Contribution to the study of the Phycitinae
(Pyralidae, Lep.). Part III *

by

A. J. T. Janse.

Genus HYPOCHALCIA Hüb. (Fig. 42).


Type: Tinea ahenella Schiff., from Europe and Asia Minor.

♂. Proboscis moderate, scaly at base; labial palpi porrect, three and a half times eye; rostriform, closely covered with scales, tapering to a point; second joint about three times first joint, thickest at middle; third joint half of second joint, thin, of almost even width; maxillary palpi three-jointed; joints of almost even length, third joint suboval; all joints covered with moderately long scales; eyes suboval; ocelli and chaetosema present; frons smooth, somewhat flattened; antennae of ♂ with a slight curve at base, on the upperside of which are a series of short scales, on the opposite side the shaft is very shortly ciliated; thorax and abdomen smoothly scaled and without dorsal crests; terminal segments of abdomen with lateral crest; legs smoothly scaled; inner spurs quite long, outer spurs over half of inner. Forewing: rather broad, termen somewhat arched, apex and tornus well rounded; cell over one-half of wing; Sc and R₁ obliterated near costa; R₁ from four-fifths of upper median; R₂, R₃, R₄ stalked and from upper angle; R₅ from one-fourth; R₆ from middle of R₅; M₁ well remote from upper angle DC between M₁ and M₂ obsolescent; M₂ and M₃ very shortly approximated at base, then remote and parallel; C₁ as far from M₃ as M₁ is from stalk; C₂ as far from M₃ as R₁ is from M₁; A₁ straight; traces of A₁. Hindwing: very broad, apex and tornus well rounded; cell one-third of wing; DC obsolescent, erect and somewhat incurved; Sc and RS touching and running along side each other for one-third of RS, then very shortly anastomosing, then diverging; M₁ very shortly stalked with RS; M₂ and M₃ on a stalk of over one-half of M₁ and from a point with C₁; C₂ from beyond three-fourths of lower median; anal veins well developed, almost straight, diverging.

* Part 1 was published in volume IV of this Journal, pp. 134-166 (1941) and part 2 in volume V, pp. 27-45 in 1942. As before, the genera are dealt with as material of genotypes has become available, irrespective of their supposed systematic position.
42. Hypochalcia ahenella, ♂, X 3; 43. Bradyrrhoa gilveolella, ♂, X 3; 44. Elasmopalpus lignosellus, ♂, X 5; 45. Eurythmidia ignidorsella, ♀, X 6; 46. Spermatophthora hornigii, ♂, X 5; 47. Melathrix praetextella, ♂, X 5; 48. Selagia argylla, ♂, X 3.
This genus contains over 30 species, all confined to the Northern Hemisphere above 20° and spreading to beyond 70°. Most of them are found in Central Europe, Asia Minor and North America.

Genus **BRADYRRHOA** Zell. (Fig. 43).


Type: *Phycis* *gilveolella* Treit., from Southern Europe and Asia Minor.

♂, ♀. Proboscis strongly developed, covered with scales at base for a long distance; labial palpi obliquely porrect, nearly three times eye, rather loosely covered with long scales below on second joint, but no tuft is formed; second joint nearly three times first joint, rather narrow, of even width and slightly curved at two-thirds; third joint almost half of second joint, narrower and with shorter scales; maxillary palpi appressed to frons, three jointed; joints of even length and rather narrow, covered with moderately long scales; eyes large, rounded; ocelli and chaetosema present; antennae in both sexes simple, very shortly ciliated in ♂; frons roughly tufted with scales; thorax with appressed long scales; abdomen smoothly scaled and with slight lateral tufts; legs somewhat roughly scaled; spurs long, outer spurs two-thirds of inner. Forewing: in ♂ with costa straight at basal half, then somewhat arched; in ♀ more evenly arched and somewhat broader, termen oblique, straight; apex slightly, tornus well rounded; cell three-fifths of wing; Sc, R₁ and R₂ obsolescent near costa; R₁ from four-fifths of upper median; R₂ from middle of origin of R₁ and upper angle; R₃ and R₄ stalked for one-half of R₁ and from middle of R₂ and upper angle; M₁ from angle; DC between M₁ and M₂ obsolescent; M₂ and M₃ well remote at base, parallel for a short distance, then curved away from each other; C₁ as far from M₃ as M₁ is from stalk; C₂ a little closer to lower angle than R₁ is to upper angle; A₂ slightly undulating; A₁ rudimentary. Hindwing: subtriangular with costa straight, termen very oblique, straight, tornus well rounded into inner margin; apex slightly rounded; cell at upper angle a little over one-third of wing; DC outwardly oblique and with upper half obsolescent; Sc running very close to most of upper median, stalk of RS and M₁ and one-fourth of free part of RS almost touching but nowhere anastomosing; RS and M₁ on a stalk of one-sixth of M₁; M₁ and M₂ touching each other for one-half of their length, but shortly anastomosing only at middle; C₁ from just before angle; C₂ from three-fourths lower median; anal veins almost straight.

