

Jan. 31st.

MR. LEA, President, in the Chair.

Forty-four members present.

The report of the Biological Department for the present month was read.

On report of a Committee of the Biological Department, the paper entitled "Remarks on errors in the Anatomical Diagnosis of Cancer, by J. J. Woodward, M. D.," was recommended for publication in a Medical Journal.

On report of the respective Committees the following papers were ordered to be published in the Journal of the Academy :

"Reflections upon the nature of the temporary star of the year 1572, an application of the Nebular Hypothesis, by Alexander Wilcox, M. D."

"Descriptions of New Cretaceous and Eocene Shells of Mississippi and Alabama, also with notes on Eocene fossil shells, by T. A. Conrad."

"Descriptions of new species of Fossils, probably Triassic, from Virginia, by W. M. Gabb."

"Descriptions of new species of Cretaceous fossils, by W. M. Gabb."

"Additional new species of Fossils to a paper by T. A. Conrad."

And the following in the Proceedings :

#### Contributions to American Lepidopterology.—No. 3.

BY BRACKENRIDGE CLEMENS, M. D.

##### TINEINA.

The plan of these papers will hereafter be changed, and no diagnosis of genera will be given, except when there is doubt respecting the identity of the European and American groups, and when the genera are new. The intention of giving some conception of the systematic arrangement of the group Tineina will therefore be abandoned, and the subsequent papers be confined simply to the description of species. I find myself compelled to adopt this course, in consequence of perceiving, as I advance in the recognition of generic groups, that the diagnoses of the families heretofore cited are too limited, and that, in order to represent my conception of these groups, I shall be obliged to make them more comprehensive. These changes, together with generic synopses of the families, will be best treated in a monograph of the Tineina, which will be undertaken as soon as the collection of the writer represents, with some degree of completeness, the genera found in our country. In order that the accomplishment of this may not be too long delayed, contributions of specimens are respectfully solicited from collectors, either in accordance with the call from the Secretary of the Smithsonian Institution, in the Report for 1858, or the request made at the present time. Contributions may be sent to the Smithsonian Institution, or to myself, but, in the latter case, the charges for carriage must be prepaid ; and should the contributor desire it, a suite of named specimens will be returned to him. Full directions for the collection and preservation of Lepidoptera are contained in the Smithsonian Report for 1858, and may be had on application to the Secretary of the Institution.

COLEOPHORA Zeller.

*Stalk of antennæ clothed with erect scales to the middle.*

*C. coruscipennella*.—Labial palpi and head bronzy green. Antennæ,

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basal half bronzy green, with a reddish violet reflection; terminal half white, annulated with brown. Fore wings uniform, bronzy green, with the apical portion reddish violet, or of a reddish, coppery hue. Hind wings dark brown; cilia the same.

*Stalk somewhat thickened, with scales not erected.*

*C. laticornella*.—Labial palpi and head brownish ochreous. Antennæ pale brownish ochreous towards the base, becoming white with an ochreous tinge toward the tip, and annulated with dark brown throughout. Fore wings rather deep, uniform brown, with a whitish ochreous streak along the costa, from the base to the costo-apical cilia, narrowing behind, and not reaching beyond the subcostal nervure. Hind wings rather dark brown; cilia the same.

*Antennal stalk simple; basal joint thickened with scales.*

*C. cœnosipennella*.—Labial palpi and head white. Antennæ white, annulated with dark brown; basal joint white. Fore wings dull yellow, with a white streak along the basal portion of inner margin, one along the costa, and one along the subcostal nervure, separated from the former by a narrow line of the general hue; an oblique, white streak along the disk, and inclined to the inner angle, and one in the fold, with three rather faint, oblique, white streaks between the terminal portions of the costal and discal streaks. Hind wings rather dark gray; cilia fulvous.

*C. infuscatella*.—Labial palpi brownish gray. Head pale leaden gray, whitish on the sides and above the eyes. Antennæ gray, annulated with dark brown. Fore wings grayish brown, with a white streak along the costa to the tip, and one along the inner margin; a white streak along the fold, and one parallel to it along the middle of the wing, and somewhat dilated on the inner margin; cilia grayish brown. Hind wings gray; cilia the same.

*C. cretaticostella*.—Labial palpi white. Head white, tinged with yellowish. Antennæ white, annulated with brownish. Fore wings shining yellow, with rather a broad white streak along the costa, extended nearly to the tip; somewhat streaked with ochreous, and the tip rather deep ochreous. The inner margin of the wing is whitish. Hind wings ochreous brown; cilia the same.

#### INCURVARIA Haworth.

*I. russatella*.—Head ochreous. Antennæ dark brown, ochreous at the base, and annulated with ochreous. Thorax purplish brown. Fore wings deep fuscous, with a beautiful purple reflection. Near the base of the wing is a very pale yellow band, broadest on the inner margin, and a costal and dorsal spot of the same hue opposite each other, a little beyond the middle of the wing. Hind wings pale fuscous tinged with purplish red; cilia pale brown.

