

Review of the Pterophoridae (Lepidoptera) from the Philippines

C. Gielis

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Cees Gielis, c/o Department of Entomology, Nationaal Natuurhistorisch Museum, P.O. Box 9517, 2300 RA Leiden, The Netherlands (e-mail: c.gielis@net.hcc.nl).

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A review is given of the twenty-two known plume moth species from the Philippines: a checklist, the distribution on the islands and the description of seven new species: *Platyptilia nussi* spec. nov., *P. eberti* spec. nov., *Asiaephorus extremus* spec. nov., *Nippoptilia philippensis* spec. nov., *Capperia meyi* spec. nov., *Hellinsia speideli* spec. nov., and *Adaina microdactoides* spec. nov.

Introduction

The Philippines are a group of islands between the Indonesian Archipelago in the south, Taiwan in the north, the Chinese Sea in the west and the Pacific Ocean in the east. The archipelago consists of a limited number of larger islands and over 7.000 smaller ones.

This study is based on specimens collected by entomologists of the Museum für Naturkunde, Humboldt-University, Berlin, Germany (MNHU), the Zoologisk Museum, University of Copenhagen, Denmark (ZMUC), and the Zoologisch Museum Amsterdam, The Netherlands (ZMA). Apparently, this is the first study of Pterophoridae from the Philippines. Diakonoff (1967) did not include Pterophoridae in his extensive review of the microlepidoptera, and in the checklist the world fauna (Gielis, 1993) no species described from the Philippines were listed.

The combined material at my disposal comprised just over 100 specimens, partly belonging to apparently undescribed species. A checklist of all species known so far from the islands is given, together with a table indicating the distribution across the islands. The new species are described and their genitalia are illustrated.

Checklist of Pterophoridae from the Philippine Islands

N.B. After the name, author and date, the type localities and synonyms are listed

Ochyrotica breviapeax Gielis, 1990. Indonesia, Irian Jaya

Ochyrotica borneoica Gielis, 1988. Indonesia, Kalimantan.

Fletcherella niphadothysana Diakonoff, 1952. Indonesia, Irian Jaya.

Platyptilia molopias Meyrick, 1906. Rep. S. Africa.

Platyptilia nussi **spec. nov.** Philippines.

Platyptilia eberti **spec. nov.** Philippines.

Stenoptilia zophodactyla (Duponchel, 1838) (*Pterophorus*). France.

Pterophorus loewii Zeller, 1847. Italy.

Pterophorus canalis Walker, 1864. Australia.

Mimoseptilus semicostata Zeller, 1873. USA (Texas).

- Asiaephorus extremus* **spec. nov.** Philippines.
- Stenoptilodes taprobanes* (Felder & Rogenhofer, 1875) (*Platyptilia*). Sri Lanka.
Platyptilia brachymorpha Meyrick, 1888. India.
Platyptilia seeboldi Hofmann, 1898. Syria.
Platyptilia terlizzii Turati, 1926. Libya.
Amblyptilia zavatterii Hartig, 1953. Italy.
Platyptilia legrandi Bigot, 1962. Seychelles.
- Exelastis phlyctaenias* (Meyrick, 1911) (*Marasmarcha*). Sri Lanka.
- Exelastis pumilio* (Zeller, 1873) (*Mimeseoptilia*). USA (Texas).
Marasmarcha liophanes Meyrick, 1886. Réunion Isl.
Mimaesoptilus gilvadorsis Hedemann, 1896 (not Zeller, 1877). Virgin Is., St. Croix.
- Sphenarches anisodactylus* (Walker, 1864) (*Oxyptilus*) Sri Lanka.
Sphenarches caffer Fletcher, 1909 (not Zeller, 1852). Rep. S. Africa.
Pterophorus diffusalis Walker, 1864. Australia.
Oxyptilus direptalis Walker, 1864 [part]. Zaire.
Sphenarches synophrys Meyrick, 1886. New Hebrides/Tonga.
Alucita vilis. Matsumura, 1905 (not Butler, 1881). Japan.
Sphenarches chroesus Strand, 1913. Cameroun.
Pselnophorus dolichos Matsumura, 1931. Japan.
Megalorhipida rishwani Makhan, 1994. Surinam.
- Nippoptilia philippensis* **spec. nov.** Philippines.
- Capperia meyi* **spec. nov.** Philippines.
- Megalorhipida leucodactyla* (Fabricius, 1794) (*Pterophorus*). Virgin Islands.
Pterophorus defectalis Walker, 1864. Sierra Leone.
Pterophorus congrualis Walker, 1864. N India.
Pterophorus oxydactyla Walker, 1864. Sri Lanka.
Aciptilia hawaiiensis Butler, 1881. Hawaii.
Trichoptilus ochrodactyla Fish, 1881. USA (Texas).
Trichoptilus centetes Meyrick, 1886. Papua New Guinea.
Trichoptilus compsochares Meyrick, 1886. Cape Verde Is.
Trichoptilus adelphodes Meyrick, 1887. Australia.
Trichoptilus ralumensis Pagenstecher, 1900. Bismarck Is.
Trichoptilus derelictus Meyrick, 1926. Galapagos Is.
Megalorhipida palaestinensis Amsel, 1935. Israel.
Megalorhipida palästinensis Amsel, 1935, incorr. spell.
- Hellinsia lienigianus* (Zeller, 1852) (*Pterophorus*). Letland.
Pterophorus melinodactylus HerrichSchäffer, 1855. Europe.
Pterophorus scarodactylus Becker, 1861. Belgium.
Leioptilus serindibanus Moore, 1886. Sri Lanka.
Leioptilus sericeodactylus Pagenstecher, 1900. Bismarck Is.
Pterophorus victorianus Strand, 1913. Cameroun.
Pterophorus scarodactylus var. *catharodactylus* Caradja, 1920. (partim) Central Asia.
Pterophorus hirosakianus Matsumura, 1931. Japan.
Oidaematophorus mutuurai Yano, 1963. Japan.
- Hellinsia speideli* **spec. nov.** Philippines.
- Adaina microdactyla* (Hübner, [1813]) (*Alucita*). Europe.