Fourteen species are placed in this genus, all found around the Mediterranean, except one which is from the Canary Islands.
Genus *ELASMOPALPUS* Blanch. (Fig. 44).

*Elasmopalpus* Blanch., in Gay, Hist. Chile, VII., p. 104 (1852); Rag., Rom. Mém. VII., p. 418 (1893); Hampson., Moths of India, IV. p. 96 (1896); (as a division of *Phycita*).

Type: *Pempelia lignosella* Zell., Isis, p. 883 (1848), from C. and N. America.

♂, ♀. Proboscis well developed, covered with scales at base; labial palpi in ♀ upturned; second joint straight, somewhat hollowed out on inner side and with a ridge of scales on upper half, smoothly covered with long scales on outer side; second joint about three times first joint; third joint very small; in ♀ labial palpi somewhat more curved and simple, third joint only a little shorter than second joint; maxillary palpi in ♀ appressed to inner side of labial palpi, three jointed; basal joint long and narrow; second joint broad and short, at right angles to basal joint and shortly tufted with hairs; third joint elongate and stout, well tufted with long hairs; maxillary palpi in ♀ short, appressed to frons and covered with scales; eyes large, rounded; ocelli and chaetosema present; frons tufted with scales; antennae in ♀ with a sinus at base filled with a tuft of scales; remainder of shaft shortly ciliated; ♀ antennae simple; thorax and abdomen smoothly covered with scales; legs smoothly scaled; spurs rather long, outer spur two-thirds of inner.

*Forewing*: rather narrow, of almost even width, costa arched at terminal half, apex rounded, termen oblique, tornus well rounded; cell almost two-thirds of wing; Sc and R₁ obsolescent near costa; R₁ from just beyond two-thirds of cell; R₂ from three-fourths origin of R₁ and upper angle, approximated to stalk at middle; R₃ and R₄ stalked for almost one-half of R₄, stalk a little curved towards R₂; M₁ almost as far from stalk as R₂ is and somewhat undulating; DC between M₁ and M₂ obsolescent; M₂ and M₃ remote throughout; C₁ a little further from M₂ than M₃ is; C₂ double that distance; A₁ almost straight; A₂ obsolescent. *Hindwing*: subtrapezoidal with inner margin well curved into rounded tornus, costa arched at terminal half, apex rounded, termen oblique and straight; cell less than one-third of wing at upper median, almost half of wing at lower median; DC very oblique, thin but present over the whole length; Sc running very close to upper median, along stalk and nearly half of RS, but nowhere anastomosing with them; RS and M₁ on a stalk of one-fourth of RS; M₂ and M₃ on a stalk of over half of M₃; C₁ well remote from stalk, C₂ double that distance; anal veins almost straight.

This genus comprises eleven species, most of which are from the warm and tropical regions of America; one species is from Japan and one from India and Ceylon. It is possible that the Asiatic species are wrongly placed here, but I have no material to test this. Hampson considers this genus to be a division (subgenus?) of the large genus *Phycita*, stating that it is based on sexual characters. As
stated elsewhere, I do not share this view, besides there are here sufficient differences in the venation, \( M_2 \) and \( M_3 \) of hindwing are not stalked in *Phycita* and \( M_2 \) and \( M_3 \) are approximated in the forewing.

Genus **EURYTHMIDIA** Rag. (Fig. 45).


Type: *Eurythmidia ignidorsella* Rag., from Arizona and C. America.

