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A TRIBAL REVISION OF THE BRACHYCYRTINE WASPS OF THE WORLD (CRYPTINAE—ICHNEUMONIDAE)

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Kriechbaumer (1880) described the genus *Brachycyrtus*, placing it definitely in the "Cryptidae" and near the genus *Hemiteles* because of the incomplete areolet and the exerted ovipositor. He mentioned that the genus reminded one of *Sphinctus* in the form of the thorax and antennae and even of the petiolate abdomen. Schmiedeknecht (1904-1906, pp. 757, 884), when he placed *Brachycyrtus* in the tribe Hemitellini, remarked that it was a peculiar genus with some similarity to *Sphinctus* and, like it, should occupy a special position.

Ashmead (1900, p. 151) listed *Brachycyrtus* (misspelled *Brachycystus*) under the heading "Genera unknown to the author and not classified." Later (1906, p. 174) he described in the Hemitellini the genus *Proterocryptus*, now a synonym of *Brachycyrtus* Kriechbaumer.

Pfankuch (1912, pp. 456-457) seemed to feel that while placement of *Brachycyrtus* was very difficult, it would go best in the Tryphoninae near *Sphinctus*. He believed the form of the head, the apically thickened antennae, the (to him) 3-toothed mandibles, the rhomboid-shaped thorax, the abruptly declivous propodeum, the origin of the radius before the middle of the stigma, and the form of the petiole all precluded placement in the Cryptinae.

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Roman (1915, pp. 5-8) put *Brachycyrtus* in the Ophioninae. He considered it closely related to the Cremastini because of the emarginate eyes, short abscissula of the hindwing, and elongate ovipositor. He also mentioned the similarity of the mandibles of *Brachycyrtus* to those of bassine (Diplazoninae) and banchine genera.

Cushman (1919, p. 543) established the tribe Proterocryptini for *Proterocryptus* Ashmead, a synonym of *Brachycyrtus*, and placed the new tribe in the Tryphoninae. He compared it with *Sphinctus* Gravenhorst.

Ceballos (1942, pp. 120-121) put *Brachycyrtus* in the tribe Sphinctini (Tryphoninae) on the basis of the short, high, globose thorax, the somewhat apically thickened antennae, and the club-shaped abdomen with slender petiole.

Townes (1944-1945, pp. 22, 756) placed *Brachycyrtus* under the heading "Genera of Uncertain Subfamily," but in 1951 (p. 203) he put the genus in the tribe Brachycyrtini, subfamily Pimplinae. No reasons were given.

Cushman (1936) wrote that "in general form of head and thorax the species are similar to the species of *Chrysopoctonus*." This statement was made in his discussion of the first host record (*Chrysopa* sp.) for the genus. *Chrysopoctonus* Cushman is considered a synonym of *Otacustes* Foerster.

My own tendency was to look for the species in the Pimplinae or Cryptinae when they came infrequently to me for identification. In my opinion the resemblance to the Sphinctini and Cremastini is superficial. Certainly the characters upon which Roman based his placement in the Ophioninae are also found in the Pimplinae. Even the short abscissula of the hindwing is found in the pimpline genera *Aerodactyla* Haliday and *Colpomeria* Holmgren. The Sphinctini seem to belong in the Tryphoninae, probably somewhere near the Exenterini. The ovipositor and general conformation of the abdomen beyond the petiole is typical of the Tryphoninae. The same cannot be said of *Brachycyrtus*.

Specimens identified as *Poecilocryptus nigromaculatus* Cameron by Cushman, and considered cryptine by him, were studied in search of possible relationship to *Brachycyrtus*. The specimens fit the original description of *nigromaculatus* rather well and I believe they are that species. I agree with Dr. Townes (in litt.) that *Poecilocryptus* is pimpline rather than cryptine. However, *Brachycyrtus* does not seem to be closely related to *Poecilocryptus* but to be more cryptine in its affinities. *Poecilocryptus*, unlike *Brachycyrtus*, has typical pimpline claws, lacks a sternaulus, and is in many respects similar in structure to the Theroniini and to the genus *Labium* Brullé, the placement of which has also been questioned.

The apically thickened antennae of *Brachycyrtus*, *Labium*, and *Poecilocryptus* are also found in some species of the hemiteline genus *Otacustes* Foerster, particularly in females of *O. bicolor* (Cushman) as well as in females of *Myersia* Viereck and of hemiteline genera formerly considered pezomachine.

