

Notes on Chambers' Species of *Tineina*.

BY ANNETTE F. BRAUN, Cincinnati, Ohio.

Of the innumerable species of *Tineina*, described by the late Mr. V. T. Chambers, of Covington, Kentucky, not a few are at the present time unrecognized or imperfectly known. This is due to a number of circumstances, all of which have combined to render the identification of Chambers' species difficult and have led in a number of cases to unavoidable errors. Apparently some of Chambers' types were never deposited in any institution and these often represented species of which the short description is inadequate for identification. Other species were described from specimens in such poor condition that the author himself often expressed doubts as to the correctness of his observations. A third category includes species which were named from preparatory stages alone and referred in some cases to the wrong genera. In large genera, where some species have been described from imago, others from larva or mine, the confusion can be cleared up only by the rearing of all of such species.

The writer is making an effort to rediscover by breeding and collecting those of Chambers' little known species, which were described from Ohio and Kentucky, with the intention of publishing from time to time notes which shall give additional information on life histories, correct faulty descriptions, and give complete descriptions of species known only in the larval state.

***Trichotaphe nonstrigella* Chambers.**

Dasycera nonstrigella Chambers, Bull. U. S. Geol. Surv., IV, 92, 1878.

Trichotaphe nonstrigella Busck, Dyar's List N. A. Lep. No. 5661, 1902; Proc., U. S. Nat. Mus., XXV, 910, 1903.

This rather remarkable species, which was originally described by Mr. Chambers from a single female specimen, I have found very common locally around Cincinnati, but until a few years ago, its early stages remained entirely unknown.

During the latter half of April and the beginning of May,

the terminal leaves of the growing shoots of *Aster shortii* Hook, may be found spun together by a Gelechiid larva, which has proved to be that of *T. nonstrigella*. By the middle of May, the larvae have all pupated in a fold made by turning over the edge of a leaf.

Larva when mature about 14 mm. long. Head shining blackish; next three segments plum colored, thoracic shield blackish; segments 3 and 4 each ornamented with a pair of elongate, shining black tubercles; on dorsum at the posterior end of segment 3, a pair of grayish white spots and a similar smaller pair at the anterior end of segment 4. The remaining segments and the posterior end of segment 4 grayish white, longitudinally marked with 7 plum colored stripes, one median and three lateral, of the same width as the ground color between them; a few scattered hairs arising from small black tubercles. Legs black.

The moths begin to appear about the 20th of May, and during the latter part of May and early part of June are often exceedingly numerous in the vicinity of their food plant. Occasional scattered specimens may be found as late as the first week in July. The species is single brooded.

***Ypsolophus citrifoliella* Chambers.**

Nothris citrifoliella Chambers, Jn. Cin. Soc. Nat. Hist., II, 184, 1880; Comstock, Rep. U. S. Dept. Agr., p. 205, 1880.

Ypsolophus citrifoliellus Busck, Dyar's List N. A. Lep., No. 5683, 1902; Proc. U. S. Nat. Mus., XXV, 923, 1903.

There appears to be no record of the occurrence of this species in the North, nor of any food plant other than orange.

The larvae around Cincinnati feed within the folded leaves of Prickly Ash, *Xanthoxylum americanum* Mill., a plant which botanically and in its chemical properties is closely related to the orange.

Although the Prickly Ash grows commonly near some of Chambers' old collecting grounds in Kentucky, he does not seem to have ever met with the larvæ or imagoes of *Y. citrifoliellus*.

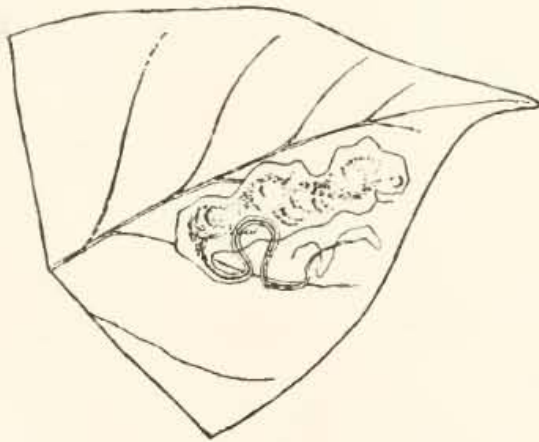
***Nepticula nyssaefoliella* Chambers.**

Nepticula nyssaefoliella Chambers, Psyche, III, 66, 1880; Dyar, List N. A. Lep., No. 6206, 1902.

Face and head tufted, reddish yellow. Antennae one-half, dark

brown above, pale ochereous beneath, eye caps shining, whitish. Thorax and forewings black with purplish reflections toward the apex of the wing. Just beyond the middle of the wing is a slightly curved pale golden fascia, which is broadest on the dorsal margin, where a few golden scales extend along the margin toward the base. Apical cilia silvery, costal and dorsal cilia tinged with purple, the latter becoming concolorous with the hind wing. Abdomen above and below, and anal tuft, purplish black. Legs pale gray with purple and metallic reflections. Expanse: 4 mm.

