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## A Taxonomic Review of the *Aleiodes dispar*-group (Hymenoptera; Braconidae; Rogadinae) from Japan

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**Abstract** The *Aleiodes dispar*-group (Rogadinae: Rogadini; *Aleiodes*) from Japan are reviewed and five species are recognized. Three of them are *A. dispar* (CURTIS, 1834), *A. takasuae* VAN ACHTERBERG, 1985 and *A. fasciatipennis* (ASHMEAD, 1906), and the remaining two are described as new to science: *A. tenuis* sp. nov. and *A. cygnus* sp. nov.

**Key words:** Braconidae; Rogadinae; *Aleiodes*; *dispar*-group; Japan.

### Introduction

The braconid subfamily Rogadinae contains four tribes, viz., Rogadini FOERSTER, 1862, Yeliconini VAN ACHTERBERG, 1991, Clinocentrini VAN ACHTERBERG, 1991 and Stiropiini VAN ACHTERBERG, 1993 (VAN ACHTERBERG, 1993). The genus *Aleiodes*, belonging to the Rogadini, is one of the largest genera within the Rogadinae, which are known to be mostly endoparasitic on lepidopterous larvae. As in other Rogadini (e.g., SHAW, 1983 and SHAW & HUDDLESTON, 1991), the adult emerges from mummified host larvae. Although many rogadine species have considerable potential for biological control agents of the lepidopterous pests, the taxonomy of most species has not been adequately worked out.

Within the genus *Aleiodes*, VAN ACHTERBERG (1985) recognized the *dispar*-group, which included four Palearctic species, viz., *A. dispar* (CURTIS, 1834), *A. takasuae* VAN ACHTERBERG, 1985, *A. excavatus* (TELENGA, 1941) and *A. fasciatipennis* (ASHMEAD, 1906). *A. dispar* and *A. excavatus* are known by both sexes, while *A. takasuae* and *A. fasciatipennis* have been known only by the female holotype. In Japan, three species except for *excavatus* have been recorded. In this paper, the Japanese species of the *Aleiodes dispar*-group are reviewed, and the characters defined by VAN ACHTERBERG (1985) are discussed in the light of the monophyly of the group.

### Terminology and Material

The terminology follows VAN ACHTERBERG (1993) for the external adult general morphology and the wing venation, and VAN ACHTERBERG (1974,

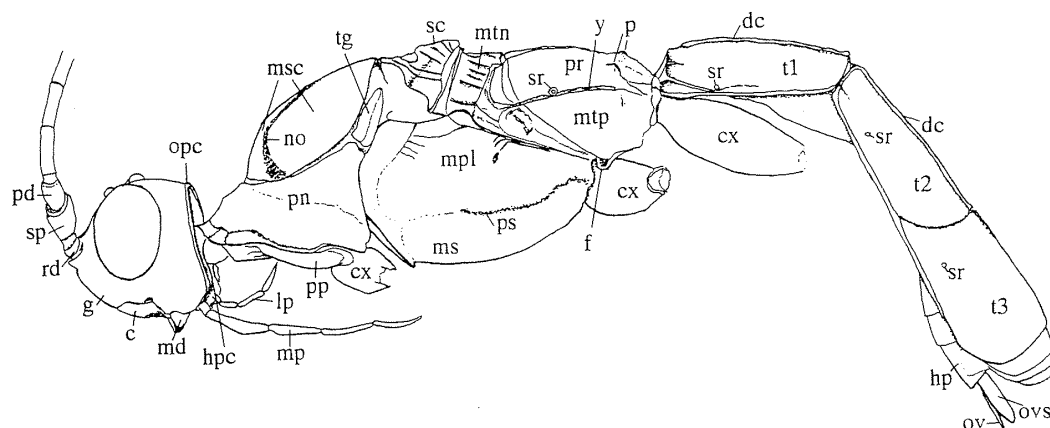


Fig. 1. Lateral aspect of *A. dispar* (CURTIS), female.

c=clypeus; cx=coxa; dc=dorsal carina; f=metapleural flange; g=face; hp=hypopygium; hpc=hypostmal carina; lp=labial palpus; md=mandible; mp=maxillary palpus; mpl=mesopleuron; ms=mesosternum; msc=mesoscutum; mt=metanotum; mtp=metapleuron; no=notaulus; opc=occipital carina; ov=ovipositor; ovs=ovipositor sheath; p=propodeal tubercle; pd=pedicel; pn=pronotum; pp=propleuron; pr=propodeum; ps=precoxal sulcus; rd=radix; sc=scutellum; sp=scape; sr=spiracle; t=tergite (t1=first tergite); tg=tegula; y=pleural carina.

1979, and 1988) for detailed structures of the mesosoma and metasoma.

Additional explanation may be useful for the following terms:

*Anterior flange of pronotum*: the thin anterior flange of the pronotum (Fig. 3D: afp).

*Length of pronotum*: measured from the apex of the anterior flange of the pronotum to the apex of the middle robe of the mesoscutum in medio-dorsal view.

*Medio-dorsal elevation of pronotum*: the upheaval of the pronotum medio-dorsally (Fig. 3D: mep).

*Propodeal tubercles*: a pair of protuberances situated postero-laterally on the propodeum, following the lateral carinae of the propodeum (Figs. 1, 3D: p).

The following institutions provided specimens for this study: National Institute of Agro-Environmental Sciences, Tsukuba, Ibaraki (NIAES); Laboratory of Systematic Entomology, Hokkaido University, Sapporo (SEHU); Entomological Laboratory, Osaka Prefecture University, Sakai, Osaka (OPU).