Some earlier authors have considered the petiole of *Brachycyrtus* distinct from that of various cryptine genera. If one will compare the petiole with that of *Mesostenus* and related genera, especially with that of *Mesostenus longicaudis* Cresson (type of *Derocentrus* Cushman), a close similarity will be noted. The shape of the abdomen is also similar.

The Cushman species *Brachycyrtus oculatus* and *B. convergens* show that emargination of the eyes is not a tribal character. The genus as it now stands contains two natural groups, one with strongly emarginate eyes, and the other with eyes either weakly or not at all emarginate (fig. 1, *c, d*). In this paper I shall consider each group a valid genus of the tribe Brachycyrtini, subfamily Cryptinae. The small wasps (4.5–9 mm. long) belonging to the Brachycyrtini are easily distinguished from those of other tribes in the Cryptinae by the following combination of characters: the short, high, globose thorax; long, slender, more or less club-shaped abdomen; the long antennae thickening toward the apex; the short, broad head, usually broader than the thorax; the flat or somewhat concave clypeus and more or less emarginate upper mandibular tooth; the tiny claws; and the distinctive wing venation (see fig. 1, *a, b*). In fact, the wing venation is so distinct and so characteristic—differing not only from that of other Cryptinae but from that of other subfamilies as well—that ultimately, with the rearing and collection of more material, additional characters may be found that will necessitate the making of a separate subfamily, the Brachycyrtinae, for the groups.

The two genera, then, that constitute the Brachycyrtini are *Brachycyrtus* Kriechbaumer and *Habryllia*, new genus, and may be separated as follows:

Eyes deeply or strongly emarginate; gastrocoeli present; occipital carina meeting hypostomal carina before base of mandible . . . ***Brachycyrtus*** Kriechbaumer

Eyes weakly or not at all emarginate; gastrocoeli absent; occipital carina not meeting hypostomal carina but going directly to base of mandible.

Habryllia, new genus.

Little is known of the biology of the tribe. Species have been recorded from Chrysopidae, *Chrysopa* sp., and "trashbug pupae" (chrysopid pupae), undoubtedly correctly. Indefinite records are: cage of *Alabama argillacea* Heubner; caged cotton buds infested with *Anthonomus vestitus* Boheman; and traps for fruit flies.

Habryllia, new genus²

Genotype: *Habryllia cosmeta*, new species. Present designation.

Habryllia resembles *Brachycyrtus* Kriechbaumer in its short, high, globose thorax, its more or less club-shaped abdomen, its somewhat apically thickened antennae, its apically emarginate upper mandibular tooth, and its concave clypeus. It differs especially in the characters given in the key and in the position of the prepectal carina, which slopes obliquely back until it attains the position of the postpectal carina and probably fuses with it at least in part. With so few specimens, dissection was not considered. In *Brachycyrtus* the prepectal carina is in normal position for the subfamily, and the postpectal carina absent laterally. *Habryllia* also differs in having longer, more slender antennae with the number of segments of the flagellum varying from 29 to 33 (24 to 27 in *Brachycyrtus*) and with the first flagellar segment about six or seven times as long as wide (three to four times as long as wide in *Brachycyrtus*); and in having the head differently shaped, the temples being longer and sloping inward from the lower margin of the eye (temples shorter and not sloping in *Brachycyrtus*) (see fig. 1, *a, b*).

Material on hand shows this to be a Neotropical genus.

Key to the species of *Habryllia*, new genus

1. Face as long as, or longer than, broad; malar space reduced so that only a line separates margin of eye from base of mandible; apical pleural areas of propodeum lacking. 2
 Face broader than long; malar space distinct; apical pleural areas of propodeum present 3
2. Propodeum, except lateral pleural areas, granular or shagreened; nervulus postfurcal by about $1\frac{1}{4}$ times its length.
 oculatus (Cushman), new combination
 Propodeum polished with a very few large, shallow, scattered punctures; nervulus postfurcal by more than twice its length.
 muesebecki, new species
3. Antennae each with pale annulus; lateral carinae of propodeum incomplete, not extending to costulae. . . . *convergens* (Cushman), new combination
 Antennae without pale annulus; lateral carinae of propodeum extending to costulae. *cosmeta*, new species

Habryllia oculatus (Cushman), new combination

FIGURE 1, *f*

Brachycyrtus oculatus Cushman, 1936, Proc. U. S. Nat. Mus., vol. 84, pp. 18, 22, fig. 4.

