

CONTRIBUTIONS TOWARD A MONOGRAPH OF THE NOCTUIDÆ OF
BOREAL AMERICA.—REVISION OF XYLOMIGES AND MORRISONIA.

BY

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(With Plate III.)

XYLOMIGES Gn.

1852, Gn., Sp. Gen., Noct., I, 147.

Eyes hairy, round, moderate. Head small, retracted, with even, short, stiff, scaly vestiture, forming superposed flattened frontal tufts. Palpi short, reaching to, but scarcely exceeding, the front. Tongue long and strong. Antennæ in the male pectinated, serrate and bristled, or ciliate merely. In the female they are simple, only sparsely ciliated. Thorax robust, quadrate, convex, with a variably distinct anterior and posterior tuft. Abdomen dorsally tufted. Legs unarmed, save for the ordinary spurs of middle and hind tibiæ. Primaries narrow, trigonate, elongate, with marked apices and obliquely rounded outer margin, or short, narrow, and stumpy.

From *Mamestra* this genus differs by the shorter palpi, the more retracted head, the superposed frontal tufts, the wing form, and in some instances by the pectinated antennæ.

From *Morrisonia* it differs in not having the divided thoracic crest, the thorax itself stouter, the abdomen not so long proportionately, and the primaries not retracted at anal angle nor strigate in type of maculation.

From *Stretchia* (*Perigrapha*) the species differ in the thoracic tuftings and somewhat also in wing form. Strictly, only two of our species—*curialis* and *dolosa*—are congeneric with the European *conspicillaris*; but there is no safe line for the separation of any of the species, save possibly *patalis*, which differs by the habitus, the short stumpy wing, somewhat depressed body, and simple male antennæ. Antennal characters are weak in the hairy eyed genera, and so indeed are most others. It is difficult to limit the genera in this series, and comparative characters and habitus must serve largely as guides. The lines of demarcation between this genus and *Mamestra*, *Morrisonia*, or even *Tanio-campa* are nowhere sharply defined and errors are easy, especially with imperfect or insufficient material.

I place at the head of the series the species in which the male antennæ are pectinated, the primaries moderately wide, trigonate, the apices well marked.

Hiemalis is a small species in which the median lines are usually not well marked. The ordinary spots are distinct, the reniform is marked with reddish, and there is a distinct curved basal dash, above which there is a somewhat prominent paler shade. The antennal pectinations are very long, and there is a series of black spots before the s. t. line.

Peritalis is larger, with much the same type of maculation. There are no shades or spots before the s. t. line, and the antennal pectinations are much shorter.

Crucialis is a much paler form than any of the preceding, somewhat smaller than *peritalis*, from which it differs in having the darker terminal space completely cut on veins 3 and 4, leaving two triangular blackish patches.

To the second series, in which the male antennæ are serrate and ciliate, belong *curialis*, *dolosa*, *perlubens*, *subapicalis*, *rubrica* and *ochracea*.

Curialis and *dolosa* are narrow-winged forms, like the European species, the colors dark ash gray. In *curialis* the color is even, with a faint reddish suffusion and no white lines or patches.

In *dolosa* the color is powdery, blackish, the orbicular white; below it a white band extends to the inner margin, giving the wing a characteristic appearance. The s. t. line is also white, or paler at least.

Perlubens I do not know. Mr. Grote says it is related to *rubrica*, and so it seems to be. It is not possible to specify exactly wherein it differs, from the description, except that the orbicular is said to be upright. In *rubrica* it is oblique, elongate, in all the specimens seen by me.

Rubrica and *subapicalis* are broader winged than *curialis* and *dolosa*, and the outer margins are obviously dentate, which is not the case with the latter.

Rubrica is a powdery, reddish gray form, sometimes almost even in color, sometimes quite strongly maculate, the ornamentation taking form as a distinct preceding shade to s. t. line, sending in a black shade opposite the cell, so as to relieve and lighten the apical region. The orbicular is elongate, oblique, oblong, and gray in color. The insect looks like a *Teniocampa* at first sight, and the generic characters are not strong.

Subapicalis I once thought a form of *rubrica*, and so described it. It differs, however, not only in the sexual characters, but in the uniformly ash or blackish gray ground color, and in the form of the orbicular, which is upright and broadly oval. In other details of maculation it is like *rubrica*. This species looks as much like a *Mamestra* as *rubrica* does like *Teniocampa*, and well illustrates the artificial character of the hairy eyed genera.

Ochracea is unlike any other of the species. It resembles *patalis* in wing form; but is of a dull, luteous, ground color, with the veins

white marked. The median lines are also white marked. The ordinary spots large, discolorous, white, or at least white ringed. Altogether it is unique in color and habitus, and therefore easily recognized. The head is more retracted, and has the frontal tufts less evident than in the other species.

Patalis is the only species in which the antennæ of the male are entirely simple, and it is also the smallest of the genus. It is a stout, rather stumpy winged form, contrasting quite strongly with some of the other species, and yet with a certain habitual resemblance to them. In color it is pale whitish or bluish gray, sometimes with a creamy tint, and more rarely with a yellowish suffusion. The median lines are somewhat indistinct, closely approaching at the hind margin, and giving the median space, which is usually darker, a somewhat irregular V-shape. Rarely a specimen will lack all maculation save a few black spots marking the s. t. line. The ordinary spots are large, pale, and quite generally fused inferiorly.

Tabulata is known to me in the female only. It is a dark, blackish-gray species, with close, smooth scales. The maculation is evident, the s. t. line marked at anal angle with a black spot in a reddish suffusion. It resembles a *Mamestra* of the *manguina* type quite strongly.

The genitalia of the species are separately described hereafter. There is no distinctive type, though the majority of the species resemble each other to some extent.

The early stages of some of the forms are known to Dr. Riley; but, so far as I am aware, have not been described.

In tabular form the species separate as follows:

- | | |
|---|--------------|
| 1. Antennæ of male distinctly pectinated..... | 2 |
| Antennæ of male serrated and bristled..... | 3 |
| Antennæ of male simple, finely ciliated..... | 4 |
| 2. Primaries trigonate, narrower at base; s. t. line complete: | |
| Smaller; antennal pectinations long..... | HEMALIS. |
| Larger; antennal pectinations short..... | PERITALIS. |
| Primaries elongate, parallel, scarcely narrower at base; s. t. line obsolete; pale ash gray, two distinct black trigonate shades toward outer margin..... | CRUCIALIS. |
| 3. Narrower winged, fringes not or scarcely dentate; color not luteous: | |
| Even ash gray, with a faint reddish tinge; s. t. line marked only by a series of blackish spots..... | CURIALIS. |
| Dark blackish gray; a whitish patch below orbicular to hind margin; s. t. line white, preceded by black spots..... | DOLOSA. |
| Broader winged; primaries trigonate, elongate; fringes distinctly dentate: | |
| Variegated with reddish and gray, veins blackish, orbicular upright..... | PERLUBENS. |
| More even, reddish gray; a more or less evident black shade from reniform to outer margin below apex; orbicular oblique, elongate..... | RUBRICA. |
| Dark ash gray; a reddish shade from reniform to apex; orbicular ovate, upright..... | SUBAPICALIS. |
| Broad and stumpy winged; fringes not dentate. | |
| Dull luteous; veins and median lines white; ordinary spots large, usually pale; s. t. line yellow..... | OCHRACEA. |
| 4. Primaries short and stumpy, fringes not dentate: | |
| Pale whitish or creamy gray; median space darker, V-shaped, ordinary spots large, often fused..... | PATALIS. |

Xylomiges hiemalis Grt.1874. Grt., Buff. Bull., II, 71, *Xylomiges*.*californica* Behr.1874. Behr. in Strk. Lep. Rhop. et Het., 94, *Dryobota*.