\( \delta \), \( \varphi \). Proboscis well developed; scaly at base; labial palpi obliquely upturned, reaching well above frons, smoothly scaled; in \( \delta \) the second joint is over three times first joint, hollowed out and with a long slit on inner side in which the brush of the maxillary palpi are hidden; third joint very small, thin and hidden in scales; in the \( \varphi \) the second joint is two and a half times the first joint, solid; third joint as long as first joint; maxillary palpi three-jointed; in \( \delta \) first joint long and thin, second joint subconical, over one half of first joint; third joint bottle-shaped, as long as second joint and with a long hair pencil; maxillary palpi in \( \varphi \) with first joint very short, second and third joint suboval, tufted with long scales and appressed to frons; eyes oval, rather narrow; ocelli and chaetosema present; frons tufted with scales; \( \delta \) antennae with a sinus at base and provided with a crest of scales, shaft on other side very shortly ciliated; \( \varphi \) antennae simple; thorax and abdomen smoothly scaled; legs smoothly scaled and with long spurs; outer spurs a little shorter. *Forewing* rather narrow, of almost even width, apex roundly pointed, termen very oblique; cell less than two-thirds of wing; \( Sc, R_1 \) and \( R_2 \) obsolescent near costa; \( R_1 \) from a little beyond two-thirds of upper median; \( R_2 \) a little remote from stalk; \( R_3 \) and \( R_4 \) on a stalk of two-thirds of \( R_3 \); \( M_1 \) a little further from stalk than \( R_2 \) is; \( DC \) between \( M_1 \) and \( M_2 \) obsolescent; \( M_2 \) and \( C_1 \) stalked for one-third of \( C_1 \); \( C_3 \) as far from stalk as \( M_1 \) is from \( R_2 \); \( A_2 \) almost straight, \( A_3 \) rudimentary. *Hindwing*: somewhat semicircular with inner margin strongly arched, termen very oblique and somewhat arched into the well rounded tornus, apex well rounded, cell at upper median one-fourth of wing; \( DC \) almost absent except near lower angle and very oblique; \( Sc \) running very close to the short stalk of \( RS \) and \( M_1 \), then anastomosing with \( RS \) for two-thirds of \( RS \); \( M_2 \) and \( M_3 \) coincident and stalked with \( C_1 \) and \( C_2 \); \( C_1 \) from nearly two-thirds of \( M_2-M_3 \); \( C_2 \) from one-seventh; anal veins almost straight.

This genus has so far only one species, confined to America. The two specimens used for description were from Amula, Guerrero, 6,000 ft., collected by H. H. Smith and identified by Hampson. They agree well with the figure and description given by Ragonot.
Genus **SPERMATOPHTHORA** Led. (Fig. 46).


**Type:** *Spermophthora hornigii* Led., from Central Europe.

♂. Proboscis well developed and well covered with scales at base; labial palpi obliquely upturned (in my specimens drooping somewhat, but the shape suggests that the normal position is more upturned than is shown in the figure), rather roughly covered with long scales and somewhat tufted near extremity; second joint about twice first joint, not hollowed out; third joint less than one-half of second joint and hidden in the scales; maxillary palpi three-jointed, appressed to frons; joints of even length, covered and terminally tufted with long scales; eyes broadly oval; ocelli and chaetosema present; antennae slightly curved at base, but without scale tuft, shaft anteriorly very shortly ciliated; thorax and abdomen smoothly scaled; legs smoothly scaled but tibiae fringed posteriorly with long scales; spurs rather long, outer spur two-thirds of inner.

**Forewing:** rather broad at apical half where costa, apex and tornus are well rounded, termen oblique and somewhat arched; cell three-fifths of wing; R⁴ from just beyond three-fourths of upper median; R₂ a little remote from stalk R₁—R₄, stalk about half of R₄; M₁ a little further from stalk than R₂ is; DC between M₁ and M₂ obsolescent; M₂ and M₃ on a stalk of nearly one-fourth of M₂; C₁ as far from stalk as M₁ is from stalk R₁—R₄; C₂ a little further away; A₁ straight; A₁ absent. **Hindwing:** subtriangular with costa arched, apex rounded, termen very oblique and arched, tornus very broadly rounded into the arched inner margin; cell at upper median one-third of wing; DC obsolescent at upper half, strongly incurved, then straight and outwardly oblique; Sc running along stalk of RS and M₁ and along one-fourth of RS and partly anastomosing with it; RS and M₁ on a stalk of nearly one-fifth of M₁; M₂ and M₃ coincident and running along C₁ for one-third of its length, but not anastomosing with it; C₂ from close to lower angle; anal veins straight, radiating.

Only one species is so far placed in this genus, which is confined to Central Europe. The specimens used for description were identified by Staudinger and agree well with the description given by Hampson in Ragonot's work.

Genus **MELATHRIX** Rag. (Fig. 47).

*Melathrix* Rag., Rom. Mém., VII. p. 435 (1893); Hmpsn., Moths of India, IV. p. 81 (1896). (As a section of *Nephopteryx*).

