

DIPTERA OF PATAGONIA AND SOUTH CHILE

PART VI.

FASCICLE 5.—ACALYPTRATA (concluded).

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PSILIDAE.

THIS family belongs to the group in which there are no vibrissae. It differs from all others in this particular section in having the following combination of characters: Humeral, sternopleural, and preapical tibial bristles lacking; subcostal vein incomplete, quite long but never definitely connected with the costa; second basal and anal cells of wing long, the vein closing the former straight and usually erect. In most of the genera the face has a well-defined weak central line, generally marked by a distinct depression that is most conspicuous at the epistomal margin. In a few cases there is no well-distinguished transverse epistomal margin, in which event the face is rather similar in formation to that of most Clusiidae. In one genus the prosternum is complete and attached to the propleura on the sides.

There is but one species amongst the material from Patagonia before me and it is evidently entitled to generic segregation from any previously described. There are no records of the family from the region by previous writers.

¹ This fascicle includes the remainder of Mr. Malloch's reports on the Patagonian Acalyptrata, the manuscripts of which were received on the following dates: Psilidae, 23.xi.32; Chloropidae, 22.iii.34; Drosophilidae, 13.x.33; Tethinidae, 20.i.34; Milichiidae, 25.v.33; Agromyzidae, 22.iii.34; *Mayomyia*, 22.iii.34.

The following Acalyptrate families, though occurring in the Neotropical region, do not appear to extend into Patagonia or South Chile, and are therefore not discussed in these reports: Rhopalomeridae, Micropezidae, Diopsidae, Periscelidae. The absence of the first two is most noteworthy, as they are very characteristic components of the Dipterous fauna of the warmer parts of South America.

The next and concluding fascicle of this part, in the preparation of which Mr. Malloch is now engaged, will contain a key to the Acalyptrate families.—F. W. EDWARDS.

1.5 as long as fourth and about two-thirds as long as second; veins 3 and 4 slightly divergent at apices. Halteres yellow.

Holotype, ♀, L. Gutierrez. British Museum.

Allotype, Bariloche. U.S. National Museum.

[*Oscinosoma* (*Oscinosoma*) *parvula*, sp. n.]

Very similar to *O. iota*, differing in having frontal triangle glossy black, tibiae almost entirely black, and apical pair of scutellar bristles longer than scutellum.

♀. Length, 1 mm.

Head testaceous-yellow, frontal triangle and occiput glossy black, frons becoming brownish on each side of triangle posteriorly; antennae black, third segment reddish-yellow at base below. Eyes sparsely hairy. Gena about half as high as width of third antennal segment, the latter rather longer than in *O. iota*, with the upper apical angle rather pronounced; aristae as in *O. iota*. Face not carinate. Proboscis much shorter and less horny than in *O. iota*, apical section short and geniculate.

Thorax as in *O. iota*, but the notopleural, prescutellar, and scutellar bristles are much better developed, the apical scutellars being distinctly longer than the scutellum in centre.

Abdomen as in *O. iota*.

Legs black, tarsi brownish-yellow.

Wings hyaline, veins black. Third section of the costa fully twice as long as fourth and about three-fourths as long as second; veins 3 and 4 not divergent at apices. Halteres yellow.

Holotype, Buenos Aires, Argentina.

DROSOPHILIDAE.

This family is of world-wide distribution and is, with the exception of a few aberrant forms, readily recognizable, the characters being quite distinctive. These consist of the presence of a proclinate and two reclinate bristles on each orbit, the anterior reclinate one being usually small and situated close to the base of the proclinate one, which latter is always well developed; postverticals usually small and always incurved at tips, and the vibrissae present; sternopleura always with at least one bristle; preapical tibial bristle present on at least the mid pair; subcostal vein poorly developed, sometimes fused or appearing fused with first at its apex, and the costal vein broken just beyond the humeral cross-vein and again at apex of the subcostal vein; the cross-vein between the discal and posterior basal cells rarely present, and the anal vein never complete, frequently obsolete.

It may be noted here that the only family likely to be confused with this one is the Ephydridae, but the great majority of the species of the latter are aquatic in their larval and pupal stages,

and although the wings of many genera in both the groups are very similar the head has a different construction, the mouth-opening being much larger in the Ephydriidae, often with the prelabrum very conspicuous, the face has usually more numerous and stronger bristles on the sides, and is frequently hairy or bristly centrally, while the orbital bristling is different, though occasionally there is a proclinate bristle present. When there is a proclinate orbital bristle present in Milichiidae there are always incurved infraorbitals and two interfrontal convergent series of setulae present, which characters serve to distinguish these insects from Drosophilidae.

I am inclined to consider Drosophilidae and Ephydriidae as having been derived from the same common ancestral stock. The larvae of the former though not aquatic in any case known to me sometimes live in exuding tree sap and in fermenting juices such as vinegar, such larvae closely resembling in general form some of the aquatic larvae of the other family. However, most of the common Drosophilidae live in fungi or decaying vegetable matter and have larvae in which the anal respiratory tubes are sessile, and not capable of extrusion. One or more genera have also larvae that live amongst Coccidae, and one genus lives in the larval stages in the froth surrounding spittle-bugs. It is not recorded whether these feed upon the insects with which they are associated or upon the excreta or exudations from them. All the genera represented in this collection appear to be the usual fungivorous or saprophagous forms, though those placed in *Scaptomyza* may be all or in part phytophagous.

The only species recorded as a *Drosophila* from this region, *D. sphaeroecera*, Thomson, is a Helomyzid. The other species described by that author, *D. gigantea*, was from Buenos Aires; it has not been recognized since its description, but is possibly a *Curtonotum*. *Scaptomyza melancholica*, Duda, was described from Chile.

[LEUCOPHENGA, Mik.]

