

XXXII.—*Exotic* Muscaridæ (*Diptera*).—XXX. By J. R. MALLOCH, Bureau of Biological Survey, Washington, D.C.

Family Asteiidæ.

Genus SIGALOESSA, Loew.

Dr. O. Duda, in 1927*, published a revision of the Asteiidæ of the Old World, and included in his key all the genera known to him. He erected one new genus for the reception of a Hungarian species, *Astiosoma*, which is apparently very close to the one now dealt with, differing essentially only in wing-characters, the alula being present, and the first vein connecting with costa beyond apex of first vein, while the apical section of fifth vein is shorter than the preapical one. In *Sigaloessa* the second vein connects with first at its apex, the fifth vein has its apical section longer than the preapical, and the alula is practically lacking.

The new species described below agrees in all essential characters of generic import with *bicolor*, Loew, the genotype, a North American species. For other characters, see species description.

It may be of interest to note that *Sigaloessa flaveola*, Coquillett, a North American species, belongs to *Astiosoma*, and agrees very closely with Duda's description of *rufifrons*, though it would be necessary to compare specimens of each to determine whether they are distinct.

Sigaloessa insularis, sp. n.

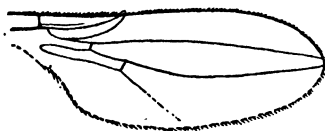
Male.—General colour testaceous-yellow, the type slightly greasy but showing the following markings: ocellar spot and four vittæ on mesonotum fuscous, the latter incomplete posteriorly, the submedian pair almost fused and shorter than the sublateral pair, the latter furcate behind the suture; a dark mark on the lower part of mesopleura, and another on lower half or more of sternopleura; the lower margin of cheek narrowly dark; abdomen without distinct dark markings; halteres brown; wings hyaline.

Head seen from above with a quite wide space between upper angle of eye and the occiput which tapers off laterally; frons slightly longer than wide, with many short dark surface-hairs, ocellars very short; outer verticals not very well developed, but longer than the short inner pair; orbits distinct,

* Deutsch. Ent. Zeitschr. p. 113.

each with one bristle on the upper third; face sunken, without an evident central carina, epistome slightly projecting, the antennæ only half exposed in profile, third segment disc-like; arista pubescent; cheek not as high as width of third antennal segment; occiput hollowed out and darkened on upper half; palpi short and rather stout. Thorax with two notopleurals, two pairs of dorsocentrals, the anterior pair close to middle, one sternopleural, and two scutellars, the mesonotum with a few microscopic hairs, some of them on the anterior half of the acrostichal area. Abdomen without exceptional armature. Legs normal. Wing-venation as fig. 1.

Fig. 1.



Wing of *Sigaloessa insularis*, sp. n.

Length 1.75 mm.

Type, Papeete, Society Islands, July 1928 (*A. Tonnoir*). One specimen.

The genotype—*bicolor*, Loew—is a much darker species, having the upper half of the frons largely, and all of the mesonotum shining black, the yellow scutellum standing out in striking contrast to the latter.

I know nothing of the early stages of the species, but they occur most commonly on the inside of windows in sheds and outbuildings in North America. Possibly the larvæ are fungivorous, as are most of the *Drosophilidæ* to which the family is most closely related.

It would appear to be pertinent to indicate at this time that my species described as *Sigaloessa melbournensis* from Australia is more properly referable to the genus *Astiosoma*, having the second wing vein distinctly separated from the apex of first at costa, and the alula more distinctly developed, while the apical section of the fifth vein is distinctly shorter than the preapical one. The subdivision of the genera of the family by Duda took place after this species was described, so that I did not entertain the above as generic characters, and, in fact, am not too deeply involved in their acceptance even at the present time. However, the alignment shows the more intimate relationships of the species and may be accepted for that reason.

Genus *ASTEIA*, Meigen.*Asteia striatifrons*, sp. n.