The wing structure of the following species departs from that of the genus. Both wings are pointed, the fore wings with a *single* discal nervure, given off to the inner margin and the hind wings with two discal nervules branching from a common stalk.

*I. Acerifoliella*.—*Ornix Acerifoliella* Fitch, Reports, 1 and 2, p. 269. Head reddish ochreous. General hue a fine metallic green; fore wings without markings. I am indebted to the kindness of Dr. Fitch for a specimen of this insect.

#### PLUTELLA Schrank.

*P. vigilaciella*.—Head white, with fuscous before and behind the eyes. Labial palpi white; exterior of second joint fuscous. Antennæ ochreous, annulated with white, especially towards the tips. Thorax white; tegulæ dark 1860.]



fuscous. Fore wings white, streaked with ochreous, with a dark ochreous streak at the base of the fold, margined on the inner side with dark brown. The inner border, from near the base to the tip of the wing, is closely dotted with dark brown; and on the costa, toward the tip, are a few dots of the same hue, and in the middle of the wing an elongated dark brown dot; cilia white and dark brown intermixed. Hind wings dark gray. Abdomen dark gray.

*P. limbipennella*.—Head pale ochreous. Labial palpi whitish; tuft dark brown. Antennæ brown, slightly annulated with white. Thorax yellowish white; tegulae dark brown. Fore wings cinereous brown, dusted with dark brown, with a dark brown sinuated streak along the fold, and the inner marginal portion of the wing pale yellowish white, with three rounded projections toward the fold. Hind wings brown, with a purplish hue; cilia brownish ochreous. Abdomen dark brown.

*P. mollipedella*.—Head and thorax pale brownish ochreous. Fore wings pale brownish ochreous, somewhat paler along the costa, and dotted with dark brown, with a fuscous, sinuated streak in the fold, *narrowly edged with ochreous gray*. The inner marginal portion of the wing pale brownish ochreous, with three projections toward the fold, *and the inner border dotted with dark brown* to the tip of the wing. Hind wings dark gray; cilia brownish ochreous.

#### GRACILARIA Zeller.

*G. superbifrontella*.—Labial palpi yellow, tipped with brownish. Antennæ dull yellow, with very faint brownish rings. Head stramineous, tinged with reddish violet on the forehead. Thorax stramineous, with tegulae externally striped with reddish violet. Fore wings beautiful reddish violet, with a shining stramineous patch on the inner margin at the base, and a large costal triangle of the same hue, reaching almost across the wing, and extending along the costa from the basal third, nearly to the apex. Hind wings blackish gray; cilia dark fuscous.

This insect must approach very closely the European *Swederella*.

The larva may be found, in the middle of July, in cones, on the leaves of *Hamamelis Virginica* (Witch Hazel), and the imago appears early in August. The head of the larva is pale green; body pale green, darker colored by the ingesta, with the tenth ring whitish, and the cervical shield pale brown.

*G. fulgidella*.—Head and antennæ yellowish white. Fore wings white, with a silvery lustre, with a dark brown blotch near the base, not extended across the wing. Rather beyond the middle of the wing is a broad, dark brown band, with the exterior margin darkest, and *sharply angulated just above the inner margin*. The apical portion of the wing contains two rather broad, dark brown costal streaks, somewhat confluent in the middle of the wing, with a white costal spot between them. The extreme apex of the wing is dark brown, with a white costal streak before it, and opposite the costal white spot is another, at the interior angle, sometimes two not distinctly separated. Hind wings dark fuscous; cilia the same.

*G. venustella*.—Labial palpi white, with a blackish spot near the middle, and one near the tip. Antennæ dark brownish. Head silvery white. Fore wings dark cinereous, with a purplish hue, and white along the inner margin from the base to the middle. At the basal third of the wing is a small, white costal spot; three oblique, equidistant, slender white bands, dark margined on both sides, the *first* about the middle of the wing, the *second* and *third* converging at the inner margin, with a white spot at the extreme apex, dark-margined on both sides by short streaks; cilia cinereous and white intermixed. Hind wings blackish gray; cilia rather paler.

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*G. strigifinitella*.—Labial palpi yellowish white, dotted with dark brown, and with two dark brown rings before the tip. Head and antennæ dull yellow. Fore wings brownish gray suffused with dark brown, with the inner margin, from near the base to the middle, varied with white and dark brown; on the middle of costa a white streak, and a few small, costal, dark brown blotches. Near the tip, on the inner margin, a slender, very oblique white streak, dark margined on both sides, which crosses an oblique streak of the same hue from the costa, likewise dark-margined on both sides above the streak from the inner margin, and curved beneath, forming a white hinder-marginal line in the cilia, beneath the tip, and extending nearly to the apex of the wing. Beyond these, toward the base, in the apical third of the wing, are two oblique, dark brown costal streaks, with a short, white one between them, the first irregular and somewhat diffused, the second margined behind with brownish yellow. Apical portion of the wing dark brown. Hind wings dark brown; cilia somewhat paler.

