

## NORTH AMERICAN MICRO-LEPIDOPTERA.

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## TORTRICIDÆ.

## STIGMONOTA, Guenée.

Proc. Acad. Nat. Sci., Aug. 1860, p. 351.

Fore-wings with a curved blotch or lunule on the dorsal margin.

The blotch bearing three lines or streaks.....*tristrigana*.The blotch bearing one streak.....*interstinctana*.

*Stigmonota tristrigana*, n.s.—Fore-wings blackish-brown, costa pale-yellow from near the base of the wing to the tip, with eight blackish, oblique streaks and four bluish metallic spots adjoining the yellowish costal stripe. On the middle of the dorsal margin is a large pale-yellow blotch containing three blackish lines, with a bluish metallic spot above it in the middle of the wing, and a semi-band between it and the hinder margin. Hind wings dark brown.

Coll. Ent. Soc. Philadelphia.—Virginia.

## SERICORIS, Treit.

*Exartema*, Proc. Acad. Nat. Sci., Aug. 1860, p. 356.

The want of a good systematic work and European generic types renders classification in this family a work of much labor. I was not, however, convinced when I described the group *Exartema*, that it would be tenable as a new one; for it was the peculiar outline of the inner margin of the hinder wings, and the appendage attached to them, that chiefly induced me to describe the imagines included under this name as forming a new genus.

Upon a review of the subject. I think there is no doubt of the correctness of the present location of the insects included in this group. I have not enough specimens to determine whether the appendage referred to, is common to all the specimens described, or whether it is sexual or accidental.

It is difficult to tabulate the described species. Individuals not only vary considerably in hue, but species apparently distinct approach each other closely in general color.

Fore wings with a small white spot in the central fascia on the end of the disk.....*mutabilana*.

Fore wings yellowish, or ferruginous with black dashes and brown markings.

Fore wings without a small white spot in the central fascia.

Fore wings reddish-brown; markings pure brown.....*nitidana*.

Fore wings ochreous-brown or dark-brown; central fascia distinct.



- With lustrous metallic dots along the markings.....*coruscana*.  
 With whitish spaces succeeding the basal patch and central fascia.....*fasciatana*.  
 With ochreous spaces succeeding the patch and fascia.  
   Patch and fascia entire, spaces ochreous white.....*instrutana*.  
   Patch and fascia triparted, spaces luteous.....*faedana*.  
 With costa at base ochreous-white, without distinct pale spaces succeeding fascial patch and central fascia.....*permundana*.  
 Fore wings russet-brown; central fascia not distinct.  
 Varied with dull leaden stripes towards apex.....*concinna*.  
 Fore wings testaceous or brownish testaceous.  
   Costa white at base and along hinder border, or nearly uniform testaceous with dull leaden hue.....*versicolorana*.  
 Wings nearly concolorous; thorax, costa and spot at basal angle ferruginous.....*inornatana*.  
 Fore wings testaceous white.  
   Concolorous; thorax, costa, spot at basal angle, ferruginous....*inornatana*.  
   With large basal patch and square patch near the tip, ferruginous.....*gratiosana*.

*Sericoris coruscana*, Clem.

*Antithesia? coruscana*, Proc. Acad. Nat. Sci., Aug. 1860, p. 346.

*Sericoris gratiosana*, n. s.—Fore wings testaceous-white, with a ferruginous basal patch, having a nearly straight margin, and a large square patch of the same hue, reaching from the middle of the costa nearly to the tip of the wing and extended into the middle of the wing, with the outer edge extended as a stripe to the middle of the hinder margin. The basal patch is slightly dusted with blackish and the square patch is blackish on its inner edge. At the tip of the wing is a ferruginous dot and between it and the square patch a few geminations.

The testaceous portion of the wing is slightly striated. Thorax and head ferruginous. Hind wings fuscous.

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*Sericoris concinna*, n. s.—Fore wings russet or ochreous-brown, much varied with brown dots and markings. The basal patch is dark brown and is well indicated only beneath the middle of the wing and a small spot on the base of the costa, the middle being of the general hue sprinkled with dark brown. The central fascia is indicated on the middle of the costa by a dark testaceous-brown patch and by another of the same hue on the inner margin and is interrupted in the middle of the wing by the general hue. In the apical portion of the wing is an oblique ochreous-brown stripe, extended from the dark patch on the costa to the middle of the inner margin and bordered on each side by a non-lustrous leaden stripe. The space between this oblique stripe and the central fascia is sprinkled with brown and somewhat varied dull leaden streaks. At the tip of the wing is a dark brown spot and the costa is geminated with pale ochreous and dotted with dark brown. Cilia russet, dark brown at tip with three brownish spots in the cilia beneath the tip. Hind wings dark fuscous; cilia pale ochreous.

