

**N. iole.**

This is fairly common. Contrary to a description of the habits, which I read somewhere recently, stating that this species is found only in moist places, I found it only along the dry sandy spaces and on the hillsides about Goldroad and also on the dry plain about Ash Fork further east.

Except for notes on dates and captures, the other species mentioned in my list show nothing of particular interest. If one could spend an entire season in this interesting country, many more interesting features could doubtless be recorded and valuable studies worked out in detail.

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**Notes on North American Agromyzidae (Dipt.).**

By J. R. MALLOCH, Urbana, Illinois.

Since the completion of my paper on the species of the genus *Agromyza*\* I have had the opportunity of examining the material in the collection of the Illinois State Laboratory of Natural History, and have also seen two species, kindly submitted by Dr. E. P. Felt, which make necessary the present supplementary paper on the group. I have indicated the changes necessary in the synoptic table to permit of the inclusion of the new species.

It may be of interest to mention that *Agromyza melampyga* Loew occurs in Britain. I captured a specimen of this species at Dunoon, Scotland, in July, 1912, while on a visit there. I cannot say whether the species has any European name or not, as the knowledge of this family in Europe is very unsatisfactory, and meanwhile leave our species as *melampyga*.

I have received several letters from correspondents requesting information as to what I have done with *Agromyza aeneiventris* Fallen in my paper. I take this opportunity of stating that I have not seen any American specimens which agree with the species considered by European authors as the true *aeneiventris*, so have dropped the name entirely. I have found so much confusion amongst the species I have examined, from

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\* Ann. Ent. Soc. Amer., vol. 6, No. 3, p. 269.



Europe, that I prefer to await the examination of the types of the older authors before changing the names of any of this group (with black halteres), because, as things are at present, there is but little hope of arriving at a correct interpretation of their descriptions, color being almost the only character used, and as this is very similar in all the species it is almost hopeless to attempt identifications.

**Mallochiella glabra** Fallen.

This species occurs in North America and may be separated from *halteralis* Coquillett by the following characters:

*M. glabra*.—Male: Black, including face and palpi, only the basal 3 joints of mid and hind tarsi yellowish at base; hind tibia very slightly dilated; last section of fifth vein recurved and shorter than the penultimate section of fourth; last section of fourth slightly less than four times as long as penultimate section. Length, 2 mm.

*Female*: Similar to the male except that the last section of fourth vein is barely more than three times as long as penultimate section. Length, 2.5 mm.

*M. halteralis*.—Male: Black, face below antennae, palpi and base of all tarsi yellow; hind tibia very much broadened; last section of fifth vein generally distinctly longer than penultimate section of fourth, last section of fourth vein generally five times as long as penultimate. Length, 1.5 mm.

*Female*: Colored as the male, and in other respects very similar except that the hind tibia is not conspicuously broadened, showing only a very slight thickening as in *glabra*. Length, 1.75 mm.

*Halteralis* seems to be widely distributed in North America. I have seen a large series of specimens in the collection of the Illinois State Laboratory of Natural History that were reared from refuse pig hair. The only specimens that I have seen from North America that are referable to *glabra* are several which I took at Frankford, Philadelphia, Pa., during September, 1913. These specimens are in the Academy of Natural Sciences, Philadelphia, with the exception of one which is now in the Illinois State Laboratory of Natural History.

**AGROMYZA** Fallen.

Owing to the addition of *A. quadrisetosa* in the Addenda to my paper on the genus *Agromyza*, and the description herewith of another species with black third antennal joint, the synoptic table should be altered as given here.



4. Frons black, only the frontal lunule yellow....*xanthophora* Schiner.  
Frons yellow, only the ocellar spot black, and the orbits sometimes  
blackened posteriorly .....5
5. Palpi and legs black.....*quadrisetosa* Malloch.  
Palpi yellow, legs mostly yellow .....5a.
- 5a. Wings clear .....*longispinosa* Malloch.  
Wings with a distinct infumation from end of vein 1 to apex of 2  
which does not entirely cover the marginal cell...*fumicosta* n. sp.

Delete No. 5 in synoptic table in the paper in the *Annals* quoted and insert the above.

***Agromyza fumicosta* n. sp.**

This species is very similar to *longispinosa*, differing only in being slightly smaller, in having the antennae slightly larger, the bristles on the mesonotum weaker; the wings more obtuse, the second vein undulated, the last section of fourth vein less than six times as long as the penultimate section (7-1 in *longispinosa*) and the costa with a distinct infuscation, which disappears before the lower margin of marginal cell is reached. In all other respects, coloration and chaetotaxy, identical with *longispinosa*.

*Type*.—Swept from blue grass, May 3, 1894, Normal, Illinois. In collection of Illinois State Lab. Nat. Hist.

