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Taxonomic and zoogeographical studies on the subfamily Plusiinae (Lepidoptera, Noctuidae). The Palaeotropical, Oriental and Nearctic material of the Zoological Museum, Copenhagen

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L. RONKAY: Taxonomic and zoogeographical studies on the subfamily Plusiinae (Lepidoptera, Noctuidae). The Palaeotropical, Oriental and Nearctic material of the Zoological Museum, Copenhagen. — *Annls hist.-nat. Mus. natn. hung.* 1987 **79:** 167–178.

Abstract — Three new genera, *Anaplusia* gen. n., *Extremoplusia* gen. n. and *Scriptoplusia* gen. n. and one new species, *Scriptoplusia noona* sp. n. are described and an annotated list of 50 species from N America, Africa and the Oriental Region is given. With 26 figures and 1 photoplate.

In 1986 I had the opportunity to study the Palaeotropical, Nearctic and Indo-Australian Plusiinae material of the Zoological Museum of Copenhagen. During the course of this work I could study in details some species which had not been relagated to any described genera. These studies, based on the external and genitalic morphology including the characteristics of the vesica, have shown the necessity to erect three new genera for these taxa. — The whole material contains specimens of 50 species, one of them is new for science and there are several previously unknown distribution records of the species.

I would like to express my thanks to Dr. Ole Karsholt (Zool. Mus., Copenhagen) for his extensive help in this work and also to Dr. L. Gozmány (Budapest) for his useful advice.

1. DESCRIPTION OF THE NEW TAXA

It is an interesting fact that there are some species, distributed over the Eastern-South-eastern border of the Palaearctic Region to Indonesia, Australia and New Guinea, which appear to be remote from any well-known genera of the Eastern Tropical Plusiinae. These species inhabit montane forest and rain-forest habitats of their range. In this "group" each species displays a unique composition of characteristic features, sometimes they seem a special mixture of modified characters present in other genera. These species are mentioned in the recent works either as monotypic genera — *Loboplusia* ROEPKE, 1941, *Zonoplusia* CHOU et LU, 1979 — or as "*Plusia* s.l." (see DUFAY 1973, 1974); with one of them being relegated to the genus *Trichoplusia* MCDUNNOUGH, 1944 (*nigriluna* WALKER, see SUGI et al. 1982). Studies of three of these species, based mostly on the investigation of the structure of the vesica, show their distinctness and justify the erection of distinct genera to accomodate them. At present one cannot unequivocally decide whether they represent the only known members of genera produced by special — and diverse — "cul-de-sacs" of development from other tropical genera (the discussed genera contain only one or two species) or they are the ancient representatives of the original Eastern Tropical Plusiine fauna — beside the genera *Chrysodeixis* HÜBNER, 1821 and *Acanthoplusia* DUFAY, 1970 — and so the appearence of the other genera in the recent fauna of the Indo-Australian Region is only a result of a later

range extension of some expansive members of the African genera *Trichoplusia* and *Ctenoplusia* DUFAY, 1970. Yet the peculiar distribution of these taxa, living mainly in montane forest habitats and also the unusual structure of the vesica make the latter assumption as the more probable one.

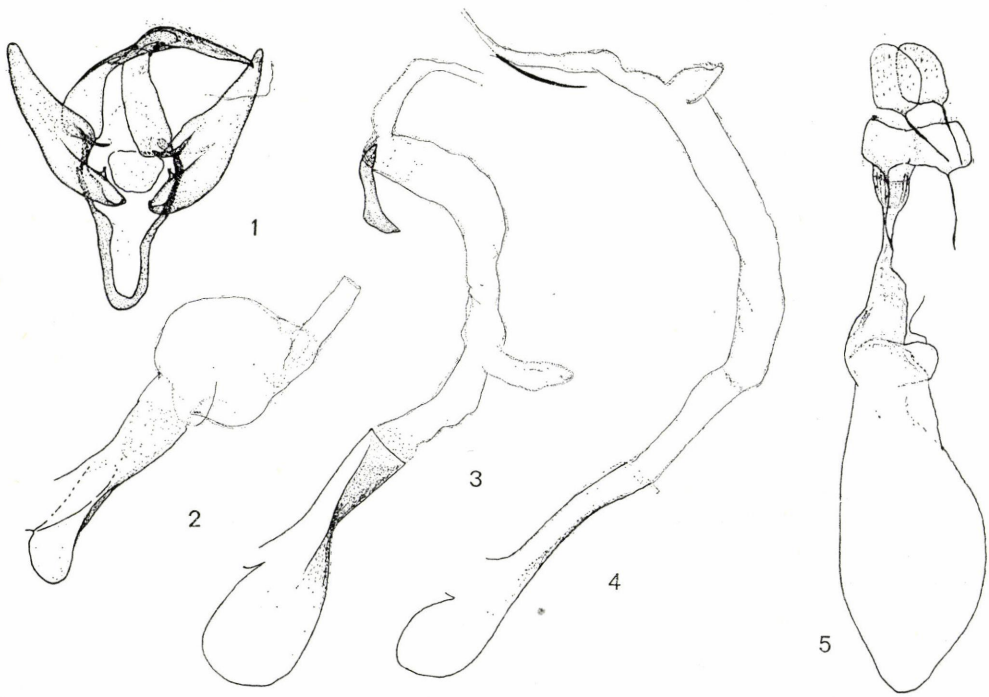
Anaplusia gen. n.

Type species: *Plusia pannosa* MOORE, 1882

Description: Eyes large, globular, antennae ciliate, frons smooth and very slightly prominent. Palpi upturned, second joint slightly arcuate and relatively thick, third joint stick-like, moderately long and pointed. Fore tibiae without claws, hind tibiae with asymmetric spurs. Thoracic crest and tufts large, abdomen thick and short, dorsal crest consists of small tufts, lateral and caudal coremata reduced. Fore wing triangular, wide and high, short; lobe of tornus very small, formed mostly by long scales.

Male genitalia (Figs 1–2): uncus strong, thick and tapering, pointed, tegumen wide and low, fultura inferior a broad, more or less quadrangular plate, vinculum relatively long and rounded, saccus membranous. Valvae short and strongly pointed, more or less triangular, corona absent, valval surfaces characteristically hairy. Sacculus moderately wide, clavus short and wide-based, harpe absent. Aedoeagus short and thick, vesica characteristically globular with two small diverticles, cornuti absent.