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*Sericoris mutabilana*, n. s.—Fore wings reddish-brown, yellowish or pale-ochreous, with reddish-brown or testaceous-brown markings. The basal patch is angulated and at the base of the wing, shows the general hue. The central fascia is well marked and on its outer edge in the middle of the wing is a *whitish discal dot*. There is a subterminal fascia extending from the costa near the tip to the hinder margin above the anal angle. On the basal patch and central fascia are short black striæ. On each side of the central fascia are spaces, or bands of the general hue, each having a dark brownish line running its middle. The costa is spotted with blackish and geminated with yellowish or pale ochreous.

In the reddish-brown specimen or variety, the pale interspaces are ochreous on the costa and beneath it, are discolored with reddish.

It is scarcely possible, with the specimens before me to distinguish the species from the variety, and I therefore forbear to make a conjecture. The description has been written so as to include all the variations of hue.

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*Sericoris instrutana*, n. s.

This specimen may be a mere variation of *fasciatana*. The ornamentation of the wings is very similar, as well as the color, but the size of the specimen is much less.

The whitish spaces on each side of the central fascia is more tinted with ochreous than in *fasciatana*. The outer margin of the basal patch shows two indentations and a central tooth or projection, while in *fasciatana* the outer margin is nearly straight or slightly curved. The central fascia is very narrow on the costa, dilating in the middle of the wing, its exterior margin bulging outwards and is somewhat interrupted near the inner margin of the wing; in *fasciatana* it is broad and diffuse on the costa. In *instrutana* the markings of the wings are pure dark brown, in *fasciatana* they are testaceous brown.

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*Sericoris fœdana*, n. s.

This specimen, although of much smaller size, recalls *permundana*; but the pale spaces on each side of the central fascia are much broader in *fœdana* than in *permundana*.

Fore wings luteous with brown markings. The basal patch is deeply divided and forms three patches, the smallest of which is near the costa and is separated from the other parts. The central fascia is brown and is likewise divided into three parts, each of which is narrowly margined with dull bluish edging. The oblique streak from the hinder margin is brown and edged on both sides with dull-bluish.



It may be that *foedana*, *concinna* and *permundana* really constitute but one species. This must be determined in the future.

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**Sericoris versicolorana**, Clem. Proc. Acad. Nat. Sci., Aug. 1860, p. 357.

This species, which is ordinarily distinguished by the white or yellowish-white costa at the base of the wing and the white space towards the hinder margin of the wing, is represented by a specimen in the Society's Collection, in which all the white is replaced by pale testaceous having in certain lights a dull bluish lustre. I think it is not necessary to describe it as a distinct species, as to my mind it is evidently a variation.

Doubtless too many species have been created out of the material that has been before me, but I have been governed entirely by a wish to notice clearly all the differences in individuals belonging to this group, and not by a desire to multiply descriptions

#### LOZOTÆNIA, Stephens.

Proc. Acad. Nat. Sci., Aug. 1860, p. 346.

The species described heretofore and in the present paper, may be tabulated as follows:

Fore wings purplish-brown.	
Hind wings pale-brownish.....	<b>purpurana.</b>
Fore wings cinnamon or reddish-brown.	
Hind wings ochreous near the apex.....	<b>Rosaceana.</b>
Hind wings fuscous.....	<b>fervidana.</b>
Fore wings ochreous.	
Hind wings dark-fuscous.....	<b>fractivittana.</b>
Hind wings pale-ochreous.....	<b>vesperana.</b>
Fore wings gray.....	<b>fuscolineana.</b>

**Lozotænia vesperana**, n. s.—Fore wings ochreous, with three ochreous brown spots, two along the costa near the middle and one on the inner margin of the wing beneath the costal spots. The wings are striated with numerous, short ochreous-brown lines. Hind wings pale-ochreous.

Thorax, head and labial palpi ochreous-brown.

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**Lozotænia purpurana**, n. s.—Fore wings dull purplish-brown, with the costa at the excised portion behind the tip, touched narrowly with pure bright brown. The hinder portion of the wing ochreous-brown, containing two slender dark brown lines which are parallel to the hinder margin. The basal patch is not distinct. The central fascia, oblique and dark purplish-brown. Hind wings pale-brownish, touched externally with fuscous.

Author's Collection.

**Lozotænia fractivittana**, n. s.—Fore wings ochreous, discolored towards the base, with brownish. On the costa are two dark brown spots, one about the middle of the costa, obliquely opposite to which on the inner margin near the



anal angle is a large spot of the same hue. The other costal spot is elongated and placed on the costa near the tip of the wing. Hind wings dark fuscous.

Col. Ent. Soc. Philadelphia.—Virginia.