1886. Wien. Ent. Zeit., 5 : 317.

This genus has been reported from Europe, Asia, Australia, Africa, and North and South America; it is apparently absent from New Zealand if I may judge from the collection from that country in my possession.

It is one of two genera that have some minute black wart-like processes on the underside of the costal vein between the apices of the second and third veins, and usually some short bristles or setulae in a partial or complete series on the posterior side of the mid tibia. It differs from *Stegana*, Meigen, the other genus with these two characters, in having the first posterior cell of the wing not, or very slightly, narrowed at apex, and the cross-vein separating the posterior basal cell from the discal one, incomplete or lacking.

All the species of which the larval stages are known are fungivorous and the adults may be taken on the undersides of fungi, frequently in considerable numbers.

[*Leucophenga maculosa* (Coquillett).]

1895. *Drosophila maculosa*, Coquillett, Proc. Acad. Nat. Sci. Phil., 317.

This species may be found within our range as there are 5 specimens before me from Bompland and Mendoza, Argentina.

[*DIATHONEURA*, Duda.]

1924. Arch. Naturges., 90, A, 3; 180. (Without species.)

1925. Ann. Mus. Nat. Hung., 22: 168. (With 18 species, no cited genotype.)

1927. Arch. Naturges., 91, A, 11-12: 87. (With 26 species, no cited genotype.)

This genus has a rather striking superficial resemblance in many of its species to *Leucophenga*, Mik, the wings being frequently marked, the face almost flat, and the legs strong. The anal cell is open at the apex, the anal vein is undeveloped beyond the apex of the cell, and there are no small warts on the costal vein apically.

I designate as the genotype *Diathoneura taeniatipennis*, Duda.

There is one extralimital species in the collection, which appears to be new. As it very closely resembles *D. taeniatipennis*, Duda, and runs down to that species in that author's keys, I merely present a summary of the distinguishing characters in the following in addition to a general characterization.

[*Diathoneura bomplandi*, sp. n.]

A rather dull brownish-testaceous species, with the face sometimes slightly infuscated laterally and but slightly greyish dusted, the antennae with the third segment broadly infuscated apically, the mesonotum without markings, the abdomen distinctly shining, with apices of the tergites darkened but not black, the apical two or three more broadly darkened laterally, and the legs entirely brownish-yellow. Wings with three large blackish marks (Pl. VIII, fig. 3).

♀. Length, 2.5 mm.

Structurally similar to *D. taeniatipennis*, Duda, but the first posterior cell not as noticeably widened apically, and the dark markings smaller, with no trace of a dark costal streak extending between the dark mark at apex of first vein and the one at apex of second. The photograph of the wing of *D. taeniatipennis* given by Duda shows this dark costal streak very distinctly, and while the general markings are similar in the new species the extent of all three is much less in *D. bomplandi* than in the other.

Holotype and 1 *paratype*, Bompland, Argentina.

[CALOPTERELLA, Coquillett.]

1911. Proc. U.S. Nat. Mus., 37 : 516 (n.n. for *Trichoptera*, Loey, 1864).
 1926. *Diathoneura*, Duda (in part), Ann. Mus. Nat. Hung., 22 : 168.

This genus is the same as that recognized by Hendel as *Diastata*, Meigen, and included by that author in the subfamily Diastatinae. I regard it as belonging to the Drosophilinae, but have changed the generic name in conformity with the precedent set by Coquillett in his paper on the type-species of North American Diptera in 1910. Coquillett introduced the name *Calopterella* to take the place of his concept of *Diastata*, with *vagans*, Loew, a North American species, as the genotype. I am convinced from an examination of Duda's papers that he placed in *Diathoneura* a number of species that belong here.

In the species available, including the genotype, *vagans*, Loew, there is a distinct cross-vein separating the discal and posterior basal cells of the wing, the costal vein has short bristles or setulae on a part of its extent, the proclinate orbital bristle is almost in line with the posterior reclinate one and between it and the eye, and the anterior reclinate bristle is undeveloped, the arista is short-haired, the mesopleura is haired and has one or more posterior bristles, and the mesonotum has two widely separated pairs of dorsocentral bristles.

I can find no description that fits the single specimen before me and describe it below. It belongs to the group in which the wings are dark brown or blackish, with whitish hyaline spots.

[*Calopterella argentina*, sp. n.]

A brownish-yellow species, with the face whitish dusted, the mesonotum shining and with traces of dark vittae, the abdomen glossy brownish-black, legs entirely fulvous yellow, and the wings fuscous, with hyaline marks (Pl. VIII, fig. 4).

♀. Length, 3.5 mm.

Head dull fulvous-yellow, upper half of frontal orbits, ocellar triangle and a stripe in continuation from it to anterior margin of frons with paler yellow dust; face, genae, and a very narrow line along each eye on anterior part of frons whitish dusted; antennae with third segment brown; palpi fulvous-yellow; centre of back of head fuscous. Frons at vertex about half the head-width, narrowed anteriorly; all the bristles, including the incurved pair below level of the vertex, well developed, but the anterior reclinate lacking. Antennae of moderate size, second segment with an outwardly curved setula before apex and a stronger apical curved bristle; third segment pilose, about twice as long as second; arista about as long as width of frons at centre, longer haired above than below, the longest hairs not as long as width of third antennal segment. Face almost flat. Gena linear, with some uneven lower marginal bristles, the vibrissa longest. Eyes with a few minute fine hairs.

Thorax shining brownish-yellow, mesonotum with a broad dark central vitta and behind suture darkened also on each side of disc, the presutural area on each side of the central vitta with yellowish-grey dust; pleura largely darkened. The following strong bristles present: 1 humeral, 2 pairs of dorsocentrals, 2 notopleurals, 1 presutural, 1 mesopleural, 2 sternopleurals, 1 supra-alar, 1 postalar, and 4 scutellars, and in addition one short postalar and a pair of short prescutellar acrostichals; the disc of mesonotum rather closely haired.