Female genitalia (Fig. 5): ovipositor short and wide, gonapophyses moderately long. Ostium bursae stronger with some sclerotized rugae and a sclerotized lamina, ductus bursae membranous, rugulose, proximally strongly dilated. Apex bursae a small diverticulum, membranous, corpus bursae a long, elliptical sac.



Figs 1–5. 1–2 = *Anaplusia pannosa* MOORE, 3 = *Anadevidia hebetata* BUTLER, 4 = *Anadevidia peponis* FABRICIUS, 5 = *Anaplusia pannosa* MOORE

The species representing this new genus, due to an unfortunate misidentification, was placed previously into the genus *Anadevidia* KOSTROWICKI, 1961 as "*pyropia* BUTLER, 1879". Interestingly in the text part Kostrowicki noted the close relationship between the species identified by him as *pyropia* and the "Oriental species *A. pannosa* (WKR.)" and mentioned the "lack of cornuti" but on his drawing illustrated the male genitalia of "*pyropia*" there is a well-discernible, spine-like cornutus! Unfortunately I have been unlucky to find this mysterious specimen, but as judged from the data published in this work it is very probable that he studied only specimens of *pannosa*. Comparing the characteristics of the two species of the genus *Anadevidia* (*peponis* (Fabricius, 1775) and *hebetata* (BUTLER, 1889)) with those of *Anaplusia pannosa* (MOORE, 1882) one can find — beside some real similarities such as the hairy valvae, the reduced harpe, the relatively short and strong uncus — a series of distinctive characters which justify the separation at a generic level. These features are as follows: the quite different wing pattern and shape of wings, the much more robust and shorter, nearly triangular valvae and the very characteristically different configuration of the vesica of these two genera — as the species of the genus *Anadevidia* have long, tubular vesica with only one lateral diverticulum but with a strong terminal cornutus (Figs 3, 4). The configuration of the female genitalia of these three species is very different, but in the case of *pannosa* the ductus bursae is strongly dilated proximally and connected to the globular and membranous apical part of bursa copulatrix. The species of the genus *Anadevidia* have narrow, tubular ductus bursae which is long and strong in the case of *hebetata*, much shorter and membranous in *peponis*, but in the latter the proximal part of the bursa copulatrix is constricted to a tube with a small diverticulum.

To sum up, the new genus is related to *Anadevidia* KOSTROWICKI, but differs from it in external and genital characters and represents a monotypic genus with strongly restricted area in the Southern Himalaya.

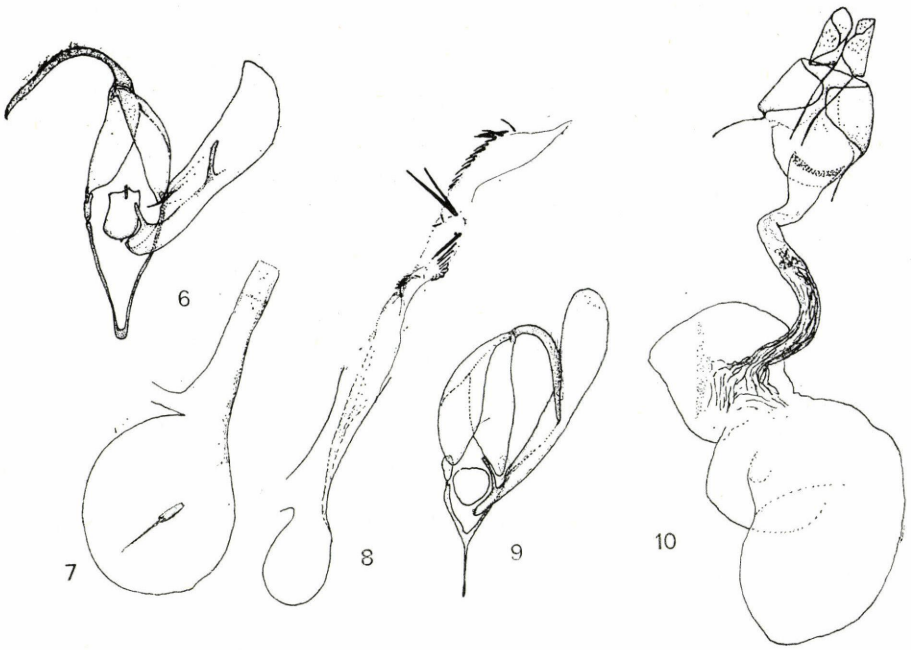
Extremoplusia gen. n.

Type species: *Plusia megaloba* HAMPSON, 1912

Description: Head strong, frons slightly prominent, smooth, antennae ciliate. Palpi slender, upturned over vertex, second joint finely arcuate, third joint long, bar-shaped with pointed tip. Fore tibiae without claws, hind tibiae with asymmetric spurs. Thoracic crest and tufts large and wide, abdomen short and slender, dorsal crest consisting of four large tufts, lateral and caudal coremata reduced. Fore wing wide, high and short, triangular with pointed apex. Tornal lobe reduced to some long, hairy scales, hind wing rounded.

Male genitalia (Figs 6–7): uncus long and slender, pointed, tegumen wide and less high, vinculum long and narrow, saccus weekly sclerotized, terminally with two small lobes. Valvae rather short, distally strongly dilated, cucullus triangular and strongly pointed, corona absent. Sacculus narrow and less sclerotized, clavus thick, finger-like, harpe relatively long and finely arcuate, slightly dilated at apex, apex rounded. Aedoeagus very characteristic consisting of a large and globular proximal bulb and a short, cylindrical distal part, ostium ductus ejaculatorii situated at distal third of aedoeagus on dorsal surface. Vesica extremely long, tubular, finely granulose, with a fine, spiniform and sligthly bulbed cornutus at medial third of vesica. Abdominal segments less sclerotized, last tergite flabelliform, last sternite U-shaped.