Male.—Head black, frons shining, with a narrow yellow line along inner margin of each orbit on upper half which extends to vertex; face glossy, fuscous, with a slight trace of translucence causing it to appear yellowish in some lights, the lower margin not paler than the remainder of surface; antennæ testaceous-yellow, upper margin of third segment narrowly dark; labrum black. Thorax glossy black; scutellum lemon-yellow; pleura testaceous-yellow, with a black mark on upper anterior angle and a vitta over upper margin of mesopleura which connects with the dark colour of the postnotum. Abdomen shrunken in type, fuscous above, yellowish below. Legs yellow. Wings hyaline, veins dark. Halteres yellow, knobs black.

Arista with rays which are about half as long as width of third antennal segment; each orbit with a single well-developed bristle which is longer than the ocellars; the four verticals present, not very long; vibrissæ fine and of average length; cheek about as high as width of third antennal segment. Thorax with but two pairs of quite long dorsocentral bristles; scutellum with two bristles; anterior sternopleural bristles very fine and short. Legs normal. Wings long, almost identical in shape and venation with those of *sexsetosa*, Duda, according to the figure of the latter given by the describer. Halteres with rather long knobs.

Length 2 mm., wing 3 mm.

Type, Colonia Perene, Chanchamayo, Peru, 16.vii.1928 (*R. C. Shannon*).

This species will run down to Caption 6 in Duda's key*, but it differs from both the included species in having the face fuscous, and from one or the other in colour of halteres, frons, mesonotum, and scutellum.

It is possible that, like some other species of the genus, this one has the dorsum of the abdomen maculate, but in its present condition it is impossible to determine the normal coloration or if spots are present.

Family *Drosophilidæ*.Subfamily *CYRTONOTINÆ*.

Up to the present but one genus of this group has been recognized, and its position has been subjected to varied opinions, though it has usually been placed in, or close to,

* Deutsch. Ent. Zeitschr. 1927, p. 128.

Drosophilidæ. In a recent shipment of material from Mr. H. M. Pendlebury of the Federated Malay States Museums I find two species belonging to an undescribed genus, and as the sender is particularly interested in ascertaining the identity of these I have resurrected some old notes of mine on *Cyrtonotum* and present below my conclusions in the hope that they may prove of interest to students of the group.

Hendel in his recently published key to the families of Diptera* ranks the group as a subfamily of Drosophilidæ, but his key-characters are drawn exclusively from *Cyrtonotum*, and the new genus described below having no forwardly directed anterior orbital bristle will not run out at the proper place in the key. The genus is undoubtedly closely related to *Cyrtonotum* despite the lack of these bristles, agreeing in all the predominant group-characters with that genus, such as the plumose arista, very convex mesonotum, bristled mesopleura and sternopleura, lack of a cross-vein between the discal and second basal cells of the wing, lack of presutural dorsocentrals, presence of the preapical dorsal tibial bristle, discal hairs on the scutellum, and convergent postvertical bristles.

To indicate more clearly the distinctions between the two genera I present below a synopsis of their characters based upon material in my possession :—

- | | | |
|-----|---|-----------------------------------|
| A. | Each frontal orbit with but one bristle, which is recurved; inner cross-vein distinctly proximal of level of apex of first vein; frons of male much narrowed above, at bases of the orbital bristles not over one-fourth of the head-width, frons of female not narrowed above, generally about one-third of the head-width; ocellar and postvertical bristles minute and hair-like | [gen. nov.
<i>Anasiomyia</i> , |
| AA. | Each frontal bristle with two strong bristles, the anterior one proclinate, the posterior one reclinate, and usually a short reclinate setula close to the base of the proclinate bristle; frons of male and female equally wide, not less than one-third of the head-width, and usually much wider; ocellar and postvertical bristles long and strong | [Macquart.
<i>Cyrtonotum</i> , |

Genus CYRTONOTUM, Macquart.

Hendel has published a revisional paper on the South American species dealing with ten species, omitting only the North American *helvum*, Loew, of those occurring in the New World †.

* "Die Tierwelt Deutschlands," Diptera, ii. (1928).

† Deutsch. Ent. Zeitschr. 1913, p. 618.

The following notes are presented to clear up some synonymy and extend the recorded range of some of the species :—

Cyrtonotum pantherina (Walker).