Abdomen brownish-black, almost glossy, with slight greyish dust.

Legs fulvous-yellow. Fore femur with one strong but short bristle near apex on anteroventral surface and one long and one or two shorter bristles near apex on posteroventral surface; all tibiae with a well-developed preapical dorsal bristle.

Wings (Pl. VIII, fig. 4), differing from those of *C. borgmeieri* (Duda) in having no hyaline spot beyond the apex of the second vein on the costa, and the fourth vein much less divergent from third at its apex. Knobs of halteres pale yellow.

Holotype, Buenos Aires.

The species described as *Notiphila repleta* by Walker from Canada belongs to this genus and is distinguished mainly by its smaller size and the different wing-markings.

DROSOPHILA, Fallén.

1823. Fauna Suec., Geomyzides, 4.

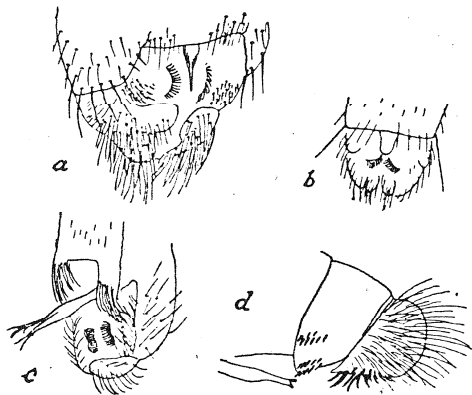
This genus is accepted here on the basis of the characters used by Dr. O. Duda in his most recent work on the family, and by the writer in his papers on the family in America. There are comparatively few species in the collection and but one of these is in any way remarkable. This is described below as new and the spur veins of the wings are almost unique in the genus though there are many recurrent cases in the Acalyptratae.

This genus is the most widely spread of the family, occurring in every faunal region from the far north to the southernmost limits of the family distribution. Some of the species, especially those that occur indoors, and those that have larvae that affect decaying fruits or fermenting liquids, are almost cosmopolitan, though there is but one of this group in the present collection.

KEY TO THE SPECIES.

1. Wings with several short spur veins on the posterior side of fourth vein, one or two in the discal cell and one in the first posterior cell, all of these and both the cross-veins clouded with dark brown, the costa quite broadly suffused with much paler brown (Pl. VIII, fig. 5)
appendiculata, sp. n. (p. 441).
Wings without a trace of spur veins on any of the longitudinal veins....2.
2. Wings with a large dark brown mark on costa extending from a short distance proximal to apex of second vein to apex of third (Pl. VIII, fig. 6).....*amplipennis*, sp. n. (p. 442).
- Wings without a trace of such dark mark.....3.

3. Mesonotum with three or five fuscous vittae; third antennal segment fuscous.....*busckii*, Coquillett (p. 444).
 Mesonotum without distinct vittae.....4.
4. Hypopygium of ♂ as text-fig. 75, c; third section of the costa about one-sixth as long as second and but slightly longer than outer cross-vein; basal segment of fore tarsus of ♂ about as long as the next three segments combined.....*dentata*, Duda (p. 444).
 Hypopygium of ♂ as text-fig. 75, d; third section of the costa about one-fourth as long as second and very distinctly longer than outer cross-vein; basal segment of fore tarsus of ♂ very little longer than second and distinctly shorter than second and third combined
dudai, sp. n. (p. 444)



TEXT-FIG. 75.—Hypopygia of ♂ *Drosophila*: a, *D. appendiculata*, sp. n. from below; b, *D. amplipennis*, sp. n., from below, unexpanded; c, *D. dentata*, half from below; d, *D. dudai*, sp. n.; from side.

Drosophila appendiculata, sp. n.

A large brownish-yellow species, with entirely pale antennae and palpi, the mesonotum without vittae and dull, abdomen shiny and with dark apices to the tergites, broader centrally, and the wings brownish-hyaline, with a pale brown cloud along the costa and dark brown clouds on the two cross-veins and on the spur veins on posterior side of fourth vein.

♂. Length: body 5 mm.; wing 6.5 mm.

Head brownish-yellow, the face paler and with whitish dusting, which is also evident on the frons when seen from certain angles; a narrow dark line round each ocellus; antennae and palpi entirely pale orange-yellow, aristae of the same colour, but the setae dark; all hairs and bristles dark. Frons at vertex nearly half as wide as head, narrowed to anterior margin, its width at middle about 1.25 times as great as its length in centre; all four verticals, the postverticals, and ocellars, long and strong; orbits slightly differentiated, shiny near bases of the bristles, upper reclinate bristle long, but little proximal to the level of anterior ocellus, proclinate bristle slightly further from eye and about

as far from the upper reclinate and anterior margin of frons in same line, upper reclinate bristle in direct line between the above two, and midway between them, its length about half that of proclinate and one-third that of upper reclinate; some short hairs on anterior third of interfrontalia and a series of similar hairs lateral to the orbitals that descends to level of bases of antennae. Eye densely hairy, egg-shaped, the narrow extremity below; gena about one-tenth as high as eye, with some short hairs above the marginal bristles, the latter about five in number, progressively longer from posterior to anterior one, the vibrissa distinctly but not greatly longer than the second bristle. Facial carina moderately broadly rounded and distinctly visible in profile, extending almost to epistome and ending in a shallow depression, with a very faint central sulcate line in type; face parallel-sided. Antennae of moderate size, third segment pilose, second with three bristles and a number of hairs, the upper and lower bristles much stronger and longer than the intermediate one; arista with 6 upper and 2 lower rays, and a series of inner hairs that are shorter, closer, and finer basally. Palpi club-shaped, with some fine short black hairs and about four lower marginal black bristles.