This is one of the numerous species of *Nepticula* named from mine or larva only. The mine which occurs quite commonly on leaves of Sour Gum, *Nyssa sylvatica* Marsh, is chiefly interesting because of its superficial resemblance in shape to that of *Antispila nyssaefoliella* Clem., from which it differs, of course, in lacking the transparency characteristic of an *Antispila* mine, and in the abrupt enlargement of the linear mine into a blotch.



Mine of *Nepticula nyssaefoliella* Chamb.

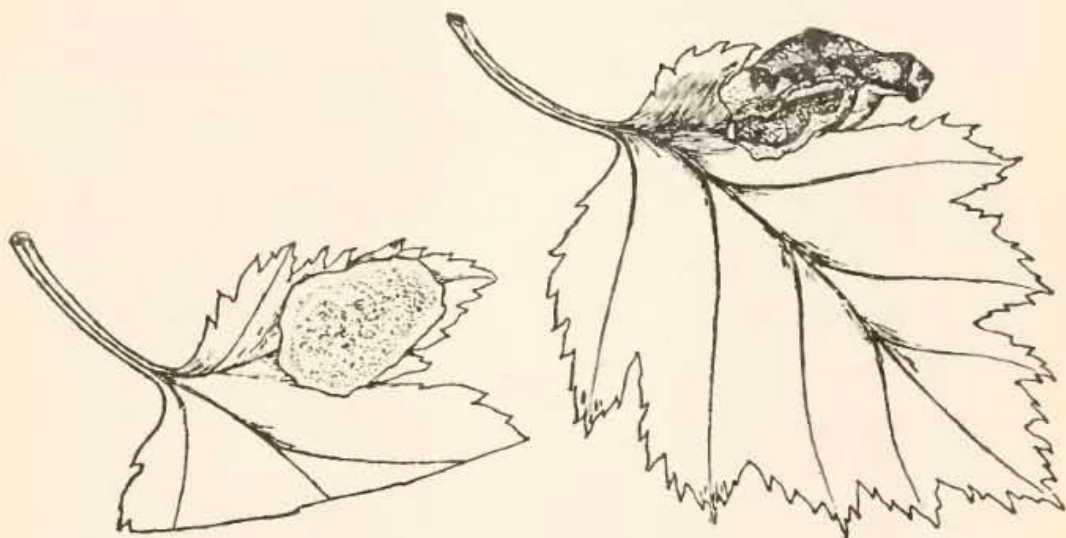
The mine begins as a very narrow winding linear tract, with a narrow line of frass through the center. A few days before pupation, this abruptly enlarges into an elongate, irregular pale brownish yellow blotch, 2 cm. or more in length and averaging 5 or 6 mm. in width, with the grains of frass scattered throughout its area.

The cocoon is pale greenish, somewhat oyster-shell shaped with its broader anterior edge flattened.

***Ornix inusitatumella* Chambers.**

Ornix inusitatumella Chambers, Can. Ent., V, 47, 1873; Dietz, Trans. Am. Ent. Soc., XXXIII, 289, 292, 1907; Dyar, List N. A. Lep., No. 6392, 1902.

Mr. Chambers' original description of this species is incorrect and was probably made from a rubbed specimen, as his type has been pronounced identical with *O. crataegifoliella* Clem. A series of bred specimens of *inusitatumella* shows that it is not even closely related to *crataegifoliella*, the most marked differences being the uniform ground color of the wings and the three entire ciliary lines.



Mine of *Ornix inusitatumella* Chamb.

Cocoon *Ornix inusitatumella* Chamb.

Palpi whitish, the tip of the second joint and a broad annulus blackish. Head grayish fuscous, with the tufts, especially behind, tinged with brown. Thorax and forewings dark brown, the latter, especially toward the base tinged with purple. Eight costal striae, of which the last seven are distinct and whitish on the costa; the eighth stria very short, the three preceding ones extended nearly to the dorsal margin; the fifth, sixth and seventh from the apex angulated in the middle of the wing and thence extending to the dorsal margin as a purple shade. Interstitial spaces conspicuously darker. Plical spots almost obsolete; the first broader but more indistinct than the second, which is a narrow black dash. Subplical space not paler than the rest of the wing. Cilia fuscous at their base, whitish beyond with three entire lines. Expanse 7.5—8 mm.

This species is a miner on the upper side of *Crataegus tomentosa* L. in Kentucky, according to Chambers, and in Ohio on *Crataegus mollis* (T. & G.) Scheele, from which I have bred it. The thin loosened upper epidermis of the almost circular blotch is yellowish white, sprinkled with frass. Later the epidermis becomes wrinkled to such an extent that the leaf is often almost folded double. At the time of pupation, the larva leaves the mine, and spins on the middle of the upper surface of the loosened epidermis a reddish yellow cocoon which is speckled with brown, exactly like the spots on the epidermis. Without very careful observation, this creates the impression that the cocoon is within the mine, as Chambers described it. The epidermis is attached to the lower surface and sides of the cocoon, this process often tearing the epidermis at each side, and the upper side of the cocoon does not project above the general level of the mine. The pupa, on emergence, does not project through the epidermis of the mine, but through the upper side of the end of the cocoon.

