

IX. *On the Pyralidina of the Hawaiian Islands.*

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I AM indebted to the Rev. T. Blackburn for the material which forms the subject of this paper. He has been good enough to make over to me the bulk of the collection of Heterocera formed by him during six years' residence in the Hawaiian Islands, and the exceptional position of these islands renders the accurate knowledge of their fauna a subject of great interest. Many of the species have, indeed, been described by Mr. A. G. Butler, but his work has not been of a character to throw much light upon their systematic classification and affinities. I am bound to add that, after comparison of the named types in the British Museum with the descriptions drawn from them, I find the latter frequently so inaccurate that I am unable to reconcile the differences. I have therefore found it necessary to re-describe all species not sufficiently described elsewhere. Mr. Blackburn furnished me with no notes on any of the species, and I have therefore added nothing on this head, except in the case of those few insects which I took myself during a day spent at Honolulu some years ago. The following remarks are a summary of the results obtained for this group on the questions of development and geographical distribution.

Of Hawaiian *Pyralidina*, 56 species are at present known. Of these the genera *Asopia*, *Zinckenia*, *Eromene*, *Ephestia*, and *Achrœa*, including 7 species in all, have undoubtedly been introduced through the direct agency of man in recent times, and form no part of the native fauna. The single species of *Paraponyx*, though apparently unlikely of introduction, is extremely widely distributed, and, as hereafter explained, probably entered in the same way. *Platyptilia cosmodactyla* is probably also imported. The remaining 47 are, so far as is

known, wholly endemic. Of these, 26 belong to the *Botyridæ*, 12 to the *Scopariadæ*, 4 to the *Pterophoridaæ*, 3 to the *Crambidae*, and 2 to the *Phycitidæ*. The 26 species of *Botyridæ* are referable to 8 genera, falling in three very distinct groups. The first is represented only by the single species of *Margarodes*; this, although distinct, is closely allied to other species occurring in the islands of the South Pacific, Australia, the Malay Archipelago, and Ceylon, in each case confined within a limited range, and there can be little doubt that these are the little-modified descendants of one form, which at a date comparatively not very remote wandered, probably by means of its own powers of flight, which are considerable, over the whole of this area. The second consists of the genus *Omiodes*, containing seven species, an endemically developed group; the genus is known also from the South Pacific Islands, Malay Archipelago, and South America, but only to the extent of about eight species. The third group includes the oldest portion of the fauna, consisting mainly of *Scopula* (eight species), and three endemic genera allied to and probably derivable from *Scopula*; one species of *Eurycreon* and two of *Mecyna*. Although the three last-named genera are more or less represented in almost all regions, probability seems to be in favour of the origin of this part of the fauna from North America. Only one true *Scopula* occurs in Australia, and none in New Zealand or the South Pacific Islands. New Zealand, in fact, only possesses eight probably indigenous species of *Botyridæ* in all, but these belong to the same group; they are, however, apparently of South American origin.

The 12 *Scopariadæ* compare but poorly with the 60 species of that family occurring in New Zealand, but I have little doubt that Mr. Blackburn overlooked not a few of these obscure species, the material obtained being very scanty. They would probably be generally confined to the high mountains. It is remarkable that 10 out of the 12 are referable to *Xeroscopa*, hitherto principally known from New Zealand, but the species are more nearly allied to one another than to any from New Zealand.

The *Pterophoridaæ* belong to the cosmopolitan genera *Platyptilia* and *Trichoptilus*, but probably incline to

North America in their affinities. *Acipitilia* appears absent, though represented by four species in New Zealand, and in the South Pacific by a widely-distributed species which occurs in many islands, as well as in Australia; but it is barely represented in North America.

The three species of *Crambidæ* are all referable to *Hednota*, and this is a very interesting identification. They are all of the lowest and most ancestral type of the genus, approximating to *Diptychophora*. Hitherto *Hednota* has been practically confined to Australia, where it is considerably developed; there is, indeed, a distinct species in New Zealand, but it is certainly to be traced to Australian origin. *Diptychophora* is confined to the Southern Hemisphere, and is largely characteristic of New Zealand, occurring also in South America and Australia. Probably the small and obscure Hawaiian species of *Hednota* are forms only preserved by isolation from extinction; in Australia they are superseded by large and handsomely-marked species of the same genus, evidently in a flourishing state; but everywhere else the genus appears to have been completely replaced by *Crambus*, which is not indigenous in Australia. I am disposed to be surprised that *Crambus* is not found in the Hawaiian Islands; it might have been expected to find its way from North America.

The two species of *Phycitidæ* are stray wanderers. One is an *Homæosoma*, a genus of few species, but represented by one or two distinct species almost everywhere. The larvæ probably feed in the seed-heads of *Compositæ*, and it is likely that the ova may be transmitted with the seeds of these. The other I have described as a new genus; it is nearly allied to the Australian *Crocodypora*, which also occurs (possibly introduced) in New Zealand.

On the whole, it will be seen that the *Pyralidina* of the Hawaiian Islands, although specifically highly peculiar, hardly present that amount of generic specialisation which might have been expected. I should be disposed to infer that this portion of their fauna consisted of two elements, *viz.* (1), a larger portion, composed of species whose ancestors were derived from North America, at a date sufficiently remote to allow of a great deal of specific development, and even a certain

amount of generic also ; and (2), a smaller portion, the descendants of various stray immigrants from other regions round, mostly of later date, yet sometimes admitting of much specific modification. Immigration of this kind appears, from the great remoteness of these islands, to have been exceedingly scanty.

PYRALIDIDÆ.

1. ASOPIA, *Tr.*

1. *Asopia gerontialis*, Walk.

Pyrallis achatina, Butl., Ent. Mo. Mag., xiv., 49.

I have given the full synonymy in earlier papers. This species occurs also in North-east Australia, Celebes, Java, Ceylon, and West Africa, and probably throughout the tropical regions of the Old World ; it appears to take the place of the closely-allied *A. farinalis*, which is widely spread through the temperate regions of both hemispheres, but has not been recorded within the tropics. Both species have been undoubtedly carried throughout their range by human agency, and their original home is now uncertain.

HYDROCAMPIDÆ.

2. PARAPONYX, *Hb.*

2. *Paraponyx linealis*, Gn.

Paraponyx linealis, Gn., 271 ; *Oligostigma chrysippusalis*, Walk., 432 ; *O. obitalis*, ib., 432 ; *O. curta*, Butl., Ent. Mo. Mag., xv., 270.

Also from Australia (according to Walker), Celebes, Sumatra, Java, China, India, Ceylon, and South Africa. Butler's type of *Oligostigma curta* differs from ordinary specimens only in having the ante-median dark line of hind wings somewhat protuberant in middle, so as to touch the dark margin of the following yellow band, and is certainly not specifically distinct. The larva is doubtless aquatic, like the rest of the genus, and it seems hardly probable that the species can have been transported to any extent by man ; but in the absence of precise information as to its habits, it is useless to conjecture the cause of its immense geographical range. There must be some exceptional circumstance ; with the exception of *P. nitens* (common to Australia and New

Zealand, but not hitherto recorded elsewhere), no other species of *Paraponyx* crosses any wide sea.

BOTYDIDÆ.

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| 1. Antennæ in ♂ with basal notch and projection .. | 5. ZINCKENIA. |
| " " without " " " " " | 2. |
| 2. Patagia of ♂ elongate, penicillate | 4. OMIODES. |
| " " moderate | 3. |
| 3. Posterior tibiæ in ♂ with outer middle-spur obsolete. | 6. SCOPULA. |
| Posterior tibiæ in ♂ with outer middle-spur developed | 4. |
| 4. Forehead with projection | 11. EURYCREON. |
| " without " " " " " | 5. |
| 5. Fore wings with vein 10 anastomosing shortly with 9 | 7. PROTOCOLLETIS. |
| Fore wings with vein 10 separate | 6. |
| 6. Hind wings with veins 4 and 5 stalked | 7. |
| " " " separate | 8. |
| 7. Hind wings in ♂ with inner-marginal hairy lobe | 10. MESTOLOBES. |
| " " without " " " | 9. ORTHOMECYNA. |
| 8. Antennæ two-thirds of fore wings | 8. MECYNA. |
| " more than three-fourths of fore wings | 3. MARGARODES. |

3. MARGARODES, Gn.

3. *Margarodes exaula*, n. s.

Margaronia glauculalis, Butl., Ann. Mag. Nat. Hist., 1881, 327 (nec Gn.).

Size of *M. oceanitis*. Pale sea-green; costa of fore wings white, costal edge from base to two-thirds slenderly orange; a black discal dot; no marginal dots; cilia apparently green-whitish (almost wholly worn off). Thorax whitish-greenish, shoulders narrowly orange. Head wholly greenish-whitish, except an orange mark on collar behind eyes. Palpi white, terminal third of labial palpi deep orange.

This diagnosis is taken from the specimen sent to the British Museum. The species differs considerably from *M. glauculalis*, and is nearer *M. oceanitis* and *M. tritonias*.

4. OMIODES, Gn.

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| 1. Fore wings with veins marked by pale lines .. | 2. |
| " " not marked by pale lines.. | 3. |
| 2. Second line of fore wings with angulated projection outwards.. .. | 4. Blackburni. |

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| Second line of fore wings without angulated projection outwards | 5. <i>accepta</i> . |
| 3. Fore wings yellowish-ochreous | 7. <i>demaratalis</i> . |
| " fuscous | 4. |
| 4. Second line of fore wings nearly straight .. | 6. <i>continuatalis</i> . |
| " " " strongly bent or curved .. | 5. |
| 5. Hind wings with a white line | 6. |
| " without | 10. <i>localis</i> . |
| 6. Second line of fore wings perpendicular to inner margin | 9. <i>liodyta</i> . |
| Second line of fore wings rather strongly oblique | 8. <i>monogona</i> . |

4. *Omiodes Blackburni*, Butl.

Botys Blackburni, Butl., Ent. Mo. Mag., xiv., 48.