Thorax dull brownish-yellow, with slight whitish-grey dusting, most evident on pleurae, the mesonotum with a faint trace of two narrow dark vittae between the dorsocentrals, and the disc of the scutellum very slightly darker than the margin. Intradorsocentral hairs in 8 series, the outer one on each side usually incomplete; dorsocentrals 2 strong pairs; prescutellar acrostichals lacking; 2 humerals; sternopleura with three bristles, the posterior one lowest and longest, the anterior one highest, the intermediate one very much shorter.

Abdomen paler than thorax and almost glossy, each tergite with a blackish-brown apical margin, that is widest centrally, becoming broader as it approaches the apex until the entire dorsal exposures of the last two are dark. Hypopygium very complex though not exceptionally large (text-fig. 75, a).

Legs entirely testaceous-yellow. Fore tarsus not slender nor longer than its tibia, the basal segment about as long as the next two combined; no abnormal armature on any segment.

Wings brownish-hyaline, darker along the costa to over the second vein, and with both cross-veins and three spur veins on posterior side of fourth vein clouded with dark brown, the short stiff costal setulae continued to beyond midway between apices of second and third veins (Pl. VIII, fig. 5). Halteres brownish-yellow.

Holotype, Puntra, Chiloe I.

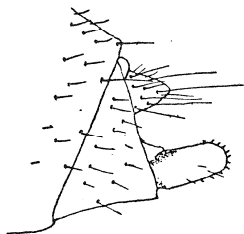
Drosophila amplipennis, sp. n.

A darker species than the preceding one, and at once separated therefrom by the distinctively marked wings (Pl. VIII, fig. 6) as well as a number

of structural characters, of which the principal are the differently arranged orbital bristles, the more elongate and slender fore tarsi, and the different hypopygium of the male.

♂, ♀. Length: body, 4 mm.; wing, 5 mm.

Head with the genae and lower half of the occiput brownish-yellow, upper half of occiput fuscous except on margin, ocellar triangle and orbital stripes fuscous and with slight pale grey dust, interfrontalia brown; face fuscous, slightly paler on sides. Antennae brown to fuscous, second segment palest; palpi brownish-yellow; arista and the rays fuscous, base of former yellowish. Frons with proportions and number of bristles similar to those of the preceding species, but the upper reclinate and the proclinate bristles are closer together, being separated by a distance distinctly less than that of the latter from anterior margin, and the upper reclinate one, though in the same relative position as in the other, is very much shorter and finer, a mere hair; the other characters similar, but the interfrontalia is not as noticeably hairy anteriorly. Eyes not as much narrowed below but with the same very short stiff hairs. Facial carina prominent, narrowed above, wider and narrowly rounded below, extending almost to epistome, from which it is separated by an impressed line, and no central sulcate line evident. Antennae much as in the preceding species, but with upper and lower bristles on second segment much shorter and weaker, and the arista with 8 upper and 3 lower rays.



TEXT-FIG. 76.—*Drosophila amplipennis*, sp. n. Genital segments of ♀ in profile.

Thorax brownish-yellow, paler on pleurae below upper margin of sternopleura, upper half largely fuscous; mesonotum with disc largely of that shade, the general colour either dark or with indications of three broad dark vittae, the two laterals sometimes interrupted at suture. Armature as in the preceding species, but the intradorsocentral setulae hardly more than 6 series, and the intermediate sternopleural bristle sometimes lacking.

Abdomen shining brownish to testaceous-yellow, each tergite with an apical black fascia which is connected with a central black vitta, the apical mark lacking on the last or last two tergites in

female. Hypopygium as text-fig. 75, *b*; genital segments of female as text-fig. 76.

Legs entirely honey-yellow, fore tarsus of both sexes slender, longer than its tibia, and the basal segment as long as, or longer than, remainder, with no exceptional armature; fore femur with two or three long posteroventral bristles.

Wing as Pl. VIII, fig. 6, upper costal thorn at costal break more than twice as long as the under one, the short black costal setulae extending only about one-third of the distance from apex of second to apex of third vein. Halteres brownish-yellow.

Holotype ♂, and *allotype*, L. Correntoso.

Paratype, Ancud.

Drosophila busekii, Coquillett.

1001. Ent. News, 12: 18.

A very widely distributed species that is readily recognized by the distinctly vittate mesonotum and pleurae, and the dark third antennal segment.

Length, 1.5-2 mm.

Casa Pangué.

Drosophila dentata, Duda.

1927. Arch. Naturges., 91, A, 11-12, 201.

I strongly suspect that Duda had two species mixed here and that the supposed female was a male belonging to the next species. I have found one male that is in all respects similar to that figured as the female, and it does not agree in the colour characters given in the description. I have thus selected the form that he described as his *dentata*, and the one he figured as a new species. They are quite similar in many respects, the males having the rather aberrant spinose armature of the hypopygia much the same, differing as shown in text-fig. 75, *c* and *d*. The present species is entirely fulvous-yellow, without any darkening of the antennae or dark apices to the abdominal tergites. Both species have the mesonotum with some outstanding setulae in front of the anterior dorsocentrals and in line with them, one of them being usually quite distinct and presutural. Apart from the colour characters and the hypopygial features there are few distinguishing characters for the separation of the species though my specimens of *dentata* are smaller than those of *dudai*, averaging but little over 2 mm. in length.

Originally obtained from Bolivia, Chile (Los Andes), and Peru.

The material before me is from Los Andes, one of the type localities, Casa Pangué, Angol, and Buenos Aires, which leads me to infer that it is a widely distributed species in this region.

Drosophila dudai, sp. n.

