

TRYPETIDAE, OTITIDAE, HELOMYZIDAE, AND CLUSIIDAE OF
GUAM (DIPTERA)

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The species treated in this paper were chiefly obtained in an entomological survey of Guam in 1936, and submitted to me by O. H. Swezey. A few records, collected by D. T. Fullaway in 1911, are included from specimens in the U. S. National Museum.

FAMILY TRYPETIDAE

There are but four genera, each represented by a single species, in this collection. Three appear to be undescribed, and the fourth is a widely spread Old World species.

Genus **DACUS** Fabricius

Dacus Fabricius, Syst. Antliatorum, 272, 1805.

This genus has been divided into a number of genera or subgenera, according to the views of various workers on the family, and the species before me falls in the subgenus *Bactrocera*. The only character distinguishing the concept from *Chaetodacus* is the presence of one or two oblique dark fasciae on the disk of the wing in addition to the one over the anal cell.

In my paper dealing with this family [Insects of Samoa 6(7):253-266, 1931], I presented a key to the then known Pacific island species of this group, and in that key the Guam species runs down to *D. distinctus* Malloch, but it is readily distinguished therefrom by the wing markings and other characters noted below.

Dacus ochrosiae, new species.

Male and female. Close to *D. distinctus* Malloch, readily distinguished by lack of black spots on face, undivided central gray-dusted mesonotal vitta, lack of a yellow notopleural spot, more extensively blackened scutellum, brown posterior basal cell of wing, and break in costal border at hind margin of discal fascia.

Head yellow, frons more or less extensively brown centrally, occiput with a small subquadrate brown mark above neck, no black spots on face, a brown spot below eye; antennae brownish yellow, third segment almost entirely dark brown, narrowly reddish at base; palpi brownish yellow. All bristles black. Frons about twice as long as wide, with one pair of reclinate upper and two pairs of incurved lower bristles on orbits; the four vertical bristles strong; ocellars microscopic; postverticals lacking. *Antennae* about as long as face. Face slightly humped in center. *Thorax* shiny black, mesonotum with a complete central rather broad uniform vitta of gray dust that fills the space between prescutellar acrostichals, a yellow sublateral vitta from suture to near hind margin, and humeri yellow, no other yellow marks on mesonotum. Upper margin of mesopleura with a yellow stripe that is widened behind to about one third the height of sclerite; scutellum with a

yellow margin, black on disk and below; metapleural spot above and below stricture. Bristles as follows: no humeral, 2 notopleurals, 1 supra-alar, 2 postalars, 2 acrostichals, 1 mesopleural, 1 weak pteropleural, 2 scutellars, and 4 scapulars of variable length. *Legs* fulvous yellow, hind tibia and apices of tarsi somewhat browned. *Wings* hyaline, with a broad brown costal streak that extends across wing to the fourth vein from opposite the humeral cross vein, is interrupted at apex of first vein, and from beyond this rather narrow break extends to wing tip, covering the wing surface from costal margin to over third vein, and at tip touching apex of fourth vein. From this costal streak there are two oblique dark brown fasciae, one over the posterior basal cell that almost fills it and extends over anal cell to wing margin, and the other extending from just before costal break to hind margin and covering both cross veins. The apical portion of the border has usually a short projection on its lower side at base representing apparently a rudimentary second discal fascia. Inner cross vein oblique, at less than its own length, and not one third the length of discal cell from apex of cell. Fifth vein bare. *Abdomen* black, with yellow apices to tergites, discal depressions on fifth tergite not very well marked. Length, 6-8 mm.

Fadian, Aug. 19, ex *Ochrosia* fruits, type male, allotype female and eight paratypes, Swezey; Ritidian Pt., Aug. 6, ex *Ochrosia* fruits, two paratypes, Swezey; Dededo, Sept. 7, ex *Ochrosia* fruits, one paratype, Swezey; Guam, no other data, one paratype, Fullaway; Yigo, Sept. 5, 1937, in field on fruits of *Ximения americana*, U. S. National Museum, no. 153 b.

One reared female has the apical costal stripe reduced to streaks on the veins, the cells subhyaline centrally.

Genus *SPATHULINA* Rondani

Spathulina Rondani, Dipt. Ital. prodr., 1: 113, 1856.

Spathulina acroleuca Schiner, Reise Novara, Dipt., 268, 1868.

Near Agfayan, Mt. Alifan, Yona, Inarajan, Bryan, Swezey, five specimens.

