

*Pupa* (fig. 4). Length, 4 mm. Pale amber yellow in color. At the anterior end are two prominent cephalad projecting setæ; the elongate lanceolate thoracic respiratory organs are yellow. Seven segments may be distinctly seen in the abdomen, of which the first four are each provided with a curved pointed appendage, on each side ventrally; across the center of the dorsum of each of the first six abdominal segments is a transverse row of about 38 setulæ. The last segment is provided with four stout diverging spines.

*Imago. Male and female.* Length, 1.75 mm., without the hypopygium. Palpi pale yellow, face and front metallic blue, in some lights with a greenish tinge. Antennæ amber yellow, arista pubescent. Frontal setæ and those of thorax and abdomen pale yellow. Eyes sparsely pubescent, cilia of inferior orbit pale. Mesonotum and abdomen bright metallic green with bluish reflections, the former slightly pruinose, the latter with yellow hairs; scutellum metallic blue; prescutellar depression shallow; pleura metallic green, darker toward the base of the wings. Tegulæ pale yellow with pale hairs. Hypopygium (fig. 6) of the male fuscous, the appendages yellow; the basal sclerite which forms the capsule, elongate oval, the lamellæ pear-shaped with several conspicuous, pale, setæ. Ovipositor of the female ferruginous. Legs and coxæ pale yellow. Halteres yellowish. Wings hyaline with dusky yellow veins, venation as figured (fig. 5).

This species is distinguished from *T. willistoni*, by the structure of the hypopygium. Perhaps the yellow antennæ and the wholly yellow coxæ may also be of specific importance.

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## SOME ACALYPTRATE MUSCIDÆ<sup>1</sup>

BY A. L. MELANDER

By an interesting coincidence Mr. J. R. Malloch, then of the United States National Museum, and I made an independent study of the small flies grouped about the Agromyzidæ. Mr. Malloch's paper on the genus *Agromyza* is to appear in the September issue of the Annals of the Entomological Society of America, while his discussion of the other genera is to come out in the Proceedings of the National Museum. The first installment of my paper was printed in the September issue of the Journal of the New York Entomological Society, which was received at the Bussey Institution, through the mails, on September 8. The remainder of this article, dealing with the Geomyzinæ is to appear in the December issue of that publication.

The following notes were made on a recent visit to the National Museum and to the Philadelphia Academy of Science, and are

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<sup>1</sup> Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University, No. 73.

given as a supplement to my paper. While in Philadelphia I saw the proof sheets of Mr. Malloch's work, and while in Washington I examined his types.

1. *Scutops* Coquillett is not a Geomyzine. The post-vertical bristles are strongly divergent; the costa is nowhere fractured; the palpi are broadly spatulate; the first vein ends at the middle of the wing and the auxiliary vein, although rudimentary, is separated from the first vein, abruptly turning forward so as to terminate near the middle of the costal cell. In addition, the lack of oral vibrissæ, the presence of the clypeus, the single pair of reclinate fronto-orbital bristles, the stiff bristles of the front femora, the absence of preapical tibial bristles; and the shortened anal vein, support its relationships with the Lonchæinæ. The center of the face is broad and flat, obliterating the facial orbits below the antennæ. The face continues on the sides so as to line the mouth-opening; the cheeks thus consisting of the face, genæ and buccæ.

2. *Pseudiasata* Coquillett belongs with the Drosophilinæ. It possesses the following characters which are at variance with typical Geomyzinæ. The costa is fractured both at the humeral crossvein and at the end of the auxiliary vein, where there is a pronounced costal spine; the discal cell is confluent with the second basal; the single frontal bristle is proclinate; there are no mesopleural bristles; and the antennæ are spaced apart.

Mr. Coquillett was apt to over-stress some certain character, such as the vestiture of the arista, and as he relied much on his analytical keys, the microscopic pubescence of the arista of *Pseudiasata* led the genus to the Geomyzinæ. A similar instance occurred with *Sinophthalmus*, which presents more Drosophiline characters than it does Geomyzine. *Pseudiasata* has the anal cell present; the calypteres ciliate; the post-vertical bristles convergent; the oral vibrissæ present; the clypeus visible and moderately developed; the cheeks consisting of the genæ, buccæ and the sides of the face; the center of the face broad and flat; the front pubescent; and the propleural bristle lacking.

3. *Spilochroa punctipennis*, sp. nov.