♂, 30 mm. Antennal ciliations one-fourth. Abdomen pale ochreous, segmental margins white. Fore wings pale brownish-ochreous, veins ochreous-whitish, separated at origin by a dark fuscous suffusion; an ochreous-whitish line, acutely angulated outwards in middle, from one-fourth of costa to one-third of inner margin, posteriorly margined with dark fuscous, anteriorly by a broad dark fuscous suffusion between veins; an ochreous-whitish transverse discal spot; an ochreous-whitish line from three-fourths of costa to three-fifths of inner margin, sinuate outwards beneath costa, below middle forming an acute triangular projection outwards, anteriorly margined with dark fuscous, posteriorly by a broad dark fuscous suffusion between veins; a slender interrupted dark fuscous hind-marginal streak; cilia whitish-ochreous, with a fuscous line. Hind wings rather densely haired towards inner margin; pale whitish-fuscous; an indistinct darker discal spot; a cloudy whitish line from two-thirds of costa to anal angle, with an acute projection outwards in middle, anteriorly narrowly, posteriorly broadly suffusedly margined with dark grey; a slender dark grey hind-marginal streak; cilia whitish, with a dark grey line.

Two specimens.

5. *Omiodes accepta*.

Botys accepta, Butl., Ent. Mo. Mag., xiv., 49.

♂ ♀, 22—31 mm. Antennal ciliations one-third. Abdomen fuscous, segmental margins white, anal segment with two blackish marks. Fore wings fuscous, darkest on costa towards base; veins whitish or whitish-ochreous; a dark fuscous dot towards costa at one-third, and a second (sometimes obsolete) in disc above middle; a dark fuscous fascia from beneath costa at three-fifths to one-third

of inner margin, interrupted partially by veins, its anterior edge well-defined and preceded by an obscure ochreous-whitish line, slightly concave, posterior edge suffused; a nearly straight or faintly sinuous ochreous-whitish line from costa before apex to three-fifths of inner margin, anteriorly finely margined with dark fuscous, posteriorly followed by a rather broad dark fuscous suffusion; a thick interrupted blackish-fuscous hind-marginal line; cilia fuscous-whitish, with two fuscous lines, second sometimes suffused and obscure. Hind wings fuscous-grey; a transverse darker discal mark at one-third; a rather irregular nearly straight cloudy whitish line from costa at three-fourths to anal angle, preceded by a narrow and followed by a broader darker fuscous suffusion; hind-marginal line and cilia as in fore wings.

Eight specimens.

6. *Omiodes continuatalis*, Wallgr.

Salbia continuatalis, Wallgr., Wien. Ent. Mon., 1860, 175; *Botys continuatalis*, Butl., Ent. Mo. Mag., xv., 270.

♂ ♀, 27—31 mm. Antennal ciliations one-fourth. Abdomen light greyish-fuscous, becoming blackish-grey posteriorly, segmental margins white. Fore wings rather dark fuscous; a narrow white central longitudinal streak from base to near middle; a slender white longitudinal streak in disc above middle from one-third to two-thirds, sometimes obscure; sometimes a dark fuscous dot in disc at one-third, and another in middle, especially in female; a strong nearly straight white line from immediately beneath costa at three-fourths to inner margin at two-thirds, thence slenderly produced along inner margin to one-third, sinuate inwards below middle, anteriorly edged with darker; a whitish irroration forming an obscure hind-marginal border; a thick interrupted blackish-fuscous hind-marginal line; cilia fuscous-whitish, with a thick fuscous line. Hind wings fuscous; an obscure darker discal spot at one-third; a strong nearly straight white line from beneath costa at two-thirds to anal angle, slightly sinuate near lower extremity, preceded by a cloudy dark fuscous line; a thick blackish-fuscous hind-marginal line; cilia white, with a dark fuscous line.

Twenty specimens. I took it commonly near Honolulu in August.

7. *Omiodes demaratalis*, Walk.

Botys demaratalis, Walk., 1009.

♂ ♀, 21—24 mm. Antennal ciliations one-fourth. Abdomen light ochreous, segmental margins white. Fore wings yellowish-ochreous, more or less tinged with reddish or brownish; costa suffused with rather dark fuscous from base to three-fourths; a dark fuscous dot in disc at two-fifths, and a small transverse-linear dark fuscous mark beyond middle; an almost straight white line from beneath costa at three-fourths to inner margin at two-thirds, anteriorly margined with dark fuscous; a hind-marginal row of blackish dots; cilia grey-whitish, with a grey line. Hind wings whitish-fuscous, towards hind margin becoming pale ochreous; a dark grey transverse discal mark at one-third; a strong white line from beneath costa beyond middle to anal angle, margined anteriorly with dark fuscous; an interrupted blackish hind-marginal line; cilia white, with a grey line.

Sixteen specimens. I took this with the last.

8. *Omiodes monogona*, n. s.

♀, 26 mm. Head, palpi, antennæ, and thorax fuscous, palpi white towards base beneath. Abdomen fuscous; segmental margins slenderly whitish. Legs ochreous-whitish, anterior pair infuscated. Fore wings elongate-triangular, costa arched posteriorly, apex obtuse, hind margin rather obliquely rounded; fuscous, irrorated with darker; a dark fuscous line from one-fourth of costa to one-third of inner margin, bent outwards in middle, preceded by some whitish scales; a blackish dot in disc at two-fifths, and a transverse-linear blackish mark beyond middle; a cloudy whitish line from two-thirds of costa to three-fifths of inner margin, thickest beneath, anteriorly suffusedly margined with dark fuscous, moderately curved outwards, below middle with an obtuse sub-triangular projection inwards to below discal mark; a hind-marginal row of cloudy blackish-fuscous dots; cilia fuscous-whitish, with a fuscous line (imperfect). Hind wings fuscous; a dark fuscous transverse discal mark at one-third; a cloudy whitish almost straight line from three-fifths of costa to anal angle, anteriorly suffusedly margined with dark fuscous, and posteriorly followed by a broader dark suffusion; an interrupted blackish-fuscous hind-marginal line; cilia as in fore wings.

One specimen, in indifferent condition.

9. *Omiodes liodyta*, n. s.

♀, 17—20 mm. Differs from *O. monogona*, especially by the different form of the second line, which in fore wings is somewhat more curved on upper half, projection inwards beneath discal mark deeper and more rectangular, thence slightly curved but nearly perpendicular to inner margin, whilst in *O. monogona* it is rather strongly oblique; in hind wings slightly sinuate inwards on lower half; cilia of fore wings whitish-fuscous. It is also a considerably smaller insect, and smoother-looking. Possibly the males may show more pronounced differences.

Two specimens.

10. *Omiodes localis*, Butl.

Botys localis, Butl., Ent. Mo. Mag., xv., 271.

♂ ♀, 17—23 mm. Antennal ciliations one-third. Abdomen light fuscous, segmental margins whitish. Fore wings light fuscous; a dark fuscous line from one-fourth of costa to one-third of inner margin, angulated in middle, upper half indistinct, lower half well-marked; a dark fuscous dot in disc at two-fifths, and a transverse-linear mark beyond middle; a dark fuscous partially indistinct line, followed by a band slightly paler than ground colour, from two-thirds of costa to three-fifths of inner margin, upper half unevenly but moderately strongly curved outwards, the paler band followed by a somewhat darker suffusion; an interrupted blackish hind-marginal line; cilia whitish-fuscous, with a dark fuscous line. Hind wings light fuscous; an obscure darker transverse discal mark at one-third; a cloudy darker fuscous line from three-fifths of costa to inner margin above anal angle, rather bent in middle, beneath this rather irregular; a dark fuscous hind-marginal line; cilia whitish, with a dark fuscous line.

Seven specimens.

5. ZINCKENIA, Z.

11. *Zinckenia recurvalis*, F.

Hymenia fascialis, Cr., Butl., Ent. Mo. Mag., xvii., 9.

This species occurs now throughout the tropical and warmer temperate regions of the whole world, yet, in my experience, always in the immediate neighbourhood of civilisation, frequenting waste weedy ground in or near towns, especially on the coast. I think there can

be no doubt that its range is largely due to incidental introduction by man in company with subtropical weeds.

6. SCOPULA, *Schrk.*

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| 1. Fore wings with ground colour ochreous | 2. |
| " " " fuscous | 3. |
| 2. Fore wings with white markings | 12. <i>eucrena</i> . |
| " without | 19. <i>despecta</i> . |
| 3. Fore wings with three transverse blotches | 13. <i>monticolans</i> . |
| " without | 4. |
| 4. Fore wings with posterior half of costa spotted with whitish-ochreous and dark fuscous | 5. |
| Fore wings with posterior half of costa not spotted with whitish-ochreous and dark fuscous | 7. |
| 5. Fore wings with two parallel ochreous-whitish transverse lines about one-fourth | 6. |
| Fore wings without two parallel ochreous-whitish transverse lines about one-fourth | 16. <i>emmychioides</i> . |
| 6. Fore wings with second line posteriorly margined with ochreous-whitish throughout | 15. <i>nigrescens</i> . |
| Fore wings with second line posteriorly margined with ochreous-whitish on costa only | 14. <i>micacea</i> . |
| 7. Fore wings with second line posteriorly margined with whitish dots | 17. <i>stellata</i> . |
| Fore wings with second line not posteriorly margined with whitish dots | 18. <i>argoscelis</i> . |

12. *Scopula eucrena*, n. s.

♂, 17 mm. Head light ochreous, orbits white. Palpi $2\frac{1}{2}$, ochreous irrorated with fuscous, towards base white. Antennæ whitish, annulated with dark fuscous, ciliations two-thirds. Thorax whitish, anteriorly reddish-ochreous. (Abdomen broken.) Legs dark fuscous ringed with white (posterior pair broken). Fore wings rather elongate-triangular, costa posteriorly gently arched, apex obtuse, hind margin obliquely rounded; reddish-ochreous, brownish-tinged; costal edge dark fuscous; a strong white line from one-third of costa to two-fifths of inner margin, posterior edge dilated in disc, preceded by a dark fuscous suffusion in disc; an irregular white line from three-fourths of costa towards anal angle, at three-fourths abruptly curved round to beneath middle of disc, thence acutely angulated and running to two-thirds of inner margin, abruptly dilated and fascia-like at upper extremity and on lower portion; space between these two lines on dorsal half suffused with white, with a few reddish-ochreous scales; a small rounded-triangular black-margined spot, reddish-ochreous beneath,

white above, touching first line; a similar-coloured reniform spot beyond middle, lower extremity touching angle of second line; space between these forming a quadrate white spot, touching costa above and white dorsal suffusion beneath; space between reniform spot and upper half of second line wholly suffused with dark fuscous, except on costa where is a white intermediate dot; second line followed by a dark fuscous suffusion towards costa and another on inner margin; a hind-marginal row of cloudy dark fuscous spots; cilia fuscous, barred with pale ochreous, bars interrupted by a grey line, costal cilia dark fuscous dotted with white. Hind wings ochreous-whitish, towards hind margin suffused with pale ochreous; two grey dots longitudinally placed in disc about one-third; a cloudy whitish anteriorly grey-margined line from two-thirds of costa to two-thirds of inner margin, middle third forming an irregular subquadrate projection outwards; a hind-marginal row of small dark fuscous spots; cilia whitish, obscurely barred with whitish-ochreous, with a light grey line.

