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NEW TINEIDÆ, WITH LIFE-HISTORIES.

BY MARY E. MURTFELDT, KIRKWOOD, MO.

Laverna argentimaculella, n. sp.

Imago: *Antennæ* dark brown, slightly paler on under side. *Palpi* pale silvery, terminal joint in strong light appearing minutely ringed with dark blue. *Head* and face smooth, the former dark blue above, face pale golden-metallic, in the ♂ usually darker than in the ♀, in the latter often with bluish tinge. *Thorax* dark blue with metallic reflections. *Fore wings* with a generally "shaggy" appearance, beautifully variegated in dark and light blue and rich bronzy brown, with more or less conspicuous, irregular, appressed, silvery spots, that, at the base of the apical third, form an irregularly margined fascia, broader and more brilliant in the ♂ than in the ♀. Upon the cell, especially of the ♂, are two prominent tufts, bluish silvery at base, shading to brown, and near the outer margin two still larger tufts, almost connected, forming a ridge across the wing. Just before the fringes is an indefinitely angular, silvery streak, the apex directed outward. The pattern of coloration is so variable that it is difficult to exactly characterize it. *Hind wings* and *abdomen* rich bronzy brown, the former with pale brown fringes. *Legs* brown, annulate on tibiae with two broad and on tarsi with three narrow white bands. *Alar expanse*, 8 mm.; length, 4 mm. A beautiful species and probably rare.

Larva: Length 5 mm., diameter 1.5 mm., tapering slightly in both directions from middle. Form sub-depressed with deep incisions; pale green, at maturity showing on dorsum three more or less distinct pink stripes. Thoracic legs well developed, but pro-legs minute.

Mines leaves of *Oenothera biennis*. The mine begins in a winding track, which crosses back and forth, often becoming confluent. The dark, granular frass forms a rather definite line through the middle.

When ready to transform, the larva deserts the mine and incloses itself in a dense, oval, white silk cocoon formed against the midrib or in a wrinkle of the leaf. *Pupa* dark brown, not especially characteristic. Imago appears in nine or ten days.

The mines of this species were discovered about the middle of August, 1895, for the first and, so far, only time, on a small and ragged plant of wild Evening Primrose, and although other plants of the same species, as well as some cultivated varieties, were growing in close proximity, not a mined leaf could be discovered on any of these, nor has the insect, in this locality at least, reappeared since that date.

Less than a dozen moths were reared, of which one or more examples were sent to Lord Walsingham, Dr. Fernald, and the National Museum.

Epermenia pimpinella, n. sp.

Antennae slender, rather more than one-half the length of the wings, dark cinereous, with short, dense, whitish pubescence, basal joint thickly scaled. *Palpi* rather coarsely scaled, second joint twice the length of apical, dark brownish-gray sparsely sprinkled with buff. *Head* and *thorax* gray brown with slight purplish iridescence in certain lights. *Patagia* oval, silvery, semi-erect. *Fore wings* varying in general colour from dark slate-gray to brownish, with an intermingling of dingy white scales and having a generally "smudged" appearance, when fresh displaying purplish reflections. The three rounded dorsal tufts are of spatulate stalked scales overlying a fine paler fringe. *Hind wings* narrowly lanceolate, with long fine silky fringes. *Abdomen* slender, dark silvery gray, with indistinct whitish annulations, most pronounced laterally. *Legs* gray with dingy white mottlings and with long bristle-like ciliae at each joint. *Alar expanse* 12 to 14 mm., length of body 5 to 6 mm.

Eggs (obtained by placing fresh leaves in jar in which several moths of both sexes had emerged) scattered along the edges of the leaves, very minute, 0.25 mm. in length and less than half that in diameter, oblong in form, colour greenish-white with sculpturing visible only under the microscope, barely discernible by Tolles lens. On July 2nd by close examination found them on several leaves of the plant out

of doors. On July 6th they could not be seen, but the leaves were speckled with transparent spots, on the under side, showing black grains, probably the dried sap, and upon holding the leaves against the light the tiny larvæ were revealed, either still on the surface or having just cut their way between the two cuticles.