This species, as accepted by Hendel, is the same as paratype examples of *salinum*, Curran, in the collection of the United States National Museum.

Brazil and Bolivia.

Cyrtonotum gibbum (Fabricius).

This species was misidentified by Hendel, who redescribed it as *tæniatum*, sp. n.

Dr. Aldrich has identified a number of specimens from Bolivia in the collection of the United States National Museum which agree with the female type-specimen in the Copenhagen Museum which he has examined. The male type-specimen, he states, does not appear to be the same species, having two sternopleural bristles and differing in other respects. Hendel's description of *tæniatum* is a very good one of this species, the frontal markings being very characteristic with the whitish-dusted central vitta laterally margined with dark chocolate, which develops into a pair of blackish spots on anterior margin as noted in Wiedemann's description of *gibbum*.

Cyrtonotum hendeli, nom. nov.

This name is proposed as a substitute for *gibbum*, Hendel *, not Fabricius. There are a number of specimens of the species in the United States National Museum.

Cyrtonotum bathymedum, Hendel.

One specimen of this well-marked species, originally described from Peru, in the United States National Museum.

Locality.—Rurrenabaque, Rio Beni, Bolivia, December (W. M. Mann, Mulford Exped.).

Cyrtonotum striatifrons, sp. n.

Female.—Head testaceous-yellow, a narrow line along each side of frons, the face, cheeks, and postocular orbits, whitish-dusted, frons with a pale brown vitta on each side of the ocellar region extending to anterior margin and dividing the front into three almost equally wide pale stripes; orbital stripes yellowish-grey dusted, not extending to middle of

* Deutsch. Ent. Zeitschr. 1913, p. 624.

frons; antennæ and palpi testaceous-yellow. Thorax coloured as head, pleuræ paler than mesonotum, the latter with four narrow, complete, yellowish-brown vittæ, the sublateral pair slightly broken at suture and situated a little laterad of the dorsocentrals. Abdomen testaceous-yellow, tergites quite densely grey-dusted, tergites 2 to 4 inclusive each with a linear central blackish vitta and a pair of small lateral blackish spots on dorsum which are sometimes carried more or less noticeably forward on some of the tergites. Legs pale stramineous. Wings greyish hyaline, outer cross-vein narrowly clouded with pale brown, and a very faint trace of clouding along the third and fourth veins apically. Squamæ and halteres testaceous.

Frons half of the head-width, parallel-sided, and slightly longer than wide, the face slightly narrowed below; all four verticals, the postverticals, ocellars, and the proclinate and upper reclinate orbitals, long and strong, the small anterior reclinate very short and fine, proclinate orbital not over one-third of the length of frons from vertex, surface-hairs lacking; face slightly convex, width of the three parts at middle practically equal; vibrissæ small and fine; arista with about thirteen long hairs above and five below. Thorax with the usual bristling, a second short sternopleural present above the strong one. Abdomen without strong apical bristles on the tergites; genitalia without apical thorns. Fore femur with the anteroventral comb on apical half consisting of much finer and more closely placed black setulæ than usual. Inner cross-vein of the wing very slightly beyond level of apex of first vein; costa with about six quite long bristles on the under side beyond apex of first vein, its section between third and fourth veins faint but evident; ultimate section of fourth vein slightly divergent apically.

Length 9 mm.

Type, and one paratype, Bahr el Ghazal, 14. vi. 1922, No. 14165, W. T. R. L. (*Capt. Bouldillon*).

Returned to Imperial Bureau of Entomology.

Cyrtonotum magnum, sp. n.

Female.—Head reddish brown, frons darker centrally, with grey dust on vertex, orbital stripes, and narrowly along eye-margin on entire length; face black in centre, with grey dust, parafacials darkened below in certain lights, with yellowish dust; antennæ reddish, third segment largely blackened; palpi fuscous. Thorax fuscous, the entire surface with dense grey dust, mesonotum with four narrow

dark brown vittæ behind the suture, and dark brown dots at bases of the hairs and bristles; mesopleura with dark brown dots at bases of the hairs and bristles; scutellum with a pair of brown vittæ which converge at apex and brown dots at bases of the hairs and bristles. Abdomen coloured as thorax, but with the dust paler grey, no dark setiferous dots, and black-brown apices to the tergites, which do not extend to extreme lateral edges, and connect on the second to fourth tergites with a central vitta of same colour. Legs tawny yellow. Wings yellowish, with a brown costal stripe which extends over midway to third vein on section beyond apex of first vein, and narrow margins of same colour on the other veins and outer cross-vein.