**Type:** *Nephopteryx praetextella* Chr., from India.

♂. Proboscis well developed and well covered with scales at base; labial palpi obliquely upturned; second joint about three
times first joint and hollowed out, innerside well covered with broad glandular scales and with a series of longer scales on posterior edge of upper half, third joint about one-half of first joint, thin and pointed; maxillary palpi three jointed; first joint long and slender, second joint heart-shaped and with a brush of long hair-scales, third joint elongate, oval and with a broad brush of long hair-scales; eyes large, rounded; frons tufted; ocelli and chaetosema present; antennae with a very slight sinus at base, provided with a ridge of scales; remainder of shaft ciliated; thorax and abdomen smoothly covered with scales, the latter with some lateral tufts of scales at apical segments; legs smoothly covered with scales; spurs moderate, outer spur a little over half of inner. Forewing: rather narrow, apex broadly rounded, termen oblique, tornus well rounded; cell less than two-thirds of wing; R₁ from well beyond two-thirds of cell; R₂ well remote from stalk of R₃, R₄; stalk half of R₁; M₁ as far from stalk as R₁ is; DC between M₁ and M₂ obsolescent; M₂ rather close to M₃ but apart and not approximated; C₁ twice as far from M₁ than M₂ is; C₂ almost double that distance from C₁; A₂ almost straight. Hindwing: subtriangular, with apex and tornus well rounded and termen very oblique and arched; cell about two-fifths of wing; DC fairly erect, strongly incurved and somewhat obsolescent; Sc running close to stalk of RS and M₁ and to basal third of RS, but not anastomosing with it; M₂ and M₃ stalked for nearly two-thirds of M₃; C₁ from close to lower angle and approximated to basal half of stalk, but not anastomosing with it; C₂ from beyond four-fifths of lower median; anal veins almost straight, radiating.

Two species are placed in this genus, one from India, the other from Australia.

Hampson, l.c., places the genotype in *Nephopteryx* and makes *Melathrix* a section of it, but not only are the <♀> palpi quite different, also the venation of the forewing is different; in *Melathrix* R₂ is free and M₂ and M₃ are not approximated at base (compare fig. 32). The <♂>, from which my description was made, was identified by Hampson.

Genus **SELAGIA** Hüb.n. (Fig. 48).

*Selagia* Hüb.n., Verz., p. 371 (1826); Zeller, Isis, pp. 732, 752 (1846); Rag., Rom. Méém., VII. p. 467 (1893).

Type: *Tinea argyrella* Fabr.

<♂>, <♀>. Proboscis well developed and with scales at basal portion; labial palpi obliquely upturned;* second joint more than twice

* In the drawing they are represented in a somewhat lowered position as they were in that specimen. They can move up and downwards, but the shape shows distinctly what the usual position is, in the <♀> they frequently droop still more.
first joint, not hollowed or grooved; third joint rather thin as long as first joint, all joints smoothly scaled; maxillary palpi appressed to frons, three jointed, joints of almost the same length; first joint very thin; second and third joints thick, suboval and tufted with long scales; eyes large, rounded, flattened posteriorly; ocelli and chaetosema present, frons somewhat roughly tufted with scales; \( \delta \) antennae with a slight sinus at base, in which is a moderate tuft of scales, shaft very shortly ciliated; antennae in \( \varphi \) simple; thorax, abdomen and legs smoothly covered with scales; median spurs of hindlegs much longer than terminal spurs, outer spurs over half of inner. Forewing: rather narrow, costa arched into rounded apex, termen very oblique, merging into broadly rounded tornus; cell a little over three-fifths of wing; Sc and R, obsolescent near costa; R, from three-fourths of cell; R, from three-fourths origin of R, and upper angle; R, stalked with R, for over one-half of R,; M, half as far from stalk as R, is; DC outwardly oblique and obsolescent; M, and M, from a point; C, as far from M, as R, is from stalk; C, a little further from C,; A, somewhat curved; A, obsolescent. Hindwing: almost semicircular with inner margin almost straight, terminal half of costa arched into rounded apex, termen very oblique, well arched and merging into rounded tornus; cell at upper median over one-third of wing; DC weak, incurved, lower half very oblique outwardly; Sc running close to stalk of RS and M, and along basal third of RS, but not anastomosing with it; RS and M, stalked for one-seventh of M,; M, and M, on a stalk of well over half; C, connected with stalk by means of a very short oblique vein; C, from well beyond two-thirds of lower median; anal veins almost straight, radiating.

Of the eleven species placed here only two are found in North America, the others are all from Europe and Central Asia, one species extending as far as Japan.

Genus **EPICROCIS** Zell. (Fig. 49).

*Epicrocis* Zell., Isis, p. 878 (1848); Rag., Rom. Mém., VII. p. 437 (1893); Hmpsn., Moths of India, IV. p. 85 (1896).

