Generic revision of the superfamily Pterophoroidea (Lepidoptera)

C. Gielis

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The genera of the superfamily Pterophoroidea are redescribed. Three new genera are described: *Dejongia*, *Stockophorus* and *Shafferia*. The characters of the genera and their states are translated into a data matrix. A majority rule consensus tree composed with PAUP serves as a basis for a phylogenetic analysis. A cladogram, representing the views of the author, based on the data acquired, is presented with argumentation. The evaluation of the characters is discussed. A new subfamily is erected, the Deuterocopinae. The Pterophorinae are redefined. The Platyptiliinae are synonymized with the Pterophorinae. The Macropiratidae, considered by Minet (1991) a subfamily or a genus of the Pterophoridae, has been raised to family rank, and is placed as the sister group of the Pterophoridae in the superfamily Pterophoroidea. A discussion is given on the biogeographical data. The only known Pterophorid fossil is discussed and placed in a time scale. A checklist is produced of all known species of Pterophoroidea arranged according to the definition of the genera as (re)described in this publication.

C. Gielis, c/o Nationaal Natuurhistorisch Museum (formerly Rijksmuseum van Natuurlijke Historie), Postbus 9517, 2300 RA Leiden, The Netherlands.

Contents

I. Introduction

A. General remarks*

Within the Lepidoptera, the family of the Pterophoridae is well-defined by the cleft in the fore wings and the double cleft in the hind wings in most species. These characters differentiate them from nearly all other Lepidoptera. Only the families Alucitidae (formerly Orneonidae) with six lobes per wing and Oxychirotidae with a single cleft in both the fore and hind wing, have their wings cleft too. Cleft wings, with a single cleft in the fore wing and a double cleft in the hind wing, are not characteristic for the entire family. The character unique to the family Pterophoridae is the presence of venous scales at the underside of the hind wing, along veins M3 and Cu2. Currently, the family is divided into four subfamilies. Of these the subfamilies Agdistinae and Ochyrotinae have uncleft wings and the Pterophorinae and Platyptiliinae have cleft wings. The feather-like appearance of the cleft wing, is reflected in vernacular names of this family: Plume moths (English), Federmotten (German), Fjädermott (Swedish), Fjermöl (Danish) and Vedermot (Dutch). These "feathers", or lobes, as they are called in this publication are fringed by pronounced "hairs". The fringe hairs are differentiated in paler and darker parts. In the fringes pronounced scales lined up in a row, scale groups or scale teeth may be present.

Minet (1991) in reconstructing the phylogeny of the ditrysian moths considers the presence of a fifth subfamily: Macropiratinae. The characters mentioned by him, supporting the relationship between the Macropiratinae and the other subfamilies of the Pterophoridae are: (a) ocelli absent; (b) no spinarea (a wing locking device occasionally present in the Alucitoidea); (c) wing position in rest; (d) fenestra media (defined by Minet in 1982) absent or reduced; (e) tergal rim ventrally very narrow in posterior view; among others. The present author is of the opinion that the following characters, which are present in the Pterophoridae but absent in the Macropiratinae are sufficient to give the Macropiratinae family rank: (a) maxillary palpi absent; (b) metathorax with very narrow subalar sclerites; and (c) underside of hind wing with venous scales along M3 and Cu1.

The families Pterophoridae and Macropiratidae comprise the superfamily Pterophoroidea.

The wings are narrow. In rest the wings are placed rectangularly to the body, giving it a "T"-like appearance, and folded in such a way that only a minor surface remains exposed, making the specimens hard to detect by day. The way the wings are folded is variable and seems to vary per subfamily (Wasserthal, 1974).

The wing venation is rather uniform. In the subfamily Pterophorinae some variation is found in the radial veins, and the differences are used in the generic grouping of the family. The presence of one or two veins in the third lobe of the hind wing has been used to differentiate the subfamilies of the Platyptiliinae and Pterophorinae.

In the Agdistinae the markings on the fore wings are reduced to a small number of dots at the costa, at the margin of the naked field and faint spots at the dorsum. (The naked field is a terminal triangular field on the fore wing of *Agdistis* species,

Note.— Wherever the names Platyptiliinae and Pterophorinae are mentioned in this chapter, they are used in their traditional meaning, as current before the results of the present study were known.

containing fewer cover scales. It plays a role in wing folding.) Throughout the family spots at or before the base of the cleft are present. The remaining patterns are more or less restricted to a subfamily or/and generic grouping. In the Platyptiliinae, the *Platyptilia* group of genera have a remarkable costal triangle, and in the *Oxyptilus* group the transverse brown markings bordered by narrow white lines are a general phenomenon. In the generic group of *Stenoptilia* dots and lines before the cleft and in the fore wing lobes are present, combined with small scale groups in the terminal fringes of the fore wing. In the subfamily Platyptiliinae a group or row of pronounced scales may be present in the fringes of the termen or, more commonly, on the dorsum. In addition there is a scale tooth at the dorsum of the third hind wing lobe. In the Pterophorinae the markings are limited to a more or less pronounced number of spots at the costa, the dorsum, near the base of the cleft and in the separate lobes. The pronounced scale teeth, as seen in the Platyptiliinae, are not present in this subfamily.

A character present in all species belonging to the family, and found in both males and females, are the rows of specialized scales on the underside of the hindwing. These scales have been referred to as androconial scales (German: *Duftschuppen*), but their presence in the females makes the function of these scales doubtful. It seems better to refer to these scales as venous scales.

In general the head is broad and appressedly scaled, with a variable number of erect scales in the collar region. The frons may show a conical extension of the head. The eyes are ball-shaped, in lateral view. Ocelli and maxillary palpi are absent. The labial palpi have three segments with appressed scaling, sometimes with small "hair" brushes along the segments, and are protuberant or upcurved. Between the palpi a rather well-developed tongue is present. The antennae are filiform, appressedly scaled with short ciliation; the first segment is pronounced. The antennae vary in length from half as long to as long as the fore wing.

The thorax has a compact, cubical structure. The thoracical segments are appressedly scaled.

The moths are slender, with a long abdomen and long and slender legs. The fore legs are the shortest, the hind legs by far the longest. The tibial segments are longer than the coxal segments. The hind legs have a double pair of spurs on the tibiae. The spurs of each pair may be of equal or unequal length, and the length of the proximal and distal spur pair may be different as well. At the base of the spur pairs a scale brush may be present, as found in the genus *Oidaematophorus*. The five tarsal segments show considerable differences in size, the basal segment being the longer. At the top of the fifth tarsal segment a pair of small claws is positioned.

On the margins of the abdominal segments scale brushes may be present, often paired and placed dorsally. This feature is found in some species of the genus *Stenoptilia* and *Pterophorus*. In the *Oxyptilus* genus complex a lateral scale brush may be found along the ninth segment. On the dorsal and ventral sides of the abdomen linear markings or patterns may be present.

The Pterophoridae are very widespread, and are found from the arctic and antiboreal to the tropical zones. In mountainous areas considerable altitudes may be reached. As a consequence the species occur in very wide range of ecological conditions. Examples of extreme conditions can be found in the *Agdistis* species living in salt marshes along the coast, and under desert-like circumstances in southern Spain,

and in the species of *Stenoptilia* from the high altitudes in the Alps, and from Iceland and Greenland under arctic conditions. Other species live in shady woods among the herbaceous vegetation, or in clearings of woodlands. Also extreme wet environments are inhabitated, such as moorlands and wet meadows, and banks of rivers, brooks and ditches; drier areas like heaths and herbaceous road sides complete the variety of habitats.

The ecological variation is reflected in the biology of the species. A major group of larvae feed in the root stocks and stems of their host plants, using them as a shelter to overwinter. Other species feed on the foliage. A number hibernates in stems and feeds in spring and/or summer on leaves, flowers and seeds. Peculiar species in this respect are *Adaina microdactyla* which lives in the stem of *Eupatoria* in the winter generation, and in the summer generation on the leaves and flowers, and *Buckleria paludum* which feeds on the leaves of *Drosera* species. The major host plant families are the Compositae, Labiatae, Gentianaceae and Rosaceae.

