

A REVISION OF THE AUSTRALIAN GRACILARIIDAE (LEPIDOPTERA)

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This interesting family, which contains some of the smallest and most delicate, as well as some of the most beautiful of the Lepidoptera, at present consists of about one thousand species referred to twenty-two genera. Its distribution is world-wide, but with the exception of the genus *Lithocolletis* the principal genera are more numerous in tropical and subtropical regions. Owing to their small size they do not attract the casual collector, and the number of species is destined to be very largely increased. With the exception of a few described by Stainton, our knowledge of the Australian species dates from a paper by Meyrick in the Proceedings of the Linnean Society of New South Wales in 1880. To him we owe the present classification of the family, which was given in the Genera Insectorum in 1912, with the exception of the genus *Phyllocnistis*, which was included in this family in his Revised Handbook of the British Lepidoptera in 1927. My own interest in the family commenced early; in fact, it was the main subject of my first entomological essay published in these Transactions in 1894.

To those who contemplate the study of the smallest Lepidoptera the *Gracilariidae* can be commended, as the family and genera are easy of recognition. In most cases their attitude of rest with the fore part of the body elevated and the legs displayed is characteristic. The presence in most of three-segmented maxillary palpi aids in their recognition, but in some these are minute. The larvae, which in the majority of species mine blotches beneath the cuticle of leaves, are not difficult to find and rear.

Family GRACILARIIDAE

Head smooth or more or less rough-scaled. Tongue well developed. Labial palpi moderate or long, straight or curved, usually slender and pointed. Maxillary palpi three-segmented, filiform, porrect; seldom minute or rudimentary. Antennae as long as or longer than forewings, seldom shorter. Forewings lanceolate or narrowly elongate; cell long, 7 to costa, 8 usually separate or absent, upper margin of cell usually obsolete in basal third. Hindwings narrowly lanceolate or linear; neuration sometimes much reduced; cilia 2 to 8. The scaling of the tibiae gives good generic characters. The family is probably an off-shoot from the *Plutellidae*.

Larvae with prolegs on segments 7, 8, 9 and 13, but not on 10; in *Phyllocnistis* almost apodal; with few exceptions mining blotches in leaves, but sometimes in the latest stages leaving the mines.

KEY TO GENERA

1	Posterior tibiae with dorsal series of bristles	2
	Posterior tibiae without dorsal series of bristles	6
2	Antennae with small basal eye-cap	2 <i>Phyllocnistis</i>
	Antennae without eye-cap	3
3	Middle tibiae with dorsal series of bristles	3 <i>Cuphodes</i>
	Middle tibiae without dorsal series of bristles	4
4	Middle tibiae elongate and thickened with dense scales	4 <i>Cyphosticha</i>
	Middle tibiae not thickened	5
5	Head rough or loose-haired on crown	5 <i>Epiccephala</i>
	Head smooth	6 <i>Acrocercops</i>
6	Forewings with 11 absent; maxillary palpi minute	1 <i>Lithocolletis</i>
	Forewings with 11 present; maxillary palpi moderately long	7
7	Head rough-haired	8
	Head smooth	9
8	Face smooth; middle tibiae thickened with scales and hairs	8 <i>Timodora</i>
	Face rough-haired; middle tibiae smooth	7 <i>Aristaea</i>
9	Middle tibiae smooth	9 <i>Paractopa</i>
	Middle tibiae thickened throughout with dense scales	10 <i>Gracilaria</i>

1 Gen. LITHOCOLLETIS

Hb. Verz., p. 423; Meyr., Proc. Linn. Soc., N.S.W., 1907, p. 51; Gen. Ins. Grac., p. 4.

Head rough or loose-haired on crown; face smooth. Labial palpi short or moderate, porrect or drooping, filiform, pointed. Maxillary palpi minute or rudimentary. Posterior tibiae hairy or smooth. Forewings narrow; 3, 4, 6, 8 and 11 absent. Hindwings linear-lanceolate or linear; cilia 4/5; 3, 4, and 6 absent.

Type *L. alnifoliella* Dup. from Europe. Larvae leaf-miners; pupae within the mines. A genus of about 250 species almost confined to North America and Europe, but with a few stragglers in India and Australia.

- 1 *L. stephanota* Meyr., *ibid.* 1882, p. 199. Larvae mining blotches in the leaves of *Desmodium* sp. and *Kennedya rubricunda* (*Leguminosae*). N.S.W.: Sydney.
- 2 *L. aglaazona* Meyr., *ibid.* 1907, p. 51. N.S.W.: Sydney.
- 3 *L. desmochrysa* Low., *ibid.* 1897, p. 23. *Nepticula nigricansella* Tepper. Trans. Roy. Soc. S. Aust., 1899, p. 280. N.S.W.: Broken Hill; S. Aust.: Adelaide. Larvae mining leaves of *Hardenbergia ovata* (*Leguminosae*).
- 4 *L. acares* Turn., Proc. Roy. Soc. Tasm., 1938, p. 100. Tasm.: Mount Wellington (4,000 feet).

2 Gen. PHYLLOCNISTIS

Zel. Lin. Ent., iii, p. 244 (1848); Meyr., *ibid.* 1880, p. 173.

Head smooth. Labial palpi moderate, porrect or drooping, filiform, slender, smooth, pointed. Maxillary palpi obsolete. Antennae with basal segment slightly

dilated and concave beneath to form a small eye-cap. Posterior tibiae with a series of long bristles on dorsum. Forewings narrowly or very narrowly lanceolate; 3 and 4 absent, 6 and 7 stalked, 8 absent, 11 from beyond middle of cell. Hindwings linear-lanceolate, less than $\frac{1}{2}$, cilia 5 to 8; 3 and 4 absent, 6 and 7 stalked.

A genus of over 60 species represented in all continental areas. Some of the species are, as stated by Meyrick, amongst the smallest and most delicate of the Lepidoptera. Larvae apodal, mining leaves. Pupae in cocoons within the mines.

- 5 *P. leptomianta* Turn., Trans. Roy. Soc. S. Aust., 1923, p. 175. Qld.: Brisbane.
- 6 *P. attractias* Meyr., *ibid.* 1906, p. 64. Qld.: Brisbane. N.S.W.: Sydney.
- 7 *P. diplomochla* Turn., *ibid.* 1913, p. 175. Qld.: Bundaberg, Brisbane.
- 8 *P. diaugella* Meyr., *ibid.* 1880, p. 173, and *ibid.* 1906, p. 63. N.S.W.: Sydney.
- 9 *P. acmias* Meyr., *ibid.* 1906, p. 62. N.S.W.: Katoomba.
- 10 *P. psychina* Meyr., *ibid.* 1906, p. 62. W. Aust.: Albany.
- 11 *P. eurymochla* Turn., *ibid.* 1923, p. 175. N. Qld.: Cairns, Atherton.
- 12 *P. iodocella* Meyr., *ibid.* 1880, p. 174. N.S.W.: Sydney.
- 13 *P. hapalodes* Meyr., *ibid.* 1906; p. 63. W. Aust.: Albany.
- 14 *P. triortha* Meyr., *ibid.* 1906, p. 63. W. Aust.: Carnarvon.
- 15 *P. citrella* Sttn., Tr. Ent. Soc., 1856, p. 302; Fletch. Mem. Dept. Agr. Ind., vi (7), p. 171, and (9), p. 214; *minutella* Snel, Tijds. v. Ent., 1903, p. 87; *citricola* Nitobe., Formosa Agr. Rep., (8), p. 330. A pest on citrus trees in cultivation. N. Aust.: Darwin. Also from the Archipelago, Ceylon, India, China, Japan.
- 16 *P. ephimera* Turn., *ibid.*, 1926, p. 149. N. Qld.: Cairns; Qld.: Macpherson Range (3,000 feet).
- 17 *P. atranota* Meyr., *ibid.*, 1906, p. 64. N.S.W.: Sydney.
- 18 *P. enchalca* Turn., Proc. Roy. Soc. Tasm., 1938, p. 100. Tasm.: Hobart. The larvae were discovered by Dr. V. V. J. Hickman mining the leaves of *Plagianthes sidoides* (*Malvaceae*).