- Pterophorus carphodactylus* Stephens, 1834. England.
Adaina montivola Meyrick, 1928. China.
Adaina subflavescens Meyrick, 1930. Indonesia, Sumatra.
Adaina microdactoides **spec. nov.** Philippines.
Emmelina monodactyla (Linnaeus, 1758) (*Phalaena Alucita*). Europe.
Phalaena bidactyla Hochenwarth, 1785. Europe.
Alucita pterodactyla Hübner, [1805], nec Linnaeus, 1758. Europe.
Pterophorus flaveodactylus Amary, 1840. Italy.
Pterophorus cineridactyla Fitch, 1854. USA (New York).
Pterophorus naevosidactyla Fitch, 1854. USA (New York).
Pterophorus impersonalis Walker, 1864. Venezuela .
Pterophorus pergracilidactyla Packard, 1873. USA (California).
Pterophorus barberi Dyar, 1903. USA (Arizona/California).
Pterophorus pictipennis Grinnell, 1908. USA (California).
Pterophorus monodactylus f. *rufa* Dufrane, 1960. Belgium.
Pterophorus niveus (Snellen, 1907) (*Aciptilia*). Indonesia, Java.
Cosmoclostis leucomochla Fletcher, 1947. Sri Lanka.

Table 1. Records of Pterophoridae across the Philippine Islands.

Species	Luzon	Mindoro	Leyte	Negros	Palawan	Mindanao	other islands
<i>Ochyrotica breviapex</i> Gielis						X	
<i>Ochyrotica borneoica</i> Gielis							Tawitawi Balabac
<i>Fletcherella niphdothysana</i> Diakonoff			X				
<i>Platyptilia molopias</i> Meyrick	X	X		X		X	
<i>Platyptilia nussi</i> spec. nov.	X						
<i>Platyptilia eberti</i> spec. nov.	X						
<i>Stenoptilia zophodactyla</i> (Duponchel)	X						
<i>Asiaephorus extremus</i> spec. nov.						X	
<i>Stenoptilodes taprobanes</i> (Felder & R.)	X						
<i>Exelastis phlyctaenias</i> (Meyrick)	X				X		
<i>Exelastis pumilio</i> (Zeller)	X	X	X			X	Samar Panay
<i>Sphenarches anisodactylus</i> (Walker)	X						
<i>Nippoptilia philippensis</i> spec. nov.		X				X	
<i>Capperia meyi</i> spec. nov.	X						
<i>Megalorhipida leucodactyla</i> (Fabricius)	X						
<i>Hellinsia lienigianus</i> (Zeller)	X						
<i>Hellinsia speideli</i> spec. nov.	X				X		Samar
<i>Adaina microdactyla</i> (Hübner)	X		X	X	X	X	Samar
<i>Adaina microdactoides</i> spec. nov.	X					X	
<i>Emmelina monodactyla</i> (Linnaeus)	X						
<i>Pterophorus niveus</i> (Snellen)	X						
<i>Cosmoclostis leucomochla</i> Fletcher			X				

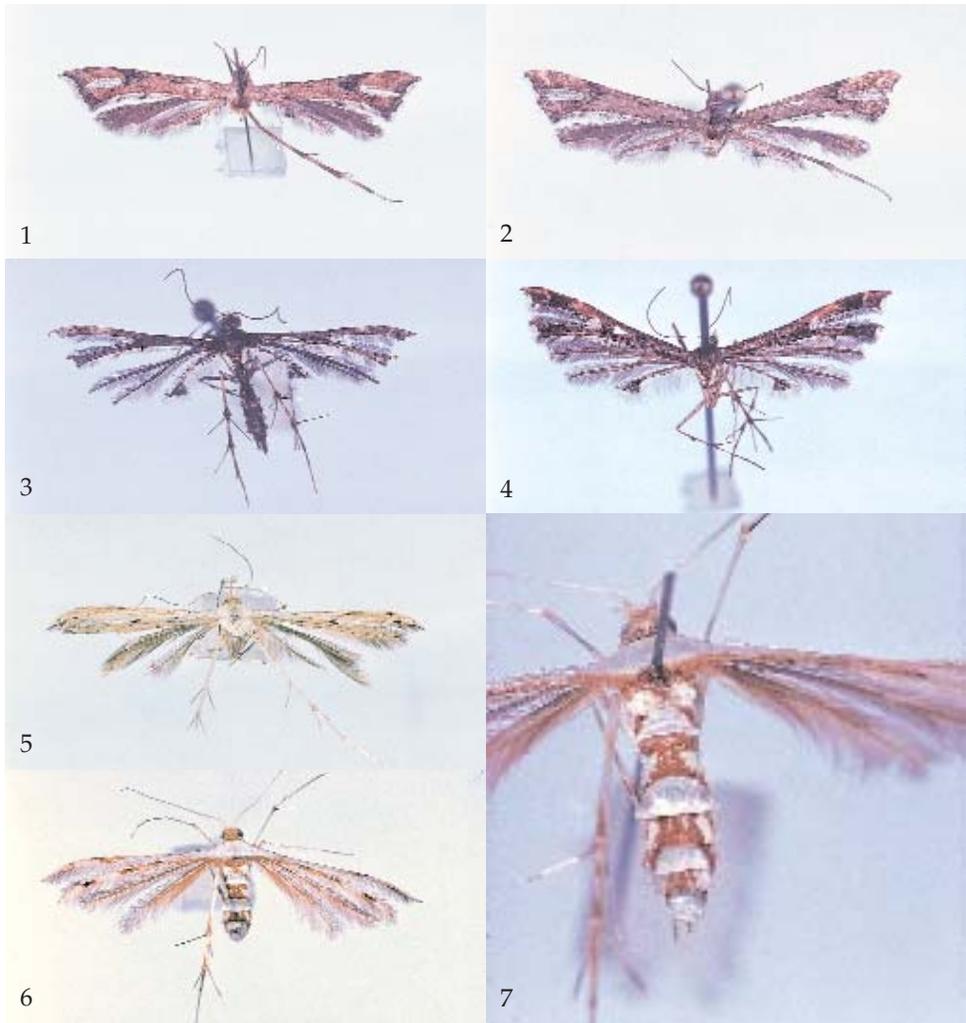


Fig. 1. *Platyptilia nussi* spec. nov. Holotype. Philippines, Luzon, Benguet Kabayan, 21.xi.1997 (Mey, Ebert & Nuss) (MNHU).