The larvae of Pterophoridae are easily recognizable. They tend to have a dense setal pattern. The setae are long and often flattened at the top. In a number of cases these setae produce a sticky fluid which seems to act as a protection against predators. In general the setae are grouped and these groups are basically arranged in four longitudinal rows on the larva. The larvae with long setae feed externally on the host plants. A typical pattern is eating the underside of a leaf and leaving the upper surface cuticula layer intact, leading to fenestration of the leaf. Another group of larvae has short setae. These larvae tend to live as root or stem borers. The larva of *Adaina microdactyla* bores in the stems of the host plant and stimulates the formation of galls there. In general the colour of the long-setose species is a mixture of green and brown spots and lines, without a characteristic common pattern. In the borers the larvae are yellow-white without a pattern; some species are reddish-brown. In all cases the first instar larvae have significantly shorter and less dense setae than later instar larvae.

In the majority of cases the information on the biology of the species is based on material and publications originating from western, southern and central Europe. The breeding efforts by French authors working in the south of France and on the island of Corsica, and by Mrs D. Matthews-Lott in Florida, are of great value in this respect. The biology of species in the tropical area is mainly unknown.

The pupae tend to have a setal pattern similar to the larvae, but less clearly expressed. Especially the group of the borers have poorly developed setae. A peculiar paired dorsal structure, in the shape of a small clump of cristals with isolated hairs, on the pupae is seen in some representatives of the genera *Platyptilia*, *Stenoptilodes*, *Lantanophaga*, *Paraplatyptilia* and *Stenoptilia*. The function of this structure is uncertain at present. Several structures of the imago are visible on the pupa, especially the head, tongue, palpi and parts of the wings.

The eggs are without peculiarities. The colour varies from yellow-white, yellow to pale and deep green. The shape is rounded to oval, elliptical, with a slightly flattened top. The surface is smooth to delicately reticulate, especially near the top of the egg.

B. Historical notes

The first author who treated the plume moths in the binominal nomenclature was

Linnaeus, in his "Systema Naturae" (10th edition), 1758. He diagnosed the group Alucitae with: "Alis digitalis fissis ad basin". In 1761, other species were mentioned and described in short in "Fauna Svecica". It should be added that in the older literature plume moths were also mentioned, but the species were not treated in the binominal nomenclature, e.g. in works of Réaumur and Rössler von Rosenstamm.

In the second half of the 18th century all species were placed in one family, together with the species currently placed in Alucitidae (Orneonidae). The name used by Linneaus changes from "Alucitae" to "Pterophorus" (Schäffer, 1766), the species remained part of the general "family" Phalaena comprising all night flyers.

Species were added by Scopoli (1763) in his "Entomologia Carniolica", Denis and Schiffermüller (1775) in the "Wiener Verzeichniss" and Haworth (1811) in the "Lepidoptera Britannica". In the years 1796 to 1834 Hübner published his "Sammlung Europäischer Schmetterlinge". This work extended the knowledge of the Lepidoptera in general, but gave rise to numerous discussions on the status of many of the species treated, which were briefly described and sometimes poorly illustrated on the plates. This work was criticized in general by Duponchel (1838) and specifically on Pterophoridae by Zeller (1841). A great number of the species were considered to be synonyms of those already described.

In 1796 Latreille separated the Alucitidae (Orneonidae) from the Pterophoridae. The subdivision of the of the latter family into genera lasted until 1825, when Hübner published his "Verzeichniss Bekannter Schmetterlinge".

Zeller (1841, 1852) revised the known world fauna of the plume moths, but did not make essential changes in the already proposed generic system. Wallengren (1862) treated the Scandinavian species and made a finer differentiation in the genera, but left the fundamental divisions unchanged.

Tutt (1906), in his very accurate study of the larvae and adults, came to the conclusion that the Pterophoridae should be divided into three subfamilies: Agdistinae, Platyptiliinae and Pterophorinae. Moreover, he created a number of new genera and subgenera, mainly for the European fauna. His studies were published in volume V of "A natural history of British Lepidoptera".

At the time Tutt was working on the British fauna, Meyrick worked on the Microlepidoptera of the entire world. In his publications numerous species of Pterophoridae were described. He compiled his knowledge of the family in the pterophorid parts of the "Genera Insectorum" (1908) and "Lepidopterorum Catologus" (1913). These publications are examples of the "state of the art" at the time; however, the importance of the conclusions of Tutt were underestimated and Tutt's taxa were synonymized by Meyrick. Others have based themselves on Meyrick's publications. T.B. Fletcher worked on the fauna of the British Empire. So did Lord Walsingham, but he also gave great attention to North and Central America. In North America Fernald, Barnes, Lindsey, Lange and McDunnough are to be mentioned and in the Pacific region and Japan Zimmerman, Yano and Gates Clarke. Recently great interest in the plume moths has arisen, especially in Europe. Numerous contributions on the taxonomy and biology of the species have been made by, for example, Arenberger, Bigot, Buszko, Gibeaux and Nel.

C. Facing a problem

In 1987 I was asked to identify the Pterophoridae collected by the Danish Scientific Missions to Patagonia. This was a challenge I accepted with some hesitation, since the fauna was totally new for me. In previous years I had examined a number of type-species of tropical Pterophoridae; now I was forced to apply the knowledge to the species of the Neotropical area, more specifically, of Argentina and Chile. The scope of the species coming into consideration for the study of the austral South American fauna turned out to be wider than anticipated. The type-specimens of a great number of tropical species had to be checked.

Material from other collections became available, also containing material from the tropical region of the Americas. Soon a number of species was met, of which the generic position was difficult to establish on the basis of the present knowledge. The genital structure in both males and females showed characters found in more than one of the currently recognized genera. The number of species with genital structures giving rise to discussion rapidly increased. In the material studied initially from the Patagonian area (which is the temperate to antiboreal zone of South America), the number of species with a questionable generic position was relatively small. The species from the tropical area, however, soon suggested me to reconsider the generic definitions. To clarify the generic status of a species and to examine the relationships of the genera, a generic revision had to be undertaken.

This is easily said, but the consequences of such a statement are far reaching. All previously described taxa had to be considered as for their validity. If not, these genera have to be synonymized. The valid genera are redescribed. For this purpose a great number of (type)-specimens had to be re-examined, and redescribed, to complete the original descriptions. Such cases have been indicated in the text. In all other cases the (re)descriptions have been made from material examined. This applies to the genital examinations as well. For the illustrations, however, I partly had to resort to previous publications. My private archive of illustration material was temporarily not available, being used for a major review of the European species of Pterophoridae.

D. Terminology of wing venation

For the veins in both fore and hind wings of the Lepidoptera different systems of terminology have been used. Each of these systems has some advantages, but the use of different systems in the literature is confusing. For the descriptions in this publication, the Comstock & Needham system is followed.

To facilitate access to and comparison of the different systems a listing (table 1) is made of the veins and their names or codes (after Heath, 1976, slightly modified). An example of the wing venation is shown in fig. 58.

II. The genera of the Pterophoroidea

A. Pterophoridae Zeller, 1841

The genera of the Pterophoroidea are (re)described in an alphabetic order. This

Table 1. Comparison of the terminology of wing veins by various authors (after Heath, 1976, modified).