In the Townes collection is a specimen belonging to the genus *Habryllia* which I consider to be this species. I can find no structural

² Meaning the small, dainty one; derived from Greek *habros* (delicate, dainty, or pretty) and *-yllion*, a diminutive suffix.

differences. However, the color pattern differs in some respects from that of the type specimen (only two specimens are known to me) and can be within the limits of variation. The abdomen is black where that of the type is brownish, the thorax lacks any black or dark coloration with the exception of the two spots on the propodeum, and the scutellar and postscutellar spots are as in the type specimens; the leg markings, while similar in shape and distribution, are black in the Townes specimen; the black of posterior part of head is not separated from the ocellar spot and the head itself is paler, more whitish than yellow. More material is needed to show definitely whether it belongs here or is new. The specimen was collected in Puerto Cabello, Venezuela, Feb. 4, 1940, by P. J. Anduze.

Habryllia muesebecki, new species

FIGURE 1,c,e

This new species is stouter than any other brachycyrtine species I have seen.

Holotype, female: Length 6 mm.; forewing 4.5 mm.; antenna 6 mm.; ovipositor sheath barely 1.3 mm.

Head yellowish white, similar to that of *H. oculatus* (Cushman) in shape but differing in coloration by having only the ocellar triangle black, the occipital area being more or less testaceous; antennae reddish brown with apical segments darker; flagellum with 31 segments, first segment longer than segments 2 and 3 together.

Thorax testaceous with the markings on mesopleura, metapleura, and the petiolar area of propodeum as well as a transverse area just below the costulae yellowish white; the postscutellum with the discal area dark brown or blackish; scutellum broader in comparison with its length than in *oculatus*; the postscutellum distinctly transverse, the disk being $1\frac{1}{2}$ times as broad as long. As noted in the key to species, the propodeum is polished, without shagreening or granulation, and with only a very few large scattered punctures. Forewing with nervulus postfureal by more than twice its length.

Abdomen black with apices of segments 2-7 yellowish white; two lateral transverse pale spots, devoid of pubescence, at base of third segment; legs yellowish white with dorsal face of tibiae of front and middle legs brownish at least two-thirds of distance from apex to base; hind coxae dark brown or blackish at base extending posteriorly one-third of distance to apex on dorsal face and at least one-half of distance to apex on lateral face; trochanters more or less blackish; inner and outer faces of hind femora with blackish streak; hind tibia blackish at base and apex with the two areas connected on the outer

face; tarsi of middle and hind legs brownish. Ovipositor reddish brown, sheaths blackish.

H. muesebecki also differs from *oculatus* in the shape of the occipital carina and of the eyes. Viewed laterally the occipital carina is raised or flanged in *oculatus* but not in this new species. The eye of *oculatus* seems to be widest distinctly before the middle, while in *muesebecki* it seems widest just before or almost at the middle (fig. 1,e,f).

Described from a unique female collected at Rio de Janeiro, Brazil, September 1938 by R. C. Shannon. This specimen is in the U. S. National Museum collection under type No. 62053.

This new species is named in honor of C. F. W. Muesebeck, who, despite his heavy schedule and many obligations, still takes time to aid or advise the many who ask his assistance.

***Habryllia convergens* (Cushman), new combination**

Brachycyrtus convergens Cushman, 1936, Proc. U. S. Nat. Mus., vol. 84, pp. 18, 20, fig. 2.

Cushman's description of this species is so complete that little more need be done than to stress certain characters. This is the only species with annulated antennae known to me. Like *H. muesebecki*, it is stouter in general conformation than the remaining species in the genus. Further discussion will be found under *H. cosmeta*, new species.

Thus far this species is known only from the unique female taken at Cano Saddle, Gatún Lake, Panamá.

***Habryllia cosmeta*, new species**

FIGURE 1,a

Holotype, female: Length barely 5 mm.; forewing 3.5 mm.; antenna 4.55 mm.; ovipositor sheaths 1 mm.

Head polished, with minute, scarcely visible punctures on the face; eyes somewhat convergent anteriorly, weakly emarginate; malar space barely one-half the basal width of mandible; temples, viewed dorsally, about one-half the width of the eye; ocellar triangle transverse; antennal flagellum with 30 segments, the basal segment fully as long as the second and third combined.