Fig. 2. *Platyptilia eberti* spec. nov. Holotype. Philippines, Luzon, N Viscaye, Santa Fe, Malica, Bald Mtns, 1150 m, 11-13.xi.1997 (Mey, Ebert & Nuss) (MNHU).

Fig. 3. *Nippoptilia philippensis* spec. nov. Paratype. Philippines, Mindoro, Mt Halcon, male genitalia, 1050 m, 28.v-7.vi.[19]96 (Mey) (MNHU).

Fig. 4. *Capperia meyi* spec. nov. Holotype. Philippines, Luzon, Benguet Kabayan, Mt Tabay oc, 2350 m, 22-25.xi.1997 (Mey, Ebert, Nuss) (MNHU).

Fig. 5. *Adaina microdactoides* spec. nov. Holotype. Philippines, Mindanao, Bukitnan, Mt Kitanglad, S slope, 2400 m, 4.viii.1993 (A. Schintlmeister & V. Siniaev) (MNHU).

Fig. 6. *Cosmoclostis leucomochla* Fletcher, 1947. Philippines, Leyte, Baybay, 13.iv.1997, (Mey & Speydel), gent. CG 4700 (MNHU).

Fig. 7. *Cosmoclostis leucomochla* Fletcher, 1947. Philippines, Leyte, Baybay, 13.iv.1997, (Mey & Speydel), gent. CG 4700 (MNHU). Abdominal scale pattern.

List of the Pterophoridae from the Philippine Islands

*Ochyrotica breviape*x Gielis, 1990

This species is known from the Indonesian islands, Papua New Guinea and Guadalcanal. In the Philippines it occurs on Mindanao, which is the most northwestern known occurrence.

Ochyrotica borneoica Gielis, 1988

Described from the island of Borneo. In the Philippines only known from Tawitawi and Talabac, these islands belong to the Sulu Archipelago, NE of Borneo (Sabah).

Fletcherella niphadothysana Diakonoff, 1952

A species described from the Baliem region on Irian Jaya. Recently examined material from Java and Sumbawa (coll. NNM) revealed a wider distribution range, now also from Leyte.

Platyptilia molopias Meyrick, 1906

This species has a very wide distribution in the Old World tropics, ranging from Africa through India and Sri Lanka, and to the east as far as Indonesia. Now recognised in the Philippines on Luzon, Mindoro, Negros and Mindanao.

Platyptilia nussi spec. nov.
(figs 1, 12)

Material.— Holotype ♀ (MNHU), "Philippines, Luzon, Benguet, Kabayan, 21.xi.1997 (Mey, Ebert & Nuss), gent. CG 4687".

Diagnosis.— The species is characterised by the shape of the apophyses anteriores and the antrum in the female genitalia.

Description.— Female. Wingspan 19 mm. Head appressedly scaled, brown, collar dark brown, Palps brown, curved up, twice eye diameter. Antennae shortly ciliated, ringed black-brown and grey-brown. Thorax brown. Tegulae ochreous-brown. Mesothorax brown-ochreous. Hind legs ochreous, towards the base of the spurs gradually turning brown and thickened by scales; first tarsal segment proximally whitish and terminally brown; other tarsal segments grey-white, terminally with a narrow brown-grey rim.

Forewings cleft from 2/3rd, ferruginous brown with scattered white scales. Markings black-brown: diffusely along the costa a large costal triangular spot just before the base of the cleft, a dorsal spot at 1/4th, and diffuse darkening in the subterminal area of the first and particularly the second lobe. Faint ochreous lines terminally along the dark costal triangular spot and subterminal lines in both lobes. Fringes grey, with a basal row of black scales at the termen of both lobes, extending just around the anal

angle; small dark scale teeth at the mid-dorsum and at the dorsum opposite the base of the cleft and small black fringes at the apex of both lobes. Underside evenly coloured brown with ochreous lines as above.

Hindwings and fringes dark brown-grey. At the mid-dorsum of the third lobe an almost rectangular scale tooth. Underside dark brown with numerous scattered white scales. Venous scales ferruginous, in a double row, the costal row the longer.

Male genitalia.— Unknown.

Female genitalia.— Ventral margin of ostium centrally slightly extended. Antrum long and slender with a single twist just above the ductus bursae. Ductus bursae very short. Bursa copulatrix with a pair of rather small, horn-like signa. Papillae anales small. Apophyses posteriores slender, four times as long as the diameter of the papillae anales. Apophyses anteriores slender, length twice the diameter of the papillae anales, and without subterminal hooks or widening.

Ecology.— The moth flies in November. The host plant is unknown.

Distribution.— Philippines: Luzon.

Etymology.— The species is named after Dr M. Nuss, one of the collectors of the specimen and investigator of microlepidoptera.

Remarks.— Except for *P. eberti* spec. nov., no similar species have been found in southeast Asia.

Platyptilia eberti spec. nov.
(figs 2, 13)

Material.— Holotype ♀ (MNHU), "Philippines, Luzon, N Viscaya, Sta Fe, Malico, Bald Mtn, 1150 m, 11-13.xi.1997 (Mey, Ebert & Nuss), gent. CG 4688".

Diagnosis.— The species is characterised by the indistinct wingpattern, the female genitalia with a long straight antrum and the apophyses anteriores with a spade-like tip.