Type: *Epicrocis festivella* Zell., from India and South Africa.

\( \delta, \varphi \). Proboscis strongly developed and well covered with scales at base; labial palpi in \( \delta \) just reaching above frons, in \( \varphi \) much longer and more slender, reaching beyond frons for nearly half its length; in \( \delta \) the second joint has a groove over its whole length in which the brushes of the maxillary palpi are hidden; second joint in \( \delta \) about twice length of first joint, broadly covered with scales; third joint as long as first joint, partly hidden in scales; in \( \varphi \) the third joint is as long as the second joint, second joint without a groove; maxillary palpi in \( \delta \) with first joint long and thin; second joint two-thirds of first joint, suboval, pointed towards tip,
where it has a pencil of long hair-scales; third joint of the same length, but thinner and broadly tufted with long hair-scales; in ♀ the maxillary palpi are appressed to frons and covered with scales; ♂ antennae with a small ridge of long scales at base, but without sinus; remainder of shaft shortly ciliated; antennae in ♀ simple; frons roughly covered with scales (Ragonot speaks of a tuft, but it hardly deserves that name in my specimen); eyes large, rounded, flattened posteriorly; ocelli and chaetosema present; thorax and abdomen smoothly scaled, abdomen with lateral tufts on terminal half; legs smoothly scaled; hindtibiae tufted with long scales at extremities; spurs moderately long, outer spur two-thirds of inner. Forewing: rather broad, costa slightly arched, apex hardly rounded, termen slightly oblique, straight, tornus broadly rounded; cell less than three-fourths of wing; Sc, R₁ and R₂ obsolescent near costa; R₁ from two-thirds of cell; R₂ from beyond three-fourths of origins of R₁ and stalk; R₃ and R₄ on a stalk of one-third of R₄; M₁ as far from stalk as one-half the distance between R₂ and stalk; DC between M₁ and M₂ obsolescent, slightly oblique outwardly; M₂ and M₃ from a point; C₁ as far from M₃ as M₃ is from stalk; C₂ twice that distance; A₂ slightly curved. Hindwing: semi-circular with costa well arched, termen oblique and less arched, merging into well rounded tornus, inner margin well arched; cell at upper median over one-third of wing; DC obsolescent, slightly oblique, incurved; Sc running very close to basal fourth of RS, almost touching it; RS and M₁ from a point; M₂ and M₃ on a stalk of over half of M₂; C₁ from close to stalk, approximated to it for a short distance and connected with it by a faint vein; C₂ from well beyond three fourths of lower median; anal veins straight, radiating.

As stated before (l.c. pt. II. p. 31) this genus comes close to Canthelea; Hampson also made Candiope a synonym of it as he did not want to recognise ♂ characters for generic distinction. But in all three the venation is also different, though the differences are small and easily overlooked; in Canthelea and Epicrocis M₃ and M₄ of hindwing are on a long stalk, very short in Candiope; R₂ is close to stalk and approximated to it for half its length in Canthelea, while it is remote in Epicrocis but well apart in Canthelea and Candiope. The structure of the ♂ palpi and antennae are, however, more reliable; Canthelea and Candiope have solid labial palpi with corresponding non-pencillate maxillary palpi, pencillate in Epicrocis; the antennae of Epicrocis and Canthelea have a scale ridge at base, though very small in Canthelea, while this is absent in Candiope, which on the other hand has long cilia on the shaft. Owing to this closeness and the resulting confusion it is quite well possible that not all the 10 species placed here are in their proper genus. As it stands now the genus is represented in South and Central Africa, Madagascar, India, China, the Malayan Archipelago and Australia, with one species in Cyprus.
49. Epicrocis festivella, ♀, X 5; 50. Hydaspia dorsipunctella, ♀, X 5; 51. Calguia defiguralis, ♀, X 5; 52. Catastia marginea, ♂, X 3; 53. Trachypteryx magella, ♂, X 5; 54. Etiella zinckenella, ♀, X 5.
Genus HYDASPIA Rag. (Fig. 50).

Hydaspias Rag., Nouv. Gen., p. 22 (1888); Rag., Rom. Mém., VII. p. 440 (1893); Hmpsn., Moths of India, IV. p. 97 (1896). (As a section of Phycita).