### The *Aleiodes dispar*-group

**Diagnosis.** Antenna generally with a white band; scape robust and short (Figs. 1, 3C, 4C, 5C, 6C, 7C); third and fourth segments of maxillary palpus swollen (Figs. 3B, 4B, 5B, 6B, 7B); face transversely rugose, with a median

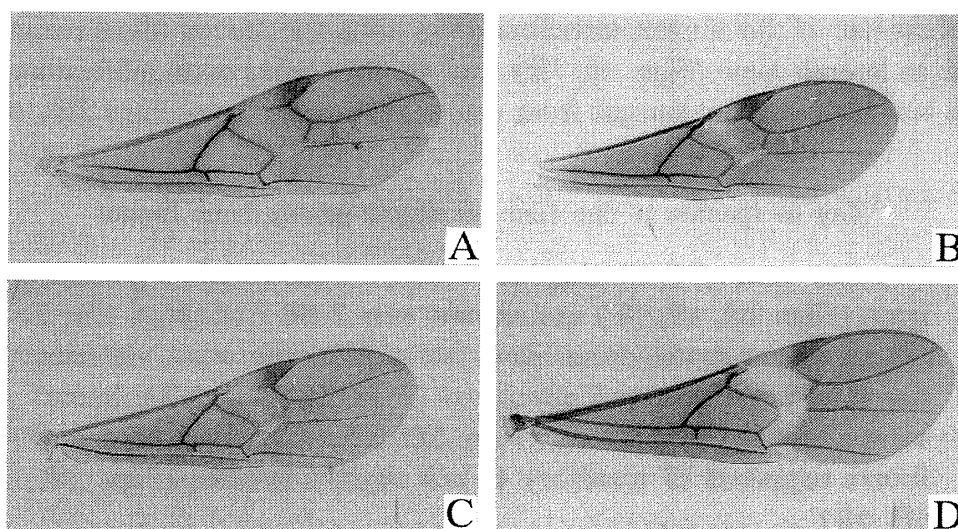


Fig. 2. The fore wings of the *Aleiodes dispar*-group.  
A, *tenuis*; B, *dispar*; C, *takasuae*; D, *fasciatipennis*.

longitudinal carina; occipital carina complete, and connected to hypostomal carina ventrally; vertex and mesoscutum coarsely and densely rugose; scutellar sulcus shallow, with a median carina (Figs. 3D, 4D, 5D, 6D); mesopleuron with precoxal sulcus crenulate-rugose and its surroundings at least partly smooth and shiny; propodeum rugose, with developed propodeal tubercles (Fig. 1); hind coxa sculptured ventrally; membrane of fore wing dark brown (Fig. 2); second submarginal cell of fore wing short (Figs. 2, 3G); basal half of pterostigma yellowish, rest of pterostigma and most veins dark brown; basal three tergites of metasoma generally visible in dorsal view (Figs. 3H, 4G, 5G, 6H, 7D); basal two metasomal tergites with complete median dorsal carinae (Figs. 1, 3H, 4G, 5G, 6H, 7D).

The above diagnosis generally follows that of VAN ACHTERBERG (1985).

I consider that the *Aleiodes dispar*-group is a monophyletic group which is characterized by the following synapomorphies: 1. the scutellar sulcus is reduced; 2. the propodeal tubercles are developed; 3. only three basal tergites of the metasoma are well exposed and the others are retracted; 4. the second submarginal cell of the fore wing is short. The characters 1 and 3 are supplemented in this study to those recognized by VAN ACHTERBERG (1985).

The Japanese species of the *Aleiodes dispar*-group can be divided into two subgroups. One includes *dispar*, *tenuis* and *takasuae* and the other *cycnus* and *fasciatipennis*. The former is characterized by the long anterior flange of the pronotum whose length is one-third to half as long as the medio-dorsal length of the pronotum (Figs. 3D, 4D, 5D). The latter is characterized by the rather swollen third and fourth segments of the maxillary palpus (Figs. 6B, 7B), the strongly developed medio-dorsal elevation of the pronotum (Fig. 6D), the weak

lateral carinae of the convex scutellum (Fig. 6E), the convex third metasomal tergite in lateral view (Figs. 6I, 7E) and the fore wing with subhyaline area which reaches posterior margin from below the pterostigma (Figs. 2D, 6G).

#### Key to species of the *Aleiodes dispar*-group from Japan

1. Subhyaline area of fore wing restricted to a patch below pterostigma (Figs. 2B, 4F, 5F) and around vein 2-SR+M (Figs. 2A, 3G), or absent; medio-dorsal elevation of pronotum weak; anterior flange of pronotum well developed (Figs. 3D, 4D, 5D); lateral carina of scutellum strong (Figs. 3D, 3E, 4D, 5D); third and fourth segments of maxillary palpus slightly swollen (Figs. 3B, 4B, 5B) .....2
- Subhyaline area of fore wing below pterostigma reaching posterior margin or nearly so (Figs. 2D, 6G); medio-dorsal elevation of pronotum strong (Fig. 6D); anterior flange of pronotum rather short (Fig. 6D); lateral carina of scutellum weak (Figs. 6D, 6E); third and fourth segments of maxillary palpus distinctly swollen (Figs. 6B, 7B) .....4
2. Length of anterior flange of pronotum very long, about half the length of pronotum (Fig. 3D); vein r-m of fore wing weakly sclerotized (Figs. 2A, 3G) ..... *tenuis* sp. nov.
- Length of anterior flange of pronotum one-third of length of pronotum (Figs. 4D, 5D); vein r-m of fore wing present at most as an unsclerotized trace (Figs. 2C, 5F) .....3
3. Antenna without a white band (Fig. 5C); median carina of metanotum bifurcated posteriorly to form a triangular cell (Fig. 5D) ..... *takasuae*
- Antenna with a white band (Fig. 4C); median carina of metanotum not bifurcated posteriorly (Fig. 4D) ..... *dispar*
4. Clypeus transverse (Fig. 7A); median longitudinal carina of propodeum indistinct in the posterior half; third metasomal tergite rather rounded posteriorly (Fig. 7D), and rather convex in lateral view (Fig. 7E) ..... *fasciatipennis*
- Clypeus semicircular (Fig. 6A); median longitudinal carina of propodeum complete (Fig. 6D); third metasomal tergite slightly convex in lateral view (Fig. 6I) ..... *cynus* sp. nov.

