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THREE NEW MUSCOID FLIES FROM GUAM¹

GEORGE E. BOHART² AND J. LINSLEY GRESSITT³

The following three species were collected in the course of biological studies of filth-inhabiting flies conducted at U. S. Naval Medical Research Unit No. 2, on Guam.

The holotypes and allotypes are deposited in the U. S. National Museum and the paratypes are in the California Academy of Sciences, the collection of the Hawaiian Sugar Planters Association Experiment Station, and the U. S. National Museum.

Subfamily Phaoniinae

Genus *Dichaetomyia* Malloch

Dichaetomyia Mall., 1921, Ann. Mag. Nat. Hist. (9) 7: 163 (type: *D. polita* Mall.).

This genus is a large one, distributed over most of the Ethiopian, Oriental and southern Australasian regions. The following two new species are apparently the first ones to be recorded from an oceanic Pacific island north of Fiji and Samoa. Many species of this genus which were originally described in the genus *Mydaea* have not yet been associated with *Dichaetomyia*.

Dichaetomyia saperoi, n. sp.

Figure 1

Holotype, male.—Length 5.7 mm.; breadth at humeri 2 mm.; length of wing 5.5 mm.; testaceous, reddish orange on upper side of thorax, pitchy black on central two-thirds of abdomen, tarsi and mid- and hind tibiae pitchy brown.

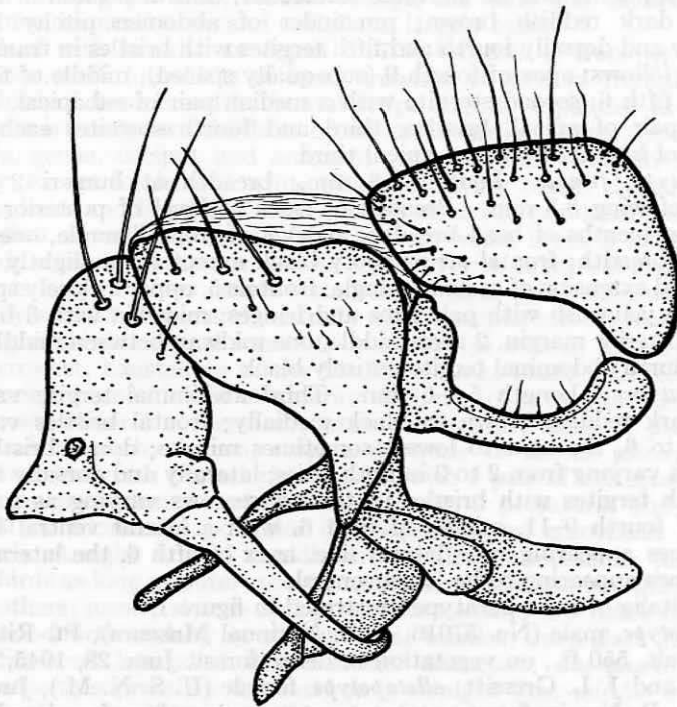
Head about one-tenth wider than deep; narrowest width of frons less than diameter of ocellus; frons, parafacials, genae, and occiput black with silver pruinosity, antennal groove reddish, apex of clypeus pale testaceous; hairs and bristles of head (except on arista and labellum) black; frontals 5, the uppermost common to both sides; antenna testaceous, second segment orange, third slightly darkened apically, second segment with distal bristle one-third longer than proximal, arista darkening to black distally, 14 pinnae above and 12 below; palpus pitchy brown, about as long as third antennal segment, hardly twice as wide at widest point as at narrowest; haustellum with basal two-thirds pale testaceous. *Thorax* rich golden testaceous, prescutum and scutum orange with feeble whitish pruinosity when viewed from behind; 2 presutural and 4 postsutural dorsocentrals; posterior dorsocentrals and acrosticals forming a nearly straight line of equidistant bristles; humerals

¹The opinions expressed in this paper are those of the authors and do not necessarily represent those of the Navy Department.

