

ON A NEW SPECIES OF *Gobiesox* FROM TASMANIA.

BY E. P. RAMSAY, F.L.S., C.M.Z.S., &c.

GOBIESOX CARDINALIS, *sp. nov.*

D. 8. A. 6. V. 4. P. 22.

Caudal fin truncate, of 18—20 rays; a small, well defined spine at the angle of the operculum; head compressed, snout rather pointed; teeth in both jaws in bands, the outer series the largest, canine, curved, no teeth on the vomer, or tongue; two nasal pores in front of the eye, each with a tentacle; branchiostegals five; space between the orbits equal to the distance between the centre of the orbit and the snout; mouth opens to the vertical from the anterior margin of the orbit; the length of the head is $3\frac{1}{5}$ in the total, without caudal; the height of the caudal portion of the body between the dorsal and anal fins is $8\frac{1}{2}$ in the total length, without caudal; the breadth across the body between the gill covers is $3\frac{1}{5}$ of the total length without caudal. The vent is situated midway between the snout and the tip of the tail; the distance between the centre of the orbit and the snout is three times in the distance between the snout and base of the pectoral fin; the distance between the tip of the mandible and symphysis of gill opening is six times in the total length, without caudal. The head is very much compressed, and is lower than the height of the body behind the pectorals. Colour rich salmon red, reticulated on the back and sides with wavy lines of yellowish. —(Spirit specimen).

Hab. Near George Town, Tasmania; clinging to stones at low water.

 DESCRIPTIONS OF AUSTRALIAN MICRO-LEPIDOPTERA.

BY E. MEYRICK, B.A.

VII. Revisional.

Before entering upon the larger families of the *Tineina* I have thought it best to correct such errors as I have hitherto discovered

in my previous papers, and to add descriptions of the new species which have in the meantime come into my possession. I have also rearranged on a proper system of classification the species of *Crambidæ*, *Phycidæ*, and allied families, which were classified at first without due appreciation of the value of the neuration as a guiding character; in my later papers I have considered it of primary importance.

The investigation of the venation of the *Crambidæ* has revealed results of unexpected interest, such as would of themselves go far to confirm the importance which I attach to this subject. The venation of the extra-European genera does not seem to have been at all studied, and the genera are often distinguished by Zeller only on the most trifling and superficial characters; yet, so far as my material enables me to judge, they possess in the venation sharply-defined marks of distinction. Thus *Argyria* differs from *Crambus* in having veins 10 and 11 of the forewings stalked; *Prionopteryx* in having only 9 veins in the forewings and 7 in the hindwings; *Diptychophora* in having vein 11 of forewings running into 12 before costa; and so on. In *Diptychophora* I have examined nine of the thirteen known species, and found the venation constant. But the most interesting discovery has been the fact that almost the whole of the Australian species referred to *Crambus* have veins 8 and 9 of the forewings on a separate stalk, not rising out of 7, and therefore belong to the genus separated by Heinemann as *Thinasotia* Hb., represented in Europe by three or four species only, and not yet recognised elsewhere, except one species in New Zealand. In my opinion this conclusively proves the distinctness of the genus, which was previously doubtful. Consequent upon this is the remarkable fact that the true genus *Crambus* is virtually absent from the native Australian fauna, though universally present elsewhere, and numerous in New Zealand; I say virtually, for of the two Australian species one, *C. hapaliscus*, appears to have its home in Africa, and to have found its way

hither through Ceylon, thus not being truly aboriginal, whilst the other, *C. cuneiferellus*, being thus left a solitary exception, must be held insufficient to prove the native origin of the genus, since it is more probable that with extended knowledge it also will be found to be derived from elsewhere.

I have been obliged to create several new genera, principally in the *Phycidæ*, where the variation of structure is considerable; some of these will doubtless be found to occur elsewhere. For instance, it is possible that to *Ptochostola* should be referred the species of *Crambus* described by Zeller as having only three-branched median veins, *i.e.*, vein 5 absent in both wings; but as *Ptochostola* has other points of distinction, I can only conjecture the relationship; these species are *C. incanellus*, Z., and *C. pygmæus*, Z., (South America), *C. troglodytellus*, Snell., and *C. inconspicuellus*, Snell., (South Africa). Again, to the genus *Cateremna* is referable the European *Euzophera terebrella*, Zk.

The distinction between the families of the *Chilonidæ* and *Crambidæ*, as hitherto constituted, is utterly untenable. Heine-mann makes the difference lie in the cell of the hindwings being closed in the *Chilonidæ* and open in the *Crambidæ*, but in at least half the genera of the *Crambidæ*, such as *Thinasotia*, *Diptychophora*, &c., the cell is very distinctly closed, and the character is proved merely a generic one. Zeller seems to rely rather on the *Chilonidæ* frequenting water-plants and the *Crambidæ* dry ground, surely a most unreliable and trivial point, and wholly inapplicable in practice. I consider that *Chilo* is by no means closely allied to *Schænobius* and *Scirpophaga*, but that its points of resemblance are merely analagous and due to similarity of habit; and I have made the point of distinction between the two families consist in the pectination of the lower median vein of the hindwings, which is always present in the *Crambidæ*, and absent in *Schænobius* and its allies; *Chilo* is therefore removed to the *Crambidæ*. This separation is in my opinion both natural and easy of application. Indeed, so near is *Chilo* to *Thinasotia*, that it was with difficulty

that I was enabled to separate them generally. The position of *Erotomanes* in the *Schænobiadæ* may excite surprise, but the superficial appearance of the only species is peculiar anywhere, and in structure it agrees so nearly with *Schænobius* that I was puzzled to find satisfactory distinctions.

The *Crambidæ* being found to have sometimes as few veins as any of the *Phycidæ*, the distinction of these families cannot be based on any one character, but will be readily granted on a consideration of the sum of characters given, by which any species can be with ease correctly referred; the maxillary palpi afford the best single test known to me.

I give now the classified catalogue of the Australian species of these families, with accurate diagnoses of all the genera, both old and new. It should be understood that the veins are assumed to be all separate, unless otherwise stated. The New Zealand species are not included, as they are in course of publication elsewhere.

I am of opinion that in the *Schænobiadæ* must also eventually be included some genera usually classed with the *Botydæ*, such as *Scoparia*, but as I have not yet finished my investigations, I forbear to do more than mention the possibility, since it would in no way interfere with the system here given.

FAM. I. SCHÆNOBIADÆ.

Labial palpi porrected. Maxillary palpi triangular, porrected, conspicuous. Forewings with 12 veins, 1 simple, 7 separate, 8 and 9 stalked. Hindwings with 8 veins, 3, 4, 5, rising near together, not stalked, 7 and 8 stalked, lower median not pectinated at base.

Gen. 1. SCIRPOPHAGA, Tr.

Antennæ of male half as long as forewings, ciliated, of female much shorter. Labial palpi short, not much longer than head. Abdomen very elongate, in female with dense anal tuft.

exsanguis, n. sp.

ochroleuca, n. sp.

Gen. 2. SCHÆNOBIUS, Dup.

Antennæ of male half as long as forewings, crenulate, ciliated, of female much shorter. Labial palpi elongate, much exceeding head, attenuated. Abdomen elongate, in female with dense anal tuft.

imparellus, Meyr., Vol. III., 176.

Gen. 3. EROTOMANES, n. g.

Antennæ of male half as long as forewings, slender, pubescent, of female equally long. Labial palpi elongate, much exceeding head, broadly haired. Abdomen in male elongate, stout, in female shorter, anal extremity laterally compressed, not tufted.

mirabilella, Meyr., Vol. III., 213, IV., 333.

FAM. II. CRAMBIDÆ.

Labial palpi porrected. Maxillary palpi triangular, porrected, conspicuous. Forewings with 12 (rarely 11, 10, or 9) veins, 1 simple, normal veins 8 and 9 stalked, 7 sometimes from same stalk. Hindwings with 8 (rarely 7) veins, 4 and 5 often stalked, normal veins 7 and 8 stalked, lower median pectinated at base.

Gen. 1. CHILO, Zk.

Antennæ of male finely ciliated. Labial palpi very long, attenuated. Forewings with 12 veins, 8 and 9 stalked. Hindwings with 8 veins, 4 and 5 from a point, 6 very closely approximated at origin to 7, 7 and 8 stalked, cell closed.

parramattellus, Meyr., Vol. III., 178.

leptogrammellus, Meyr., Vol. IV., 207.

Gen. 2. CRUNOPHILA, n. g.

Antennæ of male stout, strongly pectinated. Labial palpi very long, attenuated. Forewings with 12 veins, 8 and 9 stalked. Hindwings with 8 veins, 4 and 5 from a point, 6 very closely approximated at origin to 7, 7 and 8 stalked, cell closed.

ramostriella, Walk., Vol. IV., 207 (*schistellus*).

Gen. 3. THINASOTIA, Hb.

Antennæ of male finely ciliated, rarely pectinated. Labial palpi long, attenuated. Forewings with 12 veins, 8 and 9 stalked. Hindwings with 8 veins, 4 and 5 stalked or from a point, 6 widely remote at origin from 7, 7 and 8 stalked. cell closed,

milvella, Meyr., Vol. III., 181.

recurvella, Walk., Vol. III., 186 (*bivittellus*).

bivittella, Don., Vol. III., 185 (*trivittatus*).

aurantiaca, Meyr., Vol. III., 184.

bifractella, Walk., Vol. III., 197.

argyroëles, n. sp.

pleniferella, Walk., Vol. III., 187.

impletella, Walk., Vol. IV., 210.

longipalpella, Meyr., Vol. III., 196.

hoplitella, Meyr., Vol. III., 188.

perlatalis, Walk., Vol. IV., 213.

relatalis, Walk., Vol. III., 191.

panselenella, n. sp.

opulentella, Z., Vol. III., 192.

grammella, Z., Vol. III., 194 (*enneagrammos*).

invalidella, Meyr., Vol. III., 193.

acontophora, n. sp.

torrentella, Meyr., Vol. III., 183.

lativittalis, Walk., Vol. III., 183.

Gen. 4. DIPTYCHOPHORA, Z.

Antennæ of male very finely ciliated. Labial palpi rather short, somewhat triangular. Forewings with hindmargin twice indented on upper half; with 12 veins, 8 and 9 stalked, 11 coalescing with 12 before costa. Hindwings with 8 veins, 5 from above angle, 6 moderately approximated to 7, 7 and 8 stalked, cell closed.

præmaturella, Meyr., Vol. III., 198.

Gen. 5. ARGYRIA, Hb.

Antennæ of male finely ciliated. Labial palpi moderate or rather long, attenuated. Forewings with 12 veins, 8 and 9 stalked, rising out of 7, 10 and 11 stalked. Hindwings with 8 veins, 4 and 5 stalked, 6 closely approximated at base to 7, 7 and 8 stalked, cell open.

argyraspis, Vol. IV., 216.

Gen. 6. ANCYLOLOMIA, Hb.

No tongue. Antennæ of male dentate or strongly pectinated. Labial palpi very long, attenuated. Forewings with 12 veins, 8 and 9 stalked, rising out of 7. Hindwings with 8 veins, 4 and 5 almost from a point, 6 widely remote at origin from 7, 7 and 8 stalked, cell closed.

Westwoodi, Z., Vol. IV., 208.

Gen. 7. CRAMBUS, F.

Antennæ of male finely ciliated, rarely pectinated. Labial palpi very long, attenuated. Forewings with 12 veins (rarely 11 through obsolescence of vein 9), 8 and 9 stalked, rising out of 7. Hindwings with 8 veins, 4 and 5 usually stalked or from a point, 6 approximated at base to 7, 7 and 8 stalked, cell open.

hapoliscus, Z., Vol. III., 182 (*concinellus*).

cuneiferellus, Walk., Vol. III., 189.