Type: Hydaspias dorsipunctella Rag. from India; in my collection from South Africa.*

♂, ♀. Proboscis well developed and covered with scales for some length at base; labial palpi in ♂ and ♀ upturned, reaching far above vertex, smoothly covered with scales; in ♂ the second joint is hollowed out and has long hair-scales on posterior edge, in ♀ simple; second joint five times longer than first joint; third joint a little shorter than first joint, maxillary palpi three jointed; in ♂ the basal joint is very narrow, 2nd joint egg-shaped and with a terminal brush of long hair-scales; third joint club-shaped, arising from middle of second joint and also with a terminal spreading brush of hair-scales; ♀ maxillary palpi appressed to frons; first joint very small; second joint subtriangular and tufted with long broad scales; third joint subcylindrical and also tufted with long scales; frons with a conical tuft of appressed scales; eyes large, rounded, somewhat flattened posteriorly; ocelli and chaetosema present; ♂ antennae with a sinus at base in which is a dense tuft of long scales, remainder of shaft and antennae of ♀ shortly ciliated; thorax and abdomen smoothly scaled, terminal segments of abdomen with lateral tufts of scales; legs smoothly scaled; midtibiae fringed with hair-scales anteriorly; hindtibiae with tufts at extremities; midspurs rather long, outer spur over half of inner; from the thorax in the ♂ between the mid- and hind coxae emerges a brush of long scent-scales not found in the ♀. Forewing: rather broad, of almost even width, costa slightly arched, apex hardly rounded, termen erect, straight, merging into broadly rounded tornus; cell at upper median three-fifths of wing, at lower median a little longer, as DC is somewhat oblique; R₁ from two-thirds of upper median; R₂ and M₁ remote from stalk of R₃-R₄ and at equal distance; R₃ and R₄ on a stalk of half of R₂; DC between M₁ and M₂ slightly incurved and obsolescent; M₂ and M₃ well remote at base but

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* The South African specimen, identified for me by Hampson as dorsipunctella may not be the same as the Indian specimen, of which I have unfortunately no material. The South African specimens agree in every respect with the descriptions and figures given of both genus and species, but certainty can only be given by a study of the ♂ genitalia which in the South African specimen offer many characters useful for identification. The valves for instance, have each two well chitinised “claws”, one of which is about half the length of the valve, and the other is about twice that length. The following description is from South African material and should thus be verified when Indian material becomes available.
slightly approximated and parallel to each other at basal fourth; C₁ twice as far from M₂ as M₃ is from M₄; C₂ double that distance; A₂ slightly curved; A₁ obsolescent. Hindwing: semicircular, broad, apex broadly rounded, termen oblique, a little incurved below apex, well arched between M₃ and A₂, and gradually merging into rounded tornus; inner margin arched; cell a little over one-third of wing; DC erect, strongly incurved, thin but well visible; Sc running along upper median, stalk of RS and M₁ and along one-third of RS, touching but not anastomosing with them; RS and M₁ on a stalk of one-tenth of M₁; M₂ and M₃ on a stalk of nearly half of M₃; C₁ well remote from the stalk and clearly connected with it by a short vein; C₂ from a little beyond two-thirds of lower median; anal veins straight and radiating. Only one species so far recorded in this genus.

Genus **CALGUIA** Wlk. (Fig. 51).

*Calguia* Wlk., Cat. XXVII., p. 83 (1863); Rag., Rom. Mém. VIII., p. 554 (1901); Hmpsn., Moths of India, IV. p. 98, fig. 57 (1896), (as a section of *Phycita*).


♂, ♀. Proboscis well developed and covered with scales on basal portion; labial palpi in ♂ upturned, reaching far beyond vertex, rostriform as second joint is strongly excurved; second joint four times first joint, hollow and with a groove over the whole length to receive the long hair-pencils; third joint less than half of first joint; in ♀ labial palpi upturned, curved backwards, a little shorter than in ♂, solid and without a groove, in both sexes smoothly covered with scales; maxillary palpi three jointed; first joint in ♂ thin and rather short; second joint as long but much thicker and with a long brush of hair-scales; third joint fixed with a short stalk to basal third of second joint and also terminating in a brush of long hair-scales; maxillary palpi in ♀ appressed to frons and tufted with broad scales; third joint largest and oval; frons smoothly scaled; eyes large, rounded in ♂, more oval in ♀, slightly incurved posteriorly; ocelli and chaetosema present; ♂ antennae with shaft much broadened at base, on which there is a tuft of broad scales; remainder of shaft ciliated; ♀ antennae simple; thorax, abdomen and legs smoothly scaled; middle and hindtibiae in ♂ broadly fringed with long hair-scales, less so in ♀; from the knee of the hind tibia in ♂ a hair-pencil as long as the tibia, in ♀ a little shorter; spurs rather long, outer spurs over