A darker species than *D. dentata*, the third antennal segment usually browned, the frons brownish-yellow, mesonotum brown, and the abdomen brownish-yellow with the apices of the tergites blackened, the dark colour usually widest centrally and there narrowly broken.

♂, ♀. Length, 3-4 mm.

♂. *Head* brownish-yellow, the frons darker and with the triangle and orbits fuscous and grey dusted; third antennal segment brown to fuscous. Frons at anterior margin as wide as its length in centre, widened to vertex, the bristles except the anterior reclinate one all strong. Eyes with stiff erect seriate hairs. Arista with 13 free hairs, three below. Face with a prominent carina that is slightly flattened above and sharply differentiated from epistome below. Vibrissae duplicated. Palpi rather broad, with two or three black setulae apically that are much more prominent than the weak hairs in *D. dentata*.

Thorax shining brown, paler on pleurae below, with two pairs of strong postsutural dorsocentrals and some setulae in front of them as noted in the key, the intradorsocentral hairs in about 8 irregular series.

Abdomen brownish-yellow, with apices of the tergites blackened, the dark margin widened centrally where they are usually narrowly interrupted. Hypopygium with a series of strong black bristles on each of the superior forceps and the tergite in front of these with two series on lower margin and one above (text-fig. 75, *d*), the long slender central backwardly directed process almost simple at apex.

Legs yellow. Fore femur with three or four widely spaced bristles on the apical half of the posteroventral surface; fore tarsus slender, longer than its tibia, the basal segment about 1.5 times as long as second and not as long as second and third combined, the armature normal, no long hairs present.

Wings brownish-hyaline. Third section of costa about one-fourth as long as second, the short black costal setulae not continued to its middle; inner cross-vein not less than one-third from base of discal cell. Halteres yellow.

♀. Similar to ♂, but genitalia without spines, the lamellae beak-like, the tips slightly turned down.

Holotype, ♂, and *allotype*, Angol.

The arista of *D. dentata* has only about 6 free hairs, a feature noted by Duda.

SPINULOPHILA, Duda.

1924. Ent. Medd., 14: 248.

1924. Arch. Naturges., 90, A, 3: 203.

1926. *Acanthophila*, Duda (*nec* Hein, 1870), Suppl. Ent., 14: 84.

This group, which is accepted as a genus herein, is distinguished from *Drosophila* by the presence of a series of minute stout spines on the apical half of the anteroventral surface of the fore femur in both sexes. Representatives are met with in all faunal regions though there are not a great number of species in all.

There is but one species in the present collection,

Spinulophila immigrans (Sturtevant).

1918. *Drosophila tripunctata*, Sturtevant (*nec* Loew), Bull. Amer. Mus. Nat. Hist., 38 : 445.

1921. North Amer. *Drosophila* : 83.

Shining fulvous-yellow; wings hyaline, outer cross-vein and extreme apices of second and third veins, and to a less marked degree the apex of fourth, with slight clouding, not readily visible unless under a rather high magnification. Fore tarsus of ♂ quite noticeably thicker than that of the other legs; basal segment about half as long as that of the mid tarsus; second segment also shorter and thicker, some of the hairs longer than usual, erect and slightly curled, but without strong bristles or spines.

Length, 2.5-3 mm

Originally described from North American and Hawaiian specimens, and subsequently recorded from Australia by the writer, this species is represented by four specimens from Angol, S. Chile, taken in April and August (*Bullock*).

I have not had an opportunity to examine *S. cilifemur*, Villeneuve, of Europe, which Duda considers is identical with this species, but I strongly suspect that it is distinct, from Duda's very full description. Should they be identical I am not aware which author has priority of publication, both descriptions appearing in the same year.

SCAPTOMYZA, Hardy.

1849. Proc. Berwick Nat. Club : 349.

This genus is very similar to *Drosophila*, differing in that the species are more slender than typical members of the latter, and in their having not more than four series of intradorsocentral hairs. These distinctions do not appear to be important, but I have found no species of either group that could not be placed by their application, or at least on the basis of the intradorsocentral character.

The genus occurs wherever *Drosophila* does, and some of the species are very abundant. One or two are recorded as mining in their larval stages in leaves of vegetables, but most of them are not known except as adults. The flies are rarely found indoors except as stragglers.

There are two North American species in which the wings have the apices with a dark spot, all the others having them hyaline. In the present collection there are two in which the wings are marked, one having the markings different in the sexes. This is the first case of this kind known to me in the genus.

KEY TO THE SPECIES.

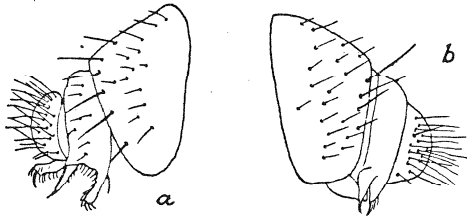
1. Intradorsocentral hairs biseriate.....2.
- Intradorsocentral hairs quadriseriate from anterior margin of mesonotum to level of bases of anterior pair of dorsocentral bristles.....3.
2. Palpi black.....[*nigripalpis*, Malloch].
- Palpi yellow.....*graminum*, Fallén (p. 448).
3. Wings greyish- or yellowish-hyaline, absolutely without apical dark markings.....4.