Gen 8. PTOCHOSTOLA, n. g.

Antennæ of male finely ciliated. Labial palpi very long, attenuated. Forewings with 10 veins, 6 and 7 stalked, 6 to below apex, 9 coalescing with 10 before costa. Hindwings with 7 veins, 4 from angle of cell, 5 closely approximated at base to 6, 6 and 7 stalked, cell open.

dimidiella, Meyr., Vol. III, 190,

Gen. 9. PRIONOPTERYX, Stph.

Antennæ of male finely ciliated. Labial palpi rather long, hardly attenuated. Forewings with hindmargin once indented above middle; with 9 veins, 6 and 7 stalked, 6 running to costa. Hindwings with 7 veins, 3 and 4 from a point, 5 remote at origin from 6, 6 and 7 stalked, cell closed.

apicistrigella, Meyr., Vol. IV., 209.

FAM. III. PHYCIDÆ.

Labial palpi porrected or recurved. Maxillary palpi pencil-like or usually filiform, generally concealed, sometimes absent. Forewings with 11 (rarely 13 or 9) veins, 1 simple, normal veins 7 and 8 stalked. Hindwings with 8 or 7 veins, 4 and 5 usually stalked, 3 sometimes from same stalk, normal veins 7 and 8 stalked, lower median pectinated at base.

Gen. 1. CEROPREPES, Z.

Antennæ of male strongly pectinated on one side, towards apex simple, with a small tooth of scales on basal joint, and a small thickened tubercle above it. Labial palpi moderate, curved, ascending. Maxillary palpi short, filiform. Forewings with 11 veins, 7 and 8 stalked. Hindwings with 8 veins, 4 and 5 stalked, 7 and 8 stalked.

almella, Meyr., Vol. III., 210.

Gen. 2. MYELOIS, Z.

Antennæ of male finely ciliated. Labial palpi moderate, curved, ascending. Maxillary palpi short, filiform. Forewings with 11 veins, 7 and 8 stalked. Hindwings with 8 veins, 4 and 5 from a point (or stalked in extra-Australian species), 7 and 8 stalked.

cenobarella, Meyr., Vol. IV., 228.

Gen. 3. EUZOPHERA, Z.

Antennæ of male very finely ciliated. Labial palpi moderate, curved, ascending. Maxillary palpi short, filiform. Forewings with 11 veins, 4 and 5 stalked, 7 and 8 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

cosmiella, Meyr., Vol. III., 212.

Gen. 4. CATEREMNA, n. g.

Antennæ of male very finely ciliated. Labial palpi moderate, curved, ascending. Maxillary palpi short, filiform. Forewings with 11 veins, 7 and 8 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

leucarma, Meyr., Vol. IV., 230.

subarcuella, Meyr., Vol. III., 211.

microdoxa, Meyr., Vol. IV., 231.

Gen. 5. ZOPHODIA, Hb.

Antennæ of male dentate, strongly ciliated. Labial palpi long, straight, porrected. Maxillary palpi minute, filiform. Forewings with 11 veins, 4 and 5 stalked, 7 and 8 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

neotomella, Meyr., Vol. IV., 226.

ensiferella, Meyr., Vol. III., 208.

Gen. 6. EUCARPHIA, Hb.

Antennæ of male finely ciliated. Labial palpi long, straight, porrected. Maxillary palpi obsolete. Forewings with 11 veins, 7 and 8 stalked. Hindwings with 8 veins, 4 and 5 stalked, rising out of 3, 7 and 8 stalked.

vulgatella, Meyr., Vol. III., 207,

cnephæella, Meyr., Vol. IV., 227.

Gen. 7. ETIELLA, Z.

Antennæ of male finely ciliated, strongly sinuate above base, with a large tuft of scales in sinuation. Labial palpi long, straight,

porrected, terminal joint long, exposed. Maxillary palpi in male long, pencil-like, in female short, filiform. Forewings with 11 veins, 7 and 8 stalked. Hindwings with 8 veins, 4 and 5 stalked, 7 and 8 stalked.

sincerella, Meyr., Vol. III., 204.

chrysoporella, Meyr., Vol. III., 206.

Behrii, Z., Vol. III., 205.

Gen. 8. SALEBRIA, Z.

Antennæ of male dentate, finely ciliated, with a tuft of scales in situation at base. Labial palpi moderate, curved, ascending, terminal joint short. Maxillary palpi in male long, pencil-like, in female short, filiform. Forewings with 11 veins, 7 and 8 stalked. Hindwings with 8 veins, 4 and 5 stalked, rising out of 3, 7 and 8 stalked.

eucometis, n. sp.

rufitinctella, Meyr., Vol. III., 203.

oculiferella, Meyr., Vol. IV., 222.

digrammella, Meyr., Vol. IV., 223.

caliginosella, Meyr., Vol. IV., 221.

strigiferella, Meyr., Vol. III., 202, IV., 221.

Gen. 9. PEMPELIA, Hb.

Antennæ of male dentate, finely ciliated, with a tuft of scales in situation at base. Labial palpi moderate, curved, ascending, terminal joint short. Maxillary palpi in male pencil-like, in female short, filiform. Forewings with 11 veins, 7 and 8 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

opimella, Meyr., Vol. III., 201.

Gen. 10. LASIOCERA, Meyr.

Antennæ of male with basal half thickly clothed above with rough scales. Labial palpi moderate, curved, ascending. Maxillary palpi short, filiform. Forewings with 11 veins, 7 and

8 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

canilinea, Meyr., Vol. III., 209.

Gen. 11. *TRISSONCA*, n. g.

Antennæ of male finely ciliated, with three small projecting teeth above near base. Labial palpi moderate, curved, ascending. Maxillary palpi short, filiform. Forewings with 11 veins, 7 and 8 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

mesactella, Meyr., Vol. IV., 225.

Gen. 12. *AMPYCOPHORA*, n. g.

Antennæ of male dentate, ciliated, with a tuft of scales in sinuation at base. Labial palpi moderate, curved, ascending. Maxillary palpi in male pencil-like, in female short, filiform. Forewings with 10 veins, 6 and 7 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

apotomella, Meyr., Vol. IV., 224,

Gen. 13. *HEOSPHORA*, n. g.

Antennæ of male dentate, ciliated, with a tuft of scales in sinuation at base. Labial palpi very long, straight, porrected, terminal joint concealed. Maxillary palpi obsolete. Forewings with 10 veins, 7 and 8 stalked, rising out of 6. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

virginella, Meyr., Vol. IV., 233.

psamathella, Meyr., Vol. IV., 234.

Gen. 14. *CROCYDOPORA*, n. g.

Antennæ of male dentate, finely ciliated, with a tuft of scales in sinuation at base. Labial palpi rather long, stout, porrected, terminal joint short. Maxillary palpi obsolete. Forewings with

10 veins, 6 and 7 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

stenopterella, Meyr., Vol. III., 200.

Gen. 15. HYPOPHANA, n. g.

Antennæ of male very finely ciliated, with a tuft of scales in situation at base. Labial palpi moderate, slender, recurved, ascending. Maxillary palpi short, filiform. Forewings with 11 veins, 7 and 8 stalked. Hindwings with 8 veins, 4 and 5 stalked, sometimes rising out of 3, 7 and 8 stalked.

euraphella, Meyr., Vol. IV., 217.

infusella, Meyr., Vol. IV., 218.

melanostyla, Meyr., Vol. IV., 220.

petalocosma, n. sp.

Gen. 16. EUCAMPYLA, n. g.

Antennæ of male finely ciliated, with a short acute tooth on basal joint above. Labial palpi moderate, slender, porrected. Maxillary palpi short, filiform. Forewings with 11 veins, 4 and 5 stalked, 7 and 8 stalked. Hindwings with 7 veins, 3 and 4 rising near together, 6 and 7 stalked.

etheiella, n. sp.

Gen. 17. HOMOEOSOMA, Curt.

Antennæ of male finely ciliated, with a short notch above basal joint. Labial palpi moderate, slender, somewhat ascending. Maxillary palpi short, filiform. Forewings with 11 veins (or in extra-Australian species 10 through obsolescence of vein 8), 4 and 5 stalked, 7 and 8 stalked. Hindwings with 7 veins, 3 and 4 rising nearly from a point, 6 and 7 stalked.

vagella, Z., Vol. III., 214.

fornacella, Meyr., Vol. IV., 219.

Gen. 18. ANERASTIA, Hb.

Antennæ of male pubescent or finely ciliated. Labial palpi long or moderately long, porrected or ascending. Maxillary palpi short, filiform. Forewings with 10 veins, 6 and 7 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

distichella, Meyr., Vol. III., 215.

Gen. 19. EPHESTIA, Gn.

Antennæ of male pubescent. Labial palpi moderate, curved, ascending. Maxillary palpi short, filiform. Forewings in male with a tuft of hairs beneath folded base of costa; with 9 separate veins. Hindwings with 7 veins, 3 and 4 rising near together or from a point, 6 and 7 stalked.

sericaria, Scott., Vol. IV., 235.

elutella, Hb., Vol. III., 215.

ficulella, Barr., Vol. IV., 234.

interpunctella, Hb., Vol. III., 216.

FAM. IV. GALLERIDÆ.

Labial palpi differing in sexes, porrected or ascending. Maxillary palpi minute, concealed. Forewings with 12 (rarely 11 or 10) veins, 1 furcate at base, normal veins 7 and 8 stalked, 9 usually from same stalk. Hindwings with 8 or 7 veins, 4 and 5 stalked or coincident, normal veins 7 and 8 stalked, lower median pectinated at base.

Gen. 1. CALLERIA, F.

Antennæ with a tooth of scales on basal joint, in male very finely ciliated. Labial palpi in male moderate, ascending, in female moderate, porrected. Forewings with hindmargin obtusely projecting above anal angle; with 12 veins, 7 and 8 stalked, rising out of 9. Hindwings in male with 8 veins, 4 and 5 stalked, rising out of 3, 7 and 8 stalked; in female with 7 veins, 3 and 4 stalked, 6 and 7 stalk.

mellonella, L., Vol. III., 216.

Gen. 2. CALLIONYMA, n. g.

Antennæ with a tooth of scales on basal joint, in male very finely ciliated. Labial palpi in male short, ascending, in female rather long, porrected. Forewings with 12 veins, 8 and 9 stalked, rising out of 7. Hindwings with 8 veins, 4 and 5 stalked, 7 and 8 stalked.

sarcodes, n. sp.

Gen. 3. APHOMIA, Hb.

Antennæ with or without a tooth of scales on basal joint, in male pubescent. Labial palpi in male short, ascending, in female rather long, porrected. Forewings with 12 veins, 4 and 5 sometimes stalked or in male obsolete, 8 and 9 stalked or near together, rising out of 7. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

tripartitella, Meyr., Vol. IV., 236.

pachytera, Meyr., Vol. IV., 227.

latro, Z., Vol. IV, 238.

Gen. 4. ACHROEA, Hb.

Antennæ with a tooth of scales on basal joint, in male pubescent. Labial palpi in male short, ascending, in female very short, porrected. Forewings with 11 veins, 4 and 5 stalked, 7 and 8 stalked. Hindwings with 7 veins, 3 and 4 stalked, 6 and 7 stalked.

grisella, F., Vol. III., 216.

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In the following notes the changes of specific nomenclature made in this list are explained, and the new species included are described.

SCIRPOPHAGA, Tr.

Scrip. exsanguis, n. sp.

♂ ♀. 8"-11½". Head, palpi, antennæ, thorax, abdomen, and legs snow-white; palpi more or less infuscated at base externally,

sometimes very slightly, sometimes second joint entirely fuscous externally; abdomen sometimes faintly infuscated, anal tuft pure white; legs dark fuscous beneath, posterior tibiæ sometimes slightly infuscated above. Forewings moderately broad, costa arched, more strongly towards apex, hindmargin strongly rounded, moderately oblique; snow-white, slightly shining. Hindwings snow-white, slightly shining. Forewings beneath in male moderately infuscated, in female nearly white.