One specimen.

13. *Scopula monticolans*, Butl.

Locastra monticolens (rect. *monticolans*), Butl., Trans. Ent. Soc. Lond., 1882, 34.

♀, 21 mm. Palpi $1\frac{3}{4}$. Fore wings elongate-triangular, costa posteriorly slightly arched, apex obtuse, hind margin rather obliquely rounded; rather dark fuscous, somewhat mixed with reddish-ochreous, especially towards anal angle; three irregular transverse prismatic whitish blotches; first extending from one-fourth of costa to two-fifths of inner margin, much narrowed at lower extremity, anterior edge angulated; second in disc before middle, nearly touching costa and reaching two-thirds across wing, touching first in middle; third from two-thirds of costa, reaching three-fifths across wing, posterior edge margined by an irregular subdentate blackish-fuscous line, indented beneath costa, where it is followed by some white scales; cilia fuscous, with a darker line. Hind wings fuscous, becoming darker towards hind margin; two darker dots obliquely placed in disc at two-fifths; cilia fuscous, terminal half whitish, obscurely barred with fuscous.

Two specimens. I have corrected Butler's name, which involves a bad solecism.

14. *Scoparia micacea*, Butl.

Aporodes micacea, Butl., Ann. Mag. Nat. Hist., 1881, 326.

♂ ♀, 19—22 mm. Palpi $1\frac{1}{2}$. Antennal ciliations one-half. Fore wings elongate-triangular, costa posteriorly slightly arched, apex obtuse, hind margin rather obliquely rounded; fuscous, slightly slaty-tinged; base suffused with dark fuscous; two nearly straight parallel ochreous-whitish lines from about one-fifth of costa to one-fourth of inner margin, slightly bent beneath costa, included space mixed with ochreous-whitish, fuscous, and reddish-ochreous, second followed by a moderately broad dark fuscous suffusion, forming an abrupt projection outwards in disc; a very small annular dark fuscous spot obscurely indicated on outer edge of this above middle; a moderately large reniform spot outlined with dark fuscous, somewhat mixed with reddish-ochreous, upper half dilated and containing a dark fuscous dot sometimes suffused into posterior margin; space in front of this spot in the male paler; posterior half of costal edge ochreous-whitish spotted with dark fuscous; a dark fuscous dentate line from three-fourths of costa to two-thirds of inner margin, moderately irregularly curved outwards, with a much stronger indentation below middle, on costa followed by a triangular whitish suffusion; some ochreous-whitish scales before hind margin towards middle; cilia fuscous, with faint indications of slender ochreous-whitish bars. Hind wings fuscous, darker in female, becoming dark fuscous towards hind margin; two small darker spots obliquely placed in disc at two-fifths; cilia fuscous, terminal half whitish barred with fuscous.

Fourteen specimens.

15. *Scoparia nigrescens*, Butl.

Mecyna nigrescens, Butl., Ann. Mag. Nat. Hist., 1881, 328; *Melanomecyna nigrescens*, id., Ent. Mo. Mag., xix., 179.

♂ ♀, 14—17 mm. Palpi two. Antennal ciliations one-half. Fore wings rather elongate-triangular, costa posteriorly slightly arched, apex obtuse, hind margin rather obliquely rounded; light fuscous, ochreous-tinged; two nearly straight parallel ochreous-whitish lines from before one-fourth of costa to one-fourth of inner margin, confluent in disc, second margined posteriorly by a blackish line, less marked towards costa, sometimes rather broadly suffused beneath; a subquadrate spot suffused with ochreous-

whitish in disc above middle, its lateral margins incurved and edged with blackish; a moderate reniform spot adjoining this posteriorly, partially blackish-edged and bisected horizontally by a dark fuscous suffusion, posteriorly margined by an ochreous-whitish crescentic suffusion; a blackish rather irregular line, stronger and subdentate beneath, posteriorly edged with ochreous-whitish, from three-fourths of costa towards anal angle, below middle abruptly curved round to beneath reniform spot, thence rectangularly bent to inner margin at two-thirds; sometimes the median space forms a distinct darker band; posterior half of costal edge ochreous-whitish spotted with dark fuscous; a more or less indicated irregular cloudy ochreous-whitish submarginal line, most distinct in middle; a hind-marginal series of small dark fuscous spots; cilia ochreous-whitish barred with pale fuscous, with a fuscous basal line. Hind wings fuscous, with a darker tolerably defined hind-marginal band; two darker dots obliquely placed in disc before middle; cilia whitish, with a fuscous basal line.

Twenty specimens.

16. *Scopula ennychioides*, Butl.

Mecyna ennychioides, Butl., Ann. Mag. Nat. Hist., 1881, 328; *Melanomecyna ennychioides*, id., Ent. Mo. Mag., xix., 179.

♂ ♀, 21—22 mm. Palpi three. Antennal ciliations two-thirds. Fore wings rather elongate-triangular, costa posteriorly gently arched, apex obtuse, hind margin moderately bowed, oblique; fuscous; costa, base, and lower half of median band suffusedly darker; a blackish-fuscous line from one-fifth of costa to two-fifths of inner margin, rather bent outwards in middle, shortly indented inwards at one-fourth and three-fourths; a rounded-triangular darker spot, edged with blackish-fuscous, in disc before middle, not touching first line; a similar-coloured reniform spot beyond middle; space round these rather paler than ground colour; a rather irregular blackish-fuscous line, posteriorly obscurely edged with whitish-ochreous, from three-fourths of costa towards anal angle, indented beneath costa, below middle abruptly bent inwards to beneath reniform, thence again abruptly bent to inner margin at two-thirds, lower portion subdentate; posterior half of costal edge whitish-ochreous spotted with dark fuscous; a hind-marginal series of small triangular dark fuscous spots, separated with whitish-ochreous, and margined anteriorly by a fine obscure whitish-ochreous waved line; cilia fuscous, obscurely barred with

whitish-ochreous, with a dark fuscous line near base. Hind wings in male rather dark fuscous; in female whitish-fuscous, more whitish towards costa; two darker dots obliquely placed in disc before middle; a rather irregular curved darker line at two-thirds, followed by a paler line; hind-marginal markings in female as in fore wings, in male obscured; cilia fuscous, on posterior half whitish.

Three specimens. The differences in the colour of the hind wings are perhaps not sexual, but merely due to individual variation.

17. *Scopula stellata*, Butl.

Melanomecyna stellata, Butl., Ent. Mo. Mag., xix., 179.

♂ ♀, 17—19 mm. Palpi $2\frac{1}{2}$. Antennal ciliations three-fourths. Fore wings rather elongate-triangular, costa posteriorly moderately arched, apex obtuse, hind margin bowed, oblique; fuscous; costa suffusedly dark fuscous; a rather irregular dark fuscous line from one-fourth of costa to one-third of inner margin, somewhat bent outwards in middle; a very small roundish dark fuscous spot in disc before middle; a dark fuscous reniform spot beyond middle; space between these slightly paler than ground colour; a cloudy dark fuscous line, margined posteriorly with indistinct whitish dots, from three-fourths of costa towards anal angle, moderately curved, beneath middle obtusely bent inwards to below reniform, thence tolerably rectangularly bent to inner margin at two-thirds; a hind-marginal series of small dark fuscous spots, separated by whitish dots, sometimes obsolete; cilia fuscous, terminal half very obscurely barred with whitish. Hind wings fuscous; two indistinct darker dots obliquely placed before middle; cilia fuscous, terminal half fuscous-whitish.

Four specimens. The specimens standing as *Scotomera tristis*, Butl., in the British Museum appear to be identical with this species, but are too worn to be certainly recognised.

18. *Scopula argoscelis*, n. s.

♂ ♀, 22—25 mm. Head, palpi, antennæ, thorax, and abdomen fuscous; palpi $3\frac{1}{2}$, white at base beneath; antennal ciliations two-thirds. Legs white, anterior tibiæ dark fuscous above, posterior pair fuscous beneath. Fore wings rather elongate-triangular, costa posteriorly gently arched, apex obtuse, hind margin bowed, oblique; fuscous, tinged with reddish-ochreous towards inner margin near

base; an irregular cloudy dark fuscous line from one-fourth of costa to two-fifths of inner margin, rather bent in middle; a very small darker spot in disc before middle, sometimes obsolete; an obscure darker fuscous reniform spot beyond middle; a cloudy waved dark fuscous line from three-fourths of costa towards anal angle, moderately curved, beneath middle obtusely bent inwards to below reniform, thence rectangularly bent to inner margin at two-thirds; a hind-marginal series of obscure dark fuscous dots; cilia pale fuscous, with a darker line, tips more whitish (imperfect). Hind wings fuscous; two obscure darker dots obliquely placed in disc before middle; a hind-marginal series of dark fuscous dots or cloudy interrupted line; cilia whitish, with a fuscous line.

Three specimens.

19. *Scopula despecta*, Butl.

Rhodaria despecta, Butl., Ent. Mo. Mag., xiv., 49;
Scopula exigua, ib., xvii., 9.

♂ ♀, 17—18 mm. Palpi three. Antennal ciliations one-half. Fore wings rather elongate-triangular, costa posteriorly gently arched, apex obtuse, hind margin obliquely rounded; ochreous, sometimes slightly brownish or reddish-tinged; costa suffusedly darker anteriorly; an indistinct slightly curved fuscous line from one-fifth of costa to two-fifths of inner margin; a small roundish spot faintly outlined with fuscous in disc before middle; a reniform spot more distinctly outlined with fuscous beyond middle; a rather irregular fuscous line from three-fourths of costa towards anal angle, somewhat curved, slightly indented beneath costa, below middle abruptly bent inwards to beneath reniform spot, thence tolerably rectangularly bent to two-thirds of inner margin; a hind-marginal row of blackish dots, sometimes nearly obsolete; cilia whitish, with a grey line. Hind wings whitish fuscous, more or less suffused with darker fuscous-grey towards apex; two darker fuscous dots obliquely placed in disc before middle; a hind-marginal series of dark fuscous dots, sometimes pale-margined; cilia whitish, with a faint ochreous-grey basal line.

