

A REVISION OF THE SPECIES OF THE GENUS
EUGAHANIA MERCET, 1926
(Hymenoptera: Encyrtidae)

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Eugahania established by R.G. Mercet in 1926 is a peculiar genus of the Family Encyrtidae, and so far represented by only the following two species: *E. fumipennis* (Ratzeburg, 1852) ♀ ♂, and *E. laticapus* (Ishii, 1925) ♂.

In 1954 two specimens representing two different species of the genus *Eugahania* were collected by Dr. Ishihara and Mr. Yano respectively. After careful examination of these two specimens, I came to the conclusion that they are new to science.

Before going further I express my hearty gratitude to Dr. Keizo Yasumatsu, and Dr. Teiso Esaki as well, of Kyushu University for their kind guidance and various aids rendered in the course of the present study. Grateful thanks are also due to Dr. Tamotsu Ishihara of the College of Agriculture, Ehime University and to Mr. Toshiro Yano for their encouragements and for the gift of valuable specimens.

Genus *Eugahania* Mercet, 1926

- 1921 *Chalcaspis* Mercet (nec Howard), Fauna Ibérica, Fam. Encirtidos: 606.
 - 1926 *Eugahania* Mercet, Eos, 2 (1): 43.
 - 1928 *Eugahania* Ishii, Bull. Imp. Agr. Exp. Stat. Japan, 3 (2): 101.
- Orthotype: *Bothriothorax fumipennis* Ratzeburg, 1852

Key to the species of the genus *Eugahania*

- 1. Antennal scape not expanded beneath.....2
- Scape much expanded beneath.....3
- 2. Legs black, except for the tip of fore tibia (often the tip of mid-tibia) and basal joints of tarsi which are yellow. At the apex of the costal cell the membrane of the cell is not extending apically beyond the submarginal vein above.....*fumipennis* Ratzeburg
- Legs black, except for the following brownish yellow parts:— fore-legs—the tip of tibia, spur and four basal tarsal joints; mid-legs—the apical one-fourth of femur and four basal tarsal joints; hind-legs—the tip of femur and four basal tarsal joints. At the apex of the costal cell the membrane of the cell is extending apically beyond the submarginal vein above, so that the free margin of the expanded part of the membrane may reach the basal part of the radial cell.....*yanoi* sp. nov.

3. Pronotum slightly longer than mesoscutum. Posterior ocelli separated from the eye margins and from the occipital margin by about a diameter of one ocellus.....*laticapus* Ishii
 — Pronotum slightly shorter than mesoscutum. Posterior ocelli separated from the eye margins by about twice the diameter of one ocellus and from the occipital margin by about 1.5 times the diameter of one ocellus.....*ishiharai* sp. nov.

***Eugahania fumipennis* (Ratzeburg, 1852)**

- 1852 *Bothriothorax fumipennis* Ratzeburg, Ichn. d. Forstins., 3: 194.
 1875 *Phaenodiscus fumipennis* Mayr, Verh. k. k. Zool.-bot. Ges. Wien, 25: 758.
 1919 *Phaenodiscus fumipennis* Masi, Ann. Mus. Civ. Stor. Nat. Genova, 3^a, ser. 8: 291.
 1921 *Chalcaspis fumipennis* Mercet, Fauna Ibérica, Encírtidos, : 606.
 1926 *Eugahania fumipennis* Mercet, Eos, 2 (1): 45.
 1949 *Eugahania fumipennis* Ferrière Mitt. Schweiz. Ent. Ges., 22 (4): 380.
 1952 *Eugahania fumipennis* Nikolskaja, Fauna SSSR, 44, Chalcidoidea: 446.

Distribution: Germany, Austria, Spain, Italy.

***Eugahania yanoi* sp. nov.**

Female. General colour black. Head with a greenish reflection; antennae black. Pronotum, mesoscutum, axillae, tegulae and scutellum with a greenish blue reflection; mesopleurae with a bluish reflection; metanotum and propodeum black. Abdomen black with a slight bluish reflection. Fore-legs: black except for the tip of tibia, spur and four basal tarsal joints which are brownish yellow; mid-legs: black except for the apical one-fourth of femur and four basal tarsal joints which are brownish yellow; hind-legs: black except for the tip of femur and four basal tarsal joints which are brownish yellow. On the contrary, in *fumipennis* "Patás negro-azuladas o pardusco-violáceas, con la extremidad de las tibias anteriores, a veces la de las intermedias y los artejos basílares de los tarsos amarillentos" (Mercet, 1921).

Head uniformly adorned with sparse, large, deep punctures; clypeal region scaly reticulate; pronotum, mesoscutum, axillae, scutellum and abdomen scaly reticulate; scutellum with sparse, very shallow, large punctures; mesopleura finely rugose; propodeum obliquely rugose.