Amongst described species this seems to come nearest to *Scirp. virginea*, Z., from South Africa, from which it appears to differ principally by the legs being white above and dark fuscous below, and by the infuscated under-surface of the forewings; but I have not seen Zeller's species. The colouring of the palpi seems variable and unreliable.

Very common round Sydney in March, sitting sluggishly on the stems of rushes in swampy places, and also taken at Brisbane in September; there can be little doubt that the larva feeds in the stems of a *Juncus*.

Scirp. ochroleuca, n. sp.

♂. 10"-11". Head, palpi, antennæ, thorax, abdomen and legs white, faintly and unevenly ochreous-tinged; antennæ of male not half as long as forewings; anal tuft ochreous-whitish; legs, ochreous-white beneath. Forewings slightly narrower than in *S. exsanguis*, costa gently arched, hindmargin moderately oblique, strongly rounded; ochreous-white, becoming pure white towards apex. Hindwings ochreous-white, becoming pure white towards apex. Forewings beneath ochreous-white.

Certainly distinct from the preceding, though the female is yet unknown; readily distinguished from it by the wholly ochreous-white legs, and absence of infuscation on lower surface of forewings, as well as by the shorter antennæ and general ochreous tinge.

Two specimens sent from near Duaringa, Queensland, by Mr. G. Barnard.

CRUNOPHILA, n. g.

Crun. ramostriella, Walk.

(*Crambus ramostriellus*, Walk., Brit. Mus. Cat. 172; *Ubida receptalis*, ibid. 186; *Chilo schistellus*, Meyr., Proc. Linn. Soc., N.S.W., IV., 207.)

15"-21". The male only differs from the female in the slightly broader forewings, and in having the hindwings smoky-fuscous, except towards the base, which is white. The species varies somewhat in depth of colouring, being often broadly suffused with brownish-whitish towards dorsal margin; thorax also often suffused with whitish; infuscation of hindwings in female variable in extent.

Several specimens sent by Mr. G. Barnard from near Duaringa, Queensland.

THINASOTIA, Hb.

Thin. bivittella, Don.

Prof. Zeller now informs me that his identification of this species, which I accepted, was erroneous, the description in reality referring to the insect described by him as *Cr. trivittatus*; so that for the Western Australian species the name of *recurvellus*, Walk., must be adopted. The synonymy of these two species will therefore be as follows:

Thin. bivittella, Don.

Crambus bivittellus, Don., Walk.; *C. trivittatus*, Z., Meyr.

Thin. recurvella, Walk.

Crambus recurvellus, Walk.; *C. bivittellus*, Z., Meyr.

Thin argyroëles, n. sp.

♂. 9". Head pale ochreous, with a dark fuscous spot on middle of forehead, another between antennæ, and one on anterior

margin of eye. Maxillary palpi pale ochreous, with two black bands. Labial palpi rather short, greyish-ochreous, mixed with blackish on sides, beneath ochreous-white at base. Antennæ dentate, shortly ciliated, dark fuscous. Thorax light brownish-ochreous, anterior margin with four dark fuscous spots. Abdomen pale ochreous. Anterior tibiæ with basal half greyish-ochreous, terminal half suffusedly blackish, tarsi black with ochreous-whitish basal and apical rings on each joint; middle tibiæ white, base black, posterior tibiæ wholly white, middle and posterior tarsi dark fuscous-grey with whitish rings at apex of joints. Forewings rather short, moderately broad, costa very slightly arched, apex obtuse, hindmargin distinctly sinuate, rather oblique, light yellowish-ochreous, becoming ochreous-brown along costa and on anterior half of disc, more greyish-tinged towards anterior half of inner margin; a few scattered black scales on anterior half of wing; a moderately broad silvery-white partially black-margined longitudinal streak immediately beneath costa from near base to slightly beyond middle, posterior extremity bent somewhat down, obtuse, anterior extremity acutely attenuated, somewhat suffused, almost touching costa; an irregular elongate-oval silvery-white spot a little below costa about two-thirds; a smaller roundish silvery-white subapical spot, not touching hindmargin, its upper angle suffusedly produced into apex; a moderately broad straight silvery-white black-margined longitudinal streak through disc from base to slightly beyond middle, slightly attenuated towards base; an elongate-oval silvery-white spot in disc below middle about two-thirds from base; a leaden-metallic line starting from between subcostal and median white streaks at one-fourth from base, running round posterior extremity of median streak, and curving back to inner margin somewhat before middle; an irregular leaden-metallic spot between subcostal streak and subcostal white spot; a similar leaden-metallic spot between anterior extremities of subcostal and discal white spots; the ground colour between subcostal and discal white spots, and

between discal white spot and inner margin, is thickly strewn with black scales; an ill-defined whitish-ochreous mark on costa at two-thirds; a similar mark on costa at three-fourths, giving rise to an outwardly curved leaden-metallic line passing round posterior extremities of subcostal and discal white spots, and ending on inner margin at about four-fifths; three sharply marked round black spots on hindmargin above anal angle; a black line on hindmargin beneath apex: cilia smoky-grey, with a broad leaden-metallic basal line with violet reflections, becoming white at apex. Hindwings with a tuft of long whitish-yellowish hairs on costa towards base above; yellowish-whitish, more yellowish on costal half, with a roundish cloudy fuscous-grey spot at apex; cilia yellowish-whitish.

Nearly allied to *T. bifractella*, Walk., but readily known by the different shape and detachment from costa of the subcostal white spot, by the different course of the first metallic line which is curved obliquely inwards to inner margin, instead of being perpendicular to it, by the darker ground colour, metallic basal line of the cilia, and various other minute points, as well as the costal tuft and whitish-yellow colour of the hindwings, which latter are perhaps only sexual characteristics.

A very handsome species; one very perfect specimen taken near Brisbane at the end of September.

Thin. relatalis, Walk.

The description of *Crambus argyroneurus*, Z., Cr., 47, certainly refers to this species, and, being slightly later, Zeller's name must rank as a synonym only. I should have identified it before, but for a misunderstanding of the wording of the original description.

Thin. panselenella, n. sp.

♂ ♀. 13"-14½". Head brownish-ochreous, face darker, with an ochreous-whitish spot on anterior margin of eyes. Maxillary

palpi light ochreous, towards base externally dark fuscous. Labial palpi very long, greyish-ochreous mixed with dark fuscous, beneath white at base. Antennæ dark fuscous, basal joint ochreous-whitish. Thorax light ochreous, shoulders ochreous-brown, centre of back black, with a longitudinal white stripe on each side of back, not reaching anterior margin. Abdomen light ochreous-yellow. Legs dark fuscous, posterior tibiæ light ochreous above. Forewings moderately broad, costa gently arched, apex obtusely pointed, hindmargin slightly sinuate, moderately oblique; ochreous-brown, darkest on disc, becoming light brownish-ochreous towards inner and hindmargins; extreme costal edge white from one-fourth almost to apex, a very slender snow-white streak immediately beneath costa from near base almost to middle; a straight narrow snow-white longitudinal streak running from a little below costa at one-fourth to costa immediately before apex, anterior extremity finely attenuated, upper edge tending to emit slender streaks to costa posteriorly; a moderate nearly straight snow-white central longitudinal streak through disc from base to hindmargin, margined with dark fuscous, somewhat sinuate beyond middle, slightly attenuated at base; from its lower edge beyond middle proceed three slender ill-defined white streaks to hindmargin at equal distances; a variable elongate-wedge-shaped ill-defined white longitudinal streak immediately above posterior fourth of median streak, sometimes more clearly marked, anteriorly finely attenuated; above this sometimes an ill-defined irregular white spot on hindmargin; between the white streaks posteriorly are cloudy dark fuscous lines; beneath third branch of median streak is a slender ill-defined white streak from middle to hindmargin, not touching median streak; a straight slender cloudy white streak from base to anal angle, and another from base to inner margin at one-third; a clearly-marked blackish hindmarginal line: cilia pale ochreous-grey, with a snow-white basal line. Hindwings pale dull ochreous-yellow, in female somewhat infuscated towards

hindmargin; a fuscous-grey hindmarginal line, in female darker and sharply marked; cilia pale ochreous-yellow.

Closely allied to *Thin. opulentella*, Z., which it nearly resembles in markings, differing especially by the yellow hindwings and darker ground colour, which contrast handsomely with the snow-white markings; it is also somewhat larger, and is therefore the largest species of this group.

Five specimens taken at Blackheath in the Blue Mountains, at an elevation of 3,500 feet, at the end of February, in dry grassy places.

Thin. grammella, Z.

Prof. Zeller, to whom I sent specimens of the species described by me as *Cr. enneagrammos* (Proc. Linn. Soc. N.S.W., III., 194), assures me that it is identical with his *grammellus*, which name must therefore be adopted for the species. Zeller's original type would seem to have been a slight variety.

Thin. acantophora, n. sp.

♂ ♀. $10\frac{1}{4}$ "- $11\frac{1}{4}$ ". Head ochreous-white, centre of forehead and collar brownish-ochreous. Maxillary palpi white, externally except at apex ochreous mixed with dark fuscous. Labial palpi very long, ochreous mixed with dark fuscous, internally and beneath white. Antennæ whitish-ochreous. Thorax whitish-ochreous, becoming brownish-ochreous on shoulders and anterior margin. Abdomen pale whitish-ochreous. Legs pale whitish-ochreous, anterior pair ochreous-fuscous internally. Forewings rather short, moderately broad, costa rather strongly and evenly arched, apex almost acute, hindmargin sinuate, rather strongly oblique; pale whitish-ochreous, sometimes slightly tinged with brownish-ochreous, especially towards base of costa, and with a few scattered black scales; a narrow white central longitudinal streak through disc from base nearly to hindmargin, towards base very finely attenuated, posteriorly very suffused and

indistinct, lower margin ill-defined, upper margin edged by a blackish line, above which is a cloudy dark fuscous streak, broadest in middle and attenuated towards base, posteriorly bending upwards near hindmargin and continued suffusedly to apex of wing, where it becomes again more distinct; a round blackish dot on lower margin of white median streak at two-thirds from base, and sometimes another a little above it; a whitish suffusion along hindmargin, and sometimes confused indications of slender whitish streaks on veins towards lower half of hindmargin; a hindmarginal row of black dots; cilia ochreous-whitish, with two cloudy fuscous-grey lines. Hindwings ochreous-grey-whitish, with a grey hindmarginal line; cilia ochreous-whitish.

Nearly allied to *T. grammella*, Z., and *T. invalidella*, Meyr., but differing from both in the absence of the white subcostal streak, and the obsolescence of the branches of the median streak; the hindwings are lighter than in *T. grammella*, but not white as in *T. invalidella*.

Five specimens taken in March in dry grassy places at Mittagong, New South Wales, at an elevation of 2,000 feet.

Crambus hapaliscus, Z.

This name, originally published by Zeller (Lep. Caffr.) in 1852, has the priority of *concinellus*, Walk.; on account of the description being taken from South African specimens I had overlooked the identity, which is undoubted.

SALEBRIA, Z.

Sal. eucometis, n. sp.