The new genus is relatively far from all the related genera in its very special composition of the characteristics of the male genitalia — it was impossible to reconstruct the actual structure of the vesica because during in preparation it was fragmented (the drawing illustrates the aedoeagus of a Sumatran specimen which was fixed for a short time before — a similarly unsuccessful — evertation); the whole length of the vesica, instead of the ductus ejaculatorius, was 78 mm since the total length of abdomen is 11.5 mm. The species representing the new genus has the longest vesica which I have found in the subfamily *Plusiinae*,



Figs 6–10. 6–7 = *Extremoplusia megaloba* HAMPSON, 8–9 = *Chrysodeixis heberachis* STRAND, 10 = *Plusiopalpa schisa* STRAND

nearly twice as longer as those of some species of the African genera *Trichoplusia* and *Plusiotricha* HOLLAND, 1894. The reduction of the coremata is also an unusual thing in case of the tropical *Plusiinae* genera with the exceptions of some Oriental species (see *Anaplusia* and some transitional species between *Trichoplusia* and *Acanthoplusia*). The new genus can provisionally be placed next to *Anaplusia.*

Scriptoplusia gen. n.

Type species: *Plusia nigriluna* WALKER, 1857

Description: Eyes large and globular, antennae with very short, brush-like cilia. Frons smooth and more or less flattened, only very slightly prominent. Palpi upturned, cylindrical with long and rough hair-like scales, second joint slightly curved, third joint with pointed tip. Thorax with well-developed crest and tufts, abdomen short and robust, dorsal crest consists of large tufts, abdominal coremata well-developed. Fore wing wide, less elongate, triangular with pointed apex, tornal lobe small; hind wing rounded.

Male genitalia (Figs 11–16): uncus long and slender, pointed, tegumen moderately high, fultura inferior a rounded plate with stronger calycular sclerotization. Vinculum long, more or less rounded, saccus membranous. Valvae elongate, cucullus rounded, corona present but fine. Sacculus narrow but strong, clavus with characteristic membranous basal part, long and arcuate, pulvillus small, harpe short, finger-like. Aedoeagus relatively thick, ostium ductus ejaculatorii placed proxti mally, proximal end of aedoeagus flattened. Vesica has a very unusual configuration, basal part of i- a short tube, medial part a large, broad sac with rugulose diverticles and a special, distal diverticle resembling to a moose-antler. Proximal part of vesica with a distally upturned, sclerotized ribbon on ventral side, its distal end stronger and broader.

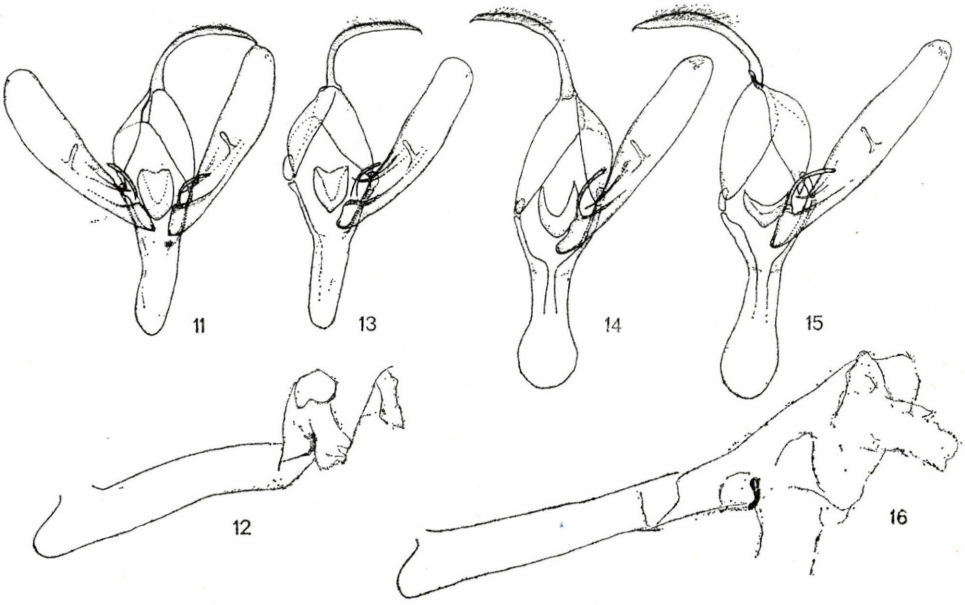
The new genus is represented by two closely related species, *nigriluna* (WALKER, 1857) and *noona* sp. n., externally these species slightly resemble some *Trichoplusia* species but

on the basis of the very different configuration of the vesica of these genera they can easily be separated. The structure of the copulatory organ shows some similarities to the species of the genera *Zonoplusia* CHOU et LU, 1979 and *Dactyloplusia* CHOU et LU 1979 (the latter genus represents a transitional stage between *Trichoplusia* and *Acanthoplusia* and is very probably only a subgenus of *Trichoplusia*), but in the genus *Scriptoplusia* the clavus has very characteristic membranous basal part and the vesica is very different from those of *Zonoplusia* and *Dactyloplusia*. The new genus should be placed next to *Trichoplusia*.

Scriptoplusia noona sp. n. (Plate: 1–2)

Holotype: male, "Philippines, Tawi Tawi, Tarawakan, north of Batu Batu, 26. Oct. 1961, Noona Dan Exp. 61–62", "coll. ZM Copenhagen", "gen. prep. No. 1980 L. Ronkay"; deposited in the coll. ZM Copenhagen. — Paratype: 1 ♂, from same locality, 27. Oct. 1961, slide No. 2055 Ronkay; deposited in the coll. ZM Copenhagen.

Description: alar expanse 27 mm, length of fore wing 12 mm. Head brown with violaceous hairs, frons with some ochreous at middle laterally, covered by brown lobes, palpi dark brown with small white spots on each joints. Collar violaceous brown with light orange-brown inner side, tip of collar finely greyish. Thoracic crest and tufts violaceous with ochreous-brown hairs. Abdomen light ochreous grey, dorsally darker, dorsal crest dark brown, abdominal coremata well developed, short, laterally ochreous, caudally dark blackish-brown. Fore wing dark brown with strong violaceous irroration and cupreous-bronze shine, mostly in marginal area. Subbasal line short and sinuous, fine, silvery grey, basal field with dark blackish-brown spots between veins and some bronze shine of these spots. Antemedial line whitish-grey with some rosy shade, oblique from costa to cell and below cell, but strongly angulate around orbicular spot; defined by brown on both sides. Orbicular spot small, oblique and flattened, incompletely encircled with pale grey, with some blackish spots inside. Reniform spot elongate, constricted at middle, with some blackish spots inside and with one or two silvery spot(s) at lower edge; finely encircled with greyish annulus and filled with brown. Upper part of medial line obsolescent, well visible below stigma, fine silvery grey defined by brown, outside of median area lighter, more greyish. Stigma consisting of an oblique, U-shaped inner and a larger, rounded outer silvery spot, these spots conjoined to each other. Postmedial line light grey, sinuous with a deep arch