***Agromyza felti* new species.**

Male: Pale yellow, shining, ocellar spot and back of head black; orbits slightly browned posteriorly; arista brown or black; other parts of head clear yellow. Mesonotum with a large black spot on disc which is most intense on the area covered by the discal mark in *melampyga* Loew; the quadrate area between the posterior lobes is filled with a less intense black color which extends almost to the scutellum and is centrally dentate; pleurae unspotted, or with a reddish triangular mark between fore and mid coxae, postnotum glossy black; scutellum with a small spot at base on each side. Abdomen with a brownish-black fascia on each segment, the posterior margin yellow; sixth segment elongated; hypopygium normal in shape, blackened laterally. Legs yellow, wings clear, veins distinct. Halteres yellow.

Frontal orbits distinct; four pairs of orbital bristles present, the lower pair rather weak, incurved; antennae as in *melampyga*; arista closely covered with pubescence, giving it a rather thickened appearance, its length not equal to that of frons; cheek about one-fifth as high as eyes; vibrissa weak. Four pairs of dorso-centrals on mesonotum, which decrease in strength towards anterior margin; discal hairs distinct. Abdomen as in *melampyga*. Legs of the normal shape; mid-tibia without any posterior bristles. Wings almost identical in



venation with those of *melampyga*, the penultimate section of fifth vein from one-half to three-fourths as long as last section. Length, 1.5 mm.

Locality: Hudson Falls, New York, May 27, 1910, reared from leaves of "walking leaf fern," *Camptosorus rhizophyllus*. Seven specimens. Named in honor of Dr. E. P. Felt, who transmitted the specimens.

*Type* and *paratypes* in New York State collection; *paratypes* in Illinois State Lab. Nat. Hist. collection.

Since submitting this paper for publication, the writer has reared this species from blotch mines in leaves of the fern *Asplenium pinnatifidum*, collected at Parker, Illinois, April 18, 1914.

This species is recorded as *A. melampyga* Loew, Bulletin 147, N. Y. State Museum, p. 67.

To include this species in the synoptic table in my paper previously mentioned it will be necessary to change couplet 6, second section, to read as follows:

- Mesonotum with black stripe-like marks; or disc black, the center of disc in front of scutellum yellow owing to the abbreviation of the central portion of black mark; or at least a distinct yellow line on the posterior margin of disc in front of scutellum. 8
8. Only the margins of discal mark black, the center portions reddish brown ..... *melampyga* var. *marginalis* Malloch.  
The whole of discal mark black ..... 9
9. Markings on mesonotum dull gray black, not glossy,  
*borealis* Malloch.  
Markings on mesonotum glossy black ..... 10
10. The space between the lateral lobes of discal mark filled with black; posterior surface of mid tibiae without bristles. *felti* n. sp.  
The space between the lateral lobes, posteriorly, clear yellow; posterior bristles present on mid tibiae ..... 10a
- 10a. Cheeks posteriorly about one-half the height of eye, arista almost bare ..... *flavonigra* Coquillett.  
Cheeks posteriorly much less than one-half the height of eye; arista pubescent ..... *melampyga* Loew.

#### ***Agromyza pleuralis* n. sp.**

*Female*.—Black, subopaque. Head yellow, only ocellar spot, back of head, and small portion of orbits at upper extremity blackened. Mesonotum slightly grayish pruinose; pleurae yellow, a large spot be-



tween fore and midcoxae, a smaller one behind midcoxa, and post-notum black; abdomen brownish black, subopaque; hypopygium glossy. Legs, including coxae, entirely yellow. Wings clear, veins yellowish. Halteres white. Frontal bristles and thoracic hairs yellow, the other bristles brown.

Frons with four pairs of long orbital bristles; face slightly buccate; cheek one-third as high as eye (antennae in poor condition). Mesonotum with two pairs of dorso-centrals, the posterior pair very widely separated, the anterior pair weak; discal setulae numerous on the anterior half and rather long, becoming sparser on the posterior half. Legs slender, no bristles present. Wing with costa to fourth vein; veins 3 and 4 divergent; inner cross-vein at slightly before end of vein 1 and at middle of discal cell; last section of fourth vein six times as long as penultimate section; last section of fifth one and one-half times as long as penultimate section. Length, 1.75 mm.

*Type*.—Swept from catalpa, University grounds, Urbana, Illinois, June 21, 1898. (Marten). In collection Illinois State Lab. Nat. Hist.

This species will run down to *citrefrons* Malloch in my synoptic table in the paper previously referred to, but may be readily separated from that species and its allies by its possession of only two pairs of dorso-central bristles.

***Agromyza youngi* new species.**

*Male*.—Black, shining. Squamae and halteres black. Wings clear, veins black.

