

STUDIES ON THE YPONOMEUTOIDEA (VI)  
 GENUS *LYCOPHANTIS* MEYRICK  
 (Lepidoptera: Yponomeutidae)

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At the beginning I wish to express my thanks to Prof. Syusiro Ito for his constant direction, and to Emeritus Prof. Syûti Issiki for his valuable advice and for the opportunity to study his specimens. I am also indebted to Dr. John D. Bradley and the Trustees of the British Museum (Nat. Hist.) for the loan of paralectotypes of *Lycophantis chalcoleuca* Meyrick.

**Lycophantis** Meyrick, 1914

*Lycophantis* Meyrick, 1914, Lep. Cat., 19: 10 (cat., non-descr.); Meyrick, 1914, Jour. Bombay Nat. Hist. Soc., 23 (1): 123; Meyrick, 1928, Exot. Microlep., 3 (13): 414 (as syn. of *Zelleria*); Fletcher, 1928, Cat. Indian Ins., 17: 3, no. 2 (cat.); Fletcher, 1929, Mem. Dept. Agr. India, Ent., 11: 130 (cat., as syn. of *Zelleria*).

Type-species: *Lycophantis chalcoleuca* Meyrick, 1914.

Characterized by the following points:— in the forewing venation  $R_4$  and  $R_5$  stalked, and  $M_3$  and  $Cu_{1a}$  separated; in the male genitalia sacculus greatly developed, gnathos indefinite, and cornutus invisible.

Some characters supplemented to the original description are given below.

Antenna: Scape with pecten (described by Meyrick as "without pecten"). Posterior tibia with median spurs at the anterior 1/3. Forewing elongate-lanceolate,  $R_1$  from somewhat beyond middle,  $R_3$  from upper angle,  $R_4$  and  $R_5$  long-stalked, no accessory cell,  $Cu_{1a}$  from near angle,  $Cu_{1b}$  from about 3/4 of cell, 1A with short basal fork, discoidal vein weak. Hindwing:  $M_3$  and  $Cu_{1a}$  coincident.

Male genitalia: Uncus developed or rudimentary. Socii long, hairy. Tuba analis fused with gnathos. Valva with greatly developed sacculus. Saccus slender. Aedeagus rather long; cornutus invisible. Coremata present.

Female genitalia: Two pairs of apophyses long, antapophysis branched. Antrum sclerotized; ductus bursae long, membranous throughout. Signum present or not. Inception of ductus seminalis from ductus bursae before antrum.

The monotypic genus *Lycophantis* was erected for an Indian species, *L. chalcoleuca* Meyrick. In 1928 Meyrick merged *Lycophantis* into *Zelleria* Stainton (1849, Syst. Cat. Brit. Tineid. and Pterophorid.: 22. Type-species: *hepariella* Stainton, 1849), but the two are sufficiently distinct to justify their separation. *Zelleria* differs from *Lycophantis* in having the separated veins  $R_4$  and  $R_5$  in the forewing, in the small sacculus, and in the conspicuous gnathos. *Lycophantis* is allied to *Paraswammer-*