♂. 11". Head, palpi, antennæ, and thorax light ochreous, somewhat suffused with brownish; maxillary palpi yeliowish. Abdomen light greyish-ochreous, somewhat irregularly brownish-tinged. Legs dark fuscous, middle tibiæ brownish-ochreous, posterior tibiæ light ochreous above. Forewings elongate,

moderate, costa moderately and evenly arched, apex obtuse, hindmargin straight, moderately oblique; light ochreous, rather thickly but irregularly irrorated with light reddish-fuscous scales, especially immediately beneath the median streak and along hindmargin; costal edge suffusedly dark fuscous; a straight longitudinal ochreous-white streak a little above middle from base to hindmargin beneath apex, tolerably broad in middle, attenuated to both extremities, lower margin tolerably well-defined, upper margin very suffused and indistinct; cilia fuscous-grey, with whitish points. Hindwings fuscous-grey, slightly purplish tinged; a dark grey hindmarginal line: cilia whitish grey, with a darker grey line near base.

The ochreous-white median streak distinguishes this species from all others.

One specimen taken at Brisbane in September, in a dry grassy place.

PEMPELIA, Hb.

Pemp. opimella, Meyr.

The maxillary palpi of the male in this species appear to have but an apology for the usual pencil of hairs, so that it is somewhat doubtful whether the species is justly included in this genus, with which it fully agrees in other respects.

HYPOPHANA, n. g.

I have no doubt of this genus being a natural one. The species are all rather inconspicuous grey insects, with notably transparent hindwings.

Hyp. petalocosma, n. sp.

♂. $7\frac{3}{4}$ ". Head and thorax light grey, somewhat mixed with whitish. Palpi grey, towards base whitish, terminal joint and a subapical band on second joint suffusedly dark fuscous. Antennæ grey. Abdomen whitish-grey, prismatic. Legs grey-whitish,

anterior pair suffused with dark fuscous above. Breast beneath on each side with a broad expansible pearly prismatic plate, composed of about a dozen oblong overlapping plates, behind which is an expansible tuft of thick ochreous-white hair-scales, resting on a circular patch of overlapping deep black plate-like scales; a short linear patch of black scales also extends along base of submedian fold on under-side of forewings. Forewings very narrow at base, gradually dilated posteriorly, costa at first straight, towards apex moderately arched, apex obtusely rounded, hindmargin rather strongly rounded, not oblique; light grey, slightly brownish-tinged, with irregularly scattered dark fuscous scales; a cloudy dark fuscous transverse mark at one-fourth, not reaching costa or inner margin; a very faint slender irregular dark fuscous transverse line somewhat before middle, slightly curved outwards; a very ill-defined small dark fuscous spot in disc at two-thirds, and another near inner margin a little beyond middle; a slender cloudy dark fuscous outwardly-curved transverse line from a little before apex to a little before anal angle, bent inwards beneath costa, closely followed by another much fainter similar line; a blackish hindmarginal line: cilia light grey, with rows of blackish points. Hindwings whitish-grey, transparent, hindmarginal edge suffusedly darker; a short linear streak of thick black scales at base below middle; cilia grey-whitish, with a well defined dark grey line near base.

The ornamental neck-frill of this species is very extraordinary, and reminds one somewhat of similar appendages in some humming-birds; it is probably less developed in the female.

One specimen taken at Sydney in October, amongst dry bush.

Hyp. melanostyla, Meyr.

This species differs from the other three of the genus in having vein 3 of the hindwings rising out of the stalk of 4 and 5. It is however closely allied to the others; the female, which is

alone known to me, has on the breast a cuirass of pearly scales, indicating near relationship with the preceding species ; it would therefore be conceivable that they should be the sexes of the same species, but the difference in neurulation, as well as in superficial marking, renders this hardly probable.

EUCAMPYLA, n. g.

Euc. etherella, n. sp.

♂. $9\frac{3}{4}$ ". Head and thorax light fuscous-grey. Palpi dark fuscous-grey, towards base whitish-grey. Antennæ dark fuscous. Abdomen whitish ochreous. Legs dark fuscous, posterior tibiae light ochreous above. Forewings very narrow at base, gradually dilated throughout, costa at first straight, towards apex moderately arched, apex round-pointed, hindmargin very oblique, strongly rounded ; a tuft of hairs concealed under the folded base of costa beneath ; rather light dull fuscous, sprinkled with dark fuscous scales ; costa suffused with dark fuscous ; an indistinct narrow dark fuscous transverse line from two-fifths of costa to a little before middle of inner margin, strongly bent outwards somewhat above middle ; a cloudy dark fuscous transverse spot in disc at two-thirds ; a narrow cloudy dark fuscous transverse line from five-sixths of costa to inner margin before anal angle, sending a sharply angulated tooth inwards above middle, and appearing to be margined posteriorly by a paler line, through the absence of dark fuscous scales from the groundcolour ; a cloudy dark fuscous hindmarginal line ; cilia ochreous-grey, with a pale ochreous basal line. Hindwings whitish, costa towards apex suffused with light fuscous-grey ; some short whitish-ochreous hairs at base ; a cloudy grey hindmarginal line ; cilia white, round apex ochreous-tinged and with a faint grey line.

Resembles the genus *Ephesia* in form and colouring, as well as in the costal tuft of hairs of the male, but differs markedly in neurulation. One specimen taken at light near Sydney in August.

CALLIONYMA, n. g.

Call. sarcodes, n. sp.

♂ $7\frac{3}{4}$ ", ♀ $9\frac{1}{2}$ ". Head, palpi, and thorax grey-whitish, more or less tinged with pale carmine; sides of frontal cone in male dark grey. Antennæ whitish, annulated with grey, basal joint carmine-tinged. Abdomen whitish-ochreous. Legs grey-whitish, slightly carmine-tinged, anterior and middle pair fuscous-grey beneath, tarsal joints fuscous-grey except at apex. Forewings somewhat oblong, rather broad, costa gently arched, apex acute, hindmargin nearly straight, slightly sinuate, oblique; dull ochreous-grey-whitish, in female slightly, in male strongly suffused with light brownish-carmine; extreme costal edge darker brownish-carmine; a very indistinct irregular somewhat outwardly curved brownish-carmine transverse line from one-third of costa to two-fifths of inner margin; a similar line from two-thirds of costa to four-fifths of inner margin, irregularly bent outwards in middle; a small indistinct fuscous carmine spot in disc beyond middle; a strongly-marked broad cloudy blackish hindmarginal line; cilia pale ochreous-carmine, with a deep carmine basal line. Hindwings in male light fuscous-grey, in female whitish-grey, with a dark grey hindmarginal line; cilia grey-whitish, with a faint grey line near base.

A very distinct and elegant species.

One pair beaten from *Eucalyptus* bushes in November, the male at Parramatta, the female at Murrurundi, New South Wales.

TORTRICIDÆ.

PROSELENA, Meyr.

Pros. camacinana, n. sp.

♂ ♀. 5"-6". Head, palpi, and thorax in male yellowish-whitish, in female whitish-ochreous, somewhat mixed with dark fuscous-grey. Antennæ dark fuscous. Abdomen whitish-ochreous-grey. Anterior and middle tibiæ blackish, with ochreous-whitish median and apical rings, tarsi blackish with whitish rings at apex of joints;

posterior legs ochreous-whitish, tarsi dark grey towards base of joints. Forewings in male rather short, moderately broad, in female more elongate and narrower, costa rather strongly arched towards base, apex round-pointed, hindmargin nearly straight, in male moderately, in female rather strongly oblique; whitish, irregularly mixed with light grey, and in male with whitish-yellowish, in female pale ferruginous-yellow scales, which tend to accumulate on margins of dark markings; outer edge of basal patch generally sharply defined by a blackish-fuscous line from one-fourth of costa to one-third of inner margin, angulated outwards in middle, dilating gradually from middle to inner margin so as to form an erect wedgeshaped mark; between this line and base are some scattered blackish-fuscous scales; a slender indistinct grey transverse striga a little beyond and parallel to outer edge of basal patch; central fascia moderate, blackish-fuscous, darkest on edges, starting from middle of costa obliquely outwards, bent sharply back in middle of disc, ending abruptly on fold, not reaching inner margin, tooth of angulation ill-defined and sometimes posteriorly obsolete; beneath extremity of central fascia are two small dark fuscous spots on inner margin; beyond upper half of central fascia a slender dark fuscous parallel striga, terminating in the angulation; an irregular quadrilateral blackish-fuscous spot on costa at three-fourths, suffused beneath, anterior angledarkest; an elongate-triangular dark grey spot on anal angle, rather outwardly oblique, suffused towards apex, incompletely connected with costal spot by two indistinct strigæ; two oblique grey strigæ from costa just before apex to hindmargin below apex; an elongate cloudy blackish-grey mark along middle of hindmargin; cilia on costa and anal angle ochreous-whitish, on hindmargin dark grey, mixed with whitish, and with a blackish-grey line. Hindwings fuscous-grey, speckled with darker; cilia grey, with a dark grey basal line.

Superficially very different from *Pros. annosana*, Meyr., and much more nearly resembling the species of *Isochorista* or *Capua*;

but the peculiar venation, and absence of a costal fold, leave no doubt of its true position.

Common at about 2,000 feet of elevation on the ascent of Mt. Wellington, Tasmania, flying readily over a mossy bank at the beginning of February.

Dichelia (?) *humerana*, Walk.

Having recently obtained specimens of this species in Tasmania, I am able to announce that, as conjectured, it does not belong to the *Tortricina* at all, but to a genus of *Tineina*, allied to *Depressaria*, Hw.

CACOEZIA, Hb.

Cac. psapharana, n. sp.

♂ 8", ♀ 8 $\frac{3}{4}$ ". Head, palpi, antennæ, and thorax pale whitish-ochreous; palpi in male twice as long as head, in female hardly longer, slightly speckled externally with fuscous. Abdomen ochreous-whitish, anal valves of male large, tufted. Legs ochreous-whitish, anterior tibiæ, and anterior and middle tarsi speckled with dark fuscous, posterior tibiæ white. Forewings oblong, moderately broad, costa in male rather sharply bent somewhat before middle, in female rather strongly arched towards base, apex obtusely pointed, hindmargin slightly rounded, rather oblique, in female slightly sinuate below apex; costal fold of male very slight, short and imperfect; very pale whitish-ochreous, with faint regular slightly darker transverse strigulæ; basal patch wholly obsolete; central fascia very faintly defined, running from slightly before middle of costa to anal angle, light greyish-ochreous, upper third very narrow, lower two-thirds rather broad, posterior margin sharply incised below middle; a very indistinct light greyish-ochreous flattened-triangular patch on costa about three-fourths, and a similar triangular patch on middle of hindmargin; cilia ochreous-whitish. Hindwings whitish, irregularly strigulated with light grey; cilia white.

Intermediate between *C. postvittana*, Walk., and *C. mnemosynana*, Meyr., but differing from both in the very pale colouring and extremely faint markings; in the rudimentary costal fold of the male, and the whitish hindwings, it resembles the latter species, but in the markings of the forewings it rather approaches the former; the palpi of the male are proportionately longer than in either. The sexes do not perceptibly differ in colouring.

A fine pair taken *in cop.* near Launceston, Tasmania, amongst dry bush at the end of January.

AROTROPHORA, Meyr.

Arotr. ochraceella, Walk.

(*Crambus ochraceellus*, Walk., Brit. Mus. Cat., 177.)

♂. 15"-16". Head white, with an orange spot on anterior margins of eyes. Palpi three and a half times as long as head, white, externally ochreous-orange. Antennæ ochreous-orange. Thorax white, anterior margin and shoulders suffusedly yellowish-ochreous. Abdomen elongate, stout, white. Legs white, beneath ochreous-tinged. Forewings broad, oblong, rather dilated posteriorly, costa gently arched, apex obtusely pointed, hindmargin rather sinuate, slightly oblique; deep ochreous-orange, lighter and mixed with white in disc below middle and towards hindmargin, the darker tint seeming to form a broad suffused subcostal streak, a narrow dorsal streak, and a round suffused spot in disc at two-thirds from base; a white costal streak from base almost to apex, attenuated to each extremity, somewhat speckled with orange, its lower margin suffused into ground colour; a very ill-defined white suffusion along vein 1; cilia light ochreous-orange mixed with white (defective). Hindwings white, faintly speckled with pale orange; cilia white.