Description.— Female. Wingspan 17 mm. Head appressedly scaled, brown-grey, above eye ochreous-brown. Frons with a conical tuft, as long as eye diameter, brown-grey. Palps twice eye diameter, brown-grey, slightly curved up. Antennae shortly ciliated, faintly ringed, dark brown and dark brown-grey. Thorax dark brown-grey; tegulae paler. Mesothorax white-ochreous.

Forewings cleft from 2/3rd, brown-grey. Markings dark brown-grey: a spot in the cell, ill-defined groups of cells along the dorsum, a black-brown costal triangle just before the base of the cleft, and a gradual darkening in the lobes towards the termen, interrupted by a faint ochreous subterminal line which is better defined in the first lobe. Fringes brown-grey; at the termen of both lobes with a basal row of black-brown scales and blackish scale teeth at the dorsum at 2/3rd and 4/5th. Underside brown with an ochreous subterminal line in both lobes and a small ochreous costal spot at the terminal margin of the costal triangle.

Hindwings and fringes brown-grey. A blackish scale tooth at the mid-dorsum of the third lobe; scattered black scales between this scale tooth and the wing base, and fewer between the scale tooth and the termen. Underside brown. Venous scales ferruginous, in a double row, the costal row the longer.

Male genitalia.— Unknown.

Female genitalia.— Ostium asymmetrical, extending to the left. Antrum long and straight. Ductus bursae short. Bursa copulatrix vesicular with a pair of horn-like signa. Papillae anales small and rounded. Apophyses posteriores slender, five times as long as diameter of papillae anales. Apophyses anteriores slender, three times the length of the papillae anales, and ending in a spade-like shape, without lateral hooks.

Ecology.— The moth flies in November. The host plant is unknown.

Distribution.— Philippines: Luzon.

Etymology.— The species is called after Mr W. Ebert, one of the collectors.

Remarks.— The species resembles the Palearctic *P. tesseradactyla* (Linnaeus, 1758) in external appearance, but differs in the shape of the female genitalia, especially the tip of the apophyses anteriores. From *P. nussi* spec. nov. the species differs by the shape of the ostium and the tip of the apophyses anteriores.

Stenoptilia zophodactyla (Duponchel, 1838)

This species is known from all continents. Now recorded from the Philippine island of Luzon for the first time.

Asiaephorus extremus spec. nov.

(fig. 8)

Material.— Holotype ♂ (MNHU), "Philippines, Mindanao, Mt Kitanglad, S side, Intavas, 2400 m, 8°7'N 124°55'E, 4.viii.1993 (A. Schintlmeister & V. Siniaev), gent. CG 4702".

Diagnosis.— The species is characterised by the extremely long cucullar process in the male genitalia. This process is twice as long as in the other species of this genus.

Description.— Male. Wingspan 16 mm. Head appressedly scaled, dark brown, between the base of the antennae and the eyes a bright yellow line. Collar dark brown, with some erect scales. Palps one and a half times eye diameter, dark brown with scattered yellow scales, slightly curved up. Antennae shortly ciliated, dark brown, alternated segments with a white scale. Thorax and tegulae dark brown. Mesothorax yellow. Tip of abdomen with an elongated cucullar process in the shape of a thread-like extension. Hindlegs dark brown, proximal margin of tarsal segments greyish; two pairs of spurs, each pair of equal length, the proximal pair longer than the distal pair. Forewings cleft from 2/3rd, dark brown. Black-brown patches at the costa just before the base of the cleft and in the mid-sections of the lobes. A pale ochreous spot at the termen of the costal patch and a subterminal ochreous line in both lobes. Fringes grey, with a basal row of darker scales at the apical and anal areas and mid-terminal in the second lobe, between these darker scales an ochreous patch; fringes in the basal half of the cleft black, terminally whitish; at the dorsum black scale teeth at 1/2, 2/3rd and 4/5th. Underside dark brown with white lines at the position of the ochreous lines above.

Hindwings and fringes dark brown-grey. At the dorsum of the third lobe a subterminal black scale tooth. Underside dark brown. Venous scales dark ferruginous, in a double row, the costal row the longer.

Male genitalia.— Symmetrical. Valve elongate with a small saccular subterminal patch. Cucullus well-developed and extending to twice the length of the valve, ending in a sharp tip; at the end of the valve a basally directed obtuse, hooked process. Tegumen arched, bilobed. Uncus narrow, as long as tegumen. Anellus arms slender, as long as tegumen. Saccus consisting of an elongated plate encircled by a sclerotised rim. Aedeagus short, strongly curved and with rather small coecum.

Female genitalia.— Unknown.

Ecology.— The moth flies in August at an altitude of 2400 meters. The host plant is unknown.

Distribution.— Philippines: Mindanao.

Etymology.— The name expresses the very long cucullar process in the male genitalia.

Stenoptilodes taprobanes (Felder & Rogenhofer, 1875)

This species has a pantropical distribution, which extends into subtropical areas. In the Philippines found on Luzon.

Exelastis phlyctaenias (Meyrick, 1911)

The status of this species is not completely certain, as the synonymy in the species group to which the species belongs has only recently been established. These data will be published in the near future. Distribution data of species in the group need verifying, based on present knowledge. At present confirmed data are present from Virgin Islands, Sri Lanka, Tanzania, Kenya and the islands of Luzon and Palawan in the Philippines.