Frons very slightly over one-third the width of head, frontal triangle shining, elongated, reaching over half-way to base of antennae and very distinct; orbits very narrow, rather thickly covered with hairs, which become much longer and stronger towards anterior margin, where one or two are setulose, the normal orbital bristles hardly distinguishable in type, all incurved; ocellar bristles widely separated at base and lying subparallel; frons in profile declivous; face short; the anterior margin of cheeks much produced, as in females of the *vibrissata* group; antennae small; arista bare, swollen at base, and very short, being slightly shorter than the width of frons at above antennae; cheeks narrow, about one-sixth the eye height; marginal bristles moderately strong; vibrissa indistinguishable.

Mesonotum with three pairs of dorso-centrals, the length of these slightly decreasing anteriorly, discal hairs very numerous, closely placed and not regularly arranged in rows; the pair of bristles between posterior dorso-centrals absent; pleurae and scutellum normal.

Abdomen short, broad at base, tapering very much to apex, its out-



line subtriangular; hypopygium very small; surface very distinctly hairy.

Legs normal, the posterior mid-tibial bristles absent.

Wings with costa to fourth vein; inner cross-vein at distinctly beyond end of first vein and at three-fourths from base of discal cell; outer cross-vein at about half its own length from inner; last section of fifth vein subequal with penultimate section; veins 3 and 4 very distinctly divergent. Length, 2.5 mm.

Locality: Albany, New York, April 28, 1913, reared from *Taraxacum densleonis*, dandelion. Received from Dr. E. P. Felt, New York State Entomologist.

Three males and one female reared by Mr. D. B. Young, after whom I take pleasure in naming the species.

*Type* and *allotype* in New York State collection. *Paratypes* in Illinois State Lab. Nat. Hist. collection.

Since submitting this paper for publication, the writer has taken a single specimen of this species at St. Joseph, Illinois. May 17, 1914.

This species will run down to *websteri* Malloch in my synoptic table, but may readily be separated by the much less strongly bristled orbits and the produced mouth-margin. The female of this species may be mistaken for one of the group which has the mouth-margin produced and the male with a conspicuous group of hairs on the vibrissal angle, but none of the species described in that group have more than two pairs of dorso-central bristles. One specimen of *youngi* has four pairs of dorso-centrals in the series before me, but this is abnormal, as in other respects it is identical with the type. The female has the orbits much less hairy, the orbital bristles much more distinct (3), and the mouth margin very much produced.

***Agromyza dubitata* Malloch.**

In my paper in the *Annals*, I inadvertently left the name *californiensis* as that of the species with which I compared *dubitata*. This was due to the fact that I considered, at the time I wrote that description, that the specimen mentioned in the last paragraph dealing with *setosa* Loew was a distinct species and had given to it the name *californiensis*. I subsequently decided to allow this specimen to stand as *setosa*, but



unfortunately I did not change the wording under the name *dubitata*. The specimen with which I compared *dubitata* has only three distinct pairs of dorso-central bristles, hence my locating it in front of *dubitata*. In other respects the description of the latter may be compared with that of *setosa*.

I have to thank Dr. S. A. Forbes and Dr. E. P. Felt for permission to publish the descriptions of the new species included in this paper.

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## The Origin of Oligotropism (Hymen.).

By JOHN H. LOVELL, Waldoboro, Maine.

Certain statements recently made by Mr. Robertson in regard to the origin of oligotropism (Ent. News, 25: 67) call for brief consideration.

No evidence is offered to support his earlier assertion that *Epeolus* is a parasitic genus. As regards *Triepeolus donatus* the writer stated that he had taken it on the Compositae only in this locality.

Herman Müller, notwithstanding his great experience as a florocologist, did not foresee the existence of the oligotropic habit. A discovery in retrospect often offers little difficulty. Thus Huxley writes: "My reflection when I first made myself master of the central idea of the 'Origin' was 'How extremely stupid not to have thought of that!'" (Life and Letters, 1: 183.)

It is manifestly futile for Robertson to quote statements of the writer, and merely express difference of opinion. This mode of argument is not common in scientific papers.

Robertson assumes the existence of competition. He says, "My view is that the bee fauna is all that the flora will support." This I do not admit, on the contrary I believe that it can be shown that only a part of the available flower food is gathered by bees. The commonness of an insect species does not depend alone on the quantity of food obtainable, e. g., occasionally the forest caterpillar (*Heterocampa guttivitta*), which feeds on the leaves of deciduous trees, appears in count-



Malloch, John Russell. 1914. "Notes on North American Agromyzidae (Dipt.)." *Entomological news, and proceedings of the Entomological Section of the Academy of Natural Sciences of Philadelphia* 25, 308–314.

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