This remarkable and very striking species, from its large size and conspicuous colouring, cannot be confused with any other insect. From the neurulation, and structure of the palpi and

antennæ, there can be no doubt of its being a true *Arotrophora*, with more traceable relationship to *A. arcuatalis*, Walk., than to any other species.

One specimen beaten from *Banksia serrata* near Sydney in October; I have also seen two others from the same locality.

Arotr. hemerana, n. sp.

♂. 7"-7½". Head, palpi, antennæ, thorax, and abdomen whitish-grey; palpi two and a half times as long as head, externally ochreous-tinged and speckled with dark grey. Legs whitish, anterior and middle tarsi and tibiæ grey with whitish rings. Forewings moderate, posteriorly dilated, costa strongly arched, apex obtusely pointed, hindmargin very slightly sinuate, rather strongly oblique; light grey, finely strewn with whitish scales, with fine irregular dark grey transverse strigulæ, and a few scattered blackish scales; some very inconspicuous, sometimes almost obsolete, markings composed of brownish-ochreous scales mixed with blackish, forming some small irregular spots in disc about one-third, a narrow fascia from middle of costa to two-thirds of inner margin, interrupted on disc and very ill-defined on lower half, some speckles near costa towards apex, and an elongate tolerably well-defined straight slender streak very near and parallel to hindmargin from near apex to anal angle; a tolerably conspicuous black dot in disc at three-fifths; a row of very ill-defined blackish dots on hindmargin, mixed with ochreous; cilia grey-whitish, with a sharply defined dark grey line near base, and two other very cloudy grey lines. Hindwings whitish-grey; cilia grey-whitish, with two very faintly darker lines.

Allied to *A. confusana*, Walk., but considerably larger than it or the narrower-winged *A. lividana*, Meyr., and *A. atimana*, Meyr.; in form of wing it nearly resembles *A. confusana*, but may be known by its very uniform grey colouring, without distinct dark transverse markings, or reddish-ochreous suffusion.

Five specimens taken amongst luxuriant bush on the ascent of Mount Wellington, Tasmania, at an elevation of about 3,000 feet.

CONCHYLIDÆ.

HYPERXENA, n. g.

Thorax with a double erect posterior crest. Antennæ in male —? Palpi very long, straight, porrected, second joint with long rough obliquely projecting hairs above, terminal joint very long, roughly scaled above. Posterior tibiæ fringed with short hairs above. Forewings elongate, narrow, costa (in male probably simple) strongly arched, apex acute, hindmargin very oblique; surface with raised scales. Hindwings elongate, as broad as forewings, cilia long. Forewings with veins 7 and 8 separate, 7 running to costa, secondary cell indicated, vein 1 furcate at base (?). Hindwings with 8 veins, 3 and 4 remote at origin, parallel, 5 nearly parallel to 4, 6 running to costa, 6 and 7 remote at origin, nearly parallel.

This interesting genus is nearly allied to *Heliocosma*, Meyr., which previously stood alone; the curious venation is nearly identical, the essential point of distinction being that vein 7 of the forewings runs to the costa, a very unusual character among the *Tortricina* which recurs in the remote genus *Teras*, Tr., and vein 6 of the hindwings also runs to the costa. The thoracic crest, very oblique hindmargin of the forewings, and long cilia are also notable characters.

Hyperx. scierana, n. sp.

♀. $7\frac{3}{4}$ "- $8\frac{3}{4}$ ". Head, palpi, and thorax fuscous-grey, finely irrorated with whitish. Antennæ grey. Abdomen ochreous-whitish. Anterior and middle legs fuscous-grey, with cloudy whitish rings at apex of joints; posterior legs grey-whitish. Forewings narrow, costa strongly and evenly arched, apex acute, hindmargin almost straight, very oblique; fuscous-grey, finely

irrorated with grey-whitish, and with scattered dark fuscous scales; some raised scales at about one-fourth from base on disc and towards inner margin; very faint indications of a darker outwardly oblique streak from costa at one-fourth to middle of inner margin, and a spot in disc at two-thirds; cilia grey with whitish points, mixed with darker fuscous-grey at base. Hindwings pale whitish-grey; cilia grey-whitish, with a faint grey line near base.

A peculiar and abnormal-looking insect, at first sight not at all like the *Tortricina*. It is very possible that the male may be more distinctly marked.

Two specimens beaten from scrub, one at Parramatta in August, the other at Blackheath on the Blue Mountains in September.

HETEROCROSSA, n. g.

Thorax smooth. Antennæ in male with long fine cilia. Palpi rather long or very long, second joint roughly haired above and towards apex beneath, attenuated, terminal joint moderate, exposed. Posterior tibiæ fringed with hairs above. Forewings elongate, narrow, costa in male simple, moderately arched, apex pointed, hindmargin oblique; surface with raised scales. Hindwings elongate, broader than forewings, lower median vein pectinated towards base. Forewings with veins 7 and 8 separate, 7 running to hindmargin, secondary cell absent, upper fork of vein 1 obsolete. Hindwings with 6 veins, 3 and 4 stalked from posterior angle of cell, 5 from upper angle of cell to slightly above apex, 6 free.

Closely allied to *Paramorpha*, Meyr., but differing from it and all other genera of the family in the basal pectination of the lower median vein. The absence of this pectination is a family characteristic, but although this case proves that the characteristic is not an infallible one, yet it will be observed that the family is still absolutely distinguished from the other two by the origin of vein 2 from near before the angle, and, as I have remarked in my

general paper on the *Tortricina*, the exceptional failure of a character need not vitiate its general value, since families can rarely be distinguished by a single point, but by the consideration of the sum of general characters.

The genus occurs in Australia and New Zealand, three species being known to me, two of which I had erroneously included elsewhere.

1. *Het. neurophorella*, Meyr.

(*Epischnia neurophorella*, Meyr., Proc. Linn. Soc., N.S.W., IV., 232).

The only Australian species, distinguishable by the dark longitudinal lines on the veins.

2. *Het. abreptella*, Walk.

(*Paramorpha abreptella*, Meyr., Proc. Linn. Soc., N.S.W., VI., 698).

The basal pectination was partially obliterated in my originally described specimens, but I have since obtained a series from Christchurch, N.Z., which leave no doubt of its true position. The fuscous-grey colouring, which is sometimes very deep, will distinguish this from the other two species.

3. *Het. gonosemana*, n. sp.

♀. 9". Head white. Palpi about twice the length of head, upper half white, lower half dark fuscous, terminal joint white, dark fuscous at base. Antennæ white, with indications of dark rings. Thorax white, on shoulders ochreous-tinged. Abdomen ochreous-white. Anterior and middle legs dark fuscous, with ochreous-white rings at apex of joints; posterior legs ochreous-white. Forewings elongate-oblong, narrow, costa slightly arched, bent and roughened with scales about one-third, apex obtusely pointed, hindmargin straight, moderately oblique; white, with a few scattered grey scales, towards inner margin very faintly

ochreous-tinged; a thick black streak along basal fifth of costa, attenuated at each end; a black dot on costa closely beyond it; a small irregular black mark in disc at one-third, immediately preceded by a small dark fuscous-grey suffusion, and followed by two tufts of raised scales, half blackish and half white; a small subquadrate rather inwardly oblique black spot on costa at one-third, almost connected with discal black spot; all these black markings are somewhat mixed on margins with ochreous; some raised scales towards base, and inner margin at one-third; five short cloudy blackish marks on costa at equal distances between one-third and apex, rather oblique inwardly; five small spots of raised whitish-ochreous scales arranged in an oval in disc, each with a few black scales on margin; between these, and above posterior of them, is an ill-defined grey suffusion; a very ill-defined cloudy grey irregular dentate transverse line from second of the five costal marks to inner margin at four-fifths, only distinct on upper half and on inner margin; a more distinct dentate grey line from third costal mark to inner margin before anal angle, strongly curved outwards and sinuate, containing a series of ill-defined black dots; a row of very ill-defined black dots on hindmargin: cilia grey, closely irrorated with whitish points. Hindwings whitish-slaty-grey, cilia white, with a faint grey line.

A very distinct species, through the white ground colour, and black marks towards base.

I took one perfect specimen at Dunedin, New Zealand, amongst dry bush at the beginning of February, and have seen two others from the same place.

BONDIA, Newm.

Thorax smooth. Antennæ in male with long fine ciliations, basal joint broadly flattened. Palpi in male moderate, curved, ascending, second joint broadly scaled, scales angularly projecting in front, terminal joint slender, scaled, erect; in female moderate

or long, straight, porrected, second joint broadly scaled, laterally compressed, terminal joint slender, scaled, porrected. Posterior tibiae fringed with hairs above. Forewings elongate, very narrow, costa in male simple, nearly straight, apex obtuse or almost acute, hindmargin very oblique; surface with tufts of raised scales. Hindwings elongate, apex attenuated, as broad or somewhat broader than forewings, cilia very long, as broad or broader than hindwings. Forewings with veins 7 and 8 separate, 7 running to hindmargin, secondary cell absent, 1 furcate at base. Hindwings with 6 veins, 3 and 4 separate, more or less remote at origin, 3 from upper angle of cell to slightly above apex, 6 free.

Immediately separate from the other genera possessing only 6 veins in the hindwings, by the remoteness of veins 3 and 4 at origin; in all others they rise from a stalk. The peculiar ascending palpi of the male are also a very singular characteristic, reminding one of some of the *Tineidæ*, such as *Scardia*, but the palpi of the female approximate to the ordinary type of the group.

All the species are blackish, with the forewings much roughened and their habit is to sit on the blackened and charred fibrous bark of some species of *Eucalyptus*, where they are practically invisible until induced to move. I possessed those here described before the publication of my last papers, but so curious is their superficial appearance that I had never suspected their affinity until lately. They are in fact closely allied to the genera previously described, though it may be doubted whether any one, who had not closely studied the neuration, would be induced to believe, without seeing the connecting links, that *Bond. attenuatana* really belonged to the *Tortricina*.

I may mention here that *Carposina*, HS., represented by two European species, is without doubt referable to this group, though erroneously placed hitherto in the *Gelechidæ*, to which it has no affinity; the six-veined hindwings, long straight porrected palpi, and tufts of scales on forewings, are sufficient proofs. Superficially it nearly resembles *Heterocrossa*.

Newman's description of this genus is perfectly recognisable, and sufficient for characterisation, although the neuration is omitted.

The larvæ must certainly be attached to species of *Eucalyptus*, feeding either in the bark or perhaps in the fruit-capsules.

1. *Bond. nigella*, Newm.

(*Bondia nigella*, Newm., Trans. Ent. Soc., Lonn., Vol. III., N.S., 289).

♂ ♀. $7\frac{1}{2}$ "- $8\frac{3}{4}$ ". Head, palpi, antennæ, and thorax blackish, sprinkled thinly with ochreous-grey; palpi in female rather long. Abdomen light grey. Anterior and middle legs blackish; posterior legs ochreous-grey-whitish, tarsi suffused with fuscous-grey except at apex of joints. Forewings very narrow, oblong, costa straight, slightly bent at base and apex, apex round pointed, hindmargin almost straight, very oblique; blackish, with a few fine scattered ochreous-whitish scales; numerous scattered tufts of raised scales; posterior half of costa with faintly indicated strigulæ; a C-shaped whitish-ochreous or pale yellowish-ochreous transverse mark in disc at three-fifths, extremities directed outwards: cilia blackish. Hindwings and cilia in male pale grey, in female somewhat darker.

Easily distinguished from all the others by the pale ochreous C-shaped mark in disc.