Figs 11–16. 11–13 = *Scriptoplusia noona* sp. n. (11–12 = holotype, 13 = paratype), 14–16 = *Scriptoplusia nigriluna* WALKER

at vein m_2, lower part straight, slightly oblique, defined with a wide, dark violaceous stripe on inner side. Terminal line white with some small dark, quadrangular spots from apex to vein cu_1, cilia dark brown. Hind wing whitish, inner area nearly pure, cellular lunule very small and pale, marginal field wide, dark brown with slightly diffuse inner side, transversal line absent or represented by some pale spots on veins, terminal line dark brown, cilia white, spotted with brown. Underside of fore wing brownish, cellular lunule and transversal line slightly visible, marginal area somewhat lighter, costa with some whitish spots at apex. Underside of hind wing whitish, costal and marginal fields with brownish suffusion, veins covered with brown. Cellular lunule stronger than on upper side, transversal line a diffuse stripe. Cilia as on upper side.

Male genitalia (Figs 11–13): uncus long and slender, pointed, tegumen moderately high and wide, less sclerotized, vinculum narrow, elongate without terminal dilatation, saccus membranous. Fultura inferior scutelliform, valvae elongate with nearly parallel margins, cucullus wide, apex rounded. Harpe short, finger-like, sacculus narrow, clavus very long and arcuate, its basis membranous. Aedoeagus moderately long and thick, cylindrical, vesica rather difficult in structure, proximal part a short tube, finely granulose, medial part dilated to a wide and semiglobular sac, some parts of it rugulose or slightly folded, with two small diverticles. Distal part a very special, rugulose sac like a moose-antler; cornuti absent, basal part with a sclerotized ribbon on ventral side, distal part of it upturned and slightly dilated.

Specific differences and taxonomic position — The new species is very closely related to *nigriluna* (WALKER, 1857) but is essentially smaller in size and it has a series of differential characters in both of external and genitalic features as follows: in case of the new species the two spots of the stigma are conjoined, the bronze-cupreous shine and irroration is strongly reduced, the outer third of the median area is much lighter with a stronger medial line. The inner area of the hind wing of *noona* is lighter with only very slight darker suffusion, the cellular lunule is small or obsolete, the transversal line is reduced. The related *nigriluna* has the stigma consisting of two distinct spots (studied on nearly one hundred specimens from several localities), the bronze-reddish irroration is much stronger, the outer third of the median area is darker with more obsolescent medial line. The inner area of the hind wing is strongly suffused with brownish, the cellular lunule and the transversal line are well discernible. In the configuration of the male genitalia the new species has characteristically narrower vinculum without large and rounded extension terminally, which is present the case of *nigriluna* (Figs 14–16), the valvae of *noona* are less elongate and with wider apical part than in the case of *nigriluna*.

The new species as far as known is an allopatric sibling species of *nigriluna* as the former is known only from the Philippines since the latter is a relatively widespread species from S China and S of Japan to New Guinea.

2. FAUNISTICAL RECORDS WITH SOME TAXONOMIC COMMENTS

A) The material of the Noona Dan Expedition

In 1961 an unusual Danish zoological expedition was organized which collected large entomological material in several parts of the Indo-Australian Region. The collecting localities, the methods and other circumstances are given in sufficient details in PETERSEN (1966). The *Plusiinae* material of this expedition contains 11 species, one of them is new for science. The list of the species and the data are listed below.

Argyrogramma signata (FABRICIUS, 1792) — New Ireland, Lemkamin, 28 ♂♂ (10 April 1962, 2 ♂♂, 12 April, 7 ♂♂, 17 April, 12 ♂♂, 21 April, 7 ♂♂); Bismarck Isl., New Britain, Yalom, 1000 m, 8 May 1962, 1 ♀.

Chrysodeixis heberachis (STRAND, 1920) (Figs 8–9) — Philippines, Palawan, Mantalingajan, Pinigisan, 600 m, 3 Sept. 1961, 2 ♂♂. — This interesting species was described from Formosa (= Taiwan) and it has also been found in the southern part of Japan (SUGI et al. 1982). The data from the Philippines are represent the southernmost locality of this interesting species which is closely related to the New Guinean *C. kebeae* (BETHUNE-BAKER, 1906); new for the Philippines.

Chrysodeixis acuta (WALKER, 1857) — Philippines, Palawan, Brokes Point, Uring Uring, 18 Aug. 1961, 1 ♂.

Chrysodeixis illuminata (ROBINSON, 1968) — Philippines, Palawan, Mantalingajan, Pinigisan, 600 m, 2 Sept. 1961, 1 ♂; New Ireland, Lemkamin, 5 ♂♂ (7 April 1962, 1 ♂, 12 April, 1 ♂, 17 April 3 ♂♂); Bismarck Isl., New Britain, Yalom, 1000 m, 12 ♂♂ (8 May 1962, 1 ♂, 9 May, 9 ♂♂, 15 May, 2 ♂♂); Bismarck Isl., Manus, Lorengau, 24. June 1962, 6 ♂♂. — A typical Oriental rain forest species (HOLLOWAY 1979), not rare in some localities. This species is also interesting from nomenclatorical point of view as it was described at first as "ab. *illuminata* ab. n." by WARREN in SEITZ (1913). Later, it was newly described by the same name by ROBINSON (and it has two further synonyms from the last fifteen years, namely *nesiotes* DUFAY, 1974 and *albescens* CHOU et LU, 1979). As the aberration names are not protected, the valid name and description — by the rules of the ICZN — should be the name and the authorship of ROBINSON.

Chrysodeixis dinawa (BETHUNE-BAKER, 1906) — Bismarck Isl., Mussau, Talumalaus, 20 Jan. 1962, 1 ♂; Bismarck Isl., Manus, Lorengau, 2 ♂♂ (18 June 1962, 1 ♂, 19 June, 1 ♂); Guadalcanal, Honiara, 27 July—4 Aug. 1962, 1 ♂. — An interesting species with strongly restricted area, previously known only from New Guinea. The new localities show the occurrence of the species in the archipelago in the vicinity of New Guinea, too.

