticulate in most part as in Fig. 14; 5 discal carinae present; median carina reaching the transverse carina and outer 2 pairs carinae short.

Gaster sessile. Metacarpus veins half the length of pterostigma; subdiscoidal veins not reaching the margin of the wing.

Holotype. Male, Raisha, 30. VIII. 1927, J. Sonan & K. Shibata leg. [HUS].

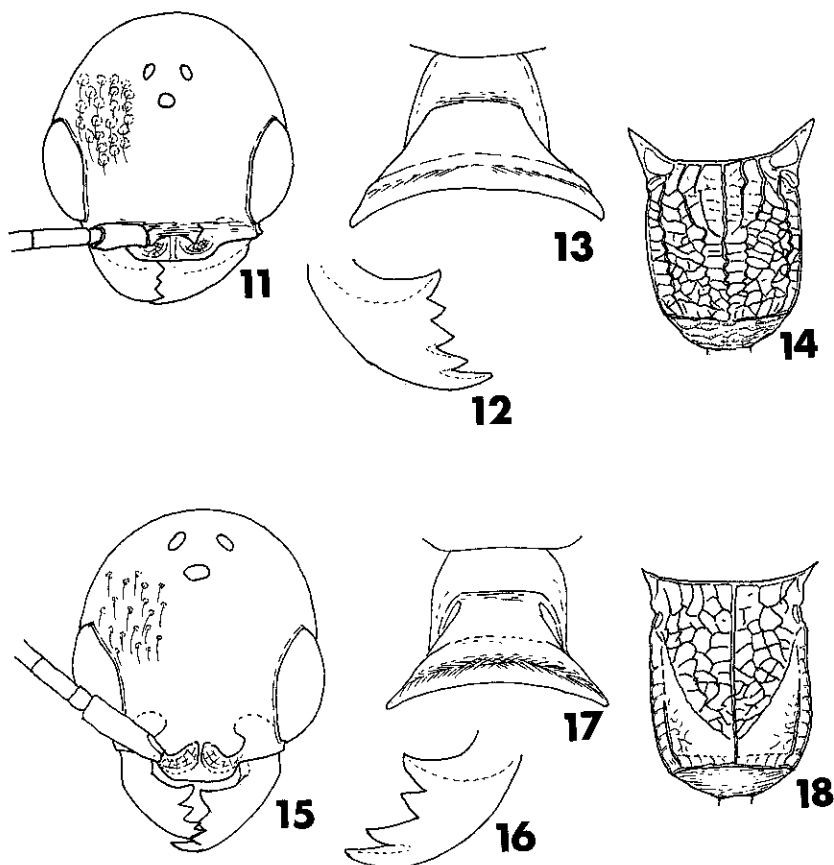
Paratypes. One male, Kanshirei, 20. XI. 1926, J. Sonan leg. [HUS]; 1 male, Kuanzuling, Tainan Hsien, 10. IX. 1980, M. Terayama leg. [NIAES].

***Pristocera (Acrepyris) takasago* sp. nov.**

(Figs. 15-18)

Holotype. Male. HL 1.13 mm; HW 1.08 mm; WF 0.65 mm; LA 2.23 mm; LPD 0.75 mm; WPD 0.68 mm; FWL 4.2 mm; TL 6.1 mm.

Head and alitrunk black; gaster blackish brown; mandibles yellow except for reddish apices; antennae yellowish brown; legs yellowish brown, basal $2/3$ of femora darker; wings hyaline.



Figs. 11-18. *Pristocera (Acrepyris) tainanensis* sp. nov., male, and *P. (A.) takasago* sp. nov., male. — 11-14, *P. (A.) tainanensis* sp. nov.; 11, head, frontal view; 12, mandible; 13, pronotum, dorsal view; 14, propodeum, dorsal view. — 15-18, *P. (A.) takasago* sp. nov.; 15, head, frontal view; 16, mandible; 17, pronotum, dorsal view; 18, propodeum, dorsal view.

Head oval, slightly longer than wide, with posterior margin roundly produced; surface smooth and shining, moderately punctate; punctures rather small, separated by 1.5 - 2.5 × their own diameter. Mandibles with 4 teeth. Clypeus slightly produced; anterior border straight. First 5 segments of antennae in a ratio of 16 : 4 : 11 : 10 : 10 in length; 2nd segment as long as wide, 3rd 3.7 × as long as wide. Eyes 0.48 mm in length; WF 1.37 × EL. POL : AOL = 4 : 3; OOL 1.5 × WOT.

Pronotal disc 0.46 × as long as wide; anterior border broadly rounded; surface smooth but moderately punctate. Mesonotum smooth, punctures fewer than those on pronotum. Propodeal disc 1.1 × as long as wide, with distinct transverse carina; median carina reaching the transverse carina; basal triangular area longer than wide, reticulate; posterolateral areas smooth in most part.

Gaster sessile. Metacarpus veins with length $1.25 \times$ pterostigma; subdiscoidal veins not reaching the margin of the wing.

Holotype. Male, Tokkasha, Nantou Hsien, A. Shinohara leg. [NASM].

Paratype. One male, Shaorin, Formosa, 26. VII. 1929, C. Watanabe leg. [HUS].

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