1876. Grt., Can. Ent., VIII, 26, pr. syn.

1878. Grt., Bull. U. S. Geol. Surv. IV, 178, *Xylomiges*.

1879. Grt., Can. Ent. XI, 29, pr. syn.

General color ash gray, with a slight reddish tinge. Head fuscous on front, paler on vertex; collar with a black line near tip; thorax with a small black central tuft, and a lateral line on patagiae at the base of the wings. Primaries, basal line marked only by a geminate costal spot; a curved black mark from base below median vein to the subcostal vein near the t. a. line; above this the color is pale, beneath much darker and tinged with fuscous. T. a. line very variably distinct, geminate, often only the somewhat paler included space obvious, inner line never distinct; in general course it is somewhat oblique outwardly, a little curved between veins. T. p. line more or less indefinite, always traceable, dusky, better marked in costal region, where it is geminate. It is rather distant from base, well outcurved over the reniform, but not much incurved below. Between the ordinary spots a median shade darkens the intervening space, thence continues as a narrow and rather faint line, nearly upright in course, to the hind margin. S. t. line pale, marked on either side by a blackish shade which is broader in the terminal space, making a feeble W on veins 3 and 4, in some specimens much less marked and almost even. Claviform small, black ringed, concolorous or somewhat darker; beyond it the submedian interspace is paler to the s. t. shade. Orbicular large, pale, oval, superiorly open to the costa. Reniform moderate, upright, with a median brownish-red shade, inferiorly darkened also by the median shade. Beyond the middle a pale shade extends to the s. t. line. The s. t. shade consists rather of a series of closely connected interspaceal lunules, of which the central are in rare cases obsolete. Secondaries whitish, with a distinct discal dot, a more or less obvious exterior line and with fringes cut with black. Beneath, primaries smoky, secondaries white; both with an exterior line and discal dot.

Expands 27 to 31 millimetres=1.10 to 1.25 inches.

HABITAT: California.

Several specimens are in the collection of the U. S. National Museum, all from California (O. Meske; Alameda County, January, through C. V. Riley).

The species is easily recognizable by the small size, combined with the very long pectinations of the antennae and large, distinct, ordinary spots.

The genitalia have the harpes bent toward tip, and tapering to an obtuse point; the clasper is chitinous, stout, rather long, curved somewhat more than the angulation of the harpes. The species seems not uncommon, and is one of the most generally represented in collections.

Xylomiges peritalis sp. nov.

Ground color of head, thorax, and primaries bluish gray, powdery, the maculation blackish. Palpi with a faint, pink tinge. Front with a blackish band across base and another at middle. Collar with a black transverse band. Patagiæ black margined at base of wings. Primaries with the transverse lines marked by geminate spots on costa, but very vaguely marked below. A black longitudinal line at base to t. a. line, and opposite is the large, concolorous claviform outlined in black. A black bar from the t. a. line to the large, pale orbicular, which is oval, black margined, but not defined superiorly, narrowly confluent with the large kidney-shaped reniform. A dusky oblique shade from costa between the ordinary spots crosses the reniform inferiorly and darkens it; outwardly the spot is incomplete, and from it a faint ochereous stain extends to the terminal space. The veins are all more or less evidently black marked, and beneath vein 1 is a dusky shade. T. p. line evenly bisinuate, concolorous, barely traceable by the faint fuscous defining lines. S. t. line evident, marked with a few yellow scales, but defined principally by the blackish terminal-space, somewhat toothed on veins 3 and 4. Fringes dentate, cut with blackish, gray at base. Secondaries white, faintly reproducing the maculation of under side. Beneath white, primaries black powdered, most evidently near outer margin, a faint discal spot, an incomplete extra discal line, and a row of terminal dots; secondaries powdered only along costal margin, with a large black discal spot, a punctiform extra discal line, and a subcontinuous marginal line.

Expands 40 millimetres=1.60 inches.

HABITAT: Colorado (Bruce); Oregon (Strecker).

A single specimen in good condition from Mr. Neumoegen's collection; but I have seen others, also of Mr. Bruce's collecting. In wing form, general habitus, and type of maculation this species is the close ally of the Californian *hiemalis*. It is, however, decidedly larger, and the pectinations of the antennæ of the male are very short, in marked contrast to the long branches on *hiemalis*.

The occurrence of such forms, closely allied in all habitual and ornamental details, with so evident a structural character, is interesting.

The sexual characters again are very much like those of *hiemalis*, in the form of the harpes at least; the clasper is distinctly different, as may be seen by a comparison of the figures of each.

Xylomiges crucialis Harvey.

1875. Harv. Buff. Bull. II, 277, *Xylomiges*.

Ground color pale bluish gray. Head with vertex slightly darker. Collar with a black transverse line. Thorax with a black crest line, patagiæ with a lateral line at base of wings. The primaries have all the veins black marked, the ordinary lines obsolete. A distinct black

basal dash extending into the long claviform, which is concolorous, black ringed and reaches to the middle of the wing. From the upper edge of this basal streak, another curved black line runs to the subcostal, and then curves downward to form the margin of the elongate, large orbicular, which is open to the costa. The costal region from the base to this point is usually paler, more whitish than the rest of the wing. A distinct median line starts at costa, outwardly oblique, forming the outer margin of the orbicular and separating it from the reniform, inwardly angulated on the median vein and thence, much less defined, to the middle of the hind margin. Orbicular elongate, oval, oblique, open to costa. Reniform upright; dilated inferiorly, incompletely black, then white ringed, inferiorly dusky, centrally with a more or less intense clay-yellow shade, from which a tinge extends outwardly, nearly to the apex. The t. p. line is sometimes marked by a geminate black spot on costa above reniform, and beyond this the costal region is dusky to the apex. From the inferior margin of the reniform an oblique dusky shade extends to below the apex, marked in its course by black streaks extending through the interspaces, and reaching the outer margin at a black spot in the fringe. A second triangular dusky patch is above the anal angle marked by two interspaceal dashes. Secondaries white, subtransparent, with black discal dot and broken median and terminal line. Beneath white, powdery, primaries with veins black marked, both wings with variably obvious discal spots and broken exterior and terminal lines.