This species is quite variable in the wing markings and has been described under at least four different specific names. It occurs in Egypt, South Africa, and widely throughout the Indo-Australian Region, including Australia where it is common on the east coastal portion. Not known to occur in New Zealand.

Genus *CYCASIA*, new genus

Postocular bristles pale, but fine and slender, two supraorbital pairs of bristles, both reclinate, and three pairs of incurved infraorbitals; outer vertical bristles of moderate length and inner pair very long and erect, situated on short elevated bases; eye higher than long, face vertical; third antennal segment not acute at apex above; arista short pubescent; proboscis short and stout. Presutural bristle strong; dorsocentral pair a little behind a line drawn between supra-alars; sternopleural, mesopleural, and pteropleural strong; scutellum slightly flattened, bare on disk, with four long bristles. Femora unspined; mid tibia with short posterior setulae and one stout apical ventral bristle; hind tibia with a series of anterodorsal setulae. First wing vein setulose from humeral cross vein to apex above, bare below; third vein with three or four setulae at base above, other veins bare; fourth vein slightly dipped down into discal cell before inner cross vein; cross vein closing anal cell almost erect, cell without an apical lower lobe. Fifth abdominal tergite of male

as long as two preceding tergites combined, rounded in apical outline, with a pair of prominent glossy black discal bullae and a series of quite long marginal bristles.

Genotype: *Cycasia oculata*, new species.

This genus will not run down satisfactorily to any in Hendel's key to the genera of the family (Wien. ent. Zeitung, 33:73, 1914). It undoubtedly belongs to the segregate or tribe *Euribiini* of Hendel's latest paper on the family (Die Fliegen der palaearktischen Region, 49, Trypetidae, 1927).

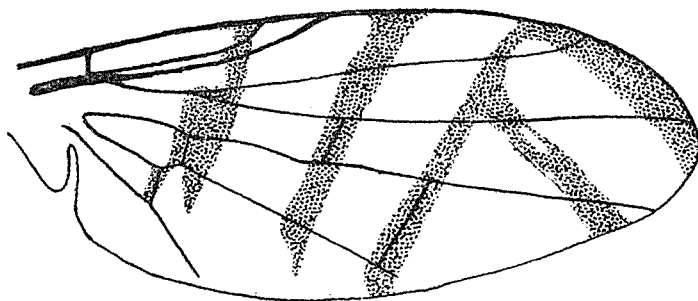


FIGURE 1.—Wing of *Cycasia oculata*.

Cycasia oculata, new species (fig. 1).

Male. Fulvous or orange yellow, thorax and abdomen glossy, wings with brownish yellow fasciae. *Head* from in front wider than high, in profile a little higher than long; frons at vertex about four fifths as wide as long, much narrowed in front. Third antennal segment about 2.5 times as long as second. Gena about one eighth as high as eye. All bristles and hairs yellow. Thorax with a whitish yellow line over humeri and extending backward along upper margin of pleura to bases of wings; scutellum also much paler than mesonotum, which is undusted, and there is a black dot at anterior extremity of the postalar declivities. Mesonotal hairs short, rather dense, and yellow; bristles yellow. *Wing* as in figure 1. *Abdomen* broadly ovate, not longer than thorax, convex on dorsum. Length, 4 mm.

Mt. Chachao, May 16, ex *Cycas*, type and one paratype, Swezey; Piti, Aug. 24, one paratype, Swezey; Agat, May 31, one paratype, Swezey; Passan, June 15, one paratype, Usinger; Guam, no other data, one male paratype, Fullaway.

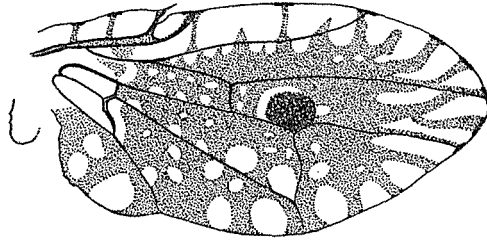
Genus **RHABDOCHAETA** de Meijere

Rhabdochaeta de Meijere, Bijdr. Dierk. 17: 109, 1904.