Chrysodeixis chalcites (ESPER, 1789) — Philippines, Palawan, Mantalingajan, Pinigisan, 600 m, 3 Sept. 1961, 1 ♀; Philippines, Tawi Tawi, Lapid Lapid at Manalik Channel, 19 Nov. 1961, 1 ♂; Philippines, Balabac, Dalawan Bay, 7 Oct. 1961, 1 ♀.

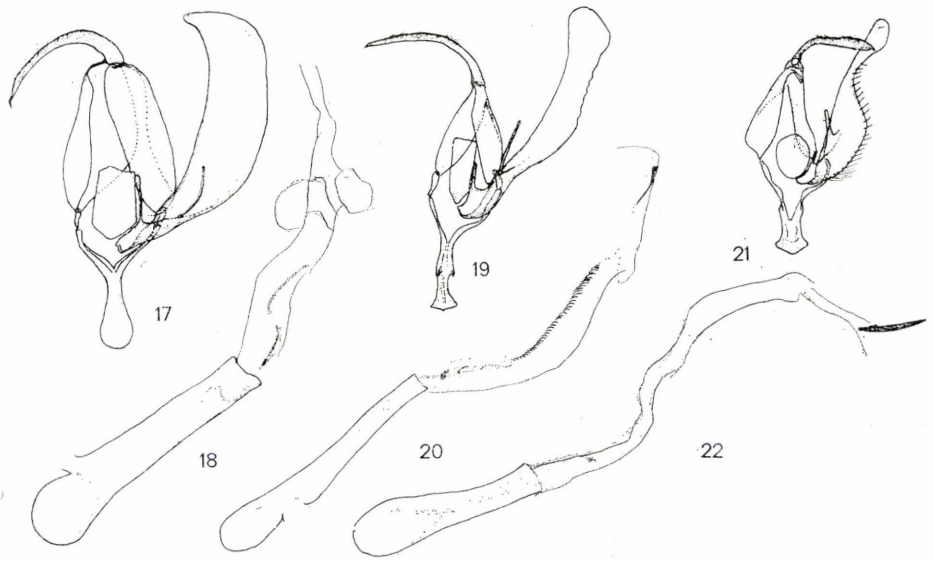
Chrysodeixis eriosoma (DOUBLEDAY, 1843) — New Ireland, Lemkamin, 3 ♂♂, 1 ♀ (7 April 1962, 1 ♂, 12 April, 1 ♂, 1 ♀, 17 April, 1 ♂); Bismarck Isl., Lavongai, Banatam, 18 March 1962, 1 ♀; Bismarck Isl., Manus, Lorengau, 24 June 1962, 3 ♂♂; Guadalcanal, Honiara, 27 July—4 Aug. 1962, 1 ♂.

Trichoplusia orichalcea (FABRICIUS, 1775) — Philippines, Palawan, Mantalingajan, Pinigisan, 600 m, 21 Sept. 1961, 1 ♂; New Ireland, Lemkamin, 25 ♂♂, 5 ♀♀ (5 April 1962, 9 ♂♂, 1 ♀, 7 April, 8 ♂♂, 10 April, 1 ♀, 12 April, 2 ♀♀, 17 April, 8 ♂♂, 1 ♀).

Scriptoplusia nigriluna (WALKER, 1857) — New Ireland, Lemkamin, 19 ♂♂ (5 April 1962, 2 ♂♂, 7 April, 4 ♂♂, 10 April, 1 ♂, 12 April, 2 ♂♂, 17 April, 6 ♂♂, 21 April, 3 ♂♂, 26 April. 1 ♂). The taxonomic relationships and the distribution of this species are discussed in the Chapter 1,

Scriptoplusia noona sp. n. The description and the localities can be found in the Chapter 1.

Plusiopalpa adrasta (FELDER, 1874) — New Ireland, Lemkamin, 5 ♂♂ (5 April 1962, 3 ♂♂, 7 April, 2 ♂♂); Bismarck Isl., New Britain, Yalom, 1000 m, 15 May 1962, 3 ♂♂.



Figs 17–22. 17–18 = *Plusiopalpa dichora* HOLLAND, 19–20 = *Trichoplusia violascens* HAMPSON, 21–22 = *Ctenoplusia furcifera* WALKER (a very unusual shape of valva!)

B) List of the species from the Oriental Region

Chrysodeixis argentifera (GUENÉE, 1852) — Auxtralia, New South Wales, N Cronulla, 22. XI. 1951, leg. H. Lemche, 3 ♀♀; Australia, New South Wales, Coffs Harbour, 2. XII. 1977. 1 ♀; "Nyholland", Melchior leg., 1 ♀; New Zealand, Adelaide, 10. VII. 1951, Galathea Exp., 1 ♀.

Chrysodeixis affluens (GUENÉE, 1852) — Australia, New South Wales, N Cronulla, 22. XI. 1951 leg. H. Lemche, 2 ♂♂.

Chrysodeixis chalcites (ESPER, 1789) — India, W Bengal, Purulia, Aug. 1968, G. Pallessen, 1 ♂; India, Bengal, May 1809, Mus. Westerm., 1 ♀; Cook Isl., Rarotonga, II. 1977, N. L. H. Krauss, leg. 1 ♀.

Chrysodeixis eriosoma (DOUBLEDAY, 1843) — New Zealand, Glendowie v. Auckland, Galathea Exp., 3 ♂♂ (40. I. 1952, 1 ♂, 2. II., 2 ♂♂); New Zealand, Rotorua, 5. II. 1952, Galathea Exp., 1 ♀; Australia, New South Wales, Coffs Harbour, 19. XI. 1977. 1 ♀; Oahu, 1 ♂; India, Darjeeling, 1♀; India, W Bengal, Purulia, leg. G. Pallesen, 2 ♂♂, 2 ♀♀ (XI. 1968, 1 ♂, 2 ♀♀, XII. 1968, 1 ♂); Thailand, Nakhon Nayok Prov., Khao Yai Nat. Park, 700 m, 21. IX–6. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♀.

Chrysodeixis acuta (WALKER, 1857) — Hai-nan, Chas. Kiene, 3 ♂♂; India, W Bengal, Purulia, Nov. 1968, leg. G. Pallesen, 1 ♀; Indonesia, Sumatra, Feb. 1969, leg. G. Pallesen, 1 ♀.