**Lozotænia fuscolineana**, n. s.—Fore wings gray, slightly clouded with dark fuscous towards the tip and at the base, and marbled with blackish-brown lines especially towards the tip. The basal patch is well marked by two parallel, blackish-brown, angulated lines. The central fascia, which is nearly transverse is dark-brown, and margined on each side by a blackish-brown line. The gray space on the basal side of the central fascia, has a slender, central blackish-brown line. The space exterior to the central fascia is clouded with fuscous, except a gray space above the anal angle and varied with delicate blackish-brown lines. Hind wings grayish-fuscous.

I think this imago can scarcely belong to this genus, but there is no other known to me in which it can be placed with more propriety. The costa is regularly arched from the base to the tip of the wing, with the costal fold not appressed. The apex of the wing is not produced upwards and the hinder margin is obliquely rounded. Independent of other considerations, the costal fold is not broad enough, to suggest the probability of its belonging to *Ptycholoma*, and this and the present one are the only genera amongst the *Plicatæ*, known to me, in which it can be placed.

Coll. Ent. Soc. Philadelphia.—Virginia.

#### **XANTHOSETIA**, Steph.

**Xanthosetia albicomana**, n. s.—Fore wings bright lemon-yellow, tinted especially towards the tip of the wing with reddish. From the base of the wing a reddish band set with lustrous scales, curves along the costa to the middle of the wing, leaving a lemon-yellow space at the base beneath the costa. Beyond the middle of the costa is an oblique band of the same hue likewise sprinkled with lustrous scales, and along the margin of the wing is a deep reddish stripe bearing lustrous points. Cilia lemon-yellow. Hind wings whitish. Head, thorax and labial palpi white.

Coll. Ent. Soc. Philadelphia.—Virginia.

#### **STEGANOPTYCHA**, Steph.

Proc. Ent. Soc. Philad., Dec. 1864, p. 519.

Fore wings pale-yellowish.....**Ochreana**.

Fore wings white, varied with blackish-brown.....**variana**.

Fore wings dark-brown or copperish-brown.

Ocelloid spot silvery, with three black dashes.....**crispana**.

Ocelloid spot ochreous, with one black dash.....**flavocellana**.

**Steganoptycha crispana**, n. s.—Fore wings dark-brown, varied with blackish-brown striations. The costa from the base of the wing to the tip, is striated with blackish-brown and beyond the middle is geminated with pale ochreous, the last gemination at the tip being large, white and with a silvery streak, edged on each side with brassy lines beneath it. Ocelloid spot silvery with a pale ochreous center, bearing three black dashes. Hind wings dark, fuscous.

Author's Collection.



**Steganoptycha flavocellana**, n. s.—Fore wings copperish-brown. The costa is striated from the middle to the tip with dark brown, the geminations faint and dull ochreous, those near the tip forming a dull ochreous spot. One of the costal striæ, which is dark-brown or luteous-brown, is extended very obliquely from the apical third of the wing to the hinder margin and curves behind the ocelloid spot. The ocelloid spot is pale ochreous, with a dull silvery spot along its inner margin and a small one on its upper, outer margin, with a black, central dash, and one on its costal edge. Hind wings dark fuscous.

Author's Collection.

Other specimens from Virginia, in Col. Ent. Soc. Philad., and one in my own, are not more than half the size of the imago described. Their general hue is paler than the specimen I have chosen for the typical one.

#### **TORTRIX**, Treit.

**Tortrix lutosana**, n. s.—Fore wings ochreous, or pale-ochreous. The basal patch is scarcely indicated, but the wing at the base is more or less speckled with dark brownish. The central fascia is well indicated and is dark-brown from the costa to the middle of the wing, and thence to the dorsal margin reddish-brown. Between the central fascia and the tip of the wing, is a dark brown costal spot. The terminal portion of the wing is of the general hue. Hind wings pale-fuscous.

In the dark specimens the general color of the wing is whitish, particularly towards the terminal margin and the basal patch is indicated and more or less defined by dark brownish lines.

Col. Ent. Soc. Philadelphia.—Virginia, and Author's Collection.

**Tortrix incertana**, n. s.—Fore wings cinnamon-brown; along the hinder margin pale ochreous. The basal patch is not indicated. The central fascia is broad, reddish-brown and on the dorsal margin interior to the central fascia, is a small, semi-oval dark ochreous spot, and the dorsal margin thence to the base is discolored with dark-brownish. The subapical patch on the costa is dark brown and beneath it, in the ochreous portion of the wing is a testaceous-brown spot. Hind wings dark fuscous.

Author's Collection.

These species are of small size, and were it not for the fact that the costal fold is absent, they might with propriety be included in *Lozotænia*.