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half of inner. **Forewing:** rather broad towards termen, apical half of costa well arched, apex rounded, termen slightly oblique, almost straight, tornus well rounded; cell at upper median three-fifths of wing, a little longer at lower median, as DC is outwardly oblique; Sc and R₁ obsolescent near costa; R₂ from two-thirds of cell; R₂ from close to stalk and approximated to it for one-half of its length; R₃ and R₄ on a stalk of over two-thirds of R₂; M₁ a little further from stalk than R₂ is; DC incurved and obsolescent; M₂ and M₃ approximated at basal fifth; C₁ as far from M₂ as M₁ is from R₂; C₂ twice as far; A₂ almost straight; A₁ obsolescent. **Hindwing:** sub-triangular with costa strongly arched, apex hardly rounded, termen oblique, merging into the broadly rounded tornus, inner margin well arched; cell over two-fifths of wing; DC deeply incurved, obsolescent, except near stalk; Sc very close to over basal third of RS but not anastomosing with it; RS and M₁ very shortly stalked; M₂ and M₃ on a stalk of half of M₂; C₁ from near stalk and connected with it by a very short vein; C₂ from beyond four-fifths of lower median; anal veins straight.

Only two species are placed in this genus, recorded from India, Ceylon, Borneo and New Guinea.

**Genus CATASTIA** Hübn. (Fig. 52).


**Type:** *Noctua marginea* Schiff., from Central Europe.

♂, ♀. Proboscis well developed and covered with scales on basal portion; labial palpi obliquely upturned with third joint slightly protruded, smoothly covered with scales, solid; second joint about twice first joint; third joint over one-fourth of second joint; maxillary palpi possibly three-jointed (but I could only find two joints), appressed to frons, covered with broad scales; eyes suboval, somewhat flattened posteriorly; ocelli and chaetosema present; frons rather roughly scaled but not tufted; ♂ antennae slightly curved at base and with a small ridge of scales, remainder of shaft laminated, in ♀ simple; thorax smoothly covered with long scales; the abdomen and legs smoothly scaled, some lateral tufts on terminal segments; hindtibia with a hair-pencil from knee joint and a posterior scale tuft at other end; spurs rather long, outer spur over half of inner. **Forewing:** rather broad, costa arched into well rounded apex, termen oblique, merging into rounded tornus; cell less than two-thirds of wing; R₁ from beyond four-fifths of cell; R₂ and M₁ at equal distance from stalk; R₃ and R₄ on a stalk of over half of R₂; DC obsolescent, outwardly oblique, a little incurved; M₂ and M₃ well apart at base and slightly approximated; C₁ twice as far from M₃ than M₁ is; C₂ double that distance; A₂ slightly curved. **Hindwing:** very broad, costa well arched into rounded apex, termen
oblique, arched between M₂ and C₂ and merging into broadly rounded tornus, which merges into arched inner margin; cell at upper median one-third of wing, longer at lower median as lower DC is very oblique; DC very thin, incurved; Sc running along RS for over one-third of RS, touching, but not anastomosing with it; RS and M₁ very shortly stalked; M₂ and M₃ on a stalk of nearly one-half of M₂; C₁ well remote from stalk and connected with it by an oblique vein; C₂ from two-thirds of lower median; anal veins straight, radiating.

Only two species are placed here, found in Central and South East Europe.

Genus TRACHYPTERYX Rag. (Fig. 53).


Type: Myelois magella Zell., from South Africa.

♂, ♀. Proboscis well developed and covered with scales on basal portion; labial palpi in ♂ oblique, in ♀ almost porrect, fairly smoothly covered with scales; second joint solid, about four times first joint, almost straight, stout; third joint shorter than first, thin and hidden in the scales; maxillary palpi three-jointed, appressed to frons; second and third joints tufted with scales; eyes suboval, somewhat straight posteriorly; frons with a curved tuft of scales; ocelli and chaetosema present; ♂ antennae without sinus or scale tuft, shaft ciliated; thorax smoothly scaled but metathorax with a spreading crest in both sexes; abdomen and legs smoothly scaled; terminal abdominal segments with lateral tufts; hindtibia with a small scale-tuft at knee; midspurs rather large, outer spur about half of inner. Forewing: moderately broad, costa arching into rounded apex, termen somewhat arched, tornus broadly rounded; cell over two-thirds of wing at upper median, longer at lower median, as DC is rather oblique; Sc and R₁ obsolescent near costa; R₁ from three-fourths of upper median; R₂ and stalk almost from a point, then radiating; R₃ and R₄ on a stalk of one-half of R₃; DC between M₁ and M₂ obsolescent; M₁ well remote from stalk and with the connecting vein outwardly oblique; M₂ and M₃ connate at base, then remote; C₁ as far from M₃ as M₁ is from stalk; C₂ double that distance; A₁ slightly undulating. Hindwing: subtriangular, with costa slightly arched, apex broadly rounded, termen very oblique and well arched, tornus well rounded, inner margin arched; cell at upper median over one-third of wing, much longer at lower median, as lower DC is very oblique; DC incurved, thin but not obsolescent; Sc running close along stalk of RS and M₁ and along one-third of RS, but not anastomosing anywhere; RS and M₁ on a stalk of over one-fifth of M₁; M₂ and M₃ on a stalk of half of M₂; C₁ from close to stalk but not connected with it by means of a vein; C₂ from about two-thirds of lower median; anal veins almost straight, radiating.
This genus seems to be confined to South Africa, where it has five species so far; the larva of one of these (*rhodoxantha*) was bred by Mr. H. K. Munro; it makes a curved conical tube over three centimetres in length from the excreta woven together with silk threads, and internally smoothly lined with silk; the wide end is quite open.