Twenty-four specimens. Larva described by Mr. Blackburn, Ent. Mo. Mag., xix., 56.

7. *PROTOCOLLETIS*, n. g.

Forehead rounded, slightly prominent. Ocelli present. Tongue well-developed. Antennæ three-fourths, in male filiform, moderately ciliated (two-thirds), rough-scaled on back. Labial palpi

very long, straight, porrected, clothed with dense rough scales diminishing to apex, terminal joint moderate, partially concealed. Maxillary palpi moderate, terminally dilated with scales. Abdomen in male with moderate anal tuft, valves exerted. Posterior tibiæ with outer middle-spur one-half, outer end-spur three-fourths of inner. Fore wings with veins 8 and 9 stalked, 10 anastomosing shortly with 9 near base, 11 moderate, oblique. Hind wings as broad as fore wings; veins 4 and 5 short-stalked, 7 out of 6 near origin, anastomosing with 8 to near middle.

Allied to *Scopula*, but with all spurs of tibiæ developed; it differs from all genera of this group, and indeed perhaps all Pyrales, in the neururation of the fore wings, in which vein 10 anastomoses with 9, as it usually does in the *Noctuina*.

20. *Protocolletis constricta*, Butl.

Scopula constricta, Butl., Trans. Ent. Soc. Lond., 1882, 40.

♂ ♀, 20—22 mm. Palpi five. Fore wings elongate-triangular, costa gently arched, faintly sinuate, apex tolerably rectangular, hind margin bowed, oblique; rufous; a dark fuscous dot beneath costa at one-fourth; a small roundish spot outlined with darker in disc before middle; a nearly straight dark fuscous line from anterior edge of this to two-fifths of inner margin, preceded by a more or less marked whitish-ochreous suffusion; a reniform spot outlined with dark fuscous beyond middle; an indistinct waved dark fuscous line from three-fourths of costa towards anal angle, indented beneath costa, below middle curved inwards to beneath reniform spot, thence tolerably rectangularly bent to two-thirds of inner margin, lower portion posteriorly suffusedly margined with whitish ochreous, sometimes margined with small whitish-ochreous lunules throughout; a subterminal series of faint pale marks; a hind-marginal series of black dots, connected by a faint pale line; cilia rufous, with a dark grey basal line. Hind wings light fuscous, suffused with ochreous-whitish towards costa, becoming rather darker posteriorly; two rather large dark fuscous dots obliquely placed in disc before middle; an obscure waved curved ochreous-whitish line, preceded by a darker line, about three-fourths, parallel to hind margin; a hind-marginal series of black dots margined and connected with ochreous-whitish; cilia reddish-whitish, basal third dark grey barred with ochreous-whitish.

Three specimens.

8. *MECYNA*, Gn.

Hind wings with dark fuscous hind-marginal border .. 22. *virescens*.
 ,, without ,, ,, ,, .. 21. *aurora*.

21. *Mecyna aurora*, Butl.

Anemosa aurora, Butl., Ann. Mag. Nat. Hist., 1881, 327.

♂, 17 mm. Palpi three. Antennal ciliations one-third. Middle tibiae much dilated, with pencil of white hairs in groove. Fore wings rather elongate-triangular, costa slightly arched, apex obtuse, hind margin obliquely rounded; ochreous-reddish, slightly purplish-shining, towards base and costa deeper and more purple-reddish; a faint darker outwards-curved line from three-fourths of costa to two-thirds of inner margin, sinuate beneath costa, below middle rectangularly indented inwards; cilia ochreous-yellowish, tips paler. Hind wings ochreous-yellowish; an obscure hind-marginal band reddish-tinged; two faint grey dots obliquely placed in disc before middle; cilia ochreous-whitish, towards base more ochreous and reddish-tinged.

Two specimens.

22. *Mecyna virescens*, Butl.

Mecyna virescens, Butl., Ann. Mag. Nat. Hist., 1881, 329.

♂ ♀, 26—33 mm. Palpi 8½. Antennal ciliations one. Middle tibiae of male moderate, grooved, without hair-pencil. Fore wings elongate-triangular, costa posteriorly gently arched, apex obtuse, hind margin somewhat bowed, rather oblique; variable, brownish-ochreous, reddish-ochreous, or pale greyish-ochreous mixed with reddish-fuscous, sometimes finely sprinkled with black; a nearly straight cloudy darker line, sometimes preceded by a pale line, from one-fifth of costa to before middle of inner margin; a small round cloudy darker spot in disc before middle, and a somewhat larger subquadrate or transverse spot beyond middle; obliquely beneath and beyond this is a cloudy roundish similar spot, sometimes larger and conspicuously blackish, always perceptible; a strongly curved cloudy darker line, sometimes followed by a pale line, generally marked with a series of black dots, from before three-fourths of costa to three-fifths of inner margin, indented beneath costa, below middle with a rectangular indentation inwards touching third discal spot; cilia greyish-ochreous or

reddish-ochreous, tips paler, sometimes with an obscure darker line. Hind wings ochreous-yellowish, almost or quite wholly suffused with pale fuscous; generally a small suffused dark fuscous spot in middle of disc, and sometimes another smaller and fainter obliquely above and before it; a moderate cloudy dark fuscous hind-marginal band, slightly dilated at apex and above anal angle, suddenly ceasing before reaching anal angle; cilia yellow-ochreous, tips paler.

Fourteen specimens. Probably nearest *M. deprivalis*, from Ceylon and New Zealand.

9. ORTHOMECYNA, *Butl.*

Forehead rounded, vertical. Ocelli present. Tongue well-developed. Antennæ three-fourths, in male filiform, shortly ciliated (one-third), rough-scaled on back. Labial palpi moderately long, porrected, second joint with dense rough projecting scales beneath, longer and almost tufted towards apex, terminal joint concealed. Maxillary palpi moderate, terminally dilated with scales, truncate. Abdomen in male with moderately large anal tuft, valves exerted. Posterior tibiæ with all spurs moderately long, nearly equal. Fore wings with veins 8 and 9 stalked, 11 moderately oblique. Hind wings as broad as fore wings; veins 4 and 5 stalked, 7 rising separate from 6, connected with 8 at a point only near origin, lower median with well-defined pectination; in male with vein 3 absent, on upper surface with a longitudinal hairy grooved fold from base beneath lower median above vein 1a to hind margin.

A special endemic development, most allied to *Mecyna*.

- | | |
|--|--------------------------|
| 1. Fore wings ochreous-brown | 23. <i>albicaudata</i> . |
| ,, greyish | 2. |
| 2. Fore wings with lines tolerably distinct, blackish .. | 24. <i>exigua</i> . |
| ,, ,, imperceptible | 25. <i>aphanopis</i> . |

23. *Orthomecyna albicaudata*, Butl.

Orthomecyna albicaudata, Butl., Ent. Mo. Mag., xix., 178.

♂ ♀, 18—23 mm. Abdomen brownish-ochreous, in male becoming ochreous-white posteriorly. Fore wings elongate-triangular, costa almost straight, apex obtuse, hind margin rather obliquely rounded; ochreous, irrorated with ochreous-brown; two hardly traceable darker lines, first from two-fifths of costa to middle of inner margin, almost straight, second from three-fifths

of costa to three-fifths of inner margin, upper half forming a strong curve outwards; a small obscure darker spot in disc beyond middle between these, in female more distinct; in one specimen (female) a whitish-ochreous suffusion on dorsal half beyond middle, preceded and followed by cloudy rather dark fuscous suffusions; a submarginal series of indistinct darker spots; cilia brownish, with an obscure darker line. Hind wings blackish-fuscous; two ill-defined ochreous-yellow gradually dilated streaks from base to near hind margin, one above, other below middle, more or less strongly expanded in disc; cilia ochreous-yellow, tips paler, with an indistinct incomplete grey line.

Four specimens.

24. *Orthomecyna exigua*, Butl.

Mecyna exigua, Butl., Ent. Mo. Mag., xv., 271; Ann. Mag. Nat. Hist., 1881, 329; *Orthomecyna exigua*, var. *cupreipennis*, id., Ent. Mo. Mag., xix., 179.

♂ ♀, 14—23 mm. Abdomen greyish-ochreous, yellowish-tinged. Fore wings elongate-triangular, costa hardly arched, apex obtuse, hind margin rather obliquely rounded; pale greyish-ochreous, irrorated with dark grey; an angulated blackish line near base, sometimes obsolete; an irregular blackish line from one-fourth of costa to about middle of inner margin, more or less indented outwards above middle, sometimes preceded by a pale or whitish line; an angulated black mark in disc beyond middle, angle directed towards base; a slender waved blackish line, followed by a pale line, from two-thirds of costa to two-thirds of inner margin, upper two-thirds moderately curved outwards; a more or less distinct cloudy pale subterminal line, followed by a series of darker spots; a hind-marginal series of triangular dark grey spots; cilia pale greyish-ochreous, with a cloudy dark grey basal line. Hind wings dark grey; two more or less distinct very ill-defined ochreous-yellowish longitudinal suffusions above and below middle, extending from near base to about three-fourths; cilia ochreous-yellowish, tips paler, with a cloudy grey basal line.

Sixteen specimens.

25. *Orthomecyna aphanopis*, n. s.

♂ ♀, 15—18 mm. Abdomen yellow-ochreous. Fore wings elongate-triangular, costa nearly straight, apex obtuse, hind margin rather obliquely rounded; whitish-grey, somewhat mixed with pale greyish-ochreous and darker grey; lines hardly perceptible;

an indistinct grey angulated mark in disc beyond middle; a sub-marginal series of indistinct darker spots; a dark grey hind-marginal line; cilia light grey, with a darker line. Hind wings pale yellowish-ochreous or greyish-ochreous, generally suffused with grey towards hind margin and longitudinally in disc; a dark grey hind-marginal line; cilia ochreous-grey-whitish, towards base sometimes suffused with grey, or with a darker line.

Three specimens.