The following species, I acknowledge frankly, I am unable to locate. It belongs to the family or group, *Tortricidæ*, but I cannot satisfy myself that it is a member of any genus in this group. The only work I have that treats of the *Tortricina*, is Mr. Wilkinson's British Tortrices, and his generic diagnoses are so peculiarly written, his tables of genera founded upon a fanciful comparison of the length of the middle joint of the labial palpi with the apical joint, that the location of a specimen is very troublesome and difficult. At some subsequent day, I will review what I have done in this group, as soon as I can obtain types of European



genera and thus correct the numerous errors I have doubtless committed, by describing new generic groups, when genera have already been created into which they could have been received and of which I have no knowledge.

Therefore, rather than describe the following insect under a new generic name, I prefer to place it here provisionally.

**Tortrix? fumiferana.**—Fore wings brown, varied with dark brown, short striæ. The basal patch is indicated by dark brown striæ, but the central fascia is not indicated. Following the basal patch is a grayish-brown space having a shining lustre; its exterior edge is irregular and it widens towards the dorsal margin, where it bears short, dark-brown striæ. About the middle of the costa is a round spot of the same hue and lustre, and along the terminal margin is a stripe with irregular margins, of the same hue and lustre bordered on each side with dark brown.

Sometimes the grayish-lustre is absent on the markings, which are then simply of a paler brown than the general hue. Hind wings dark fuscous.

Col. Ent. Soc. Philadelphia.—Virginia.

#### HALONOTA, Steph.

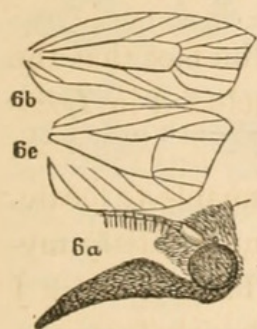
Proc. Acad. Nat. Sci., Aug. 1860, p. 357.

**Halonota tautana**, n. s.—Fore wings dark brown, having a coppery hue. The basal patch is large and well defined, and of the general hue. It is limited exteriorly by the dorsal blotch which is grayish with a violet hue, and is connected with the first geminated costal streak, containing a short, brownish line. Thence to the apex, the costa is streaked alternately with brownish and geminated with lustrous gray. Exterior to the dorsal blotch are two lustrous gray, transverse streaks. The hinder margin is spotted with black. Hind wings fuscous, with a coppery hue.

Coll. Ent. Soc. Philadelphia.—Virginia.

#### LEPTORIS,\* n. gen.

Hind wings rather broader than fore wings, costa slightly arched in the middle, apex somewhat acute, apical margin slightly concave.



6 a, Head of *L. breviornatana*.

6 b, Fore wing.

6 c, Hind wing.

The costal and subcostal veins have a common base. The branches of the subcostal are divergent from the origin of the discal, which is regularly curved. Median vein 4-branched, three of which are rather aggregated, the posterior remote.

Fore wings, costa not dilated at the base, regularly arched; apex acute; apical margin slightly excavated and oblique; anal angle rounded. The branches of the subcostal are equidistant, the apical, furcate.

The antennæ are doubly ciliated, with rather long hairs. The labial palpi are smooth, exceed the face by nearly twice

\* λεπτος *tenuis*, and ρις *nasus*.



the length of the head, rather slender, porrected, thickest opposite the face, thence suddenly convex and tapering to the tip, with the margin beneath slightly concave.

**Leptoris breviornatana.**—Fore wings tawny-yellow, with the veins and nervules brown, and with brown striæ beneath the nervules. An oblique brown band arises on the basal third of the costa, and runs to the middle of the dorsal margin, but does not reach it. On the costa, over the subcostal nervules, is a brown patch, striated with darker brown. Extreme apical margin brown, cilia tawny. Hind wings pale yellowish-white. Head and labial palpi dark brownish.

Coll. Ent. Soc. Philadelphia.—Virginia.

#### SMICROTES.

*Costa with a slight fold at the base in the ♂.*

**Smicrotes virescana.**—Fore wings greenish-yellow. Costa at the base touched with brown, with two testaceous spots on the costa, one about the middle and the other midway between it and the tip of the wing. The first costal spot is faintly extended across the wing as a yellowish band and the space between the spots is of a somewhat lighter hue than the rest of the wing. Hind wings grayish fuscous.

Author's Collection.

#### MIXODIA?

**Mixodia? intermistana.**—Fore wings blackish-brown varied with whitish that is much clouded and speckled with blackish-brown. The basal patch is indicated with tolerable distinctness, is blackish-brown, and angulated over the base of the disk. The central fascia, blackish-brown, of irregular form, contracted in the middle, expanded on the dorsal margin, and contains, about the end of the disk, a rather conspicuous white spot. The space between the basal patch and central fascia is grayish, much clouded with dark brown. Exterior to the central fascia the wing is sprinkled with white and at the anal angle is a white patch, speckled with dark brownish. The costa is geminated with white; the geminations are rather large from the middle to the tip. The white geminations are separated by blackish-brown spots. Cilia dark-brown, speckled with white especially beneath the tip. Hind wings grayish fuscous.