Comstock & Needham			Hampson & Meyrick	Spuler	Tillyard	Rothschildt & Jordan
Fore wing						
Subcostal		Sc	12	I	Sc	C
Radius	1	R1	11	II1	R1	Sc1
	2	R2	10	II2	R2	Sc2
	3	R3	9	II3	R3	Sc3
	4	R4	8	II4	R4	Sc4
	5	R5	7	II5	R5	Sc5
Media	1	M1	6	III1	M1	R1
	2	M2	5	III2	M2	R2
	3	M3	4	III3	M3	R3
Cubital	1	Cu1	3	IV1	Cu1a	M1
	2	Cu2	2	IV2	Cu1b	M2
Anal	1	An1	1c	V	Cu2	SM1
	2	An2	1b	α	1A	SM2
	3	An3	1a	ß	2A	SM3
Hind wing						
Subcostal + Radius		Sc R1	8	I	Sc + R1	C
Radial sector		Rs	7	II	Rs	Sc
Media	1	M1	6	III1	M1	R1
	2	M2	5	III2	M2	R2
	3	M3	4	III3	M3	R3
Cubital	1	Cu1	3	IV1	Cu1a	M1
	2	Cu2	2	IV2	Cu1b	M2
Anal	1	An1	1c	V	Cu2	SM1
	2	An2	1b	α	A1 (+ A2)	SM2
	3	An3	1a	ß	A3	SM3

sequence is also used in the illustrations of the heads, wing venation, male and female genitalia. When specimens for examination are available a redescription is given. In those case no specimens are present, a description is made after the referred source.

1. **Adaina** Tutt, 1905
(figs. 1, 59, 118, 182)

Adaina Tutt, 1905: 37. Type-species: *Alucita microdactyla* Hübner, [1813] 1796, by original designation.

Redescription.— Head appressedly scaled. Frons smooth, not protruding. Palpi slender, protruding, length just over the diameter of eye. Fore wings with markings in shape of small punctations along margin of wing. Apex of both lobes acute. Veins R1 absent; R2, R3, R4 and R5 present, R3 and R4 stalked; Cu1 and Cu2 present; Cu1 from just beyond cell; Cu2 from cell. Hind wings with two veins in third lobe.

Male genitalia.— Valvae asymmetrical, with distinct brush of "hairs" from base of both valvae. In left valve a large saccular spine. In right valve a small saccular thorn. Tegumen arched. Uncus as long as tegumen, tapering towards top. Saccus

narrow, arched. Aedeagus slightly curved, with cornutus.

Female genitalia.— Ostium and antrum laterally positioned. Antrum small. In antrum part small slerotized ridges. Lamina ante-vaginalis poorly developed, narrow. Ductus seminalis originating from antrum area. Bursa copulatrix without signum, vesicular.

Ecology.— The larve of *A. microdactyla* (Hübner) overwinters as a stem-borer in *Eupatorium cannabinum* L. The summer brood, however, feeds on the leaves, flowers and seed-heads of this host plant.

Distribution.— Cosmopolitan.

2. **Agdistis** Hübner, [1825] 1816
(figs. 2, 60, 119, 183)

Agdistis Hübner, [1825] 1816: 429. Type-species: *Alucita adactyla* Hübner [1819] 1796, by monotypy.
Adactylus Curtis, 1833: folio 471. Type-species: *Alucita adactyla* Hübner, [1819] 1796, by original designation.
Agdistes Stephens, 1835: 369; incorr. spelling.
Ernestia Tutt, 1906: 128. Homonym of *Ernestia* Robineau-Desvoidy, 1830 (Diptera). Type-species: *Agdistis lerinsis* Millière, 1875 (= *A. adactyla* Hübner), by monotypy.
Herbertia Tutt, 1906: 129. Type-species: *Agdistis tamaricis* Zeller, 1847, by monotypy.

Redescription.— Fore wings and hind wings entire, not cleft. Colour grey till grey-brown, with in some species silver glosh. In terminal half of fore wing costa small spots generally present; also spots along margin of fore wing fold. Fore wing veins R1, R2, R3, R4 and R5 separate; Cu1 from just beyond angle of cell and Cu2 from the cell. Fore wings folded in rest position of the moth. Margins of these folds enclose sparsely scaled field of wedge-like shape. Top of this field lies near discal area and base consists of central part of termen.

Male genitalia.— Valvae, saccular and cucullar processes often asymmetrical. Membraneous folds or processes are occasionally present, so are thorns. The eighth tergite is well-developed, and extended. Tegumen arched. Uncus split into two. Vinculum arched. Saccus (in type-species) small. Aedeagus strongly curved, without cornutus.

Female genitalia.— Ostium and antrum symmetrical and centrally positioned. The shape and size of the antrum is, combined with the shape of the seventh and eighth tergite, diagnostic. Ductus bursae simple. Ductus seminalis originating near antrum. Bursa copulatrix vesicular, without a signum.

Ecology.— The larvae on the leaves of Plumbaginaceae and Compositae. Pupation on a leaf or at the stem.

Distribution.— Palaearctic, Afrotropical, Oriental (South-West Asia), and Nearctic (West coast of the U.S.A).

3. **Amblyptilia** Hübner, [1825]
(figs. 3, 61, 120, 184)

Amblyptilia Hübner, [1825]: 430. Type-species: *Alucita acanthodactyla* Hübner, [1813] by subsequent designation by Tutt, 1905 (cited as *acanthadactyla*, an incorrect spelling).
Amblyptilus Wallengren, 1862: 13; emendation.
Amplyptilia Hübner, [1825]: 430; incorrect (of a multiple original) spelling.

Redescription.— Head without frontal tuft. Palpi protruding, as long as diameter of eye, second segment slightly thickened. Fore wings with costal triangle well-developed. Both fore wing lobes with distict termen. Fore wing vein R1, R2, R3, R4, R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell, Cu2 from cell. Third lobe of hind wing with centrally placed scale tooth. Hind wing with a single vein in third lobe.

Male genitalia.— Top of valvae "bird head"-like. Sacculus not lobated (in *A. punctidactyla* (Haworth, 1811) very narrow in central part). Basally the vinculum has a saccus bordered by a brush of hairs in shape of a bristle. Tegumen bilobate. Uncus as long as tegumen, gradually narrowing.

Female genitalia.— The antrum, tube-like, localized laterally in the heavily sclerotized terminal plate of the lamina ante-vaginalis. In the ductus bursae exists a small sclerotized structure. The lamina post-vaginalis is fused with the sclerotized distal margin of the seventh sternite and laterally progressing into the apophyses anteriores. Signum double, horn-like.

Ecology.— Recorded families of host plants are Scrophulariaceae, Labiatae, Geraniaceae and Papilionaceae (Gielis, pers. obs.; Frey, 1856; Hofmann, 1896; Tutt, 1896).

Distribution.— Holarctic, Afrotropical, Neotropic and Indo-Australian regions.

4. **Anstenoptilia** Zimmerman, 1958
(figs. 4, 62, 121, 185)

Anstenoptilia Zimmerman, 1958: 404. Type-species: *Platyptilia marmarodactyla* Dyar, 1902, by original designation (cited as *marmorodactyla*, an incorrect spelling).

Redescription.— Head appressedly scaled with minute frontal conical protrusion. Palpi, protruding, $1^1/_2$ times diameter of eye. Second segment widened by numerous scales. Antennae shortly ciliated. Fore wings with well recognizable costal triangle. Vein R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe, Cu2 from cell. Both fore wing lobes with well developed termen. Hind wings with scale tooth subterminally placed. Third lobe with one vein.

Male genitalia.— Valvae are symmetrical; sacculus and cucullus of equal length. Vinculum arched, saccus wide, bifid. Tegumen slender with long and slender uncus. Aedeagus regularly arched, with small coecum.

Female genitalia.— Ostium rectangular, wide. Antrum three times longer than wide, progressing into slender ductus bursae. Ductus bursae twisted in three strokes. Bursa copulatrix vesicular, with pair of horn-like signa. Apophyses anteriores as long as papillae anales, stout. Apophyses posteriores slender, four times longer than papillae anales.

Ecology.— The host plants are *Ageratum conyzoides* Linnaeus, and *Lantana* spp.

Distribution.— The species are known from the southern half of the Nearctic and the Neotropical areas including the Hawaïi Islands.

Remarks.— The valve structure in the type species of the genus is as described. However, an additional species is recognized from the Neotropical area, which has an overriding sacculus.