Expands 35 to 38 millimeters=1.40 to 1.52 inches.

HABITAT: Vancouver; California; Colorado; Oregon.

Of this species Mr. Dyar sent me a large number of specimens, all more or less broken, taken at the electric lights at Maniton in May. The species has not been common in collections heretofore: I have also received it from Mr. Bruce, taken near Denver. In the fifty or more specimens before me I note no variations, and the species is an easily recognizable one. The primaries are more parallel than in the other species with pectinated antennæ and the pattern of maculation is obviously different. The curved, black basal markings, above which the wing is paler, the elongate oblique orbicular open to the costa, and the two triangular dark patches in the s. t. space, are characteristic.

The harpes of the male narrow somewhat irregularly to a rounded acute tip. A long, curved, corneous clasper arises a little basad the middle of the harpe and does not attain its tip. At the base of this large hook is a smaller, less curved and less acute process, which barely exceeds the lateral margin of harpe.

The original description of this species is incomplete and differs in detail so much from the above that had I not seen the types in Mr. Edwards's collection, I might have hesitated to make the identification.

Xylomiges curialis Grote.

1873. Grt., Buff. Bull., 1, 143, *Xylomiges*.

Bluish ash gray, head and thorax concolorous, immaculate. Primaries with a faint reddish tinge. Veins black marked, irregularly interrupted by white scales. All the lines vague, indistinct. Basal line broad, diffuse, hardly darker than ground color, fairly distinct on costa only. T. a. line upright, geminate on costa only, irregularly dentate on the veins, a longer outward tooth in the submedian interspace, representing the claviform. An indistinct brown shade line accompanies the darker defining line and becomes somewhat diffuse in the submedian interspace. T. p. line vague, indistinct, marked by more prominent venular points, and defined mostly by a dusky median shade which starts from the costa between the ordinary spots, darkens the outer half of the median space and obscures the reniform. The s. t. line consists of an oblique series of rusty, dark brown interspaceal dots, of which the lower and larger are emphasized by a few black scales. A series of black interspaceal terminal dots. Fringes dusky. Orbicular almost round, slightly irregular, not defined, somewhat paler than ground color. Reniform rather large, upright, constricted medially, centrally darkened by the median shade, rather incompletely defined by a dull, rusty brown annulus or ring. Secondaries white, subhyaline, with a small discal spot and a broken terminal line, black. Beneath wings white, primaries with a somewhat smoky disc, a small black discal spot and a line of terminal dots on both wings black; secondaries with an extramedian, punctiform transverse line.

Expands 38 to 40 millimetres=1.52 to 1.60 inches.

HABITAT: California, Alameda County, in March.

This species is readily recognized by the more than usually robust body, the narrow primaries, of which the hind angle is somewhat retreating, and the more xyliniform habitus. The thoracic tufts are small, the thorax itself plump and convex, the abdomen short and conic.

The sexual characters are distinctive and unlike any other of the species. The harpes are broad, subequal to the tip where the lower angle is obtusely rounded, the upper produced into a long, trigonate point. A long curved corneous clasper closely follows the margin of the harpe, and is supplemented by a short, stout, obtuse process at base.

Xylomiges dolosa Grote.

1880. Grt., Can. Ent. XII, 88, *Xylomiges*.

Ground color dull blackish, powdery, over a white ground, sometimes with a faint olivaceous tint. Collar quite obviously gray shaded; thorax less distinctly so. Abdomen blackish, powdered. The primaries are quite evenly colored, a paler shade visible in basal space and beyond t. p. line, while a more obvious and often prominent whitish shade extends below the orbicular to the hind margin. The ordinary lines

are geminate, black, not well marked. Basal line geminate, fairly distinct, a black, feebly marked basal dash. T. a. line upright, slightly lunulate. T. p. line evenly bisinuate, followed by a series of white, then of black, venular dots. A more or less evident median shade line. S. t. line whitish, nearly even, preceded by a series of lunate black marks. Veins black marked through terminal space. A fine black terminal line. Fringes finely cut with white. Claviform whitish, discolorous, triangular, acute. Orbicular white marked, round or ovate, upright. Reniform large, upright, more grayish, usually darker than orbicular. Secondaries dirty white, outwardly black powdered, forming a variably distinct submarginal band and blackish terminal line. Discal spot of under side faintly visible. Beneath white, powdery, both wings with a more or less obvious dark outer line and discal spot.

Expands 37 millimetres=1.48 to 1.50 inches.

HABITAT: Orono, Me.; Plattsburg, N. Y.; Franconia, N. H.; Colorado (Bruce).

This is a distinctly marked and easily recognizable form, differing by its dull, lusterless black appearance from all the other species. It was originally described by Mr. Grote from Prof. Fernald's collection, and with this I identified specimens sent me by Mr. Bruce from Colorado. In the U. S. National Museum is a specimen sent by Mr. Hudson, from Plattsburg, N. Y., and Mrs. Slosson has sent me the species from Franconia, N. H., for determination. The distribution is therefore wide; but confined to high latitudes and mountainous regions. There is no apparent difference between the Colorado and New Hampshire specimens now before me. The sexual characters are somewhat like those of *curialis* in type. The harpes are narrowed beyond the middle, somewhat dilated again at tip which is inwardly fringed with spinules, and the superior angle of which is furnished with a thick, blunt, corneous spur. There are three corneous clasper processes. The first, at lower margin near base, short, broad, beak-like. The second at middle of upper margin, with a broad corneous base and a moderately slender, nearly straight process. The third arises from the middle of the harpe, nearer the tip, and is a long, curved hook extending nearly to the process at the upper angle of tip.

The species seems by no means common, even where it occurs. I believe the specimens were all taken at light and, if I mistake not, quite early in the season.

Xylomiges perlubens Grt.

1881. Grt. Can. Ent., XIII, 132, *Xylomiges*.

“♂ Allied to *rubrica*. Fore wings variegated with reddish and gray. Lines double, brownish, marked on costa by blackish dots. Orbicular pale, with brown center and blackish annulus, upright; reniform with an inferior stain, a curved reddish inner streak, indistinct outwardly. Veins blackish. T. p. line followed by white venular

points. S. t. line preceded by a deep reddish shade marked opposite the cell and again below vein 3. Terminal space blackish, with a gray apical patch. External margin dentate; fringes cut with pale. Hind wings and fringes pure white; a broken terminal line; beneath with a dotted extra-mesial line and discal spot. Primaries beneath with the terminal space whitish; subterminal space stained with brownish; a discal mark very near the dotted extra-mesial line which hardly reaches the margin. Eyes hairy; tibiae unarmed; antennae brush-like; abdomen tufted at base. Wings elongate. Thorax and head reddish brown; collar edged with gray; abdomen pale reddish fuscous. Expanse 39 millimetres. Washington Territory. Collected by H. K. Morrison."

