

is obviously an *Epipyrops*, though no specific name seems to be mentioned. Mr. Nawa might appropriately name it, as it is probably undescribed. The plate is discussed in three pages of Japanese with explanation of the figures on page 4, and there is a two-page account in English by Mr. U. Nawa at the end of the magazine. The question of the food of the *Epipyrops* larvæ seems to be still not clear. Prof. Westwood conjectured that it was the white secretion of the Fulgorids, but Mr. Nawa's account does not seem to support this view. The latter states that the larvæ secrete a white covering and that they even cause the host to be visible at a distance by this when there are several of them on one host. Dr. Dyar thought it did not seem reasonable that larvæ should secrete a substance similar to their own food. Besides, there is but very little of this pruinose matter on the Cicada-like host, certainly not enough to support several larvæ, it would seem. Mr. Heidemann had shown him specimens of the host. Might not the *Epipyrops* larvæ be true parasites after all?

—Mr. Simpson exhibited a micro-photograph of sections of the eversible gland of the larva of the Io Moth (*Automeris io* Fabricius). He stated that, in exceptional specimens, this gland was missing.

—The introduction to the following paper, presented by Mr. Busck, was then read by Dr. Dyar, in the absence of the author:

#### NOTES ON BRACKENRIDGE CLEMENS' TYPES OF TINEINA.\*

By AUGUST BUSCK.

Although a few stray species of American Tineina were described before 1859, that year really marks the beginning of the study of these insects in this country. During that and the following four years the late Dr. Brackenridge Clemens, a practising physician of Easton, Pa., published a series of systematic and biological articles, which yet remain the most important contribution to our knowledge of American Tineina. These papers contain descriptions of 31 new genera and of about 200 new species, together with notes on larval habits of many of them.

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\* The following new names are proposed in this article: *Lithocolletis hamameliella*, new species (p. 189); *Brackenridgia*, new genus (p. 193); *Greya*, new genus (p. 194). There are also original descriptions of the following larvæ: *Stilbosis tesquella* Clemens (p. 202); *Cryptolechia obsoletella* Zeller (p. 206).



Types of all these species were deposited by Dr. Clemens in the collection of the Academy of Natural Sciences in Philadelphia. There they were studied in 1872 by Lord Walsingham, and some years later, according to information obtained through Miss Mary Murtfeldt, by Mr. V. T. Chambers, who, however, did not seem to have more appreciation of these types than he had of his own, and he only went over them in the hastiest manner. Finally they were studied in 1881 by Prof. C. H. Fernald. There is also evidence that Dr. C. V. Riley was acquainted with at least a part of them.

Prof. Fernald has kindly given me his recollections about Clemens' types in 1881. They were then just as received from Clemens, pinned with the short English brass pins on small pieces of cork glued to the glass in old-fashioned insect boxes, each cork bearing a number corresponding to a list in Clemens' handwriting.

On account of the unsafe condition of the glass boxes these types were later transferred by Mr. E. T. Cresson and Dr. Henry Skinner to a large double box, and each specimen was labeled with the number found on the cork. A statement to this effect is found in Cresson's handwriting on part of Clemens' list, yet in existence.

Since then the types of this pioneer worker in this group of insects have remained in oblivion, partly because no one took an active interest in the study of *Tineina* and partly because the specimens, to the uninitiated, did not give the impression of much importance, bearing no labels to indicate their true value, while the box to which they had been transferred contained a number of other moths of no importance and was stored away and subsequently overlooked and forgotten.

During a visit of the writer to the Academy in the spring of 1900, this box was not in evidence in spite of careful search and repeated inquiries. All that was found was a part of Clemens' list of his types, with Cresson's note about the disposition of them. One box, it is true, was there, which contained some specimens undoubtedly pinned by Clemens, but careful study soon revealed that only a small part of the insects were truly Clemens' own specimens, and that even those could not with any reasonable certainty be regarded as his original types. At most they only represented an insignificant proportion of his species.

\* Thus the collection of the types left by the founder of the study of American *Tineina* was given up as lost, and Clemens' description alone had to be relied upon for the identification of his species. The great majority of them have been identified with certainty from that source alone—a fact which speaks highly of the carefulness of Clemens' work. Still quite a number remained unknown to the present active workers, and some of them there was little hope of ever identifying with certainty.



Great, therefore, was the writer's delight when, on a short visit to the Academy last fall, he opened an old-fashioned double box, which had turned up in the interval between his visits, and found one side filled with what, he at once realized, was the nearly complete set of Clemens' original types.

Pinned as they were on the short English pins, many of them touched the cork with their wings and several were consequently more or less damaged; but considering their old age and their precarious method of preservation in a box which was neither dust nor insect proof, it is rather remarkable that they had not all been destroyed. However, all were in recognizable and useful condition, and some of them in a perfect state of preservation.

On this visit the writer was unable, from lack of time, to do more than merely satisfy himself of the genuineness of this collection of types; but shortly afterwards he had the opportunity, through the liberality of the U. S. Department of Agriculture, and on the invitation of the Academy in Philadelphia, to spend two weeks in the study and resurrection of this important collection, which he regards it a privilege to have been able to restore to the dignity due the founder of this branch of science in this country.

That these specimens truly are Clemens' authentic types is proven by Cresson's statement and by the list in Clemens' own hand, corresponding to the numbers on the specimens. It is further verified by several instances, where Clemens, in his description, mentions accidental peculiarities of the specimens before him, which are found to be present in the corresponding type.

The numbers on the first 124 specimens correspond, with a few easily explained exceptions, with the chronological order of Clemens' descriptions, and these were found in the same order in Clemens' handwritten list. The numbers on the rest of the types were seemingly without order and many intervals occur. On the whole, however, these also were found to correspond relatively to the chronological order, and the intervals can be accounted for by intervening types of other groups, though several unexplainable deviations occur. By careful verification of each species through the description it was not difficult for one somewhat familiar with the different forms to apply each type to its proper name, taking as starting points species already well known and working forwards or backwards according to the numbers.

The studies resulted in the identification of the types of all but eight of Clemens' 200 species. Five of these eight have been identified with certainty from Clemens' descriptions, leaving only three species unknown at present.

The types are now properly mounted on small corks pinned with stout pins in four Schmitt boxes. They can now be taken out and examined without unnecessary risk to the specimens, and each of them is correctly labeled.



The following are detailed statements of the number and conditions of these types, together with such notes on their systematic position and synonymy as are possible without monographic studies of all the families. When such studies are undertaken additional changes will probably be found necessary.

A serious drawback to the value of Clemens' descriptions was his failure to give the size of his specimen or the locality. In the following notes the writer has given alar expanse of all the species according to the measure of the type specimen, as well as the locality of all those species of which he has seen other material.

For several reasons it is found most convenient to treat the species chronologically in the order in which they are found in Stainton's edition of Clemens' North American Tineina.

***Tinea biflavimaculella* Clemens.**

One perfect type, Clemens' No. 1; alar exp., 16.5 mm.

Stainton, who received two specimens of this species from Clemens, wrote in a foot-note in Clemens' Tineina of North America: "It appears to be almost identical with the European *Tinea rusticella*, var. *spilotella* Tengstrom," and Zeller\* made it a synonym of this species. Lord Walsingham corrected this† and I have no hesitation, after comparing a good series of *biflavimaculella* with authentic European specimens of *rusticella*, in agreeing with him that Clemens' species is quite distinct. Walsingham established in the same paper the synonymy with Walker's *Tinea insignella*.‡

*Biflavimaculella* belongs to the genus *Monopis*, Hübner. A specimen compared with Clemens' type is in the U. S. National Museum.

***Tinea dorsistrigella* Clemens.**

Two perfect types, Clemens' No. 2; alar exp., 14.5 mm.

This is, as Stainton suggested (Tin. N. Am., p. 50, 1872), a good species, near, but quite distinct from, the European *ferruginella* Hübner. Walsingham has established its synonymy with *Tinea subjunctella* Walker. Clemens' types are larger than average specimens of this common species, of which a good series is found in the U. S. National Museum.

The writer has bred this species from larvæ feeding in a bird's nest. It belongs in the genus *Monopis* Hübner.

***Tinea crocicapitella* Clemens.**

One perfect type, Clemens' No. 3; alar exp., 14 mm.

Lord Walsingham made this species a synonym of the European *ferruginella* Hübner, and it has been retained as such in Riley's

\* Verh. k. k. zool.-bot. Gesell. Wien., xxiii, p. 220, 1873.

† Trans. Am. Ent. Soc., x, p. 170, 1882.

‡ Cat. Lep. Het. Brit. Mus., xxviii, p. 471, 1863.



list and subsequently. This is an error; *ferruginella* is intermediate between the two American species, *dorsistrigella* Clemens and the present species, and it is quite as near the former as the latter. *Crocicapitella* is very distinct and shows no variation towards the European form, differing in the lighter and duller, more brownish ground color, in the darker head and thorax, and especially in the absence of white scaling on the costal edge above the transparent discal spot. It also lacks the small, sharp, light costal streaks found towards the apex in *ferruginella*.

***Tinea carnariella* Clemens.**

One type, the wings on left side absent; otherwise in good condition. Clemens' No. 4; alar exp., 18 mm.

From the description of this species, or probably more from the habits of the larva, Stainton surmised that it might be the cosmopolitan *Tinea pellionella* Linn.\* But several discrepancies in the description intimated that he was wrong in this assumption, and Clemens' type now proves that it is quite a different species. It is a true *Tinea*. No other specimen exactly like the type is at present known to the writer.

The condition of this specimen—lacking the wings on one side—is characteristic of many of Clemens' types and is explained by the note in his letter of June 23, 1860, to Stainton, published by the latter in his edition of Clemens' papers (p. 36): "I cannot promise, however, to send specimens of all the *Tineina* I have described, for frequently the descriptions have been drawn from a single specimen, which has been deprived of one pair of wings" [evidently for the purpose of structural studies].

***Tinea lanariella* Clemens.**

One type in good condition, Clemens' No. 5; alar exp., 14 mm. As determined by Stainton, who received four specimens of this species from Clemens, it is the same as the cosmopolitan *Tineola biselliella* Hümmel, and must be known under that name. Compared specimens are in the U. S. National Museum.

***Tinea nubilipennella* Clemens.**

One type, somewhat rubbed but easily recognizable, Clemens' No. 6; alar exp., 15 mm.

As determined by Stainton, this species is identical with the European *Tinea fuscipunctella* Haworth. I have examined the types of *Æcophora frigidella* Packard, from Labrador, now in the Museum of Comparative Zoology in Cambridge, Mass., and concur with Lord Walsingham's opinion that they represent

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\*Tin. N. Am., p. 51, 1872.



the same species.\* A large series compared with Clemens' type is in the U. S. National Museum.

The writer has bred this species repeatedly from the nests of tame pigeons at Washington, D. C.

***Tinea variatella* Clemens.**

One type in poor condition, with head and left fore wing missing. Clemens' No. 7; alar exp., 12.5 mm.