*Aleiodes tenuis* sp. nov.

(Figs. 2A, 3)

*Female.* Length of body 5.9 mm and of fore wing 4.4 mm.

Head: Antenna with 47 segments, mostly yellowish-brown with pale yellowish area in the middle (Fig. 3C); length of first flagellum 3.0 times as long as its width. Third and fourth segments of maxillary palpus slightly swollen (Fig. 3B). Frons shiny and coarsely rugose; clypeus subquadrate, slightly convex, densely and weakly rugose transversely; malar space 1.6 times as long as basal width of mandible.

Mesosoma: Anterior flange of pronotum very long, about half length of pronotum; medio-dorsal elevation of pronotum weak (Fig. 3D); pronotal sides, mesoscutum, scutellum, metapleuron and propodeum coarsely and densely rugose; scutellum nearly flat (Fig. 3E); lateral carina of scutellum rather strong (Fig. 3D); propodeum with a complete median longitudinal carina; pleural carina as strong as surrounding rugae; metanotum with two strong and two weak carinae (Fig. 3D); metapleural flange truncate (Fig. 3E).

Legs: Hind coxa with coarsely rugose ventrally; ventral length of hind trochantellus 3.4 times ventral length of hind trochanter; length of tibia and basitarsus of hind leg 18.3 and 8.0 times their apical width, respectively.

Wings: Fore wing with subhyaline area restricted to a patch around vein 2-SR+M (Figs. 2A, 3G); vein 1-SR+M straight; vein CU1a nearly straight; vein r angled with vein 3-SR; vein r-m weakly sclerotized (Figs. 2A, 3G). Hind wing 3.6 mm. Vein cu-a weakly sclerotized (Fig. 3G); basal cell higher than subbasal one.

Metasoma: First and second tergites coarsely granulate-rugose; medial length of first tergite 1.25 times its apical width; medial length of second 1.25 times that of third; third tergite extensively, more coarsely and densely rugose, nearly flat in lateral view (Fig. 3I); length of ovipositor sheath 0.18 mm.

Color: Mostly yellowish: maxillary and labial palpi. Yellowish-brown: head, all legs except for hind telotarsus. Brown: scape, pedicel, pronotum, propleuron, mesoscutum, mesopleuron, scutellum, propodeum, telotarsus, metasomal tergites. More or less dark brown: tip of mandible, arolium, tarsal claw.

*Male.* Unknown.

*Holotype.* ♀, Tamaki For. Rd., Mt. Oppa-dake, Nakijin, Okinawa, 3. v. 1991, M. HAYASHI (OPU).

*Paratype.* 1 ♀, Amamioshima, Ryukyu, 24. v. 1965, H. TAKADA (SEHU); 1 ♀, Kuura Riv., Iriomote Is., 28. xi. 1996, Y. NAKATANI (L. T.) (OPU); 1 ♀, Komi, Iriomote Is., 30. xi. 1996, Y. NAKATANI (L. T.) (OPU).

*Distribution.* Japan (Ryukyus).

*Host.* Unknown.

*Remarks.* Only this species has the sclerotized vein r-m of the fore wing within the *Aleiodes dispar*-group (Figs. 2A, 3G). This species is also characterized by the antenna which is largely yellowish-brown with pale and yellowish area in the middle (Fig. 3C). In the specimens collected from Iriomote-jima,