All four verticals, the postverticals, ocellars, proclinate and upper reclinate orbital, very long and strong, anterior reclinate short, proclinate orbital rather close to upper reclinate and nearer to eye than it, situated about two-fifths of the distance from upper margin of frons to anterior margin of same; face foveolate; upper postocular setulæ long and strong. Thorax with two pairs of postsutural dorsocentrals and one pair of prescutellar acrostichals, two strong sternopleurals, four strong and a number of much weaker scutellar bristles; propleural present. Abdomen with some rather short apical tergal bristles; the genital processes slender and unarmed. Fore femoral anteroventral comb rather widely spaced. Costal spines long; first posterior cell not narrowed at apex.

Length 10 mm.

Type, Alto Itatlaya, Serra do Itatlaya, S.E. Brazil, Feb. 21, 1922, 7150 feet (*E. G. Holt*).

The largest species known to me.

Cyrtotum anus (Meigen).

This European species is apparently represented by four examples in my African material, but having no authentic European examples I list some of the characters of the species before me so that the identification may be checked. In colour the specimens agree with the description of *perrisi*, Schiner, except that there is a spur of the dark colour on the lateral curve of each tergite running forward to, or almost to, the anterior margin of the tergites and there is a small dark mark on the extreme lateral margin of the tergites. The sternopleura has one strong bristle and above it a rather long setula, the fore femur has a sparse anteroventral comb on the apical half, the costal vein is practically obsolete

beyond the apex of third vein, and the costal bristles are quite long. The proclinate orbital bristle is situated not over one-third from anterior margin of frons, in line with the posterior reclinate one and not one-third as long as the latter which is situated close to middle of frons, the anterior reclinate bristle is minute, and the face is shallowly foveolate on each side.

Length 5 mm.

Locality.—Lomagundi, S. Rhodesia, vi.–vii. 1929, No. 2288, Dept. Agric. (*A. Cuthbertson*). A pair taken in copula.

This species was not recorded by Bezzi in his large paper on the Diptera of Eritrea, though he included three other species, none of them known to me.

GENUS *ANASEIOMYIA*, nov.

This genus has the same hump-backed appearance as *Cyrtonotum*, but the head is very different in structure in both sexes from that of any species of that genus, the latter all, so far as I am aware, having the frons about equally wide in male and female. The general characters of the head in the sexes may be gleaned from figs. 2 & 3. The wings lack the costal spines, have the apices more pointed than is usual in *Cyrtonotum*, and the inner cross-vein is much farther proximad of the level of apex of first vein than is the case in any species of the other genus known to me, only *anus* of those before me now having it proximad of the apex of first and that but slightly so.

Genotype, *Anaseiomyia uniformis*, sp. n.

I have before me two species, but have the male only of one and both sexes of the other. They may be distinguished as below.

Key to the Species.

- A. Thoracic dorsum in both sexes with whitish-grey dust and four broad chocolate-brown vittæ which obliterate almost all of the pale dust except a narrow line between each posteriorly and extend almost the entire length of mesonotum in the female, but are much shortened anteriorly in the male, only the central three extending to or slightly proximad of the suture; abdominal tergites 2 to 5 similarly marked on dorsal exposure, with a broad chocolate-brown posterior margin which sends three branches to anterior margin, the central one regular in shape, the one on each side irregular in outline *uniformis*, sp. n.