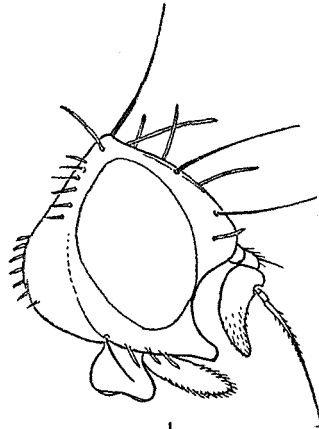
This genus occurs in the Seychelles, East Indies, Formosa and possibly in some other sections of the Malayan region. The small size of the species and the pale color of the great majority of them possibly renders them difficult to collect in the field so that but few are known in collections. The only specimen in my possession belongs to an undescribed species.

Rhabdochaeta guamae, new species (fig. 2, a, b).

Male. A characteristic species of the genus, distinguished from its allies by wing markings. In figure 2, a, the bullae are not shown. They are merely slightly elevated spots a little more elevated and more shiny on the upper surface than the surrounding membrane, three in number, located as follows: one on each side of the outer cross vein against the fourth vein, and the third above the outer extremity of the black spot beyond the inner cross vein. The third and first veins are setulose above.



a



b

FIGURE 2.—*Rhabdochaeta guamae*: a, wing; b, head.

Head testaceous yellow, with whitish dust, vertex gray, occiput with a pair of black spots connected above neck, gray dusted. *Antennae* yellow, arista yellow at base, whitish beyond; palpi pale testaceous yellow, with quite dense short stiff black hairs along sides. A small black spot between each antennal base and eye. Profile as in figure 2, b. Inner vertical and two intermediate orbital bristles dark brown, anterior infraorbital, two upper reclinate supraorbital, ocellar, outer vertical, postvertical, and interfrontal bristles, and most postocular setulae white. Frons about half the head width, almost quadrate, orbits linear, widened below. A strong pair of bristles on interfrontal stripe about midway between anterior ocellus and lunule, three incurved white bristles behind each inner vertical bristle. Third antennal segment tapered to apex; arista pubescent. *Thorax* testaceous yellow, disk on mesonotum and scutellum, postnotum and marks on pleural sclerites black, with dense pale gray dust. Bristles luteous, dark brown at extreme bases, all mesonotal hairs and most of those on pleura except a few on mesopleura and all the short pleural bristles, white.

Bristles as follows: 1 humeral, 1 presutural, 2 notopleural, 1 supra-alar, 2 postalar, 2 pairs of dorsocentrals, anterior pair at suture, and 4 scutellars, apical pair minute; all pleural bristles short. *Legs* yellow, hind tibia with a dark brown annulus near base opposite a similarly colored mark on ventral surface of hind femora. No exceptional armature nor structures present. *Wings* whitish hyaline, with yellowish brown markings as shown in figure 2, *a*; usual deep black spots above outer cross vein, and fourth vein bent upward just beyond outer cross vein as in the other species. Halteres yellow. *Abdomen* short ovate, testaceous yellow, largely blackened and entirely gray dusted on dorsum; hairs and bristles white. Length, 2.75 mm.

Guam, no other data, Fullaway, type.

FAMILY OTITIDAE

This is the family that until recently was called *Ortalidae* by authors, but, owing to the preoccupation of the generic name *Ortalis* in Ornithology, the name was changed to Otitidae.

There are four genera of the family in the present collection, represented by five species. One of the species is widely distributed, being almost cosmopolitan, its saprophagous larval habits making it a ready subject for transportation in commercial vessels. All the others appear to be new to science, and possibly they are indigenous to Guam.

Genus **CHRYSOMYZA** Fallen

Chrysomyza Fallen, Dipt. Suec. Scenop., 4, 1817.

Chrysomyza aenea (Fabricius).

Musca aenea Fabricius, Ent. Syst., 4: 335, 1794.

Piti, June 13, on cane; Sept. 13, Swezey. Two specimens.

Distributed throughout the Malayan and Australian regions.

Genus **POGONORTALIS** Hendel

Pogonortalis Hendel, Tijdschr. Ent. 54: 370, 1911.

There are three known species of this genus, and below I describe a fourth. The male in the new species does not have a pronounced beard though it does have a group of bristles on the jowls and the latter are more or less expanded, sometimes angularly so. The mouth opening is as usual large in both sexes.

Pogonortalis fulvofemoralis, new species.