3 Gen. CUPHODES

Meyr., P.L.S. N.S.W., 1897, p. 314.

Phrixosceles Meyr., Journ. Bombay Nat. Hist. Soc., 1908, p. 814; Gen. Ins., Grac., p. 13.

Head smooth. Labial palpi long, curved, slender, smooth. Maxillary palpi short, filiform, porrect. Antennae over 1. Middle and posterior tibiae and proximal tarsal segments with long bristly hairs on dorsum. Forewings narrow, 8 absent. Hindwings linear-lanceolate; cilia 6 to 8.

Type *C. thysanota* Meyr. A development from *Acrocercops* containing 20 species recorded from Indo-Malaya and Australia.

KEY TO SPECIES

- | | | | |
|---|---|---------------------|---|
| 1 | Forewings with oblique fuscous sub-basal fascia | <i>holoteles</i> | |
| | Forewings without oblique sub-basal fascia | | 2 |
| 2 | Forewings with eight irregular transverse lines of fuscous irroration in basal two-thirds | <i>lithographa</i> | |
| | Forewings without such lines | | 3 |
| 3 | Forewings with a fine oblique transverse line | | 4 |
| | Forewings without oblique transverse line | | 5 |
| 4 | Forewings with inwardly oblique line near middle | <i>lechriotoma</i> | |
| | Forewings with inwardly oblique line subapical | <i>niphadias</i> | |
| 5 | Forewings with four pairs of fuscous transverse lines | <i>didymosticha</i> | |
| | Forewings without four pairs of transverse lines | | 6 |
| 6 | Forewings with fuscous apical fascia | <i>thysanota</i> | |
| | Forewings without apical fascia | | 7 |
| 7 | Forewings with blackish strigulae on dorsum | <i>maculosa</i> | |
| | Forewings without blackish strigulae | <i>habrophanes</i> | |
- 19 *C. holoteles* Turn., P.L.S.N.S.W., 1913, p. 185. Qld.: Nambour.
 20 *C. lithographa* Meyr., Gen. Ins. Grac., p. 13. N. Qld.: Cairns.
 21 *C. lechriotoma* Turn., P.L.S.N.S.W., 1913, p. 185. N. Qld.: Cardwell.
 22 *C. niphadias* Turn., *ibid.* 1913, p. 186. N. Qld.: Cairns.

23 *Cuphodes didymosticha* n. sp.

διδυμοστιχος, twin-lined

♂, 6-7 mm. Head, palpi, and thorax white. Antennae whitish, towards apex grey. (Abdomen missing.) Legs whitish. Forewings narrow, apex obtuse; white; four pairs of fine pale fuscous transverse lines at one quarter, middle, three-quarters, and tornus; some fine dorsal strigulae; a fine longitudinal fuscous subterminal streak; terminal edge fuscous; cilia grey. Hindwings linear-lanceolate; grey; cilia 6, grey.

N. Qld.: Kuranda; two specimens received from Mr. F. P. Dodd.

- 24 *C. thysanota* Meyr., P.L.S.N.S.W., 1897, p. 314; *sophopasta* Turn., *ibid.* 1913, p. 185. Qld.: Brisbane, Rosewood.

25 *Cuphodes maculosa* n. sp.

maculosus, speckled.

♂, ♀, 8 mm. Head, palpi, and thorax white. Antennae white with pale fuscous annulations; apex of basal joint blackish. Abdomen grey-whitish. Legs white with fuscous rings. Forewings narrow, obtusely pointed; white speckled with pale ochreous; dorsal edge suffused with ochreous and with a series of minute blackish strigulae; similar strigulae towards apex and on edge of termen; cilia white, on tornus and dorsum grey. Hindwings linear-lanceolate; grey; cilia 6, grey.

Qld.: Brisbane in September, Bundaberg in June and August; nine specimens.

26 *Cuphodes habrophanes* n. sp.

ἀβροφάνης, soft, gentle

♂, ♀, 9-10 mm. Head, palpi, and thorax white. Antennae white, towards apex grey. Abdomen white. Legs white with fuscous rings. Forewings moderately narrow, obtuse; white with sparsely scattered fuscous scales; a fine blackish streak on apex of costa prolonged into cilia; cilia white, on tornus and dorsum grey. Hindwings narrow-lanceolate; grey; cilia 8, grey.

Qld: Brisbane in September; Bundaberg in June and September; nine specimens.

4 Gen. CYPHOSTICHA

Meyr., P.L.S.N.S.W., 1907, p. 61; Gen. Ins. Grac., p. 22.

Head smooth. Labial palpi long, curved, slender, acute, smooth or with a tuft of hairs on second segment. Maxillary palpi moderate, filiform, porrect. Antennae over 1. Posterior tibiae with dorsal series of bristles. Middle tibiae elongate and thickened with dense scales. Forewings narrow, apex acute or obtuse. Hindwings narrowly lanceolate; cilia 5 to 6.

Type *C. pyrochroma*. An Australian genus, of which Meyrick records one species from Ceylon. I regard this and *Epicephala* also as developments from *Acrocercops*.

KEY TO SPECIES

1	Labial palpi smooth	2
	Labial palpi tufted	7
2	Forewings without dorsal streak or series of spots	<i>panconita</i>
	Forewings with dorsal streak or series of spots	
3	Forewings with dorsal streak or series of spots	3
3	Forewings with dorsal streak or spots yellow	4
	Forewings with dorsal streak or spots white	6
4	Forewings with dorsal streak	<i>microta</i>
	Forewings with dorsal spot only	
5	Forewings with dorsal streak indented but continuous	<i>pyrochroma</i>
	Forewings with dorsal streak interrupted	<i>pandora</i>
6	Forewings with dorsal streak	<i>dialeuca</i>
	Forewings with dorsal spots only	<i>albomarginata</i>
7	Forewings whitish with fuscous dorsal streak	<i>zophonota</i>
	Forewings with whitish dots	8
8	Forewings purple-fuscous	<i>ostracodes</i>
	Forewings ochreous-fuscous	<i>bryonoma</i>

27 *C. microta* Turn., Tr. Roy. Soc. S. Aust., 1894, p. 128. Qld.: Brisbane.

28 *C. Pyrochroma* Turn., *ibid.* 1894, p. 129. Qld.: Brisbane; Tweed Hds. Macpherson Range (low level). N.S.W.: Lismore.