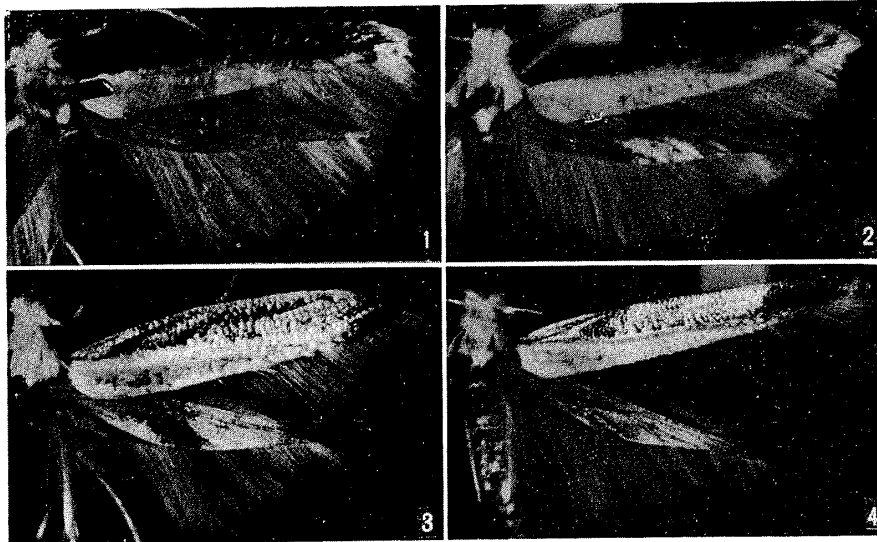


Fig. 1. *Lycophantis chalcouleuca* Meyrick, paralectotype ♂ (left wing, image reversed). Fig. 2. Same, Formosan specimen ♀. Fig. 3. *L. bradleyi* n. sp., holotype ♂. Fig. 4. *L. elongata* n. sp., paratype ♀.

*Lamia* Friese (1960, *Beit. Ent.*, 10 (1-2): 101. Type-species: *lopponica* Petersen, 1932), and there is no remarkable difference in the genital character between them. But the latter differs considerably in the forewing venation:  $R_4$  and  $R_5$  separated, and  $M_3$  and  $Cu_{1a}$  coincident.

Three species, *chalcouleuca* and the allied two new species, are described hereafter. The diagnostic characters of the three species are as follows.

*L. chalcouleuca* Meyrick, from India and Formosa. Forewing with the length nearly 5 times the width; cilia without a line on termen. Male genitalia: Uncus rudimentary, socii normal; valva with large bent setae in disc. Female genitalia with a large signum.

*L. bradleyi* n. sp., from Japan. Forewing with the length almost 5 times the width; cilia with a subapical line on termen. Male genitalia: Uncus developed, with four processes; socii with eight thorns at the end; valva without bent setae. The female is unknown.

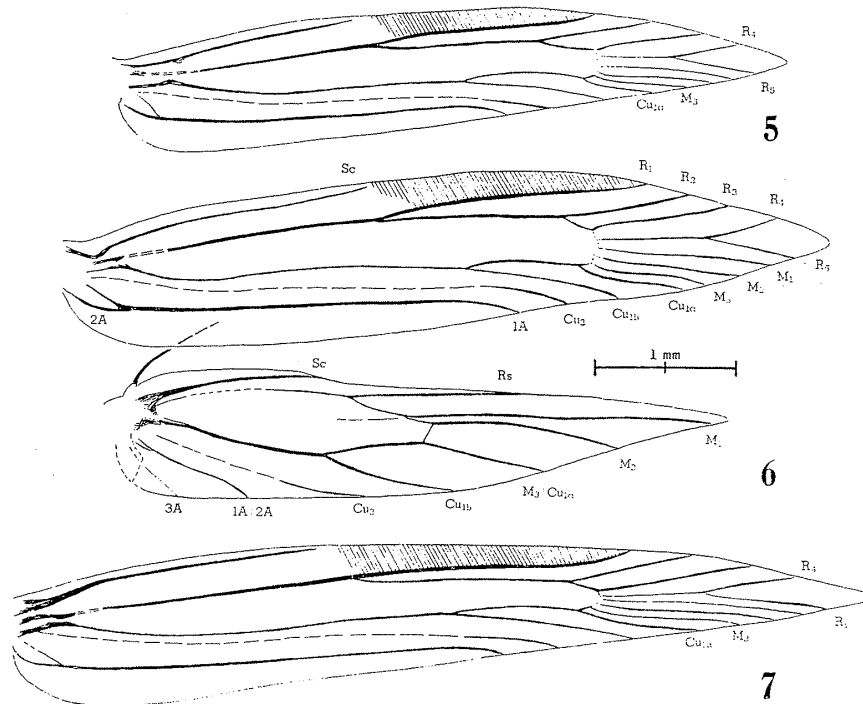
*L. elongata* n. sp., from Formosa. Forewing with the length almost 6 times the width; cilia without a line on termen. The male is unknown. Female genitalia without a signum.

***Lycophantis chalcouleuca* Meyrick, 1914 (Figs. 1, 2, 5, 8-12, 17-19)**

*Lycophantis chalcouleuca* Meyrick, 1914, *Lep. Cat.*, 19: 10 (cat., non-descr.); Meyrick, 1914, *Jour. Bombay Nat. Hist. Soc.*, 23 (1): 123; Fletcher, 1928, *Cat. Indian Ins.*, 17: 3 (cat.).