Head wider than deep; eyes separated from each other at the anterior ocellus by one-half the width of the head; posterior ocelli slightly nearer to the occipital margin than to the eye margins: posterior ocelli separated from the eye margins by about twice the diameter of one ocellus and from the occipital margin by about 1.8 times the diameter of one ocellus. Antennal scape not expanded beneath: inclusive of the radicle, about one-fifth as wide as long; ratios of scape (inclusive of the radicle), pedicel, funicle joints and club are: length—25, 6, 4.5, 3.8, 3.8, 3.8, 3.8, 3.9, 12; width—5, 4, 3.8, 3.9, 4.5, 4.7, 4.9, 5, 5.2; namely, pedicel about

1.5 times as long as wide; funicle slightly shorter than scape, the last joint slightly narrower than club; first funicle joint more than half as long as pedicel, narrower than the latter, and longer than wide; second funicle joint about as long as wide, the other joints wider than long; club as long as three preceding funicle joints taken together. Pronotum conspicuously shorter than mesoscutum. Outline of apical margin of the fore wing more rounded than that of *fumipennis* (by Mercet's figure, 1921); fore wing about 2.3 times as long as wide; stigmal vein clavate as shown in figure; at the apex of the costal cell the membrane of the cell is extending apically beyond the submarginal vein above, so that the free margin of the expanded part of the membrane may reach the basal part of the radial cell. On the contrary, in *fumipennis*, at the apex of the costal cell the membrane of the cell is not extending apically beyond the submarginal vein above, as shown in Mercet's figure (1921). Seventh sternum, seen in profile, as shown in Plate 15, 1d. Abdomen, seen from above, with ovipositor perfectly concealed, but, seen in profile, considerably produced.

Body larger than *fumipennis* as follows: Length of body 2.37 mm, length of thorax 1.37 mm, length of abdomen 0.87 mm, length of antenna 1.32 mm, length of fore wing 1.75 mm, width of fore wing 0.82 mm; on the contrary, in *fumipennis* "Longitud del cuerpo 1.710 mm, longitud del escapo 0.350 mm, longitud del pedicelo 0.105 mm, longitud del funículo 0.385 mm, longitud de la maza 0.215 mm, longitud de las alas anteriores 1.440 mm, longitud de las alas posteriores 1.120 mm, anchura máxima de las mismas 0.445 mm" (Mercet, 1921).

Male. Unknown.

Distribution: Japan (Ehime Prefecture).

Holotype: 1♀, 22. x. 1954, Mt. Takanawa near Matsuyama, Shikoku, collected

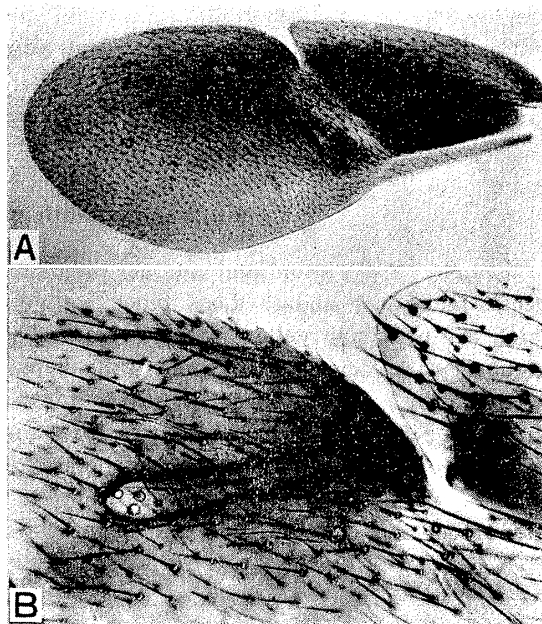


Fig. 1. *Eugahania yanoi* n. sp., ♀.
A: Fore wing. B: The same, partly enlarged.

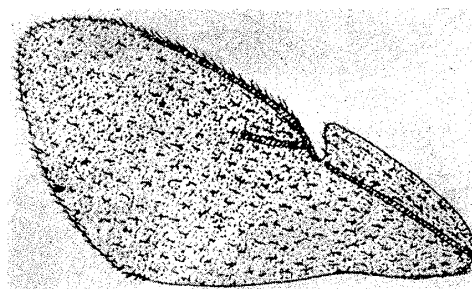


Fig. 2. Fore wing of *Eugahania fumipennis* (Ratzeburg), ♀.
(After Mercet, 1921)

by T. Yano, in the collection of the Entomological Laboratory, Agricultural College, Ehime University.

This species is closely allied to *fumipennis* (Ratzeburg, 1852), but differs in the above points.