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2, subequal; prostigmatics 2, lower weak; meso-, ptero- and sternopleura with numerous black hairs about one-half as long as anterior sternopleural bristle; anterior and posterior intra-alar much weaker than middle one, the latter displaced laterad about 4 bristle-socket diameters; middle supra-alar more than twice as long as anterior one; metathoracic spiracle with about 10 black setae along lower margin; squamopleuron with 2 or 3 black hairs at extreme upper corner and lateral postscutellum with about 12 scattered small ones. *Wing* with membrane slightly yellowish especially on basal fourth and anterior to second vein; veins



DICHAETOMYIA SAPEROI

FIG. 1. *Dichaetomyia saperoi* G. Bohart and Gressitt, new species, genitalia of male paratopotype, left side.

fuscous; marginal crossvein slightly curved outwardly at anterior third and more strongly curved inwardly at posterior third; third and fourth longitudinal veins about equally curved upwards near apices; squamae slightly grayish, superior one with blackish rim and fringe hairs. *Haltere* testaceous. *Legs* with coxae and femora testaceous; fore tibia yellowish; mid- and hind tibiae and all tarsi pitchy black; fore femur with 9 long posteroventrals, 11 dorsals, the basal 3 weak, 11 posterodorsals, the distal 2 weak; midfemur with 6 widely spaced weak bristles on posteroventral margin, a transverse row of 3 preapical

bristles posterodorsally, and one short preapical anterodorsal bristle; hind femur with 15 bristles along anterodorsal margin; 3 preapical ones posterodorsally, 3 strong ones along apical third of anteroventral margin, and 4 strong ones along middle portion of anteroventral margin; fore tibia without bristles except at apex; midtibia divided into thirds by 2 stout bristles on posterior margin, encircled at apex by 5 apical and preapical bristles; hind tibia with one median anterodorsal and one median anteroventral bristle. *Abdomen* with first 2 segments, central, dorsal and ventral portions of third tergite, central portion of fifth tergite, genital segments and all sternites testaceous; central portion of fourth tergite dark reddish brown; remainder of abdomen pitchy black; laterally and dorsally fourth and fifth tergites with bristles in transverse rows as follows: apex of fourth 9 (subequally spaced), middle of fifth 6, apex of fifth 6; second sternite with a median pair of subapical, and a lateral pair of apical, bristles; third and fourth sternites each with 2 pairs of lateral bristles on apical third.

Allotype, female.—Length 5.8 mm.; breadth at humeri 2 mm.; length of wing 5.5 mm. Breadth of frons at level of posterior ocelli three-fourteenths of head breadth, at level of frontal lunule, one-third of head breadth; frontal stripe sooty black except for a slightly shiny ill-defined extension of ocellar triangle; frontals 5, upper 2 closely spaced; squamae yellowish with pale rims and fringes; midtibia with 3 bristles along posterior margin, 2 near middle, one midway between middle and apex; fourth abdominal tergite entirely black.

Paratypes.—Length 5.3–6 mm. Third abdominal tergite varying from dark reddish brown to black medially; frontal bristles varying from 5 to 6, the next to lowest sometimes minute; dorsal bristles on midtibia varying from 2 to 3 in both sexes; laterally and dorsally fourth and fifth tergites with bristles in transverse rows varying as follows: apex of fourth 9–11, middle of fifth 6, with a lateral ventral bristle sometimes appearing near lateral line, apex of fifth 6, the lateral pair sometimes appearing to be lateroventral.

Genitalia of male paratype illustrated in figure 1.

Holotype, male (No. 57916, U. S. National Museum), Pt. Ritidian, Guam, alt. 550 ft., on vegetation in dense forest, June 28, 1945, G. E. Bohart and J. L. Gressitt; *allotopotype*, female (U. S. N. M.), June 19, 1945, G. R. Norris; five *paratopotypes*, two males, three females, June 2 to August 2, G. Bohart and Gressitt; one *paratype*, male, Pt. Oca, Guam, June, 1945, taken in light trap, G. Bohart and Gressitt; six *paratypes*, all females, Pt. Ritidian, Guam, on human feces, J. L. Gressitt; three *paratypes*, females, were taken at Dededo, Guam, September 22, 1944, by D. G. Hall.