8-12 mm. In the forewing, the costal white dots present or absent. The Formosan specimens have the wing expanse of 10-10.5 mm.

Male genitalia: Uncus rudimentary, the caudal margin emarginated at the middle, dorsal surface with a pair of short hairs. Socii is the ordinary form of



Figs. 5-7. Wing. (5) *L. chalcocoleuca* Meyrick, forewing, taken from Formosan specimen ♂. (6) *L. bradleyi* n. sp., holotype ♂ (left wing, reversed). (7) *L. elongata* n. sp., forewing, holotype ♀.

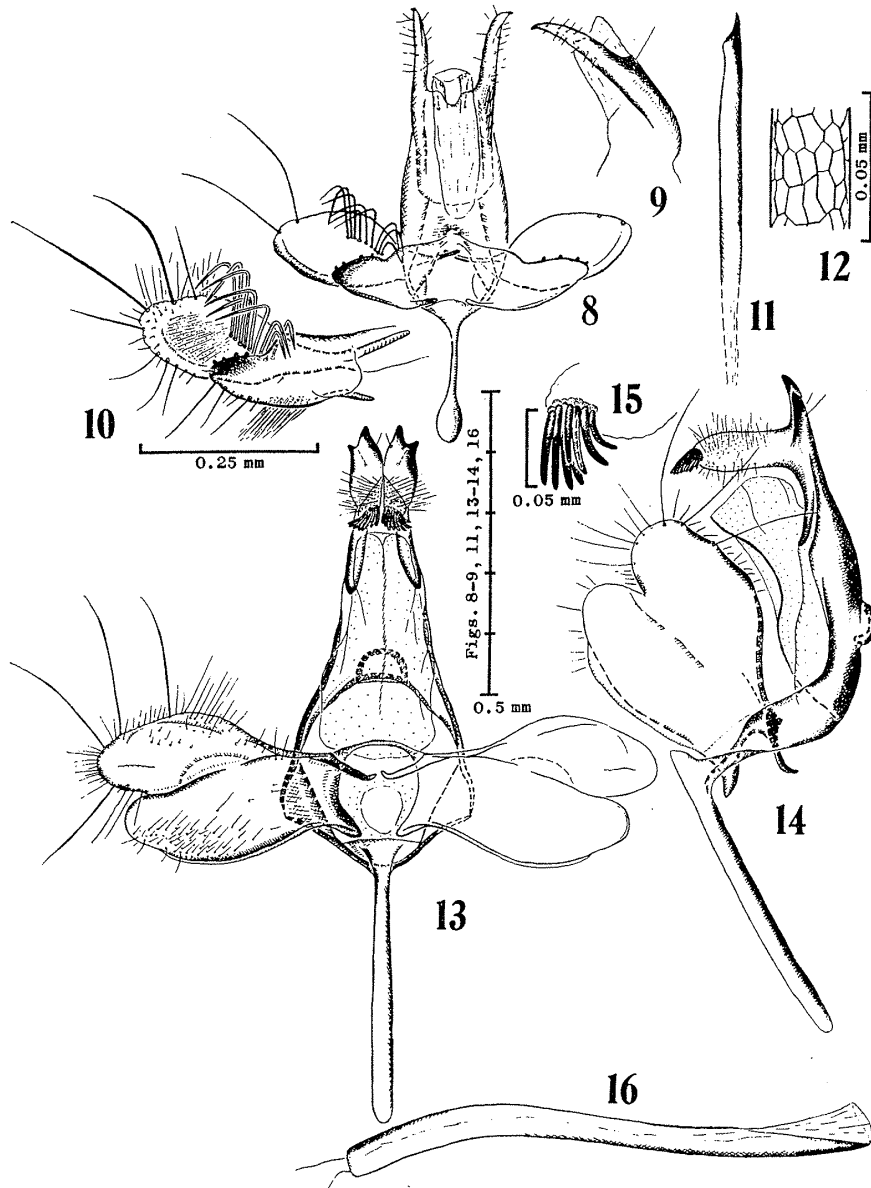
the family, a pointed apex. Valva rounded, disc with a row of about ten large, conspicuously bent setae, and with a tuft of numerous slender hairs, the margin clothed distally with hairs, two of which are much larger and conspicuous, inner surface with several minute hairs apically; sacculus broad, half the length of valva, the dorsal margin with four verrucae towards distal end, ventral margin with several hairs on distal half. Saccus bulbed at the anterior end. Aedeagus straight, almost parallel-sided, with a pointed posterior end, the anterior part not sclerotized; in the anterior 2/3 of the sclerotized portion, surface with pattern (fig. 12) under high magnification.