Exelastis pumilio (Zeller, 1873)

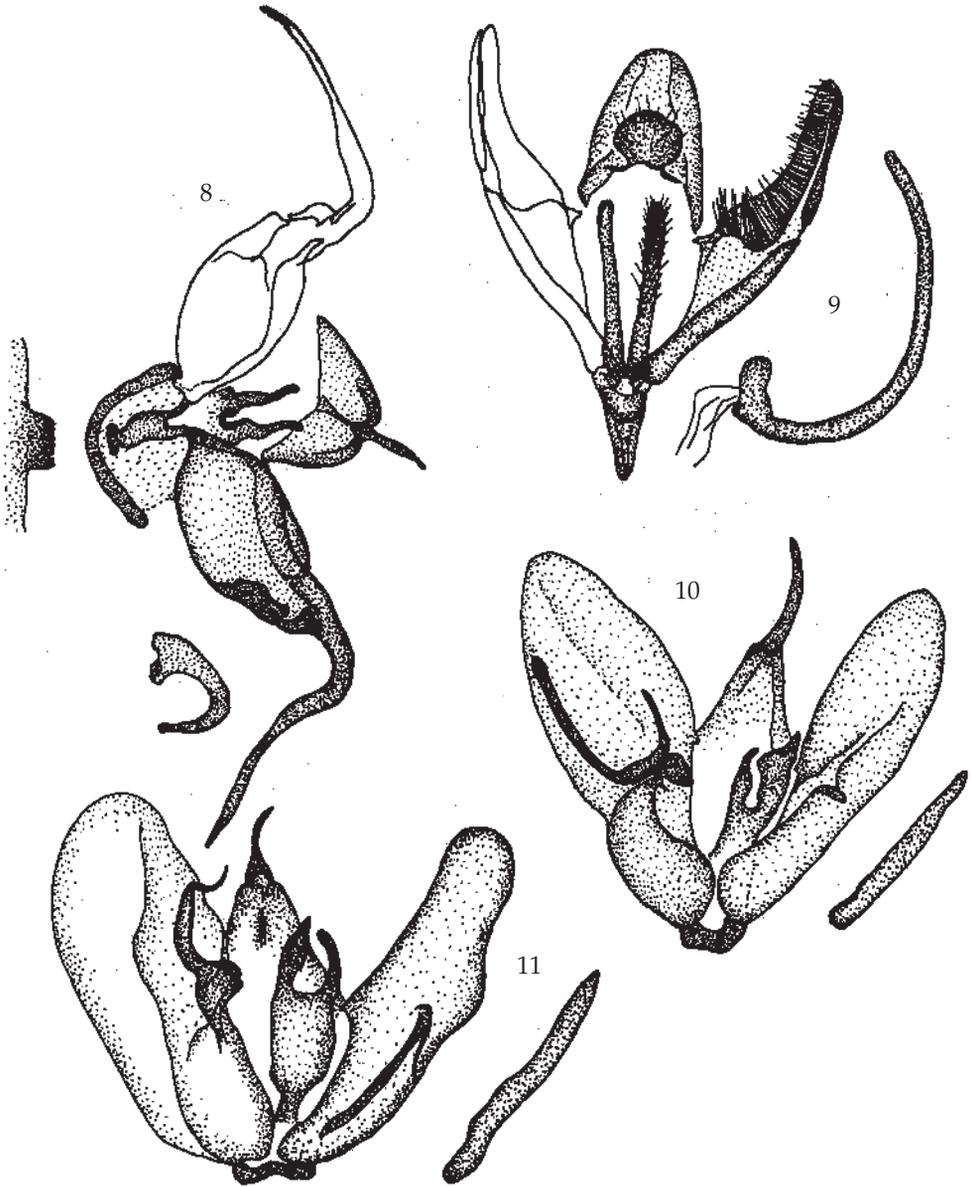
A species with a pantropical distribution. In the Philippines recognised from Luzon, Mindoro, Leyte, Mindanao and Samar.

Sphenarches anisodactylus (Walker, 1864)

A species with a pantropical distribution. In the Philippines recognised from Luzon and Panay.

Nippopectilia philippensis spec. nov.
(figs 3, 9)

Material.— Holotype ♂ (MNHU), "Philippines, Mindanao, Mt Agtuuganon, 1050 m, 28.v-7.vi.[19]96 (Mey), gent. CG 4704". Paratypes: 1 ♂ (MNHU), "Philippines, Mindoro, Mt Halcon, 1300 m, 15-17.i.1998 (Mey & Samarita), gent. CG 4683; 1 ♂ (CG), "Philippines, Mindanao, Mt Kitanglad, S side, Intavas, 1200 m, 8°7'N 124°55'E, 2.viii.1993 (A. Schintlmeister & V. Siniaev), gent. CG 4701; 1 ♂ (MNHU), "Philippines, Mindanao, Mt Kitanglad, S side, Intavas, 1650 m, 8°7'N 124°55'E, 5.viii.1993 (A. Schintlmeister & V. Siniaev)".



Figs 8 - 11. Male genitalia.

Fig. 8. *Asiaephorus extremus* spec. nov. Holotype. Philippines, Mindanao, Bukidnan, Mt Kitanglad, Intevas, 2400 m, 87°N 12455'E, 4.viii.1993 (A. Schintlmeister & V. Siniav), gent. CG 4702 (MNHU).

Fig. 9. *Nippoptilia philippensis* spec. nov. Paratype. Philippines, Mindoro, Mt Halcon, 1050 m, 28.v-7.vi. [19]96 (Mey), gent. CG 4704 (MNHU).

Fig. 10. *Hellinsia speideli* spec. nov. Holotype. Philippines, Samar, Loquilocon, Ulut river, 80 m, 27.iv.1997 (Mey & Speydel), gent. CG 4689 (MNHU).

Fig. 11. *Adaina microdactoides* spec. nov. Holotype. Philippines, Mindanao, Bukitnan, Mt Kitanglad, 2400 m, 4.viii.1993 (A. Schintlmeister & V. Siniav), gent. CG 4682 (MNHU).

Diagnosis.— The species is characterised by the male genital structure.

Description.— Male. Wingspan 15-19 mm. Head appressedly scaled, dark brown, between the base of the antennae and between the eyes an indistinct row of yellow scales. Palps one and a half times eye diameter, curved up, dark brown with some yellow scales in middle of segments two and three and at the termen of segment two. Antennae shortly ciliated, dark brown with a yellow scale on the alternate segments. Thorax and tegulae dark brown. Mesothorax white-yellow. Abdomen dorsally dark brown, ventrally white-yellow. Hindlegs dark brown, with two pairs of spurs of equal length.