Probably the same as the European *Tinea granella* Linn., as suggested by Stainton.

***Xylesthia pruniramiella* Clemens.**

Two types, with head missing in both; otherwise in good condition. Clemens' No. 8; alar exp., 12 and 14.5 mm. I have examined Chambers' type of *Xylesthia clemensella*† in the Museum of Comparative Zoology in Cambridge, and Zeller's specimen of *Xylesthia congreginatella*,‡ and I am convinced that these species are identical and the same as Clemens' species. I have collected a large series around Washington, and in Kentucky and Missouri. The differences which Zeller and Chambers found in comparison with Clemens' description are simply due to the different state of preservation of their specimens. The delicately loose-scaled fore wings of this species are exceedingly easily injured by handling and then present quite a changed appearance.

Compared specimens are in U. S. National Museum.

***Amydria effrenatella* Clemens.**

One type, the abdomen missing, otherwise perfect. Clemens' No. 9; alar exp., 27 mm.

This type agrees with our preconceived conception of the species derived from Clemens' description. Compared specimens are in U. S. National Museum from the Atlantic Coast region. Stainton, who had a specimen of this species from Clemens, suggested that the genus was the same as *Euplocamus*, Latreille; but, as pointed out by Clemens himself, it differs in possessing well developed maxillary palpi.

***Anaphora plumifrontella* Clemens.**

One somewhat rubbed type, Clemens' No. 10; alar exp., 33 mm.

This type verifies the present conception of the species, as defined by Walsingham, with *bombycina* Zeller as synonym. It belongs to the genus *Acrolophus* Poey. A large series, collected

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\* Trans. Am. Ent. Soc., x, p. 171, 1882.

† Can. Ent., v, p. 174, 1873.

‡ Verh. k. k., zool.-bot. Gesell. Wien., xxiii, p. 218, 1873.



at light by the writer at Washington, D. C., and compared with Clemens' type, is in the U. S. National Museum.

**Anaphora popeanella** Clemens.

Two types, both rubbed, one unspread and without abdomen; the other spread, and lacking the head and left wings. Clemens' No. 11; alar exp., 28 mm.

Like the present conception of *Anaphora popeanella*, as determined by Walsingham and synonymous with *scardina* Zeller, and with *agrotipennella* Grote. A specimen compared with the type is in the U. S. National Museum.

Habitat: Eastern United States.

**Anaphora arcanella** Clemens.

One type, without abdomen but otherwise in good condition, Clemens' No. 12; alar exp., 29 mm.

This species was transferred to the new genus *Pseudoanaphora* by Lord Walsingham. A specimen compared with the type is in the U. S. National Museum.

Habitat: Eastern United States.

**Lithocolletis lucidicostella** Clemens.

Two types, one perfect, the other without abdomen and hind wings. Clemens' No. 13, alar exp., 7.5 mm.

Specimens bred from the underside of leaf of sugar maple and agreeing with the type are in the U. S. National Museum.

In Riley's List this species is by mistake printed *ludicostella*.

**Lithocolletis robiniella** Clemens.

One type, right fore wing missing, Clemens' No. 14; alar exp., 6 mm.

This type is not in very good condition, but is easily recognized as the well known *Robinia* feeder, common in the eastern States, and synonymous with the earlier described *Argyromiges psuedoacaciella* Fitch, but supplanting this preoccupied name.

The similar species which Clemens bred from *Amphicarpæa monoica* and which he believed to be *robiniella* is *Lithocolletis morrisella* Fitch.

**Lithocolletis desmodiella** Clemens.

Three types, Clemens' No. 15; alar exp., 4.5 mm.

These types represent our common smallest species of *Lithocolletis*, which is the same as that subsequently described by Miss Murtfeldt as *gregariella*, as shown by Lord Walsingham.

Habitat: Eastern United States.

**Lithocolletis æriferella** Clemens.

One perfect type, Clemens' No. 16; alar exp., 7.5 mm.

Specimens bred from the underside of oak leaves and compared with Clemens' type are in the U. S. National Museum.

Habitat: Eastern United States.



**Lithocolletis basistrigella** Clemens.

One type in good condition, Clemens' No. 17; alar exp., 8 mm.

Bred specimens of this well marked species, compared with the type, are in the U. S. National Museum. The larva makes a mine on the underside of oak leaves. The species is synonymous with the later described *Lithocolletis intermedia* Frey and Boll.

**Lithocolletis argentifimbriella** Clemens.

One perfect type, Clemens' No. 18; alar exp., 7.5 mm.

Bred specimens, compared with the type of this well known species, are in U. S. National Museum. Lord Walsingham has shown the synonymy with Chambers' *Lithocolletis fuscocostella*.

**Lithocolletis obscuricostella** Clemens.

One type, with right fore wing missing, otherwise in good condition. Clemens' No. 19; alar exp., 6 mm.

Clemens rightly gave weight (by italicising) to the peculiar coloration of the abdomen; but his description, "Black, tipped freely with yellow," is unfortunate. He meant that the base of the abdomen is black and the larger posterior portion is yellow. The underside is silvery. I have seen no specimen exactly like this type, but the species should be easily rediscovered through knowledge of the food-plant *Ostrya virginica*.

Chambers has himself\* established the synonymy with his *Lithocolletis virginiella*.

**Lithocolletis ostryæfoliella** Clemens.

One type, with left fore wing missing and the other fore wing somewhat crippled, is still recognizable and agrees with the description. Clemens' No. 20; alar exp., 6 mm. I have no specimen exactly like this type. The species is exceedingly near to the foregoing species, which was bred from the same food-plant, but the minute differences in the wing markings and the color of the abdomen, pointed out by Clemens, are well substantiated by the types.

Chambers suggested and Walsingham confirmed the synonymy with *Lithocolletis mirifica* Frey and Boll.

**Lithocolletis lucetiella** Clemens.

One perfect type, Clemens' No. 21; alar exp., 7 mm.

Bred specimens of this very distinct species, compared with the type, are in the U. S. National Museum. Lord Walsingham has established the synonymy with *Lithocolletis ænigmatella* Frey and Boll.

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\* Can. Ent., xi, p. 92, 1879.



**Lithocolletis obstrictella** Clemens.

One type, right fore wing and abdomen missing. Clemens' No. 22; alar exp., 7.5 mm.

I have no specimen like this type, which was bred, according to Clemens, from the underside of leaves of oak. The knowledge of the mine ought to insure its rediscovery.

**Lithocolletis caryæfoliella** Clemens.

Two types, one perfect, the other consisting only of head and left fore wing. Clemens' No. 23; alar exp., 6.5 mm.

Bred specimens compared with the type are in the U. S. National Museum. The generally accepted synonymy, suggested by Clemens himself, with *Lithocolletis juglandiella* Clemens, is probably correct. This latter species was named from the larva and mine only.

**Lithocolletis aceriella** Clemens.

One type, almost totally destroyed, only the head left on the pin, Clemens' No. 24.

In the U. S. National Museum are specimens bred from upper surface mines on maple which agree with Clemens' description and with what is left of his type. They undoubtedly represent this species. Alar exp., 6.5 mm.

Clemens states that the larva is found also in the leaf of *Hamamelis virginica*, but I am inclined to believe that he was mistaken and that the exceedingly similar but slightly larger species, which I have repeatedly bred from witch hazel, is a distinct species. It differs from *aceriella* in the more reddish tuft, in the somewhat darker ground color and in the dorsal silvery streak above the cilia, which is more oblique, nearly parallel with the edge, while in *aceriella* it is more erect. Further, the two silvery fasciæ are, in the *Hamamelis* feeder, absolutely parallel, while they are slightly diverging in *aceriella*. The *Hamamelis* feeder may be known as *Lithocolletis hamameliella*.

Alar exp., 7 mm.

*Type*.—No. 6772, U. S. National Museum.

**Lithocolletis guttifinitella** Clemens.

One type, right fore wing missing, otherwise in perfect condition, Clemens' No. 25; alar exp., 7 mm.

Clemens describes the antennæ as blackish brown, omitting the silvery annulations, which are shown on type. Otherwise, it is a good description of the type, which represents the one extreme variety of our common "poison ivy" *Lithocolletis*, which has the two transverse fasciæ nearly straight and diverging, the outer one being nearly perpendicular on the edge of the wing, while the inner one is oblique, nearer base on the dorsal side.

The other extreme of this variable species is described by Frey and Boll as *Lithocolletis toxicodendi*.\* This has the two fasciæ

\* Stett. ent. Zeit., xxxix, p. 273, 1878.



parallel, both being oblique, with dorsal ends nearer the base of the wing than the costal. These fasciæ are besides in this variety slightly angulated outwardly at their upper third, especially the one nearest the base of the wing. I have bred unlimited numbers of this species from poison ivy around Washington, D. C., and have every intermediate form between the two extremes, and there is no doubt that the two names stand for the same species. Clemens' name will hold.

Chambers made his *Lithocolletis æsculisella*\* a synonym of *guttifinitella*, but Lord Walsingham doubted this, considering it exceedingly improbable. The name should be retained as a separate species.

***Lithocolletis cratægella* Clemens.**

One type, unspread, but perfect, Clemens' No. 26; alar exp., 6.5 mm.

This type proves Lord Walsingham's assertion† that Clemens' species is the same as the common European apple-feeder, *Lithocolletis pomifoliella* Zeller, now known under the name *Lithocolletis blancardella* Fabricius. Lord Walsingham placed *Lithocolletis deceptusella* Chambers as a synonym of this species.‡

***Lithocolletis hamadryadella* Clemens.**

One perfect type, Clemens' No. 27; alar exp., 6.5 mm. A pin with the number 27-F has evidently borne his variation F, but the specimen is destroyed.

This type represents our well known, most common *Lithocolletis* on oak, described later by Zeller as *alternatella*.§ A bred series compared with Clemens' type is in the U. S. National Museum.

***Lithocolletis argentinotella* Clemens.**

Two types, the one perfect, the other without fore wings, Clemens' No. 28; alar exp., 6.5 mm.

Specimens bred from underside mines on elm and compared with Clemens' type are in the U. S. National Museum.

***Tisheria solidagonifoliella* Clemens.**

The type of this species with Clemens' No. 29 is lost. The species, however, is well known from Clemens' description and the knowledge of its food plant.

Bred specimens, agreeing with description and undoubtedly representing the species, are in the U. S. National Museum. Alar exp., 7 mm.

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\* Printed *æsculella* in Riley's List by mistake.

† Trans. Am. Ent. Soc., x, p. 202, 1882.

‡ Ins. Life, iii, p. 328, 1891.

§ Wrongly quoted by Chambers, in his Index, as *alternata*.



***Tisheria zelleriella* Clemens.**

One type, consisting only of the right fore wing, gummed on Clemens' label No. 30.

Lord Walsingham\* proved the synonymy of this species with *complanoides* Frey and Boll, and with *latipennella* Chambers. He erected the new genus *Coptotriche* for this remarkable form.† There is a bred series in the U. S. National Museum. Alar. exp., 10 mm.