5. **Arcoptilia** Arenberger, 1985.
(figs. 63, 122, 186)

Arcoptilia Arenberger, 1985: 167. Type-species: *Acroptilia gizan* Arenberger, 1985, by original designation.

Description (after Arenberger, 1985).— Head with little pronounced frontal scales. Palpi upurved, smooth, rather short. First fore wing lobe with poorly developed termen, without costal triangle; second lobe with distinct termen. Fore wing veins: R1 absent; R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe and Cu2 from cell. Hind wings third lobe without scale tooth, and with one vein.

Male genitalia.— Valve minimally asymmetrical. Sacculus and valve shape simple. Tegumen arched; uncus vesicularly enlarged. Saccus spade-like widened and vinculum simple, arched. Aedeagus slightly curved, conical.

Female genitalia.— Ostium simple, small, centrally positioned and bordered by some sclerotized bars. Antrum gradually progressing into ductus bursae. Ductus seminalis near bursa copulatrix. Bursa copulatrix vesicular, without signum. Apophyses anteriores absent. Apophyses posteriores $2^1/_2$ times papillae anales.

Ecology.— Host plants unknown. The moth flies in March and April and again in October and December.

Distribution.— Palaearctic: Saudi Arabia.

6. **Buckleria** Tutt, 1905
(figs. 5, 64, 123, 187)

Buckleria Tutt, 1905: 37. Type-species: *Pterophorus paludum* Zeller, 1841, by original designation.

Redescription.— Head without frontal tuft. Palpi slender, almost twice diameter of eye, without hair brush along third segment. Fore wings cleft from $^1/_2$, both lobes with acute apex. Fore wing veins: R1 absent; R2, R3, R4 and R5 present; R2 and R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from middle of M3 in second lobe; Cu2 from beyond cell.

At dorsum of third lobe of hind wings isolated dark scales, not in shape of scale tooth; third lobe with one vein.

Male genitalia.— Uncus extremely reduced. Valvae slender, with vesicular process originating centrally on valva. Aedeagus slender, slightly curved.

Female genitalia.— Ostium centrally positioned. Antrum tube-like, twice longer than wide. Bursa copulatrix without signum.

Ecology.— Two known species of the genus feed on *Drosera* spp. Growing in bogs and moorlands. Especially in industialized countries peat-bogs and moorlands are becoming scarse and possibilities of finding the species are rapidly decreasing.

Distribution.— The genus has a single Palaearctic representitive in the entire region and the Indian subcontinent. Recently two species of this genus have been described from the Nearctic and Afrotropical regions.

7. **Buszkoiana** Koçak, 1981.
(figs. 6, 65, 124, 188)

Buszkoiana Koçak, 1981: 10. Type-species: *Pterophorus capnodactylus* Zeller, 1841, by original designation (pro *Richardia* Buszko, 1978).
Richardia Buszko, 1978: 77; homonym. Homonym of *Richardia* Robineau-Desvoidy, 1830 (Diptera).

Redescription.— Head without frontal tuft. Fore wings with ill-defined costal triangle; both lobes have distinct termen. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate, both from cell. Scale tooth on third lobe of hind wing terminal; third lobe with one vein.

Male genitalia.— Valvae symmetrical; lanceolate, top rounded, sacculus not interrupted. No valvular or saccular processes. Saccus in shape of sclerotized pentangular plate. Tegumen bilobate. Uncus pronounced.

Female genitalia.— Antrum of ductus bursae sclerotized, centrally ending on distal margin of seventh sternite. In ductus bursae no sclerotized elements. The lamina post-vaginalis not developed. Signum in bursa copulatrix simple, consisting of little sclerotized section of bursal wall.

Ecology.— The host plant is *Pestasites officinalis* Moench. (Compositae) (Nielsen, 1962; Wolff, 1953)

Distribution.— Palaearctic: South-East, Central and West Europe, north to Denmark.

8. **Calyciphora** Kasy, 1960
(figs. 7, 66, 125, 189)

Calyciphora Kasy, 1960: 175. Type-species: *Alucita xanthodactyla* Treitschke, 1833, by original designation.

Redescription.— Head appressedly scaled, smooth. No prominent frons. Palpi slender, protruding, just over diameter of eye. Apex of both fore wing lobes acute. Fore wings are well marked, dark brush in fringes of second lobe, near anal angle. Venation: R1, R3 and R5 absent, R2 stalked with R4 and R5; Cu1 from middle of proximal M3 and Cu2 from angle of cell. Abdomen of female with ventral shield-like plate at termen. This plate can easily be seen after removal of superficial scales. Along distal margin of this plate numerous pronounced scales present. Hind wings without scale teeth at the dorsum of third lobe; in third lobe two veins.

Male genitalia.— Valvae asymmetrical, showing in general cucullar protrusions. Saccular processes in left valve curved and long. Right valve without or with very small saccular process. The aedeagus has curled terminal ending, without cornutus.

Female genitalia.— Eigth tergite heavily sclerotized and in shape of centrally indented shield, laterally flattened. Ostium and antrum centrally positioned, symmetrical. Ductus seminalis from bursa copulatrix. Bursa copulatrix vesicular, without signum. Lamina ante-vaginalis poorly developed.

Ecology.— The host plants belong to the Compositae, especially thistle species.

Distribution.— Palaearctic.

9. **Capperia** Tutt, 1905
(figs. 8, 67, 126, 190)

Capperia Tutt, 1905: 37. Type-species: *Oxyptilus britanniodactylus* Gregson, 1869 (= *heterodactyla* Tutt, nec *Müller*, nec *Villers*), by original designation.

Redescription.— Head without frontal tuft. Palpi without hair-brush along third segment; $1^1/_2$ times diameter of eye. No abdominal hair-brushes. First fore wing lobe acute, second lobe with excavated (not sinuated) terminal margin. Fore wing veins: R1 absent, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe, Cu2 from angle of cell. At third lobe of hind wings (sub)apical scale tooth; third lobe with one vein.

Male genitalia.— Strongly sclerotized valvae, with extending processes and/or spines. Aedeagus S-shaped, with occasional processes, ridges or plates. Ninth sternum plate sclerotized and extended into bifurcated plate.

Female genitalia.— Ostium centrally placed, in shape of irregular plate, triangular or shield-like. Ductus bursae slender, without sclerites. Bursa copulatrix without signum. Lamina ante-vaginalis pronounced, often with small central sclerotized plate.

Ecology.— The species belonging to this genus seem to be monophagous on Labiatae.

Distribution.— Holarctic.

Remarks.— The species within this genus are very difficult to separate on external characters alone. Much confusion in older literature has been caused by the attempts to do so, resulting in an dramatic amount of useless data, because these are not verifiable any more. The species treated below are characterized mainly by their genitalia, and hardly any external features are used. In this way, one is led to the more difficult method of identification by genital examination. I hope the result shows a better reflection of the distribution of the species than seen in opportunistic old literature.

10. **Cnaemidophorus** Wallengren, 1862
(figs. 9, 68, 127, 191)

Cnaemidophorus Wallengren, 1862: 1-25. Type-species: *Alucita rhododactyla* [Denis & Schiffermüller], 1775, by monotypy.
Cnemidophorus Zeller, 1867: 332; unjustified emendation.
Eucnemidophorus Wallengren, 1881: 96; unnecessary replacement name.

Redescription.— Head appressedly scaled, without frontal tuft. Palpi just over eye diameter, protruding, second segment thickened by pronounced scales. Fore wing with costal triangle well-developed; both lobes with distinct termen. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe; Cu2 from cell. Scale tooth on third lobe of hind wing terminal; third lobe with one vein.

Male genitalia.— Valvae symmetrical; lanceolate, top rounded, from middle of sacculus a large thorn points toward vinculum, sacculus not lobate. Saccus minute. Tegumen bilobate. Uncus stout.