29 *C. pandora* Turn., P.L.S. N.S.W., 1913, p. 186. Qld.: Stradbroke Island.

30 *C. panconita* Turn., *ibid.*, 1913, p. 187. N. Qld.: Cairns; Qld.: Brisbane; N.S.W.: Murwillumbah.

31 *C. albomarginata* Sttn., Tr. Ent. Soc., (3), i, p. 294, 1960, pl. x, f. 3. Qld.: Brisbane, Tweed Hds.

32 *Cyphosticha dialeuca* n. sp.

διαλευκος, white right through.

♂, ♀, 8-10 mm. Head and palpi white. Antennae pale grey with fuscous annulations. Thorax white; tegulae grey. Abdomen fuscous; tuft whitish. Forewings narrow, apex obtuse; fuscous-grey; a white dorsal streak from base to tornus, broadest at base and gradually attenuated, unevenly edged; costal margin pale grey with fuscous dots; a white subapical dot partly edged with blackish; cilia grey, apices dark fuscous, on tornus and dorsum wholly grey. Hindwings narrowly lanceolate; grey; cilia 5, grey. N. Qld.: Dunk Island in May; two specimens.

- 33 *C. bryonoma* Turn., P.L.S.N.S.W., 1914, p. 563. N.S.W.: Ebor (4,500 feet).
 34 *C. ostracodes* Turn., P.R.S.Q., 1917, p. 88. Tasm.: Cradle Mount (3,000 feet), Weldborough.
 35 *C. zophonota* Turn., P.R.S.Tasm., 1926, p. 159. Tasm.: Cradle Mount (3,000 feet).

5 Gen. EPICEPHALA

Meyr., Proc. Linn. Soc. N.S.W., 1880, p. 168; Gen. Ins. Grac., p. 13.

Head shortly rough-haired on crown with longer hairs projecting anteriorly between antennae; face smooth. Labial palpi rather long, porrect or drooping, filiform, smooth, pointed. Maxillary palpi moderate, filiform, smooth, pointed. Antennae over 1. Posterior tibiae with series of dorsal bristles. Forewings narrow, pointed; 11 from before middle. Hindwings narrow-lanceolate, about $\frac{1}{2}$, cilia 3 to 4; 3 sometimes absent, 5 and 6 stalked. There are some 30 species in India, Ceylon, Africa, and Australia.

Type *E. colymbetella*. As some of the Australian species are very similar and need considerable care in discrimination, I give a key to the species.

KEY TO SPECIES

1	Forewings with a white dorsal streak	2
	Forewings with a series of white dorsal spots	<i>epimicta</i>
2	Forewings with dorsal streak straight-edged or nearly so	3
	Forewings with edge of dorsal streak irregular	8
3	Head ochreous on crown	<i>nephelodes</i>
	Head white	4
4	Forewings with slender oblique costal streaks	5
	Forewings with costal streaks very short or dot-like	7
5	Forewings with first costal streak prolonged to reach dorsal streak	<i>eugonia</i>
	Forewings with first costal not reaching dorsal streak	6
6	Forewings with two broadly suffused pretornal streaks	<i>trigonophora</i>
	Forewings with pretornal streaks slender, distinct	<i>albistriatella</i>
7	Forewings with dorsal streak indented in middle	<i>lomatographa</i>
	Forewings with dorsal streak not indented in middle	<i>acrobaphes</i>
8	Forewings with slender oblique costal streaks	<i>colymbetella</i>
	Forewings with costal streaks very short or dot-like	<i>zolosticha</i>

Additional distinctive characters are given for each species. Owing to confusion of species, some of the localities previously given were incorrect.

- 36 *E. australis* Turn., Tr. Roy. Soc. S. Aust., 1896, p. 2. Forewings with ground-colour fuscous-grey, much darker than in the other species; costal edge white from base to four-fifths; no antemedian costal streak. Qld.: Brisbane.
- 37 *E. albistriatella* Turn., *ibid.*, 1894, p. 129. Forewings with costal streaks slender. This is the smallest species. N. Qld.: Magnetic Island; Qld.: Yeppoon, Bundaberg, Nambour, Caloundra, Brisbane, Stanthorpe.
- 38 *E. nephelodes* Turn., P.L.S.N.S.W., 1913, p. 177. *E. stephanophora* Turn., Trans. Roy. Soc. S. Aust., 1923, p. 171. Forewings with costal streaks short and broad, the two posterior dot-like. Legs white with blackish rings. N. Qld.: Cairns, Dunk Island; Qld.: Brisbane, Stradbroke Island, Toowoomba.
- 39 *E. eugonia* Turn., P.L.S.N.S.W., 1913, p. 175. Forewings with costal streaks very distinct, long, slender. The type is still unique. This species should not be confused with *E. albifrons* Sttn. Trans. Ent. Soc., (2), v, p. 122, 1859, from India. Qld.: Brisbane.
- 40 *E. trigonophora* Turn., Trans. Roy. Soc. S. Aust., 1900, p. 21. Forewings with first costal streak dot-like, the two posterior long and slender. N. Qld.: Innisfail; Qld.: Stradbroke Island, Mount Tamborine; N.S.W.: Sydney.
- 41 *E. lomato-grapha* Turn., P.L.S.N.S.W., 1913, p. 176. Forewings with costal streaks short and dot-like. Hindwings of male with blackish dorsal line from base to one quarter. Qld.: Stradbroke Island.
- 42 *E. acrobaphes* Turn., Trans. Roy. Soc. S. Aust., 1900, p. 22. Forewings with costal streaks short and slender. Hindwings of male blackish in posterior half. Qld.: Brisbane, Stradbroke Island.
- 43 *E. colymbetella* Meyr., P.L.S.N.S.W., 1880, p. 169; Gen. Ins. Grac., f. 8. *E. frugicola* Turn., *ibid.*, 1913, p. 175. Forewings with costal streaks long and slender, the first sometimes reaching dorsal streak. N. Qld.: Cairns, Herberton, Dunk Island; Qld.: Brisbane, Stradbroke Island, Mount Tamborine, Bunya Mountains. The larva feeds on the seeds of *Phyllanthus Ferdinandii* (*Euphorbiaceae*) and the perfect insect emerges inside the capsule, where it remains until liberated by the dehiscence.

44 *Epicephala zalosticha* n. sp.

ξαλοστιχος, white-lined, like the surf

♂, ♀, 10-12 mm. Head, palpi, and thorax white. Antennae and abdomen grey. Legs pale grey with whitish rings. Forewings grey with white markings; three short dot-like streaks at one-third, middle, and two-thirds; a broad dorsal streak deeply indented before and after a median projection, with a continuation to middle of termen, this portion being irregularly thickened and including one or

two fine grey lines; a leaden-fuscos transverse line from five-sixths costa to tornus; apical area beyond this whitish with a blackish central spot surrounded by grey; cilia grey, bases and apices blackish, on tornus and dorsum wholly grey. Hindwings lanceolate; grey; cilia 4; grey. Qld.: Stradbroke Island, Tweed Hds.; N.S.W.: Sydney.

- 45 *E. epimicta* Turn., P.L.S.N.S.W., 1913, p. 183. N. Qld.: Cairns; Qld.: Brisbane, Toowoomba.