10. MESTOLOBES, *Butl.*

Forehead rounded, oblique. Ocelli present. Tongue well-developed. Antennæ three-fourths, in male filiform, moderately ciliated (one-half), rough-scaled on back, basal joint stout. Labial palpi moderate, tolerably porrected, second joint with dense broadly projecting scales beneath, terminal joint rather short, projecting or concealed. Maxillary palpi moderate, terminally dilated with scales, truncate. Abdomen in male with moderately large anal tuft, sometimes with lateral tufts near apex, valves exerted. Middle and posterior tibiæ in male sometimes with tufts; posterior tibiæ with outer spurs two-thirds to four-fifths of inner. Fore wings with veins 8 and 9 stalked, 11 moderately oblique. Hind wings as broad as fore wings; vein 3 absent, 4 and 5 stalked, 7 out of 6 near origin, anastomosing with 8 to near one-third; in male with a narrow lobe from base of inner margin, densely clothed with rough hairs or with an apical tuft of hairs, and generally with a pencil of hairs along costa from base.

Certainly a further development of *Orthomecyna*. The various singular tufts and hair-pencils of this genus are specific characters only, not generic.

- | | | | |
|---|----|----|-------------------------|
| 1. Hind wings partially white or whitish | .. | .. | 26. <i>abnormis</i> . |
| " not " " | .. | .. | 2. |
| 2. Hind wings ochreous-yellow except apex | .. | .. | 27. <i>semiochrea</i> . |
| " " only on costa in male | | | 28. <i>minuscula</i> . |

26. *Mestolobes abnormis*, *Butl.*

Metasia abnormis, *Butl.*, *Trans. Ent. Soc. Lond.*, 1882, 35 (♀); *Mestolobes cœnone*, *ib.*, 37 (♂).

♂ ♀, 14–15 mm. Abdomen dark grey, in male ochreous-whitish towards base and apex. Legs white, anterior and middle pair partially banded with blackish, posterior tibiæ in male with brush of black scales above on terminal half. Fore wings oblong.

posteriorly somewhat dilated, costa anteriorly slightly arched, apex obtuse, hind margin obliquely rounded; pale fuscous, irregularly mixed with whitish-ochreous, yellowish, and blackish; an irregular obscure whitish line from one-third of costa to two-fifths of inner margin, rather angulated in middle; a similar more strongly angulated line from four-fifths of costa to inner margin before anal angle; a small irregular suffused dark fuscous spot in disc beyond middle; cilia mixed with ochreous-whitish and dark fuscous (imperfect). Hind wings in male white, faintly ochreous-tinged, with a blackish blotch occupying apical third; in female dark fuscous, with a whitish suffusion towards middle of disc and base of costa; costa in male with longitudinal pencil of yellowish hairs in groove; inner-marginal lobe in male strong, hollowed, terminating in two tufts of black scales; cilia white, with a blackish line, in male round apex only.

Six specimens. There is not the least doubt as to the specific identity of the sexes, referred by Butler to separate families.

27. *Mestolobes semiochrea*, Butl.

Mestolobes semiochrea, Butl., Trans. Ent. Soc. Lond., 1882, 39.

♂, 13 mm. Abdomen whitish-ochreous. Legs whitish-ochreous, anterior pair banded with dark fuscous, posterior tibiae with an obliquely erect tuft of coarse black scales from above near base. Fore wings oblong, posteriorly somewhat dilated, costa anteriorly slightly arched, apex obtuse, hind margin obliquely rounded; whitish-ochreous, sprinkled with fuscous, suffused with ochreous-fuscous except on basal third and a small costal blotch before second line; lines obscure, whitish-ochreous, darker-margined, first from two-fifths of costa to middle of inner margin, almost straight, anterior edge marked with blackish, second from four-fifths of costa to inner margin before anal angle, upper two-thirds moderately curved outwards; cilia whitish-ochreous mixed with fuscous, with a cloudy darker fuscous line (imperfect). Hind wings ochreous-yellow; a narrow dark fuscous streak along upper half of hind margin; costa without hair-pencil; inner-marginal lobe short, hairy; cilia pale yellowish, on upper half of hind margin with a basal grey line.

Two specimens.

28. *Mestolobes minuscula*, Butl.

Boreophila minuscula, Butl., Ann. Mag. Nat. Hist., 1881, 325; *Mestolobes simæthina*, id., Trans. Ent. Soc. Lond., 1882, 38.

♂ ♀, 10—14 mm. Abdomen dark fuscous, towards base in male ochreous-yellowish. Legs whitish-ochreous, anterior and middle pair banded with dark fuscous, posterior tibiæ without tuft. Fore wings oblong-triangular, costa hardly arched, apex obtuse, hind margin obliquely rounded; fuscous, mixed with dark fuscous; lines obscure or tolerably distinct, fuscous-whitish, obscurely darker-margined; first from one-third of costa to two-fifths of inner margin, often distinctly double, somewhat angulated in middle; second from three-fourths of costa to three-fourths of inner margin, unevenly curved outwards; immediately beyond first line ground colour somewhat ochreous-tinged; an ochreous-tinged dark-margined reniform spot in disc beyond middle; an interrupted dark fuscous hind-marginal line; cilia pale greyish-ochreous, with a dark fuscous line near base and cloudy fuscous posterior line. Hind wings rather dark fuscous, darker in female, especially towards hind margin; in male with an ochreous-yellowish patch along basal two-thirds of costa, including a longitudinal pencil of yellowish hairs in a shallow groove; inner-marginal lobe in male clothed with dense light ochreous-yellowish hairs; cilia grey-whitish, with a dark grey line.

Sixteen specimens.

11. EURYCREON, *Ld.*29. *Eurycreon litorea*, Butl.

Scopula litorea, Butl., Ent. Mo. Mag., xix., 178.

♂, 15 mm. Frontal projection obtuse, rounded. Palpi 3½. Antennal ciliations one. Fore wings elongate-triangular, costa posteriorly gently arched, apex obtuse, hind margin obliquely rounded; whitish-ochreous, sprinkled with brownish-ochreous; lines barely indicated by a few scattered blackish scales, but not traceable; cilia whitish-ochreous. Hind wings ochreous-whitish, somewhat sprinkled with ochreous-brownish; a very indistinct line indicated by dark fuscous scales at three-fourths parallel to hind margin; sometimes a series of obscure fuscous hind-marginal dots; cilia ochreous-whitish.

Three specimens. One of the specimens in the British Museum appears to have fine but distinct first

and second lines of the usual form. The long palpi are a good specific point.

SCOPARIADÆ.

Hind wings with some long hairs in disc within cell .. 13. *XEROSCOPA*.

„ without „ „ „ .. 12. *SCOPARIA*.

12. *SCOPARIA*, *Hw.*

Fore wings with orbicular and reniform indicated by black marks 31. *frigida*.

Fore wings with orbicular and reniform not black .. 30. *macrophanes*.

30. *Scoparia macrophanes*, n. s.

♀, 17 mm. Head, palpi, and thorax white mixed with fuscous; palpi three, with an oblique dark fuscous median band, base wholly white. Antennæ grey. Abdomen light fuscous. Legs dark grey, banded with white. Fore wings elongate, narrow, posteriorly gradually dilated, costa posteriorly slightly arched, apex obtuse, hind margin nearly straight, oblique, rounded beneath; fuscous-grey, densely mixed with white, with scattered dark fuscous scales; an indistinct oblique transverse darker line near base; first line cloudy, white, followed by a cloudy darker grey suffusion, moderately oblique, slightly curved, shortly abruptly indented in middle; orbicular indicated by a cloudy slightly darker detached suffusion; claviform obsolete; reniform cloudy, 8-shaped, darker grey, preceded by a white suffusion; second line slender, white, indistinct, moderately curved, moderately indented beneath costa and sinuate above inner margin; hind-marginal area beyond this darker grey; subterminal line cloudy, whitish, touching second in middle; a hind-marginal row of cloudy whitish dots; cilia whitish, with a dark grey line near base, and cloudy grey post-median line. Hind wings $1\frac{1}{2}$; pale whitish-grey, thinly scaled; apex narrowly suffused with darker grey; a cloudy dark grey hind-marginal line; cilia grey-whitish, with a dark grey line.

One specimen. *S. angustea* (*coarctata*), erroneously recorded by Butler, was identified either from this or the following species.

31. *Scoparia frigida*, Butl.

Scoparia frigida, Butl., Ann. Mag. Nat. Hist., 1881, 331; *S. montana*, id., Trans. Ent. Soc. Lond., 1882, 41.

♂ ♀, 17—19 mm. Head white. Palpi three, dark fuscous, mixed with white above, base white, apex of maxillary palpi white.

Antennæ grey, ciliations in male two-thirds. Thorax fuscous, mixed with white. Abdomen pale greyish-ochreous. Legs dark grey, banded with white. Fore wings elongate, narrow, posteriorly gradually dilated, costa hardly arched, apex obtuse, hind margin nearly straight, oblique, rounded beneath; fuscous or ochreous-fuscous, irregularly mixed with white; some scattered black scales tending to accumulate on veins, and especially along submedian fold; first line cloudy, whitish, followed by some black scales, very oblique, slightly curved, slightly indented in middle; orbicular represented by a detached short sinuate longitudinal blackish mark, sometimes obscure; claviform obsolete; reniform formed by two white dots, separated by an obscure X-shaped blackish mark; second line slender, whitish, abruptly curved in middle, acutely indented beneath costa, rather strongly sinuate above inner margin; subterminal cloudy, whitish, almost straight, touching second line in middle; a white hind-marginal line, preceded by a series of cloudy black dots, extreme hind-marginal edge blackish; cilia white, base ochreous-tinged, with a blackish somewhat interrupted line near base, and a grey post-median line. Hind wings $1\frac{1}{2}$; pale whitish-fuscous, in male paler, rather darker towards apex; a cloudy fuscous hind-marginal line; cilia white, with a fuscous line.

Four specimens. Packard has described a species under the name of *Scoparia frigidella*, but it is probably a variety of *S. centuriella*; otherwise Butler's first name would lapse.