Female genitalia.— Centrally positioned antrum of conical shape ending distad distal margin of seventh sternite. Ductus bursae without sclerotized segment. Lamina ante-vaginalis poorly developed. Singum consisting of double sclerotized plate, covered with minute spiculae.

Ecology.— Host plants belong to the Rosaceae (Hofmann, 1896).

Distribution.— Holarctic and Neotropical.

11. **Cosmoclostis** Meyrick, 1886
(figs. 10, 69, 128, 192)

Cosmoclostis Meyrick, 1886: 7. Type-species: *Cosmoclostis aglaodesma* Meyrick, 1886, by monotypy.

Redescription (based on *Cosmoclostis schouteni* Gielis, 1990).— Head appressedly scaled, without frontal tuft. Some erect scales between base of antennae. Palpi very slender, 2 to 3 times eye diameter, second segments upcurved, third segment as long as second segment and porrected. Hind tibiae thickened at base of spurs. Fore wings cleft from $^1/_3$, both lobes with acute apex; no costal triangular markings. Fore wing veins: R1, R2, R3, R5, Cu1 and Cu2 absent; R4 present. Hind wing without scale tooth at dorsum of third lobe; third lobe with 1 vein.

Male genitalia.— Valve in some species symmetrical (*C. emiadelpha* Fletcher, 1947), in other species asymmetrical (*C. lamprosema* Fletcher, 1947). Valvae split into lobes and vesicular processes, showing numerous spiny processes and thorns. Tegumen arched. Uncus short, somtimes distally widened. Vinculum simple. Saccus minute. Aedeagus curved; some species with cornuti.

Female genitalia (after undescribed species from Java).— Antrum centrally positioned, slightly indented. Ductus bursae slender. Bursa copulatrix with single large horn-like signum. Lamina-ante vaginalis poorly dveloped.

Ecology.— No host plant records are known.

Distribution.— Afrotropical and Indo-Australian including the South and East Asia region.

12. **Crocydoscelus** Walsingham, 1897
(figs. 11, 70)

Crocydoscelus Walsingham, 1897: 35. Type-species: *Crocydoscelus ferrugineum* Walsingham, 1897, by original designation.

Description (after Walsingham, 1897).— Head above with erect bifid scales; no frontal tuft. Palpi slender, more than $1^1/_2$ times eye diameter, slightly curved up; second segment thickened by numerous scales. Fore wings cleft from $^5/_6$; without costal triangle; with well-developed termen at both lobes. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from middle of M3 in second lobe; Cu2 from angle of cell. Hind wings with subterminal scale tooth at dorsum of third lobe; third lobe with one vein.

Male genitalia.— Unknown.

Female genitalia.— Unknown.

Ecology.— Host plant unknown.

Distribution.— Afrotropical (Congo, Nigeria).

13. **Crombrugghia** Tutt, 1906
(figs. 129, 193)

Crombrugghia Tutt, 1906: 449. Type species: *Pterophorus distans* Zeller, 1847, by subsequent designation by Meyrick, 1910.
Combrugghia Neave, 1939: 808; incorrect spelling.

Redescription.— Head appressedly scaled; no frontal tuft. Palpi protruding, with brush of hairs originating from second segment along and as long as third segment. Fore wings cleft from $^3/_4$; no costal triangle. Fore wing veins: R1 and R2 absent; R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from middle of M3 in second lobe; Cu2 from beyond angle of cell. Hind wing with scale tooth centrally at dorsum of third lobe; third lobe with one vein.

Male genitalia.— Valvae symmetrical. At top of valve a vesicular process. Tegumen and uncus lobulate. Vinculum with two vesicular saccus lobes. Aedeagus curved, with spiculated top.

Female genitalia.— Ostium and antrum centrally positioned. Antrum funnel-like. Laterally bordered by two sclerotized plates, which occasionally are centrally fused. Lamina ante-vaginalis ill-developed. Ductus bursae simple, slender, without sclerites. Bursa copulatrix vesicular, with pair of bean-like signa. Apophyses anteriores absent. Apophyses posteriores three times papillae anales.

Ecology.— The host plants belong to the Compositae.

Distribution.— Mainly in the western half of the Palaearctic region. According to me, *C. wahlbergi* Zeller, 1852, seems to belong to this genus and is known from the eastern part of the Palaearctic region and Afrotropics.

14. **Dejongia** nov. gen.
(figs. 71, 130, 194)

Type species: *Pterophorus lobidactylus* Fitch, 1854.

Etymology.— The genus is named after Dr R. de Jong, for his help and advice to solve phylogenetic problems.

Description.— Head appressedly scaled, no frontal tuft. Palpi slender protruding, some hairs extending from second segment along basal half of third segment, just over length of diameter of eye. Fore wings cleft from $^1/_2$; no costal triangular marking; neither lobe has a termen, apex acute. Fore wing veins (after Barnes & Lindsey, 1921): R1 and R2 absent; R3, R4 and R5 present and separate; Cu1, present; Cu2 absent; Cu1 from basal half of M3 in second lobe. Hind wings with scale tooth at $^3/_4$ of dorsum of third lobe; third lobe with one vein.

Male genitalia.— Genitalia symmetrical. Valve with rounded top, with blister-like, small vesicular process at cucullar half of the top. Saccular half of top angulated, acute. Tegumen slender, arched. Uncus reduced. Vinculum narrow, arched. Saccus as poorly scelotized plate. Aedeagus minimally curved, ductus with minute spiculae.

Female genitalia.— Ostium centrally positioned, funnel shaped. Antrum short. Lamina ante-vaginalis semicircular, with sclerotized distal margin. Ductus bursae slender, without sclerite. Bursa copulatrix vesicular, with pair of signa in shape of

small spiculated plates.

Ecology.— The recorded host plants are *Solidago canadensis* Linnaeus, *S. rugosa* P. Miller, *Aster macrophyllus* Linnaeus and *Hypericum* (Landry, 1987).

Distribution.— Nearctic.

15. **Deuterocopus** Zeller, 1852
(figs. 12, 72, 131, 195)

Deuterocopus Zeller, 1852: 402. Type-species: *Deuterocopus tengstroemi* Zeller, 1852, by monotypy.
Deuteroscopus Hofmann, 1898: 329; incorrect spelling.

Redescription.— Head appressedly scaled, without frontal tuft. Collar with erect bifurcated and trifurcated hairs. Palpi longer than $1^1/_2$ times eye diameter; slender; slightly upcurved. Tibiae of legs with scale brushes around base of spur pairs. Fore wings clefted trifid; no costal triangular markings. Wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; R5 to apex; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from before angle of cell. Hind wings M3 and Cu1 stalked; Cu2 from before middle of cell. Frenulum in ♀ simple. Terminal scale tooth at dorsum of third lobe; third lobe with one vein.

Male genitalia.— Valvae symmetrical. Top of valvae often clefted; the valvae with formation of vesicular processes and thorns. Tegumen bilobate. Uncus reduced and at orificia anales. Tuba anales often pronounced. Aedeagus long, arched, curved.

Female genitalia.— Antrum and ostium centrally placed; moderately developed and sclerotized. Ductus bursae slender; without sclerite. Bursa copulatrix vesicular, with superficial spiculation, no distinct signum. Apophyses posteriores well developed. Papillae anales slender and pointed.

Ecology.— A host plant is *Leea sambucina* Willd., the larvae of *Deuterocopus planeta* Meyrick, 1908, feed on the flowers, while those of *D. ritsemae* Walsingham, 1884, feeds on the leaves of the same plant. *D. socotranus* Rebel, 1907, has *Vitis quadrangularis* Wall. (ex Wight & Arnott) mentioned as a host plant (Fletcher, 1910).

Distribution.— Afrotropical, Indo-Australia including South and East Asia, and Neotropical.

16. **Diacrotricha** Zeller, 1852
(figs. 13, 73, 132, 196)

Diacrotricha Zeller, 1852: 399. Type-species: *Diacrotricha fasciola* Zeller, 1852, by monotypy.

Redescription.— Head appressedly scaled. Palpi short, slender, protruding, as long as diameter of eye. Frons without tuft.