This species belongs to the *rufa* group, and differs from *D. rufa* (Stein) in having the mesopleuron with strong black hairs dorsally, from *D. megophthalma* Mall. in having the abdomen largely dark instead of completely pale, from *D. decipiens* (Stein), new combination, in having the pubescence of the occiput and underpart of face entirely black, and the tip of the abdomen yellowish instead of pitchy, from *D. flavohirta* Mall. in the completely black fourth abdominal segment and black meso- and sternopleural hairs, from *D. terraereginae* Mall. in having a row of long bristles on the posteroventral margin near the middle of the

hind femur, instead of a short row of very strong bristles on the apical fourth preceded by minute hairs, and from *D. impar* (Stein), new combination, in having the palpi, tibiae and tarsi dark.

This species is named in honor of Captain J. J. Saper, MC, USNR, in recognition of his role in fostering entomological work in the Navy.

***Dichaetomyia nigroscuta*, n. sp.**

Holotype, female.—Length 6.6 mm.; breadth at humeri 2.2 mm.; length of wing 6.2 mm.; reddish orange, the head and thorax, except antennae, humeral area, and scutellum, largely black.

Head with breadth to depth 6 : 7.5; breadth of frons at level of posterior ocelli four-fifths of head breadth, at level of frontal lunule, one-third of head breadth; frontal stripe slightly expanded at middle, where it is nearly two-thirds as broad as its median length; frons, parafacials, genae, occiput and antennal grooves black with silvery pruinosity, except for frontal stripe which is velvety black; clypeus nearly white; hairs and bristles of head (except on arista and labellum) black; frontals 6, second and fourth from bottom weak, lower 2 more widely spaced; antenna testaceous, second segment with subapical bristle three times as long as others; arista testaceous in basal third, otherwise black, dorsally with 13 pinnae and ventrally with 7; palpus velvety black, about as long as third antennal segment, over twice as wide at widest point as at narrowest; haustellum pitchy black. *Thorax* black with feeble pale pruinosity; humeri, sides of anterior declivity of prescutum, scutellum and posterolateral corners of scutum testaceous; sides of prescutum and scutum pitchy brown; sides and venter of thorax pitchy black, becoming brownish posteriorly; dorsum with a pair of extremely feeble vittae on prescutum between dorsocentrals; 2 presutural and 3 post-sutural dorsocentrals; posterior dorsocentrals and acrosticals forming a nearly straight line of equidistant bristles; humerals 2, inner one two-thirds as long as outer; prostigmatics 3, middle one one-third longer than others; meso-, sterno- and pteropleura with a few black hairs less than one-fourth as long as sternopleural bristles; intra-alars 3, middle one displaced laterad 3 bristle-socket diameters, one-fourth longer than others; supra-alars 3, nearly in a straight line, middle one over twice as long as others; metathoracic spiracle with about 5 long black setae. *Wing* yellowish, especially anterior to second vein; veins testaceous basally, dark brown apically; marginal crossvein slightly curved outwardly at anterior third and more strongly curved inwardly at posterior third; squamae yellow. *Hallere* creamy yellow. *Legs* black; fore femur with 11 long posteroventrals, 7 anterodorsals and 9 dorsals; midfemur with a row of 3 bristles on basal half of ventral margin, middle one strongest, and 5 preapical bristles; hind femur with 14 anterodorsals, and 2 very strong bristles on apical third of anteroventral margin; ventral margin with a single strong bristle at basal fourth; fore tibia without bristles except at apex; midtibia roughly divided into thirds by 2 stout bristles on posterior margin; hind tibia with a median anterodorsal bristle and 2 anteroventrals, the proximal one opposite anterodorsal bristle. *Abdomen* reddish orange, sixth and seventh segments pale testaceous; laterally and dorsally fourth and

fifth tergites with bristles in transverse rows as follows: apex of fourth 12, middle of fifth 6, apex of fifth 6; second sternite with a transverse row of 4 subapical bristles; third and fourth sternites each with a pair of strong subapicals.