AA. Thoracic dorsum densely whitish-grey dusted, with a broad chocolate-brown mark on posterior margin which extends to short of the anterior one of the prescutellar pairs of dorso-central bristles and is slightly tridentate on its anterior outline; abdominal tergites 2 to 5 dissimilarly marked, second and fourth each with an irregular posterior margin of chocolate-brown and a somewhat similar anterior margin which sends two branches backward centrally to connect with the posterior one, the third and fifth tergites each with only the posterior dark border, the anterior margin grey-dusted and usually without any dark marks *dissimilis*, sp. n.

Fig. 2.

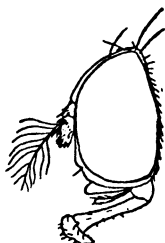


Fig. 3.

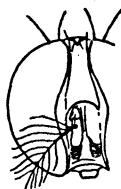


Fig. 2.—Head of *Anaseiomyia uniformis*, sp. n., from the side.

Fig. 3.—Head of *Anaseiomyia uniformis*, sp. n. (partial), from in front.

Anaseiomyia uniformis, sp. n.

Male and Female.—Head fuscous, with silvery-white dust; seen from behind the frons of the female is dark brown, with a central line and very narrow orbits silvery-white dusted, that of the male is silvery white when seen from behind and above, but from in front the silvery dust is confined to the orbits and the interfrontalia is dark brown; antennæ and palpi fuscous. Thorax densely whitish-grey dusted, vittate as noted in the foregoing synopsis; scutellum dark brown usually with a very small central apical mark white-dusted; postscutellum and central portion of metanotum dark brown. Abdomen silvery grey with dark brown markings, as listed in the key. Wings entirely colourless and glossy. Legs testaceous-yellow, apices of femora infuscated, most noticeably so above. Knobs of halteres yellow.

Head in profile as fig. 2 in male, very similar in female; anterior view in male as fig. 3, the frons in female one-third of the head-width, parallel-sided, face equally wide above, very slightly narrowing below, the central carina not very

strongly developed ; vibrissæ very small. Thorax with two pairs of postsutural dorsocentrals and one pair of prescutellar acrostichals, the intradorsocentral setulæ in eight series posteriorly ; sternopleural one, mesopleurals two, humerals two, the lower one directed downward and outward ; scutellum with numerous discal setulæ and four marginal bristles, the apical pair shorter than the others. Abdomen slender, the tergites with sparse apical bristles and numerous discal hairs, first four visible tergites subequal in length. Legs slender, fore femur with an anteroventral comb on apical half ; all tibiæ with short preapical dorsal bristle, mid-pair with a pair of apical ventral bristles ; mid-femur in both sexes with above five curled bristly hairs at apex of postero-ventral edge, one of them stronger than the others ; mid-tibia of male without outstanding hairs on any surface. Wings slightly pointed, costa distinct to apex of fourth vein.

Length 3.5-4.5 mm.

Type, male, allotype, and one paratype, Selangor, Kuala Lumpur, F.M.S., 15.xii.1927 ; paratypes : same locality, Wild Hill Forest Reserve, 8.x.1922 ; 21st mile, Gumbak Valley, 15.x.1921 ; 17th mile, Kauching, 22.x.1922 ; and 21.vii.1929, 15.xi.1929 ; Bukit Kutu, 500-1000 feet, 12.iv.1926 ; Kuala Teku, 500 feet, in Beluka, 4.xii.1921 (*H. M. Pendlebury*).

The collector was anxious to have the identity of this fly and the next one established because of the peculiar habit of the species in rising, when disturbed, into the air almost straight up and then coming back to rest upon the same leaf. I have no record of this habit in any species, though many specimens, especially of *Syrphidæ*, will repeatedly come back to alight upon the same exposed leaf or twig after longer or shorter flights, and may readily be captured if this habit is considered. However, the straight up and down habit of flight of the species when disturbed is unique, so far as I know. Any specimens of *Cyrtotonotum* that I have taken have been by sweeping and I know nothing of their habits of flight.

Anaseiomyia dissimilis, sp. n.

Male.—Very similar to the preceding species, but the sharper line of demarcation between the anterior margin of the chocolate-brown posterior mesonotal marks and the white-grey dust of the thorax, and their reduction, as well as the distinction in the abdominal markings readily distinguishes it.