Thorax at least as deep as, or a little deeper than, long; polished and sparsely punctate on the mesoscutum and mesopleura; propodeum, except polished metapleura, with more or less of the other areas appearing finely granular, spiracles small, elongate-oval, areola and petiolar area confluent, first and second lateral basal areas confluent; scutellum longer than wide, lateral carinae reaching apex; postscutel-

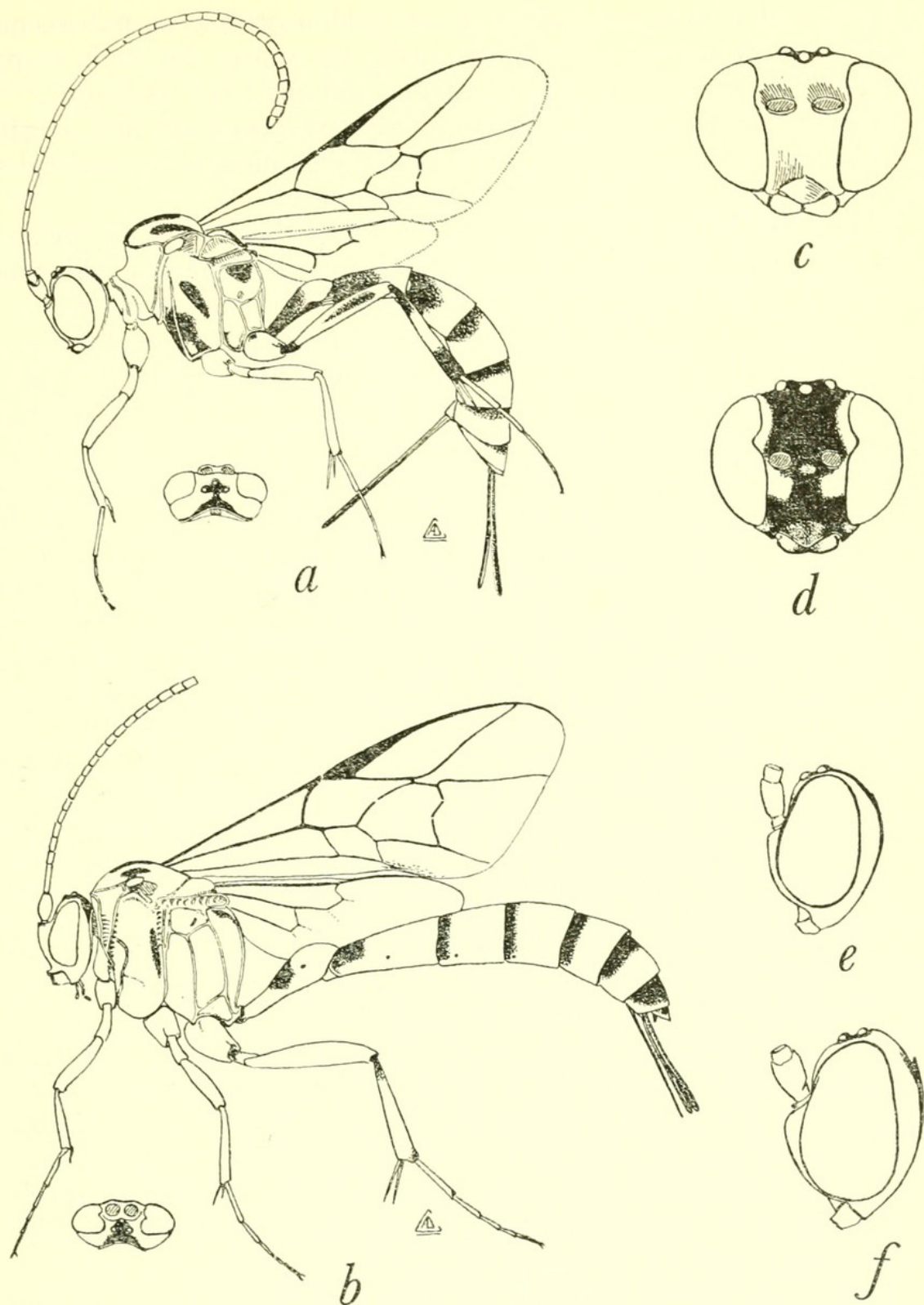


FIGURE 1.—a, *Habryllia cosmeia*, new species, lateral view, and dorsal view of head; b, *Brachycyrtus baltazarae*, new species, lateral view, and dorsal view of head; c, *Habryllia muesebecki*, new species, front view of head; d, *Brachycyrtus ornatus* (Kriechbaumer), front view of head; e, *Habryllia muesebecki*, new species, lateral view of head; f, *H. oculatus* (Cushman), lateral view of head. Drawn by Arthur D. Cushman, Entomology Research Branch, U. S. Department of Agriculture.

lum roundish with lateral carinae; wings hyaline, iridescent, pubescence at tip of forewing dense enough to make tip appear darker in transmitted light, nervulus postfurcal by one and one-third its length.