Taken near Sydney in July and September, and also received from Victoria.

2. *Bond. dissolutana*, n. sp.

♂ $6\frac{3}{4}$ "-9", ♀ $8\frac{3}{4}$ "-10". Head, palpi, antennæ, and thorax blackish, finely sprinkled with ochreous-grey; palpi in female long. Abdomen in male blackish, in female grey. Legs blackish; posterior tibiæ ochreous-grey-whitish, in male sometimes blackish, tarsi with ochreous-whitish rings at apex of joints. Forewings

narrow, in female rather broader, oblong, costa straight, slightly bent at base and apex, apex round-pointed, hindmargin almost straight, very oblique; blackish, sprinkled with ochreous-whitish scales; numerous scattered tufts of raised scales; cilia blackish. Hindwings in male bright orange-yellow, apex irregularly dark fuscous, costa and upper part of hindmargin very narrowly and irregularly dark fuscous, cilia dark fuscous-grey; in female light grey, towards base ochreous-tinged, apex and hindmargin towards apex suffused with dark grey, cilia light grey, darker round apex, with an indistinct darker line near base.

The male is immediately known by the orange-yellow hindwings; the female may be distinguished from the other unicolorous species by its large size, long palpi, rather broader forewings, and the ochreous tinge of hindwings.

Taken at Blackheath on the Blue Mountains (3,500 feet) in October; Mr. G. H. Raynor also met with it at Melbourne.

3. *Bond. maleficana*, n. sp.

♂ ♀. $5\frac{1}{4}$ "- $6\frac{1}{4}$ ". Head, palpi, antennæ and thorax blackish, sprinkled with whitish-ochreous; palpi in female moderate. Abdomen grey. Anterior and middle legs dark fuscous, posterior legs grey, all tarsi with pale rings at apex of joints. Forewings very narrow, oblong, costa gently arched, apex round-pointed, hindmargin nearly straight, very oblique; blackish, with scattered whitish-ochreous scales; numerous scattered tufts of raised scales; cilia blackish. Hindwings light grey, apex rather darker; cilia light grey.

Much smaller than female of the preceding species, narrower-winged, with shorter palpi; considerably larger than *B. attenuatana*, darker, and broader-winged, with shorter cilia.

Common at Sydney and Parramatta in September and November.

3. *Bond. attenuatana*, n. sp.

♂ ♀. $3\frac{3}{4}$ "- $4\frac{1}{2}$ ". Head, palpi, antennæ, and thorax blackish-fuscous, sprinkled with whitish-ochreous; palpi in female

moderate. Abdomen grey. Anterior and middle legs dark fuscous, posterior legs grey, all tarsi with pale rings at apex of joints. Forewings very narrow, oblong-lanceolate, costa gently arched, apex almost acute, hindmargin extremely oblique; blackish-fuscous, sprinkled with greyish-ochreous, towards base somewhat mixed with whitish ochreous; numerous tufts of raised scales: cilia blackish-fuscous. Hindwings strongly attenuated, light fuscous-grey, apex rather darker; cilia broader than hindwings, light grey.

Recognisable by its small size and extremely narrow wings, very long cilia, and less deep colour.

Met with once in abundance at Parramatta in July.

GLYPHIPTERYGIDÆ.

HYPERTROPHA, Meyr.

Hyp. desumptana, Walk.

(*Orosana desumptana*, Walk., Brit. Mus. Cat. 460; *Hypertrophia thesaurella*, Meyr., Proc. Linn. Soc., N.S.W., V., 209).

Not identified until my recent inspection of the type. The species is included by Walker in his imaginary genus *Orosana* (affectionately referred to by Butler as "this little Australian genus") which contains a motley collection of *Hypertrophia*, *Eupselia*, and various *Pyrales*.

SIMAËTHIS, Leach.

Sim. combinatana, Walk.

Simaëthis abstitella, Walk., Brit. Mus. Cat. 997, may be added as a synonym of this species.

EUPSELIA, Meyr.

Eups. carpocapsella, Walk.

On reference to the Museum types of this species and *E. beatella*, Walk., the species which I possess proved to belong to

this species, to which therefore my description of *E. beatella* (Proc. Linn. Soc., N.S.W., V., 219) refers, as well as the description of *E. carpocapsella* quoted from Walker.

Eups. beatella, Walk.

(*Orasana* (?) *beatella*, Walk., Brit. Mus. Cat., 999.)

“♂. 8". Forewings hardly acute, slaty-cinereous, with several brownish interrupted transverse lines, and with two dark brown purple-tinged patches; first patch extending from inner margin to disc; second much larger than first, extending from anal angle to disc; hindmargin with deep black points and with a purple marginal line. Hindwings yellow, inner and hind margins dark fuscous.”

The above is an abstract of all that has any importance in Walker's description. The locality (given as Australia) is perhaps Queensland.

GLYPHIPTERYX, Hb.

Glyph. cyanochalca, n. sp.

♂. $5\frac{1}{2}$ "- $6\frac{1}{4}$ ". Head and thorax ochreous-bronze, back dark fuscous. Palpi short, rather drooping, roughly scaled, whitish-ochreous, second joint mixed with blackish towards apex, with indications of two whorls, terminal joint minute. Antennæ dark fuscous. Abdomen whitish-ochreous, segments suffused with dark fuscous towards base. Legs dark fuscous, posterior tarsi with indistinct ochreous-whitish rings at apex of joints. Forewings moderate, not dilated, hindmargin very slightly rounded, not sinuate; rather light brassy-ochreous; markings silvery-metallic with brassy reflections, margined with grey; an upwards-curved streak from base beneath costa to inner margin before middle; a parallel curved transverse streak from costa at one-fifth, not reaching beyond fold; a nearly straight transverse fascia from slightly before middle of costa to inner margin beyond middle, attenuated or interrupted on fold; an inwardly oblique wedge-

shaped streak from costa at three-fifths, reaching half across wing, becoming ochreous-white on costa and produced as an ochreous-white streak along costa to five-sixth; a narrow longitudinal streak in disc beneath the ochreous-white costal streak, its posterior extremity sometimes turned up and connected with it; an erect roundish spot on inner margin before anal angle, with a small black spot on each side of its apex; a slightly curved streak close before hindmargin from a white spot before apex to anal angle; cilia with basal half brassy-ochreous, terminal half light grey, separated by a blackish-grey line. Hindwings and cilia dark fuscous.

By the absence of any black discal patch, white hindmarginal indentation, or apical hook in the cilia, this species stands at once distinguished from all other described Australian species, and it would seem to have most relationship with the very differently marked European *G. bergstræsserella*, F. The palpi are much shorter than in any other Australian species, and the general aspect is peculiar, but the venation is of the ordinary type.

Three specimens taken in grassy bush at Mittagong (2,000 feet) and Blackheath (3,500 feet) in the Blue Mountains, in February and March.

Glyph. cyanophracta, n. sp.

♂. $4\frac{1}{2}$ "-5". Head and thorax greyish-bronze. Palpi with four oblique whorls of black ochreous-white-tipped scales, apex black, with ochreous white longitudinal lines above and below. Antennæ dark fuscous. Abdomen dark fuscous, segments with obscure ochreous-whitish apical rings. Legs dark fuscous, with obscure ochreous-whitish rings at middle and apex of tibiæ, and apex of all tarsal joints. Forewings moderate, posteriorly dilated, hindmargin rounded, slightly sinuate; ochreous-bronze, an ill-defined yellowish-white spot at base of inner margin, not reaching costa; a straight violet-blue-metallic fascia from two-

sevenths of costa two-fifths of inner margin, becoming ochreous-white on inner margin; a second straight violet-blue-metallic fascia from slightly before middle of costa to slightly beyond middle of inner margin; a large roundish black patch resting on anal angle and extending nearly to costa, its upper half crossed by six whitish-ochreous longitudinal lines, of which the four upper terminate anteriorly in one small round violet-golden-metallic spot, the two lower extend from posterior edge only halfway across; a small violet-blue-metallic spot on costa beyond middle, touching the black patch; some pale ochreous scales in the black patch near its lower anterior angle, and seven small roundish violet-golden-metallic spots scattered through its lower half; a slightly outwards-curved violet-blue-metallic fascia from costa at five-sixths to hindmargin at lower posterior angle of black patch; an elongate transverse violet-blue-metallic apical spot: cilia grey, basal half scaled with light bronzy-ochreous, beneath black patch with whitish-ochreous, and separated by a broad blackish-grey line, with a triangular ochreous-white indentation above middle of hindmargin, costal cilia dark grey with a small ochreous-white spot above ante-apical fascia, and a larger wedge-shaped ochreous-white spot above apex. Hindwings and cilia dark fuscous.

A beautiful species, intermediate in size and general characteristics between the much larger *G. cometophora*, Meyr., and the much smaller *G. iometalla*, Meyr., differing from both in the violet-blue tinge of the metallic fasciæ, and in the more numerous metallic spots on the black patch; from the former also by the whitish dorsal spot near base and the less numerous longitudinal lines, from the latter by the completeness of the first fascia, and more numerous and conspicuously developed longitudinal lines.

I found this species pretty commonly near Burragorang, New South Wales, at the bottom of the deep gorge which receives the confluence of the Nattai and Wollondilly Rivers, flying in the sun over grassy banks in April; and afterwards met with it

frequenting the blossoms of a species of *Carex* on the summit of the surrounding table-land.

Glyph. triselenæ, Meyr.

The description of this species (Proc. Linn. Soc., N.S.W., V., 234) is very defective in respect of the basal markings of the forewings, which are peculiar and highly characteristic, and is also inaccurate in some minor points, owing to the inferior condition of the two original specimens; I have thought it best therefore to redescribe the species from a series of specimens in fine condition, taken at Christchurch, N. Z., in February.

♂ ♀. $4\frac{1}{2}$ "-5". Head and thorax greyish-bronze, with an ochreous-whitish longitudinal line on each side of back from behind eyes through thorax, shoulders golden-ochreous. Palpi black, with four whorls of black white-tipped scales. Antennæ dark fuscous. Abdomen elongate, grey, with white apical rings on segments, apex white. Anterior and middle tibiæ and tarsi dark fuscous with whitish rings, posterior tibiæ and tarsi light grey with whitish bands. Forewings elongate, narrowed posteriorly, hindmargin very oblique, slightly sinuate; light golden-ochreous; an ochreous-whitish streak along inner margin from base nearly to middle, broadly and suffusedly margined above with dark grey; a curved leaden-metallic streak from base nearly to middle, broadly and suffusedly margined above with dark grey; a curved leaden-metallic streak from base beneath costa to near inner margin at one-third from base; a slightly curved oblique leaden-metallic streak from costa at one-fourth, reaching half across wing, terminating above apex of basal streak; two straight parallel direct leaden-metallic transverse fasciæ, one before, the other slightly beyond middle; from second below middle proceeds a rather narrow longitudinal black band, bent downwards to anal angle, thence continued along lower half of hindmargin, containing two golden-metallic spots in the bend and two others on the hindmargin; the space above this nearly to

costa is filled by six whitish longitudinal lines, partially confluent or separated by narrow black interspaces; two indistinct leaden-metallic spots on costa, merged beneath in the whitish lines; a transverse leaden-metallic subapical spot: cilia whitish-grey, basal third within a blackish line scaled with light golden-ochreous, with a whitish indentation beneath apex, costal cilia grey with whitish spots on costal streaks. Hindwings slaty-grey, cilia rather lighter grey.

Immediately recognisable amongst its allies by the narrow forewings, light groundcolour, and longitudinal basal markings, which are especially noticeable when the wings are closed.

Glyph. amblycerella, n. sp.