Male and female. *Head* black, frons except triangle and upper orbits dull, lower orbits, parafacials, and postocular orbits white dusted; basal two segments of antennae brown; palpi blackish brown; face distinctly white dusted above and in foveae, dust thinning out at middle and lacking below. Frons about 1.5 times as long as wide, two pairs of orbitals short and fine, quite close to upper margin; ocellars minute, divergent; all four verticals strong and quite long; postocular of moderate length. Jowls of male quite variable, sometimes prominently angularly produced and head then distinctly wider than length

of thorax, angle rather densely haired, beard consisting of fine bristles that become longer behind; female without angulation of jowls and exceptional bristling. Aristae short haired on entire extent; palpi slightly spatulate, larger in male than in female. *Thorax* glossy black, with bluish or purplish tinge, with very little trace of dusting and no markings, surface rather closely piliferous punctate, pile and bristles black. Bristles as follows: 1 humeral, 2 notopleurals, 1 supra-alar, 2 postalars, 1 pair of dorsocentrals, no acrostichals, scapulars minute, 4 scutellars, and 1 mesopleural. Scutellum convex, without discal hairs. *Legs* fulvous yellow, all tibiae and tarsi blackish brown. Fore femur with one or two fine black bristles apically sloped on posteroventral surface apically, mid tibia with a strong straight apical ventral bristle; hind femur a little thicker than other pairs, with usual elevated keel-like ridge about one third from apex on anteroventral surface, and a group of fine short bristles on apical third above keel on anterodorsal surface; hind tibia with a series of very short anteroventral setulae centrally that are hardly distinguishable above the surface hairs. *Wings* brownish hyaline, with the following dark marks: all of anterior basal cell up to inner cross vein, a subquadrate mark from brown stigma to third vein across field of wing, a streak from apex of second vein along costa to apex of wing, widened apically, and narrow clouds over all cross veins, membrane except between costal spots distinctly brown tinged. Inner cross vein oblique, close to middle of discal cell; third vein curved downward at apex so that first posterior cell is narrowed apically; base of second vein with a few short setulae below; first and third veins closely setulose on entire extent above. Halteres dark brown. *Abdomen* glossy black, with a bluish or purplish tinge. Hairs short and quite dense, third tergite elongate in male and with a number of fine apical bristles on sides, much as in *Cleitamia*. Length, 5-7.5 mm.

Guam, no other data, Fullaway, type male and allotype female; paratypes: Yigo, Nov. 8, on corn, male, Swezey; Yona, April 29, on dead *Areca* palm leaves, female, Bryan.

Genus **GUAMOMYIA**, new genus

This genus belongs to the *Platystominae* and runs down to *Scotinosoma* in Hendel's key to the genera (Genera Insectorum). It has the frons entirely different, however, the ocelli being about one third of length from vertex to anterior margin instead of close to vertex, and the arrangement of the bristles is quite remarkable. There are three long, equally spaced bristles on each orbital margin, the anterior one close to the middle and the upper one at vertex, the middle one being a little behind the level of the posterior ocelli; a fourth pair of bristles that are much shorter, finer, and incurved (undoubtedly the inner vertical pair) is situated about one third of the distance from the vertical to the second bristle and closer together on the inner edge of the orbits; ocellars short, divergent. Frons slightly bulged upward in front, with many stiff erect black hairs. Eyes bare. Profile higher than long. Antennae about half the face length, third segment not over twice as long as wide, broadly rounded at apex, second segment with some long hairs at apex below, one or two of which extend beyond the apex of third segment; aristae short haired on entire length; facial foveae shallow and narrow; epistome slightly projecting; genal bristle present; postocular bristle lacking. Thorax with the following bristles: 1 humeral, 2 notopleurals, 1 supra-alar, 2 postalars, 1 pair of dorsocentrals, 1 pair of short prescutellar acrostichals, and 6 scutellars; disk of scutellum haired. Wing fasciate with black, first and third veins setulose on their entire extent above, inner cross vein close to middle of the discal cell; first posterior cell not narrowed at apex, anal vein obsolete apically, cross vein closing anal cell almost straight. Lower squama rudimentary.

Genotype: *Guamomyia fascipennis*, new species.

Guamomyia fascipennis, new species (fig. 3).