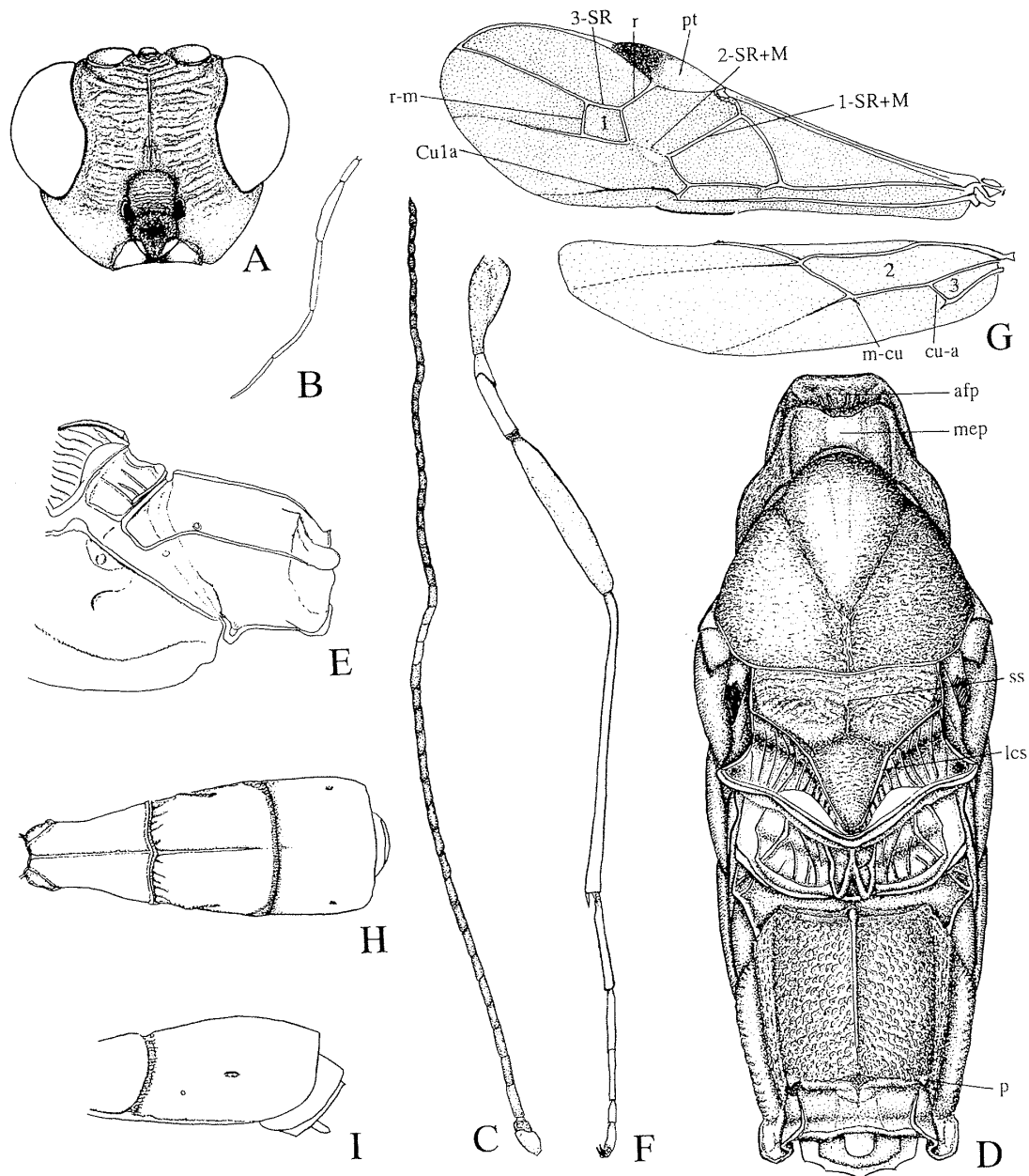


Fig. 3. *A. tenuis*, holotype, female. A, head, frontal aspect; B, maxillary palpus; C, antenna; D, mesosoma, dorsal aspect; E, mesosoma, lateral aspect; F, hind leg; G, wings; H, metasoma, dorsal aspect; I, third metasomal tergite, lateral aspect; [afp= anterior flange of pronotum; lcs=lateral carina of scutellum; mep=medio-dorsal elevation of pronotum; p=propodeal tubercle; pt=pterostigma; ss=scutellar sulcus; 1=second submarginal cell; 2=basal cell; 3=subbasal cell.]

the antenna is entirely dark brown except for the yellowish band in the middle and therefore the band is more conspicuous than in the specimens collected from Okinawa-jima and Amami-oshima.

*Aleiodes dispar* (CURTIS)

(Figs. 1, 2B, 4)

*Rogas dispar* CURTIS, 1834: no. 512-10.

*Aleiodes (Heterogamus) crypticornis* WESMAEL, 1838: 150.

*Heterogamus dispar*: WATANABE, 1937: 50, partim; VAN ACHTERBERG, 1975: 15; SHENEFELT, 1975: 1201.

*Aleiodes dispar*: VAN ACHTERBERG, 1985: 181-183.

Both the sexes are known for this species and the sexual dimorphism is distinctly exhibited (VAN ACHTERBERG, 1985). The hosts are recorded only in this species within the *Aleiodes dispar*-group. In this study, I supplement the following features to the description of *dispar* by VAN ACHTERBERG (1985):