***Eugahania laticapus* (Ishii, 1925)**

1925 *Chalcaspis laticapus* Ishii, Dept. Finance, Japan, Imp. Plant Quar. Serv., Tech. Bull. 3: 27.

1928 *Eugahania laticapus* Ishii, Bull. Imp. Agr. Exp. Stat. Japan, 3 (2): 101. Distribution: Japan (Nagasaki).

***Eugahania ishiharai* sp. nov.**

Female. Coloration and surface structure of body almost the same as the species mentioned above. Legs black, except for four basal joints of hind tarsi which are brownish yellow. On the contrary, in *laticapus* "Legs black, except the basal three joints of the hind tarsi, which are yellowish brown" (Ishii, 1925).

Posterior ocelli apparently nearer to the occipital margin than to the eye margins: posterior ocelli separated from the eye margins by about twice the diameter of one ocellus and from the occipital margin by about 1.5 times the diameter of one ocellus. On the contrary, in *laticapus* "the posterior pair separated from the eye margins and from the occipital margin by about their diameter" (Ishii, 1925).

Antennal scape much expanded beneath; inclusive of the radicle, about one-third as wide as long; ratios of scape (inclusive of the radicle), pedicel, funicle joints and club are: length—20, 5.9, 3.1, 2.6, 3, 3, 3.1, 3.1, 11; width—7, 2.8, 2.7, 2.6, 3, 3.7, 3.7, 3.7, 4.5; namely, pedicel much longer than wide, about twice as long as wide, on the contrary, in *laticapus* "pedicel as long as wide" (Ishii, 1925) [contrary to his description as this the figure given by Ishii apparently shows that the pedicel is much longer than wide]; funicle slightly shorter than scape (inclusive of the radicle), the last joint slightly narrower than club; first funicle joint about half as long as pedicel, slightly narrower than the latter, and slightly longer than

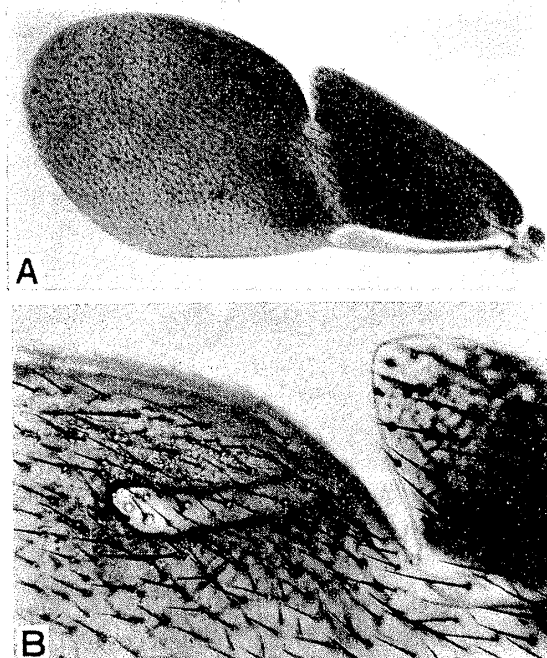
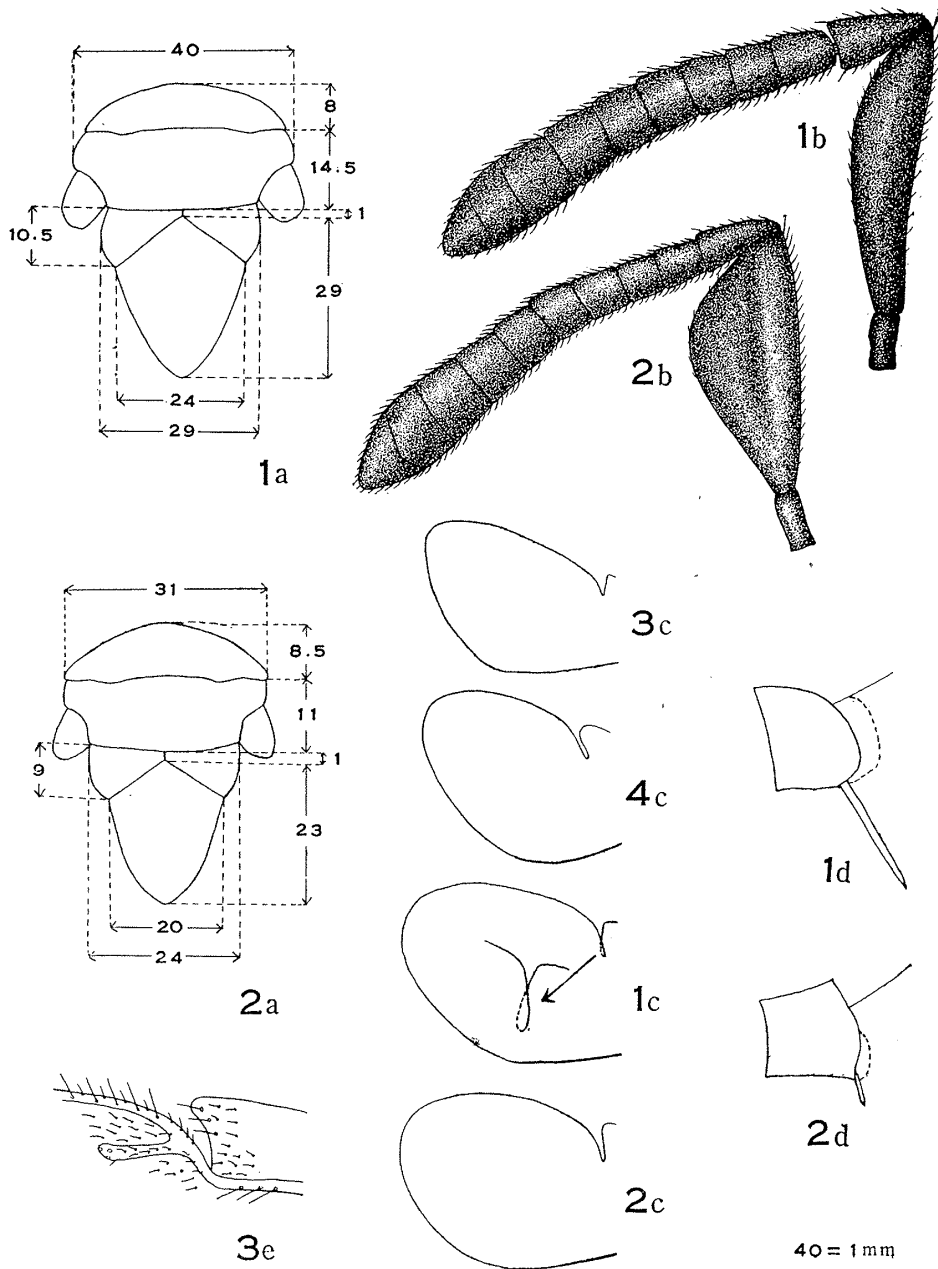