13. XEROSCOPA, *Meyr.*

- | | |
|--|-------------------------|
| 1. Fore wings with ground colour white or ochreous-white | 2. |
| Fore wings with ground colour fuscous or grey .. | 5. |
| 2. Reniform connected with orbicular | 3. |
| „ separate from orbicular | 4. |
| 3. Thorax black, with two white lines | 38. <i>pachysema</i> . |
| „ white, shoulders black | 40. <i>formosa</i> . |
| 4. Fore wings with basal area wholly black | 39. <i>mesoleuca</i> . |
| „ „ a narrow black subbasal fascia | 41. <i>jucunda</i> . |
| 5. Fore wings with all veins lined with white | 32. <i>venosa</i> . |
| „ „ „ not lined with white | 6. |
| 6. Head wholly ochreous-whitish | 37. <i>hawaiensis</i> . |
| „ more or less fuscous | 7. |
| 7. Hind wings fuscous | 34. <i>ombrodes</i> . |
| „ pale whitish-fuscous | 8. |
| 8. Claviform defined | 9. |
| „ absent | 35. <i>demodes</i> . |
| 9. Fore wings with blackish spot near base in middle .. | 36. <i>ischnias</i> . |
| „ without „ „ „ .. | 33. <i>melanopis</i> . |

32. *Xeroscopa venosa*, Butl.

Scoparia venosa, Butl., Ann. Mag. Nat. Hist., 1881, 332.

♂, 17—19 mm. Head white, slightly mixed with fuscous. Palpi three, rather dark fuscous, upper edge and base beneath white. Antennæ grey, ciliations three-fourths. Thorax fuscous, sprinkled with white. Abdomen light greyish-ochreous. Legs white, sprinkled with dark fuscous, base of joints dark fuscous, anterior pair dark fuscous ringed with white. Fore wings elongate, narrow, gradually dilated, costa hardly arched, apex obtuse, hind margin oblique, nearly straight, rounded beneath; fuscous, irrorated with dark fuscous; all veins more or less distinctly lined with white; first line indistinctly indicated, hardly darker fuscous; orbicular and claviform nearly obsolete, indicated by two or three dark fuscous scales; reniform indicated by a small bent longitudinal dark fuscous mark; second line faintly traceable; a submarginal line of small cloudy dark fuscous subconfluent dots; cilia white, with a dark fuscous line near base, and grey postmedian line. Hind wings $1\frac{1}{2}$; very pale whitish-fuscous, apex hardly darker; a cloudy fuscous hind-marginal line; cilia whitish, with a fuscous line.

Three specimens.

33. *Xeroscopa melanopis*, n. s.

♀, 16 mm. Head and thorax fuscous-grey, sprinkled with whitish. Palpi $2\frac{1}{2}$, rather dark fuscous, upper edge and base beneath white. Antennæ grey. Abdomen whitish-fuscous. Legs dark fuscous, banded with white, middle and posterior tibiæ suffused with white. Fore wings very elongate-triangular, costa posteriorly slightly arched, apex obtuse, hind margin slightly rounded, oblique; fuscous-grey, irrorated with white; first line slender, indistinct, whitish, posteriorly margined by an ochreous-brown suffusion irrorated with black, slightly curved; orbicular obsolete; claviform conspicuous, elongate, black, touching first line; reniform indicated by a small brown suffusion, extended to touch costa; second line very slender, indistinct, whitish; subterminal slender, cloudy, whitish, touching second line; a slender waved whitish hind-marginal line, preceded in middle by a rather darker suffusion; cilia whitish, with a dark grey line near base. Hind wings $1\frac{1}{2}$; pale whitish-fuscous, hind margin obscurely darker; cilia whitish, with a fuscous line.

One specimen. The conspicuous claviform spot is the most marked characteristic.

34. *Xeroscopa ombrodes*, n. s.

♀, 15—16 mm. Head and thorax rather dark fuscous, with a few ochreous-whitish scales. Palpi $2\frac{1}{2}$, dark fuscous, base ochreous-whitish. Antennæ dark fuscous. Abdomen dark grey, segmental margins grey-whitish. Legs dark grey, ringed with whitish. Fore wings very elongate-triangular, costa posteriorly gently arched, apex obtuse, hind margin rather obliquely rounded; rather light fuscous; an irregular suffused dark fuscous fascia near base; first line ochreous-whitish, slightly curved, preceded by a more obscure similar line, confluent in middle, and followed by a dark fuscous suffusion; space between first and second lines mixed with ochreous-whitish on costal third, rest sprinkled with dark fuscous; orbicular dot-like, dark fuscous, ill-defined beneath; claviform indicated by some undefined dark fuscous scales; reniform very ill-defined, small, dark fuscous, sometimes connected with orbicular by a suffused streak; second line ochreous-whitish, obsolete except towards inner margin; subterminal obsolete; a few dark fuscous scales towards hind margin; an irregular whitish hind-marginal line; cilia light fuscous, mixed and obscurely barred with white, with a dark fuscous line. Hind wings $1\frac{1}{2}$; fuscous, somewhat lighter towards base; cilia whitish-fuscous, with a fuscous line.

Two specimens, not in good condition.

35. *Xeroscopa demodes*, n. s.

♀, 17 mm. Head, palpi, and thorax whitish, mixed with ochreous-fuscous; palpi three, towards base white, with an oblique dark fuscous median band. Antennæ grey-whitish. Abdomen whitish-ochreous. Legs dark fuscous, ringed with whitish. Fore wings elongate-triangular, costa posteriorly slightly arched, apex obtuse, hind margin nearly straight, oblique, rounded beneath; light fuscous, irregularly mixed with white, and with a few dark fuscous scales, in disc mixed with yellowish-ochreous; a narrow cloudy oblique irregular dark fuscous basal fascia; a small ill-defined reddish-ochreous spot on posterior edge of this in middle; first line indistinct, whitish, somewhat curved, indented in middle, posteriorly margined by a blackish suffusion merging into ochreous-brown; orbicular represented by a few indefinite dark fuscous scales; claviform absent; reniform 8-shaped, suffusedly blackish-margined except above and beneath, ochreous-brown, lower half containing a white dot; second line whitish, preceded by a few dark fuscous scales, gently curved, sinuations below costa and above inner margin slight; subterminal cloudy, whitish, touching

second line in middle; some dark fuscous scales towards hind margin, tending to form very indistinct spots, dilated in middle; cilia ochreous-grey-whitish, basal half faintly barred with pale fuscous. Hind wings $1\frac{1}{2}$; pale whitish-fuscous, apex hardly darker; cilia fuscous-whitish, with a pale fuscous line.

One specimen.

36. *Xeroscopia ischnias*, n. s.

♂, 18 mm. Head and thorax fuscous mixed with dark fuscous. Palpi two, dark fuscous, white towards base beneath, apex of maxillary palpi white. Antennæ grey, uniformly pubescent-ciliated over whole surface (four-fifths). Abdomen light fuscous. Legs dark fuscous, ringed with white. Fore wings elongate, narrow, gradually dilated, costa hardly arched, apex obtuse, hind margin nearly straight, oblique, rounded beneath; fuscous, irregularly mixed with white; base narrowly mixed with blackish; a small irregular blackish spot near base in middle, preceded by a white dot; first line cloudy, whitish, slightly indented in middle, posteriorly obscurely margined with dark fuscous; orbicular roundish, outlined with dark fuscous, very obscure, detached; claviform elongate-dot-like, dark fuscous, separated from first line by a whitish dot; reniform indicated by a very obscure dark fuscous X-shaped mark; a cloudy whitish suffusion preceding second line; second line whitish, obscurely margined with dark fuscous; hind-marginal area suffused with dark fuscous; subterminal cloudy, whitish, touching second line in middle; a waved white hind-marginal line; cilia light grey, sharply barred with white, with an interrupted dark fuscous line. Hind wings $1\frac{3}{4}$; very pale whitish-fuscous, towards apex slightly darker, with a faint pale post-median line; cilia whitish, with a fuscous line.

One specimen. The peculiar pubescence of the antennæ is a noticeable character.

37. *Xeroscopia hawaiiensis*, Butl.

Scoparia hawaiiensis, Butl., Ann. Mag. Nat. Hist., 1881, 330.

♂ ♀, 14—21 mm. Head ochreous-whitish. Palpi $2\frac{1}{4}$, dark fuscous, towards apex and base ochreous-whitish. Antennæ grey, ciliations in male two-thirds. Thorax ochreous-whitish, sprinkled with dark fuscous on sides. Abdomen ochreous-grey-whitish. Legs blackish, banded with white. Fore wings very elongate-triangular, costa hardly arched, apex obtuse, hind margin nearly

straight, rather oblique, rounded beneath; fuscous, densely mixed with white, and with a few black scales; an ill-defined cloudy dark fuscous oblique fascia near base; first line very obscure, whitish, rather indented in middle, posteriorly margined by a moderately broad irregular dark fuscous fascia, in which claviform is indicated by an obscure blackish mark; orbicular dot-like, dark fuscous, touching preceding fascia; reniform 8-shaped, suffusedly blackish-margined, open above and beneath, above connected with costa by a dark fuscous spot; second line very obscurely whitish, margined anteriorly with dark fuscous on costa and inner margin; hind-marginal area dark fuscous; subterminal very obscure, fuscous-whitish, touching second line in middle, above this shortly interrupted; a series of obscure blackish marks on hind margin; cilia whitish, with faintly indicated darker bars, and an interrupted grey line. Hind wings $1\frac{1}{2}$; fuscous-whitish, apex and upper half of hind margin slightly darker; a faint pale post-median line; cilia whitish, with a grey line, in male partially obsolete.

Three specimens.

38. *Xeroscopa pachysema*, n. s.

♀, 18 mm. Head white. Palpi three, black, apex and base white. Antennæ grey. Thorax black, slightly irrorated with white, with a white longitudinal streak on each side of back meeting behind. Abdomen pale grey. Legs black, ringed with white, posterior tibiae white. Fore wings elongate, narrow, gradually dilated, costa hardly arched, apex obtuse, hind margin nearly straight, oblique, rounded beneath; ochreous-white, coarsely irrorated with black except in disc; first line thick, straight, ochreous-white, well-defined, strongly margined with black on both sides; orbicular and claviform confluent to form a large round black spot, touching black margin of first line; reniform sub-ovate, black, resting on costa above and second line beneath, connected with orbicular in middle, containing a white dot near lower extremity; second line ochreous-white, anteriorly strongly margined with black except shortly below reniform; hind-marginal area black; subterminal represented by an ochreous-white streak from middle of second line almost to hind margin above anal angle, and a short inwardly-oblique ochreous-white mark from anal angle; an irregular white hind-marginal line; cilia white, with an interrupted blackish line near base, and three or four grey quadrate posterior spots round apex. Hind wings $1\frac{3}{4}$; pale whitish-grey, thinly scaled, posteriorly somewhat darker; a faint grey post-median line, followed by a whitish mark below middle;

hind margin suffused with darker grey; cilia whitish, with a grey line.