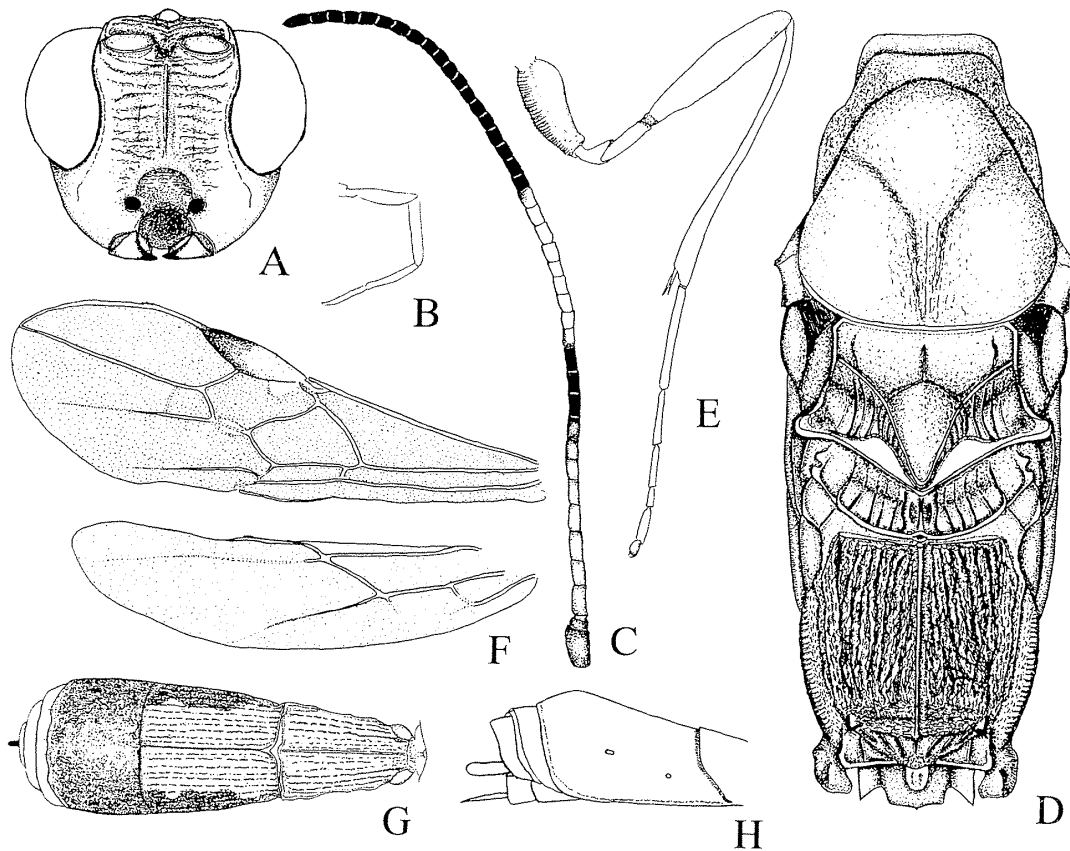


Fig. 4. *A. dispar*, female. A, head, frontal aspect; B, maxillary palpus; C, antenna; D, mesosoma, dorsal aspect; E, hind leg; F, wings; G, metasoma, dorsal aspect; H, third metasomal tergite, lateral aspect.

the length of the anterior flange of the pronotum is one-third of the length of the pronotum in the female (Fig. 4D); the subhyaline areas are restricted to the patch below the pterostigma and around the vein 2-SR+M in the fore wing (Figs. 2B, 4F); there are two strong and two weak carinae on the metanotum (Fig. 4D). Though VAN ACHTERBERG (1985) stated that the color of the palpus of the female is whitish in Japanese specimens, basal three segments and basal half of the fourth segment of the maxillary palpus are sometimes dark brownish. This species is newly recorded from Kyushu.

The hosts of the *Aleiodes dispar*-group have been scarcely known, except that *A. dispar* is parasitic on *Agrotis segetum* (DENIS et SCHIFFERMÜLLER) (Noctuidae) and *Euphydryas aurinia* (ROTTEMBURG) (Nymphalidae) (e.g., VAN ACHTERBERG, 1985).

*Male.* Not examined.

Specimens examined. HOKKAIDO: 1 ♀, Iburi, Ashoro, 23. vii. 1962, M. HONDA (OPU); 1 ♀, [Sapporo], after WATANABE, labeled "16"; 1 ♀, Hokkaido Univ. Forest, Tomakomai City, 17. viii. 1977, Kenji OHARA (OPU). HONSHU: 2 ♀, Tsukuba, Ibaraki Pref., 4 viii. 1980, T. HIROWATARI & S. YOSHIMATSU (OPU); 1 ♀, Setagaya, Tokyo, 14. vi. 1953, I. HATTORI (L. T.) (NIAES); 1 ♀, Mt. Asamayama (Alt. 1300 m), Komoro, Nagano Pref., 31. viii. 1978, K. MAETÔ (OPU); 1 ♀, Shimashima-dani (Alt. 1300–1600 m), Nagano Pref., 26. viii. 1978, K. MAETÔ (OPU); 1 ♀, Mt. Iwamuro, E. Izu, Shizuoka Pref., 15. x. 1966, T. MAENAMI (NIAES); 1 ♀, same loc., 13. vi. 1967, T. MAENAMI (NIAES); 1 ♀, same loc., 16. viii. 1967, T. MAENAMI (NIAES); 1 ♀, Mt. Wasamata, Nara Pref., 29. vii. 1996, M. ISHII (OPU); 1 ♀, same loc., 29. vii. 1996, K. TENMA (L.T.) (OPU); 1 ♀, same loc., 30. vii. 1996, K. TENMA (OPU); 1 ♀, Mt. Azuma Hiwa, Hiroshima Pref., 26. vii. 1976, K. MAETÔ (OPU). KYUSHU: 2 ♀, Mt. Tachibana, Fukuoka City, Fukuoka Pref., 24. viii. 1978, T. GOTO (OPU); 1 ♀, same loc., 22. ix. 1979, K. MAETÔ (OPU); 1 ♀, same loc., 3. vi. 1982, K. KONISHI (NIAES); 1 ♀, Mt. Hikosan, Fukuoka Pref., 6. vii. 1983, R. NODA (OPU); 1 ♀, Kunimi-toge (1400–1600 m), Sobo, Oita Pref., 23–24. vii. 1978, K. MAETÔ (OPU); 1 ♀, Mt. Sobosan (Alt. 800–900 m), Oita Pref., 22. vii. 1978, K. MAETÔ (OPU); 1 ♀, Kikuchi-suigen, Kikuchi City, Kumamoto Pref., 31. vii. 1977, Sonoko OHARA (OPU); 1 ♀, Mt. Hakuchozan, Izumi-mura, Kumamoto Pref., 9. vii. 1978, K. MAETÔ (OPU).

Distribution. Europe; Japan (Hokkaido, Honshu, Shikoku, Kyushu).