Anadevidia peponis (FABRICIUS, 1775) — Java, Mus. Westerm., May 1815, 1 ♀.

Anaplusia pannosa (MOORE, 1882) — India, Darjeeling, F. A. Möller, 1 ♂.

Extremoplusia megaloba (HAMPSON, 1912) — Thailand, Nakhon Nayok Prov., Khao Yai Nat. Park, 700 m, 29. IX–6. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♂.

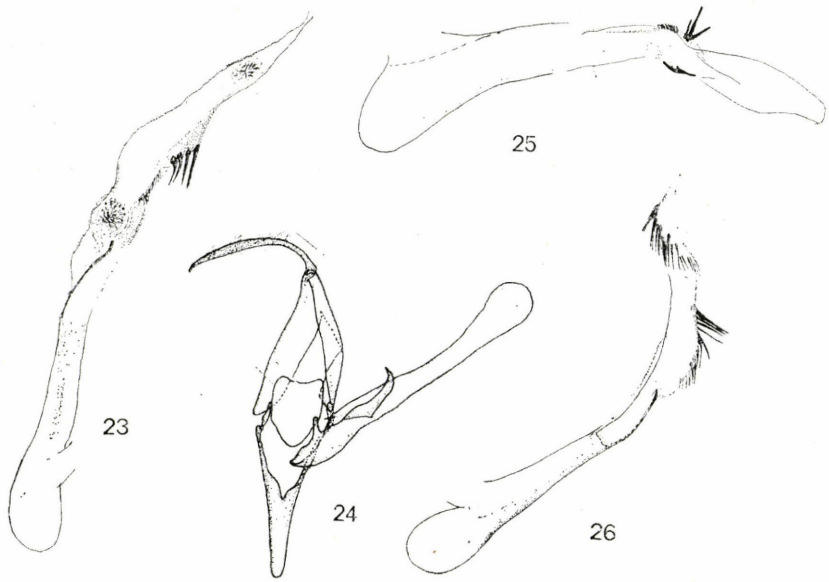
Cornutiplusia circumflexa (LINNAEUS, 1767) — India, Darjeeling, F. A. Möller, 1 ♀.

Trichoplusia orichalcea (FABRICIUS, 1775) — India, Purulia, W Bengal, 1 ♂, 2 ♀♀. (Nov. 1968, 2 ♀♀, Sept. 1968, 1 ♂), leg. G. Pallesen.

Trichoplusia intermixta (WARREN, 1913) — India, Darjeeling, F. A. Möller, 1 ♂.

Trichoplusia reticulata (MOORE, 1882) — Thailand, Chieng Mai Prov., Doi Chieng Dao, 1130 m, 18. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♂, 1 ♀; Thailand, Loei Prov., Phu Luang Wildlife Sanctuary, 8–14. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♀.

Trichoplusia lectula (WALKER, 1858) — Thailand, Chieng Mai Prov., Chieng Mai, 325 m, 15–30. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♀.



Figs 23–26. 23 = *Acanthoplusia tarassota* HAMPSON, 24–25 = *Dactyloplusia impulsa* WALKER, 26 = *Trichoplusia hedysma* DE JOANNIS

Zonoplusia ochreata (WALKER, 1865) — India, Darjeeling, F. A. Möller, 1 ♂; Thailand, Loei Prov., Phu Luang Wildlife Sanctuary, 700–900 m, 8–14. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♂.

Dactyloplusia impulsa (WALKER, 1865) (Figs 24–25) — Thailand, Nakhon Nayok Prov., Khao Yai Nat. Park, 700 m, 29. IX.–6. X. 1984, leg. Karsholt, Lombholdt et Nielsen, 1 ♂.

Acanthoplusia tarassota (HAMPSON, 1913) (Fig. 23). — Thailand, Chieng Mai Prov., Huai Nam Dang, 1500–1700 m, 25–27. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♂.

Plusia (s. l.) aeneofusa (HAMPSON, 1894) — Thailand, Loei Prov., Phu Luang Wildlife Sanctuary, 700–900 m, 8–14. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♂. — The taxonomic relationships of some transitional species between the genera *Trichoplusia* and *Acanthoplusia* (e.g. *hedysma* DE JOANNIS, see the configuration of the vesica on Fig. 26, or *Dactyloplusia impulsa* WALKER), or between *Ctenoplusia* and *Acanthoplusia* (e.g. *Ctenoplusia agnata* STAUDINGER, or the disputed *aeneofusa*) are rather difficult and a full revision of this group, including species such as *Ctenoplusia albostriata* BREMER et GREY which is related to the American *Trichoplusia oxygramma* GEYER, etc., is necessary.

Ctenoplusia agnata (STAUDINGER, 1892) — Japan, Yokohama, 2 ♀♀.

Ctenoplusia albostriata (BREMER et GREY, 1853) — Thailand, Chieng Mai Prov., Huai Nam Dang 1500–1700 m, 25–27. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♀.

Ctenoplusia furcifera (WALKER, 1857) (Figs 21–22) — India, W Bengal, Purulia, leg. G. Pallesen, 3 ♂♂ (Nov. 1968, 2 ♂♂, Aug. 1968, 1 ♂).

Argyrogramma signata (FABRICIUS, 1792) — Thailand, Chieng Mai Prov., Chieng Mai, 325 m, 15–30. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♂.

Plusiopalpa schisa STRAND, 1920 — Thailand, Nakhon Nayok Prov., Khao Yai Nat. Park, 700 m, 29. IX–6. X. 1984, leg. Karsholt, Lomholdt et Nielsen, 1 ♀. — The specimen from Thailand is identical with the type from Formosa in its external characters (the type of *schisa* is a male) and differs from *adrasta* by a series of external and genitalic features. It is an open question, whether this species identical with "*P. crassipalpus* (HAMPSON, 1984)" described from India or not, unfortunately I have not had opportunity to study the type material of *crassipalpus*. The female genitalia of *schisa* is illustrated on Fig. 10.

C) List of species from Africa

Chrysodeixis chalcites (ESPER, 1789) — Tanzania, Usambara Mts., Amani, 5. VIII. 1979, leg. Stoltze, 1 ♂; "L 110" Durban, 11. II. 1951, leg. T. Feddersen, 1 ♂.