The species is common around Washington, D. C.

***Tisheria citrinipennella* Clemens.**

One type, right hind wing and abdomen missing, otherwise in good condition; Clemens' No. 31; alar exp., 8 mm.

Lord Walsingham‡ has declared this species the same as the other oak-feeding *Tisheria* subsequently described by Clemens (*quercitella*). I am unable to concur in this view. While the present species may be the same as *Tisheria quercivorella* Chambers, as determined by Walsingham. Clemens' *Tisheria quercitella* is undoubtedly *tinctoricella* Chambers, and will have to supplant that name. It is the only oak-feeding *Tisheria* which makes the circular silk-lined nidus for pupation, as described by Clemens and Chambers. The color of this nidus varies according to the species of oak, and is on white oak, as Clemens describes it, whiter than the rest of the mine, and it is not always dark-veined as described by Chambers, and as is usually the rule.

Clemens' types of the two species, though both are in poor condition, substantiate fully this view.§ Series of both species from Washington, D. C., and from West Virginia, bred by the author, are in U. S. National Museum.

***Phyllocnistis vitigenella* Clemens.**

Two perfect types, Clemens' No. 32; alar exp., 5 mm.

Bred specimens, agreeing with the types of this well known species, are in the U. S. National Museum.

***Leucanthiza ampicarpeæfoliella* Clemens.**

One type, left wings missing, otherwise in good condition; Clemens' No. 33; alar exp., 6.5 mm.

I have bred this beautiful and well described species from upper surface mines of hog peanut at Washington, D. C. Bred specimens compared with Clemens' type are in the U. S. National Museum.

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\* Ins. Life, iii, p. 387, 1891.

† Ins. Life, ii, p. 322, 1890.

‡ Ins. Life, iii, p. 387, 1891.

§ See *post*, under *Tisheria quercitella*.



***Coleophora coruscipennella* Clemens.**

One perfect type, Clemens' No. 34, alar exp., 12 mm.

Zeller made this common American species a synonym of the European *Coleophora fabriciella* Villers, which is now known under the name *spissicornis* Haworth, and it certainly would be exceedingly difficult to distinguish between them. Still, as long as the life history and early stages of the American species is unknown, there is a possibility that it may be distinct, and I should have favored retaining it as such. A large series, collected at light around Washington, D. C., and compared with Clemens' type, is in the U. S. National Museum.

***Coleophora laticornella* Clemens.**

One good type, Clemens' No. 35; alar exp., 11 mm.

This proves to be the elm-feeding *Coleophora*, which has been of some economic importance of late years through its occurrence in large numbers in the parks of Brooklyn, N. Y. I have bred a large series of this species and am unable to distinguish it from authentic specimens (adults and cases) of the European *Coleophora limosipennella* Duponchel, which feeds on elm in Europe.

Our present knowledge of the genus *Coleophora* in this country is in such a hopeless state that I cannot indicate other synonyms of this species, though they doubtless exist among the 67 described species. Our names have been given mostly without knowledge of the food plants and without any comparisons with previously described species. The present species will probably be found among them under another name. This, however, will not interfere with the much older European name.

A bred series, compared with Clemens' type, is in the U. S. National Museum.

***Coleophora cænospennella* Clemens.**

The type of this species, Clemens' No. 36, is lost. I have not yet been able to identify the species from the description with certainty.

***Coleophora infuscatella* Clemens.**

One type, lacking left wings, otherwise in good condition, Clemens' No. 37; alar exp., 11 mm.

I have no specimen exactly like this.

***Coleophora cretaticostella* Clemens.**

One type, abdomen and right wings missing, Clemens' No. 38; alar exp., 12.5 mm.

I have no specimen like this.

***Incurvaria russatella* Clemens.**

The type of this species, Clemens' No. 39, cannot now be found.



Lord Walsingham examined this type in 1872, and from his recollection and notes on it, concluded that his *Lampronia tripunctella* was a synonym. He has also made *Eudarcia simulatricella* Clemens synonymous with *Tinea cæmitariella* Chambers. I have examined types of both these latter species and they are undoubtedly congeneric, but just as surely specifically distinct. The former is evidently Walsingham's *Lampronia tripunctella*, agreeing in all particulars with his description and figure. The latter agrees well with Clemens' description of *russatella*, but could not be Walsingham's species, lacking as it does the white apical cilia found in *tripunctella* and also in Clemens' type of *simulatricella*, though not mentioned by Clemens. *T. russatella* should then be known as *Eudarcia russatella* Clemens.

A specimen collected by the writer in Kentucky, and Chambers' type of *cæmitariella* [No. 412] are in the U. S. National Museum.

***Incurvaria (Ornix) acerifoliella* Fitch.**

The specimen of this species received by Clemens from Fitch is found under Clemens' No. 40. The right wings are missing; alar exp., 11.5 mm.

This agrees with our present conception of the species, specimens of which are in the U. S. National Museum. Lord Walsingham has shown the synonymy of *Tinea iridella* Chambers with this species. The species falls, according to the venation, intermediate between the genera *Incurvaria* and *Eudarcia*, though it cannot rightfully be placed in either genus, as already shown by Clemens.

I propose the name *Brackenridgia*, for the genus of which *acerifoliella* is type and which has the following very distinct venation:

Fore wings 11 veins, vein 4 absent, all separate, 7 to costa, 1b furcate at base. Hind wings as broad as fore wings, 8 veins, veins 5 and 6 stalked, rest separate, vein 6 to apex. The oral characters are as in *Incurvaria*.

No other species is at present known to the writer.

It is in this connection well to draw attention to the fact that probably only two out of the ten American species hitherto placed in *Incurvaria* truly belong in this genus, namely *Incurvaria ænescens* Walsingham and *Incurvaria politella* Walsingham. Besides these, *labradoriella* Clemens\* may profitably be left in the genus for the present until more material is obtained, though the appearance of the incomplete type, Clemens' No. 215,\* does not suggest that genus as Clemens also noted.

The same is the case with *mediostriatella* Clemens,\* which

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\* See *post*, under this species.



only differs from the genus in having veins 7 and 8 in the fore wings stalked. It is also true of *oregonella* Walsingham, of which only the single type in Lord Walsingham's possession is known, but which will probably be found not to belong to *Incurvaria* when additional material is at hand.

Of the other species hitherto placed in *Incurvaria*, two have now been disposed of, namely, *Eudarcia russatella* and *Brackenridgia acerifoliella*. The remaining three species form a separate genus, which may appropriately be known as *Greya* in honor of Lord T. de Grey Walsingham, who has added so materially to our knowledge of American Tineina, and who has described all the three species included in the genus, namely, *humilis*,\* *punctiferella*, and *solenobiella*.† *Greya* is at once distinguished from the nearly related *Incurvaria* by the absence of vein 10 in the fore wings.

It has the following venation :

Fore wings 11 veins, vein 10 absent, all separate; hind wings as broad as fore wings, 8 veins, all separate. Other characters as in *Incurvaria*.

Authentic representatives of all of the foregoing species except *labradoriella* are in the U. S. National Museum.

#### ***Plutella vigilaciella* Clemens.**

One type in good condition, Clemens' No. 41; alar exp., 14.5 mm.

This is, as determined by Stainton, a synonym of the European *Plutella porrectella* Linnæus. Specimens compared with Clemens' type are in the U. S. National Museum.

#### ***Plutella limbipennella* Clemens.**

One type, Clemens' No. 42; alar exp., 13.5 mm.

This is, as determined by Stainton, a synonym of the cosmopolitan *Plutella cruciferarum* Zeller, now known as *Plutella maculipennis* Curtis.

#### ***Plutella mollipedella* Clemens.**

One type, Clemens' No. 43; alar exp., 14 mm.

This is, as shown by Stainton, the female of the foregoing species.

#### ***Gracilaria superbifrontella* Clemens.**

One type in fine condition, but lacking the left wings, Clemens' No. 44; alar exp., 14 mm.

In spite of Clemens' definite statement that his species feeds on witch hazel (*Hamamelis virginica*), Lord Walsingham has made it synonymous with the European oak-feeding *Gracilaria*

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\* Ins. Life i, pp. 145, 146, 1888.

† Proc. Zool. Soc. Lond., p. 82, 1880.



*alchimiella* Scopoli. He also makes it synonymous with the American maple-feeding *Gracilaria packardella* Chambers, and with the American oak-feeding species of Frey.

This is not the case; *superbifrontella* Clemens must be retained as a good species attached to *Hamamelis*. So must *packardella* Chambers (= *elegantella* Frey, Stett. ent. Zeit., xxxiv, p. 202, 1873), attached to *Acer*, while the American oak-feeding species, determined by Frey as *superbifrontella*, may or may not be the same as the European *alchimiella* Scopoli. I have not sufficient bred material to settle this last point with certainty. All of these species are very close and somewhat variable. Bred specimens, compared with Clemens' type, are in the U. S. National Museum.

#### ***Gracilaria fulgidella* Clemens.**

One type, lacking the right fore wing, Clemens' No. 45; alar exp., 7.5 mm.

This is different from any other described American *Gracilaria*, and I have no specimen like it. Clemens' description is very accurate, though it would seem more natural to regard the dark color as the ground color, marked with white, dark-margined fasciæ. The species is nearest to *Gracilaria astericola* Frey and Boll.

#### ***Gracilaria venustella* Clemens.**

One type, lacking abdomen and left wing, Clemens' No. 46; alar exp., 6.5 mm.

There is another of Clemens' specimens, labeled 197, the same as this type, and also lacking the left wings. This is evidently the specimen from which Clemens redescribed the species.\*

This is, as determined by Chambers himself,† the same as *Gracilaria eupatoriella* Chambers. Specimens collected at light in Kentucky and at Washington, D. C., by the writer, and compared both with Chambers' type in the Cambridge Museum of Comparative Zoology and with Clemens' type, are in the U. S. National Museum. The species belongs in Walsingham's genus *Dialectica*,‡ but may remain in *Gracilaria* Haworth until the group is worked up.

#### ***Gracilaria strigifinitella* Clemens.**

One type, left fore wing missing. Clemens' No. 47; alar exp., 8.5 mm.

This is the same species described by Chambers as *Gracilaria duodecemliniella* and also the same as his *Ornix quercifoliella*.

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\*Tin. N. A., p. 216, 1872.

†Bull. U. S. Geol. Surv. Terr., iv, 150, 1878.

‡Proc. Zool. Soc. Lond., p. 150, 1897.



The types of both these species are in the Cambridge Museum of Comparative Zoology, and agree with the present type, as the descriptions would indicate. In Professor C. H. Fernald's collection are two specimens of this species bearing Lord Walsingham's blue labels 722 and 723, and determined in his note-book as *Ornix quercifoliella* Cham. = *Gracilaria duodecemliniella* Chambers (?) and with the note: "The description is not satisfactory; it needs redescription, and evidently belongs in the genus *Gracilaria*. Closely allied to *Coriscium brogniardellum* Fabricius in color and markings, but having the palpi of a *Gracilaria*" (Walsingham).