Paratype, female.—Length 7.2 mm.; frontal stripe three-fourths as broad as length at middle; abdominal bristles fewer in number than in holotype.

Holotype, female (No. 57917, U. S. National Museum), Mt. Santa Rosa, Guam, alt. 400 feet, *Pandanus* thicket, June 3, 1945, G. E. Bohart and J. L. Gressitt; *paratype, female* (Calif. Acad. Sci.), Mungmung, Guam, alt. 150 feet, taken in woods in trap baited with dead toads, July 10, 1945, G. Bohart and Gressitt.

This species is apparently not closely related to any previously described. It differs from *D. quadrata* (Wied.) in lacking the gray vittae of the mesonotum, in having the legs entirely black, the postsutural dorsocentrals three instead of four, and in many other characters.

Subfamily Stomoxidinae

Genus *Siphona* Meigen

Siphona Meig., 1803 (not 1824), Illiger's Mag. Ins. 2: 281 (type: *Stomoxys irritans* of Fabr. = *Stomoxys stimulans* Meig.).

This genus, as here considered, includes a group typified by *stimulans* which has a relatively short proboscis, long dilated palpus, and pinnae above and below on the arista. It corresponds to the genus *Haematobia* as used by Seguy.¹ Seguy's genus *Lyperosia* becomes *Haematobia* since the type of both is *Conops irritans* Linnaeus, and *Haematobia* is the older name.

Siphona carabao, n. sp.

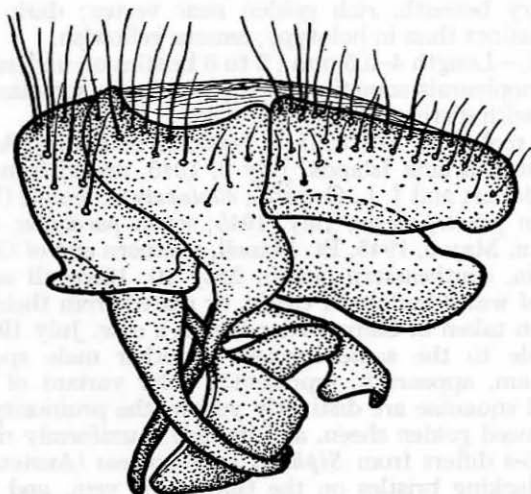
Figure 2

Holotype, male.—Length 4.2 mm. (apex of abdomen recurved ventrally); breadth at humeri 1.8 mm.; greatest abdominal breadth 2.2 mm.; length of wing 4.3 mm. Body black to brown with dense gray-green to buff pruinosity; mesonotum with 2 pairs of dark brown sublateral stripes and a feeble interrupted median one.

Head almost one-fourth wider than deep; narrowest width of frons between eyes one-twelfth of greatest head-width; width of frons at vertex slightly over one-sixth of greatest head-width; in profile, parafacials practically flush with anterior margins of eyes, vibrissal angle projecting about as far forward as eye, with its longest bristle nearly three times as long as other vibrissae; frontal bristles in a single row of 14 on each side, mostly somewhat longer than narrowest width of frons; face, except for antennal grooves and frontal stripe, densely clothed with velvety golden pubescence; frontal stripe uniformly dark brown, narrower at middle than diameter of an ocellus; antenna dark brown, first segment with a row of inconspicuous bristles less than one-third as long as longest bristle of second segment; third segment oblong, twice

¹Seguy, 1937, Gen. Ins. 205: 434.