I have not satisfactorily identified this species, which may be one of the forms related to *rubrica* in the same way in which *subapicalis* is related to it. It can not be the latter species from the description.

[An examination of the type in the British Museum proves that it nevertheless is my *subapicalis*.]

Xylomiges rubrica Harvey.

1878. Harv., Can. Ent., x, 58, *Graphiphora*.

1882. Grt., New Check List, 31, *Xylomiges*.

1887. Smith, Proc. U. S. Nat. Mus., x, 462, *Mamestra*.

Ground color a rather pale reddish gray, powdery. Head and thorax concolorous, collar very narrowly dark tipped, lateral margin of patagiae narrowly black edged. Primaries with the median and basal lines marked by geminate black spots on costa; but only feebly traceable for the remainder of their course. Sometimes they are entirely obsolete, more rarely distinct and easily visible. T. a. line evenly outcurved, somewhat lunate between the veins. T. p. line rather even, defining lines only slightly irregular. In course it is outcurved over reniform and quite evenly oblique below. A vague median shade, marked at costa and hind margin, and sometimes darkening the cell between the ordinary spots. S. t. line distinct, whitish, sharply defined, preceded by a variably broad, but always distinct, black shade. A prominent black streak at base, not reaching the t. a. line. Terminal space blackish, except at apex, which is pale, creamy gray, variably prominent according as the specimen is light or dark; the veins crossing the darker portion white marked. Claviform small, concolorous, more or less outlined in black. Orbicular oblique, oblong, more gray than ground color, well or even prominently outlined in black. Reniform moderate, upright, centrally constricted on the outer margin, narrowly outlined in white, which is basally preceded by black. In color it is reddish, darkened inferiorly, the red shade extending outward to the s. t. line, sometimes defined inferiorly by a blackish shade between veins 3 and 4. A lunulate, black terminal line, followed by a pale line at base of fringes. The latter are dark, cut with creamy gray. Secun-

daries white, powdered with black, and with a narrow, dusky, terminal line. Beneath white, more or less black powdered, both wings with a more or less distinct broken outer line and discal spot.

Expands 35–37 millimetres=1.40 to 1.50 inches.

HABITAT: Sierra Nevada, Nevada County, Rafael County in May, California.

A somewhat variable, but very distinct species. It is sometimes almost uniform in color, the black basal dash and distinct, pale s. t. line being the only prominent features. From this it varies to a form in which the ground color is paler, more gray, the ordinary spots sharply defined, the space between veins 3 and 4 black filled, margining the reddish shade beyond reniform, which in turn extends to the creamy gray apical patch.

The harpes of the male narrow abruptly to a long, curved tip. There are two claspers, one long and curved, extending parallel with the narrowed tip of the harpes, the other at the base of the first, small and stout, only slightly curved.

The Nevada County specimens are in the U. S. National Museum (through C. V. Riley) and have a red number 335.

The paler specimens have the *Taniocampa* habitus most strongly marked.

Xylomiges subapicalis Smith.

1887. Smith, Proc. U. S. Nat. Mus., x, 462, *Mamestra*.

Ground color rather dark ash gray, powdery. Head and collar concolorous. Collar with a narrow white line, surmounted by a fringe of black scales at tip. Primaries sometimes with a reddish tinge in the basal space and beyond the reniform. Ordinary lines distinct, not prominent, geminate. T. a. line outwardly oblique, outcurved between the veins. T. p. line rather evenly bisinuate, the inner defining line lunulate, the outer even. Basal line geminate, easily traceable, not prominent. A somewhat indistinct, even, median shade line. S. t. line pale, yellowish, prominent, somewhat sinuous, preceded by a rich, deep brown shade, emphasized with black above vein 4 and below vein 3. Claviform wide, concolorous, incompletely outlined in black. Orbicular upright, oval, white, narrowly black-ringed, and with dusky central powderings. Reniform kidney-shaped, upright, large, inwardly black-ringed, inferiorly dusky, else with a pale, often reddish, shade which extends outwardly to the s. t. line. This paler shade is inferiorly margined by a black filling between veins 3 and 4. Apical space more gray, terminal space else somewhat darker. A series of terminal lunules, followed by a pale line at base of fringes; the latter cut with yellowish. Secondaries white, somewhat black-powdered, with a punctiform exterior and lunate terminal dark line. Discal spot more or less obvious. Beneath white, black powdered. All wings with a distinct discal spot, a punctiform outer line and a series of terminal lunules.

Expands 36 to 41 millimetres=1.45 to 1.65 inches.

HABITAT: Sierra Nevada, Nevada County, Lake County, Placer County, in June, all in California; Washington.

This insect I described originally as a variety of *rubrica* and referred it to *Mamestra*. It has a distinct habitual resemblance to some species of that genus; but the balance of characters is in favor of *Xylomiges*. The material now before me shows that we have a very distinct species, with constant characters, but with exactly the same general pattern of maculation. The ground color is always ash-gray and there is no gradation to the reddish tint of *rubrica*. The orbicular is broadly oval and upright in the present species, distinctively different from the elongate, oblique, oblong form in *rubrica*. The outer margin is also rather more dentate. The sexual characters are very similar to those of *rubrica*, the harpes in *subapicalis* terminating in a similar form, not so lengthily produced however at tip. The claspers are much alike and the differences are best shown by a comparison of the figures.

Several specimens are in the collection of the U. S. National Museum (through C. V. Riley), some of them with the red number 336. The principal variation is in the depth of the ground color and the consequent relative prominence of the darker maculation.

[This is *perlubens* Grote.]

Xylomiges ochracea Riley sp. nov.

Ground color dull luteous, more or less white-powdered and variably dusted with ocherous. Head varying from white to the darkest shade in the insect. The thorax varies in the same way. Collar tipped with luteous, fuscous, or even blackish, patagiæ dark margined. Primaries with veins white marked, the contrast greatest in the darkest specimens; costa also white in most specimens. Basal line geminate, black, included space white, the black lines rarely complete, sometimes reduced to a few scales; but always traceable. T. a. line geminate, black, included space white, outwardly oblique in three even outcurves; the black defining lines are narrow and often interrupted, the interior line sometimes scarcely traceable. T. p. line geminate, included space white; preceding line a series of blackish lunules, outer line a series of black scales merely. In course it is quite widely outcurved and then inwardly oblique, only a little curved, to the inner margin. The line is unusually near the outer margin, and through the yellow space beyond it is an ocherous shade line, in which is sometimes a series of black lunules defining the s. t. line; more usually, perhaps, these lunules are wanting, and the yellow shade alone marks the line. A series of black terminal lunules, beyond which the fringes are cut with a dusky shade. Claviform present, quite variable in size, usually paler than the ground color, but sometimes concolorous, margined by a pale line which is sometimes defined by an edging of black scales. Orbicular large, round, or oval; reniform upright, constricted centrally. The

spots are sometimes white, sometimes concolorous with a white annulus, sometimes yellow powdered, and more rarely with a blackish powdering. Usually there is a dusky, rarely black, patch preceding the t. a. line on inner margin; but in some specimens this is entirely wanting. Secondaries smoky with a dark discal lunule, a dusky followed by a pale median line, and a series of dusky preceded by paler terminal lunules. Fringes long, white, with a smoky basal shade. Beneath, primaries dusky to an extra median line, thence pale, whitish. Secondaries white with an irregular outer dusky line. All wings with a distinct, rather small, black or smoky discal spot.