One perfect specimen, bred by the writer from oak at Washington, D. C., and compared with all three types of this species, is in the U. S. National Museum, besides several collected specimens.

The species belongs in the genus *Dialectica* Walsingham, which is separated from *Gracilaria* Haworth mainly by the pectinated posterior tibiae; it may, however, like the foregoing species, remain in *Gracilaria* for the present.

#### ***Gracilaria violacella* Clemens.**

One type, Clemens' No. 48; alar exp., 9 mm.

There is another specimen of this species, namely, the bred specimen described later by Clemens as *desmodifoliella*. This specimen has Clemens' No. 412. These specimens represent our well known *Desmodium* feeder. Bred specimens compared with the type are in the U. S. National Museum.

The name *violacella* must be retained for this species.

#### ***Argyresthia oreasella* Clemens.**

Two types, one without the left wings, the other consisting only of the left wings; both are now pinned together on the same cork; Clemens' No. 49; alar exp., 10 mm.

This is, as determined by Stainton, the same as the European *Argyresthia andereggiella* Duponchel. Specimens compared with Clemens' types are in the U. S. National Museum.

#### ***Ornix trepidella* Clemens.**

The type of this species, Clemens' No. 50, is lost.

#### ***Ornix festinella* Clemens.**

One type, badly rubbed, Clemens' No. 51; alar exp., 7.5 mm. I am at present unable to give any opinion on the distinctions between this species and the others described by Clemens, owing to the condition of the types and the lack of bred material.

#### ***Ornix cratægifoliella* Clemens.**

One type, Clemens' No. 222 (52); alar exp., 8 mm.

Specimens bred from black thorn by the writer at Washington,



D. C., and agreeing with Clemens' type, are in the U. S. National Museum.

**Hyponemeuta multipunctella** Clemens.

One type, lacking the right hind wing and part of the abdomen, Clemens' No. 53; alar exp., 21 mm.

This is a male of the well known species as determined by Dr. H. G. Dyar.\*

**Bedellia staintoniella** Clemens.

One type, Clemens' No. 54; alar exp., 10 mm.

This is, as determined by Stainton, and subsequently by Clemens himself, the cosmopolitan *Bedellia somnulentella* Zeller.

**Cosmiotes illectella** Clemens.

The type of this species, Clemens' No. 55, is lost.

I have not recognized the species, which Riley by mistake called *illicitella*.†

The genus *Cosmiotes* was afterwards recognized by Clemens as synonymous with *Elachista* Treitsche.

**Cosmiotes maculoscella** Clemens.

One type without left wings, Clemens' No. 56; alar exp., 7 mm.

I have no specimen like this type, which is somewhat rubbed, although easily recognized from Clemens' description.

**Cosmiotes madarella** Clemens.

One type without the right wings, Clemens' No. 57; alar exp., 8 mm.

I have seen no other specimen of this species which suggests in coloration the American species of the genus *Antispila* Hübner.

**Cosmopteryx gemmiferella** Clemens.

One type, left wing missing, Clemens' No. 58; alar exp., 11.5 mm.

As shown by Stainton, Clemens had two species mixed, the present and the one subsequently described by Stainton as *clemensella*. The type in Philadelphia represents Clemens' own species. Specimens compared with the type are in the U. S. National Museum.

**Eudarcia simulatricella** Clemens.

One type in perfect condition. Clemens' No. 59; alar exp., 8 mm.

This species has been treated already (see ante, page 193) and

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\* Can. Ent. xxxii, p. 38, 1900.

† Smith's List Lep. Bor. Am., No. 5797, 1891.



the synonymy of *Lampronia tripunctella* Walsingham shown. *Tinea cæmitariella* Chambers, hitherto placed as a synonym of this species, is found to be distinct and the same as *Eudarcia russatella* Clemens. A specimen compared with Clemens' type is in the U. S. National Museum.

***Antispila nyssæfoliella* Clemens.**

One perfect type. Clemens' No. 60; alar exp., 7.5 mm.

A bred series, compared with the type of this well known species, is in the U. S. National Museum.

***Antispila cornifoliella* Clemens.**

One type, Clemens' No. 61; alar exp., 7.5 mm.

Bred specimens compared with Clemens' type are in the U. S. National Museum.

***Aspidisca splendoriferella* Clemens.**

Two types, Clemens' No. 63; \* alar exp., 4.5 mm.

This is the well known species afterwards described by Packard as *Lyonetia saccatella*. *Aspidisca pruniella* Clemens, named from the larva only, is the same species.

Lord Walsingham has substituted the generic name *Coptodisca* for the preoccupied *Aspidisca*.

***Diachorisia velatella* Clemens.**

One type, in poor but recognizable condition, Clemens' No. 64; alar exp., 9.5 mm.

I have no specimen exactly like this type.

***Bucculatrix coronatella* Clemens.**

The type of this species, Clemens' No. 65, is lost.

In the U. S. National Museum is a large series bred from black birch and determined as this species. As it agrees with Clemens' description and very likely was compared with Clemens' type, this series may properly be regarded as representing *B. coronatella*.

***Anorthosia punctipennella* Clemens.**

One perfect type, Clemens' No. 66; alar exp., 12 mm.

This is like our present conception of the species as defined by the writer.† Specimens compared with the type are in the U. S. National Museum.

***Gelechia cerealella* Olivier.**

One specimen of this cosmopolitan species, *Sitotroga cerealella* Olivier, is found under Clemens' No. 67.

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\*No type is found under No. 62, and no name for that number in Clemens' list.

† Proc. U. S. Nat. Mus., xxv, p. 918, 1902.



**Gelechia agrimoniella** Clemens.

One type, Clemens' No. 68; alar exp., 13 mm.

This is like the present conception of the species\* and belongs in the genus *Anacamptis* Curtis. Specimens compared with the type are in the U. S. National Museum.

**Gelechia flavocostella** Clemens.

One type, palpi and left wings missing. Clemens' No. 69; alar exp., 19 mm.

As determined by Clemens subsequently, this species belongs to his genus *Trichotaphe*, and the type confirms the present conception of the species.† Specimens compared with the type are in the U. S. National Museum.

**Gelechia roseosuffusella** Clemens.

Two types in good condition, Clemens' No. 70; alar exp., 10.5 mm.

In spite of the additional evidence of these types, there is still, as I have shown,‡ some uncertainty about the identity of this species. The food plant, according to Clemens, is sumach. The species belongs to the genus *Aristotelia* Hübner.

**Gelechia rhoifructella** Clemens.

One type, lacking the right wings, Clemens' No. 71; alar exp., 18 mm. This agrees with my conception of the species; it belongs in the genus *Anacamptis* Curtis.

For references and synonymy of the Gelechiid species, see my Revision of American Gelechiidæ.§

**Gelechia rubidella** Clemens.

One type, ♀, right wings missing, Clemens' No. 72; alar exp., 11 mm.

This type confirms the present conception of the species, and it belongs in the genus *Aristotelia* Hübner. Compared specimens are in the U. S. National Museum.

**Gelechia flexurella** Clemens.

Of this species, Clemens' Nos. 94 and 95 according to his list, there is unfortunately no type. The species is at present unrecognized and of uncertain generic position.

**Gelechia mimella** Clemens.

Clemens' No. 96. Exactly the same conditions exist as with the foregoing species.

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\* Busck, Proc. U. S. Nat. Mus., xxv, p. 850, 1902.

† Busck, Proc. U. S. Nat. Mus., xxv, p. 908, 1902.

‡ Proc. U. S. Nat. Mus., xxv, p. 796, 1902.

§ Proc. U. S. Nat. Mus., xxv, p. 845, *et seq.*, 1902.



**Gelechia detersella** Clemens.

One type, the wings on the left side missing, otherwise in good condition. Clemens' No. 75; alar exp., 11.5 mm.

This species was renamed by the writer *brackenridgiella* on account of pre-occupation of Clemens' specific name, as shown by Stainton thirty years ago. It is now found to belong to the genus *Gnorimoschema* Busck.

I have seen no other specimen of this species.

**Strobisia irridipennella** Clemens.

Two types, Clemens' No. 73; alar exp., 11.5 mm.

These types agree with the present conception of this beautiful species. For full synonymy and references see my Gelechiid paper.\* Specimens compared with Clemens' type are in the U. S. National Museum.

**Strobisia emblemella** Clemens.

One type, wings on the right side missing. Clemens' No. 74; alar exp., 9 mm.

This also confirms our present conception. Specimens compared with the type are in the U. S. National Museum.

**Endrosis kennicottella** Clemens.

One type, Clemens' No. 76; alar exp., 20 mm.

This type proves, as Stainton suggested, the identity with the European *Endrosis fenestrella*, now known as *lacteella* Denis and Schiffermüller. Specimens compared with Clemens' type are in the U. S. National Museum.

**Evagora apicitripunctella** Clemens.

One type, without wings on the right side. Clemens' No. 77; alar exp., 9 mm.

This type proves my contention as against Lord Walsingham's determination of the species.† The species should be known as *Recurvaria apicitripunctella*. Specimens compared with the type are in the U. S. National Museum.

**Trichotaphe setosella** Clemens.

One type, right wings missing, Clemens' No. 78; alar exp., 17 mm.

This type confirms my view as diverging from that of Lord Walsingham concerning this species. It is a *Trichotaphe* and not an *Ypsolophus*. Compared specimens are in the U. S. National Museum.

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\* Proc. U. S. Nat. Mus., xxv, p. 904, 1902.

† See my Revision of American Gelechiidæ, Proc. U. S. Nat. Mus., xxv, p. 808, 1902.



**Trichotaphe juncidella** Clemens.

One type, without wings on left side, Clemens' No. 79; alar exp., 14 mm.

This type also agrees with my conception of the species. Bred specimens, compared with Clemens' type, are in the U. S. National Museum.

**Callima argenticinctella** Clemens.

Two types, one perfect, the other without wings on the left side, Clemens' No. 80; alar exp., 14 mm.

This is like our present conception of this common species. Specimens compared with the types are in the U. S. National Museum. Dr. H. G. Dyar has changed\* the generic name on account of the older *Kallima* Westwood and the genus is now known as *Epicallima* Dyar.

**Nomia lingulacella** Clemens.

One type, right fore wings missing, Clemens' No. 81; alar exp., 8 mm.

Clemens changed his preoccupied generic name to *Chrysopora*, under which name the species is now known. Compared specimens are in the U. S. National Museum.

**Trypanisma prudens** Clemens.

One type, left wings missing, Clemens' No. 82; alar exp., 8.5 mm.

As shown by the writer† Chambers' *Gelechia quinqueannulella* is synonymous with this species. Bred specimens, compared with Clemens type, are in the U. S. National Museum.

**Butalis fuscicomella** Clemens.

One perfect type, Clemens' No. 83; alar exp., 13 mm.