Female genitalia: In lamella postvaginalis the caudal edge straight. Antrum widens posteriorly; ductus bursae very long, gradually tapering anteriorly. Bursa copulatrix orbicular. Signum a large, quadrate, toothed plate and situated in the posterior part of bursa copulatrix. Inception of ductus seminalis well before antrum.

Specimens examined:

1 ♂ (paralectotype, without abdomen), Khasi Hills, Assam, X 1906, in Coll. Brit. Mus. (Nat. Hist.).

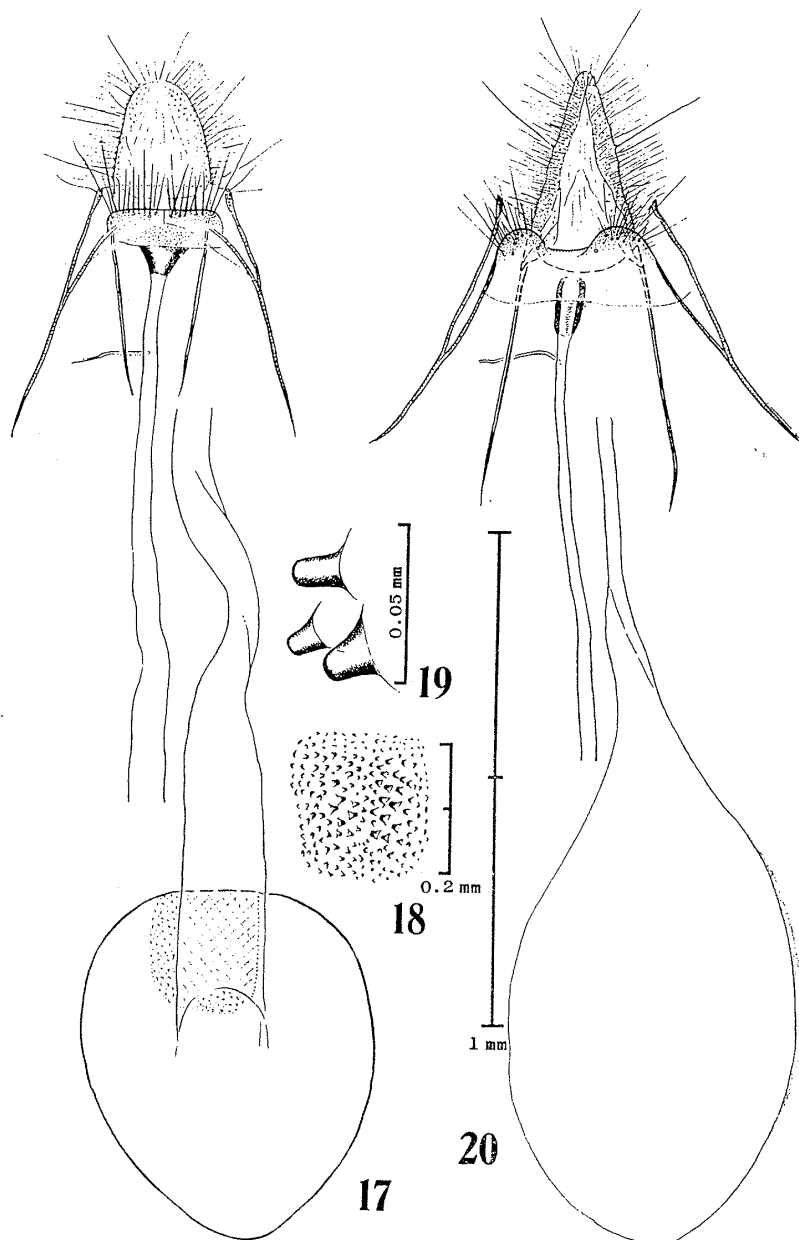
1 ♂ (paralectotype), Khasi Hills, Assam, XI 1906, in Coll. Brit. Mus. (Nat. Hist.).