*G. violacella*.—Head and face pale yellowish, tinged with reddish violet. Labial palpi yellowish white, annulated at the tip with brownish. Fore wings with the external half pale, shining, cream yellow, interior half suffused with a pale violet iridescence. About the middle of the costa are a few separated blackish brown dots, and in the middle of the wing a blackish brown comma spot, and near the tip an atom of the same hue. The posterior part of the fold somewhat suffused with fuscous; cilia reddish fuscous. Hind wings dark gray, with a reddish tinge; cilia reddish fuscous.

#### ARGYRESTHIA Hübner.

*A. oreasella*.—Labial palpi silvery white. Head silvery white; forehead and face faintly tinged with pale golden brown. Antennæ silvery, annulated with dark brown. Fore wings silvery white, with a pale golden brown streak at the base of the costa. About the middle of the wing is an oblique, dark golden brown band, broadest on the inner margin, and tapering to the costa, beyond which is a narrower, oblique band of the same hue produced in the middle, as a rather broad, somewhat curved streak toward the tip, behind which it is arrested; cilia pale golden brown, with a darker hinder-marginal line; hind wings dark gray; cilia the same.

Another specimen, on the middle of the inner margin, has a rectangular, golden brown patch, not extended to the costa, with an irregular, obliquely placed patch of the same hue on the inner margin, near the tip, and slightly connected with a small costal patch placed midway between the patches, on the inner margin. The tip of the wing is golden brown, and is scarcely connected with the second patch by a posteriorly produced portion.

Taken on wing, June, July.

#### ORNIX Zeller.

*O. trepidella*.—Labial palpi yellowish white, annulated with dark brown near the tip. Head dark brown. Antennæ dark brown, slightly annulated with whitish. Fore wings dark purplish, dusted with dark brown. Along the costa are several short, oblique, obscure yellowish streaks, with dark brown streaks between, extending from the middle of the wing to the tip, obliquely placed till near the apex. Hind wings dark gray; cilia the same.

*O. festinella*.—Labial palpi silvery gray, with the second joint at the apex annulated with dark brownish. Head dull brownish gray. Antennæ dark brown, annulated with whitish. Fore wings grayish, somewhat suffused with brownish from the base to the middle, with the costa at base dark brown. From the middle to the tip freely dusted with dark brown, with several whitish, rather obscure costal streaks, becoming plainer near the tip, and two or three on the inner margin, near the tip. At the tip are a few dark



brown scales, with the cilia of extreme apex white; cilia grayish, with dark brown tipped scales intermixed. Hind wings pale gray; cilia similar. Abdomen blackish, tipped with yellowish ochreous.

*O. Cratægifoliella*.—Labial palpi whitish. Head dark brown and gray intermixed. Antennæ dark brown, faintly annulated with whitish. Fore wings dark brown, with a purplish hue. Along the inner margin, from the base to the anal angle, whitish, dusted with dark brownish. In the fold at the base is a dark brown streak, and a small blotch of the same hue beyond the middle, nearly reaching to the inner margin. Toward the tip are a few whitish, costal streaks, and at the apex a small, round, dark brown spot, in a whitish patch, with a circular, dark brown apical line behind it; cilia blackish gray. Hind wings blackish gray; cilia rather paler. Abdomen blackish, tipped with dull yellow.

The larva mines the leaves of *Cratægus tomentosa* (Black Thorn), in September, and becomes a pupa early in October, weaving a reddish brown cocoon in a turned down edge of the leaf. The pupa case is thrust from the end of the cocoon at maturity, the imago appearing early in May. There is, doubtless, a summer brood, but I have not sought for it. The head of the larva is brown; the body greenish white, with the dorsum reddish brown.

#### HYPONOMEUTA Zeller.

*H. multipunctella*.—Labial palpi, head, antennæ and thorax, white. Thorax with a black spot on the front of tegulæ, and a few spots of the same hue on the disk. Fore wings white, with the costa at the base blackish, and longitudinal rows of distinct black dots; two of which, one along the inner margin and one along the fold, are very plain. Hind wings blackish gray.

#### BEDELLIA? Stainton.

This genus is represented by a single species, in Europe. It was, therefore, a surprise to myself, when I found the species described below, corresponded to the European not only in structure but in ornamentation. There is, however, a slight difference in the neururation of the posterior wings of the two insects when compared with Mr. Stainton's delineation, and hence I give a full generic diagnosis of the American species.