This type proves the species to be the same as *Butalis eboracensis* Zeller‡ and Clemens' name must fall for this earlier name. The "yellowish tint" mentioned by Clemens and objected to by Zeller for this species§ is a barely perceptible tinge found in all the unicolorous specimens. Specimens determined by Lord Walsingham as Zeller's species and agreeing with his description are in the U. S. National Museum, compared with Clemens' type. The species should be known as *Scythris eboracensis* Zeller.

**Butalis flavifrontella** Clemens.

One perfect type, Clemens' No. 84; alar exp., 14 mm.

This type confirms Lord Walsingham's contention,|| previ-

\* Bull. 52, U. S. Nat. Mus., p. 525, 1902.

† Proc. U. S. Nat. Mus., xxv, p. 815, 1902.

‡ Linn. Ent., x, p. 205, 1855.

§ Verh. k. k. zool.-bot. Gesell. Wien, xxiii, p. 292, 1873.

|| Ins. Life, i, p. 114, 1888.



ously suggested by Stainton\*, that this species is synonymous with Zeller's *Butalis basilaris*. The species should be known as *Scythris basilaris* Zeller. Specimens, compared with type, are in the U. S. National Museum.

***Butalis matutella* Clemens.**

One perfect type, Clemens' No. 85; alar exp., 12 mm.

This type likewise proves the synonymy, generally accepted, with *impositella* Zeller. The species must be known as *Scythris impositella* Zeller. Compared specimens are in the U. S. National Museum.

***Anarsia pruniella* Clemens.**

Two perfect types, ♂ and ♀, Clemens' Nos. 86 and 87; alar exp., 14 mm.

This is, as already realized by Clemens, the European *Anarsia lineatella* Zeller.

***Stilbosis tesquella* Clemens.**

Two types in perfect condition, Clemens' No. 88; alar exp., 9 mm.

I have long been acquainted with this fine species, which I have determined correctly from Clemens' description. The larva feeds on hog peanut (*Amphicarpæa monoica*), near Washington, D. C., spinning the leaflets together. It is a prettily marked and very striking larva:

Head light yellow; eye spots black; body yellowish white, with thoracic shield, anal plate, thoracic feet, and all tubercles, blackish brown. Length of full-grown larva, 8.5 mm.; width of head 0.6 mm.

It may be found in July; the moth issues in the beginning of August. Bred series, compared with Clemens' type, and blown larvæ, are in the U. S. National Museum.

***Laverna luciferella* Clemens.**

One type, left wings missing, otherwise in good condition, Clemens' No. 89; alar exp., 10 mm.

In the U. S. National Museum are two specimens collected by Mr. N. Banks, at Sea Cliff, N. Y., which are identical with the type of this striking species. Lord Walsingham† has made *Laverna cephalanthiella* Chambers‡ a synonym of this species, but this is not correct. I fail to see how a careful perusal of the two descriptions could allow the conclusion. In the U. S. National Museum is a large bred series of Chambers' species

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\* Tin. N. A., p. 126, 1872.

† Trans. Am. Ent. Soc., x, p. 196, 1882.

‡ Can. Ent., iii, p. 221, 1872.



compared with his type in Cambridge, Mass., and it is a very different form from *luciferella*, which is well described by Clemens. Both species must stand, and both may probably be included in the genus *Mompha*.

**Laverna eloisella** Clemens.

One type, without wings on the right side, Clemens' No. 90; alar exp., 14 mm.

This is our well known *Ænothera* stem borer. Specimens compared with the type are in the U. S. National Museum. Lord Walsingham\* has rightfully pointed out the synonymy of this species with *Laverna ænotherella* Chambers, and *Phyllocnistis magnatella* Zeller.

**Chrysocoris erythriella** Clemens.

Three types, two perfect, one with left wings only, Clemens' No. 91; alar exp., 9.5-10.5 mm.

Specimens bred by the writer and compared with Clemens' types are in the U. S. National Museum. *Chrysocoris* is synonymous with the European *Schreckensteinia* Hübner, under which generic name the species is now known.

**Elachista præmaturella** Clemens.

Two types, Clemens' No. 92; alar exp., 7.5 mm.

A specimen compared with Clemens' type is in the U. S. National Museum.

**Brenthia pavonacella** Clemens.

One type in good condition, Clemens' No. 93; alar exp., 11 mm.

This is like our present conception of the species, and identical with specimens in the Cambridge Museum of Comparative Zoology labeled with Chambers' manuscript name *Microæthia amphicarpeæana*.† To Chambers is due the credit of the discovery of the food plant. A specimen compared with Clemens' type is in the U. S. National Museum.

**Pigritia laticapitella** Clemens.

One type without left wings, Clemens' No. 97; alar exp., 11 mm. Also another identical and perfect specimen, bearing Clemens' No. 210. Specimens compared with these are in the U. S. National Museum. Until further study of this and the other species of this group, Dr. Dietz's determinations and synonymy‡ must hold, but Clemens' types will probably cause some changes when the group is critically revised.

**Parasia (?) subsimella** Clemens.

One type, consisting only of head and thorax, and so greasy as to be of little value, Clemens' No. 98.

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\* Trans. Am. Ent. Soc., x, p. 195, 1882.

† Can. Ent., x, p. 76, 1878.

‡ Trans. Am. Ent. Soc., xxvii, p. 106, 1900.



The writer's determination\* is substantiated, as far as can be, from the type. The species should be known as *Epithectis sub-simella* Clemens.

**Depressaria lecontella** Clemens.

One good type, though the left wings are absent, Clemens' No. 99; alar exp., 24 mm.

This agrees with my conception.† Specimens, compared with the type, are in the U. S. National Museum.

**Lithocolletis fitchella** Clemens.

One type in good condition, Clemens' No. 102; alar exp., 7.5 mm.

This is the well known species described previously by Fitch under the preoccupied name *quercifoliella*,‡ and subsequently by Frey and Boll as *quercitorum*,§ as determined by Lord Walsingham. Bred specimens, compared with Clemens' type, are in the U. S. National Museum.

**Lithocolletis tubiferella** Clemens.

One type, hind wings and abdomen missing, Clemens' No. 101; alar exp., 8 mm.

Specimens of this interesting species, bred by the writer at Washington, D. C., and compared with Clemens' type, are in the U. S. National Museum.

**Tisheria malifoliella** Clemens.

One type, consisting of head and thorax only, Clemens' No. 103.

The type is of no value, but the species is known beyond doubt from Clemens' description of the moth and from its life history. Bred specimens are in the U. S. National Museum.

**Antispila isabella** Clemens.

One perfect type, Clemens' No. 104; alar exp., 7.5 mm.

Specimens compared with this type are in the U. S. National Museum, bred by the writer at Washington, D. C.

**Aspidisca lucifluella** Clemens.

Two types, one perfect, but not spread, the other without head and without the wings on the left side, Clemens' No. 114; alar exp., 4.5 mm.

Specimens compared with the types are in the U. S. National Museum.

The genus is now known as *Coptodisca* Walsingham.||

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\* Proc. U. S. Nat. Mus., xxv, p. 819, 1903.

† Proc. U. S. Nat. Mus., xxiv, p. 745, 1902.

‡ Rep. Ins., N. Y., v, p. 327, 1859.

§ Stett. ent. Zeit., xxxiv, p. 207, 1873.

|| Ent. Mo. Mag., xxxi, p. 41, 1895.



**Parectopa lespedezaefoliella** Clemens.

One type, without wings on the right side, Clemens' No. 106; alar exp., 7 mm.

Lord Walsingham has made\* Clemens' *Parectopa robiniella* a synonym of this species as well as *Gracilaria mirabilis* Frey and Boll. My examination of Clemens' types of these two species does not tend to confirm this conclusion. In fact I think the differences pointed out in Clemens' description fully borne out by his types. However, not having any bred specimens of *lespedezaefoliella*, I prefer to leave the synonymy as it is. The genus *Parectopa* may yet be adopted; but in the meanwhile the species may be known as *Gracilaria lespedezaefoliella* Clemens.

**Bucculatrix pomifoliella** Clemens.

One good type, Clemens' No. 107; alar exp., 7.5 mm.

This represents our common apple *Bucculatrix*, described subsequently by Packard as *Lithocolletis curviliniatella*. Bred specimens, compared with the type, are in the U. S. National Museum.

**Bucculatrix agnella** Clemens.

One type in rather poor condition and lacking the left wings, Clemens' No. 108; alar exp., 7 mm.

I have not discovered any specimen of this species in the U. S. National Museum.

**Machimia tentoriferella** Clemens.

One type, lacking left wings, Clemens' No. 109; alar exp., 25 mm.

This is our well-known species, described later by Chambers as *Depressaria fernaldella*.† Lord Walsingham has made‡ *Depressaria confertella* Walker§ a synonym of this species. During a visit at the home of Prof. C. H. Fernald, I saw two specimens in his collection, not of this species, which Prof. Fernald had compared with Walker's type in the British Museum and which he has identified as *confertella* Walker. They certainly agree better with Walker's description than does *Machimia tentoriferella* Clemens. They agree well with Zeller's description of *Cryptolechia ferruginosa*, and I believe they are that species, in which case the name *ferruginosa* would fall for the older name *confertella* Walker. At present, however, before Walker's type has been re-examined to find which of the two gentlemen was right in his determination, it is proper to leave the synonymy as first determined. A large series, identical with Clemens' type of *Machimia tentoriferella*, is in the U. S. National Museum.

\* Trans. Am. Ent. Soc., x, p. 193, 1882.

† Bull. U. S. Geol. Surv., iv, p. 82, 1878.

‡ Proc. Zool. Soc. Lond., p. 312, 1881.

§ Cat. Lep. Het. Brit. Mus., xxix, p. 363, 1864.



**Psilocorsis quercicella** Clemens.

One type, Clemens' No. 110; alar exp., 13 mm.

I have bred a very large series, at different times, of what is indisputably this species, from larvæ on oak. These specimens agree with Clemens' description and also with his type.

There is another very similar and equally common species, the larva of which also feeds on oak and occurs at the same time and same localities as *quercicella*. The imagoes of this species are exceedingly difficult to separate from *quercicella*. They are generally slightly larger (1 to 2 mm. additional expanse) and have the short black transverse lines less pronounced than in this species. They have the apical edge of the fore wing generally more distinctly blackish than it is in *quercicella*. The larvæ are quite different from the easily recognized larvæ of *quercicella*, with which they are often found, even between the same two leaves. These larvæ are white, with blackish brown head and slightly lighter brown thoracic shield, divided in the center by a straight longitudinal white line; the second thoracic segment is somewhat reddish laterally; the rest of the body is white, turning slightly rose-colored at maturity. In the larvæ of *quercicella* the three thoracic segments are black. This species, I am inclined to believe, is Zeller's *Cryptolechia obsoletella*\* with the description of which it agrees well.