Expands 27 to 35 millimetres=1.08 to 1.40 inches.

HABITAT: Alameda County, California, October and November.

A large series of specimens is in the U. S. National Museum (through C. V. Riley), many of them bred and in excellent condition. The species is unique in maculation and habitus, and is allied in wing form to *patalis*, in which the strongly retracted head, short thorax, and long abdomen also find the greatest resemblance.

Within a limited range the species is quite variable and is yet so characteristic that it can scarcely be mistaken. The sexual characters differ from all the other species and are nearest to the *patalis* type. The harpes are abruptly narrowed and bent toward the tip, which is somewhat dilated and has the margin inwardly fringed with spinules. The clasper is a single, moderately long, curved, acute hook, arising from near the middle of the harpe.

Dr. Riley has kindly allowed me to publish his species here, to make the revision more nearly complete.

Xylomiges patalis Grote.

1873. Grt., Buff. Bull., i. 144 pl. 4 Fig. 11, *Xylomiges*.

fletcheri Grote.

1883. Grt., Can. Ent. xx, 130, *Xylomiges*.

Head, thorax, and primaries pale, whitish or creamy gray, the median space of primaries more dusky, sometimes fuscous gray, more rarely with a yellowish tinge. Collar with a variably distinct fuscous line near tip. Patagiæ black at the base of the wings. Primaries with a fine black basal streak, sometimes faint or entirely wanting. Basal line marked by a dusky or blackish spot in the median space. T. a. line rather remote from base, outwardly very oblique and somewhat out-curved, reaching the inner margin close to the middle. It is dusky, single except on costa, and quite usually marked only by the contrast between the basal and median spaces. T. p. line geminate on costa, pale between the dusky median space and a dusky costal patch in s. t. space; below that single, marked by a series of costal dots or, quite usually, only by the dusky median, contrasting to the paler s. t. space. In course it is outcurved over reniform, then oblique and somewhat incurved to the hind margin very near the t. a. line. The median space

is thus very narrow at that point and, broadening to the costa, roughly V shaped. S. t. line punctiform, consisting of a series of interspaceal black spots. These spots are variably distinct, sometimes punctiform, and occasionally obsolete. In the latter case the terminal space is dusky. The spot opposite anal angle is often more or less yellow shaded. A series of small terminal lunules. Claviform small, black-ringed, concolorous with the median space, not prominent. Orbicular large, pale, oval, oblique, incompletely black-ringed, often fused inferiorly with the large, pale, upright, kidney-shaped reniform, which is very narrowly black ringed. Secondaries pale fuscous, whitish toward base. A vague discal spot and a more evident broken terminal line. Beneath, primaries smoky, white powdered toward outer margin, with a faint exterior line and a series of terminal lunules. Secondaries white, powdery, with large discal spot, an even exterior, and a narrow marginal dusky line.

Expands 30 millimetres=1.20 inches.

HABITAT: Vancouver; California, Los Angeles County, April, June, November; Alameda County, May, June, November.

Rather a common species, of which a large series is in the U. S. National Museum (collection of J. B. S. and through C. V. Riley), many of them numbered 248 in red ink.

The species varies but little. The ordinary spots are usually fused, and the median space is usually dusky. Rarely the maculation will be almost entirely obsolete, and from this point all intergrades to the normal type are found.

A typical specimen of *X. fletcheri* Grt., is in the Museum, received from Mr. Fletcher. It does not differ in the least from the normal *patalis*.

In sexual characters the species is unique. The harpes are centrally narrowed, then the tip gradually enlarged, somewhat lappet-like and inwardly fringed with spinules. The clasper arises near base, is single, stout, slightly curved, moderate in length and obtusely terminated.

Xylomiges tabulata Grt.

1878. Grt., Bull. U. S. Geol. Surv. IV, 181, *Xylomiges*.

“♀ Eyes hairy. Head and thorax in front whitish-gray; collar with a black line; a black line between the antennæ; front fuscous. Forewings gray, shaded with blackish. Ornamentation very like *Lithophane tepida*, for which this species may be mistaken, but the yellowish white abdomen is rounded, not flattened. The transverse lines are double; basal half-line dentate, consisting of a black inner line and pale outer shade. Basal space gray; subbasal space wide, blackish. T. a. line with the outer component line most distinct, pale-centered, upright, waved, dentate on submedian vein, running close to orbicular. The claviform spot large, narrowly and incompletely margined with black, with the orbicular whitish gray; orbicular not closed on median vein,

rounded, upright, ringed with black. A square blackish mark connects the claviform with the t. a. line. Reniform moderate, stained with reddish or ochereous, annulate with white and with an outer incomplete black ring. T. p. line denticulate opposite cell, with a wider submedian inward lunulation, pale gray, with faint inner black line, followed by a narrow blackish shade, widening on costa in subterminal space. Subterminal space whitish gray, with a squarish black dash on submedian fold before the line, which is near the margin, angulate, cut with black fine streaklets. The narrow terminal space is blackish, with a black interrupted terminal line; fringes blackish gray. Outer margin retreating to internal angle below vein 2. Secondaries whitish, with black discal dot, powdered with blackish or fuscous externally, and narrow, mesial, wavy line, accentuated on veins. A distinct black terminal line; fringes white. Beneath, whitish; forewings somewhat fuscous; discal dots and faint, common, accentuated extradiscal line.

Expansion, 36 millimetres; Centre, N. Y., June (W. W. Hill, Esq.)."

I have seen the type of this species in Mr. Hill's collection, and it seemed to me a *Manestra*, allied to *M. gnata*. It will, however, require a male to settle the matter positively and I leave the species in its present position awaiting further light.

MORRISONIA Grt.

1874. Grt., Buff. Bull., 11, 53.

Eyes hairy; front smooth, with short stiff vestiture forming more or less obvious superimposed frontal tufts; tongue long and strong; palpi moderate, reaching the front and sometimes to its middle; antennæ of male pectinated, serrate and bristled, or simply ciliated. The thorax is rather short, quadrate, the vestiture consisting of flattened hair and scales; the patagiæ are well defined; a central divided crest is usually prominent anteriorly, less defined posteriorly. Abdomen with dorsal tufts, distinct in all save *bisulea*, and obvious even here. Legs unarmed, normally constructed. Primaries elongate, narrow with oblique outer margin and somewhat retreating hind angle, scarcely marked in *bisulea* but distinct in all the others. Secondaries proportionate.