Chrysodeixis acuta (WALKER, 1857) — Nigeria, Ibadan, Jan.–July 1954, Leg. H. Stenholt Clausen, 2 ♂♂, 3 ♀♀; "L 110" Durban, 11. II. 1951, leg. T. Feddersen, 1 ♀; Tanzania, Serengeti, Olduvai Gorge, Nov. 1961—March 1962, leg. Bertel Mohl, 1 ♀.

Trichoplusia chalcedona (HAMPSON, 1902) — Tanzania, Mt. Rungwe, SW, 1900 m, 20. VIII. 1980, leg. Stoltze et Scharff, 1 ♂.

Trichoplusia indicator (WALKER, 1857) — Nigeria, Ibadan, Jan.-July 1954, leg. H. Stenholt Clausen, 2 ♂♂.

Trichoplusia violascens (HAMPSON, 1913) (Figs 19–20). — Tanzania, Usambara Mts., Amani, 5. VIII. 1979, leg. Stoltze, 1 ♂.

Trichoplusia vittata (WALLENGREN, 1856) — Nigeria, Ibadan, Jan.–July 1964, leg. H. Stenholt Clausen, 1 ♂, 1 ♀; Tanzania, Lake Malawi, Matema, 1. VII. 1979, leg. M. Stoltze, 1 ♀.

Trichoplusia orichalcea (FABRICIUS, 1775) — Tanzania, Usambara Mts., Amani, 1000 m, 18. VIII. 1979, leg. Stoltze, 1 ♂.

Plusiotricha livida (HOLLAND, 1894) — Tanzania, Usambara Mts., Amani, 5. VIII. 1979, leg. Stoltze, 1 ♂.

Ctenoplusia ogovana (HOLLAND, 1894) — Tanzania, Usambara Mts., Amani, 18. VII. 1979, leg. Stoltze, 1 ♂; Tanzania, Tukuyuu, Manow, 1800 m, 25. VI. 1979, leg. Stoltze, 1 ♀; Tanzania, Lake Malawi, Matema, 1. VII. 1979, leg. Stoltze, 1 ♂; Nigeria, Ibadan, Jan.–July 1954, leg. H. Stenholt Clausen, 1 ♀; "L 110" Durban, Rob Roy Hotel, 11. II. 1951, leg. T. Feddersen, 1 ♂.

Ctenoplusia limbirena (GUENÉE, 1852) — Tanzania, Maranga, 9. VIII. 1978, 1 ♀; Tanzania, Tukuyu, Manow, 1800 m, 25. VI. 1979, leg. Stoltze, 3 ♂♂; Tanzania, Usambara Mts., Amani, 1000 m, 5. VIII. 1979, leg. Stoltze, 1 ♂, 2 ♀♀.

Ctenoplusia microstigma (HAMPSON, 1910) — Nigeria, Ibadan, Jan.–July 1954, leg. H. Stenholt Clausen, 2 ♂♂.

Ctenoplusia mapongua (HOLLAND, 1894) — Tanzania, Usambara Mts., Amani, 5. VIII. 1979, leg. Stoltze, 1 ♂, 18. VII. 1979 leg. Stoltze, 1 ♂.

Ctenoplusia fracta (WALKER, 1857) — Tanzania, Usambara Mrs., Amania, 5. VIII. 1979, leg. Stoltze, 2 ♀♀ ; Tanzania, Lake Malawi, Matema, 1. VII. 1979, leg. Stoltze, 1 ♀ ; Tanzania, Tukuyu, Manow, 1800 m, 25. VI. 1979, leg. Stoltze, 1 ♀.

Plusiopalpa dichora HOLLAND, 1894 (Figs 17–18) — Tanzania, Usambara Mts., Amani, 18. VII. 1979, leg. Stoltze, 2 ♂♂.

Trichoplusia rostrata (FLETCHER, 1963) — Tanzania, Kilimanjaro, Shira plateau, 4000 m, 3. VII. 1970, leg. Torben Wolff, 1 ♂. — A very dark brownish specimen, collected in the alpine zone of Mt. Kilimanjaro, but the configuration of the genitalia of it is identical with those of the specimens from different localities of Africa.

D) List of the species from N America

Pseudoplusia includens (WALKER, 1857) — USA, Maryland, Montgomery County, 5–8. IX. 1975, leg. U. Seneca, 1 ♂; USA , S California, "Scripps" La Jolla, 20. IV. 1959, leg. H. Lemche, 1 ♂; USA, S Carolina, Greenville, 16. IX. 1981, 1 ♀.

Argyrogramma basigera (WALKER, 1865) — "coll. H. Meeske", 1 ♀.

Rachiplusia ou (GUENÉE, 1852) — "Jowa Faakaq", 1 ♂.

Trichoplusia oxygramma (GEYER, 1832) — USA, S Carolina, Greenville, 23. IX. 1981, leg. R. S. Peigler, 1 ♀.

Trichoplusia ni brassicae (RILEY, 1875) — USA, S Carolina, Greenville, VIII. 1981, 1 ♂, 1 ♀.

Allagrapha aerea (HÜBNER, 1802) — USA, New York, Long Island, coll. H. Meeske, 1 ♂, 1 ♀; USA, Connecticut, New Haven County, Quinnipiac College, 18. VI. 1979, 1 ♀; USA, Maryland, Montgomery County, 5–8. IX. 1975, leg. U. Seneca, 1 ♂.

Anagrapha falcifera (KIRBY, 1837) — USA, Virginia, Roanoke, 21. VI. 1958, 3 ♂♂; USA, S Carolina, Greenville, 5. VII. 1982, leg. R. S. Peigler, 1 ♂.

Autographa precationis (GUENÉE, 1852) — USA, Virginia, Roanoke, 21. VI. 1958, 2 ♂♂; USA, S Carolina, Greenville, 24. IX. 1981, leg. R. S. Peigler, 1 ♀.

References

ANGULO, O. (1978): La subfamilia Phytometrinae en Chile (Lepidoptera, Noctuidae). — *Brenesia* **14–15:** 57–95.

CHOU, I. & LU, Ts. (1979a): Two new genera, four new species of Plusiinae and revision of some of its known species (Lepidoptera: Noctuidae). — *Entomotaxonomia* **1** (1): 15–22.

CHOU, I. & LU, Ts. (1979b): Eight new species of Plusiinae and revision of some of its known species (Lepidoptera: Noctuidae). — *Acta ent. sin.* **22** (1): 61–72.