*Aleiodes takasuae* VAN ACHTERBERG

(Figs. 2C, 5)

*Aleiodes takasuae* VAN ACHTERBERG, 1985: 183–184.

This species was described on the basis of the female holotype (VAN ACHTERBERG, 1985). Only this species is said to have the antenna without a white band (Fig. 5C) and the fore wings without subhyaline area. In this study, however, subhyaline areas of the fore wing are recognized, which are restricted to the patch below the pterostigma and around the vein 2-SR + M (Figs. 2C, 5 F). Supplemental description to VAN ACHTERBERG (1985) is given as follows: length of anterior flange of pronotum one-third of pronotum in the female (Fig. 5D); median longitudinal carina of propodeum indistinct in the posterior half (Fig. 5D); metanotum with two strong and three weak carinae (Fig. 5D).

In the specimen labeled "Shimashima-dani (Alt. 900–1300 m), Nagano Pref., 25. viii. 1978, K. MAETÔ", the vein m-cu of the hind wing is absent (Fig. 5E). This seems to be due to individual variation.

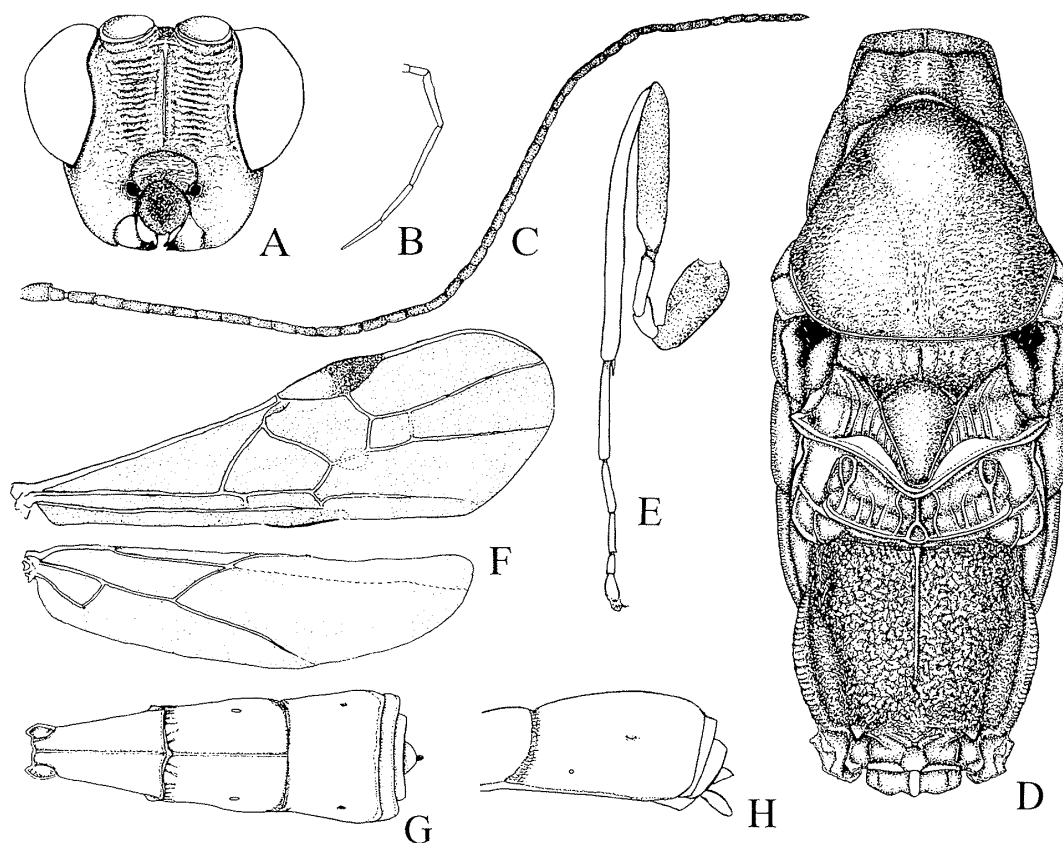


Fig. 5. *A. takasuae*, female. A, head, frontal aspect; B, maxillary palpus; C, antenna; D, mesosoma, dorsal aspect; E, hind leg; F, wings; G, metasoma, dorsal aspect; H, third metasomal tergite, lateral aspect.

This species is easily distinguished from the other species by the unicolorous yellowish brown antenna (Fig. 5C) and the median carina of the metanotum which is bifurcated posteriorly to form a triangular cell (Fig. 5D). This species is newly recorded from Hokkaido.

*Male.* Unknown.

Specimens examined. HOKKAIDO: 2 ♀, Sapporo, 27. viii. 1965, H. TAKADA (SEHU). HONSHU: 1 ♀, Shimashima-dani (Alt. 900–1300 m), Nagano Pref., 25. viii. 1978, K. MAETÔ (OPU); 1 ♀, same loc., Nagano Pref., 27. viii. 1978, K. MAETÔ (OPU); 1 ♀, Kyoto Pref., 15. viii. 1961, H. TAKADA (SEHU); 1 ♀, Nachi, Wakayama Pref., 21. ix. 1965, H. TAKADA (SEHU); 1 ♀, Nakayama, Tôjô, Hiroshima Pref., 9. viii. 1978, K. YAMAGISHI (OPU).

*Distribution.* Japan (Hokkaido, Honshu).

*Host.* Unknown.

### *Aleiodes cycnus* sp. nov.

(Fig. 6)

Female. Length of body 5.7 mm and of fore wing 3.9 mm.