Mature larva.—8 mm. long, very slender, dull olive green or brownish in colour, with conspicuous darker tubercles each giving rise to several long, rather bristly hairs. Head large, smooth, pale brown with black trophi. Cervical collar semicircular, in colour and texture resembling the head. Full complement of legs and pro-legs, the latter unusually long. These larvæ are not confined to a single mine, but often leave one to excavate another and are therefore often seen crawling on the surface of the leaves. *Pupa*, slender, very pointed posteriorly, pale brown, inclosed in frail, open-meshed cocoon on under side of leaf or in angles of leaf-stalks. Imago appears in from 8 to 10 days in summer, and there are at least two successive broods.

This insect feeds by forming a puffy mine on *Pimpinella* (*Zizzia*) *integerrima*, in this locality a not very common Umbellifer. I first bred it many years ago, and took it with me when visiting the family of Dr. Fernald, and the latter traced it to the genus *Chauliodus*, Tr., but, as at that time I did not know that it was new and had not its complete life-history, did not attempt a description. Since then I have learned from Lord Walsingham and Mr. Durrant that *Chauliodus*, Treit., is pre-occupied by *Epermenia*, Hüb., and also that the species was probably new to science.

Eucatoptus striatella, n. sp.

Antennæ long, dull ochreous, inclining to brown; basal joint comparatively large, especially in the ♂. *Palpi* with second and terminal joints about equal in length, second joint densely but closely tufted, pale buff or cinereous with indistinct leaden dots and shadings. *Head* and *thorax* pale buff, faintly striped with leaden gray. *Patagia* of the paler colour. *Fore wings* light brown or brownish-ochreous, sparsely speckled with black. A subcostal black, longitudinal line extends from base to apex, curving upward slightly and intensifying at the latter; beneath this, two more or less definite blackish striations, the one on inner margin being quite broad and diffused, while the discal streak is variable, not continuous, often consisting of two or three dashes. *Hind wings* silken, ashy white, shading to cinereous at tips. ♂ with pencil of spreading hairs from base

of costa. *Cilia* long, fine, concolorous with wing, with leaden tinge; on fore wings crossed with black line. *Legs* shining pale buff, more or less conspicuously mottled with leaden gray; hind tibiae clothed with long silken hairs, in some specimens marked with a dash or spot of gray on outer side; tarsi annulate. *Alar expanse* 11 to 13 mm. Feeds in the berries of Nightshade (*Solanum nigrum*), eating the pulp and preventing the seeds from maturing.

Larva: 8 mm. long by 2 mm. in diameter, being rather stout. Cylindrical, incisions shallow, slightly larger at posterior end, where it terminates somewhat bluntly. Colour pale, translucent, greenish yellow, with five interrupted, irregularly margined, longitudinal, crimson stripes, lateral one composed of a row of small spots. Head small, cordate, only little more than one-half the width of the abdominal segments, very dark shining brown. Cervical shield almost covering the narrow first joint, of same colour as the head. On dorsum of eighth joint is a broad, purplish, subcutaneous spot. Thoracic legs minute, pro-legs also short, corresponding in colour to general surface. One annual brood, often found in two-thirds of the berries. *Pupa*, very slightly inclosed or merely attached within fold of leaf or in the berry cluster, rather stout, oblong, bright golden-brown, with short wing-sheaths, and has somewhat the appearance of dipterous pupæ. Imago in ten days—often not appearing until the last of October or early in November, suggesting the probability of an earlier brood in some other fruit or substance.

The genus *Eucatoptus* of the Gelechiadæ, characterized by Lord Walsingham in his work on WEST INDIAN MICRO-LEPIDOPTERA, is said to be "closely allied to *Aristotelia*, Hüb. (*Ergatis*, Hein.), from which it is distinguished by the costal hair pencil of the ♂." Under this genus His Lordship describes three new species and includes *Gelechia rubidella*, Clem. (*G. rubensella*, Cham.). I am indebted to Lord Walsingham and his Entomological assistant, Mr. Durrant, for the generic determination of all the species described, as well as for much kind assistance on other forms.

Gelechia persicælla, Murt.