DIERL, W. (1975): Loboplusia vanderweelei Roepke: a little known oriental Noctuid (Lep.). — *Ent. Z.* (Frankfurt) **85** (21): 245–246.

DUFAY, C. (1970): Descriprions de nouvelles especes et d'un genre de Plusiinae Indo-Australiens (Lep., Noctuidae) (Note preliminaire). — *Bull. mens Soc. linn.* (Lyon) **39:** 101–107.

DUFAY, C. (1973): Les Plusiinae des expéditions allemandes au Népal de 1955 a 1967 (Lepidoptera, Noctuidae). — *KHUMBU HIMAL* **4** (3): 389–400.

DUFAY, C. (1974): Descriptions de nouveaux Plusiinae Indo-Australiens et Neotropicaux (Lep., Noctuidae). — *Bull. mens. Soc. linn.* (Lyon) **43:** 102–111.

EICHLIN, T. D. & CUNNINGHAM, H. B. (1978): The Plusiinae (Lepidoptera: Noctuidae) of America North of Mexico emphasizing genitalic and larval morphology. — *U. S. Dept. Agric., Techn. Bull.* No. 1567, p. 1–122.

FRANCLEMONT, J. D. & H. TODD (1983): Check List of the Lepidoptera of America North of Mexico, Part Noctuidae.

HAMPSON, G. F. (1913): Catalogue of the Lepidoptera Phalaenae in the collection of the British Museum, XIII. — *British Mus., (N. H.)*, London.

HOLLOWAY, J. (1979): A survey of Lepidoptera, biogeography and ecology of New Caledonia. — *Series Ent.*, **15** (1–2): 1–588, Hague.

KOSTROWICKI, A. (1961): Studies on the Palearctic species of the subfamily Plusiinae (Lepidoptera, Phalaenidae). — *Acta zool. cracov.* **6** (10): 367–472.
PETERSEN, B. (1966): The Noona Dan Expedition, 1961–62. Insects and other land arthropods. — *Ent. Medd.* **34:** 283–304.
SUGI, S. & M. OWADA (1982): Moths of Japan I–II, part Noctuidae. — in H. INOUE & (ed.): Moths of Japan I–II, Tokyo.
WARREN, W. (1913): Die eulenartige Nachtfalter des palaearctischer Faunengebietes. — in SEITZ: Die Gross-Schmetterlinge der der Erde, III. Stuttgart.

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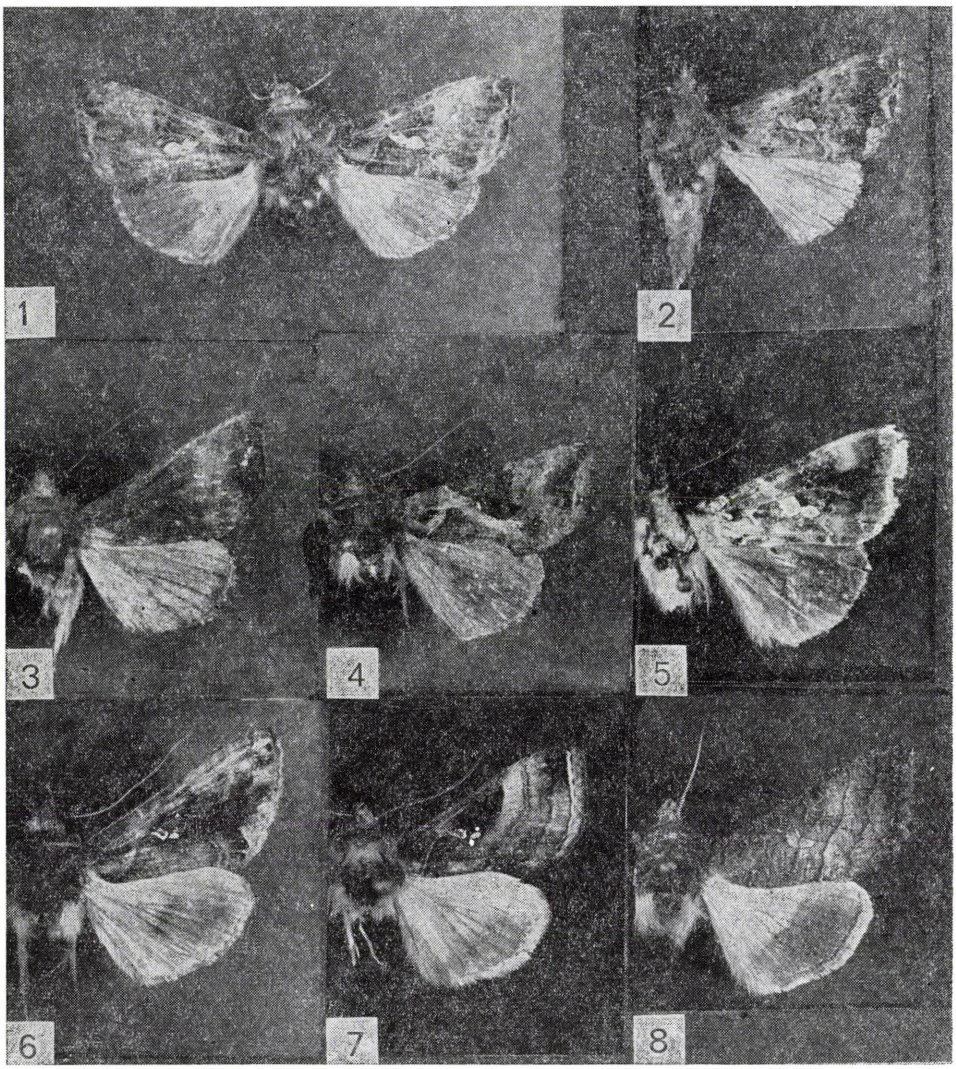
Plate I.



1. *Scriptoplusia noona* sp. n., holotype. — 2. *Scriptoplusia noona* sp. n., paratype. — 3. *Plusia* (s. l.) *aeneofusa* HAMPSON. — 4. *Plusiotricha livida* HOLLAND. — 5. *Ctenoplusia mapongua* HOLLAND. — 6. *Plusiopalpa shisa* STRAND. — 7. *Dactyloplusia impulsa* WALKER. — 8. *Trichoplusia violascens* HAMPSON

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