Female. Head tawny yellow, upper orbits, ocellar region and vertex usually darker and slightly pale gray dusted, occiput infuscated centrally; face with a more or less distinct dark line along each facial ridge and with a dark streak across epistome; antennae not darkened; arista black; prelabrum and proboscis black. Frons fully twice as long as wide at vertex, slightly widened in front. Eye distinctly higher than long tapered below, facets uniform in size. Gena about as high as width of third antennal segment and one eighth as high as eye; parafacial almost invisible in profile; face with a small elevation in center below level of antennal insertions. *Thorax* black, slightly shiny, with rather dense pale gray dust, mesonotum with four indistinct dark vittae, submedian pair widely separated and more evident than wider sublateral pair. Dorsal hairs black, not inserted in evident punctures; mesopleura, propleura, sternopleura, and pteropleura haired. *Legs* moderately stout, pitchy black, knees very narrowly yellowish, and basal two segments of all tarsi pale yellow. No exceptional armature present; fore femur with a series of moderately long posteroventral bristles; mid tibia with a long straight apical ventral bristle. *Wings* hyaline, with dark pattern and venation as in figure 3. Halteres yellow. *Abdomen* blackish brown, slightly shiny, with pale gray dust on a narrow apical margin of third and fourth tergites and entire fifth gray dusted. Base close against postnotum, apex of first visible tergite elevated, the sides slightly compressed; genital cone broad, rather abruptly narrowed at apex. Length, 3-3.5 mm.

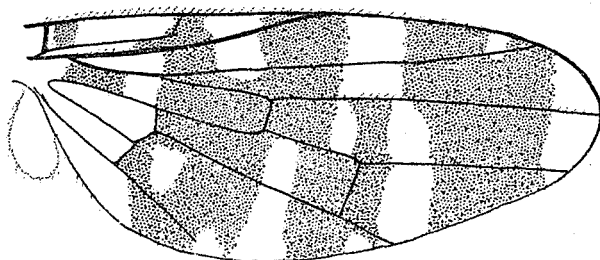


FIGURE 3.—Wing of *Guamomyia fascipennis*.

Guam, no other data, Fullaway, type and four paratypes, one without head.

I have seen one or two other genera in which the ocelli are well forward of the vertex but in none of them are the other characters as here.

Genus **SCHOLASTES** Loew

Scholastes Loew, Smithsonian Miss. Coll. 11(3): 38, 1873.

This genus contains a dozen or more described species and occurs from southern Asia southward to Australia, the commonest and most widely distributed species being *S. cinctus* Guerin. In the present collection there are two species, one apparently undescribed.

Scholastes aitapensis Malloch, Linn. Soc. New South Wales, Proc. 64: 128, pl. 5, fig. 24, 1939.

Agana, June 2, Swezey, one specimen.

This species which closely resembles *S. bimaculatus* Hendel, was described from the Admiralty Islands, the Solomon Islands, and New Guinea.

Scholastes hirtiventris, new species.

Male and female. A black species much like *S. distigma* Hendel, but differing from it and any other species known to me in having the large discal abdominal plate of the female furnished with dense long stiff hairs that are sparser basally.

Head testaceous yellow, black on occiput except margin, two broad frontal bands as in *S. aitapensis*, a large mark on genae, a narrow line across lower extremities of facial foveae, a spot between base of each antenna and eye and another on central facial carina between antennal bases. *Antennae* red, third segment dark on upper edge; palpi red. Frons a little longer than its anterior width, slightly narrowed behind; anterior carina distinct; bristles normal. Arista long haired to near apex, without apical pallette. *Thorax* black, humeri yellow, with a black spot, the usual pale yellow sublateral lines conspicuous, as is also the one around the apex of scutellum and one on upper margin of pleura. Supra-alar bristle strong; dorsocentrals 2 pairs; prescutellar pair of acrostichals as strong as posterior dorsocentral pair. *Legs* black, fore coxae brown, basal segment of all tarsi except its extreme apex whitish yellow. *Wings* grayish hyaline, with blackish brown marks as follows: a fascia from basal half of the stigma passing through discal cell before middle, and not attaining hind margin, another fascia from apex of first vein passing over outer cross vein and divided from middle of latter to hind margin, a large subquadrate mark over apical fourth of second vein that extends backward over fourth vein and usually forks from there to hind margin, a spot in wing tip that does not extend entirely to edge of wing, a partial streak from costa to inner cross vein, and some spots in basal third of wing. Fifth vein bare. *Abdomen* black, with distinct blue tinge. Tergites in male with numerous short black hairs, in female, the large dorsal plate has dense, long, stiff, apically directed black hairs except basally, and in this sex, membrane between large plate and sternites also densely covered with rather shorter stiff black hairs. Length, 7-8 mm.

Agana, May 25, O. H. Swezey, type female; Ritidian Pt., April 15, Bryan, allotype male.

The description of the wing markings is drawn from the wings of the male as those of the female are rather badly torn.