The anterior wings are narrow and pointed, and the posterior very narrow, almost setiform. The discoidal cell of the anterior is acute behind, with *three* subcosto-marginal nervules, the last of which arises at the apex of the cell, together with the apical nervule, which sends off, at about its middle, a nervulet to the inner margin, and is furcate near the tip of the wing. The median nervure sends only a single branch to the inner margin. Both the costal and sub-median nervures are short. The posterior wings without discoidal cell; the costal nervure is very short; the sub-costal runs through the middle of the wing, and sends a branch to the inner margin, rather beyond the middle, and is furcate at its extremity, the lower branch proceeding to the tip, along the inner margin. Above the subcostal nervure is a rather indistinct, parallel fold. The median nervure is long, well marked, and simple; placed near the inner margin of the wing.

Head rough above, and in front, between the antennæ, almost tufted; face smooth, moderately broad, and rounded. Ocelli none. Eyes moderately prominent, round, and partially covered with hairs from above. Antennæ as long as the anterior wings, filiform, simple; basal joint squamose. No maxillary palpi. Labial palpi very short, pointed, and rather porrected, with two joints only distinguishable. Tongue naked and short.

*B. ? Staintoniella*.—Labial palpi and head ochreous, the latter somewhat reddish ochreous above. Antennæ ochreous. Fore wings ochreous, dusted with dark fuscous, but leaving a streak of the general hue along the

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inner margin. Hind wings dark gray; cilia rather dark ochreous. Abdomen dark brown and ochreous mixed.

## COSMIOTES.

Fore wings rather narrowly ovate-lanceolate, with the discoidal cell closed acutely. The sub-costal nervure is attenuated toward base of the wing, and subdivides into three marginal branches, the first of which arises at about its middle, and sends from the angle of the disk a *trifid branch*, which is either forked on the costa by an exceeding short branch before the tip, and gives rise at about its middle to a branch to the inner margin, or is trifid at its extreme tip. The median is two or three-branched near its end. The sub-median is simple. Hind wings are without a discoidal cell; and the costal nervure is moderately long. The sub-costal runs through the middle of the wing, (is central), and is furcate near the tip. The median is well indicated, with *two or three* short, approximated branches about the middle of the inner margin.

Size very small. Head smooth. Without ocelli. Forehead rather elevated and rounded; face rounded, and nearly equally broad. Eyes very small, oval, and somewhat sunken, scarcely visible in front. Labial palpi moderately long and slender, smooth, pointed, and somewhat recurved; the second joint slightly compressed laterally. No maxillary palpi. Antennæ inserted laterally; basal joint short and rather thick, with a few cilia at the base before; stalk simple, slender, and scarcely as long as the body. Tongue naked, and about as long as the labial palpi.

§ *Median vein of hind wings two-branched. Apical vein trifid at the tip.*

*C. illectella*.—Labial palpi and head yellowish brown. Antennæ fuscous. Fore wings fuscous, dusted with dark brown, with a broad, transverse silvery white band near the middle of the wing, a spot of the same hue on the costa near the tip, and an opposite one on the inner margin, nearly joining it in the middle of the wing. The extreme apex of the wing has a silvery streak in the cilia, margined behind with a row of dark brown atoms on their ends. Hind wings grayish fuscous; cilia the same.

§§ *Median vein of hind wing three-branched. Apical vein forked on the costa, with a nervulet to the inner margin.*

*C. maculoscella*.—Labial palpi dull yellowish. Head dark brownish. Antennæ fuscous. Fore wings shining silvery grayish, suffused with dark golden brown, with a rather obscure silvery band in the middle of the wing and a silvery spot on the costa just before the tip. The extreme apical portion of the wing is blackish brown; cilia grayish brown. Hind wings grayish, dusted with dark brown; cilia grayish brown.

§§ *Medio-posterior and central veins opposite the space between the second and third sub-costo marginals.*

*C. madarella*.—Head dark silvery gray. Antennæ dark brown, yellowish white at the tips. Fore wings dark golden brown, silvery gray at the base, with an oblique, pale golden band near the middle of the wing, the costal portion being nearest the base. On the costa, near the tip, is a pale golden spot, with a spot of the same hue opposite on the inner margin, and one in the middle of the wing before the tip; cilia pale brown, dotted with dark brown. Hind wings grayish brown; cilia rather darker.

## COSMOPTERYX? Hübner.

The anterior wings are rather narrow, and *slenderly caudate*. The discoidal cell is elongate and very narrow, and *closed acutely behind* with three sub-costo-marginal nervules, the first arising about the middle of the wing. The median sends *four* nervules to the inner margin, the first arising midway be-



tween the first and second subcostal branches, and the last from the apex of the discoidal cell, together with an apical branch, which almost immediately sends off a nervulet to the inner margin, whilst the apical proceeds through the middle of the slender, acicular caudate extremity to its tip. At the basal third of the wing, the sub-costal nervure becomes attenuated. The costal is nearly coincident with the margin; the sub-median furcate at the base. The posterior wings are narrow, almost setiform, and without a discoidal cell. The sub-median is central, simple, and faintly indicated until near the tip, when it becomes furcate. The median, which is better defined, runs near the inner margin, and subdivides into *three branches* to the inner margin. The costal is coincident with the marginal.