O. Inusitatumella is most nearly related to *O. prunivorella* Cham., from which it differs by its smaller size, more distinct striae and the absence of the patch of semi-erect scales on the middle of the dorsal margin.

Marmara smilacisella Chambers.

Phyllocnistis smilacisella Chambers, Cin. Quat. Jn. Sci., II, 107, 1875; Busck, Proc. U. S. Nat. Mus., XXIII, 252, 1900; Dyar, List N. A. Lep., No. 6426, 1902.

Head and face silvery gray, except the vertex which has a few fuscous scales. Antennae shining brownish gray. Labial palpi silvery white, the apex of the second joint beneath somewhat roughened with dark brown scales, terminal joint with a dark brown annulation near the tip. Maxillary palpi dark blackish brown. Thorax dark brown. Forewings dark brown, somewhat mottled, in some lights with a deep blue iridescence. The markings which are silvery white are somewhat variable. At the basal third is a perpendicular slightly curved silvery fascia; this is, however, sometimes reduced to a white dorsal spot, reaching only to the fold. At the middle of the costa is an oblique curved white spot sometimes reaching to the middle of the wing, where its apex is opposite that of a triangular dorsal spot, situated a little farther

back; at the apical third, a triangular costal spot and opposite it, a much smaller dorsal spot; just before the apex, a small white costal spot. Apical cilia white; cilia below the apex gray with a line of dark scales through their middle, extending to the tornus. Hindwings dark brown. Abdomen dark brown, underside whitish, except near the thorax and at the bases of the segments. Legs black, with silvery annulations of varying width. Expanse: 5.5 mm.

This species was named by Chambers from the mine only, and erroneously referred to the genus *Thyllocnistis*. Chambers states (Cin. Quart. Jn. Sci. II, 108, 1875) that he found the mine only in Southern Kentucky on the leaves of *Smilax glabra* and never met with it in Northern Kentucky.

The three minees which produced the moths from which the above description was prepared, were found at Cincinnati, Ohio, August 31st, on the upper side of leaves of *Smilax hispida* Muhl. The mine is silvery white, narrow, even in the later stages not more than 2.5 mm. wide, with a narrow central line of frass. Its course is very winding, crossing and recrossing the earlier portion of the mine, and covering in the case of the smaller leaves almost the entire surface of the leaf.

The larva at maturity turns bright red, and leaving the mine, spins the peculiarly ornamented cocoon characteristic of the genus.

The cocoon, which is yellowish white, with a group of iridescent globules at each end, is spun in a small fold at the edge of the under side of the leaf.

The imagoes appeared September 23d and September 29th. In two of them, the fascia at the basal third is complete, in the third, it is represented only by the dorsal spot.

***Tinea croceoverticella* Chambers.**

Tinea croceoverticella Chambers, Can. Ent. VIII, 106, 1876; Dietz, Trans. Am. Ent. Soc., XXXI, 54, 1905; Dyar, List N. A. Lep., No. 6500, 1902.

Several specimens of this species were bred from the flat white fungus which often covers large portions of the trunks of dead and partially burned beech.

The larva is a case-bearer and feeds externally on the fun-

gus. The case is formed of closely packed particles of frass and sawdust, and is lined with a dense sheet of grayish white silk. It is 8 or 9 mm. long, broadest in the middle, tapering



Case of *Tinea croceoverticella* Chamb.

to a narrower neck at each side of the middle, then flaring out again at the ends which are somewhat ragged.

The larva does not seem to feed upon the large white patches of fungus, where its gray case would be very conspicuous, but attacks the small patches just beginning to grow around the crevices in the bark. While feeding the case extends out horizontally; at other times it is closely appressed to the bark,

and is not easily discovered. At pupation the case is strongly attached to the bark at both anterior and posterior ends by four groups of silken threads, two at each end.

The cases were first observed on the fifth of June, and the larvae continued to feed for about a week. The imagoes appeared June 29th and July 7th; captured specimens in my collection are, however, dated a week or ten days earlier.

THE United States Civil Service Commission announces an examination on December 15, 1909, to secure eligibles from which to make certification to fill a vacancy in the position of entomologist in the Bureau of Science, Manila, Philippine Islands. The salary of this position at present is \$1,600 per annum.

ZOPHOBAS MORIO Fabr. This species of Tenebrionidæ described by Fabricius in his *Genera Insectorum*, p. 241, 1776, should be added to the List of American Coleoptera and placed after *Upis*. Specimens bearing the label "Fla" have been for years in the collections of Dr. Horn, the American Entomological Society and Dr. Castle. According to data received from the latter this species has been collected at Key West, Fla., VIII, 28, 07, and later dates by Mr. John Hanlon in numbers under the loose saddles of the palmetto. GEO. M. GREENE.