Lord Walsingham made the following species synonymous with *quercicella* Clemens: (1) *Depressaria cryptolechiella* Chambers,† the food plant of which according to Chambers is holly; (2) *Hagno faginella* Chambers,‡ the larva of which feeds on beech; (3) *Cryptolechia cressonella* Chambers.§ which I believe with Chambers is the same as Zeller's erroneous conception of *quercicella*; (4) *Psilocorsis dubitatella* Zeller.|| Finally Lord Walsingham identified¶ a species bred from *Am-brosia* as this same species. It is evident, as Lord Walsingham himself conceded,\*\* that there is some mistake here. Zeller's conception of *Psilocorsis quercicella* Clemens, was clearly erroneous, as is shown by the measurement he gives of his specimen (length of fore wing 4"), which would give an alar expanse of 19 mm. *Psilocorsis quercicella* varies only slightly in size, and the very largest specimen in a series of more than fifty has an expanse of only 15 mm., while the average size is a little more than 13 mm.

Zeller, probably, had before him the very similar but larger

\*Verh. k. k. zool.-bot. Gesell. Wien, xxiii, p. 242, 1873.

† Can. Ent., iv, p. 91, 1873.

‡ Can. Ent., iv, p. 131, 1873.

§ Bull. U. S. Geol. Surv. Terr., iv, p. 86, 1878.

|| Hor. Soc. Ent. Ross., xiii, p. 262, 1887.

¶ Ins. Life, ii, p. 151, 1890.

\*\* Ins. Life, ii, p. 151, 1890.



*Psilocorsis reflexella* Clemens. The same reason suffices to disprove the synonymy of *faginella* Chambers, which has an expanse of  $\frac{3}{4}$ -inch = 19 mm.\* and of any of those species treated by Chambers under that name.† Moreover, Chambers described the larva of *faginella*, and his description could not apply to *quercicella*. The size also eliminates Zeller's *Psilocorsis dubitella*, which, according to Zeller, has a wing length of 3.75 lines. Having not bred *faginella* nor *cryptolechiella* I am unable to pronounce on the synonymy of these species otherwise than that they are not the same as *quercicella* Clemens. I have bred, besides the two oak feeding species, two other extremely similar, but equally distinct, species of this group, one from *Amelanchier* and one from *Carpinus*, both with larvæ different from the oak feeding species. I venture to suggest the propriety of leaving all the species separate for the present.

Zeller at first included‡ both Clemens' genera *Psilocorsis* and *Machimia* in his *Cryptolechia*, but afterwards recognized them as valid genera§ but included the type of *Cryptolechia*, the African *straminella* Zeller,|| in *Machimia*. Lord Walsingham showed¶ that *straminella* could not properly be included in *Machimia*, and placed it in *Psilocorsis*, dropping that genus as a synonym of *Cryptolechia*. This, however, seems unwarranted, considering the different palpi of this genus. *Psilocorsis* must stand, including the above-mentioned species and *ferruginella* Zeller (*confertella* Walker ?).

#### ***Psilocorsis reflexella* Clemens.**

Two types, both unspread, one without the wing on the right side, Clemens' No. 112; alar exp., 22 mm.

A specimen compared with the types is in the U. S. National Museum. According to the conclusions expressed under the foregoing species, *Psilocorsis quercicella* Zeller (*nec* Clemens) and *cressonella* Chambers would be synonymous with the present species.

#### ***Menesta tortriciformella* Clemens.**

One type without abdomen and wings on the right side, Clemens' No. 100; alar exp., 9.5 mm.

This type agrees with the present conception of the species.\*\* Lord Walsingham established the undoubtedly correct synonymy

\* Can. Ent., iv, p. 92, 1872.

† Bull. U. S. Geol. Surv., iv, pp. 84-86, 1878.

‡ Verh. k. k. zool.-bot. Gesell. Wien, xxiii, p. 239, 1873.

§ Hor. Soc. Ent. Ross., xiii, p. 259, 1887.

|| Hand. Kong. Svensk. Acad., p. 107, 1852.

¶ Ins. Life, ii, p. 151, 1890.

\*\* Proc. U. S. Nat. Mus., xxv, p. 902, 1902.



with *Gelechia liturcella* Walker,\* and with *Hyale coryliella* Chambers.†

The National Museum possesses a specimen which has been compared with Clemens' type.

***Nepticula rubifoliella* Clemens.**

One type, lacking the right fore wing, Clemens' No. 113; alar exp., 4 mm.

I have not bred this species and am at present unable to give an opinion on the synonymy with the European *Nepticula angulifasciella*, which Clemens suggested.

***Opostega albogaleriella* Clemens.**

One type, Clemens' No. 120; alar exp., 5.7 mm.

I have collected this species repeatedly at light in the District of Columbia. Clemens' description does not mention the apical costal and dorsal streaks, but they are present in his type, though very faint, because the specimen is rubbed. Nevertheless, Frey was fully justified in separating his *Opostega accessoriella*‡ from Clemens' species, from which it differs by the dark dorsal spot; but Frey evidently did not know of Chambers' *Opostega quadristrigella*.§ It is the same as Frey's species, as the description shows.

Of the two remaining American species placed in *Opostega*, *nonstrigella* Chambers is the only one that truly belongs to this genus. It differs from Clemens' species by the dark dorsal patch, and from *quadristrigella* by the absence of apical markings. *Bosquella* Chambers is, as originally described by Chambers,|| a *Nepticula* and is the same as that previously described by Zeller as *Trifurcula obrutella*,¶ as the type of this species in the Cambridge Museum proves.

Representatives of all these species, collected by the writer in the District of Columbia and in Kentucky, are in the U. S. National Museum.

***Trichotaphe alacella* Clemens.**

One type, Clemens' No. 115; alar exp., 13.5 mm.

This type confirms the present conception of this well known species. Specimens compared with it are in the U. S. National Museum. *Gelechia ochripalpella* Zeller,\*\* and *Gelechia goodelliella* Chambers,†† are synonyms of this species.

\* Cat. Lep. Brit. Mus., xxix, p. 591, 1864.

† Cinn. Quart. Journ. Sci., ii, p. 242, 1875.

‡ Stett. ent. Zeit., xxxvii, p. 216, 1876.

§ Cinn. Quart. Journ. Sci., ii, p. 106, 1875.

|| Bull. U. S. Geol. Surv., iv, p. 106, 1878.

¶ Verh. k. k. zool.-bot. Gesell. Wien., xxiii, p. 316, 1873.

\*\* Verh. k. k. zool.-bot. Gesell. Wien., xxiii, p. 279, 1873.

†† Journ. Cinn. Soc. Nat. Hist., iii, p. 289, 1881.



**Solenobia walshella** Clemens.

One type, of little value, both fore wings and right hind wing missing, the specimen glued on a triangle; Clemens' No. 121. The case of this species and pupa skin in good condition are found separate under Clemens' No. 122.

Though the type is of little use for identification, there is no doubt about this well known species. The genus *Solenobia*\* is now included in the Psychidæ.

**Nepticula fuscotibiella** Clemens.

One type, right fore wing missing, Clemens' No. 123; alar exp., 4 mm.

This is a true *Nepticula*, of which I have at present no other representative.

**Nepticula bifasciella** Clemens.

One type without right fore wing, Clemens' No. 124; alar exp., 4.5 mm.

I have no specimen of this species at present, but I have kept sketches and descriptions in my note book; as well as of all others not represented in the U. S. National Museum.

**Nepticula platanelia** Clemens.

One perfect type, Clemens' No. 118; alar exp., 7 mm.

I have bred this common species repeatedly from the large, nearly circular, upper surface, blotch mines on sycamore, near Washington. Bred specimens compared with the type are in the U. S. National Museum.

**Lyonetia speculella** Clemens.

One type, without wings on left side, Clemens' No. 119; alar exp., 10 mm.

This is clearly the same species subsequently described by Packard as *Lithocolletis nidificansella*, and this is, as suggested by Chambers, also synonymous with his *Lyonetia gracilella*; *Lyonetia apicistrigella* Chambers, the type of which I have examined in the Cambridge Museum of Comparative Zoology, is another synonym. This reduces the six species recorded in Dyar's List of North American Lepidoptera, 1903, p. 563, to three, viz., *Lyonetia speculella* Clemens, *Lyonetia alniella* Chambers,† and *Lyonetia latistrigella* Walsingham.‡

**Tenaga pomiliella** Clemens.

One type without left wings, Clemens' No. 117; alar exp., 12 mm.

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\* Tutt, Brit. Lep., ii, p. 155, 1900.

† Cin. Quart. Journ. Sci., ii, p. 303, 1875. The type in the Cambridge Museum shows the species to be quite distinct.

‡ Trans. Am. Ent. Soc., x, p. 203, 1882. There is a type (cotype?) of this, labeled by Lord Walsingham, in the Philadelphia collection.



I had never seen an example of this striking species. It is well described by Clemens. The genus belongs among the narrow winged genera near *Tinea*.

**Hybroma servulella** Clemens.

One type, badly broken, Clemens' No. 116; alar exp., 11 mm.

Specimens of this easily recognized species, compared with Clemens' type, are in the U. S. National Museum.

**Strobisia levipedella** Clemens.

One perfect type. Clemens' No. 182; alar exp., 11 mm.

This confirms our present conception of the species, which, as determined by the writer,\* belongs to the genus *Anacamptis* Curtis.

**Parectopa robiniella** Clemens.

Two good types, Clemens' No. 183; alar exp., 6.5 mm.

See preceding note under *Parectopa lespedezaefoliella* Clemens.

**Brenthia inflatella** Clemens.

One type without the left wings, Clemens' No. 181; alar exp., 12 mm.

This type agrees with the present conception of *Choreutis inflatella* as defined by Mr. W. D. Kearfott,† and is presumably only a variety of the more common form, subsequently described by Clemens as *Brenthia virginella*.

**Coleophora leucochrysella** Clemens.

One type, without right fore wing, Clemens' No. 180; alar exp., 14.5 mm.

I have seen no other specimen of this fine species. As an aid to identification it may be added to Clemens' description that the underside of the fore wings is dark fuscous, except the apical fifth part, which is pure white.

**Coleophora concolorella** Clemens.

One type, left fore wing missing, Clemens' No. 179; alar exp., 10 mm.

I have no specimen exactly like this small, unicolorous, inconspicuous species.

**Marmara salictella** Clemens.

Clemens' type No. 125 of this species is lost, but no difficulty is met with in identifying the insect from the careful description and from the knowledge of its remarkable life history, so well given by Clemens. The writer has bred it for several seasons and gave some notes before the Washington Entomological Society on its unique mode of ornamenting its cocoon, which deserves fuller treatment. Such will be given shortly in a separate paper.

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\* Can. Ent., xxxiii, p. 15, 1901.

† Journ. N. Y. Ent. Soc., x, p. 110, 1902.



**Glyphipteryx impigritella** Clemens.

One perfect type, Clemens' No. 178; alar exp., 7.5 mm.

A specimen determined by Lord Walsingham and agreeing with Clemens' type is in the U. S. National Museum. Also specimens collected at light, Washington, D. C., by the writer. Chambers made\* his *Glyphipteryx exoptatella* a synonym of this species.