**Genus ETEILLA** Zell. (Fig. 54).

Etiella Zell., Isis, p. 733 (1846); Rag., Rom. Mém., VII. p. 569 (1893); Hmps., Moths of India, IV. p. 108 (1896).  
Melia Wlk., Cat. XIX. p. 167 (1859); Assara Wlk., Cat. XXVII., p. 79 (1863); Modiana Wlk., Cat. XXVII. p. 82 (1863); Alata Wlk., Cat. XXVII. p. 108 (1863); Arucha Wlk., Cat. XXVII. p. 201 (1863).

Type: *Phycis zinckeneilla* Treit., universally distributed.

♀, ♂. Proboscis well developed and covered with scales at basal portion; labial palpi porrect, somewhat rostriform, especially in the ♂ the second joint is hollow and grooved over the whole length, which is five times that of first joint; third joint a little longer than first joint, very thin and often pointed downwards at an angle to second joint; in ♀ the second joint is not grooved; maxillary palpi three jointed, joints almost of the same length, in ♂ with first joint thin, second joint thicker and with a long tuft of hairs; third joint club-shaped and with a long hair-pencil; in ♀ the second and third joints are covered with scales and appressed to frons; eyes large, rounded; ocelli and chaetosema present; frons with a pointed tuft of scales; ♂ antennae with the first joint broadened and provided with a rounded tooth posteriorly; shaft broadened at base and with a dense tuft of moderate scales anteriorly and another tuft of long scales posteriorly; shaft finely ciliated anteriorly; ♀ antennae simple, finely ciliated; thorax, abdomen and legs smoothly scaled; spurs moderately long, outer spurs about half of inner. **Forewing:** rather narrow, of almost even width, costa broadly arched into well rounded apex, termen oblique, arched into rounded tornus, an oblique ridge of somewhat raised scales at one-third,* cell over four-sixths of wing and rather narrow; Sc and R₁ obsolescent near costa; R₁ from beyond two-thirds of upper median; R₂ from fourth-fifths origin of R₁ and stalk; R₃ and R₄ on a stalk of one-half of R₃; M₁ almost as far from stalk as R₂ is; DC between M₁ and M₂ erect, obsolescent; M₃ and M₄ closer together than M₁ is from stalk; C₁ a little further from M₃ than M₂ is; C₂ double that distance from C₁; A₂ slightly undulating. **Hindwing:** subtriangular, costa somewhat arched at terminal half, apex rounded, termen oblique and some-  

* Many specimens have this ridge obsolescent and in most species placed in this genus there is not a trace of it.
what arched, gradually merging into broadly rounded tornus; inner margin well arched; cell at upper median over one-third of wing, longer at lower median as lower DC is very oblique outwardly; DC curved and thin; Sc running closely along terminal half of upper median (which is very thin), then along stalk of RS and M₁; then along nearly one-fourth of RS but nowhere anastomosing; RS and M₁ stalked for one-sixth of M₁; M₂ and M₃ normally stalked for one-fifth of M₂, then approximated to each other for another fifth, then radiating; C₁ well remote from stalk and connected with it by a vein; C₂ from two-thirds of upper median; anal veins straight, radiating.

Eighteen species are described in this genus from Central and North America, South Africa, Ceylon, India, China, New Guinea, Society Islands and Eastern Australia; the genotype, however, is distributed practically all over the world, described under fifteen different names; the larva feeds on pods of leguminous plants, often doing great damage to crops.