6 Gen. ACROCERCOPS

Wlgrn. Ent. Tidskr., ii, p. 95; Meyr., Gen. Ins. Grac., p. 14. *Conopomorpha* Meyr., P.L.S.N.S.W., 1907, p. 54

Head smooth. Labial palpi moderately long, straight or curved, porrect or drooping, or curved upwards, usually smooth but sometimes rough-scaled or with a tuft on second segment, pointed. Maxillary palpi short or moderate, rarely minute or obsolete. Antennae as long as or longer than forewings. Middle tibiae not thickened. Posterior tibiae with a regular series of dorsal bristles. Forewings narrow; 3 sometimes absent, 6 and 7 sometimes stalked, 11 from before middle. Hindwings narrowly lanceolate or linear-lanceolate; cilia 4 to 8.

Type *A. brongniardella* Fab., from Europe.

This genus comprises about 240 species and is represented in all regions, but is most numerous in Indo-Malaya and Australia. In the latter most of the species occur in the eastern coastal region from Sydney northwards. Larvae usually mining blotches in leaves, seldom in fruits or galls. Pupae sometimes within the mines, more often in a cocoon outside.

The species may usually be easily recognised from their peculiar resting position with the anterior end raised upwards and the conspicuous maxillary palpi, but the first four species are exceptional in having these minute or obsolete. From the other nearly allied genera it is distinguished by the scaling of the middle and posterior tibiae.

Among the numerous species three natural groups may be recognised: (1) Those with minute maxillary palpi and brassy-metallic forewings with white costal and dorsal streaks. (2) Those with one or more white transverse fasciae. (3) Those with a white longitudinal streak on or near dorsum. The remaining species are diversified and not adapted for grouping.

- 46 *A. cupetala* Meyr., P.L.S.N.S.W., 1880, p. 160. Qld.: Nambour, Brisbane.
 47 *A. eumetalla* Meyr., *ibid.*, p. 160. Larvae in galls on *Acacia*. Qld.: Brisbane, Toowoomba, Warwick, Bunya Mountains (3,500 feet); N.S.W.: Sydney; Vict.: Gisborne; Tasm.: Mount Wellington (1,500 feet), Deloraine.
 48 *A. heliopl*a Meyr., *ibid.*, 1907, p. 57. Qld.: Brisbane; Tasm.: Hobart.
 49 *A. alysidota* Meyr., *ibid.*, 1880, p. 161; Gen. Ins. Grac., f. 10. Larvae in phyllodia of *Acacia longifolia*. Qld.: Brisbane, Warwick; N.S.W.: Sydney; Vict.: Sale, Healesville; S. Aust.: Port Lincoln; W. Aust.: Albany, Perth.

- 50 *A. tricalyx* Meyr., Exot. Moco., ii, p. 465. N. Qld.: Cairns.
- 51 *A. mesochaeta* Meyr., *ibid.*, ii, p. 294. Qld.: Brisbane.
- 52 *A. ordinatella* Meyr., P.L.S.N.S.W., 1880, p. 145, and Exot. Micro, i, p. 624; Fletcher, Mem. Agr. Dep. Ind., vi, (6), p. 146. N. Qld.: Cairns, Eungella; Qld.: Gympie, Nambour, Brisbane, Mount Tamborine, Macpherson Range (3,000 feet); N.S.W.: Port Macquarie, Sydney. Also from Ceylon and India. In India the larvae have been found in the leaves of *Alseodaphne semocarpifolia* and *Litsa* sp. (*Lauraceae*).
- 53 *A. irrorata* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 124. Qld.: Brisbane, Beaudesert, Toowoomba, Dalby, Milmeran, Cunnamulla; N.S.W.: Sydney, Broken Hill; S. Aust.: Adelaide.
- 54 *A. pertenuis* Turn., *ibid.*, 1923, p. 171. Qld.: Tweed Hds.
- 55 *A. hedymopa* Turn., P.L.S.N.S.W., 1913, p. 181. N. Qld.: Cairns, Atherton Plateau; Qld.: Nambour.
- 56 *A. apoblepta* Turn., *ibid.*, 1913, p. 180. N. Qld.: Cairns.
- 57 *A. autadelpha* Meyr., *ibid.*, 1880, p. 147; *symphyletes* Turn., *ibid.*, 1913, p. 179. N. Qld.: Cairns; Qld.: Brisbane, Mount Tamborine, Macpherson Range (3,000-3,500 feet); N.S.W.: Sydney, Mittagong.
- 58 *A. antigrapha* Turn., Trans. Roy. Soc. S. Aust., 1926, p. 147. Differs from *A. autadelpha* in the third fascia being broader on costa, and the presence of costal and dorsal spots beyond this, sometimes uniting to form a fourth fascia. Qld.: Macpherson Range (3,000 feet), Bunya Mountains (3,500 feet).

59 ***Acrocercops antimima* n. sp.**

ἀντιμῖμος, closely imitating.

♀, 11-12 mm. Head, palpi, and thorax white. Antennae and abdomen grey. Legs white with dark fuscous rings. Forewings narrow, apex rounded; shining snow-white; markings brownish-fuscous edged with dark fuscous; a narrow basal fascia, succeeded by three rather narrow fasciae with irregularly dentate margins, sub-basal, at two-fifths, and at three-fifths; a fifth oblique fascia from four-fifths costa to termen above tornus, its anterior edge incurved; a large apical spot extending to termen, partly confluent with fifth fascia, leaving extreme apex and a dot on termen white; cilia on apex white with dark fuscous apices, beneath apex dark fuscous on a narrow band edged beneath with white, the remainder pale grey. Hindwings linear-lanceolate; grey; cilia 4, pale grey. Nearest *A. antigrapha*, from which it differs in larger size, fasciae narrow, differently shaped, and not straight-edged, and by the distinctive cilia. New South Wales: Ebor (4,500 feet) in December; two specimens.

- 60 *A. macaria* Turn., P.L.S.N.S.W., 1913, p. 181. Qld.: Caloundra (Bribie Island). A series reared from larvae mining the leaves of *Halfordia drupifera* (*Rutaceae*). Very near the preceding, but the first three fasciae are considerably narrower, and this difference appears constant.

61 *Acrocercops chionosema* n. sp.

χιονοσημος, with snow-white markings

♂, 7-8 mm. Head whitish-grey; face white. Palpi white with fuscous rings on apex of second and middle of terminal joints. Antennae dark grey; basal joint white with fuscous apex. Thorax fuscous with a pair of white spots. Abdomen grey. Legs white with blackish rings. Forewings narrow, apex rounded; brownish-fuscous with snow-white markings; four transverse blackish-edged fasciae; first basal, very narrow; second at one-fourth, moderately broad, narrower on costa; third median, narrow, more so on costa; fourth at three-fourths, somewhat constricted in middle; a very slender interrupted blackish-edged line from costa before apex to termen; a white apical dot; cilia white, apices fuscous, on lower termen and dorsum grey. Hindwings linear-lanceolate; grey; cilia grey. Readily distinguished from *A. macaria*, to which it has a general resemblance, by the white apical spot on forewings and the different position of the fourth fascia, which in that species runs to termen. Qld.: Macpherson Range (3,000-3,500 feet) in December; two specimens.