Figs. 8-16. Male genitalia. (8-12) *L. chalcoleuca* Meyrick, Formosan specimen. (8) Ventral aspect. (9) Uncus and socii, lateral aspect. (10) Left valva, inner aspect. (11) Aedeagus, lateral aspect. (12) Same, the median part, showing pattern on the surface. (13-16) *L. bradleyi* n. sp., holotype. (13) Ventral aspect. (14) Lateral aspect. (15) Socii, distal part, lateral aspect. (16) Aedeagus, lateral aspect.

1 ♂, Taihoku, Formosa, 17 XII 1934 (S. Issiki), in Coll. Issiki.

1 ♀, Taihoku, Formosa, 1 VI 1946 (S. Issiki), reared from *Itea chinensis* Hooker



Figs. 17-20. Female genitalia. (17-19) *L. chalcoleuca* Meyrick, Formosan specimen. (17) Ventral aspect. (18) Signum. (19) Same, showing teeth under higher magnification. (20) *L. elongata* n. sp., holotype, ventral aspect.

et Arnott var. *subserrata* Maximowicz, in Coll. Issiki.

Distribution: India (Assam) and Formosa.

Food-plant: *Itea chinensis* Hooker et Arnott var. *subserrata* Maximowicz (Saxifragaceae); according to Issiki's data, the larva in a slight web among the young leaves.

***Lycophantis bradleyi* n. sp.** (Figs. 3, 6, 13-16)

♂. 12 mm. Head and thorax snow-white, face light fuscous. Antenna fuscous, apical half greyish, basal three segments and scape snow-white. Labial palpus ochreous. Abdomen grey. Forewing: The shape as shown in figs. 3 and 6; shining yellowish-brassy, with some scattered white scales on distal half; a broad snow-white dorsal streak, at base nearly reaching costa, gradually narrowed to tornus, the upper edge with a series of small projections on the posterior half, towards dorsum with some fuscous specks or strigulae; a fine deep purplish terminal line marked with a few white scales; cilia light greyish-ochreous, on costa yellowish-brassy, round apex purplish-brassy, on termen with a subapical purplish-fuscous line on the upper half. Hindwing grey; cilia greyish-ochreous.

Male-genitalia: Uncus very large, with two pairs of triangular processes, the outer pair much smaller, dorsal surface with two pairs of short hairs. Socii distinctive, broad, the end armed with eight sclerotized thorns. Tegumen long, tapered posteriorly. Valva rounded, the margin clothed distally with hairs, a few of which are much longer, inner surface with several fine hairs; sacculus broad, and nearly extending to the distal end of valva, inner surface sparsely clothed with rather short hairs in ventral half. Saccus long, with parallel-sides. Aedeagus weakly bending dorsad about anterior 1/4, parallel-sided, anterior portion tapering to a point.

Holotype ♂, Santarôtôge Pass, Amami-Ôsima Is., southern frontier of Japan, 28 IV 1960 (T. Kodama), in Coll. Ent. Lab., Univ. Osaka Prefecture.

Distribution: Japan (the Amami-Guntô Islands).

Superficially similar to the preceding species, differing only slightly in having a subapical line on termen of cilia in forewing, which in *chalcocoleuca* is absent.

***Lycophantis elongata* n. sp.** (Figs. 4, 7, 20)

♀. 13 mm. Superficially similar to the preceding species, but slightly larger and differing in the following points:— Antenna pale grey, apical 2/3 ringed with whitish, basal 1/3 infuscated, except for basal three segments. Forewing: the shape as shown in figs. 4, 7, narrowly elongate, the length almost 6 times the width as against almost 5 times the width; shining brassy-yellow, costal edge white on basal half, except on basal 1/6; posterior 2/3 of costa dotted with white scales, distal half without scattered white scales; dorsal streak with several scattered ochreous scales, upper edge with a series of minute projections; termen with a few white scales and without a line; cilia, on costa pale ochreous, round apex brassy-yellow, on termen without a subapical line.

Female genitalia: Lamella postvaginalis with a pair of widely remote projections. Antrum narrow, ductus bursae slender, bursa copulatrix elliptical. No signum. Inception of ductus seminalis just before antrum.

Holotype ♀, Marrepa, Formosa, 13 VIII 1943 (A. Mutuura), in Coll. Issiki.

Paratype ♀, Lake Higasinoko, Formosa, 3 VI 1943 (S. Issiki) in Coll. Issiki.

Distribution: Formosa.