The genitalia of the male in the majority of the species are after one type. The harpes are long, with an enlarged, trigonate tip, furnished with spinules inwardly, clasper simple, formed of one or two curved claw or hook-like processes. The differences between the species will be best explained by the figures.

The species have a *xyliniform* habitus, and come, structurally, near to *Xylomiges*, from which they differ in the divided thoracic crest, more evident dorsal abdominal tuftings and longer abdomen.

The strigate confused maculation is characteristic of the species thus far known.

As I regard this genus at present, it contains the species described

in it by Messrs. Grote and Morrison, the species recently described by myself, and *Mamestra mucens*, *bisulca*, and *confusa*.

Three distinct series are recognizable, based on the antennal structure of the male.

The first, with pectinated antennæ, contains *mucens*, *rileyi* and *bisulca*. In all of them veins 3 and 4 are both pale marked to the margin, least distinct in *bisulca*.

Mucens has the median lines all strongly dentate, the t. p. line becoming white and distinct through the submedian interspace, where it is usually preceded by a black or blackish spot. It varies from an even dull fuscous brown, very like *confusa*, to a much paler, dirty luteous ground color, rarely washed with fuscous brown, the s. t. space obviously washed with bluish white, extending both to the apex and the anal angle. The black shade before the t. p. line in submedian space becomes much more contrasting in paler specimens.

Rileyi is a smaller species than the preceding, with the maculation much more confused and indefinite. There is a longitudinal black shade through the center of the wing, which obscures all the normal lines.

In *bisulca* the median lines are marked only on the costa, the reniform is somewhat contrastingly white marked, the claviform prominent. The pale rays are obvious on veins 3 and 4; but hardly as well marked as in the other species. The outer margin is more oblique, the hind angle less retreating.

The second series, with serrated and bristled antennæ contains *vomerina* with its variety *evicta* and (probably) *infidelis*, which are also distinguished by having vein 3 only pale marked.

In *vomerina* and *evicta*, which Mr. Grote correctly refers as varieties of the same species, the ordinary spots are large and fused, discoloured.

Vomerina has the costal region gray, contrasting strongly with the blackish shade obtaining below the median vein.

Evicta has exactly the same maculation, but it is a more even bluish gray with a more or less obvious reddish brown and even ferruginous suffusion, the terminal space darker fuscous.

Infidelis is compared by Mr. Grote to *vomerina*, but the ordinary spots are not fused, and, inferentially, there is no such contrast between costal and submedian region, though it is said that a rich red brown shade extends outwardly, suffusing the wing.

The two remaining species have the antennæ of the male simple, merely ciliated, and veins 3 and 4 are both pale marked.

Peracuta is a rusty reddish gray form with whitish gray streaking, indenting veins 7 and 8, as well as 3 and 4. The ordinary spots are small, fused, flask-shaped, incompletely white ringed and with a rusty reddish shade through the center.

Confusa is dull fuscous brown, all the markings obscure. The ordinary spots are large, often confluent, sometimes scarcely traceable. The t. p. line is more or less white marked, and usually obvious through the submedian interspace.

Altogether the species are closely allied in some cases, yet not usually difficult of recognition. It is rather strange that Mr. Grote should never have recognized the strong bond between *confusa*, *mucens*, and his species of *Morrisonia*.

The genus is intermediate in character between *Xylomiges* and *Mamestra*, *bisulca* being most aberrant here and more like *Mamestra* in habitus. In sexual characters there is a general tendency toward *Mamestra*, most marked in *bisulca* and *peracuta*.

In tabular form the species separate as follows:

Antennæ in the male bipectinated, veins 3 and 4, pale marked to margin.	
Dark fuscous brown to luteofuscous with lilac gray shading in s. t. space, reaching apex and anal angle.....	MUCENS
Smaller, basal space to t. a. line inferiorly black, the black shade extending through center of wing.....	RILEYI
Dark fuscous, claviform well marked, reniform white marked, blotchy....	BISULCA
Antennæ in the male serrated and bristled, a pale mark to the margin on vein 3 only.	
Ordinary spots fused, discolorous.	
Upper half of wing strongly contrasting with inferior half; the former reddish gray, the latter blackish brown.....	VOMERINA
The contrast not evident, inferior portion of wing but little darker than costal region.....	EVICTA
Ordinary spots not fused, finely ringed, separate, brown centered.....	INFIDELIS.
Antenna of male simple, ciliate merely; veins 3 and 4, both pale to margin.	
Primaries pale rusty brown with whitish streaks, secondaries dull fuscous, ordinary spots small, flask-shaped, fused, indistinctly white-ringed....	PERACUTA
Primaries dull fuscous brown, all the maculation vague; secondaries whitish with soiled outer margin; ordinary spots often fused, large, not flask-shaped, dark ringed.....	CONFUSA

Morrisonia mucens Hbn.

1816. Hbn., Verzeichniss, 243, *Septis*.
 1823. Hbn., Zutr. III, 25 f., 415, 416, *Septis*.
 1852. Gn., Spec., Gen., Noct., I, 142, *Xylophasia*.
 1856. Wlk., C. B. M., Lep. Het., IX, 177, *Xylophasia*.
 1861. H. Sch., Corr.-Blatt, II, 74, *Xylomiges*.
 1873. Grt., Buff. Bull., I, 110, *Hadena*.
 1874. Grt., Buff. Bull., II, 28, *Xylomiges*.
 1879. Grt., Can. Ent., XI, 206, *Mamestra*.
 1880. Grt., Can. Ent., XII, 117, *Mamestra*.

Ground color varying from dull luteo-fuscous to a dark fuscous brown, all the lines confused and very strongly dentate. Collar with a black central line, the patagiæ with submarginal black lines. Basal line geminate, black, interrupted, marked on costa. T. a. line geminate, fragmentary. T. p. line denticulate, widely curved over reniform, more or less evidently white marked, most obviously so in the submedian interspace. It is followed by a series of more or less evident, sometimes obsolete, interspaceal blackish dashes, which occasionally become fused into dusky shades above and below the pale cut veins 3 and 4. Beyond the t. p. line a more or less obvious pale gray shade extends to the apex and to the anal angle, less marked or entirely wanting in the dark

specimens. Fringes dark, pale cut on the veins. A black longitudinal basal line and one along inner margin. Claviform large, concolorous, faintly outlined; beyond it a blackish patch to the t. p. line, which in pale specimens is often the most prominent feature of the wing. Orbicular large, oblong or oval, oblique, concolorous, variably outlined, closely approaching, but not in any specimen seen by me confluent with the large reniform. This latter is also concolorous, kidney-shaped, more or less completely outlined. There is usually an obvious dusky shade between these spots. Secondaries whitish to fuscous, with soiled or brownish outer margins, a darker line at base of fringes. Beneath, whitish, powdery, with a blackish outer line and distinct discal spot on all wings.