- Wings with conspicuous dark apical markings, sometimes one spot only present.....9.
4. Males.....5.
Females.....7.
5. Face largely fuscous, the central carina always entirely so; hypopygium as text-fig. 78.....*melancholica*, Duda (p. 448).
Face entirely testaceous-yellow or dark only on centre.....6.
6. Antennae entirely yellow and the frons broadly yellowish in front, the face yellow and with yellowish dust that is not very dense, the lower part shining, and the facial carina narrow and not terminated by a distinct depressed line below; hypopygium as text-fig. 79, *d*
multispinosa, sp. n. (p. 450).
Antennae with the third segment darkened in part and the frons narrowly yellowish in front, the face testaceous, densely covered with pale grey dust and nowhere shining, the carina rounded and abruptly terminated below by a depressed line; hypopygium as text-fig. 79, *a-c*
denticauda, sp. n. (p. 449).
7. Face with only the carina partly blackened; frons broadly orange-yellow in front.....*multispinosa*, sp. n. (p. 450).
Face entirely or almost entirely black and with greyish dust; frons narrowly or not at all yellowish in front.....8.
8. Hind femora becoming gradually darker to bases where they are dull brown; central two series of the intradorsocentrals a little stronger than usual; facial carina weaker, densely pale grey dusted
denticauda, sp. n. (p. 449).
Hind femora entirely tawny-yellow; central two series of the intradorsocentrals normal; facial carina prominent
melancholica, Duda (p. 448).
9. Wing with a single large subquadrate fuscous mark between the apices of third and fourth veins, these veins convergent at extreme apices (Pl. VIII, fig. 9); bristle on hind trochanter short and stout (δ)
apicipuncta, sp. n. (p. 451).
Wing with a dark mark at apices of second, third and fourth veins in male and third and fourth in female, the latter with a small dark spot against the lower edge of third vein near level of apex of second vein, the male with four dark elongate marks at same point, the upper one above third vein and fused with the second mark, the lower one below fourth vein (Pl. VIII, figs. 7 and 8); bristle on hind trochanter longer and weaker.....*dissimilis*, sp. n. (p. 452).

Because of the doubts attendant upon the identification of certain widely distributed species of this genus I have made sketches of the hypopygia of the males of all the species in this collection belonging to the group in which the wings are immaculate. It is evident from an examination of these that their diversity of structure prevents any grouping on the basis of at least their superficial appearance, and it is to be hoped that time and material will permit some more favoured student to investigate this and other genera, sufficiently to determine not only the validity of records of some of the species, but whether there may be anything of the nature of common structures in the accepted genera to justify their retention. Discussion of these points is not pertinent here, but I recommend the investigation to anyone who considers hypopygial characters as possible indices to generic relationships.

In my key I have included *nigrispinis*, Malloch (text-fig. 77, *b*),

as there are several specimens of the species in the collection from Montevideo and Buenos Aires and it is possible that it extends into our territory. It was originally obtained from south-eastern Brazil.¹ It appears to be more closely related to *graminum*, Fallén, than to any of the others, both on the character of the biseriate intradorsocentral hairs and the structure of the hypopygium (text-fig. 77), but the black palpi readily distinguish it. Another closely related species, *fuscinervis*, Malloch, described at the same time from the same locality, has the bases of the wings infuscated, and the palpi also blackened, but it is not in the collection.



TEXT-FIG. 77.—*Scaptomyza graminum*, Fln. (a) and *S. nigripalpis*, Mall. (b). Hypopygium of ♂ in profile.

Scaptomyza graminum (Fallén).

1823. *Drosophila graminum*, Fallén, Dipt. Succ., Geomyz. : 8.

This widely distributed species is represented in the collection by specimens that agree in most respects with those from the vicinity of Washington, D.C., the hypopygium being as shown in text-fig. 77, a.

Viedma, Bahia Blanca, Montevideo.

Scaptomyza melancholica, Duda.

1927. Arch. Naturges., 91, A, 11-12 : 153.

This species is very well described by Duda, but his figures of the hypopygium of the male are rather too finely drawn to give a proper conception of the structures. However, there is no doubt in my mind that the species before me is the same as that described by him. The wings are unmarked and the thorax is fuscous, with grey dusting and at least the central one of three mesonotal vittae rather distinct on almost the entire extent.

I present now figures of the hypopygial structures (text-fig. 78) showing the peculiar fringed clasper of the male, which is generally quite evident in dry specimens even when that organ is closely adherent to the ventral surface.

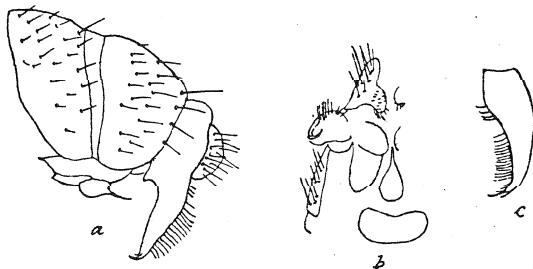
The female is not readily distinguished from that of *S. denti-*

¹ Proc. U.S. Nat. Mus., 66 (3), 11 (1924).

cauda, but the hind femora are apparently more slender and entirely yellow.

L. Nahuel Huapi (eastern end), Bariloche, L. Correntoso, Peulla, Puerto Varas, Ancud.

The original description was based on specimens from Chile (Los Andes and Quillota) and Bolivia. Type in the Dresden Museum.



TEXT-FIG. 78.—*Scaptomyza melancholica*, sp. n.: a, Hypopygium of ♂ in profile; b, right side of hypopygium from below; c, right clasper from behind.

Scaptomyza denticauda, sp. n.

Very similar to *S. melancholica*, differing mainly in the testaceous-yellow colour of the face in the ♂, which is densely covered with whitish-grey dust, the slightly darkened bases of the hind femora in both sexes, and the structure of the hypopygium of the ♂ (text-fig. 79). The face of the ♀ is fuscous, and the dust though a little denser and paler than in the ♀ of *S. melancholica* is not so strikingly different as in the ♂.

♂, ♀. Length, 2-2.5 mm.