Fore wings cleft from $^2/_5$; without costal triangular marking; veins: extremely reduced, only present are SC, R4, M3, and AN1. Hind wings with scale tooth at dorsum of second lobe; dorsum of third lobe without scale tooth. Veins: only present a single R4, M3 and in third lobe PCU and AN1.

Male genitalia.— Genitalia asymmetrical. Left valve with hair brush from base, swollen vesicular. Right valve small, compressed with two spiny processes. Tegumen

bilobate. Uncus slender, as long as tegumen. Aedeagus slender.

Female genitalia.— Ostium centrally positioned. Antrum poorly sclerotized, progressing into the slender ductus bursae. Bursa copulatrix vesicular, with complex signum: sclerotized ring near entrance of ductus bursae, large horn-like thorn and large spiculate plate. Bursa seminalis vesicular, from near entrance of ductus bursae in bursa copulatrix. Lamina ante- and post-vaginalis creating oval ridge around ostium. Apophyses anteriores short. Apophyses posteriores $2^1/_2$ times papillae anales.

Ecology.— Unknown.

Distribution.— Indo-Australian.

Remarks.— The presence of the two veins in the third lobe of the hind wing, the asymmetrical male genitalia with the peculiar hair brush from the base of the left valve and the swollen, vesicular bursa seminalis show that this genus belongs to the subfamily Pterophorinae.

17. **Emmelina** Tutt, 1905
(figs. 14, 74, 133, 197)

Emmelina Tutt, 1905: 37. Type-species: *Phalaena monodactyla* Linnaeus, 1758, by original designation.

Redescription.— Head appressedly scaled. Frons smooth. Palpi slender, erect, just over diameter of eye. Second and 3rd abdominal segments extended, long. Medial spur of proximal pair of hind legs, twice longer than lateral spur. Fore wing with both lobes with acute top. Venation: R1 absent; R2, R3, R4 and R5 separate; Cu1 from beyond angle of cell; Cu2 from cell.

Male genitalia.— Extremely asymmetrical, with numerous complex processes from sacculus, cucullus or originating centrally in valvae. Tegumen arched; uncus well-developed. Vinculum arched. Saccus not developed. Aedeagus slightly curved, without cornutus.

Female genitalia.— Ostium and antrum complexly fused on margin of seventh tergite; asymmetrically positioned and built. Ductus bursae and ductus seminalis separate. In ductus bursae a small sclerotized double ridge. Bursa copulatrix without signum.

Ecology.— The species seem to be polyphagous. Representatives of the genera *Convolvulus* and *Calystegia* are preferred.

Distribution.— Almost all continents, not yet recorded from South America.

18. **Exelastis** Meyrick, 1907
(figs. 15, 75, 134, 198)

Exelastis Meyrick, 1907: 730. Type-species: *Aciptilia atomosa* Walsingham, 1886, by original designation.

Redescription.— Head appressedly scaled. Frons without conical tuft. Palpi slender, just over diameter of eye. Fore wings cleft from $^2/_3$; without costal triangle. Fore wing veins: R1 absent; R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe; Cu2 from cell. Hind

wings without scale tooth at dorsum of the third lobe; third lobe with one vein.

Male genitalia.— The valvae show in some species a symmetrical, in other species an asymmetrical shape. There is a tendency from a symmetrical, vesicular type of valvae to be indented. This indentation may be uneven in the two valves and, in its extreme form, develops a left/right asymmetrical spine-like valvular structure. Tegumen arched. Uncus reduced. Vinculum small, arched. Saccus bilobate and sometimes extended.

Female genitalia.— Ostium and antrum centrally positioned. Antrum narrow, slender. Ductus bursae slender, rather long. Bursa copulatrix vesicular with pair of sclerotized plate-like signa which may show heavy spiculation. Around the signum sclerotized ridges. Lamina ante-vaginalis in general poorly developed, in some species (*E. crepuscularis* Meyrick) centrally sclerotized. Apophyses anteriores absent. Apophyses posteriores 2 to 3 times papillae anales.

Ecology.— Recorded host plants are *Oxalis* spec. for *E. liophanes* (Meyrick, 1886) (Fletcher, 1920); and *Desmodium lineatum* (DC) (Fabaceae) for *E. pumilio* (Zeller, 1873) (Matthews, 1989).

Distribution.— Pantropical.

19. **Fletcherella** Diakonoff, 1952
(figs. 16, 76, 135, 199)

Fletcherella Diakonoff, 1952: 12. Type-species: *Fletcherella niphadothysana* Diakonoff, 1952, by original designation.

Description (after Diakonoff, 1952).— Head appressedly scaled, except for some erect scales between base of antennae. Frons without tuft. Palpi very long and slender, sharply curved up, 4 times diameter of eye. Basal segment with rough scales projecting beneath; second and third segments slender, gradually tapering to acute apex, appressedly scaled. Thorax appressedly scaled. Posterior tibiae and tarsus smoothly appressed scaled, spurs slender, very long, especially anterior inner spur. Fore wing cleft from $^2/_3$; first lobe dully pointed apex, with ill-defined termen; second lobe with double-sinuated termen. No costal triangle. Fore wing veins: R1, R2, R3, R4 and R5 present; R2 and R3 stalked with R4; Cu1 and Cu2 present and separate, both from cell. Hind wing deeply cleft, with narrow lobes. At dorsum of second lobe scale tuft at $^2/_3$; at dorsum of third lobe at $^3/_4$ and small groups of dark scales at apex and between scale tooth and wingbase and at costa a small scale-group opposite of scale tooth. Veins: Sc short, R5 to apex of first lobe, M2 and M3 stalked and ending at apex and anal angle of second lobe, Cu1a separate to dorsum of second lobe, 1A to apex of third lobe. Cell not closed by transverse vein.

Male genitalia.— Valvae symmetrical. Sacculus with small thorn-like process in centre of valve. Cucullus simple, as long as sacculus. Tegumen simple. Uncus as long as tegumen, moderately developed. Vinculum arched. Saccus poorly developed. Aedeagus slightly curved.

Female genitalia.— Ostium and antrum small, in shape of sclerotized ring. Ductus bursae long and slender; without sclerite. Bursa copulatrix vesicular, without signum. Lamina ante-vaginalis centrally protruded into small sclerotized plate, indented at the top. Apophyses anteriores forming terminal margin of lamina ante-

vaginalis. Apophyses posteriores twice longer than papillae anales.

Ecology.— The host plants are unknown.

Distribution.— Indo-Australian (New Guinea Indonesian part: Irian Jaya), and Afrotropical (Central Africa).

20. **Geina** Tutt, 1906
(figs. 17, 77, 136, 200)

Geina Tutt, 1906: 411. Type-species: *Phalaena Alucita didactyla* Linnaeus, 1758, by monotypy.

Redescription.— Head appressedly scaled, without frontal tuft. Palpi simple, without hair-brush along third segment.

First fore wing lobe acute, second lobe terminally sinuate. On fore wing lobes two transverse white lines, no costal triangle. Fore wing veins: R1 absent; R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe; Cu2 from cell. Terminal scale tooth at dorsum of third lobe of hind wing; third lobe with one vein.

Male genitalia.— Valvae symmetrical, simple and gradually narrowing, without attached processes. Tegumen arched. Uncus pronounced. Aedeagus straight, without cornuti. Ductus ejaculatrix with spine-like cornutus.

Female genitalia.— Ostium small, slightly excavate. Ductus bursae slender, long. Bursa copulatrix vesicular, without signum. Lamina ante-vaginalis poorly developed. Apophyses anteriores absent. Apophyses posteriores $1^1/_2$ times papillae anales.

Ecology.— The host plants in the Palaearctic region are *Geum rivale* L., *G. urbanum* L., *Potentilla rupestris* L. and *Veronica officinale* L. The North American species are reported to feed on *Rubus idaeus* L., *R. alleghaniensis* Porter, *R. canadensis* Linnaeus, *R. nuttkanus* Seringe, *R. parviflorus* (Nutt.) further on *Spiraea latifolia* (Lait.) Borkh. on the flowers and leaves and *Vitis riparia* (B. Landry, 1987).