Abdomen polished, minutely punctate, punctures on first tergite very sparse; petiole flat dorsally, postpetiole widest at the spiracles, its apex not quite twice as wide as petiole base.

Head and thorax yellow with the following black: ocellar triangle and a narrow stalk extending back from ocellar line and widening greatly to occipital carina then narrowing to foramen magnum; two spots on the mesopleuron, the upper one running diagonally across the middle, the other below and extending onto the venter; three stripes on the mesoscutum, the middle one beginning at the base and running about two-thirds the distance to the apex, the two lateral stripes beginning at the basal third and extending to the apex; most of disk of scutellum; disk of postscutellum; a spot on each side of the propodeum just dorsal and anterior to the propodeal spiracle. Legs yellow except the following which are piceous or dark brown: a small basal spot on hind coxa, most of hind trochanters, stripe on outer side and inner face of hind femur, basal and apical annulus on hind tibia, middle and hind tarsi, and last two segments of each front tarsus. Ovipositor sheaths, petiole, and base of postpetiole black, rest of postpetiole yellow; remainder of abdominal tergites reddish yellow with more than basal half of tergites 2 and 3 and less than basal half of remaining tergites blackish or dark brown. Antennae and wing nervures yellowish brown; ovipositor reddish brown. Type has left forewing and left middle leg missing.

Allotype, male. Similar to female. Black spots on mesopleuron smaller, the lower one almost nonexistent. Antennal flagellum with 29 segments.

This species is very close to *H. convergens* (Cushman), from which it may be distinguished by the complete lack of a pale annulus on the antenna; by the lateral carinae reaching the costulae; by the more slender ovipositor; and by the slightly longer and more slender basal flagellar segment of the antenna. Color pattern of the two species is very similar. *H. convergens* has less black on legs and less reddish-yellow on abdomen.

Described from two specimens, female and male, from St. Augustine, Trinidad, British West Indies, collected in May 1953 by F. D. Bennett. A third specimen is too broken to include in the type series.

Holotype, female, and allotype, male, are in the U. S. National Museum collection under type No. 62052.

A headless specimen from Venezuela in the Townes collection is either this species or a new species closely related to *cosmeta*.

Genus *Brachycyrtus* Kriechbaumer

Brachycyrtus Kriechbaumer, Corres.-Blatt. Zool.-Min. Ver. Regensburg, vol. 34, p. 161, 1880. Genotype: *Brachycyrtus ornatus* Kriechbaumer, by monotypy.

Proterocryptus Ashmead, Proc. U. S. Nat. Mus., vol. 30, p. 174, 1906. Genotype: *Proterocryptus nawaii* Ashmead, by monotypy.

Vakau Cheesman, Ann. Mag. Nat. Hist., ser. 10, vol. 1, p. 189, 1928. Genotype: *Vakau taitensis* Cheesman, by monotypy and original designation.

Brachycyrtomorpha Blanchard, An. Soc. Cient. Argentina, vol. 134, p. 105, 1942. Genotype: *Brachycyrtomorpha crossi* Blanchard, by monotypy and original designation.

Genotype: *Brachycyrtus ornatus* Kriechbaumer, by monotypy.

The members of this genus, type genus of the tribe Brachycyrtini, are more or less brightly colored, usually black and yellow or white, rufous or testaceous brown and yellow or yellowish white, and more or less patterned. In addition to the tribal characters heretofore mentioned and the characters given in the generic key, they are further identified by the antennae having 24 to 27 segments with the first flagellar segment three to four times as long as wide; by the head being more than twice as broad as long with very short, slightly convex temples (fig. 1, *b*); by the petiole with the sternite straight or more or less upcurved apically; the usually short but distinct sternaulus; and the propodeum perpendicular beyond the short basal area.

The synonym *Brachycyrtomorpha* has been credited previously by some authors to Kriehbohm de la Vega (1940). However, under the International Rules of Zoological Nomenclature (Article 25, as emended) the genus must date from 1942 with Blanchard as its author, since before that date there had been no summary of characters, no bibliographic reference, and no type designation.