- 62 *A. tetrachorda* Turn., *ibid.*, 1913, p. 180. N. Qld.: Cairns. The fourth fascia is about twice the breadth of the other three.
- 63 *A. zaplaca* Meyr., *ibid.*, 1907, p. 54. Qld.: Caloundra, Toowoomba; N.S.W.: Sydney.
- 64 *A. argyrodesma* Meyr., *ibid.*, 1882, p. 194. Larvae in leaves of *Grevillea linearis* (*Proteaceae*). N.S.W.: Sydney.
- 65 *A. clinozona* Meyr., *Exot. Micro.*, ii, p. 291. Qld.: Brisbane.
- 66 *A. tricuncatella* Meyr., P.L.S.N.S.W., 1880, p. 146. Larvae in blotches on upper surface of leaves of *Typha latifolia* (*Typhaceae*). Pupal cocoons inside the mines. Qld.: Brisbane; N.S.W.: Sydney.
- 67 *A. caenotheta* Meyr., *ibid.*, 1880, p. 148. Larvae mine leaves of the Waratah *Telopea speciosissima* (*Proteaceae*). N.S.W.: Katoomba.
- 68 *A. chionoplecta* Meyr., *ibid.*, 1882, p. 195. Larvae in leaves of *Phebalium dentatum* (*Rutaceae*). N.S.W.: Sydney.
- 69 *A. leucotoma* Turn., *ibid.*, 1913, p. 180. Qld.: Brisbane.
- 70 *A. hoplocala* Meyr., *ibid.*, 1880, p. 149; *Gen. Ins. Grac.*, f. 7. Qld.: Mount Tamborine, Yeppoon; N.S.W.: Sydney.
- 71 *A. calicella* Sttn., *Tr. E. S.*, (3), i, p. 297, 1860; Meyr., P.L.S.N.S.W., 1880, p. 150; Turn., *Trans. Roy. Soc. S. Aust.*, 1894, p. 124. Larvae in leaves of *Eucalyptus* sp. Qld.: Brisbane, Macpherson Range (3,500 feet); N.S.W.: Sydney, Bulli.
- 72 *A. albimaculella* Turn., *Trans. Roy. Soc. S. Aust.* Qld.: Brisbane.
- 73 *A. archepolis* Meyr., P.L.S.N.S.W., 1907, p. 56. S. Aust.: Wirrabara.
- 74 *A. euchlamyda* Turn., *Trans. Roy. Soc. S. Aust.*, 1894, p. 126. Qld.: Brisbane, Tweed Hds.

75 *Acrocercops isotoma* n. sp.

ισοτιμος, equally divided

♀, 8 mm. Head and thorax white. Labial palpi whitish with two fuscous rings. Antennae fuscous; basal segment white. Abdomen whitish-grey. Legs white with blackish rings (posterior pair missing). Forewings grey-brown; seven narrow, slightly rippled, equidistant, white, blackish-edged, transverse fasciae; first sub-basal; sixth incomplete, not reaching termen; seventh subapical, constricted in middle; a blackish apical dot; cilia fuscous, apices grey, on tornus and dorsum wholly grey. Hindwings almost linear; grey; cilia 8, grey. N. Qld.: Yungaburra (Atherton Plateau); one specimen from a larva mining the leaf of an unidentified shrub; imago emerged in Brisbane in July.

76 *A. pyrigenes* Turn., Trans. Roy. Soc. S. Aust., 1896, p. 1; *nitidula* Turn., *ibid.*, 1894, p. 128 (praeocc.); Qld.: Nambour, Brisbane.

77 *A. obscurella* Turn., *ibid.*, 1894, p. 125. Qld.: Brisbane, Toowoomba, Tweed Hds.

78 *A. symploca* Turn., P.L.S.N.S.W., 1913, p. 183. Qld.: Tweed Hds.

79 *A. polioccephala* Turn., *ibid.*, 1913, p. 182. Qld.: Brisbane.

80 *A. ophiodes* Turn., Trans. Roy. Soc. S. Aust., 1896, p. 2. Q.: Brisbane, Warwick; N.S.W.: Sydney.

81 *Acrocercops axinophora* n. sp.

ἀξινόφορος, carrying an axe

♀, 8 mm. Head white, ochreous-tinged on crown. Labial palpi whitish with fuscous rings. Antennae fuscous, towards base white. Thorax white. Abdomen grey. Legs whitish with numerous fuscous rings; posterior tibiae wholly whitish. Forewings moderately narrow; fuscous; markings white tinged ochreous and edged with blackish; a dorsal streak from base to one-third, thence continued as a broad slightly oblique fascia to one-third costa; a large semi-oval pretornal dorsal spot; a smaller triangular spot on midtermen, its apex connected by a very fine line with costa; two white streaks blackish-edged anteriorly from costa before apex to termen; cilia white, apices blackish opposite apex, with a blackish subapical hook, on tornus and dorsum wholly grey. Hindwings linear-lanceolate; grey; cilia 8, grey. Near *A. ophiodes*, of which it is the western representative. The forewings are proportionately broader, the head and markings ochreous-tinged, and basal marking of forewings broadly axe-shaped. W. Aust.: Margaret River in November; one specimen.

82 *A. plectospila* Meyr., Exot. Micro., ii., p. 469. N. Qld.: Cairns.

83 *A. doloploca* Meyr., *ibid.*, ii., p. 469. N. Qld.: Cairns.

84 *A. callimacha* Meyr., *ibid.*, ii., p. 293. Qld.: Brisbane.

85 *A. prospera* Meyr., *ibid.*, ii., p. 293. Qld.: Brisbane.

86 *A. leptalea* Turn., Trans. Roy. Soc. S. Aust., 1900, p. 21. Qld.: Brisbane.

87 *A. heteropsis* Low, *ibid.*, p. 1894, p. 112. Qld.: Duaringa, Charleville.

88 *A. chionochtha* Meyr., P.L.S.N.S.W., 1907, p. 59. S. Aust.: Quorn.