Forewings cleft from middle, dark brown. Markings consist of a faint ochreous costal spot at 1/3rd of the first lobe and an indistinct ochreous subterminal line in both lobes, best recognised in the first lobe. Fringes grey, with ochreous parts at the termen of both lobes, two sections at the dorsum from the base of the cleft to 1/3rd followed by a narrow grey patch and a second ochreous patch to 2/3rd of the second lobe. In the fringes scattered black scales and a scale tooth at the dorsum opposite the base of the cleft. Underside dark brown with ochreous markings as above.

Hindwings and fringes grey-brown. Third lobe with a subterminal dorsal black scale tooth, and at the costa and dorsum of the third lobe scattered black scales. Underside grey-brown. Venous scales brown-black, in a double row, the costal row a little longer than the dorsal row.

Male genitalia.— Symmetrical. Valves rather narrow, elongate. Sacculus bilobed, the dorsal part in the shape of a spine along the valve. Cucullus basally arched, simple. Tegumen simple, arched. Uncus at the base of the tegumen, globular, half the tegumen length. Anellus arms slender, just over the tegumen length. Saccus conical, half the tegumen length. Aedeagus as long as the valve, arched; the coecum at the base of the aedeagus.

Female genitalia.— Unknown.

Ecology.— The moth flies in January, May-June and August at an altitude of 1000-1650 m. The host plant is unknown.

Distribution.— Philippines: Mindanao, Mindoro.

Etymology.— The name of the species reflects the country of its origin.

Remarks.— The specimen from Mindoro island is bigger with a wingspan of 19 mm in contrast to the 16-17 mm of the Mindanao specimens. Also the colour is much paler and the ochreous markings are more clearly visible.

Figs 12-16. Female genitalia.

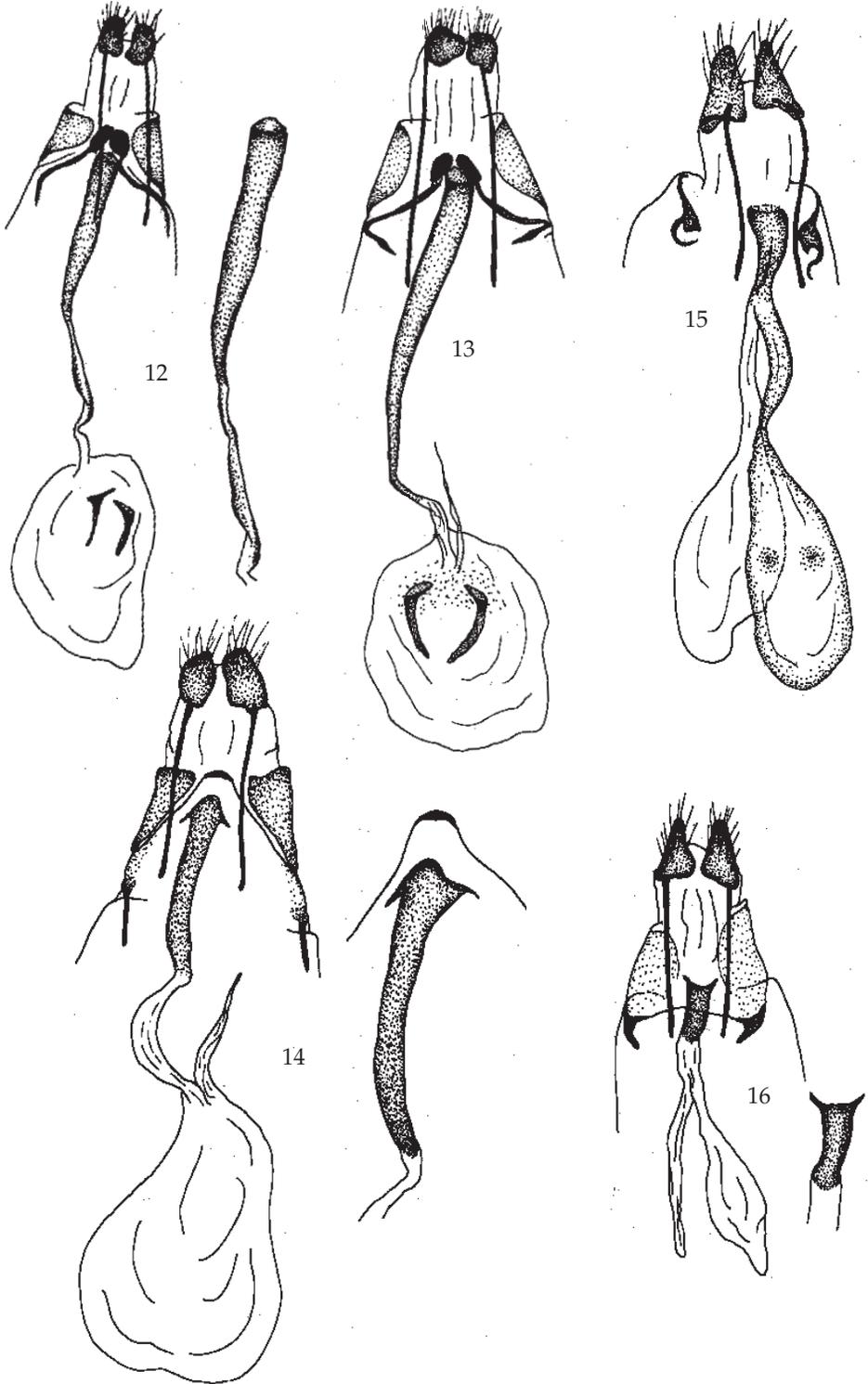
Fig. 12. *Platyptilia nussi* spec. nov. Holotype. Philippines, Luzon, Benguet Kabayan, 21.xi.1997 (Mey, Ebert & Nuss), gent. CG 4687(MNHU).

Fig. 13. *Platyptilia eberti* spec. nov. Holotype. Philippines, Luzon, N Viscaye, Santa Fe, Malica, Bald Mtns, 1150 m, 11-13.xi.1997 (Mey, Ebert & Nuss), gent. CG 4688 (MNHU).