Head perfectly smooth, advanced, long, and flattened above; forehead very convex and globose; face full, rounded, and somewhat retreating. Ocelli none. Eyes flattened, scarcely visible in front, oval. Antennæ nearly as long as the anterior wings; basal joint long, slender, and clavate; stalk setaceous and simple. *Maxillary palpi extremely short, scarcely perceptible.* Labial palpi very long, slender, much recurved, and pointed; the second joint somewhat compressed toward the end, shorter than the third. Tongue scaled, as long as the thorax beneath.

*C. ? gemmiferella.*—Labial palpi dark greenish brown, with a silvery stripe on the front of the third joint, and another behind, continued to the second joint. Face, head, and thorax, dark greenish brown, with a narrow, central, silvery line continued to the thorax, and one of the same hue above the eyes on each side. Antennæ dark greenish brown, with two silvery lines on the basal joint, the stalk annulated with silvery, and a broad, silvery ring before the tip, which is likewise silvery. Fore wings dark greenish brown to the middle, and from the apical third to the tip, with an orange-colored patch rather beyond the middle of the wing, extended across the wing, and a little produced along the costa behind, having a large, transverse, oval, smooth patch of elevated, silvery scales somewhat violet-hued, on its internal margin the patch extending nearly across the wing; another smaller and similar, nearly round one behind it, on the inner margin, and another small one on the costa, behind the produced portion, with a white costal streak above it in the cilia. All these patches are somewhat black-margined. Near the base of the wing are three short, silvery streaks, one nearly on the disk, one near the fold beneath it, and an oblique one above it, near the costa. The cilia of the extreme apex is silvery white, black-margined above, with a violet silvery scale in the middle of the wing, before the tip. The inner margin, at the base of the wing, is silvery. Hind wings dark brown; cilia somewhat paler.

The ornamentation of this insect is very elegant. Taken on wing in June, July.

#### EUDARCIA.

Head and face rough. Without ocelli. Eyes small, hemispherical quite prominent, with a naked space above? Labial palpi short, rather smooth, and separated; the third joint somewhat less thick than the second, and nearly as long. Maxillary palpi long, folded, and five or six-jointed. Antennæ, basal joint moderately long, approximated on the front, simple, and full as long as the anterior wings. Tongue naked and very short, scarcely as long as the labial palpi, and not reaching beyond the front.

Fore wings with the subcostal nervure attenuated at the base; at the basal third arises a long marginal branch, and about its middle a furcate branch, and thence the subcostal is faintly indicated to the discal nervure, beyond which it reappears as a furcate branch to the costa behind the tip. The discoidal cell is closed, and sends a single branch to the inner margin behind the tip. The median subdivides into three approximate branches. The sub-median is furcate at the base. In the hind wing the costal nervure is

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rather long and distinct; subcostal simple, and obsolete from the middle to the base; discoidal cell *unclosed*, with an independent discal nervule, faintly indicated from the base, and *furcate* at the apical third. The median strongly indicated and bifid rather beyond the middle of the inner margin.

*E. simulatricella*.—Head brownish ochreous. Antennæ ochreous, annulated with dark brown. Fore wings dark brownish, with a white band about the basal third of the wing, a white spot on the costa, near the middle, and one on the inner margin, a little behind it, and a white transverse streak near the tip. Hind wings dark brown; cilia the same.

This insect has considerable resemblance to an *Incurvaria*. Its neurulation, however, places it in a very distinct group.

#### ANTISPILA Herrich-Schäffer, Frey.

*A. Nysæfoliella*.—Head above dark brown. *Face, labial palpi, and fore feet shining yellowish ochreous*. Antennæ dark brown; basal joint yellowish ochreous. Fore wings dark brown, with a greenish reflection, and the base with a bright coppery hue. Near the base is a rather broad, bright golden band, broadest on the inner margin, where it is nearest the base, and *constricted at the fold of the wing*; a spot of the same hue on the costa, at the apical third of the wing, and one on the inner margin, midway between this and the band; cilia somewhat coppery, and rather grayish at the inner angle. Hind wings purple brown; cilia grayish ochreous.

The larva mines the leaves of *Nysa multiflora* in September. The head is dark brown; first segment dark brownish; body very pale green with dark atoms along the dorsum; ventral surface with a line of two black spots. After the last molting the first segment is black, and the dorsal spots become a black, vascular line. When full fed, the larva weaves an oval cocoon within the mine, and cutting the two skins of the leaf into a correspondent form, permits it to fall to the ground. There is thus left an oval hole in the deserted mine. The imagoes appear during the following May.