Fig. 3. *Eugahania ishiharai* n. sp., ♀.
A: Fore wing. B: The same, partly enlarged.



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wide; second and third funicle joints about as long as wide, the other joints slightly wider than long, on the contrary, in *laticapus* "the second as long as wide, the other joints wider than long" (Ishii, 1925); club slightly shorter than four preceding joints taken together. Pronotum slightly shorter than the mesoscutum, on the contrary, in *laticapus* "Pronotum slightly longer than the mesoscutum" (Ishii, 1925). Outline of the apical margin of the fore wing more rounded than that of *laticapus* (by Ishii's figure, 1925); fore wing about 2.2 times as long as wide; stigmal vein somewhat ascendant at apex as shown in figure; at the apex of the costal cell the membrane of the cell is not extending apically beyond the submarginal vein above. Seventh sternum, seen in profile, as shown in Plate 15, 2d. Abdomen, seen from above, with ovipositor perfectly concealed, but, seen in profile, slightly produced.

Length of body 1.95 mm, length of thorax 1.15 mm, length of abdomen 0.60 mm, length of antenna 1.12 mm, length of fore wing 1.60 mm, width of fore wing 0.72 mm.

Male. Unknown.

Distribution: Japan (Hiroshima Prefecture).

Holotype: 1 ♀, 27. x. 1954, Hiroshima city, Honshu, collected by T. Ishihara, in the collection of the Entomological Laboratory, Agricultural College, Ehime University.

This species is closely allied to *laticapus* (Ishii, 1925), but differs in the above points.

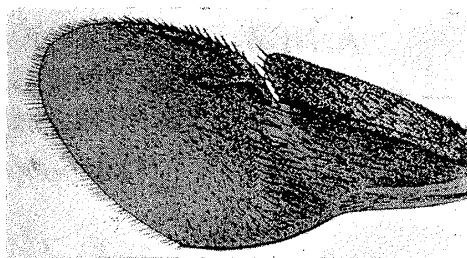


Fig. 4. Fore wing of *Eugahania laticapus* (Ishii), ♂.

(After Ishii, 1925)

Explanation of Plate 15

1. *Eugahania yanoi* n. sp. ♀. *
2. *Eugahania ishiharai* n. sp. ♀.
3. *Eugahania fumipennis* (Ratzeburg) ♀. (After Mercet, 1921)
4. *Eugahania laticapus* (Ishii) ♂. (After Ishii, 1925)

a. Dorsum of thorax; b. Antenna; c. Curvature of the apical margin of the fore wing; d. Seventh sternum and ovipositor, in profile; e. Detail of venation of the fore wing.