**Gelechia nigratomella** Clemens.

One type, Clemens' No. 187; alar exp., 11 mm.

This type proves the present conception correct, and the species should be known as *Aproærema nigratomella*. Specimens compared with Clemens' type are in the U. S. National Museum.

**Gelechia mediofuscella** Clemens.

One type, Clemens' No. 188; alar exp., 14 mm.

This confirms the present conception of the species, and is a true *Gelechia*, the same as the subsequently described *Gelechia vagella* Walker, *Depressaria fuscochrella* Chambers and *Gelechia liturosella* Zeller. Specimens compared with Clemens' type are in the U. S. National Museum.

**Gelechia fuscopunctella** Clemens.

One type without wings on the left side, Clemens' No. 185; alar exp., 13 mm.

This is, as shown elsewhere by the writer, a *Telphusa*, very close to but different from *Telphusa quercinigracella* Chambers. A series, bred from oak in the District of Columbia, and compared with Clemens' type, is in the U. S. National Museum.

**Gelechia gilvomaculella** Clemens.

One type without head or the wings of the left side, Clemens' No. 190; alar exp., 14.5 mm.

This proves the species a true *Gelechia* and the same as the subsequently described *Gelechia biminimaculella* Chambers. Specimens compared with both Clemens' and Chambers' types are in the U. S. National Museum.

**Gelechia longifasciella** Clemens.

One type without head, otherwise in good condition, Clemens' No. 192; alar exp., 17 mm.

This confirms the present conception of the species.† It is the same as *Telphusa curvistrigella* Chambers, and consequently type of that genus. Specimens compared with the types of both authors are in the U. S. National Museum, collected by Miss Mary Murtfeldt, of Kirkwood, Mo.

**Gelechia labradoriella** Clemens.

One type without left wings, Clemens' No. 186; alar exp., 17 mm.

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\* Can Ent., xiii, p. 193, 1881.

† Busck, Proc. U. S. Nat. Mus., xxv, p. 785, 1902.



This proves the synonymy with the European *Gelechia viduella* Fabricius, as suggested in Staudinger and Rebel's Catalogue of the Lepidoptera of Europe. The species must be known under the earlier name. \*

**Phyllocnistis liriodendronella** Clemens.

One perfect type, Clemens' No. 177; alar exp., 5.5 mm.

Specimens, bred from tulip tree in the District of Columbia and compared with Clemens' type, are in the U. S. National Museum.

**Tisheria quercitella** Clemens.

One type with wings not fully expanded, as described by Clemens; his No. 184; alar exp., 7 mm.

This species has been treated already under *Tisheria citripennella* Clemens. It is not synonymous with that species, as hitherto considered, but with the subsequently described *Tisheria tinctoriella* Chambers.

**Gelechia angustipennella** Clemens.

One type, left wings missing, Clemens' No. 194; alar exp., 13 mm.

This proves to be the species described by the writer as *Aristotelia kearfottella*,\* which name consequently falls as a synonym. The species should be known as *Aristotelia angustipennella*. Specimens compared with Clemens' type are in the U. S. National Museum.

**Gelechia apicilinella** Clemens.

Clemens' type No. 195 is lost, and the species must remain, as placed by Riley, a synonym of *Aproaerema nigratomella* Clemens.

**Gelechia pullifimbriella** Clemens.

One type, Clemens' No. 191; alar exp., 12 mm.

This proves the species to be a small, inconspicuous, nearly unicolorous *Gelechia*, different from any with which I am acquainted. I have no specimens exactly like the type which is well described by Clemens.

**Holcocera chalcofrontella** Clemens.

Two types, Clemens' Nos. 201 and 202, the latter marked "light variety"; alar exp., 15 mm.

Chambers suggested that his species *Holcocera clemensella* might be a variety of *chalcofrontella*, and he later reasserted this opinion.† In Cambridge, Mass., I examined Chambers' type, which is in very indifferent condition, but inasmuch as neither this type nor Chambers' description disagrees with undoubted specimens of *chalcofrontella*, it seems proper to regard the two names as synonyms. Specimens compared with the types of both authors are in the U. S. National Museum.

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\* Proc. U. S. Nat. Mus., xxv, p. 803, 1902.

† Cinn. Quart. Journ., ii, p. 256, 1875.



**Holcocera purpurocomella** Clemens.

One type without wings on the right side, Clemens' No. 200; alar exp., 16 mm.

This type proves the species to be the same as the subsequently described *Blastobasis quiesquiella* Zeller. Specimens compared with Clemens' type and previously found identical with Zeller's type in the Cambridge Museum, are in the U. S. National Museum.

**Holcocera gilbociliella** Clemens.

One perfect type, Clemens' No. 203; alar exp., 13.5 mm.

Zeller rightfully separated his *Blastobasis livorella* from this species, which lacks the two dark dots at the end of the cell and which is quite distinct from any other described American species. A specimen compared with Clemens' type is in the U. S. National Museum.

**Holcocera modestella** Clemens.

One type without wings on left side, Clemens' No. 204; alar exp., 16 mm.

This proves, as suspected by Zeller, to be the same as his *Blastobasis nubiiella*, the type of which I have examined in the Cambridge Museum. It is also the same as *Holcocera glandulella* Riley, as suggested by Lord Walsingham.\* A large bred series, compared with the types of both authors, is in the U. S. National Museum.

While treating this group I may add that *Blastobasis sciaphilella* Zeller† is the same as *Holcocera triangularisella* Chambers,‡ as types of both species in Cambridge prove. Chambers' suggestion§ that it is a variety of *glandulella* Riley (*modestella* Clemens) is not substantiated. All of the species here mentioned belong to *Holcocera* Clemens.

**Ypsolophus punctidiscellus** Clemens.

One perfect type, Clemens' No. 205; alar exp., 15 mm.

This substantiates the present conception of the species. Specimens compared with the type are in the U. S. National Museum.

**Ypsolophus pauciguttellus** Clemens.

Two perfect types, Clemens' No. 206; alar exp., 17 mm.

This is the common apple feeder, at once recognized by the semi-transparent, bluish hind wings. It should be known as *Ypsolophus ligulellus*. For full synonymy see my Revision of American Gelechiidæ.||

\* Trans. Am. Ent. Soc., x, p. 191, 1882.

† Verh. k. k. zool.-bot. Gesell. Wien., xxiii, p. 295, 1875.

‡ Cinn. Quart. Journ., ii, p. 256, 1875.

§ Can. Ent., ix, p. 71, 1877.

|| Proc. U. S. Nat. Mus., xxv, p. 921, 1902.



**Ypsolophus unicipunctellus** Clemens.

One type, lacking the left wings, Clemens' No. 207; alar exp., 22 mm.

This type substantiates the present conception of the species as synonymous with the previously described *Chætochilus ventrellus* Fitch, under which specific name the species should be known. Compared specimens are in the U. S. National Museum.

**Depressaria atrodorsella** Clemens.

Two types, Clemens' No. 174; alar exp., 21 mm.

These verify the writer's conception of this species.\* Specimens compared with the types are in the U. S. National Museum.

**Enicostoma packardella** Clemens.

One type without right wings, Clemens' No. 208; alar exp., 25 mm.

Specimens of this well known species, compared with Clemens' type, are in the U. S. National Museum. It is now known as *Semioscopis packardella*,† and is the same as the subsequently described *Epigrapchia eruditella* Grote.

**Brachiloma unipunctella** Clemens.

One type, wings on right side missing, Clemens' No. 212; alar exp., 20 mm.

This is, as I had anticipated from Clemens' description, the same species described by Zeller as *Cryptolechia lithosina*, and by Chambers as *Harpalyce tortricella*. Both of these names, as well as the generic name *Ide*, substituted by Chambers for the preoccupied *Harpalyce*, must be dropped for the earlier one of Clemens. The genus belongs to the family *Xyloryctidæ* Meyrick. Specimens, compared with Clemens' type and with the types of Chambers and Zeller in the Cambridge Museum, are in the U. S. National Museum.

**Pigritia ochrocomella** Clemens.

One type without wings on left side, Clemens' No. 209; alar exp., 10 mm.

Placed by Dr. Dietz as *Dryope ochrocomella*.‡ Specimens carefully compared with Clemens' type are in the U. S. National Museum.

**Pigritia ochrella** Clemens.

One type, right wings missing, Clemens' No. 211; alar exp., 12 mm.

Placed by Dr. Dietz in the genus *Dryope* Chambers. Carefully compared specimens are in the U. S. National Museum.

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\* Proc. U. S. Nat. Mus., xxiv, p. 736, 1902.

† Dyar, Can. Ent., xxxiv, p. 319, 1902.

‡ Trans. Am. Ent. Soc., xxvii, p. 117, 1901.



***Tinea acapnopennella* Clemens.**

One type, Clemens' No. 213; alar exp., 14 mm.

Specimens, determined by Lord Walsingham and agreeing with this type, are in the U. S. National Museum.

***Homosetia tricingulatella* Clemens.**

One type, wings on left side lacking, Clemens' No. 198; alar exp., 11 mm.

This is the same species as described by Chambers subsequently as *Pitys miscecristatella*. Chambers called attention to the similarity of both his genus and species to Clemens' form, but very excusably separated his genus, judging as he did only from Clemens' description, which omits any mention of the characteristic tufts of raised scales, though they are found in the types. I am unable to find any justification for the genus *Semele* Chambers,\* which Chambers later confessed† was probably not well separated from *Pitys*. I have examined the type of *Semele cristatella* Chambers, which is the type of the genus. It agrees in every respect generically with *Pitys*. Both of these genera fall before Clemens' earlier *Homosetia*. Specimens collected at Washington, D. C., and in Kentucky, are in the U. S. National Museum.

***Homosetia costisignella* Clemens.**

One type without wings on left side, Clemens' No. 199; alar exp., 11 mm.

This is without doubt the same as *Pitys fasciella* Chambers. Specimens compared with Clemens' type are in the U. S. National Museum.

***Chauliodus* (?) *canicinctella* Clemens.**

One type consisting only of thorax and right fore wing, Clemens' No. 214; alar exp., 10 mm.

In spite of its poor condition, the type will ultimately enable identification, as the coloration of the fore wing is quite striking, and well described by Clemens. I have at present no specimen like it, and cannot give any definite opinion on its generic position. If Clemens' generic description is correct, as is probably the case, the species cannot be included in *Epermenia* Hübner (*Chauliodus* Treitsche).

***Ornix boreasella* Clemens.**

One type, head, abdomen, and right wings missing, Clemens' No. 217; alar exp., 9 mm.

I have no specimen like this. The species must be retained provisionally in the genus *Ornix*, though Clemens' description and what is left of his type, indicate that it cannot belong there.

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\* Cinn. Quart. Journ. Sci., ii, p. 243, 1875.

† Can. Ent., ix, p. 208, 1877.



***Incurvaria labradorella* Clemens.**

One type without wings on left side, Clemens' No. 215; alar exp., 7 mm.