Expands 32 to 35 millimeters; 1.28 to 1.40 inches.

HABITAT: Middle, Southern, and Central States; Texas (Belfrage), March 10 to April 2; central Missouri March 25, April 9 and 19.

This insect varies quite strongly in ground color, dark specimens, lacking the pale extra linear shade, being sometimes mixed with *confusa*. The black patch beyond the claviform is quite characteristic and is obvious in all the specimens I have seen. In the male, of course, no mixture is possible if the antennæ are referred to. In the female, the fused ordinary spots will generally separate *confusa*.

Ten specimens (Texas and central Missouri, collection of C. V. R. and J. B. S.), are in the National Museum collection, and from the dates given it is an "early bird." The male characters are much as in *confusa*, but the tip of harpes is more rounded, the upper angle pointed, inferior obtuse, the margin set with spinules its full length. The elasper is double, consisting of a moderately long, curved hook, with an obtusely pointed tip, and a very short, weak curved spur at the base of the longer process.

The species seems not rare in Texas, and the paler form is there most common.

Morrisonia rileyana Smith.

1890. Smith, Ent. Amer. VI, 212, *Morrisonia*.

Head, thorax, and primaries, in ground color, grayish white, with a ferruginous tinge. Palpi with a strong admixture of brown scales in their clothing. A rusty red brown line crosses the front below the antennæ. Collar tipped with powdery black. Patagiæ black, powdery. Thoracic tufts tipped with rusty. Primaries with a broad, black, longitudinal shade, running beneath the median vein to t. p. line, then broadening to outer margin, which it reaches below the apex. Along the inner margin an irregular, narrow, whitish border only is left. A ferruginous spot is in this black shade in the terminal space. Above this black shade the cell is filled with a rusty wash, in which the reniform is very faintly outlined by a narrow ring of ground color. T. a. line geminate, vague, diffuse; traceable in costal region only. T. p.

line geminate at inception, very oblique outwardly through costal region, becoming punctiform below and traceable through the black shade by pale venular dots. Secondaries white basally, with a broad powdery black margin outwardly; a vague discal lunule, an outer line of venular dots and a black, interrupted terminal line. Beneath white, with ferruginous, and a sparse black powdering; a common punctiform outer line, and a black discal spot, most distinct on secondaries.

Expands 31 millimetres; 1.25 inches.

HABITAT: Florida; Texas, March 27, Central Missouri, April 21.

Two specimens are in the Museum collection (C. V. R.), another from Florida, is with Mrs. Slosson. The species is the smallest of those referred here, and has a casual resemblance to *Homohadena*.

In genital structure this species is like *mucens*, in the form of the harpes as well as of the claspers.

Morrisonia bisulca Grt.

1881. Grt., Can. Ent. XIII, 230, *Manestra*.

Ground color fuscous brown. Collar tipped by hoary scales. Primaries with whitish gray powderings along the costal and inner margins, most distinct in each case between the median lines, which are here visible. The veins are black lined, less obviously so on the costal series. Median lines obvious only on the costa and inner margin as geminate marks. The t. a. line is traceable for part of its course, indicating that it is strongly angulated. T. p. line but vaguely indicated near inner margin, outwardly produced on the veins. S. t. line consisting of a series of black spots in the interspaces, those between 2 and 3, 4 and 5, and 5 and 6, sending a shade inwardly across the s. t. space. A series of whitish dots at base of fringes, sending out a pale ray across the otherwise dark fringes. Veins 4 and 5, and less markedly 6 and 7, are accompanied by pale shades, extending through the terminal space. A prominent black basal dash through submedian interspace, having the claviform attached, and usually extending beyond it to the t. p. line. Orbicular elongate, narrowed, concolorous, outlined in black, the black lines uniting beyond the spot, forming a shade and again separating in forming the inner margin of the small upright reniform. This latter is outwardly indefinite, and is marked with white spots, distinct in all specimens I have seen. Secondaries pale whitish fuscous, with pale tipped fringes.

Expands 34 to 36 millimetres=1.36 to 1.48 inches.

HABITAT: Arizona.

A specimen of this species is among the unnamed material in the collection U. S. National Museum. The sexual characters are unique for the genus. The harpes are very slightly curved, and taper quite regularly to a somewhat obtuse tip, which is not spined or armed in any way. The clasper is a single, long, curved, corneous hook, with its broad and flattened base quite close to the base of the harpe.

The species is distinct from all the others by its comparatively broader, more trigonate primaries, the distinct, prominent basal streak, the small ordinary spots, the blotchy white reniform and by the series of subterminal black spots in the interspaces.

Morrisonia evicta Grt.

1873. Grt., Buff. Bull. 1, 84, Pl. 2, f. 18, *Cloantha*.

1874. Grt., Buff. Bull. 11, 16, *Actinotia*.

1874. Grt., Buff. Bull. 11, 53, *Morrisonia*.

Var. *vomerina* Grt.

1873. Grt., Buff. Bull. 1, 84, Pl. 2, f. 17, *Cloantha*.

1874. Grt., Buff. Bull. 11, 16, *Actinotia*.

1874. Grt., Buff. Bull. 11, 53, *Morrisonia*.

1879. Grt., Can. Ent. XI, 207, an var. pr. ?

1890. Grt., Revised Check List, 24 pr. var.

Ground color a powdery bluish gray with an admixture of brown. Head with a brown frontal line. Collar inferiorly pale, margined by a black transverse line. Thorax rich reddish brown, patagiæ with submarginal darker line. Primaries strigate, the median lines lost. A white spot at base of the wing. A longitudinal black basal line, surmounted with a yellowish shade, to which is attached the indefinite claviform, which is traceable as a rule to the location of the t. p. line. This line is usually indicated by venular dots and sometimes as a white line over the internal vein. A distinct brown terminal shade, starting at apex and regularly widening to the anal angle, the inner margin rigidly oblique. This brown shade is cut on vein 3 by a white tooth which accompanies it. A series of black terminal lunules. Ordinary spots large, fused, discolorous, more or less contrasting ochreous or even rusty brown, the lower defining line black. Secondaries smoky fuscous, with a discal spot. Beneath pale, powdery with reddish, with an outer line and discal spot on all wings.

The *evicta* form is as above described; in the variety *vomerina* the costal region is usually of the ground color or even paler, while all below this is blackish or deep dark brown, lightening a little along the inner margin.

Expands 33 to 35 millimetres=1.32 to 1.40 inches.

HABITAT: New York; New Jersey to Illinois; Middle and Central States. Illinois, April and October; Central New York, May 8 to 17.