Structurally similar to *uniformis*, but the mid-tibia of the male has a series of rather outstanding setulose hairs on the basal half or more of the anterodorsal surface, and the intradorsocentral hairs on the mesonotum are, though in eight series, much more regularly arranged because of their not being on the edges and centre of the dark vittæ.

Length 3.5–4.5 mm.

Type, Selangor, Kuala Lumpur, 15.xii.1929; paratypes, same locality, 11.iv.1926, 4 and 26.vi.1921, and 21.vii.1929; Kuala Teku, 550 feet, in clearing in jungle, 7.xii.1921 (*H. M. Pendlebury*). Six specimens.

I note also the presence of a female taken on same date as one of the recorded males, which, though in rather poor condition because of grease, appears to belong to this species. It is similar to the female of the first-described species, but the mid-tibia has a series of short, but rather outstanding, setulose hairs on the basal half of the anterodorsal surface.

I place it tentatively as the allotype.

Locality, Kuala Lumpur, 25.vi.1921 (*H. M. Pendlebury*).

Type specimens of both species to be deposited in the British Museum.

Although Mr. Pendlebury stated in his letter that he was sending "a" species both were standing in series indiscriminately, and I assume that the peculiar habit of flight referred to under the preceding species is adopted by this one also.

Subfamily *DROSOPHILINÆ*.

I have a very large number of species of this subfamily in my hands from many parts of the Old World, but am working most of them up in connection with various faunal papers, especially those of New Zealand and the Samoan Islands. In the present paper I deal with only one species and that only to clear up any possibility of misidentifications should the species be found in other collections, as it very closely resembles one that is quite widely distributed in the Orient and the Pacific Islands.

Genus *MYCODROSOPHILA*, Oldenburg.

Mycodrosophila halterata, sp. n.

Female.—Head fuscous (greasy in type), but the face, cheeks, and lower occiput showing yellowish; antennæ brownish; labrum and palpi fuscous. Thorax glossy black on dorsum, pleura pale yellow except on upper anterior margin where it is dull black, scutellum dull black and with brownish dust

when seen from certain angles, apical margin shining. Abdomen testaceous-yellow, with an interrupted central black vitta, and a transverse black mark on apex of visible tergites 1 to 4 inclusive which is almost complete on the first two tergites and distinctly separated from the central spot on the others. Legs yellow. Wings hyaline, with the usual deep black mark on costa at apex of first vein. Halteres yellow, knobs not at all blackened.

Structurally similar to *gratiosa*, de Meijere, but rather larger. Mesonotum with but one pair of dorsocentral bristles; the two humeral bristles small; sternopleurals two; scutellum with the basal pairs of bristles over half as long as the apical pair. Legs slender, without abnormal armature. First posterior cell slightly narrowed apically; outer cross-vein at about 1.5 its own length from apex of fifth vein; ultimate section of fourth vein about 2.25 as long as penultimate section.

Length 2.25 mm.

Type, Matæia, Society Islands, August 1928 (*A. Tonnoir*).

This species resembles *gratiosa*, de Meijere, very closely, differing essentially in having the abdomen differently marked, the halteres with yellow knobs, and in some other characters. From *argentifrons*, Malloch, described from Australia, it differs also in the colour of the halteres, and in having the mesonotum entirely shining black, as well as in the markings of the abdomen, the Australian species having an anterior marginal dark fascia on each tergite. Duda's two species, *ciliatipes* and *biroi*, described from Singapore, have black knobs to the halteres, and the first-named has the pleura vittate with black.

Family Muscidæ.

Subfamily PHAONIINÆ.

Genus XENOSINA, Malloch.

This is the second additional species which I have described since my key to the species of the genus appeared in 1925*.

I have another new species before me, which I am describing in another paper, also including a revised key to the entire genus.

Xenosina setipennis, sp. n.

Female.—Head black, frontal orbits and face with yellowish-white dust; antennæ and palpi blackish brown. Thorax testaceous-yellow, variably darkened on pleura and

* Phil. Journ. Sci. vol. xxvi. No. 4, p. 507.