- 89 *A. nereis* Meyr., *ibid.*, 1880, p. 163; *fluorescens* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 127. Qld.: Brisbane, Toowoomba; N.S.W.: Lismore, Sydney.
- 90 *A. chalcopla* Turn., P.L.S.N.S.W., 1913, p. 188; *chalcea* Turn., Trans. Roy. Soc. S. Aust., 1926, p. 147. N. Qld.: Kuranda; Qld.: Macpherson Range (3,000 feet).
- 91 *A. tristaniae* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 130. Qld.: Brisbane. The larvae mine the leaves of *Tristania conferta* and *Eugenia ventenatii* (*Myrtaceae*).
- 92 *A. retrogressa* Meyr., Exot. Micro., ii, p. 467. Qld.: Brisbane; S. Aust.: Adelaide.
- 93 *A. parallela* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 130, and *ibid.*, 1926, p. 147. N. Qld.: Cairns; Qld.: Nambour, Caloundra, Brisbane, Tweed Hds.
- 94 *A. grammatacma* Meyr., Exot. Micro., ii, p. 468. N. Qld.: Cairns.
- 95 *A. laciniella* Meyr., P.L.S.N.S.W., 1880, p. 164. Qld.: Brisbane, Mount Tamborine, Toowoomba; N.S.W.: Sydney, Katoomba, Bathurst, Mount Kosciusko (5,000 feet); Vict.: Warragul, Gisborne; Tasm.: Launceston, Deloraine, Campbelltown; Hobart: Cradle Mount (3,000 feet); S. Aust.: Adelaide. Larvae mine the leaves of *Eucalyptus*.
- 96 *A. stereomita* Turn., *ibid.*, 1913, p. 182. Qld.: Eidsvold, Brisbane.
- 97 *A. plebeia* Turn., 1894, p. 131, and *ibid.*, 1926, p. 147. Qld.: Brisbane, Toowoomba, Warwick, Stanthorpe; N.S.W.: Sydney. The larvae mine the leaves of *Acacia podalyriaefolia*, a native of Queensland, much cultivated for ornamental purposes. Some years back this moth reached, or most probably was accidentally introduced into, Sydney, and multiplied to such an extent as to defoliate the trees.
- 98 *A. unilineata* Turn., *ibid.*, 1894, p. 131, and *ibid.*, 1926, p. 148. Qld.: Brisbane, Tweed Hds.
- 99 *A. leucomochla* Turn., *ibid.*, 1926, p. 148. Qld.: Yeppoon; N.S.W.: Sydney.
- 100 *A. didymella* Meyr., P.L.S.N.S.W., 1880, p. 164. N.S.W.: Sydney; Vict.: Melbourne; S. Aust.: Peterborough, Port Lincoln; W. Aust.: Albany. Larvae in phyllodia of *Acacia longifolia* and *A. cultriformis*.
- 101 *A. ochrocephala* Meyr., *ibid.*, 1880, p. 162. N.S.W.: Sydney.
- 102 *A. ochridorsella* Meyr., *ibid.*, 1880, p. 166. This and the following species are distinguished by the presence of a tuft of hairs on the second joint of labial palpi. N.S.W.: Sydney. Larvae mine the leaves of *Phyllanthus Ferdinandi* (*Euphorbiaceae*).
- 103 *A. acolella* Meyr., *ibid.*, 1880, p. 167. N.S.W.: Wollongong.
- 104 *A. melanommata* Turn., *ibid.*, 1913, p. 184. N. Qld.: Cairns, Atherton Plateau.
- 105 *A. spodophylla* Turn., *ibid.*, 1913, p. 184. N. Qld.: Cairns.

- 106 *A. ochroptila* Turn., *ibid.*, 1913, p. 181. N. Aust.: Darwin; N. Qld.: Dunk Island, Townsville. Larvae abundant in Townsville mining leaves of *Terminalia catappa* (Combretaceae).
 107 *A. mendosa* Meyr., Gen. Ins. Grac., p. 16. N. Qld.: Cairns.
 108 *A. lithogramma* Meyr., Exot. Micro., ii, p. 296. Q.: Brisbane.
 109 *A. hicrocosma* Meyr., Gen. Ins. Grac., p. 18.; Fletch. Dep. Agr. Ind. (Ent.), vi, p. 153, pl. 38, f. 1. N. Aust.: Darwin. Also from India, where it has been bred from larvae mining the leaves of *Nephelium litchi* (Sapindaceae).

110 *Acrocercops clisiophora* n. sp.

κλισιοφορος, carrying a tent

♂, ♀, 6-7 mm. Head and palpi white. Antennae grey, towards base white. Thorax grey with a white central spot. Abdomen grey. Legs white with fuscous rings. Forewings narrow, obtusely pointed; ochreous-grey; a white blackish-edged sub-basal transverse line; two narrow oblique fasciae from costa at one quarter running to dorsum at one-fifth and three-fifths respectively, separating at a right angle, white with median blackish lines; a sinuate white blackish-edged subcostal line from one-half costa to beneath three quarters; between this and second fascia a suffused median blackish spot; a smaller blackish spot on costa at three-quarters; an oblique white subapical line edged anteriorly blackish; a white dorsal spot at two-thirds connected by a sinuate white line with midtermen, both blackish edged; a white line on apical half of termen; cilia grey-whitish with a blackish subapical line, on costa greyish-ochreous, on tornus and dorsum grey. Hindwings almost linear; pale grey; cilia 8. pale grey. N. Qld.: Kuranda, near Cairns, in June; five specimens.

- 111 *A. habrodes* Meyr., P.L.S.N.S.W., 1907, p. 57. W. Aust.: Geraldton.
 112 *A. penographa* Meyr., Exot. Micro., ii, p. 294. Qld.: Brisbane.
 113 *A. antimacha* Meyr., P.L.S.N.S.W., 1907, p. 58. W. Aust.: Geraldton.
 114 *A. crucigera* Meyr., Exot. Micro., ii, p. 295. Qld.: Brisbane.
 115 *A. osteopa* Meyr., *ibid.*, ii, p. 292. Qld.: Brisbane.
 116 *A. ennychodes* Meyr., *ibid.*, ii, p. 467. N. Qld.: Cairns.
 117 *A. trisigillata* Meyr., *ibid.*, ii, p. 470. N. Qld.: Cairns.

7 Gen. ARISTAEA

Meyr., P.L.S.N.S.W., 1907, p. 52.

Head and face loosely rough-haired. Labial palpi long, straight, pointed; second joint with long bristly hairs anteriorly. Maxillary palpi short, filiform, porrect. Antennae 1. Middle and posterior tibiae smooth. Forewings rather narrow, dilated posteriorly, apex obtuse. Hindwings lanceolate, apex acute; ciliation 3. Probably correlated with primitive forms of *Gracilaria*. Monotypical.

- 118 *A. periphanes* Meyr., P.L.S.N.S.W., 1907, p. 52, Gen. Ins. Grac., f. 5. Tasm.: Mount Wellington (2,500-3,000 feet).

8 Gen. TIMODORA

Meyr., Tr. Ent. Soc., 1886, p. 295; Gen. Ins. Grac., p. 25.

Head roughly tufted on crown, face smooth. Labial palpi long, curved, smooth, obtusely pointed. Maxillary palpi moderate, slender, porrect. Antennae over 1. Posterior tibiae rough-scaled above. Middle tibiae thickened and with long hairs beneath. Forewings very narrow, pointed. Hindwings linear; cilia 5. Type *T. chrysochoa* Meyr., from Tonga Island. Besides this there are only another from Fiji and the solitary Australian species, which is unknown to me. The genus differs from *Gracilaria* by the roughly tufted head.

119 *T. cyanoxantha* Meyr., Exot. Micro., ii, p. 297. Qld.: Brisbane.

9 Gen. PARECTOPA

Clemens. Proc. Acad. Nat. Sci. Phil., 1860, p. 210; Meyr., Gen. Ins. Grac., p. 19. *Macarostola* Meyr., P.L.S.N.S.W., 1907, p. 62.

Head smooth. Labial palpi long, curved, slender, acute, usually smooth, but sometimes rough-scaled or tufted beneath towards apex. Maxillary palpi moderate, filiform, porrect. Antennae over 1. Posterior tibiae smooth. Middle tibiae smooth, but sometimes expanded with scales at apex only. Forewings rather narrow, apex obtuse or acute. Hindwings narrowly lanceolate; cilia 3 to 6. Type *P. lespedezifoliella* Clements. from North America. Universally distributed; about 60 species have been recorded.