*A. cornifoliella*.—*Head, face, labial palpi, and fore feet dark brown*. Antennæ dark brown; basal joint somewhat ochreous. Fore wings rather dull dark brown, with a coppery hue. Near the base is a rather narrow, golden band, *not constricted on the fold, and rather indistinct toward the costa*, where it is somewhat suffused with a coppery hue, and nearest the base on the inner margin. At the apical third of the wing is a small golden spot, and nearly opposite, on the inner margin, another of the same hue, with the hinder portion of the wing tinged with a bright reddish coppery hue; cilia dark grayish. Hind wings purplish brown; cilia somewhat paler, with a coppery hue.

The larva mines the leaves of *Cornus florida*, in September. It may possibly be a variation of *Nysæfoliella*. The larvæ of the insects are very like each other, but I don't know whether that of *Cornifoliella* undergoes the same change of coloration after the last molting as that of *Nysæfoliella*. The head and shield dark brown; body nearly white, with seven minute, black points along the dorsum, and eight on the ventral surface, somewhat larger, and more distinct. Its mode of preparing for pupation is the same as the previous species, but whilst the individuals of *Nysæfoliella* on a single tree are almost innumerable, those of *Cornifoliella* are not abundant.

#### ASPIDISCA.

Fore wings with no discoidal cell. The subcostal nervure traverses the middle of the wing, attenuated from the base to the basal third, where it gives origin to a long, marginal branch, which reaches the costa at the apical third of the wing; near the tip it subdivides into three short branches, one of which is delivered to the costa behind the tip, one to the tip, without attaining the

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extreme apex, and one to the inner margin, somewhat behind the second marginal branch. *The median nervure is wanting.* The sub-median simple. Hind wings with no discoidal cell. The subcostal nervure is central and attenuated towards the base, and at about its apical third delivers a branch to the inner margin, and is bifid behind the tip of the wing. The median is simple. The submedian obsolete or wanting.

Size extremely small. Head and face smooth, covered with closely appressed scales. Face rather broad, and somewhat produced beneath into a point. Forehead rounded. Ocelli none. Eyes extremely small, not visible from above, and scarcely visible in front. Antennæ held extended at the sides, very short, scarcely *one-half* as long as the anterior wings, rather thick, obtuse, and roughened with scales. Maxillary palpi none. Labial palpi none. Tongue none.

*A. splendoriferella*.—Head golden. Antennæ fuscous, tinged with golden. Fore wings, from the base to the middle, leaden gray, with a splendent lustre, and from the middle to the tip golden, with a broad, nearly straight, metallic, silvery streak, extending from the costa near the tip to the middle of the wing, and dark-margined on both sides. This is nearly joined by a dorsal streak of the same hue, almost opposite to it, with converging dark margins, and with a blotch of dark brown scales adjoining it behind. In the costo-apical cilia is a short, blackish brown streak, parallel to the dark margin of the silvery costal streak.

At the tip is a black, apical spot, with metallic, silvery scales in its centre, and a few silvery scales in the cilia above and beneath it. A blackish brown hinder marginal line in the cilia, interrupted by a silvery streak in the cilia beneath the apical spot, and the cilia yellowish brown. Hind wings leaden gray; cilia yellowish brown.

The larva mines the leaves of *Cratægus tomentosus* early in September. The mine appears at first as a very narrow line, and is subsequently expanded into a small, transparent blotch. At maturity, the larva weaves a cocoon between the cuticles, and cuts a small oval disk. This is sometimes carried quite a distance, and is ultimately secured to some object by one of its ends tied down on a little button of white silk. It enters the pupa state toward the latter part of September, and appears as an imago early in spring.

The mature larva has a head much smaller than the first ring, rounded above, and elliptical. The body is flattened, and tapers posteriorly from the anterior rings. The segments are rather deeply incised, the thoracic obtusely rounded at the sides, and the rest with a minute lateral nodule or mammilla. It is without legs or prolegs, but on the second and third thoracic rings, on both the dorsal and ventral surfaces, are spots or cup-like depressions, one on each side, capable of being contracted and expanded. So, likewise, from the sixth to the ninth inclusive, on the ventral surface are transversely placed oval spots, similar to the thoracic, and one on each segment. On the segment next the last is a protuberance, both dorsal and ventral, with two cup-like depressions on each surface. These are not supplied with hooks, and if they are substitutes for feet, must act like suckers. They are all pale brown. The head is dark brown; the body brown, with blackish along the dorsal and ventral surfaces.

When the larvæ are young, it is extremely difficult to discover their mines, and the transparent blotch is not much larger than the cocoon, leaving a space in which the "frass" is collected.