Author's Collection.

#### SIDEREA?

**Sidereia? nubilana.**—Fore wings brown, with dark brown markings. The basal patch is indicated by a dark brown angulated line and the central fascia, by an irregular dark brown band which becomes ochreous-brown in the middle of the wing and seems to be separated from a conspicuous dark brown triangular patch near the dorsal margin, which is edged narrowly with ochreous. In the space between the basal patch and central fascia in the fold of the wing, is a dark brown spot. Near the anal angle is a dark brown, obliquely placed stripe, and one of the same hue above it. The costal space above these stripes is ochreous.

#### EURYPTYCHIA,\* n. gen.

Hind wings broader than fore wings. Costal and subcostal veins with a common origin; branches of subcostal connivent. Median vein 4-branched, three of which aggregated, the two central ones from a common base.

\* *ευρύς* latus, *πτυχή* plicatura.



Fore wings *with a broad fold*, extending to the middle of the costa, closely appressed; at least three times longer than broad; costa straight, tip moderately acute, apical margin rounded. The nervules given off from the posterior end of the cell are bent towards each other, or are somewhat aggregated.

Head smooth, with ocelli at base of antennæ. Antennæ filiform, simple. Labial palpi *do not exceed the face*, are curved, smooth, rather slender, expanded towards the tip, the apical joint scarcely perceptible, except in front.

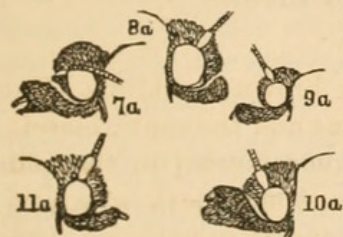
**Euryptychia saligneana.**—Fore wings white tinted with yellowish. The basal patch is dark brown. The wing beyond the basal patch is nearly white varied with leaden-colored speckles and striped over the nervules with dull, leaden-gray, transverse stripes, two of which near the anal angle form a white ocelloid patch. Immediately interior to the ocelloid patch is a small black spot, having a line of black atoms running into it, from above and beneath. Below the apex, on the hind margin, is a triangular brown patch which is varied with grayish and dotted with black in the middle and along the inner edge. The costa is geminated with white and striped with brown. Hind wings dark fuscous.

I have before me a single specimen of the above insect, received from my esteemed friend Benj. D. Walsh of Rock Island. It was bred by Mr. Walsh from a willow gall, a year or two ago. I have unfortunately mislaid the letter in which his account of it is written.

The imago appears to me to differ from all the genera of Plicatæ to a degree that warrants me to describe it as a new genera.

**CALLIMOSEMA,\*** n. gen.

Fore wings narrow, with a very large ocelloid spot, nearly three times longer than broad across the anal angle; costa nearly straight; apex rather acute, apical margin obliquely rounded. Hind wings broader than the fore wings. Neuration, as in *Ioplocama*.



7 a, Head of *Siderea? nubilana*.

8 a, Head of *Euryptychia saligneana*.

9 a, Head of *Callimosema scintillana*.

10 a, Head of *Ioplocama formosana*.

11 a, Head of *Carpocapsa pomonella*.

Head small, smooth. Antennæ filiform simple. Labial palpi, porrected, exceeding the face by one-half their length, nearly cylindrical, but expanded towards the tip and clothed with rather long scales beneath; apical joint scarcely perceptible.

In *Ioplocama* the wings are broader; the costa of the fore wings dilated at the base. The labial palpi are broad, porrected, exceed the face by at least one-half of their length, are much excised opposite the face, nearly

\* χαλλμος pulcherrimus, σημσ signum.



straight beneath, broad and much expanded beyond the face and clothed *above and beneath* with long scales.

In *Carpocapsa* the wings are broader than in *Callimosema*; the abial palpi are cylindrical, exceed the face but little, closely scaled, curved and ascending, the apical joint very distinct.

It is probable that *Callimosema* or *Iaplocama* may be identical or nearly so with the European genus *Grapholita*, but both differ from it in having the apical branch of the subcostal vein of the fore wings imple and in the furcate medio-central nervule of the hind wings.

**Callimosema scintillana.**—Fore wings pale yellowish, abundantly dusted along the costa and inner margin with dark fuscous. From the base nearly to the middle of the wing, proceeds a pale yellow basal stripe along the disk, which terminates in a silvery spot. On the costa from the middle of the wing to the tip are four equidistant pale yellow costal streaks, the first of which is transverse and ends in the middle of the wing in a silvery spot, the last near the tip is extended into a silvery line. From the silvery spot of the basal streak proceeds a broad ochreous stripe which widens as it proceeds to the hinder margin, and contains between the first and last costal streaks, a very large ocelloid spot; the costal half of this is pale-yellow, margined with silvery and striated with dark fuscous lines; the dorsal half consists of three large raised silvery spots, the center one having three black spots on each side, the one nearest the hinder margin of the wing, three on its basal side, and that nearest the base of the wing, three externally and two internally. Cilia pale-yellow, dusted with fuscous. Hind wings dark fuscous, cilia pale yellowish.