as long as broad; arista with 10 dorsal pinnae of subequal length, the distalmost extending slightly beyond arisal apex, and 5 ventral bristles, the basalmost one-half as long as distelmost, and the latter inserted slightly basad to antepenultimate above; palpus testaceous except at tip, nearly three-fifths as long as head width, apical half expanded to fully twice narrowest part, apex with bristles much longer and stronger than elsewhere; haustellum dark reddish brown, pitchy apically, one-sixth longer than palpus. *Thorax* with pale gray pruinosity, having a distinct greenish cast especially close to lateral stripes of notum; viewed from above with light from behind, inner lateral stripe complete from anterior thoracic margin to middle of scutum, and outer stripe con-



SIPHONA CARABAO

FIG. 2. *Siphona carabao* G. Bohart and Gressitt, new species, genitalia of male paratopotype, left side.

sisting of an oblique mark ending before scutum and continued as a free longitudinal stripe more closely approaching anterior, than posterior, border; median line of scutum with a triangular spot at anterior margin and a diffuse mark starting near center and broadening to posterior margin; vestiture black, suberect, mostly shorter than humeral cross-vein, about 10 hairs in a transverse row between inner notal stripes; supra-alars 1, post-alars 2; principal mesopleurals 13, fourth from top strongest, but only slightly longer than most of others; presutural much weaker than notopleurals; hairs on anterior portion of sternopleuron less than one-fifth as long as anterior sternopleural. *Wing* nearly colorless, slightly infuscated on basal quarter; first and third veins completely without distinctive hairs or bristles; squamae translucent dirty white; haltere creamy. *Legs* with femora gray, yellowish apically,

tibiae dull testaceous, tarsi nearly black; anterior surface of midfemur near the middle with a short oblique row of bristles somewhat longer than remainder; mid- and hind tibiae without strong bristles except at apices. *Abdomen* more buff in color than thorax and lacking green pruinosity; median line of first 3 tergites indistinctly brown; when viewed from behind, first 3 tergites each with a pair of broad oval brown areas occupying about one-half of their respective tergites; fourth tergite, viewed at a low angle from in front, with basal half brownish.

Allotype, female.—Length 4.0 mm. (abdomen recurved); breadth at humeri 1.6 mm. Frons near narrowest point two-fifths as broad as head, slightly broader at antennal insertions; frontal stripe slightly expanded at middle, with median length scarcely greater than width; face pale golden, silvery beneath, rich golden near vertex; dark markings of thorax less distinct than in holotype; femora yellowish.

Paratypes.—Length 4–5.5 mm.; 2 to 6 bristles on underside of arista; anterior sternopleurals sometimes weak; squamae sometimes yellowish apically and with distinctly yellowish rims.

Holotype, male (No. 57918, U. S. National Museum), Asan, south of Agaña, Guam, Mariana Islands, July 9, 1945, reared from fresh cattle dung, G. E. Bohart and J. L. Gressitt; *allotopotype, female* (U. S. N. M.), July 9; eleven *paratopotypes*, July, 1945; seven *paratypes*, southeastern coast of Guam, May 6, 1945, Pt. Manell, southern end of Guam, July 6, 1945, Ulomnia, southeastern Guam, May 10, 1945; all sucking blood from flanks of water buffalo or cattle, or reared from their feces. One male specimen taken at Saipan Island from a cow, July 1944, is apparently referable to the same species. Another male specimen from Ulomnia, Guam, appears to represent a color variant of this species. Its wings and squamae are distinctly yellow, the pruinosity of its body has a pronounced golden sheen, and its face is uniformly rich golden.

This species differs from *Siphona sanguisugens* (Austen), new combination, in lacking bristles on the third wing vein, and from *rufipes* Brunetti (which Suguy listed as the female of *sanguisugens*) in having one instead of two supra-alars and two instead of one post-alars. There are twice as many hairs in a row between inner stripes of scutum as in *Siphona perturbans* (Bezzi), new combination, and one-half as many as in *Siphona sanguinolenta* (Austen), new combination. The prescutal hairs in *carabao* are much shorter than those of *Siphona stimulans* (Meigen) and *sanguinolenta*, and somewhat longer than those of *perturbans*.