#### DIACHORISIA.

Fore wings pointed, narrowly ovate-lanceolate; discoidal cell closed behind by a very faintly indicated nervure, with a faintly indicated secondary cell. The subcostal nervure obscurely indicated from the secondary cell to the base of the wing, with a long and distinct marginal nervule from near the base,

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one from the middle of the secondary cell, and three from the end of it to the costa. Three nervules from the discal nervure to the inner margin, beneath the tip. The median without branches; beyond the discal, it proceeds to the inner margin, as a single short vein; perhaps it may be bifid. The submedian is simple. Hind wings lanceolate, clothed with scales, with the discoidal cell closed by a very faintly indicated nervure. The costal nervure is long, and extends nearly to the tip of the wing. The subcostal is simple, and wanting from near the origin of the discal nervure, where it is slightly produced inwardly, but well indicated thence to near the tip. The discal nervure gives rise to a discal branch which quickly becomes bifid, and its branches well defined near to the tip, above and beneath. The median is well indicated, and is three-branched, the last very faintly connected with the second. No submedian nervure.

Size very small. Head rough and hairy above and in front. Ocelli none. Eyes rather large, round, and salient, not set on a naked circular portion of the head, nor with a naked space above the eyes. Antennæ about one-half as long as the anterior wings, inserted laterally, and microscopically pubescent beneath; basal joint moderately long, stalk roughened with scales. Maxillary palpi rather long and folded. Labial palpi moderate, slender, smooth, cylindrical, separated, and somewhat drooping; the third joint nearly as long as the second, which has a few bristles at its end and beneath. Tongue ?.

*D. velatella*.—Labial palpi dark brownish. Head brownish gray. Antennæ grayish fuscous, with the basal joint whitish, having a blackish, external streak. Fore wings whitish, dusted with dark fuscous, with a few dark fuscous spots along the costa, and one of the same hue about the middle of the disk, beneath which, on the fold, is another of the same hue. Toward the apex, in the middle of the wing, beneath the last costal spot, is a small, dark fuscous spot, sometimes connected toward the base of the wing with a dusted streak of the same hue; cilia whitish, somewhat dotted with dark fuscous. Hind wings grayish brown; cilia the same.

The relationship of this insect to *Incurvaria* and its allied genera, especially to *Acerifoliella* and to *Eudarcia*, is very obvious.

#### BUCCULATRIX? Hübner.

The anterior wings lanceolate; the discal cell is closed acutely behind, with the subcostal nervure faintly indicated from the middle of the wing to the base, and sending *four* nervules to the costa, the first about the basal third, and its origin from the subcostal faintly indicated; the three others arising near the apical portion of the wing, with the subcostal between the second and last rather faintly indicated; the third nervule scarcely noticeable, and the last branch arising from the apex of the discoidal cell. The median is strongly indicated throughout, and sends off to the inner margin at its posterior end, a very faintly indicated branch, whilst the apical branch, which appears to be a continuation of it, becomes bifid behind the tip of the wing. The posterior are narrowly lanceolate, without discoidal cell. The subcostal nervure is central, and subdivides beyond the middle of the wing into three branches, two to the inner margin, and one along the exterior margin to the tip. The median nervure is simple.

Size extremely small. Head rough, tufted in the middle. Face smooth and retreating. Eyes salient, visible in front. Antennæ with a spreading, basal eye-cap, expanded above the eyes; stalk very slender, simple, scarcely more than one-half so long as the body. *No labial or maxillary palpi*. Tongue naked, very short, not one-half as long as the anterior coxæ.

*B. ? coronatella*.—Face yellowish-white. The head with the tuft pale orange chrome; the eye-caps pale yellow, touched behind with orange chrome. Antennæ yellow, dotted above with dark brown. Fore wings pale orange 1860.]



chrome, with a whitish patch near the base above the fold, one nearly opposite, on the inner margin, and one about the middle of the wing, on the costa. Near the tip of the wing is a rather indistinct, narrow, whitish band, becoming somewhat diffuse on the inner margin, about the middle of the cilia; extreme apex of the wing whitish, mixed with scales of the general hue: cilia grayish fulvous. Hind wings dark gray; cilia fulvous gray. Abdomen pale orange chrome, with a dark brownish stripe along the dorsum, varied with fulvous.

PYRALIDINA. Fam. HERMINIDÆ.

EPIPASCHIA.

Anterior wings with two approximated, subcosto-marginal nervules arising near the end of the disk, with a short nervulet to the costa, from near the tip of the subcosto-apical nervule; the origin of the post apical is midway between the discal and marginal nervulet; the subcosto-inferior and discal have coincident origins. The discal is nearly circularly curved, and is continued to the disco-central nervule which anastomoses by contact with the medio-superior. Median three-branched. Submedian furcate at the base. In the posterior wings the discal nervule is long, with a sweeping curve, and, as in the anterior wings, is continued to the disco-central nervule, anastomosing by contact with the medio-superior.