In this connection I wish to transcribe the description of a new Tineid of economic importance, of which an account was published in a paper on "Some Insects of the Year," in the Report of the State Agricultural College of Michigan for 1899, by Prof. R. H. Pettit, Assistant

Entomologist. The species was sent to me for determination, and learning that it was not represented in the Collection of the National Museum, nor in any other American collection, so far as I was able to ascertain, at the desire of Professor Pettit, I characterized it as new, under the genus *Depressaria*, with which, in palpal and some other points of structure, it quite closely corresponds. Recently Dr. Dietz, of Hazelton, Pa., and Mr. Busck, of the National Museum, have called my attention to the fact that its venation and other wing characters indicate that it is a *Gelechia*, to which I had, myself, at first assigned it. To bring it more generally to the attention of economic entomologists, as well as to correct the generic placing and some minor inaccuracies in the description, I copy as follows: *Imago*—*Antennae* dark fuscous, indistinctly pectinate and banded on the under side with pale buff. Palpi long, exceeding the vertex. Basal joint short, pale; second joint one-third longer than apical. Brush quite dense, distinctly divided, dark fuscous overlaid with cream-coloured scales, palest on inner side. Apical joint dark, very slender, with extreme tip cream white, most conspicuously so in ♂. Tongue long, sparsely scaled. *Vertex* dark brown. *Face* cream white. *Thorax* and *tegulae* purplish-brown. *Fore wings* almost black, with rich purplish gloss, and sparsely sprinkled with white scales. On the costa back of the apex is a small, irregularly triangular, cream white spot, and a few scattered scales of the same colour form an obscure outer border. In the cell near its upper margin are two somewhat indefinite, cream-coloured dots in line, with a third one below and slightly back of the one nearest the base. *Cilia* fuscous, shading outward to gray. *Lower wings* shining silky, cinereous, almost silvery. Abdomen pale brown, terminal segment banded with buff at posterior margin. Lateral tufts buff, inconspicuous; anal tuft reddish-brown. Under surface speckled with brown and cream. *Legs* brown, annulate with cream white at the joints and middle of the tibiae.

Alar expanse from 16 to 17 mm.

Prof. Pettit thus describes the larva and its habits:

"The larva, when full grown, is three-eighths of an inch in length, and quite slender. Its colour is dirty yellowish-white, with back and sides marked by six reddish-brown, longitudinal stripes, all of which extend the entire length from the thoracic shield to the caudal extremity, except the pair on dorsum, which unite on last segment and terminate there. Last

segment bordered caudally with fuscous, and base of anal pro-legs coloured the same. Venter marked along the middle with a stripe like those on dorsum and sides, which are about equidistant from each other and of about the same width as the spaces between them, colour reddish-brown. Some of the spaces (yellowish-white) have dark points in them. Head and thoracic shield yellowish-brown. Feet fuscous and dirty yellow. Four pairs of pro-legs besides anal pair, which are of the same colour as the ground colour of the body. Base of anal pair black.

"A number of these worms working in peach leaves were received from Mr. T. D. Atkinson, of Holland, Michigan, in September, 1898, and were said to be very troublesome. The same species was received on July 3rd, 1899, from Monroe, Michigan. One or two complaints were made from other places, though no specimens were sent.

"The larvæ are very restive, wriggling violently when disturbed. They bind together the leaves of the peach with fine white silk, forming nests of loosely-bound leaves, in which they live and where they change to pupæ. The finding of the larvæ on July 3rd, and also on September 17th, would seem a good indication that the insect is two-brooded. Specimens of the larvæ from Holland were placed in suitable cages, and the moth, a nearly black insect, spreading about five-eighths of an inch, was obtained the following spring. The adults commenced to appear about April 14th and continued to emerge till the middle of May. Of course this is much earlier than would happen if the insects were out of doors."

Prof. Pettit's article was accompanied by excellent enlarged illustrations of the larva and pupa.

CONDEMNABLE PRACTICES IN GENERIC REVISIONS.

SIR,—Permit me to call the attention of your readers to a faulty method of citing species names, which is, unfortunately, extremely common in America. I refer to the omission of the genus name or its reduction to a mere initial. In many cases this is, of course, a proceeding that is attended with no serious evil effects. A working zoologist may be expected to know what *P. machaon* stands for, bibliographers would know that a paper on Abnormal Antennæ of *Ajax* had nothing to do with the Bird genus, *Ajax*, LESS., but referred to *Papilio ajax*. In many cases, however, authors seem to endeavor to render their work inaccessible to all save specialists working on their particular group. To make this clear