Key to the species of *Brachycyrtus*

1. Propodeum with dense whitish pubescence and completely areolated, the areola separated from the petiolar area 2
 Propodeum with pubescence not dense and with areola and petiolar area confluent 3
2. Thorax reddish yellow, with whitish markings *pretiosus* Cushman
 Thorax whitish, with reddish yellow and piceous markings. *crossi* (Blanchard)
3. Thorax black or blackish, with pale markings *ornatus* Kriechbaumer
 Thorax yellow or yellowish, marked with brown or black 4
4. Thorax yellow, faintly marked with reddish yellow or testaceous. *australis* Roman
 Thorax yellow, marked with black or dark brown 5
5. Size large, more than 8 mm. in length; abdomen yellow with black band at base of each of segments 2-6 *baltazarae*, new species
 Size smaller, 7 mm. or less in length; abdomen dark brown or black with yellow band at or near apex of each of segments 1-7 6

6. Mesopleuron black with central section yellow or testaceous and usually elongate. **nawaii** (Ashmead)
 Mesopleuron yellow **taitensis** (Cheesman)

Brachycyrtus (sic) *aporiae* Okamoto (1921, pp. 64-65, pl. 5, fig. 15), as Cushman previously noted, does not belong here. It belongs in the Hemitelini.

***Brachycyrtus pretiosus* Cushman**

Brachycyrtus pretiosus Cushman, 1936, Proc. U. S. Nat. Mus., vol. 84, pp. 18, 19, fig. 1, 1936.

Cushman's excellent description errs in one respect. He stated that the occipital carina extended straight to the base of the mandible. This character, for various reasons, is either very difficult to see or not visible on the Cushman specimens. Fortunately, specimens since added to the U. S. National Museum collection definitely show that the occipital carina meets the hypostomal carina before the base of the mandible and does not, as Cushman thought, extend to the base. This species shows very little color variation. It and *crossi* differ from other species in the genus by the short epomiae, which reach only a little more than half the distance to the dorsal margin of the pronotum.

B. pretiosus is known only from Florida.²⁵ The four additional specimens, reared from "trashbug pupae" (chrysopid pupae), are from Sloan's Grove, Tampa, and Haines City, Florida.

***Brachycyrtus crossi* (Blanchard)**

Brachycyrtomorpha crossi Blanchard, ("in lit."), Kreibohm de la Vega, Rev. Ind. Agr. Tucumán, vol. 30, Nos. 7-9, p. 170, fig. 18, 1940. Nomen nudum.

Brachycyrtomorpha crossi Blanchard, An. Soc. Cient. Argentina, vol. 134, pp. 105-107, fig. 6, 1942.

(*Brachycyrtus*) *crossi* Kreibohm de la Vega; Townes, Mem. Amer. Ent. Soc., No. 2, pt. 2, p. 756, 1945.

Kreibohm de la Vega had no intention of validating the name *crossi*, which he attributed to Blanchard, but he certainly would have done so had the figure (a photograph) not been too poor to distinguish it from other brachycyrtine species known at the time.

B. crossi, most closely related to *B. pretiosus* Cushman, is immediately distinguished from it and all other known species of *Brachycyrtus* by the whitish thorax with three broad, reddish brown stripes. Blanchard speaks of the thorax as being whitish yellow, and the scutellum pale ivory. In the specimens before me the scutellum and thorax are the same color, though the spaces between the ferrugineous stripes of the scutum are slightly tawny or yellowish. Otherwise the two males agree very well with Blanchard's description. The female differs from the male in having the spots of the pleural areas paler and

in having the abdomen dark brown or blackish varying to testaceous brown with preapical whitish bands or spots on segments 1-6 only and not on segment 7 as has the male. Structurally, *crossi* and *pretiosus* are very similar, the only difference being the shorter malar space of *pretiosus*.

Blanchard and Kriebohm de la Vega say the specimen they saw was reared from *Alabama argilacea* Huebner, presumably in Tucumán, Argentina. However, Kriebohm was more accurate in saying "en la jaula de *Alabama*" (in the cage of *Alabama*). The three specimens before me came from Piura, Perú, from caged cotton buds infested with *Anthonomus vestitus* Boheman. It seems reasonable to assume chrysopid pupae were present.

***Brachycyrtus ornatus* Kriechbaumer**

FIGURE 1,*d*

Brachycyrtus ornatus Kriechbaumer, Corres. Blatt. Zool.-Min. Ver. Regensburg, vol. 34, Nos. 11-12, pp. 163-164, 1880 (♀).

Brachycyrtus ornatus Kriechbaumer; Pfankuch, Deutsche Ent. Zeitschr. (1912), pt. 4, pp. 456-457, figs. 1-3, 1912 (♂).