Head: Antenna with 37 segments, yellowish basally and blackish apically, with a white band (Fig. 6C); first flagellum 2.0 times as long as its width. Maxillary palpus with basal four segments dark brown, and with rests yellowish, third and fourth segments swollen (Fig. 6B). Frons shiny and strigose near vertex; clypeus semicircular, convex, and weakly rugose transversely (Fig. 6A); malar space 1.5 times as long as basal width of mandible.

Mesosoma: Anterior flange of pronotum very short; medio-dorsal elevation of pronotum strong (Fig. 6D); pronotal sides, mesoscutum, scutellum, metapleuron and propodeum coarsely and densely rugose; scutellum convex (Fig. 6E); lateral carina of scutellum weak (Fig. 6D); propodeum with a complete median longitudinal carina; pleural carina slightly stronger than surrounding rugae; metanotum with two strong and one weak carinae (Fig. 6D); metapleural flange rotundate (Fig. 6E).

Legs: Hind coxa with tranverse rows of minute denticles ventrally; ventral length of hind trochantellus 2.0 times ventral length of hind trochanter; length of tibia and basitarsus of hind leg 12.1 and 6.8 times their apical width, respectively.

Wings: Fore wing with subhyaline area below pterostigma reaching posterior margin of wing (Fig. 6G); vein 1-SR+M rather curved; vein CU1a nearly straight; vein r gradually merging into 3-SR; vein r-m present at most as an unsclerotized trace. Hind wing 3.0 mm. Vein cu-a incompletely sclerotized; basal cell as high as subbasal one.

**Metasoma:** First and second tergites coarsely granulate-rugose; medial length of first tergite 1.22 times its apical width; medial length of second 1.1 times that of third; third tergite extensively punctulate and comparatively convex in lateral view (Fig. 6I); length of ovipositor sheath 0.25 mm.

**Color:** Yellowish-brown: all legs except for telotarsus, arolium and tarsal claw, sternites. Brown: face, mandible, scape, pedicel, pronotum, mesopleuron. More or less dark brown: frons, vertex, tip of mandible, labial palpus, tegula, mesoscutum, scutellum, propodeum, telotarsus, arolium, tarsal claw, metasomal tergites, hypopygium.

**Male.** Unknown.

**Holotype.** 1 ♀, Mt. Hakuchozan, Izumi-mura (1300 m), Kumamoto Pref., 10. vii. 1978, Kenji OHARA (OPU).

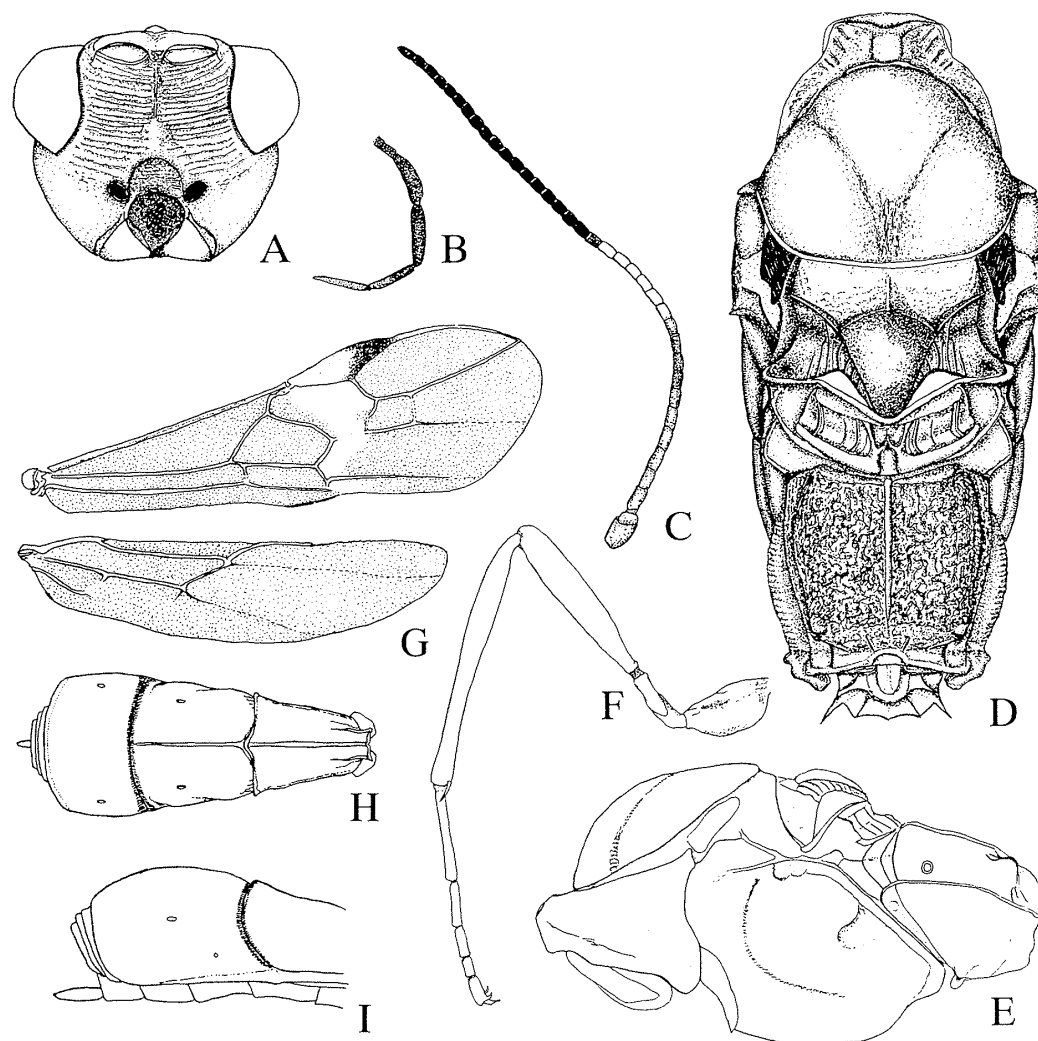


Fig. 6. *A. cynus*, holotype, female. A, head, frontal aspect; B, maxillary palpus; C, antenna; D, mesosoma, dorsal aspect; E, mesosoma, lateral aspect; F, hind leg; G, wings; H, metasoma, dorsal aspect; I, third metasomal tergite, lateral aspect.