Larvae usually mining blotches in leaves, but sometimes in the latest stage rolling a piece of leaf into a conical chamber as in *Gracilaria*.

120 *Parectopa machaerophora* n. sp.

μαχαίροφορος, carrying a dagger

♀, 9 mm. Head and thorax white. Labial palpi white with fuscous rings on apex of second and middle of terminal joints. Antennae white annulated with grey. Abdomen pale grey. Legs white with fuscous rings. Forewings rather narrow, obtuse; whitish-grey; a broad submedian grey streak, partly suffused with ochreous, from base, terminating in a sharp point above tornus, its upper edge nearly straight, lower edge wavy; a white dorsal streak with a slight projection at one-third, broadly suffused at tornus; two white fuscous-edged streaks from costa; first at two-thirds strongly oblique, reaching middle of disc; second from five-sixths less oblique, ending in tornal suffusion; a black apical spot edged anteriorly by a white bar; an ochreous tornal dot; cilia on apex ochreous with grey apices, on each end of subapical bar white, on costa and dorsum grey; on tornus ochreous. Hindwings lanceolate; pale grey; cilia 3, pale grey. Qld.: Stanthorpe in September; one specimen.

121 *P. mnesicala* Meyr., P.L.S.N.S.W., 1880, p. 156. N.S.W.: Sydney.

122 *P. lyginella* Meyr., *ibid.*, 1880 p. 157. N.S.W.: Sydney.

123 *P. amalopa* Meyr., *ibid.*, 1907, p. 63. W. Aust.: Albany.

- 124 *P. clethrata* Low., Trans. Roy. Soc. S. Aust., 1923, p. 57. S. Aust.: Wayville, Adelaide.
- 125 *P. thalassias* Meyr., P.L.S.N.S.W., 1880, p. 158. Qld.: Stradbroke Island, Tweed Hds.; N.S.W.: Newcastle, Sydney; Vict.: Melbourne. Larvae in leaves of *Leptospermum laevigatum* (*Myrtaceae*).
- 126 *P. toxomacha* Meyr., *ibid.*, 1882, p. 197. N.S.W.: Sydney. The larvae mine the leaves of *Pultenaea* sp. (*Leguminosae*).

127 *Parectopa leucographa* n. sp.

λευκογραφος, with white markings

♀, 8 mm. Head, thorax, and abdomen fuscous. Labial palpi white; extreme apex of second joint dark fuscous. Antennae grey. Legs fuscous; tarsi with white rings. Forewings narrow, pointed; dark fuscous with white markings; a straight-edged dorsal streak from base to tornus; four very short, oblique, equidistant costal streaks, first at one-third, second at three-fourths; a white spot at apex and another larger at tornus; cilia fuscous (partly abraded), on dorsum grey. Hindwings linear-lanceolate; grey; cilia 4, grey. Qld.: Bunya Mountains (3,500 feet) in March; one specimen.

128 *Parectopa cuphomorpha* n. sp.

κουφομορφος, slightly built

♂, 7 mm. Head white. Labial palpi grey; terminal joint white. Antennae whitish-grey. Thorax and abdomen grey. Legs whitish. Forewings very narrow, apex acute; grey with white markings; a narrow straight-edged dorsal streak from base to three-fourths; six fine streaks from apical fourth of costa; first and second outwardly oblique; third and fourth less oblique; fifth and sixth transverse, subapical; an apical blackish spot; cilia grey. Hindwings linear-lanceolate; grey, cilia 6, grey. Qld.: Brisbane in December; one specimen.

- 129 *P. ophidias* Meyr., P.L.S.N.S.W., 1907, p. 62. S. Aust.: Quorn.
- 130 *P. trapezoides* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 123. N. Qld.: Cairns; Qld.: Brisbane.
- 131 *P. actinoscema* Turn., *ibid.*, 1923, p. 171. Qld.: Tweed Hds.
- 132 *P. thiosema* Turn., P.L.S.N.S.W., 1913, p. 188. N. Qld.: Atherton Plateau.
- 133 *P. curythiota* Turn., *ibid.*, 1913, p. 189. N. Qld.: Cairns.
- 134 *P. tyriancha* Meyr., Exot. Micro., ii, p. 296. Qld.: Brisbane.

135 *Parectopa rosacea* n. sp.

rosaceus, rosy.

♀, 10 mm. Head, palpi, antennae, and thorax white. Abdomen grey. Legs white. Forewings rather broadly lanceolate, apex pointed; pale rosy except in costal area from near base to middle, which is grey-whitish; markings white, costal streaks partly edged with fuscous; four slender oblique costal streaks, three reach-

ing middle of disc from one-fourth, one-half, and three-fourths, fourth from seven-eighths to termen; a streak from one fourth dorsum very oblique to fold, thence less oblique to second dorsal streak, joined by a short longitudinal streak near its end; second from mid-dorsum to third streak, dilated and suffused near its end, its basal part edged discally with fuscous; a black apical dot preceded by a small white spot; cilia pale ochreous, towards tornus grey. Hindwings grey; cilia 3, grey. New South Wales: Ebor in February; one specimen received from Mr. G. M. Goldfinch, who has the type.

- 136 *P. ageta* Turn, P.R.S.Q., 1917, p. 87. Qld.: Stradbroke Island, Tweed Hds.
- 137 *P. miltopepla* Turn., Trans. Roy. Soc. S. Aust., 1926, p. 148. N. Qld.: Cairns, Atherton Plateau.
- 138 *P. formosa* Sttn., Tr. Ent. Soc., (3), i, p. 291, 1860, pl. x, f. 1; Meyr., P.L.S.N.S.W., 1880, p. 153. Qld.: Stradbroke Island, Mount Tamborine, Tweed Hds., Macpherson Range, Toowoomba; N.S.W.: Lismore, Gosford, Sydney.
- 139 *P. polyplaca* Low., Trans. Roy. Soc. S. Aust., 1894, p. 112; Turn., *ibid.*, 1900, p. 20. N. Qld.: Atherton Plateau; Qld.: Caloundra, Brisbane, Mount Tamborine, Tweed Hds.
- 140 *P. ida* Meyr., P.L.S.N.S.W., 1880, p. 155. Larvae in leaves of *Eucalyptus* sp. N. Qld.: Atherton Plateau, Palm Islands; Qld.: Bundaberg, Brisbane, Toowoomba; N.S.W.: Glen Innes, Sydney; Vict., Melbourne; W. Aust.: Albany.

10 Gen. GRACILARIA

Haw. Lep. Brit., p. 527; Meyr., P.L.S.N.S.W., 1907; Gen. Ins. Grac., p. 25.

Head smooth. Labial palpi long, curved, slender, acute or rather obtuse, usually smooth, but second joint sometimes loosely scaled or tufted towards apex beneath, terminal joint sometimes loosely scaled or tufted anteriorly. Maxillary palpi moderate, filiform, porrect. Antennae 1 or over 1. Posterior tibiae smooth or shortly rough-scaled. Middle tibiae thickened with dense scales. Forewings narrow or slightly dilated posteriorly, apex obtuse. Hindwings lanceolate, linear-lanceolate, or linear; cilia 4 to 8.