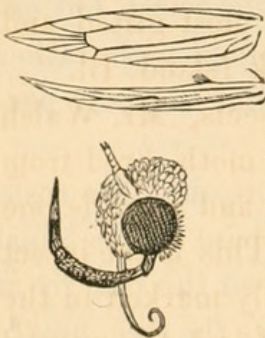
Author's Collection.

A pair of *scintillana* was taken several years ago on a grass plat, beneath a pear tree. One of them was unfortunately destroyed, by an accident. I have searched in every successive year for other specimens, and up to the present time have not found them.

## TINEINA.

### BATRACHEDRA, Stainton.

Hind wings very narrow, pointed; costa rather concave from the tip to near the base, *where there is a projecting tuft*, inner margin concave. The subcostal vein is simple, runs very near the costa and reaches it beyond the middle of the wing. The median vein is simple and runs nearly parallel to the inner margin and enters it nearly opposite the costal termination of the subcostal vein; between these, in the middle of the wing, originates an independent discal branch, which is obscurely furcate, its longest branch being lost before it reaches the apex of the wing. There are two folds on the wing which resemble





veins, one above and parallel to the median vein, the other, above and parallel to the discal branch.

Fore wings elongate-lanceolate. *The discoidal cell is obliquely placed in the wing*, its lower angle approaching very near the dorsal margin of the wing. The subcostal vein is arched, and gives off a long, oblique, marginal branch from behind the middle of the wing, one at the superior angle of the cell and one intermediate. A very short and indistinct vein closes the cell posteriorly, and two indistinct apical veins succeed the third subcosto-marginal branch, one of which is delivered to the tip and the other to the costa behind the tip.

The median vein is 3-branched, the two superior branches sometimes from a common base and the posterior branch *extremely short* and indistinct; thence the median, runs obliquely and direct to the base. The submedian is indistinctly forked at its base.

Head smooth, without ocelli. Antennæ rather more than one-half as long as fore wings, setaceous, joints thickly set, without hairs; the basal joint, *short*. Labial palpi moderately long, recurved, acute; second joint compressed, subclavate. Tongue moderate, clothed with scales.

**Batrachedra salicipomonella.**—Fore wings fuscous, with a rather broad whitish stripe, freely dusted with fuscous, running through the middle of the wing, from the base and along the apical margin to the tip. Near the basal third of the wing on the dorsal edge of the whitish stripe is an elongate, blackish-brown spot, and from the middle of the wing towards the tip, it is edged on its costal side by a *blackish-brown line* which contains sometimes a spot of the same hue. The apical portion of the stripe is more freely dusted with fuscous than the other portions. Cilia fuscous. Hind wings fuscous, cilia paler.

Antennæ dark fuscous, without white annulations, except near the tip. Head fuscous above, face white. Labial palpi dark fuscous; second joint, with a white ring at the extreme tip, sometimes white at the base, with a broad fuscous ring near the tip; terminal joint fuscous, with a more or less distinct whitish central ring and the extreme tip whitish.

This is a very interesting "micro," not only in consequence of the specific resemblance it bears to the European *Batrachedra præangusta*, but of the discovery of its larva by one of our most gifted and promising entomologists, Mr. Benj. D. Walsh of Rock Island, Ill.

In the note which accompanied the perfect insects, Mr. Walsh writes: "I enclose herewith several specimens of a moth, bred from the Tenthredinidous gall *Salicis pomum* Walsh MS., and a single one from the Cecidomyiadous gall *S. rhodoides* Walsh. This is the insect that I think I mentioned to you as being very prettily marked in the larva state, each segment having a broad, black band and the ground color being whitish. I had a single one come out last summer, but



the great bulk of them hibernated either in larva or pupa state and came out May 8th—20th. They vary but little. I have beaten larvæ of very similar appearance off oak trees.”

So far as I am informed, the larvæ is unknown to European lepidopterists, although it is recorded that the perfect insect, *præangusta*, is very common among willows and poplars in July, and may frequently be observed sitting on the trunks of those trees with the anterior feet put back, like *Bedellia*, and the head raised a little.

Mr. Walsh has the honor of having made an interesting discovery, that puts an end to all uncertainty respecting the larva and its food plants.