Head fuscous, frons dark brown, becoming reddish-yellow in front, the triangle and orbits dark grey dusted and dull, former attaining almost to anterior margin, bristling normal. Postvertical bristles a little shorter than ocellars, and about equal to the upper reclinate bristles, proclinate orbitals not as long as the upper and twice as long as the lower reclinate bristle, the latter a little behind level of proclinate bristle and distinctly nearer to eye; all four verticals strong. Face with a distinct central carina that is widened below, and separated from the epistome by a depression. Eye higher than long, very short-haired. Antennae normal, the arista with four upper and two lower rays, general colour brownish-yellow, third segment broadly darkened above and at apex; palpi yellow, with four or five setulae, two at apex longer than the others, but not conspicuously so. Face testaceous, the ground-colour almost obscured by a coating of dense whitish-grey dust in ♂; the general colour darker in ♀, and the dust not as pale.

Thorax black, rather densely brownish-grey dusted, mesonotum not shining and with a rather noticeable dark brown central vitta.

The central two series of acrostichal hairs entire and stronger than the others, the other two series ceasing at level of the anterior pair of postsutural dorsocentrals, and sometimes a slightly developed third pair of dorsocentrals close to the suture, scutellum slightly flattened above, the four bristles equal in length; sternopleura with two bristles, the lower posterior one longest.

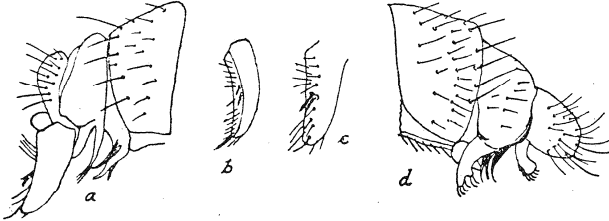
Abdomen glossy black, with very slight brownish-grey dusting on dorsum. Male hypopygium as text-fig. 79, *a-c*.

Legs testaceous-yellow, hind femora usually quite distinctly darkened basally in both sexes; no exceptional armature present.

Wings greyish-hyaline, venation as in *S. graminum*. Halteres brown.

Holotype ♂ and *allotype*, Peulla.

Paratypes, L. Nahuel Huapi (eastern end), L. Correntoso, Casa Pangué, Peulla, Ensenada, Puerto Varas.



TEXT-FIG. 79.—*Scaptomyza denticauda*, sp. n.: a, hypopygium in profile; b, right clasper from behind; c, left clasper from inner side. *S. multispinosa*, sp. n.: d, hypopygium in profile.

Scaptomyza multispinosa, sp. n.

This species is readily distinguished from *S. denticauda* by the much brighter orange-yellow colour of the face and anterior third or more of the frons, the paler legs and antennae, and especially by the structure of the male hypopygium.

♂, ♀. Length, 2.5–3 mm.

Head bright orange-yellow, upper half of back of head, the triangle, and orbits except their anterior extremities fuscous and densely grey dusted; antennae orange-yellow; face and genae with slight white dusting; palpi orange-yellow; upper part of interfrontalia browned on each side of triangle. Face with slight central carina, in ♂ entirely yellow, in ♀ with the carina usually blackened. Structure much as in *S. denticauda*, but frons a little more elongate and facial carina not as pronounced.

Thorax black, densely dark grey dusted, mesonotum with one or three dark brown vittae, mesopleura with a large but inconspicuous dark patch. Hairing and bristling as in *S. denticauda*, but central two series of acrostichal hairs weaker.

Abdomen glossy brownish-black, deeper in colour and more glossy on apical part, the dorsum slightly greyish dusted basally,

and the hypopygium partly yellowish. In structure the male hypopygium is radically different from that of the two native Chilean species just dealt with, being more nearly like that of *S. graminum* (text-fig. 79, d).

Legs orange-yellow, without any exceptional armature.

Wings as in *S. graminum*. Halteres yellow.

Holotype, ♂, and *allotype*, Bariloche.

Paratypes, L. Nahuel Huapi (eastern end), Casa Pangue, Ancud, Castro, and Los Andes.

As already noted above, it will be necessary to check, with those dealt with above, other species of this genus with immaculate wings, on the basis of hypopygial characters, in order to determine the exact specific status of those involved. There are undoubtedly many good distinguishing characters in these organs in the species examined, though their use here was resorted to merely as a check upon other and less reliable external characters of structure and colour.

Scaptomyza apicipuncta, sp. n.

A black species; anterior margin of frons reddish-yellow, sides of face and genae except lower margin tawny-yellow; antennae and palpi yellow; mesonotum shining, evenly dusted and faintly vittate; abdomen glossy black and but faintly greyish dusted; legs testaceous-yellow, hind femora largely brown; wings greyish-hyaline, with a large subquadrate fuscous spot in apex of first posterior cell.

♂. Length, 3 mm.

Head black, dull, frontal orbits, triangle, and centre of vertex grey dusted, anterior margin of frons reddish-yellow, sides and upper half of face and upper part of genae tawny to testaceous-yellow; antennae and palpi testaceous-yellow; aristae brown. Frons at vertex about half the head width, narrowed in front, at middle about as wide as long; orbits well differentiated by the grey dust, the bristles as usual in number; upper reclinate bristle close to middle of orbit, proclinate about midway between upper reclinate and anterior margin and much farther from eye, on inner margin of orbit, lower reclinate between proclinate and eye, and about half as long as that bristle; a few microscopic hairs on only the anterior margin of interfrontalia and anterior extremity of each orbit. Facial carina moderate. Vibrissa single. Antennae of average size; second segment with two short bristles and some short hairs; arista with three upper rays and one lower; palpi slightly spatulate, each with about three moderately strong bristles. Eye hairy, almost round; gena about one-eighth of the eye height.

Thorax black, slightly shining, with grey dust; mesonotum with a faint dark central vitta. Intradorsocentral hairs quadriseriate from anterior margin to middle, biseriate beyond that; dorso-centrals 2 pairs; two unequal humerals.

Abdomen slender, glossy black, with very thin greyish dust.