Fig. 14. *Capperia meyi* spec. nov. Holotype. Philippines, Luzon, Benguet Kabayan, Mt Tabayoc, 2350 m, 22-25.xi.1997 (Mey, Ebert, Nuss), gent CG 4681 (MNHU).

Fig. 15. *Hellinsia speideli* spec. nov. Paratype. Philippines, Palawan, Mt St Paul, 5-6.iv.1995 (W. Mey), gent. CG 4684 (MNHU).

Fig. 16. *Adaina microdactoides* spec. nov. Paratype. Philippines, Luzon, Sta Fe, Bald Mtn, 1150 m, 11-13.xi.1997 (Mey, Ebert & Nuss), gent. CG 4703 (MNHU).



Capperia meyi spec. nov.
(figs 4, 14)

Material.— Holotype ♀ (MNHU), "Philippines, Luzon, Benguet Kabayan, Mt Tabayoc, 2350 m, 22--25.xi.1997 (Mey, Ebert, Nuss), gent. CG 4681".

Diagnosis.— The species is characterised by the female genital structure.

Description.— Female. Wingspan 20 mm. Head appressedly scaled, dark brown, face with numerous white scales. Collar with some erect bifid scales. Palps slender, protruding, twice the eye diameter. Antennae shortly ciliated, indistinctly ringed grey-brown and dark brown. Thorax and tegulae dark brown. Mesothorax white. Hindlegs dark brown, at the base of the spur pairs a small scale bristle, and between the base of the spur pairs a white patch. Spur pairs of equal length.

Forewings cleft from 4/7th, brown. Markings dark brown consisting of an indistinct large spot at the base of the cleft and a darkening in the centre of both lobes. In addition ochreous markings: a small dorsal spot at 1/5th, and around the base of the cleft; transverse lines in the lobes at 1/3rd and 2/3rd; diffuse scales along the costa and dorsum of the wing. Fringes brown-grey, mixed with numerous large dark brown scales; pale patches at the termen of both lobes, at the anal angle of the first lobe and two at the dorsum of the second lobe from the base of the cleft to the middle of the lobe. Small dark brown scale teeth at the dorsum at 1/3rd, 1/2 and 3/5th. Underside dark brown with ochreous patches at the costal area of the base of the cleft, at 1/4th the costa of the first lobe and a subterminal line at 3/4th of the first lobe.

Hindwings and fringes brown-grey. Third lobe with numerous brown scales. At the dorsum of the third lobe a subterminal dark brown scale tooth, and scattered dark brown scales in the costal and dorsal fringes of this lobe. Underside dark brown. Venous scales dark ferruginous, in a double row, the costal row slightly longer than the dorsal row.

Male genitalia.— Unknown.

Female genitalia.— Ostium curved and laterally extended. Antrum five times longer than wide. Ductus bursae a little shorter than antrum. Bursa copulatrix vesicular, without signum. Ductus seminalis originating from bursa copulatrix. Lamina postvaginalis with an arched, narrow sclerotised half moon above the ostium. Papillae anales simple. Apophyses posteriores three times as long as papillae anales. Apophyses anteriores as long as papillae anales.

Ecology.— The moth flies in November at an altitude of 2350 meter. The host plant is unknown, but presumed to be, like all other known species in the genus *Capperia*, in the Labiatae.

Distribution.— Philippines: Luzon.

Etymology.— The species is called after Dr W. Mey, one of the collectors and an investigator of microlepidoptera.

Megalorhipida leucodactyla (Fabricius, 1794)

A very common species with a pantropical distribution, also in austral South America, subtropical North America, North Africa and the Middle East well extending

into the subtropical areas and occasionally the actual temperate climate zones. In the Philippines known from Luzon.

Hellinsia lienigianus (Zeller, 1852)

This species is distributed in the Palearctic area, from W Europe to Japan. To the southeast the species extends into Vietnam and Indonesia, it is recognised now from Luzon in the Philippines.

Hellinsia speideli spec. nov.
(fig. 15)

Material.— Holotype ♂ (MNHU), "Philippines, Samar, Loquilocon, Ulut river, 80 m, 27.iv.1997 (Mey & Speydel), gent. CG 4689". Paratypes: 1 ♀ (MNHU), "Philippines, Palawan, Mt St Paul, 5-6.iv.1995 (W. Mey), gent. CG 4684; 1 ♀ (CG), Philippines, Luzon, Mt Malinao, Amater, 25-26.iii.2000 (Mey & Ebert)".

Diagnosis.— The species is characterised by the male and female genital structures. The species belongs to the *lienigianus*-group, but differs in the shape of the saccular process in the male and the apophyses anteriores in the female.

Description.— Male, female. Wingspan 13-15 mm. Head appressedly scaled, creamy white, collar area and face ferruginous. Collar ferruginous with numerous erect, bifid scales. Palps protruding, as long as eye diameter, ferruginous. Antennae pale brown-grey, shortly ciliated. Thorax and tegulae creamy white. Hindlegs creamy white, with two pairs of creamy white spurs, the pair of spurs of equal length, the proximal spurs longer than the distal spurs.

Forewings cleft from the middle, creamy white. Markings brown: a discal spot; a spot at the base of the cleft; first lobe with costal spots at 1/5th, 3/5th and 5/6th and a dorsal spot at 3/4th; second lobe with a small apical spot; a diffusely scattered number of scales along the costa and dorsum of the wing. Fringes pale brown-grey. Underside pale grey-brown, with some darker brown spots: obliquely at the base of the cleft and longitudinally in the first lobe.

Hindwings and fringes brown-grey. Underside pale brown. Venous scale brown-black, in a double row, the costal row more expressed and the longer.