*Distribution.* Japan (Kyushu).

*Host.* Unknown.

*Remarks.* The subhyaline area of the fore wing resembles that (Fig. 2D) of *A. fasciatipennis*. However, the shapes of the clypeus, of the maxillary palpus, and of the third metasomal tergite are distinctly different from those (Figs. 7A, 7B, 7D) in *A. fasciatipennis*.

*Aleiodes fasciatipennis* (ASHMEAD)

(Figs. 2D, 7)

*Heterogamus fasciatipennis* ASHMEAD, 1906: 198; SHENEFELT, 1975: 1201 (as a synonym of *dispar*).

*Heterogamus fuscipennis* [!]: WATANABE, 1937: 50 (as a synonym of *dispar*).

*Aleiodes fasciatipennis*: VAN ACHTERBERG, 1985: 186–187.

This species had been known only by the holotype, which was originally described from Sapporo, Japan. Though WATANABE (1937) synonymized *fasciatipennis* with *dispar*, I treat the former as a distinct species following VAN ACHTERBERG (1985). I examined five specimens which were recognized as females of *A. dispar* by WATANABE (1937), being preserved at Hokkaido University. I found two specimens staged together on a pith strip, labeled “*Heterogamus fasciatipennis* Ashm.”, “16” which are the same labels as the holotype of *A. fasciatipennis*. I concluded that one of the specimens labeled “16” is *A. dispar* and that all of the other four are *A. fasciatipennis*.

There has been little information about the antenna of this species because the pedicel and the flagellum of the holotype are missing. My observations on the additional specimens are as follows (Fig. 7C): antenna with 40 segments,

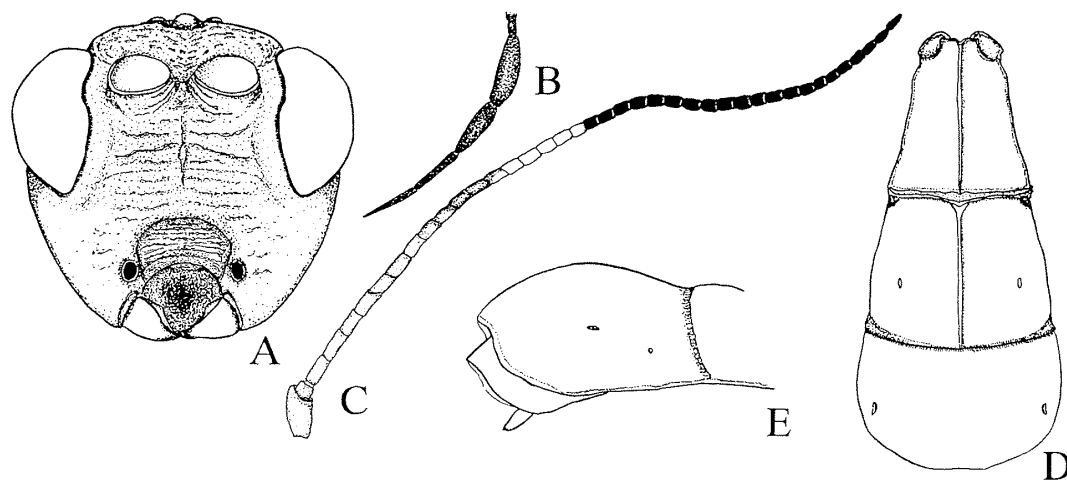


Fig. 7. *A. fasciatipennis*, female. A, head, frontal aspect; B, maxillary palpus; C, antenna; D, metasoma, dorsal aspect; E, third metasomal tergite, lateral aspect.

yellowish basally and blackish apically, with a white band; first flagellum 1.9 times as long as wide; scape brown, rounded; anterior flange of pronotum rather short as in *cycnus*; median longitudinal carina of propodeum interrupted in the middle.

This species is the largest-sized in this group and is easily distinguished from the other species by the rather rounded posterior margin of the metasoma (Figs. 7D, 7E). It is newly recorded from Honshu.

*Male.* Unknown.

*Specimens examined.* HOKKAIDO: 1 ♀, [Sapporo], after WATANABE, labeled "16"; 2 ♀, Sapporo, 13. ix. 1903, [S. MATSUMURA] (SEHU). HONSHU: 1 ♀, Mt. Aizu-Komagatake (Alt. 1700 m), 7. ix. 1987, S. SAITO (L. T.) (NIAES); 1 ♀, Tokugô-tôge (Alt. 2000 m), Nagano Pref., 26. viii. 1978, K. MAETÔ (OPU); 1 ♀, Shimashimadani, Nagano Pref., 14. x. 1982, T. GOTO (OPU); 1 ♀, Sanjo-dake, Yamato [Nara Pref.], 9. viii. 1913, S. ISSIKI (SEHU).

*Distribution.* Japan (Hokkaido, Honshu).

*Host.* Unknown.

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