Distribution.— The distribution of the genus is Holarctic. In the Palaearctic area *G. didactyla* L. is recognized. From North America another four species are reported.

21. **Gillmeria** Tutt, 1905
(figs. 18, 78, 137, 201)

Gillmeria Tutt, 1905: 37. Type-species: *Alucita ochrodactyla* Denis & Schiffermüller, 1775, by original designation.

Redescription.— Head appressedly scaled, with frontal scale brush. Palpi long and slender, protruding. Fore wings in general slightly acutely pointed. Fore wing markings little developed, costal triangle only indicated by some small lines and dots. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. At dorsum of third lobe of hind wing a centrally positioned, hardly developed scale tooth; third lobe with one vein.

Male genitalia.— Valvae symmetrical. Sacculus basally often wider than, and well differentiated from, terminal part. Tegumen simple. Uncus as long as tegumen,

stout. Vinculum arched. Saccus in shape of pentangular plate, with occasional indentation at top. Aedeagus moderately curved, with pronounced coecum.

Female genitalia.— Ostium centrally positioned. Antrum sometimes pronounced, 3 times longer than wide. Ductus bursae as long as, or shorter than antrum; without sclerite. Bursa copulatrix with pair of horn-like signa. Lamina ante-vaginalis ill-developed. Apophyses anteriores small. Apophyses posteriores 2 to 3 times papillae anales.

Ecology.— The recorded host plants are *Achillae ptarmica* L., *A. millefolium* L., *A. ochroleuca* L. and *Tanacetum vulgare* L. (Compositae) (Gielis, in press).

Distribution.— The genus has a Holarctic distribution, and a single specimen of *G. pallidactyla* (Haworth, 1811) has been collected in Brazil.

22. **Gypsochares** Meyrick, 1890
(figs. 19, 79, 138, 202)

Gypsochares Meyrick, 1890: 484 (key), 488. Type-species: *Pterophorus baptodactylus* Zeller, 1850, by monotypy.

Redescription.— Head appressedly scaled, without prominent frontal tuft. Palpi slender, just over diameter of eye. Fore wings cleft from just beyond $^1/_2$, both lobes acute. Veins: R1 absent; R2, R3, R4 and R5 separate. Cu1 from middle of distal M3; Cu2 from angle of cell. Hind wings in third lobe two veins.

Male genitalia.— Valvae asymmetrical. Both valvae withcucullar spines, which may be forked. Tegumen arched with slightly reduced, slender uncus. Saccus pronounced. Aedeagus moderately curved, without cornutus.

Female genitalia.— Antrum laterally positioned, pronounced, widely funnel-shaped. Ductus bursae simple, without sclerotized segments or ridges. Lamina ante-vaginalis poorly developed. Bursa copulatrix vesicular, without signum. Ductus seminalis from near antrum.

Distribution.— South Palaearctic (Mediterranean area, and extending into Southern Asia and the Himalaya Mountains).

Biology.— The larvae feed on host plants of the genus *Helichrysum* Miller (Compositae) (Gibeaux & Nel, 1989).

23. **Hellinsia** Tutt, 1905
(figs. 20, 80, 139, 203)

Hellinsia Tutt, 1905: 37. Type-species: *Pterophorus osteodactylus* Zeller, 1841, by original designation.
Leioptilus Wallengren, 1862: 21; homonym. Homonym of *Lioptilus* Cabanis, 1850 (Aves). Type-species: *Alucita tephradactyla* Hübner, [1813], by subsequent designation by Tutt, 1905.
Lioptilus Zeller, 1867: 331; unjustified emendation.

Redescription.— Head appressedly scaled. Frons smooth. Palpi slender, protruding, just over diameter of eye. Apex of both fore wing lobes acute. Fore wing cleft from $^2/_3$, the first fore wing lobe without anal angle. Fore wing veins: R1 absent; R2, R3, R4 and R5 separate; Cu1 from near middle of distal M3 and Cu2 from near cell. Hind wings with two veins in third lobe. Middle legs with ill-developed scale brush around base of spur pairs.

Male genitalia.— Valvae asymmetrical, with brush of hairs near base of valvae. Sacculus in right valve occasionally with small thorn or spine, in left valve with pronounced spine. Tegumen arched, uncus tapering and well-developed. Vinculum arched, with poorly developed saccus. Aedeagus slightly curved, with cornutus.

Female genitalia.— Antrum in general laterally placed, with limited sclerotized ridges. Bursa copulatrix vesicular, often well-developed, with single signum in shape of spiculate plate. Ductus seminalis mostly well-developed; originating near antrum.

Ecology.— In general the host plants belong to the Compositae.

Distribution.— Cosmopolitan.

24. **Heptaloba** Walsingham, 1885

Heptaloba Walsingham, 1885: 175. Type-species: *Platyptilus argyriodactylus* Walker, 1864, by original designation.

Description (after Walsingham, 1885).— Head without frontal tuft. Palpi more than twice diameter of eye. Fore wings cleft three times; without costal triangular marking. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate. Insertion of Cu1 and Cu2 not described by Walsingham; no material available for examination. Hind wings with subterminal scale tooth at dorsum of third lobe. Between this scale tooth and base of wing two smaller scale teeth and pronounced isolated scales; third lobe with one vein.

Male genitalia.— Unknown.

Female genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— Oriental (Ceylon (now Sri Lanka)).

25. **Hexadactilia** Fletcher, 1910
(fig. 21)

Hexadactilia Fletcher, 1910: 107, 108. Type-species: *Hexadactilia trilobata* Fletcher, 1910, by original designation.

Description (after Fletcher, 1910).— Head appressedly scaled, without frontal tuft. Palpi slender, protruding, more than twice diameter of eye. Abdomen long and slender. Fore wings cleft twice, first cleft from $^1/_2$, second cleft from approximately $^3/_4$; without costal triangular marking. Venation not described by Fletcher; no material present for examination. Hind wing at dorsum of third lobe with large apical scale tooth and small scale tooth at $^1/_3$; third lobe with one vein.

Male genitalia.— Unknown.

Female genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— Indo-Australian (New Guinea Indonesian part: Irian Jaya).

26. **Karachia** Amsel, 1968
(fig. 140)

Karachia Amsel, 1968: 15. Type-species: *Karachia xylochromella* Amsel, 1968, by original designation and monotypy.

Description (after Amsel, 1968).— Head appressedly scaled. Frons smooth. Palpi protruding. Apex of both fore wing lobes acute. Venation: R1 separate; R2 and R3 stalked; R4 separate; R5 presence not mentioned; Cu1 and Cu2 seem present, but origin not mentioned. Hind wings with along dorsum of third lobe row of scales, not in shape of distinct scale tooth; third lobe with two veins.

Male genitalia.— Valvae symmetrical. Sacculus with pronounced basal shape, bordered by row of pronounced "hairs". Cucullus poorly developed. Tegumen arched, with reduced wide uncus. Vinculum arched, without clear saccus. Aedeagus not described, however, in Amsel's illustration neither significant markings nor cornuti.

Female genitalia.— Not described.

Ecology.— Unknown.

Distribution.— Oriental (Pakistan).

27. **Koremaguia** Hampson, 1891

Koremaguia Hampson, 1891: 412. Type-species: *Koremaguia aurantidactylus* Hampson, 1891, by monotypy.

Description (after Hampson, 1891).— Head apressedly scaled, with some erect scales at collar and between basal segments of antenna; without frontal tuft. Palpi rather slender, upcurved, twice diameter of eye. First and second segments with pronounced, drooping scales. Tibiae of fore leg with one, and hind leg with two pronounced brushes at base of spur pairs. Spurs long and stout. Fore wings without markings, simply with golden-orange colour, gradually turning dark grey near and at termen. Fore wing veins: status of R1 unknown; R2, R4 and R5 present; R3 absent; R2 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wings without scale brushes; third lobe with one vein.