FAMILY HELOMYZIDAE

SUBFAMILY TETHININAE

Hendel accepted this group as a family (Tijdschr. Ent. 79: 37, 1934) but I prefer to consider it as above.

Genus **PSEUDORHICNOESSA** Malloch

Pseudorhichnoessa Malloch, Mus. Nat. Hung., Ann. 12: 306, 1914.

This genus is distinguished from *Tethina* and related genera by the possession of outstanding though not very long bristles on the anterodorsal and posterodorsal surfaces of the mid and hind tibiae. There is an Australian subgenus of *Tethina* that has similar tibial bristles, but in it the postvertical bristles are undeveloped while in the present genus they are strong.

Pseudorhicoessa spinipes Malloch, Mus. Nat. Hung., Ann. 12: 307, 1914.

Originally described from Formosa. In the present collection there are specimens from Agat and Inarajan, those from Inarajan collected on seaweed, Usinger.

This species may occur on the seashore of other islands in the Indo-Australian region, but collecting on the proper locations will be essential to the discovery of specimens as they seldom leave their special habitat.

A series of both sexes of this species shows that there is but little variation in either color or structure from my description of the female type specimen. It may be noted here, however, that I omitted mention in my description of a series of short, fine, erect, closely placed stiff hairs on the apical third or more of the anteroventral surface of the fore femora.

FAMILY CLUSIIDAE

This group is referred to as *Heteroneuridae* in the older papers on Diptera. The larvae, as far as is known, feed in much decayed tree stumps and logs. There are comparatively few species known from the Indo-Australian region, but in all probability, many more will be discovered by careful collecting in proper localities.

Genus CZERNYOLA Bezzi

Czernyola Bezzi, Wien. ent. Zeitung 26: 52, 1907.

Craspedochaeta Czerny, Wien. ent. Zeitung 22: 103, 1903, nec Macquart, 1851.

Tonnoiria Malloch, Ann. Mag. Nat. Hist. 26: 98, 1929.

Hendel has described a species, *C. biseta*, from Formosa, and I have described a species from the Society Islands as *Tonnoiria palliseta*.

Czernyola atrifrons, new species.

Female. *Head* testaceous yellow, frons glossy black, with a fulvous spot in center of anterior margin; antennae reddish yellow, third segment sometimes slightly browned on upper edge; palpi pale yellow; parafacials and genae silvery white dusted; occiput glossy black, yellowish below. *Frons* with the usual three strong orbitals, second pair incurved and almost in line with the others; ocellar bristles fine and much shorter than orbitals, about equal to the postvertical pair; gena about half as high as width of third antennal segment. *Thorax* glossy fulvous yellow, mesonotum with a large black oblong mark on center behind suture that extends to posterior margin, and a black mark of variable size on anterior margin which is sometimes tridentate behind and with traces of central and lateral lines extending back to postsutural mark; a large black mark covering upper half or more of mesopleura, and another on metapleura; scutellum fulvous yellow. Bristles all black, arranged as follows: 1 humeral, 2 notopleurals, 2 pairs of long posterior and 1 very short pair of anterior dorsocentrals, 1 supra-alar, 1 very long and 1 very short postalar, 2 long apical and 2 very short lateral pairs of bristles on scutellum, 1 mesopleural, and 1 sternopleural. Mesonotum rather strongly haired; propleura finely haired on sides. *Legs* yellow. All tibiae with preapical dorsal bristle, the one on fore tibia short and fine, the

others strong and long, mid tibia with a shorter posterodorsal bristle nearer apex than the usual one slightly over center of dorsum and almost on anterodorsal surface, and a long apical ventral bristle. *Wings* brownish hyaline, with a pale rather diffuse brown cloud on apical costal half, veins dark brown. Inner cross vein at one third from apex of discal cell; penultimate section of fourth vein about one fifth as long as ultimate vein. *Abdomen* more or less extensively blackened, sometimes only genital segments yellow. Length, 3 mm.

Dededo, May 19, Usinger, type; Guam, no other data, Fullaway, 2 paratypes.

The Samoan species *C. palliseta* Malloch, differs from *C. atrifrons* in having the cephalic and thoracic bristles yellow, and the thorax except the lower portion of the pleura entirely black. The Formosan species, *C. biseta* Hendel, has the thorax and abdomen black, and the hind femora with a preapical brown ring. Both of these species were described from males. It is possible that one or the other of them may be the male of *C. atrifrons*, but this is hardly probable, the amount of difference in color characters being exceptional in a species of this genus.