Head with ocelli. Eyes round, rather large and salient. Maxillary palpi short, scaly and porrected. Labial palpi smooth, recurved, but not exceeding the vertex, cylindrical and pointed; third joint rather short, and indistinctly marked. Tongue scaled at the base, and nearly as long as the thorax beneath. *Antennæ with an articulated appendage arising from the basal joint, thrown backwards, and as long as the thorax, and clothed with scales and spreading hairs at its tip; the stalk is exterior to it, slender, its joints roughened with scales, and finely ciliated beneath.*

*E. superatalis.*—Head yellowish. Labial palpi yellowish, dusted with dark ochreous, with a dark brown spot at the base of the third joint. Antennæ brownish, annulated with yellow, the antennal appendage yellow, dusted with blackish brown, especially exteriorly. Fore wings pale yellowish, dusted with dark brownish to an irregular dark brown line, crossing the nervules from the costa to the inner margin, beyond which it is dull reddish brown. About the middle of the costa is a blackish brown spot, a small one of the same hue on the discal nervule; a minute one at the base, and the base of the fold, with the inner margin at the base tinted with reddish brown. On the posterior margin of the wing is a line of dark brown dots. Hind wings fuscous, with a dark brown round spot near the exterior margin of the base, and a brownish marginal line, with one of the same hue in the cilia.

From Edward Norton, of Farmington, Conn.

SPHINGINA. Fam. ÆGERIIDÆ.

TROCHILIUM Scopoli.

I regard this genus as synonymous with the *Ægeria* of Dr. Harris; it includes, likewise, the group he has characterized by this name.

*Both wings transparent. Antennæ little thickened at the tips. Abdomen sessile, tufted at the tip. Hind tarsi very slender and smooth, as long as the tibiæ.*

*T. A c e r n i.*—Head and labial palpi deep reddish orange, the former white in front of the eyes. Antennæ bluish black, the basal joint reddish orange in front. Thorax ochreous yellow, with the tegulæ in front touched with pale bluish black. Abdomen bluish black, varied with ochreous yellow; terminal tuft deep reddish orange. Fore wings with the margins and median nervule bluish black, dusted with yellowish; a large discal, bluish black patch; termi-

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nal portion of the wing ochreous yellow, with a blackish, subterminal band, and the nervules blackish; the hinder margin bluish black, and the cilia deep fuscous. Hind wings with a black discal patch; nervules blackish, and hinder margin blackish. Under surface of the body ochreous yellow, with a bluish black patch on each side of the second abdominal segment. The middle and posterior tibiæ annulated with bluish black at their ends, the anterior blackish, with the coxæ touched with reddish orange. All the tarsi touched with blackish above. The larva bores the trunk of the maple.

NOTE.—In the November number, 1859, the following corrections should be made:

In the first line of the note on p. 317, *preceding* should read *succeeding*.

In Division II., of the Table of species, on p. 318, *an* should read *no*.

On page 327, for *vitegenella* read *vitigenella*.

#### Appendix to the paper entitled *New Genera and Species of North American Tipulidæ with short palpi, &c.*

BY R. OSTEN SACKEN.

The following are some additions and corrections to my paper, suggested by the examination of the entomological collections of the British Museum, the Jardin des Plantes, and the Museum of the University of Berlin, as well as of some private collections.

The British Museum afforded me the desired information about the *Limnobiæ* described by Mr. Walker in his "List of Specimens, etc."

*L. simulans* Walk. is my *Dicranomyia defuncta*. Mr. Walker, (l. c. p. 45) describes this species as "*pale yellow, legs yellow, tips of the thighs, of the shanks, and of the feet, black,*" etc.; whereas, in reality, the body is *cinereous*, the legs are *dark brown, almost black*, with a whitish ring before the tip of the femora, etc. Mr. Walker's description was drawn from a single old and faded specimen; no wonder, therefore, that it could not be identified.

*L. badia* Walk. seems to be my *Dicranomyia humidicola*. The only specimen in the British Museum is without legs. The characteristic mark of the species, *the white ring at the tip of the tibiæ*, was therefore not mentioned in the description. (Walker, l. c. p. 46.)

*Anisomera longicornis* Walk. appears to be the species which I have identified for it.

Not having seen Mr. Saunders's collection, I have not been able to identify the *Limnobiæ ignobilis, prominens, biternata*, and *turpis* described by Mr. Walker in the *Diptera Saundersiana*.

In the Museum of Berlin I have found a considerable number of undetermined *Limnobiæ* and *Eriopteræ* from Georgia, most of which I have been able to identify with the species described in my paper. Only a few were new to me. I will give here a list of these species, as an addition to the knowledge of their geographical distribution. Some observations and corrections to my descriptions, especially when they were drawn from a limited number of specimens, may also find their place here.

*Limnophila adusta* in two (♂ ♀) specimens. The brown line in the middle of the thorax was hardly apparent. The tips of the femora were distinctly infuscated.

*Limnophila imbecilla* (?) A single ♂ specimen, which had the neuration of the wings, the long verticils, etc., of said species, but the coloring of the body of which was somewhat different, namely, *brownish ferruginous, shining* on 1860.]





Clemens, Brackenridge. 1860. "Contributions to American Lepidopterology. No. 3." *Proceedings of the Academy of Natural Sciences of Philadelphia* 12, 4–15.

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