Both forms are equally common in the same localities on the same dates. There has not been, in any specimen I have seen, any doubt as to which of the two forms it should be referred, but the difference in color below the costal region is absolutely all that offers, and I adopt Mr. Grote's suggestion as to their identity, the more readily as the sexual characters in the male are absolutely alike. The difference between the forms is parallel to that in *mucens*, where they are not distinguished by name.

Nine specimens of the two forms are in the National Museum collections (collections of C. V. R., J. B. S., and O. Meske).

The genital characters of the male are much as in *mucens*; but the clasper is very decidedly longer, and the little supplemental hook at base is different in shape.

[This is the same as *Xylophasia sectilis* Gn.]

Morrisonia infidelis Grt.

1879. Grt., Can. Ent. XI, 206, *Morrisonia*.

“♂ This name is based on a single male from Michigan, which is in good condition. Eyes hairy. Color of *vomerina* but more reddish brown. Collar pale and a pale spot at base of primaries; a black line edging the collar behind, thorax rich reddish brown. Costa paler at base, below median vein a rich red brown stain extends outwardly, suffusing the wing. Reniform L-shaped, the lower part open, brown filled, pointing to base of wing. This is surmounted by the upright part of the spot, which is small. Orbicular small, oblique, lying over and touching the extension of the reniform. The usual pale shade bordering vein 3; terminally the wing is a little darker. Hind wings pale fuscous with interlined white tipped fringes; beneath reddish gray, with common line marked by black scales on the veins. *Expanse*, 36 millimetres. Differs by the stigmata not being fused and pale, but finely ringed, separate and brown centered.”

This species I have not seen. It is in none of the collections accessible to me, and from the description is somewhat allied to *peracuta*.

Morrisonia peracuta Morr.

1874. Morr. Buff. Bull. II, 114, *Morrisonia*.

Ground color reddish gray, with paler and darker shadings. Collar with a distinct black transverse line, above which is an equally distinct white line. Patagiae with a darker, submarginal line. Primaries with a narrow longitudinal black line at base, continued to the vague suggestion of a claviform. A blackish line along inner margin, nearly to middle. T. p. line single, brown, very strongly dentate or rather jagged. Beyond this the wing is darker except at apex and inner margin, cut by prominent gray streaks on veins 3 and 4, and 7 and 8. A brown shade through the cell, margined by a narrow superior black line, surmounted in turn by a whitish line which forms part of the defining marks of the small, confluent, flask shaped ordinary spots, which are incompletely outlined and with difficulty traceable. Secondaries dark, even smoky brown. Beneath dusky, primaries, dark on the disk, with a dusky margin.

Expands 38 millimetres=1.52 inches.

HABITAT: “Probably Texas, perhaps California.”

There are two female specimens in the National Museum (collection of C. V. R.), evidently of the specimens before Mr. Morrison when describing, and marked “Type” by him. One of these has no locality label at all; the other is marked “California.”

The male specimen from which the sexual characters were drawn came from the Tepper collection, and I have no note as to its locality.

The harpes in this species are suddenly constricted beyond the clasper, and a long tip, set obliquely, expands into a broad lappet, the inner surface set with spinules. The clasper is a straight, cylindrical, corneous process, with an abruptly pointed tip.

Morrisonia confusa Hbn.

1816. Hbn., Verzeichniss 243, *Auchmis*.
1823. Hbn., Zutr., III, ff, 495, 496, *Auchmis*.
1852. Gn., Sp. Gen., Noct., I, 142, *Xylophasia*.
1856. Wlk., C. B. Mus., Lep. Het., IX, 178, *Xylophasia*.
1873. Grt., Buff. Bull., I, 110, *Hadena*.
1874. Grt., Buff. Bull., II, 12, *Mamestra*.
1880. Grt., Can. Ent., XII, 118, *Mamestra*.

Fuscous brown with black powderings, very obscurely marked. Head with a dark frontal line, else somewhat paler. Collar usually pale inferiorly, crossed by a black transverse line, above which it is of the ground color. Patagiae submargined with black. Primaries with the basal and median lines geminate, only partly defined, strongly dentate, the t. p. line sometimes white marked near internal margin. T. p. line well removed outwardly, consisting usually of a black, followed by a white line, both narrow and jagged, the white line often wanting or distinct only inferiorly, lightening the anal angle, and sending off spurs along veins 3 and 4. In the space beyond, there are two dusky shades, sometimes broken into spots or dashes. A series of black terminal dots. Fringes ent with pale, in perfect specimens somewhat scalloped. A black basal streak, to which is joined the rather small, black-ringed claviform, from which another line often extends to the t. p. line. A blackish streak along hind margin. A vague median shade, outwardly angulate over the reniform, reaching inner margin close to the t. p. line. Ordinary spots large, confluent, concolorous; orbicular sometimes paler, and reniform darker; pale ringed with a variably distinct and complete black margin. Secondaries whitish basally, darker outwardly, with a series of marginal lunules. Beneath pale, with reddish powderings and with a common outer line, discal spot distinct on all wings.

Expands 33 to 38 millimetres=1.32 to 1.52 inches.

HABITAT: Atlantic States; New York to Georgia, to Texas, to Colorado, and California. Kirkwood, Mo., April 4 and 20; New Brunswick, N. J., April 28.

This obscurely marked species has a decided *Xyliniform* habitus, especially when a little rubbed. The females are somewhat narrower winged than the males, and in the material before me seem somewhat better marked. Sometimes the entire wing will be of an obscure fuscous brown, powdered with black, in which the maculation can be made out only with great difficulty.

A good series is in the Museum collection; among them a bred specimen (collection of C. V. R.) marked 302 L., April 5.

The harpes of the male have the tip much broadened, its upper angle truncate, the lower produced into a short spur. The margin is spinulose only on the superior half. The clasper is a single, rather short, strongly curved, pointed hook.

EXPLANATION OF PLATE.

1. Harpe and clasper of *Xylomiges hiemalis*.
2. Harpe and clasper of *Xylomiges peritalis*.
3. Harpe and clasper of *Xylomiges crncialis*.
4. Harpe and clasper of *Xylomiges curialis*.
5. Harpe and clasper of *Xylomiges dolosa*.
6. Harpe and clasper of *Xylomiges rnbriica*.
7. Harpe and clasper of *Xylomiges subapicalis*.
8. Harpe and clasper of *Xylomiges ochracea*.
9. Harpe and clasper of *Xylomiges patalis*.
10. Harpe and clasper of *Morrisonia mucens*.
11. Harpe and clasper of *Morrisonia rileyi*.
12. Harpe and clasper of *Morrisonia bisulca*.
13. Harpe and clasper of *Morrisonia evicta*.
14. Harpe and clasper of *Morrisonia peracuta*.
15. Harpe and clasper of *Morrisonia confusa*.



GENITALIA OF XYLOMIGES AND MORRISONIA.