Legs slender, honey-yellow, hind femora dark brown except at extremities. Fore tarsi slender, basal segment about as long as the next three combined; no exceptional armature, but hind trochanter with a short, strong, slightly curved spine below.

Wings greyish-hyaline, veins brown, a large subquadrate dark brown spot at apex of first posterior cell (Pl. VIII, fig. 9).

Holotype, L. Correntoso.

***Scaptomyza dissimilis*, sp. n.**

Slightly smaller than *S. apicipuncta*; face almost entirely yellow; thorax more densely grey dusted, not shining, and with at least the central brown vitta well defined and extending over disc of scutellum; legs entirely yellow; and wings dissimilarly marked in the sexes.

♂, ♀. Length, 2-2.5 mm.

Head much as in *S. apicipuncta* but face almost entirely yellow, orbits and triangle not as densely grey dusted, face not as distinctly carinate, and arista with four upper and two lower rays.

Thorax black, densely grey dusted, mesonotum with a broad dark brown central vitta that is continued over the scutellum and another similar but less distinct and incomplete sublateral vitta on each side; hairing and bristling as in the preceding species.

Abdomen glossy brownish-black, hypopygium small.

Legs entirely yellow, rather stouter than in *S. apicipuncta*; with one outstanding bristle near apex in the posteroventral series of the fore femur; fore tarsus shorter, basal segment about as long as next two combined. Bristle on hind trochanter longer and weaker.

Wings in ♂ and ♀ dissimilar in markings, the mark near apex in ♀ rarely duplicated (Pl. VIII, figs. 7 and 8).

Holotype and *allotype*, Angol. United States National Museum.

Paratypes, Angol, L. Correntoso. British Museum.

[CYRTONOTUM, Macquart.]

1844. *Curtonotum*, Macquart, Dipt. Exot. 2, 3: 193.

This genus is found in Europe, Africa, and Asia as well as in the New World; in South and Central America there are more species than elsewhere, but apparently none extend into Patagonia.

[*Cyrtonotum hendeli*, Malloch.]

1930. Ann. Mag. Nat. Hist. (10), 6: 325.

One specimen, Bompland, Argentina.

TETHINIDAE.

This group, recently elevated to family rank, was at one time considered as a part of the heterogeneous concept Geomyzidae, and as now accepted contains but few genera, all of them so far

as I know confined to littoral situations. I follow general custom in placing herein two genera that have a very wide distribution, occurring in all the faunal regions. In New Zealand there is one species that may possibly be referable here, but I have not yet determined what course to pursue regarding it. In Australia there are three species known to me, two referable to *Tethina*, and the third to an undescribed closely allied genus.

I regard it as highly probable that *Tethina* will ultimately be placed in Milichiidae as all the included species possess the type of interfrontal hairing found in that group, and that *Pelomyia*, Williston, will be placed near, or in, Canaceinae (Ephydriidae), but am not proposing this course now. I believe Dr. Hendel is making a survey of this group and prefer to have such decisions made by specialists who have sufficient material upon which to base definite conclusions.

The following list of characters may be used to distinguish the Tethinidae from related groups in the Acalyptratae: Dorsal preapical tibial bristle lacking; propleural and stigmatal bristles both present; subcostal vein indistinct apically, fused or apparently fused with first at its apex; costal vein with but one break, just proximal to apex of first vein; anal cell complete; anal vein almost invisible; postsutural dorsocentrals three or four pairs.

Nothing is known of the immature stages, but the larvae are probably saprophagous in damp situations, especially near the seashore.

There are no previous records of the family from the territory covered by this report.

The two genera in the collection may be separated as below.

- A. Frons with a well-developed pair of postocellars and with numerous orbital bristles in two series, the outer one curved outwards, the inner curved inwards, and the interfrontalia with two series of setulae or bristles that converge anteriorly, as in Milichiidae; gena bare except on lower edge where there is a series of upcurved bristles or setulae up to near base of the vibrissae, above which latter there is a small glossy wart-like protuberance; intradorsocentral hairs well developed and almost bristle-like.....[*Tethina*, Haliday].
- AA. Frons without a pair of postocellar bristles, sparsely bristled, with one or two pairs of reclinate upper orbitals and no well-developed series of interfrontal setulae; gena with short sparse hairs on the entire extent, the vibrissae minute, and though there is a shining carinate line on each side of the narrow central part of the face there is no small wart-like protuberance present; intradorsocentral hairs minute or lacking.....*Pelomyia*, Williston.

[TETHINA, Haliday.]

1839. Ann. Nat. Hist., 2 : 188.

1862. *Rhinoessa*, Loew, Wien. Ent. Monatschr., 6 : 174.

I have seen no mention of the peculiar glossy wart-like facial protuberances in any published account of this genus, but the character is present in the North American, European, Australian,

PLATE VIII.

Wings of Acalyptrates.

Chloropidae.

- FIG. 1.—*Chlorops mendozæ*, sp. n.
2.—*Chaethippus subannulatus*, sp. n.

Drosophilidae.

- 3.—*Diathoneura bomplandi*, sp. n.
4.—*Calopterella argentina*, sp. n.
5.—*Drosophila appendiculata*, sp. n.
6.—*Drosophila amplipennis*, sp. n.
7.—*Scaptomyza dissimilis*, sp. n. ♂.
8.—*Scaptomyza dissimilis*, sp. n. ♀.
9.—*Scaptomyza apicipuncta*, sp. n.

Agromyzidae.

- 10.—*Phytomyza enigma*, sp. n.

Family ?

- 11.—*Mayomyia diversipennis*, sp. n. ♂.
12.—*Mayomyia diversipennis*, sp. n. ♂. Base of wing.
13.—*Mayomyia diversipennis*, sp. n. ♀. Base of wing.