This species has already been treated. It may at present be retained in *Incurvaria*. It is a striking species, agreeing well with Clemens' description. No other specimen of the species is known to the writer.

***Gelechia brumella* Clemens.**

One type, right fore wing missing, Clemens' No. 196; alar exp., 23 mm.

I have no specimen like this, which proves the species to be a true *Gelechia*, near *vernella* Murtfeldt. It is, however, a much larger and darker species. I know of no other examples.

***Walshia amorphella* Clemens.**

Two types, Clemens' No. 225; alar exp., 17 mm.

A bred series of this species, compared with Clemens' type, is in the U. S. National Museum. I have examined the types in the Cambridge Museum of *Laverna miscecolorella* Chambers, which represent the same species, as shown by Lord Walsingham.\*

***Gelechia* (?) *ornatifimbriella* Clemens.**

One type, Clemens' No. 228; alar exp., 17 mm.

This proves to be the same species described by Zeller as *Gelechia unctella*. A bred series, compared with the types of both authors, is in the U. S. National Museum.

***Gelechia gallægenitella* Clemens.**

One type, left wings missing, Clemens' No. 229; alar exp., 10.5 mm.

This type confirms my identification of the species.† It should be known as *Epithectis gallægenitella* Clemens. Bred specimens, compared with the type, are in the U. S. National Museum. The specimens subsequently described by Clemens as this species, bred from willow galls, presumably do not belong here, and Clemens' description should, therefore, be disregarded. These specimens are not found now with Clemens' types.

***Gracilaria coroniella* Clemens.**

One type, both fore wings and one hind wing missing, Clemens' No. 226.

Lord Walsingham determined with some doubt‡ the common birch *Gracilaria* of the Eastern States as *Gracilaria coroniella*. Inasmuch as this agrees with Clemens' description and with what is left of his type, this determination is probably correct and should be accepted. Bred specimens from Washington, D. C., are in the U. S. National Museum.

\* Trans. Am. Ent. Soc., x, p. 197, 1882.

† Proc. U. S. Nat. Mus., xxv, p. 819, 1892.

‡ Trans. Am. Ent. Soc., x, p. 192, 1882.



**Depressaria pulvipennella** Clemens.

One type, Clemens' No. 227; alar exp., 20 mm.

This confirms my present conception of the species. Specimens compared with the type are in the U. S. National Museum.

**Depressaria cinereocostella** Clemens.

One type, Clemens' No. 173; alar exp., 17 mm.

The writer's conception of this species is verified. A bred series, compared with type, is in the U. S. National Museum.

**Hamadryas bassettella** Clemens.

Two types, Clemens' No. 221; alar exp., 14 mm.

A bred series of this striking but common species is in the U. S. National Museum. It is known now under the generic name *Euclemensia* Grote,\* *Hamadryas* being preoccupied.

**Cycloplasis panicifoliella** Clemens.

Two types with cases, Clemens' No. 219; alar exp., 4.5 mm.

Specimens bred by the writer at Washington, D. C., and compared with Clemens' types of this remarkable little species, are in the U. S. National Museum.

**Elachista brachyelytrifoliella** Clemens.

One type, right wings and abdomen missing, Clemens' No. 218; alar exp., 6 mm.

I have no specimen of this species, and the type is in rather poor condition for identification; still the recognition of the species is assured from the knowledge of its food plant, together with Clemens' description.

**Adela ridingsella** Clemens.

One type, Clemens' No. 171; alar exp., 15.5 mm.

Specimens compared with the type are in the U. S. National Museum. Lord Walsingham has pointed out† the synonymy of *Adela schlægeri* Zeller and *Dicte coruscifasciella* Chambers with this species.

**Coleophora rosæfoliella** Clemens.

One type with its case, Clemens' No. 216; alar exp., 12.5 mm.

I have no specimen of this species.

**Coleophora rosacella** Clemens.

Three types, Clemens' Nos. 166, 168 and 170; also two cases numbered 167 and 169. No. 170 represents Clemens' variety; alar exp., 12 mm.

Not having bred material of this species I am at present unable to give a final opinion about the supposed variety. It seems to be specifically distinct.

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\* Can. Ent., x, p. 69, 1878.

† Proc. Zool. Soc. Lond., p. 79, 1880.



***Dasycera newmanella* Clemens.**

One type, Clemens' No. 172; alar exp., 17.5 mm.

Specimens compared with the type of this well known species are in the U. S. National Museum. The genus *Dasycera* Haworth has been made synonymous with *Æcophora* Latreille by European authors. The present species should be known under that generic name.

The only other American species described as *Dasycera*, namely *nonstrigella* Chambers, belongs, as I have shown,\* to the Gelechiid genus *Trichotaphe* Clemens. The other American species hitherto placed in *Æcophora* should be placed temporarily in *Borkhausenia* Hübner, following European microlepidopterists. Future study will surely cause these species to be distributed in more than one genus. I cannot understand how European specialists, such as Meyrick and Rebel, have left in one genus species so widely separated as *pseudospretella* Stainton and *borkhausenii* Zeller. The former has 12 veins in fore wings and veins 3 and 4 in hind wings stalked like the type of the genus *similella* Hübner, while the latter has only 11 veins in fore wings (vein 8 absent) and veins 3 and 4 in hind wings separate. *Æcophora boreasella* Chambers is, as proven by the description and by Chambers' type in Cambridge, the same as *borkhausenii* Zeller.

***Wilsonia brevivittella* Clemens.**

Two perfect types, Clemens' No. 175; alar exp., 12 mm.

Bred specimens of this common species compared with the types are in the U. S. National Museum. The genus *Wilsonia* can hardly be retained, as it agrees in all essential characters with *Mompha* Hübner, under which genus the species should be placed. Lord Walsingham made† *Laverna ænothæresminella* Chambers and *Laverna ænothærevorella* Chambers, synonyms of Clemens' species.

***Ypsolophus flavivittellus* Clemens.**

No type is found of this species, but there is no doubt about its identity with *Ypsolophus ligulellus* Hübner, under which name it should be known.

***Anesychia sparsiciliella* Clemens.**

Two types, Clemens' No. 165; alar exp., 18 and 20 mm.

no. The synonymy with *Cryptolechia contrariella* Walker and with *Cryptolechia atropicta* Zeller, as pointed out by Lord Walsingham,‡ is evidently correct, as well as the generic position assigned by him. The species should be known as *Cryptolechia contrariella* Walker. Specimens, compared with Clemens' type, are in the U. S. National Museum.

\* Proc. U. S. Nat. Mus., xxv, p. 910, 1902.

† Trans. Am. Ent. Soc., x, p. 196, 1882.

‡ Proc. Zool. Soc. Lond., p. 85, 1880.



***Elachista* (?) *orichalcella* Clemens.**

One type in poor condition and without wings on left side, Clemens' No. 421; alar exp., 6 mm.

Not having any material of this species for structural study, I am unable to pronounce on Stainton's opinion that it is probably not an *Elachista*. The type has the general aspect of this genus, but is not in sufficiently good condition to furnish information on the generic characters.

***Brenthia virginiella* Clemens.**

One specimen (type?) with Clemens' label, but without his usual number; in poor condition, left wings missing and right wings rubbed; alar exp., 10 mm.

This is the same, as far as the condition allows determination, as the present conception of the species, namely, a variety of the previously described *Brenthia inflatella* Clemens.\*

***Gracilaria blandella* Clemens.**

The type of this species is lost.

The walnut feeder, suggested by Chambers to be this species, and redescribed by him† with his provisional name *juglandivor-ella*, agrees well with Clemens' description, and his name should stand for the species. Bred specimens are in U. S. National Museum from Washington, D. C.

***Tinea tapetzella* Linnæus.**

The specimen identified by Clemens as this species, bearing his No. 126, is found in good condition and proves it to be the European species, which is now known under the generic name *Trichophaga* Ragonot. The species supposed to be a variety of it, *Tinea occidentella* Chambers, is a quite distinct *Tinea*, as Chambers' type in Cambridge proves.

***Coleophora cratipennella* Clemens.**

One perfect specimen, thus labeled by Clemens but without any number, is found in the collection. It agrees with Clemens' description and undoubtedly represents the species, though it may not be the original type. Alar. exp., 14 mm.

Specimens collected by the writer at Washington, D. C., and compared with Clemens' specimen are in the U. S. National Museum. Chambers' type of *Coleophora gigantella* is there also. It proves synonymous with *cratipennella* as the descriptions would indicate.

***Gelechia fungivorella* Clemens.**

Four types, Clemens' Nos. 455, 456, 457, and 458; alar exp., 12 mm.

These agree with my conception of *Aristotelia fungivorella* and with my bred specimens, but are very distinct from the following species with which I had associated it.

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\* Kearfott, Journ. N. Y. Ent. Soc., x, p. 111, 1902.

† Can. Ent., v, p. 13, 1873.



**Gelechia salicifungiella** Clemens.

One perfect type, Clemens' No. 459; alar exp., 12.5 mm.

In the absence of any specimens, and following Clemens' own suggestion, which his description seemed to substantiate, I had made this species a variety of the foregoing, *Aristotelia fungivorella* Clemens. The type, however, shows this conclusion to be entirely wrong; *salicifungiella* is a very distinct *Aristotelia*, easily recognized by its showy brick red ground color. A specimen, compared with the type, is in the U. S. National Museum.

**Batrachedra salicipomonella** Clemens.

Four types, Clemens' Nos. 413 and 415; alar exp., 12 mm.

I have bred this species from saw fly galls on willow at Washington, D. C.\*

**Nepticula saginella** Clemens.

One type, Clemens' No. 420; alar exp., 4 mm.

I have no specimen like this type. The knowledge of the food plant and Clemens' description, however, insure recognition of this well marked species.

**Bucculatrix trifasciella** Clemens.

One type, Clemens' No. 416; alar exp., 7.5 mm.

Bred specimens from Washington, D. C., compared with Clemens' type, are in the U. S. National Museum.

**Incurvaria mediotriatella** Clemens.

One type without wings on right side, Clemens' No. 418; alar exp., 9 mm.

Though differing slightly in venation, as pointed out by Clemens, this species may, provisionally at least, be retained in *Incurvaria*. *Tinea auristrigella* Chambers and *Lecithocera flagistrigella* Walsingham have been made synonyms of this species. The type of the latter is in the collection of the Philadelphia Academy and agrees with Clemens' type. Identical specimens are in the U. S. National Museum.

—Mr. Ashmead exhibited specimens representing nine new genera of Cynipoidea and commented upon their peculiarities. Descriptions of these genera are contained in the following paper:

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\* Probably *Pontania hyalina* Norton. See Marlatt, U. S. Dept. Agriculture, Div. Ent., Technical ser., No. 3, p. 37, 1896.—Publication committee.





Busck, August. 1903. "Notes on Brackenridge Clemens' types of Tineina."  
*Proceedings of the Entomological Society of Washington* 5, 181–220.

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