Male. Length 2.5 mm. Cinereous, black; body not spotted. Cheeks, face and frontal orbits white-pollinose. Antennæ brown, the third joint blackish

except near the arista; arista with very short and close pubescence. Proboscis blackish, palpi whitish. Chaetotaxy as in *ornata*, the bristles long and strong: two fronto-orbitals; ocellars almost reaching the root of the antennæ; postverticals moderately long and cruciate; oral margin of the narrow cheeks with a row of five hairs, with a strong vibrissa and with a strong bristle in back; five dorso-centrals, four rows of acrostichals with about a dozen setulæ in each; one humeral; two notopleural; three supra-alar; four scutellar; one mesopleural and two sternopleural, as well as a few mesopleural and sternopleural setulæ. Abdomen setulose as in *ornata*, and with an indication of a brownish median stripe. Halteres and calypteres white, the latter with a weak white fringe. Posterior legs yellowish, front coxæ dull whitish, remainder of the front legs blackish. Wings mostly hyaline, but marked with about two dozen pale brown spots, the largest of which occur at the end of the first vein, in the tip of the marginal cell and on the posterior cross-vein. The spots are aggregated in the same general pattern as in *ornata*, but are not nearly so confluent as in that species.

The type, collected by Professor T. D. A. Cockerell at Pecos, New Mexico, July 26, is in the National Museum. Two paratypes were taken by H. S. Barber at Las Vegas Hot Springs, New Mexico, August 11 and 18.

4. *Trixoscelis fumipennis*, sp. nov.

Male. Length 2.5 mm. Very close to the European *T. marginella* Fallen, but differs in that the paler portion of the first and second posterior cells is not oval in outline.

Head and thorax, largely brownish-gray pollinose; front except the orbits and the rounded ocellar triangle testaceous; orbits at the antennæ reddish; face and cheeks white-sericeous; cheeks two-thirds the eye-height; antennæ reddish, the third joint largely dusky above; arista black, its pubescence microscopic; palpi yellow, proboscis reddish. Ocellar bristles reaching to the base of the antennæ. Thorax with a median brown stripe and with less evident brown vittæ bearing the dorso-central bristles; humeri and pleuræ reddish, becoming paler below; center of the scutellum a trifle darker than the sides: abdomen shining black. Coxæ, front tibiæ and posterior legs testaceous; front femora and tarsi blackish. Halteres and calypteres white. Wings largely darkly infumated, but the base, including the auxiliary cell, a narrow streak in the submarginal cell above the anterior cross-vein, the anterior portion of the discal cell, a middle stripe in the first posterior cell extending to the wing-tip, the greater part of the second posterior cell, and the anal angle, nearly hyaline; costal spines black; anterior cross-vein slightly beyond the middle of the discal cell; sections of the fourth vein proportioned three to four, of the fifth vein six to one; posterior cross-vein slightly longer than the outer section of the fifth vein.

Five specimens: Aweme, Manitoba, N. Criddle, collector, June 12, 1911. The type is in the collection of the Philadelphia Academy of Science, number 6018. Paratypes are in the collections of Mr. Criddle and myself.

Malloch<sup>1</sup> has described the Arizona specimens of *costalis* Coquillett as *claripennis*. This is the species I have designated as *frontalis* Fallen, which is common throughout the Pacific states. Hendel's *Trioxscelis prima* is the same as *Parodinia cinerea* Coquillett.

5. *Hemeromyia* was described by Coquillett as near *Agromyza*. It proves to be the same as the Milichiine genus I described as *Paramadiza*. Malloch's species *Hemeromyia nitens* is the same as my *washingtona*. Curiously enough the name *Paramadiza* was selected also by Malloch, as a new generic name for *Madiza halteralis* Coquillett. As the name *Madiza* is now used for the Chloropine genus *Siphonella* Macquart, the species *halteralis* is without a generic name. (See Malloch, Canad. Entom., xlv., p. 177. June, 1913.) I would therefore suggest the appropriate name *Mallochiella* for this insect and for its European congeners. The identity of the *Paramadizas* may now thus be tabulated.

MALLOCHIELLA nomen novum.

*halteralis* Coquillett

*Desmometopa* (Coquillett)

*Madiza* (Hendel, Melander)

*Paramadiza* Malloch

HEMEROMYIA Coquillett.

*obscura* Coquillett

*washingtona* Melander

*Paramadiza* Melander

Syn: *Hemeromyia nitens* Malloch



Fig. 1. *Mutiloptera apicalis* Coq., wing.

6. *Mutiloptera apicalis* Coquillett. This is a curious fly, whose body characters are evidently Geomyzine. The entire posterior portion of the wing is aborted as shown in the sketch.

September 19, 1913.

<sup>1</sup>The Genus *Parodinia* Coq. (Geomyzidæ). Malloch, J. R. Ent. New, xxiv. 274-276 (June, 1913)