♂. 5¼". Head and thorax greyish-bronze. Palpi white, with four oblique whorls of black white-tipped scales, lowest one indistinct, apex black with a white lateral line. Antennæ dark fuscous. Abdomen dark fuscous, segments with obscure whitish apical rings. Legs dark fuscous, with slender whitish rings at middle and apex of tibiae, and apex of all tarsal joints. Forewings moderate, slightly dilated, hindmargin rather strongly sinuate beneath apex; bronzy-ochreous, towards base indistinctly suffused with fuscous, and narrowly along costa and inner margin; all markings suffusedly edged with dark grey; a clearly defined outwardly oblique elongate transverse white spot on inner margin near base, reaching half across wing, apex irregularly truncate, posterior edge rather concave; a straight violet-metallic fascia from slightly beyond one-third of costa to middle of inner margin, including an ochreous-white dot on costa, and ending in a white quadrilateral spot on inner margin; a short oblique obsolete pale streak from costa before middle, beyond extremity of which is a very irregular suffused black spot; a longitudinally elongate black spot in centre of disc, its posterior extremity containing a roundish violet-silvery-metallic spot; two small roundish violet-silvery-metallic spots in disc beneath central spot, partially

surrounded with black scales, a third similar spot on inner margin at three-fifths, a fourth slightly above and beyond third, and a fifth in disc below middle above anal angle; beyond the fifth the black scales tend to form a small separate spot; an oblique violet-silvery-metallic streak from costa slightly beyond middle, almost reaching fifth discal spot, and containing an ochreous-white costal dot; a similar shorter streak a little beyond it; an outwardly curved violet-silvery-metallic fascia from a white dot on costa at five-sixths to hindmargin below middle, thence produced to anal angle, interrupted above hindmargin; a short violet-silvery-metallic subapical streak from a white dot on costa before apex to hindmarginal indentation: cilia on hindmargin with basal half bronzy-ochreous, terminal half white, separated by a broad blackish-grey line, with a triangular white indentation above middle, on anal angle dark grey, with a white dot beneath inner-marginal spot, costal cilia dark grey, with white wedge-shaped spots on extremities of two posterior metallic streaks. Hindwings and cilia dark fuscous.

Allied to *G. asteriella*, Meyr., but easily known by the white dorsal spot near base only reaching half across wings, and the absence of the regular black longitudinal lines posteriorly, as well as by various differences of marking. There is no complete black patch, but it is indicated by the scattered black scales round the posterior metallic spots.

One specimen taken by Mr. G. H. Raynor at Warragul in Gippsland, Victoria, in December.

Glyph. holodesma, n. sp.

♂. 6¼". Head and thorax bronzy-grey. Palpi whitish, with three oblique whorls of black ochreous-white-tipped scales, apex black with an oblique ochreous-white lateral line. Antennæ dark fuscous, towards base with ill-defined whitish-ochreous annulations. Abdomen dark grey, segments suffusedly whitish at apex, extremity whitish-ochreous. Legs dark fuscous, with ochreous-

whitish rings at middle and apex of tibiae, and apex of all tarsal joints. Forewings moderate, posteriorly dilated, hindmargin very slightly sinuate beneath apex; bronzy-greyish-ochreous, costa and inner margin narrowly suffused with dark fuscous; all markings irregularly edged with dark fuscous; six silvery-metallic transverse fasciæ starting from white spots on costa; first nearly straight, oblique, from one-fourth of costa to before middle of inner margin, ending in an ochreous-white spot on inner margin; second parallel, bent in disc, ending on fold; third parallel, reaching half across wing, ending in a small dark fuscous-spot; fourth outwardly curved, from two-thirds of costa to three-fourths of inner margin; fifth parallel to fourth, ending in anal angle; sixth subapical, from costa before apex to hindmarginal indentation; a small roundish blackish apical spot: cilia on hindmargin bronzy greyish-ochreous towards base, terminal half white, separated by a blackish-grey line, and with a small triangular white indentation beneath apex, and a whitish spot at anal angle; costal cilia blackish-grey, with white spots on extremities of fasciæ. Hindwings dark grey, cilia rather lighter grey.

A very distinct species, allied to the group of *Glyph. asteriella*, Meyr., but characterised especially by the absence of any indications of the black patch, and by the regularity and completeness of the metallic fasciæ.

One fine specimen taken flying over rushes in a damp place on the ascent of Mount Wellington, Tasmania, at about 2,500 feet of elevation, at the beginning of February.

Glyph. tetrasema, n. sp.

♂. 5"-5½". Head and thorax greyish-bronze. Palpi white, with four oblique whorls of black white-tipped scales, apex white with a black line beneath. Antennæ dark fuscous. Abdomen dark fuscous, apex whitish. Legs dark fuscous, with slender whitish rings at middle and apex of tibiae, and apex of all tarsal joints. Forewings moderate, rather dilated, hindmargin sinuate;



pale brassy-ochreous, irregularly mixed with ochreous-bronze; all markings broadly and suffusedly margined with dark fuscous; two similar straight oblique transverse quadrilateral white spots on inner margin, first near base, second in middle, suffusedly truncate above, reaching about half across wing; seven oblique white streaks from costa, first broadest, nearly reaching apex of second dorsal spot, next four all short, narrow, reaching about one-third across wing, last two very short, close together before apex; about five small ill-defined shining white, slightly violet-metallic spots irregularly placed in disc beyond middle, mixed with a few black scales, a sixth on inner margin a little before anal angle, a seventh on anal angle, two others near hindmargin below middle, a tenth towards hindmargin above middle, an eleventh on hindmarginal indentation, and a twelfth below apex, adjoining a small roundish black apical spot: cilia on hindmargin white, basal third scaled with brassy-ochreous and separated by a black line, with a deep white triangular indentation below apex; cilia on anal angle grey, with a white spot before anal angle; costal cilia dark grey, with white spots on costal streaks, and a blackish-fuscous spot above apex, lower edge sharply defined, forming a short incomplete apical hook. Hindwings rather dark grey, cilia rather lighter.

Belongs to the group characterised by the possession of two pale dorsal spots which do not give rise to metallic transverse lines; in this group it is intermediate between *G. meteora*, Meyr., and *G. leucocerastes*, Meyr., differing from the former by the first dorsal spot reaching only half across wing, and from the latter by both dorsal spots being obtusely truncate, not attenuated; it is further distinguished amongst the whole group by the number of the posterior metallic spots.

Two specimens taken in a damp place about 3,000 feet up Mount Wellington, Tasmania, early in February. This species has veins 7 and 8 of the forewings stalked, a character which recurs in two or three other species which are not specially allied

to one another, and in this genus appears to be of no importance, though usually elsewhere of great value.

Glyph. acinacella, n. sp.

♂. $3\frac{1}{2}$ ". Head and thorax dark shining greyish-fuscous. Palpi white, with four oblique whorls of black white-tipped scales, apex white with a black line beneath. Antennæ dark fuscous. Abdomen blackish-fuscous. Legs blackish-fuscous, with slender white rings at middle and apex of tibiæ, and apex of all tarsal joints. Forewings moderate, not dilated, hindmargin sinuate; dark fuscous, slightly bronzy-tinged; a narrow curved very oblique white streak from inner margin before middle, attenuated gradually throughout to extremity, somewhat broken at two-thirds of its length, reaching half across wing, ending in disc beyond middle; five slender oblique white somewhat violet-shining streaks from costa, indistinctly darker-margined anteriorly; first from slightly beyond middle of costa, reaching half across wing to just beyond apex of dorsal streak; second rather shorter; other three very short, wedge-shaped; a short erect whitish violet-shining streak from inner margin before anal angle, nearly reaching apex of second costal streak; some indistinct scattered whitish violet-shining scales towards anal angle and lower half of hindmargin; a small violet-metallic spot on hindmargin beneath apex, adjoining a round blackish apical spot: cilia rather shining fuscous-grey, with a suffused darker grey line, and a triangular ill-defined indentation beneath apex, costal cilia dark grey with white spots on costal streaks, no defined apical hook (?). Hindwings and cilia dark fuscous.

Nearest allied amongst Australasian species to *G. actinobola*, Meyr., but immediately known by not possessing any white streak from before middle of costa. It comes nearer to the European group of *G. equitella*, Sc., *G. fischeriella*, Z., and their allies, but the dorsal streak is rather nearer base, and the first costal streak somewhat further from base than in any species known to me,

the dorsal streak is somewhat longer and more finely attenuated than in *G. fischeriella*, and the second costal streak does not unite with the dorsal spot before anal angle. The cilia are not in good condition, and it is very possible that the white extremities and apical hook have been worn away.

One specimen taken by Mr. G. H. Raynor at Warragul in Gippsland, Victoria, in December.

ERECHTHIADÆ.

ESCHATOTYPA, Meyr.

Esch. derogatella, Walk.

(*Tinea derogatella*, Walk., Brit. Mus. Cat. 485; *Eschatotypa melichrysa*, Meyr., Proc. Linn. Soc., N.S.W., V., 257).

I did not identify Walker's description until I had seen the type.

ERECHTHIAS, Meyr.

Erech. stilbella, Doubl.

This species should have been quoted as of Doubleday, being originally described by him in Dieffenbach's New Zealand, Vol. II., p. 289; Walker's description refers to the same species.

GRACILARIDÆ.

GRACILARIA, Z.

Grac. argyrodesma, n. sp.

The only specimen of this insect, which I possess, was unfortunately greatly damaged by an accident whilst being set; but as it is very distinct, and one forewing is perfect, and moreover the larval habits are known, I give what will probably be a sufficient diagnosis.

2½". Forewings dark fuscous, with two transverse fasciæ and four spots snow-white, black-margined; first fasciæ at one-fourth, straight, direct, rather narrow, suddenly attenuated on margins,

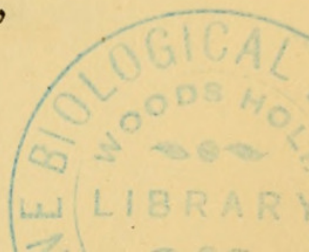
posterior edge incised in middle; second about middle, slender, somewhat sinuate, slightly oblique, obscurely interrupted above middle; a small roundish spot on costa about three-fourths, and another slightly larger exactly opposite it on inner margin; a very small dot on costa before apex, and a still smaller one on inner margin beneath apex; cilia dark fuscous, with a blackish line round apex. Hindwings and cilia dark grey.

The smallest species of the genus known to me, belonging to the group of *G. autadelpha*, Meyr., and *G. cænotheta*, Meyr., in which it is characterised by its small size, dark groundcolour, the slenderness and interruption of the second fascia, and smallness of the marginal spots.

The larva mines a nearly flat discoloured blotch in leaves of *Grevillea linearis* (*Proteaceæ*), occupying apical half of the narrow leaf, upper surface slightly contracted. Pupa in a firm cocoon, not within the mine. I collected a larva accidentally in August amongst a great number of larvæ of one of the *Gelechiidæ* feeding on the same shrub, and did not observe it until the imago emerged in September, when on examination I found the mine and cocoon.

Grac. chionoplecta, n. sp.

♂ ♀. $2\frac{2}{3}$ "- $3\frac{1}{4}$ ". Head, palpi, and thorax snow-white, labial palpi with two black rings. Antennæ dark fuscous, basal joint white. Abdomen pale silvery-grey, segments with white apical rings, apex white. Anterior tibiæ blackish with indistinct basal and median white rings, tarsi white with blackish bands at apex of each joint; middle tibiæ slightly thickened, blackish with broad median white band, tarsi white with narrow blackish rings at apex of each joint; posterior tibiæ white, apex dark grey, tarsi white with dark grey rings at apex of joints. Forewings dark greyish-ochreous, with scattered black scales, and with two fasciæ and seven spots snow-white, black margined; some irregular white scales near base; first fascia about one-fifth, very broad,



broadest on inner margin, edges irregularly sinuate; second fascia about two-fifths, as broad as first, very irregularly curved outwards in middle, sometimes narrowly connected on inner margin with first fascia and first dorsal spot; a minute indistinct spot on middle of costa; a moderate subquadrate spot on costa about two-thirds, and a considerably larger irregular spot slightly before it on inner margin, nearly reaching it, only separated by the black margins, forming a rather oblique black line; two small spots on inner margin beyond the large dorsal spot, and a small spot between them on costa; a small apical spot, cutting off a black apical dot: cilia pale whitish-grey, costal cilia grey with white spots on costal spots, Hindwings grey, cilia pale whitish-grey.