Male genitalia.— Valves asymmetrical. Left valva with a forked, centrally positioned, saccular process. The saccular arm of the saccular process longer than the

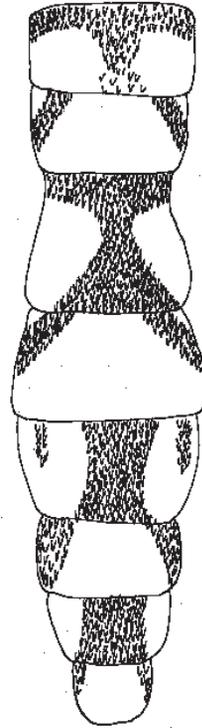


Fig. 17. *Cosmoclostis leucomochla* Fletcher, 1947. Philippines, Leyte, Baybay, 13.iv.1997, (Mey & Speydel), gent. CG 4700 (MNHU). Abdominal scale pattern.

cucullar arm. Right valva with a centrally positioned small saccular sclerotised ridge. Tegumen simple, slender. Uncus slender, a little shorter than tegumen. Anellus arms asymmetrical, as long as tegumen. Saccus simple, arched. Aedeagus straight, without cornutus.

Female genitalia.— Ostium round. Antrum gradually narrowing, twice as long as ostium diameter. Basally in the antrum a small longitudinal sclerite. Ductus bursae one and a half times antrum. Bursa copulatrix vesicular. Signum in shape of a pair of small spines in rosette arrangement. Ductus seminalis vesicular, as long as bursa copulatrix. Papillae anales triangular, simple. Apophyses posteriores slender, twice as long as diameter papillae anales. Apophyses anteriores as long as papillae anales, complex: a distal part gradually widening with a basal slender, curved extension.

Ecology.— The moth flies in March and April. The host plant is unknown.

Distribution.— Philippines: Palawan, Samar, Luzon.

Etymology.— The species is named after one of its collectors, Dr W. Speidel, entomologist at the Humboldt University.

Adaina microdactyla (Hübner, [1813])

This species is distributed in the Palaearctic region and extending into the Oriental region, from W Europe to Japan, and India and Sri Lanka in the south. To the south-east the species extends into Vietnam, Indonesia and Papua New Guinea. Now recognised from Luzon, Leyte, Palawan, Negros, Samar and Mindanao in the Philippines.

Adaina microdactoides spec. nov.
(figs 5, 11, 16)

Material.— Holotype ♂ (MNHU), "Philippines, Mindanao, Bukitnon, Mt Kitanglad, S slope, 2400 m, 4.viii.1993 (A. Schintlmeister & V. Siniaev), gent. CG 4682". Paratypes: 1 ♂ (CG), same data as holotype; 1 ♀ (MNHU), "Philippines, Luzon, Sta Fe, Bald Mtn, 1150 m, 11-13.xi.1997 (Mey, Ebert & Nuss), gent. CG 4703"; 1 ♂ (CG), "Philippines, Luzon, Mt Tabayoc, 2350 m, 22-25.xi.1997 (Mey, Ebert & Nuss)".

Diagnosis.— The species is characterised by a distinct genital structure and by the absence of the dark spot at the base of the cleft on the forewing.

Description.— Male, female. Wingspan 13-14 mm. Head appressedly scaled, brown, between the base of the antennae ochreous. Collar brown with erect, long and bifid scales. Palps ochreous-brown, slender, protruding, as long as eye diameter. Antennae shortly ciliated, ochreous. Thorax, tegulae, mesothorax and abdomen ochreous. On abdomen a small brownish dorsal spot at segment seven. Hindlegs ochreous-yellow, with two pairs of spurs, the proximal pair longer than the distal pair.

Forewings cleft from 2/5th, ochreous-yellow. Markings brown: first lobe with a costal spot at 1/3rd and 2/3rd and a dorsal spot at 4/5th; second lobe with an apical spot. Fringes yellow-grey. Underside pale brown, paler towards the apex of the lobes.

Hindwings and fringes pale grey. Underside brown-grey. Venous scales black, in a double row, the costal row the longer.

Male genitalia.— Valves asymmetrical. Left valve vesicular, with a curved, almost angulated, cucullar process. Right valve narrower than the left valve, with a bulging

out of the saccular midsection. The sacculus simple with an indistinct curved rim. Tegumen bilobed, moderately long. Uncus short, half the tegumen length. Anellus arms stout, asymmetrical. Saccus narrow, band-like. Aedeagus straight, without cornutus.

Female genitalia.— Ventral margin of ostium excavated. Antrum twice as long as wide. Ductus bursae as long as antrum. Bursa copulatrix vesicular, without signum. Ductus seminalis as long as bursa copulatrix, vesicular. Papillae anales normal shaped. Apophyses posteriores twice as long as papillae anales, slender. Apophyses anteriores hooked, rather stout, half the length of papillae anales.

Ecology.— The moth flies in August and November, at an altitude between 1100 and 2400 meters. The host plant is unknown.

Distribution.— Philippines: Luzon, Mindanao.

Etymology.— The name of the species reflects the resemblance to *Adaina microdactyla* (Hübner), a species occurring commonly in the archipelago.

Emmelina monodactyla (Linnaeus, 1758)

This species occurs in the temperate zone of the northern hemisphere. Specimens occasionally are collected in the tropical area and southern hemisphere: Venezuela, Kenya, Tanzania. A specimen was collected in the cabin of an airplane flying from Manilla to Amsterdam. In respect to the distribution of the species in general, it is assumed that the specimen originates from Luzon.

Pterophorus niveus (Snellen, 1903)

The species has been described from Java. An incorrect synonymy (Gielis, 2000) has long obscured the distribution. Now recognized from Indonesia to the Solomon Islands. The present material extends the range to the north to the Philippine island of Luzon.

Cosmoclostis leucomochla Fletcher, 1947
(figs 6, 7, 17)

This species has been described from Sri Lanka. A few specimens are known from Birma. Now a specimen has been found on Leyte.

The specimen from Leyte differs from the Sri Lanka specimens by minute differences in the colour pattern (cf. Arenberger, 1998) dorsally on the abdomen. The female genitalia are identical with the type-specimen.

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