One specimen.

39. *Xeroscopa mesoleuca*, n. s.

♂, 14 mm. Head ochreous-white. Palpi 2½, black, apex and base white. Antennæ blackish, ciliations two-thirds. Thorax ochreous-white, shoulders and an angulated forwards-pointing mark behind middle black. (Abdomen broken.) Legs black ringed with white, middle tibiæ with broad white subapical band, posterior tibiæ white. Fore wings very elongate-triangular, costa hardly arched, apex obtuse, hind margin nearly straight, rather oblique, rounded beneath; ochreous-white, yellowish-tinged; basal area wholly black except an ochreous-white basal dot; first line ochreous-white, interrupted with black in middle, anteriorly irregularly margined by the black basal area, posteriorly slenderly black-margined; orbicular and claviform confluent to form a transverse suboblong black blotch, confluent throughout with margin of first line, and extending from costa two-thirds across wing; costal edge towards middle sprinkled with black, dorsal edge narrowly black from first to second lines; reniform transverse-oblong, black, resting on costa above and second line beneath; second line slender, ochreous-white, black-margined, obsolete except on costal third and inner margin, hind-marginal area wholly black, anterior edge of reniform coalescing with it to form a straight line perpendicular to costa; subterminal irregular, ochreous-white, interrupted in middle, upper part touching costal portion of second line; some indistinct whitish dots along hind margin; cilia clear ochreous-white, on costa and below anal angle dark grey. Hind wings 1½; light grey, hind-marginal edge suffusedly darker; cilia whitish.

One specimen.

40. *Xeroscopa formosa*, Butl.

Scoparia formosa, Butl., Ann. Mag. Nat. Hist., 1881, 331.

♂, 17 mm. Head white. Maxillary palpi black, apex broadly white (labial palpi broken). Antennæ blackish, ciliations one-half. Thorax white, shoulders spotted with black. (Abdomen broken.) Legs black, ringed with white, posterior pair white, base of tarsal joints black. Fore wings elongate, narrow, gradually dilated, costa slightly arched, apex obtuse, hind margin nearly straight,

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oblique, rounded beneath; white, slightly ochreous-tinged; a moderate black oblique basal fascia, its outer edge acutely tridentate (in middle and on both margins); outer edge of first line indicated by a straight black line; orbicular and claviform confluent into an irregular pentagonal black spot, anteriorly wholly confluent with margin of first line, posterior angle shortly produced to coalesce with reniform; reniform transverse-oblong, black, resting on costa above, lower angles shortly acutely produced; posterior edge of second line indicated by sharply marked edge of black hind-marginal area, anterior edge only by black dots on costa and inner margin; subterminal irregular, rather thick, ochreous-white, interrupted above middle, lower half touching middle of edge of second line; cilia clear white, slightly ochreous-tinged. Hind wings $1\frac{1}{2}$; pale grey, hind-marginal edge suffusedly darker; cilia grey-whitish, with a light grey line.

One specimen.

41. *Xeroscopa jucunda*, Butl.

Scoparia jucunda, Butl., Ann. Mag. Nat. Hist., 1881, 331.

♀, 16 mm. Head white. Palpi $2\frac{1}{2}$, dark fuscous, upper edge and base white. Antennæ dark fuscous annulated with white. Thorax white. Abdomen light grey, segmental margins white. Legs blackish, ringed with white, posterior pair white, base of tarsal joints black. Fore wings very elongate-triangular, costa slightly arched, apex obtuse, hind margin obliquely rounded; white, very slightly ochreous-tinged; a narrow irregular oblique black fascia near base, its outer edge acutely bidentate (above and below middle); outer edge of first line indicated by a black subdentate line; orbicular and claviform confluent to form a small 8-shaped black spot, its upper half connected by a projection with first line; reniform narrow, transverse, black, resting on costa above, its lower angles shortly acutely produced; posterior edge of second line indicated by sharply marked waved edge of black hind-marginal area, anterior edge only by black dots on costa and inner margin; subterminal very thick on lower half, thinner above, ochreous-white, entire, broadly confluent with edge of second line in middle; cilia clear white. Hind wings $1\frac{1}{2}$; whitish-grey, hind margin suffused with darker grey; a partially indicated whitish post-median line; cilia whitish, with a grey line.

Two specimens.

PTEROPHORIDÆ.

14. TRICHOPTILUS, *Wlsm.*42. *Trichoptilus hawaiiensis*, Butl.

Aciptilia hawaiiensis, Butl., Ann. Mag. Nat. Hist., 1881, 408.

♂ ♀, 14—16 mm. Head and thorax ochreous. Palpi brownish-ochreous mixed with whitish, second joint reaching middle of face. Antennæ ochreous-whitish, with a dark fuscous line on back. Abdomen ochreous mixed with ochreous-whitish, apex in male with a single moderate obliquely ascending hair-pencil. Legs white, longitudinally striped with blackish, posterior tibiæ banded in middle and at apex with dark ochreous-fuscous. Fore wings cleft from middle, segments linear; veins 2 and 10 present; brownish-ochreous, first segment more or less suffused with fuscous; an obscure dark fuscous dot in disc at one-third, and another on first segment at base; some white scales indicating very obscure bands on both segments before middle and towards apex; cilia ochreous-brown, on costa spotted with white on bands, on lower margin of first segment with two or three white scales on bands and a white subapical spot followed by a small black scale-tooth, on upper margin of second segment with a small white spot before apex, on lower margin of second segment with white bars opposite bands, interspaces greyer, and with a small black almost apical scale-tooth. Hind wings cleft firstly from one-fourth, secondly from base, segments linear; rather dark fuscous; cilia light ochreous-fuscous, third segment with a small well-defined black scale-tooth on inner margin at three-fifths, and a fringe of white hair-scales between this and base.

Six specimens. Closely allied to *T. centetes* and its group.

15. PLATYPTILIA, *Hb.*

- | | | | | | | |
|--|----|----|----|----|----|---------------------------|
| 1. Palpi very long | .. | .. | .. | .. | .. | 43. <i>rhynchophora</i> |
| „ moderate | .. | .. | .. | .. | .. | 2. |
| 2. Fore wings with two dark fuscous dots before middle | | | | | | 45. <i>brachymorpha</i> . |
| „ without | „ | „ | „ | „ | | 44. <i>cosmodactyla</i> . |

43. *Platyptilia rhynchophora*, n. s.

Platyptilia repletalis Butl., Ann. Mag. Nat. Hist., 1881, 407 (nec. Walk.).

♂ ♀, 17—18 mm. Head and thorax rather dark fuscous, finely sprinkled with ochreous-whitish; frontal cone short. Palpi very

long (four), rather dark fuscous, sprinkled with whitish above. Antennæ dark fuscous. Abdomen fuscous. Legs fuscous, beneath whitish, banded with dark fuscous, tibiæ not incrassated. Fore wings cleft from two-thirds, segments moderate, parallel-sided; fuscous, towards middle of disc and on costal and dorsal edges irrorated with blackish; an obscure cloudy dark fuscous dot in disc at one-fourth, and a second below costa at one-third; a cloudy blackish dot immediately before cleft, indistinctly extended to costa, where it is followed by some whitish scales; an indistinct dark fuscous bar extending across middle of both segments parallel to hind margin, anteriorly suffused, posteriorly margined by an obscure whitish line; cilia fuscous, slightly mixed with whitish, on hind margin with an obscure darker fuscous line, on inner margin with a few scattered black scales. Hind wings cleft firstly from middle, secondly from three-fourths, first and second segments moderately dilated; rather dark fuscous; cilia fuscous; third segment with a row of black scales on inner margin from base to middle, and one or two at three-fourths.

Three specimens. Immediately recognisable by the unusually long palpi.

44. *Platyptilia cosmodactyla*, Hb.

Amblyptilia cosmodactyla, Butl, Ann. Mag. Nat. Hist., 1881, 407.

Three specimens, darker and greyer than usual, but apparently identical. This species, ranging over Europe, South Africa, and North America, is probably transported through the agency of man.

45. *Platyptilia brachymorpha*, n. s.

♂ (?), 14 mm. Head and thorax light brown, thorax posteriorly ochreous-whitish. Palpi moderate (two), ochreous-brown, base and a median ring of second joint white, terminal joint mixed with white. Antennæ fuscous. (Abdomen broken.) Legs rather dark fuscous above, white beneath, tibiæ not incrassated. Fore wings cleft from two-thirds, segments moderate, parallel-sided; light ochreous-brown, irrorated with white; costa rather dark fuscous, dotted with white; a rather large dark fuscous dot in disc before one-third, and another beneath costa before middle; a triangular dark fuscous blotch on costa about two-thirds, reaching half across wing, terminating in two transversely placed black dots before cleft, followed by an obscure whitish suffusion; a white line

crossing both segments near hind margin, preceded in first segment by a large elongate black dot, in second by a small one, on costal margin of both segments by a dark fuscous suffusion, hind-marginal area beyond this fuscous; cilia of both segments on hind margin rather dark fuscous, slightly mixed with white, with a small black scale-tooth at lower angle, on inner margin fuscous-whitish with a few scattered very small black scales. Hind wings cleft firstly from middle, secondly from before three-fourths; first segment moderately dilated, spatulate, second slightly dilated, its apex very long-pointed, its hind margin very oblique and concave; rather dark fuscous; cilia fuscous, third segment with a row of black scales on inner margin from base to middle, and one or two at four-fifths.

One specimen.

46. *Platyptilia littoralis*, Butl.

Platyptilus littoralis, Butl., Trans. Ent. Soc. Lond., 1882, 44.

I have not seen the type of this species (I presume I overlooked it in the Museum), and Mr. Blackburn has sent no specimen under this name (in the case of all other described species he has labelled a specimen corresponding with the type forwarded to Mr. Butler); I am therefore unable to add anything on the subject of this species, but, if the description is correct, it should be distinct.

CRAMBIDÆ.

Hind wings with veins 6 and 7 stalked	16. EROMENE.
" " " remote	17. HEDNOTA.

16. *EROMENE*, Hb.

47. *Eromene ocellæa*, Hw.

Eromene bella, Butl., Trans. Ent. Soc. Lond., 1882, 42 (nec Hb.).

I have elsewhere recorded my opinion that this species (now ranging very widely) is artificially introduced; probably, as suggested, in the packing-material of grocery-cases from the South of Europe.