Brachycyrtus chrysopae Walley, Canadian Ent., vol. 72, p. 86, 1940 (♀). New synonymy.

Dr. René Malaise of the Naturhistoriska Riksmuseum, Stockholm, Sweden, always a most helpful person, lent me for study a female specimen identified by E. Clément as *Brachycyrtus ornatus* Kriechbaumer. It fits the original description quite well. G. S. Walley not only sent for study a female specimen of *B. chrysopae*, which like the type specimen came from southern British Columbia, but also sent notes on the type, for which I am grateful. In the Townes collection, kindly lent me for study by H. K. Townes, is a series consisting of eight specimens taken by him and his wife at Takoma Park, Md. These Mr. Walley had checked with his holotype. This series plus additional specimens from the Townes collection and the U. S. National Museum collection show quite well the extent of variation as well as the constant characters. With this material it was easy to see that *ornatus* and *chrysopae* are synonymous. Unfortunately, the earlier descriptions of *ornatus* stressed the tribal characters and color. Cushman had not seen any specimens of the genotype so could not include it in his 1936 key to the specimens of *Brachycyrtus*.

This is the darkest of the known species belonging to *Brachycyrtus* and varies in size from 5 to 6 mm. The identifying characters other than color pattern are: Epomiae nearly attaining the dorsal margin of the pronotum; malar space about one-half as long as width at base of mandible; and the nervulus postfurcal by only little more than half

its length (in *pretiosus* Cushman and *crossi* (Blanchard) the nervulus postfurcal by about its own length). The anterior margin of the scutellar groove is carinate as in *nawaii* (Ashmead), but unless the light is right it may escape notice since the carina projects posteriorly instead of dorsally.

B. ornatus varies from dark brownish to blackish, with yellowish markings of thorax varying considerably in extent, especially on the propodeum. In the specimens studied the propodeum varies from all black, or black with a small brownish spot on each side of the petiolar area just below the basal transverse carina, to mostly yellow with only the basal and lateral pleural areas dark. In the European specimen the dark areas are brownish as well as blackish and the yellow of the propodeum a more reddish yellow. In some specimens the petiolar area is all yellowish while in others it is more or less infuscate. The flagellum of the antenna has 24 or 25 segments in the female, and 25 in the male. Of the two males studied only one had the antennae unbroken. The male squamae that tend to be slender apically in the *Brachycyrtini* are more so in this species and strongly resemble those of *Pseudischnus* males in this respect.

B. ornatus is holarctic in distribution. It has been taken in both Europe and North America. The North American specimens before me are from Robson, British Columbia; Mayo and Takoma Park, Md.; Hocking County, Ohio; and near Roosevelt Lake, Ariz. The type of *chrysopae* was reared from an unknown chrysopid.

Brachycyrtus australis Roman

Brachycyrtus australis Roman, Ark. Zool., vol. 9, No. 9, p. 6, 1915 (♀).

Brachycyrtus australis Roman, Cushman, Proc. U. S. Nat. Mus., vol. 84, p. 18, 1936.

Dr. Malaise sent for study the type specimen, the antennae of which were broken. Roman listed the number of flagellar segments as 27. The apical segments remaining are longer and less thick in proportion than those of *B. ornatus*. This little species, as noted in the key, has fewer dark markings than any of the other species; the markings on the head and thorax, especially, being light brownish or testaceous. Roman's complete description notes the small oval propodeal spiracles. *B. australis* is the only species of *Brachycyrtus* with short-oval spiracles. The rest of the species of the genus have elongate-oval propodeal spiracles. It might also be noted that the malar space is shorter than that of *B. ornatus*, being about one-third the basal width of mandible.

Known only from a single specimen taken at Broome, Australia, June 1911.

Brachycyrtus baltazarae, new species

FIGURE 1,b

This new species can be immediately recognized by its large size. The only known specimen, a female, is approximately 9 mm. in length. All other known species in the genus measure 6 mm. or less. The new species is further distinguished by the lack of costulae on the propodeum.

Head yellow; ocellar triangle black, joining black spot extending dorsally and laterally to occipital carina but with lateral limits visible dorsally; scape and pedicel yellow below, blackish above; flagellum testaceous below, darker above (apical segments missing from both antennae). Thorax yellow, rectangular median black spot on scutum, flanked on each side by elongate triangular black spot, scutellar fovea and adjoining area of scutum black, elongate black spot on pleuron near mesopleural suture, anterior black spot on lateral basal areas of propodeum. Legs yellow except apices of femora and tibiae, apical tarsal segments, and bases of hind trochanters and tibiae, all of which are more or less brownish or blackish; wings hyaline, venation dark brown. Abdomen yellow, petiole blackish at extreme base (difficult to see) with a laterally elongate blackish band before the spiracles, blackish band at base of segments 2-6, segment 7 mostly brownish or blackish except narrow band at apex; ovipositor sheaths blackish.