Allied to the group of *G. caenotheta*, Meyr.; distinguished by the number of the posterior spots, and the breadth of the fasciæ.

Larva rather stout, cylindrical, tapering at both ends, head small; ochreous-yellowish, with a rather large transverse-oval or elongate-transverse deep bright carmine-pink spot on back of each segment, second segment somewhat suffused with carmine-pink; head brownish-ochreous, suffused with dark fuscous on margins. Mines a broad tubularly inflated gallery in leaves of *Phebalium dentatum* (*Rutaceæ*), lower surface somewhat contracted, both surfaces discoloured. Pupa in a firm white cocoon on under surface of leaf. I found this beautiful larva commonly near Sydney, where however its foodplant is local, in August, and bred eight specimens early in October.

Grac. ida, Meyr.

Larva moderate, thickest anteriorly, gradually tapering behind, head small; light yellowish; head pale ochreous, mouth dark fuscous. Mines first a gallery in leaves of *Eucalyptus piperita* (?) (*Myrtaceæ*), mine at first slender, contorted, then straight, tubular, discoloured to reddish-brown; when nearly full-grown leaves the mine and feeds within a conical chamber made of a

small leaf spirally rolled. Pupa in a flat cocoon beneath the leaf, causing the edges to contract. I found several of these larvæ, on a dwarfed seedling which I believe to be correctly referred as above, in August, and bred five specimens in September, showing no sign of approximation to *G. formosa*, Stt.

Grac. toxomacha, n. sp.

♂. $3\frac{1}{2}$ ". Head snow-white, with a dark fuscous spot on anterior margin of eyes. Labial palpi white, with a black band on second joint becoming two rings internally, and a black sub-apical ring on terminal joint. Maxillary palpi dark fuscous. Antennæ dark fuscous, with slender whitish annulations. Thorax white, sides brownish-ochreous. Abdomen grey, anal valves very large. Anterior tibiæ blackish, tarsi blackish with white bands at apex of joints; middle tibiæ dark grey, with two suffused whitish bands, tarsi blackish with white rings at apex of joints; posterior tibiæ white, apex blackish, tarsi blackish with white rings at apex of joints. Forewings dark greyish-ochreous; costal edge slenderly dark fuscous; an irregular white streak from base near inner margin to inner margin at two-thirds from base, beneath suffused, above margined by an interrupted black line, twice sinuate posteriorly; a very oblique sinuate gradually attenuated white black-margined streak from costa at one-third almost to anal angle, very slender posteriorly; a suffused shorter oblique sinuate whitish streak from costa immediately beyond it, reaching half across wing, most distinct on disc; a straight oblique attenuated white black-margined streak from costa at two-thirds, reaching half across wing, and a similar hardly oblique streak a little beyond it, almost touching one another in disc; a slender black-margined streak from inner margin opposite and in a line with the second of these, almost meeting it; a white apical spot, containing an elongate black dot: cilia pale whitish-ochreous-grey, with two sharply-marked black lines round apex, on

costa fuscous, with white spots on costal streaks. Hindwings grey, cilia whitish-ochreous-grey.

Belongs to the group of *G. thalassias*, Meyr., but very distinct; easily recognised by the remarkable length and obliquity of the first costal streak.

Larva moderately attenuated from second segment throughout, head much narrower than second segment, semi-oval; pale whitish-green; head light brownish. Mines an irregular loose flat discoloured blotch in leaves of *Pultenæa* sp.--(?) (*Leguminosæ*), under surface slightly contracted. Pupa in a firm cocoon outside the mine. The food-plant is not common, and being unable to find a specimen in blossom, I did not identify the species; I collected some number of the larvæ near Sydney in July, but only bred one imago, early in September.

Grac. alysidota, Meyr.

Larva mines a flat irregular discoloured blotch beneath upper surface of phyllodia of *Acacia longifolia* (*Leguminosæ*). Pupa in an elongate flat white cocoon on surface of phyllodium between contracted edges. I found one larva only of this species, which I consequently could not describe, in July, and bred the imago in September.

Grac. didymella, Meyr.

Larva moderately attenuated posteriorly, not flattened; dull greyish-yellowish, head suffused with blackish. Mines a large irregular elongate blotch in phyllodia of *Acacia longifolia*, (*Loguminosæ*); blotch bladderlike, both surfaces inflated, not discoloured, walls thick, fleshy. Pupa in a flat white cocoon in an angle of a bent phyllodium. The mine is readily distinguished from that of *G. alysidota* on the same tree by the inflation and thickness of the walls. I found the larva tolerably common near Sydney in July, and bred eight specimens at the end of August and beginning of September. The species does not vary, and is

certainly distinct from *G. ochrocephala*, Meyr., and *G. nerëis*, Meyr., which probably feed on other species of *Acacia*.

LITHOCOLLETIS, Z.

Head roughly tufted on crown, forehead and face smooth; no ocelli; tongue moderate. Antennæ nearly as long as forewings, slender, filiform. Maxillary palpi obsolete. Labial palpi rather short, straight, drooping, second joint smooth, terminal joint pointed. Forewings elongate, moderately narrow, pointed. Hindwings narrowly lanceolate, less than half forewings, cilia four times as broad. Posterior tibiæ hairy above and below. Forewings with 7 veins, 3 branches to costa, cell closed, 1 simple. Hindwings without cell, median two-branched.

Larva fourteen-legged, mining blotches in leaves. Pupa naked or in a cocoon, always enclosed in the mine.

The species here described is not truly Australian, or at any rate does not belong to the indigenous fauna, so that my remarks on this subject remain in force; it has been introduced with its foodplant. The genus is readily distinguished from *Gracilaria*, to which it is most allied, by the tufted head and simpler neuration, in respect of which this species is perfectly typical, the venation not differing in the least from that of European species.

Lith. aglaozona, n. sp.

♂ ♀. $1\frac{1}{2}$ "- $2\frac{1}{3}$ ". Face shining coppery-black, tuft of head deep black. Palpi dark fuscous. Antennæ black, apex white. Thorax shining coppery-metallic. Abdomen brassy-blackish, beneath brassy-metallic. Legs dark fuscous. Forewings shining ochreous-orange; base conspicuously black; four costal and three dorsal subquadrate violet-silvery-metallic strongly black-margined spots; first costal spot at one-fourth, second in middle not oblique, first and second dorsal spots exactly opposite them, almost or sometimes quite uniting with them to form straight direct fasciæ; third costal spot somewhat before three-fourths,

rather inwardly oblique ; third dorsal on anal angle, rather beyond third costal, erect ; fourth costal spot somewhat inwardly oblique, close before apex, adjoining a round black apical spot : cilia dark grey, basal third within a black line blackish round apex. Hind-wings dark fuscous-grey, cilia dark grey.

A magnificent species, though some specimens are amongst the very smallest of the *Lepidoptera* ; it is undoubtedly allied to the North American *L. desmodiella*, Clem., differing, so far as can be judged from the description, principally in the orange ground-colour, deep black base, and somewhat differently arranged markings.

Larva gradually attenuated from second segment throughout, head triangular, much smaller than second segment ; glossy whitish, dorsal vessel dark green ; head faintly amber-tinged. Mines a small blotch beneath lower surface of leaves of *Desmodium* sp.—(*Leguminosæ*), the epidermis contracting to produce a dilated chamber. Pupa free within the mine. I found the larva early in March in the Botanical Gardens, Sydney, and bred the imago in abundance towards the end of the same month, and also took them sitting on the leaves of the food-plant.

I hope to obtain further information on the origin of this species. There are only two specimens of the food-plant in the gardens, without name or indication of country, and I have not seen it elsewhere ; I believe it to be a true *Desmodium*. The insect is certainly of an American type, but I have found no other instance of a leaf-feeding *Micro* being imported from such a distance, though it would not seem impossible ; I am not aware of any described American species with which it is identifiable. Possibly it may come from the islands.

LYONETIDÆ.

STEGOMMATA, Meyr.

Steg. sulfuratella, Meyr.

Larva mines an irregular slightly inflated discoloured blotch occupying apical half of leaves of *Banksia integrifolia* (*Proteaceæ*) ejecting excrement through several small holes, in April. Pupa in a very slender close white cocoon, suspended in the air by stretched threads from each end.

The habit of the pupa is, so far as I know, quite peculiar in the family.

CEMIOSTOMA, Z.

Head smooth, rarely with erect hairs behind; no ocelli; tongue rudimentary. Antennæ shorter than forewings, filiform, with a moderately large eyecap. No palpi. Forewings elongate, moderately narrow, pointed, apex rather produced. Hindwings linear-lanceolate, much narrower than forewings, cilia four times as broad. Forewings with 7 or 8 veins; 2 or 3 branches to costa, cell open or finely closed, 1 simple. Hindwings without cell, median three-branched.

Larva sixteen-legged, mining large flat blotches in leaves, or galleries under cuticle of shoots. Pupa in a silken, often ridged, cocoon, usually without the mine.

This genus has not hitherto been observed outside Europe, where are about a dozen closely allied species. There is no doubt that the following species is a true *Cemiostoma*, though I have not yet been able to examine the neuration. The genus is well distinguished by the smooth head and absence of palpi.

Cem. chalcocycla, n. sp.

♂. 3"-3 $\frac{1}{4}$ ". Head, antennæ, thorax, abdomen and legs snow-white. Forewings snow-white; a slender very oblique dark fuscous streak from costa at two-thirds, reaching half across wing; a second, much shorter and much less oblique, in costal cilia at five-sixth; a third as short as second, inwardly oblique, in costal cilia immediately before apex; a small roundish brassy-metallic spot on anal angle, margined anteriorly and posteriorly

by a blackish line, and above by a small pale yellowish indistinctly grey-marginal spot, faintly produced into cilia above apex; a minute round black apical dot; cilia white, with a grey projecting line above apex, besides the lines in costal cilia. Hindwings and cilia white.

The absence of any oblique yellowish costal spot readily separates this insect from the European species, which in other respects it closely resembles.

Four specimens beaten from bush, at Warragul in Gippsland, Victoria, in September, and at about 2,000 feet up Mount Wellington, Tasmania, early in February.

NOTE ON A REPUTED POISONOUS FLY OF NEW CALEDONIA.

BY WILLIAM MACLEAY, F.L.S., &c.

Some weeks ago I received a communication from Mr. E. L. Layard, C.M.G., H.B.M. Consul New Caledonia, on the subject of a "Fly," said to be destructive to human life in that Country. Mr. Layard writes as follows:

"After my arrival here my attention was early attracted by several terrible deaths, said to be caused by a fly, which was called the "Mouche Charbonneuse" (poisonous or pestilential fly.) I tried to find out what this fly could be, but received the most contradictory answers to my enquiries. Some said it was a "Blow Fly," ("Blue Bottle"—or rather "*Green Bottle*," for I never saw a *Blue* one here)—others, that it was a common house fly; others again said that it was a special species, but all agreed that the deaths originated from the introduction into the blood of the victim of putrid matter, upon which the fly had been feeding.

"This opened another question: How was the poison introduced into the human body? Did the fly *puncture* the flesh, or did it seek a wound, or abrasion through which to introduce it?



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