In a subsequent letter Mr. Walsh kindly supplied me with the following description of the larva :

“Length .20 inch. Body tapering at each end, opaque, milky-whitish, with a few short, whitish hairs. The first segment behind the head, with an obsemicircular, shining, glabrous, brown, dorsal shield; second segment with an interrupted, opaque brown, dorsal band on its anterior edge, the interruption occupying about one-third of the band; segments 3–12 with an uninterrupted opaque brown, dorsal band on the anterior edge, and segment eleventh with a similar band at its tip also. Head yellowish. Legs and venter immaculate, whitish. Legs six, prelegs ten, normally arranged. Spins a thread, wriggles much when disturbed and runs backwards with great agility.

“This larva occurred in abundance Aug. 23rd, and subsequently in the Tenthredinidous gall, *S. pomum* Walsh MS., which grows on the leaves of *Salix cordata*. Each gall contained but a single larva, unaccompanied by the larva of the *Nematus* which makes the gall, which it must consequently have destroyed or starved out, either in the egg or in the larva state.

“A single imago came out in the autumn of the same year, but the great bulk of them came out next spring, May 8—20, from galls kept through the winter. There can be no doubt of the correlation of larva and imago, because no other lepidopterous larva or imago occurred in the gall *S. pomum*, though I had three or four hundred of them in my breeding vase. The insect must hibernate normally in the larva state, for I noticed numbers of them in the spring crawling about among the galls. In a state of confinement, it generally retires to the inside of the gall to assume the pupa state, though I noticed one or two cocoons spun among the galls. Probably in a state of nature it hibernates in the gall, comes out of it in the spring and spins its cocoon amongst dry leaves and rubbish.



"I also bred a single imago of this same species, May 11th, from the Cecidomyidous gall *S. rhodoides* Walsh, from galls kept through the winter, and I found in the spring a denuded imago of what was apparently the same species, dead and dry amongst a lot of Tenthredinidous galls, *S. desmodiodes* Walsh MS., which is closely allied to *S. pomum*, but occurs on the leaves of a very distinct species of willow. Thus we have three different willow-galls inhabited by the same moth, two of them made by saw-flies and one by a gall-gnat.

"I have several times beaten off black-oak trees larvæ apparently very similar to this *Batrachedra*, and with the same harlequin-like markings, but whether the two are specifically identical, I cannot say."

#### GRACILARIA, Zell.

Proc. Ac. Nat. Sci., Jan. 1860, p. 6. Proc. Ent. Soc. Philad. Id. March, 1863, Id. Dec. 1864, p. 505.

I wish to redescribe and change the name of a species, whose history I have ascertained, and which I have recently bred. The first description was drawn from a rather worn specimen, but in the main, is correct. In order that the species heretofore described may be more readily distinguished, I have tabulated them as follows:

Legs with white tibiæ.

F. w. costal half-yellow; dorsal, purple, with central black dot.....*Desmodifoliella*.

Legs without white tibiæ.

F. w. with a yellow, trigonal, costal mark.

Mark large, extended to tip of wing.

F. w. reddish-violet; mark distinct, single; base of inner margin yellow.....*superbifrontella*.

F. w. dark purple; mark indistinctly double; base of inner margin dark purple.....*Blandella*.

Mark small; f. w. purplish, with costal spots.....*coroniella*.

F. w. with fasciaform, white markings.

Markings broad; with exterior costal spots.....*fulgidella*.

Markings narrow, without costal spots.

With four equidistant streaks.....*venustella*.

With one long costal and dorsal streak near the tip of wing.....*strigifinitella*.

**Gracilaria Desmodifoliella.**—*G. violacella*, Proc. Ac. Nat. Sci., Jan. 1860, p. 7.—The costal half of the fore wings, limited by the fold, is yellow; the dorsal half, purple and the edge of the latter curves to the costa a little interior to the tip of the wing. In the middle of the wing, on the edge of the purplish portion, is a black dot, and the costa along the middle has a few dots of the same hue, but not so conspicuous. Cilia purplish. Hind wings dark fuscous; cilia the same.

Head and antennæ purplish. Face white. Labial palpi white, with the ends of the middle and terminal joints touched with brown. Hinder pair of legs yellowish; middle and anterior purplish-brown, with *white tarsi*.



**NEPTICULA**, Zell.

Proc. Acad. Nat. Sci. Philad., June, 1860, p. 214. Proc. Ent. Soc. Philad., March 1862, p. 149. Id. Nov. 1861, p. 82. Id. Jan. 1862, p. 133.

Since the foregoing pages were written, I have been successful in rearing *N. saginella* from leaves of oaks, collected during the latter part of July; and I am therefore able to say definitely, that while the nepticuliform mines in the leaves of the chestnut *may* be produced by the larva of *Bucculatrix trifasciella*, those in the leaves of oaks are certainly the work of a *Nepticula* miner.