Head lightly but closely punctate, first flagellar segment of antenna $3\frac{1}{2}$ times as long as wide. Thorax strongly but rather closely punctate except propodeum, which is mostly granular with scattered punctures basally; epomiae flangelike and joining dorsally; scutellar fovea carinate anteriorly and crossed by several carinae; punctate scutellum with lateral carinae flangelike at fovea; postscutellum small and shining; propodeum lacking costulae, areola and petiolar area fused; propodeal spiracles slitlike and proportionately larger than in other known species of the genus. Forewing with nervulus postfurcal by about one-third its length; cubitus, between intercubitus and second recurrent, fully $3\frac{1}{2}$ times as long as intercubitus. Petiole widest at spiracles then narrowing so that its apical width is about three-fourths that at spiracles. Ovipositor sheaths only very slightly longer than petiole.

Described from the unique female collected by F. R. Candelaria, Sept. 17, 1953, on Mount Maquiling, Philippine Islands, and named in honor of Miss Clare Baltazar, entomologist with the Bureau of Plant Industry, Manila, Philippine Islands, who so kindly sent the specimen. The holotype is in the U. S. National Museum collection under type No. 62774.

Brachycyrtus nawai (Ashmead)

Proterocryptus nawai Ashmead, Proc. U. S. Nat. Mus., vol. 30, p. 174, pl. 12, fig. 3, 1906.

(*Brachycyrtus*) *nawai* (Ashmead); Roman, Ark. Zool., vol. 9, No. 9, p. 5, 1915.

Proterocryptus nawai Ashmead; Cushman, Proc. U. S. Nat. Mus., vol. 55, p. 543, 1919.

Brachycyrtus nawai (Ashmead); Cushman, Proc. U. S. Nat. Mus., vol. 84, pp. 18, 23, fig. 4, 1936.

Ashmead's type specimen is from the Palearctic region (from Japan), and is very closely related to *B. ornatus* Kriechbaumer, from which it can be separated principally by color and by the shape and length of the epomiae. In *B. nawai* the epomiae reach the dorsal margin of the pronotum and are strongly developed or flanged, but in *B. ornatus* they do not quite reach the dorsal margin and are less strongly developed or flanged. Additional material may show the length of the epomiae more variable in both species. In color pattern the two species are very close, the pattern differing especially on the head and mesopleuron. *B. ornatus* has the black spot behind the antennae fused with the black of the ocellar triangle while in *nawai* the two spots are separated. *B. nawai* also has more yellow on the mesopleuron, including a more or less rectangular yellow spot near the center. *B. ornatus* has no such spot.

In addition to the type from Japan, I have seen three specimens from the Philippines. One, in the U. S. National Museum collection, Cushman mentioned as being *nawai* in his 1936 paper. A second specimen in the Museum collection, from Babatan Island, and one from the Townes collection, from Gapan, may prove, with additional material to show amount of variation, to be a distinct species. The malar space seems a little shorter and the pale bands of the abdomen wider medially on segments 2 and 3. I can find nothing else to differentiate these specimens, so at present can only consider them as being *nawai*.

The distribution for *Brachycyrtus nawai* is Atami, Japan, and Manila, Luzon Island, Babatan Island, and Gapan Island, all in the Philippines. The specimen from Manila was reared from cocoon of *Chrysopa* sp.

Brachycyrtus taitensis (Cheesman)

Vakau taitensis Cheesman, Ann. Mag. Nat. Hist., ser. 10, vol. 1, No. 2, p. 189, fig. 7, 1928.

(*Brachycyrtus*) *taitensis* Cheesman; Townes, Mem. Amer. Ent. Soc. No. 2, pt. 2, p. 756, 1945.

I have seen no specimen of this species. The "longitudinal striate puncturation" of the mesoscutum and the "pectinate inner spine" of the middle tibia should immediately identify this species. The

original description speaks of the species as being "Matt; minutely granulate, with fine shallow puncturation and a sparse covering of pale yellow hairs." The other species of the genus are more shining than matt, except sometimes the propodeum.

The three specimens were taken at various localities on Tahiti, Society Islands.

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