Type *G. syringella* Fab., from Europe. The genus is universally distributed, and about 160 species have been recorded. The larvae mine blotches in leaves, afterwards usually rolling up a portion of the leaf into a characteristic conical chamber, seldom in spun-up leafy shoots. Pupae usually in the chamber, sometimes in cocoons elsewhere.

141 *Gracilaria tessellata* n. sp.

tessellatus, set with small cubes or squares.

♂, ♀, 9-11 mm. Head and thorax pale grey. Palpi white; second joint of labial palpi with narrow apical and third joint with broad subapical fuscous rings. Antennae whitish annulated with blackish. Abdomen grey. Legs white; anterior

tibiae and thickened middle tibiae fuscous. Forewings with costa straight to two-thirds, thence arched, apex obtusely pointed; white with fuscous markings; a broad very irregular streak on fold; four large roundish spots, first beneath midcosta, second and third approximated in disc above tornus, fourth subapical; on the edges of these markings and between them and dorsum and termen are numerous fine strigulae forming a tessellated pattern; costa finely strigulated; cilia whitish sprinkled with fuscous, on termen and tornus grey. Hindwings grey; cilia 3, grey. The pattern of markings on the forewing is very peculiar, more like that of one of the Cossidae than anything I know of. The species, which has no close ally, may be put at the head of the genus. N.S.W.: Ebor and Mount Kosciusko (5,000 feet), in February; three specimens received from Mr. G. M. Goldfinch, who has the type.

- 142 *G. chalchoptera* Meyr., P.L.S.N.S.W., 1880, p. 151. Qld.: Brisbane; N.S.W.: Sydney.
- 143 *G. octopunctata* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 123; Meyr., Exot., Micro., iii, p. 409, nec. Fletcher Mem. Dept. Agr. Ind., vi, p. 163. N. Qld.: Cairns; Qld.: Brisbane; N.S.W.: Sydney.
- 144 *G. ischiastris* Meyr., P.L.S.N.S.W., 1907, p. 66. N.S.W.: Sydney.
- 145 *G. loxocentra* Turn., *ibid.*, 1915, p. 194. N.S.W.: Ebor.
- 146 *G. lepidella* Meyr., *ibid.*, 1880, p. 145. N.S.W.: Sydney.
- 147 *G. albicincta* Turn., Trans. Roy. Soc. S. Aust., 1900, p. 20. Qld.: Rockhampton, Bundaberg, Brisbane, Tweed Hds.
- 148 *G. plagata* Sttn., Tr. Ent. Soc., (3), i, p. 292, 1860, pl. x, f. 2; Meyr., P.L.S.N.S.W., 1880, p. 144. Qld.: Brisbane.
- 149 *G. albispersa* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 121. Qld.: Brisbane.
- 150 *G. chlorella* Turn., *ibid.*, 1894, p. 121. Qld.: Brisbane.
- 151 *G. auchetidella* Meyr., P.L.S.N.S.W., 1880, p. 143. N.S.W.: Bulli.
- 152 *G. cirrhopsis* Meyr., *ibid.*, 1907, p. 66. Tasm.: St. Helens.
- 153 *G. curycnema* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 122. N. Qld.: Eungella; Qld.: Brisbane, Macpherson Range (3,000-4,000 feet), Too-woomba.
- 154 *G. crasiphila* Meyr., Gen. Ins. Grac., p. 27. N. Aust.: Darwin.
- 155 *G. iophanes* Meyr., *ibid.*, p. 27. N. Qld.: Cairns.

156 *Gracilaria adelosema* n. sp.

ἀδηλοσημος, obscurely marked

♂, 10 mm. Head, palpi, thorax, and abdomen fuscous. Antennae grey with blackish annulations. Legs fuscous; tarsi whitish. Forewings narrow, obtuse; grey-brown densely sprinkled with dark fuscous; three obscure transverse fasciae formed by the absence of black scales at one-fifth, two-fifths, and three-fifths; cilia grey-brown with fuscous points, on dorsum grey. Hindwings linear-lanceolate; grey; cilia 6, grey. Qld.: Bunya Mountains (3,500 feet) in February; one specimen.

- 157 *G. xylophanes* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 123. Qld.: Brisbane, Mount Tamborine.
 158 *G. euglypta* Turn., *ibid.*, 1894, p. 122. N. Qld.: Cairns; Qld.: Brisbane.
 159 *G. panchrista* Turn., P.L.S.N.S.W., 1913, p. 191. N. Qld.: Cairns, Dunk Island, Townsville.
 160 *G. thiophylla* Turn., *ibid.*, 1913, p. 192; *liparoxantha* Meyr., Exot. Micro., ii, p. 297. N. Qld.: Townsville; Qld.: Brisbane.
 161 *G. xystophanes* Turn., *ibid.*, 1913, p. 192. N. Qld.: Cairns.
 162 *G. euvesta* Turn., *ibid.*, 1913, p. 193. N. Qld.: Cairns.
 163 *G. perivesta* Turn., *ibid.*, 1913, p. 193. Qld.: Caloundra.
 164 *G. megalotis* Meyr., Journ. Bombay Nat. Hist., Soc., 1908, p. 830; Turn., *ibid.*, 1913, p. 192. N. Qld.: Cairns. Also from India.
 165 *G. crocostola* Turn., P.R.S.Q., 1917, p. 88. Qld.: Tweed Hds.
 166 *G. aeglophanes* Turn., P.L.S.N.S.W., 1913, p. 191. N. Qld.: Cairns.
 167 *G. plagiotoma* Turn., *ibid.*, 1913, p. 190. N. Qld.: Cairns.
 168 *G. aurora* Turn., Trans. Roy. Soc. S. Aust., 1894, p. 127. Qld.: Brisbane.

169 *Gracilaria ecphanes* n. sp.

ἐκφανής, shining

♀, 11 mm. Head and thorax whitish-ochreous; face white. Labial palpi with a small inferior tuft on apex of second segment; white with dark fuscous rings on apex of second and before apex of terminal joints. Antennae whitish annulated with dark fuscous. Legs fuscous; tarsi white with fuscous rings. Forewings rather narrow, apex round-pointed; grey with purple gloss and a regular series of dark fuscous transverse strigulae, a large costal antemedian blotch shining yellow, its anterior edge from one-fourth costa nearly transverse and almost reaching dorsum, posterior edge from three-fifths costa and strongly oblique; cilia whitish-ochreous with basal, subapical, and apical dark fuscous lines, on dorsum grey. Hindwings narrowly lanceolate; grey; cilia 6, grey. N.S.W.: Sydney in October; one specimen.

- 170 *G. peltophanes* Meyr., P.L.S.N.S.W., 1907, p. 67. Qld.: Toowoomba.
 171 *G. scutigera* Meyr., Exot. Micro., ii, p. 471. N. Qld.: Cairns.
 172 *G. ocnopella* Meyr., P.L.S.N.S.W., 1880, p. 141. Larvae in leaves of *Tetranthera ferruginea* (Laurineae). Qld.: Stradbroke Island; N.S.W.: Sydney.
 173 *G. leucolitha* Meyr., Gen. Ins., Grac., p. 30. N. Aust.: Darwin.
 174 *G. pedina* Turn., Trans. Roy. Soc. S. Aust., 1923, p. 172. Qld.: Charleville.

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