The mines in chestnut leaves are shorter than those on oak leaves, although very similar in appearance. The following is a table of the species described to the present time.

Fore wings without spots or fasciæ.

Pale ochreous, dusted with blackish-brown.....**saginella**.

F. w. with a white spot and a costal streak.

Dark brown .....**Platanella**.

F. w. with pale or silvery fasciæ.

Blackish-brown; fascia median, curved.....**Rubifoliella**.

Purplish-fuscous; fascia oblique, rather broad.....**fuscotibiella**.

Bronzy-green; with two fasciæ.....**bifasciella**.

**Nepticula saginella**.—Proc. Ent. Soc. Philad., Nov. 1861, p. 85.—Fore wings pale ochreous, sprinkled or dusted freely, with blackish-brown, over the entire surface. Cilia ochreous, slightly clothed with blackish-brown. Head and face blackish-brown. Eye-caps ochreous.

The larvæ were taken nearly half fed in leaves of black oak, on the 29th of July, and at this date most of the mines are abandoned. The larva is bright-green with a central dark-green line of ingesta. Head slightly touched with brownish.

The mine is a serpentine, rather short tract, which, when occupied or recent, is white and nearly transparent, with a narrow, very black central frass line. It is frequently bent or curved as the larva approaches maturity. The cocoonet is yellowish-white. Both the imago and larva are very small.

Upon the authority of Mr. H. T. Stainton, for which I feel the highest respect, "the six anterior legs so universally present in Lepidopterous larvæ are wanting in *Nepticula* larvæ, and are replaced by membranous processes or prolegs;" each of the remaining segments are furnished with a pair of prolegs making eighteen in all. I find after a careful examination, that counting the head as the first segment, in *N. saginella*, the third and fourth have a pair of legs, the fifth segment is without any, and the six following segments are each supplied with a pair of prolegs. So that the formula for the legs of *N. saginella* would stand thus, making sixteen in all:

$$\cdot\frac{2}{2}\cdot\frac{6}{6}\cdot$$



I have not yet examined the neurulation of *N. saginella* and it may be that it is a Trifurcula. An examination necessitates the destruction of the minute specimen, and I wish to defer it until I have secured others. It appears to me, however, that the eyecaps are too large to permit *saginella* to remain amongst the Nepticulæ. The larvæ of Trifurcula are entirely unknown, so that one can receive no assistance in classification from a knowledge of their habits.

#### BUCCULATRIX, Zeller.

Proc. Acad. Nat. Sci., Jan. 1860, p. 13; June, 1860, p. 211.

**Bucculatrix trifasciella.**—Fore wings ochreous, with three silvery, equidistant, costal streaks, the first near the base, the last at the beginning of the apical cilia, with the spaces between them somewhat darker than the general hue. On the middle of the dorsal margin is a spot of blackish-brown, with a patch of dispersed scales of the same hue, exterior to it, limited externally by a silvery dorsal streak. At the extreme tip is a small blackish-brown spot, with an intercilia line of the same hue exterior to it. Cilia ochreous. Hind wings fuscous; cilia the same.

Antennæ fuscous. Head ochreous; eye-caps somewhat silvery-white.

The cocoonet of this species was found on the leaf of a chestnut tree early in July. The cocoon is elongated, ribbed externally and dark gray. The imago appeared in the latter part of July.

The leaves of chestnut is mined early in the season by a larva that I have regarded as a *Nepticula* from the characters of the mine, but I am now disposed to think that the mine is made by the larva of *trifasciella* during its early life. This mine is noticed in the Proceedings for November, 1861, p. 85, under *Nepticula saginella*.

#### INCURVARIA, Haw.

Proc. Acad. Nat. Sci., Jan. 1860, p. 5.

*Fore and hind wings lanceolate, pointed. Fore wings, subcostal vein with three branches near the end of the disk; apical branch furcate near its base; discal nervules, two. Hind wings, subcostal vein furcate; discal nervule, one.*

**Incurvaria mediotriatella.**—Fore wings, iridescent bluish-purple, with a broad golden stripe from the base to the middle of the dorsal margin, leaving a stripe of the general hue on the base of the dorsal margin, and with a rather broad, obliquely placed costal streak, of the same hue, at the beginning of the apical cilia. The cilia are intermixed with golden scales. Hind wings reddish-purple, cilia fuscous. Antennæ and head pale-yellowish.

Taken on wing, in damp woods, the latter part of July.

This species differs in some respects from both *russatella* and *Aceri-foliella* and from the European typical species. The antennæ are nearly if not quite as long as the fore wings, and perhaps in the future it may be necessary to create a new group for its reception. I have not deemed this advisable at present, as its oral parts are quite identical with those of the genus.

Easton, Pennsylvania.





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*Proceedings of the Entomological Society of Philadelphia* 5, 133–147.

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