17. HEDNOTA, Meyr.

- | | |
|--|--------------------------|
| 1. Hind wings with veins 4 and 5 stalked | 48. <i>floricolans</i> . |
| " " " not stalked | 2. |
| 2. Fore wings with apex almost acute | 50. <i>oxyptera</i> . |
| " " tolerably rectangular | 49. <i>hydrophila</i> . |

48. *Hednota floricolans*, Butl.

Gesneria floricolens (rect. *floricolans*), Butl., Ent. Mo. Mag., xix., 180.

♂, 12 mm. Head and thorax grey sprinkled with ochreous-whitish, forehead obtusely prominent. Palpi 2½, pale greyish-ochreous mixed with grey. Antennæ dark fuscous, subserrate, ciliations two-thirds. Abdomen pale whitish-ochreous, sometimes sprinkled with grey. Legs dark fuscous, ringed with whitish-ochreous, posterior tibiæ suffused with whitish-ochreous. Fore wings elongate-triangular, costa gently arched, apex tolerably rectangular, hind margin almost straight, faintly sinuate, oblique; very pale greyish-ochreous or whitish-ochreous, more or less irrorated with grey, and with a few scattered black scales; three cloudy blackish dots in a curved transverse series near base; first line ochreous-whitish, posteriorly irregularly blackish-margined, from two-fifths of costa to two-fifths of inner margin, upper half moderately curved outwards, lower half slightly curved inwards; two blackish dots transversely placed in disc beyond middle; a small blackish suffused spot on costa beyond middle; second line from four-fifths of costa to four-fifths of inner margin, slender, blackish, on lower half almost obsolete, curved outwards, indented beneath costa, where it is preceded by an ochreous-whitish dot; an ochreous-whitish dot on costa before apex; cilia ochreous-whitish, with a slender interrupted blackish median line, basal half obscurely barred with a grey irroration. Hind wings with veins 4 and 5 stalked; whitish-fuscous, paler towards base; cilia fuscous-whitish, with a fuscous line.

Three specimens.

49. *Hednota hydrophila*, Butl.

Scotomera hydrophila, Butl., Trans. Ent. Soc. Lond., 1882, 36.

♀, 14 mm. Head, palpi, and thorax ochreous-fuscous; forehead obtusely prominent; palpi three, sprinkled with darker fuscous. Antennæ fuscous. (Abdomen broken.) Legs dark fuscous, ringed

with whitish-ochreous, posterior tibiae pale whitish-ochreous. Fore wings triangular, somewhat elongate, costa slightly arched, apex tolerably rectangular, hind margin hardly rounded, oblique; ochreous-fuscous; lines cloudy, dark ochreous-fuscous, terminating in obscure blackish dots, first from before middle of costa to before middle of inner margin, upper half moderately curved outwards, lower half slightly curved inwards, second from three-fourths of costa to three-fourths of inner margin, upper two-thirds strongly curved outwards; two dark fuscous dots transversely placed in disc beyond middle, and a dark fuscous dot on costa beyond middle; a cloudy interrupted dark fuscous hind-marginal line; cilia light brownish-ochreous, with a cloudy dark fuscous line, basal half obscurely barred with darker. Hind wings with veins 4 and 5 from a point; light fuscous, paler towards base; cilia fuscous-whitish, with a grey line.

Two specimens.

50. *Hednota oxyptera*, n. s.

♂ ♀, 10 mm. Head and thorax whitish-ochreous, forehead obtusely prominent. Palpi four, ochreous-whitish, irrorated on sides with dark fuscous. Antennae fuscous, in male filiform, ciliations two-thirds. Abdomen pale whitish-ochreous. Legs pale whitish-ochreous, base of tarsal joints dark fuscous. Fore wings elongate-triangular, costa slightly arched, apex almost acute, hind margin straight, rather strongly oblique; whitish-ochreous, sprinkled with brownish-ochreous, and more or less with fuscous; a small black dot in disc before first line, and sometimes another below it; lines light brownish-ochreous, indistinct, first from two-fifths of costa to two-fifths of inner margin, upper half curved outwards, second from four-fifths of costa to four-fifths of inner margin, upper two-thirds gently curved outwards; a distinct black dot on posterior margin of first line below middle, and sometimes a smaller one above middle; two small black dots obliquely transversely placed in disc beyond middle; a fainter subterminal line indicated near and parallel to second; cilia ochreous-whitish, with a fuscous line interrupted into dots, marked with three black dots at middle of hind margin, three-fourths, and anal angle. Hind wings with veins 4 and 5 almost from a point; whitish-grey, paler towards base, greyer posteriorly; cilia grey-whitish.

Four specimens. It is remarkable that Mr. Blackburn seems to have overlooked this species altogether, probably confusing it with the other two, as his collection

contained no specimens of it; I found it common in dry grassy places near Honolulu in August, but the specimens were all in rather poor condition. It is easily recognised by the different shape and pale colouring of the fore wings, the dots in hind-marginal cilia, longer palpi, and peculiar neuration of hind wings. In the latter veins 4 and 5 are strictly separate, but very closely approximated at origin; they are therefore in some sense intermediate between *Hednota*, in which they should be from a point or stalked, and *Diptychophora*, in which they are distinctly remote and more or less parallel. The specific relationship with the two preceding species, which are undoubtedly referable to *Hednota*, is so strong that I have no doubt as to where to draw the line; but the species probably points directly to the common ancestral origin of the two genera.

PHYCITIDÆ.

- | | |
|---|------------------|
| 1. Hind wings with vein 8 free | 20. GENOPHANTIS. |
| " " anastomosing with 7 | 2. |
| 2. Antennæ in male with notch above basal joint | 19. HOMÆOSOMA. |
| " " without | 18. EPHESTIA. |

18. EPHESTIA, Gn.

51. *Ephestia interpunctella*, Hb.

Plodia interpunctalis, Butl., Ent. Mo. Mag., xv., 273.

Two specimens. Artificially introduced; the favourite food of the larva is Indian corn (maize), with which it is probably imported.

52. *Ephestia desuetella*, Walk.

Three specimens. Introduced with grocery, and now cosmopolitan.

53. *Ephestia elutella*, Hb.

One specimen. Imported in the same way as the preceding species, but usually less common.

19. HOMÆOSOMA, Curt.

54. *Homæosoma humeralis*, Butl.

Ephestia humeralis, Butl., Ann. Mag. Nat. Hist., 1881, 332; *E. albosparsa*, ibid., 333.

♂ ♀, 15—20 mm. Head and thorax fuscous-grey, sprinkled

with whitish. Palpi dark grey, sprinkled with white towards base. Antennæ grey, ciliations in male two-thirds. Abdomen whitish-grey. Legs dark grey, middle and posterior tibiae suffused with white. Fore wings elongate, narrow, posteriorly gradually dilated, costa slightly arched, apex rounded, hind margin very obliquely rounded; vein 5 absent (coincident with 4), 9 absent (coincident with 8); ochreous-grey, slightly sprinkled with whitish; a moderate costal streak suffused with white from base to near apex, posteriorly attenuated; first line straight, rather thick, cloudy, darker grey, sometimes preceded by a few white scales, from one-fourth of costa to two-fifths of inner margin; a small cloudy darker grey discal spot at two-thirds; second line very indistinct or obsolete, straight, slender, grey, followed by a few whitish scales, from costa near before apex to four-fifths of inner margin; cilia ochreous-grey sprinkled with white. Hind wings with veins 3 and 4 approximated, 5 absent, 8 absent; whitish-grey, thinly scaled; a cloudy dark grey hind-marginal line; cilia whitish, with an indistinct grey line.

Five specimens. Closely allied and very similar superficially to an undescribed species from New Zealand, and also to the Australian *H. vagella*; it is best distinguished by the absence of vein 5 of the fore wings, which is present in both these species.

20. GENOPHANTIS, n. g.

Forehead with projection of scales. Ocelli present. Tongue well-developed. Antennæ three-fourths, in male —?. Labial palpi rather long, obliquely ascending, second joint thickened with dense tolerably appressed scales, terminal joint short. Maxillary palpi moderate, loosely scaled. Fore wings with veins 4 and 5 approximated, 7 absent, 8 and 9 stalked. Hind wings $1\frac{3}{4}$; vein 3 closely approximated to 4, 4 and 5 stalked, 6 and 7 stalked, 8 free, closely approximated to 7 from angle of cell to beyond middle, lower median strongly pectinated.

Although the male is unknown, the genus appears sufficiently distinct. The free vein 8 of hind wings separates it from all but the *Anerastia* group; in this it most approaches *Crocydopora*, and it is not improbable that the antennæ of male will show similar characters (basal tuft and sinuation), but differs in the presence of vein 5 of the fore wings, and in the maxillary palpi.

55. *Genophantis iodora*, n. s.

♀, 24 mm. Head and thorax reddish-fuscous. Palpi pale greyish-ochreous, sprinkled with dark fuscous and reddish. Antennæ light greyish-ochreous. Abdomen greyish-ochreous. Legs greyish-ochreous, slightly reddish-tinged, obscurely banded with dark fuscous. Fore wings elongate, narrow, posteriorly gradually dilated, costa slightly arched, apex obtuse, hind margin nearly straight, rather oblique, rounded beneath; dull fuscous-reddish on costal half, ferruginous on dorsal half; costal area and all veins suffused with blackish, those on dorsal half mixed with whitish-ochreous; first line moderate, whitish-ochreous, darker-margined, indistinct towards costa, from one-fourth of costa to two-fifths of inner margin, nearly straight, with a slight outwards-projecting angle in middle; a transverse, rather inwardly oblique cloudy blackish discal spot beyond middle, almost merged in general suffusion, tending to be produced as a cloudy inwardly oblique streak towards inner margin; second line indistinct, rather thick, serrate, whitish-ochreous, darker-margined, from four-fifths of costa to four-fifths of inner margin, almost straight, slightly indented beneath costa; a cloudy interrupted hind-marginal blackish line; cilia very pale grey-reddish, with rows of ochreous-whitish points. Hind wings light ochreous-grey; cilia pale whitish-reddish, with a faint grey line.

One specimen.

GALLERIADÆ.

21. *Achræa*, *Hb.*56. *Achræa grisella*, *F.*

Two specimens. Imported, like *Ephestia*, with grocery, the larva feeding on dried fruits, wax, &c.; now almost cosmopolitan.