Male genitalia.— Unknown.

Female genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— Oriental (India).

28. **Lantanophaga** Zimmerman, 1958
(figs. 22, 81, 141, 204)

Lantanophaga Zimmerman, 1958: 400-402. Type-species: *Oxyptilus pusillidactylus* Walker, 1864, by original designation.

Redescription.— Head appressedly scaled; without frontal tuft. Palpi upcurved, second segment thickened by some scales; just over diameter of eye. Fore wing cleft from $^{4}/_{5}$; with costal triangle. Fore wing veins: R1, R2, R3, R4 and R5 present; R3

stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wing with terminally placed scale tooth at dorsum of third lobe; third lobe with one vein.

Male genitalia.— Valvae symmetrical. Valvae "bird head"-like, with smooth extension of top. Sacculus bilobate, proximal and distal half of equal length. Tegumen simple, but long. Uncus slender, $^3/_4$ of tegumen length. Vinculum with long and slender, forked saccus.

Female genitalia.— Ostium centrally positioned, slightly excavate. Antrum rather short and curved. Ductus bursae long and slender with sclerite. Lamina postvaginalis well-developed and showing a bilobate sclerotized plate distad of ostium bursae, laterally progressing into apophyses anteriores. Signum consisting of sclerotic, double S, with irregular margin.

Ecology.— Host plant belongs to the genus *Lantana* (Fletcher, 1921; Amsel, 1955).

Distribution.— Tropical and subtropical regions.

29. **Leptodeuterocopus** Fletcher, 1910
(figs. 23, 82, 142, 205)

Leptodeuterocopus Fletcher, 1910: 107, 138. Type-species: *Leptodeuterocopus citrogaster* Fletcher, 1910, by original designation.

Redescription.— Head appressedly scaled; without frontal tuft. Palpi slender, upcurved, more than twice diameter of eye.

Fore wings cleft twice; first cleft from $^3/_5$, second cleft from $^3/_4$ of second lobe. Fore wings without costal triangular marking. Fore wing veins: R1 absent; R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe; Cu2 from cell. Hind wing with terminal scale tooth at dorsum of third lobe and between scale tooth and wing base one or two smaller scale teeth; third lobe with one vein.

Male genitalia.— (*L. sochchoroides* Fletcher, 1910) Valvae symmetrical. Top indented, saccular half well-extending over cucullar half. Tegumen arched. Uncus small. Vinculum arched, narrow. Saccus not developed. Aedeagus slightly curved, slender; no cornutus.

Female genitalia.— Ostium narrow, excavate, centrally positioned. Antrum narrow, progressing in slender ductus bursae. Ductus bursae without sclerite. Bursa copulatrix without signum. Lamina ante-vaginalis as well-visable, poorly sclerotized ridge. Centrally, eighth tergite with small sclerotized transverse ridges. Apophyses anteriores absent. Apophyses posteriores twice papillae anales.

Ecology.— Unknown.

Distribution.— Indo-Australian (Indonesia: Amboina); Neotropical.

30. **Lioptilodes** Zimmerman, 1958
(figs. 24, 83, 143, 206)

Lioptilodes Zimmerman, 1958: 398. Type-species: *Lioptilus parvus* Walsingham, 1880: 55, by original designation.

Utuca auct., nec Walsingham, 1892.

Redescription.— Head appressedly scaled. Face with small scale-tuft. Palpi extended forward, second segment covered with erect scales, approximalely $1^1/_2$ times diameter of eye. Fore wings cleft from about $^3/_4$; without costal triangle; vein R1 present. Second lobe, in most species of genus, wider than first lobe. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wings without scale tooth at dorsum of third lobe; third lobe with one vein.

Male genitalia.— Valvae symmetrical, oval to elongate. Sacculus and cucullus reaching to tip. Tegumen well-developed, large. Uncus stout. Vinculum arched and well connected with saccus and antisacccus, ventrodorsally arched. Saccus often well-developed. Aedeagus curved with well-developed coecum.

Female genitalia.— Ostium centrally positioned. Antrum gradually progressing into ductus bursae. Ductus bursae occasionally with a sclerite. Pair of horn-like signa in bursa copulatrix. Lamina post-vaginalis well-developed, either as a ridge after, or as two blotches beside the antrum; laterally progressing in sclerotized ridge ending in apophyses anteriores.

Ecology.— As host plant for *L. parvus* (Walsingham, 1880), *Erigeron albidus* A. Gray is recorded (Zimmerman, 1958).

Distribution.— Neotropical and Pacific (Hawaiï Islands).

31. **Macrotinactis** Meyrick, 1912

Macrotinactis Meyrick, 1912: 55. Type-species: *Oxyptilus stenodactylus* Fletcher, 1911, by original designation.

Description (after Meyrick, 1912).— Head appressedly scaled, no frontal tuft. Palpi, with appressed scales, upcurved, more than twice diameter of eye. Fore wings cleft from $^1/_2$; no costal triangle; first lobe acute, second lobe with small rounded termen. Fore wing veins: R1, R4 and R5 present and separate; R2 and R3 absent; Cu1 and Cu2 present and separate; insertion of Cu1 and Cu2 not described by Meyrick, and no material available. Hind wings with terminal scale tooth and scale tooth at $^3/_4$, between this last scale tooth and wing base numerous dark scales; third lobe with one vein.

Male genitalia.— Unknown.

Fmale genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— Afrotropical (southern Africa).

32. **Marasmarcha** Meyrick, 1886
(figs. 25, 84, 144, 207)

Marasmarcha Meyrick, 1886: 11. Type-species: *Alucita phaeodactyla* Hübner, [1813], by subsequent designation by Tutt, 1906.

Redescription.— Head appressedly scaled, without frontal tuft. Palpi slender, protruding, just over diameter of eye.

Fore wing cleft from $^3/_4$; without costal triangle. Fore wing veins (after Hanne-

mann, 1977): R1 absent; R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe; Cu2 from cell.

Hind wing at dorsum of third lobe without scale tooth; third lobe with one vein.

Male genitalia.— Valvae often with asymmetrical saccular processes; lanceolate to trapezoid. Basal pointed process, deriving from mid-saccular, very slender, sometimes split into two thick setiform prolonged structures. Tegumen bilobate, rather small. Uncus reduced, broad. Sacculus not lobate. Saccus small. (The genitalia tend to become asymmetrical.)

Female genitalia.— Ostium centrally positioned, in shape plate-like, as prolongation of distal margin of lamina ante-vaginalis. Antrum small. Ductus bursae long and slender, without sclerite. Signum obsolete (when present often ill-developed).

Ecology.— Host plants belong to the Papilionaceae (Zeller, 1852; Frey, 1856; Schwarz, 1951).

Distribution.— Palaearctic. Recently a species from Central America has been recognized and *M. lunaedactyla* Haworth, 1811 has been recorded from the U.S.A.: New York.

33. **Megalorhipida** Amsel, 1935
(figs. 26, 85, 145, 208)

Megalorhipida Amsel, 1935: 293. Type-species: *Megalorhipida palaestinensis* Amsel, 1935, by monotypy.
Megalorrhipida Amsel, 1935: 293; incorrect (of multiple original) spelling.

Redescription.— Head appressedly scaled; no frontal tuft. Palpi rather slender, nearly twice diameter of eye. Fore wings cleft from $^1/_2$; no costal triangle; apex of both lobes acute, without termen. Fore wing veins (after Zimmerman, 1958): R1 absent; R2, R3 and R4 present and separate; R5 absent; Cu1 and Cu2 absent. Hind wing with small, centrally placed scale tooth at dorsum of third lobe. Venation of hind wing: Sc, RR and M1 fused, Cu1 to apex of second lobe, Cu2 to half second lobe and An as far as base of first cleft, An to apex of third lobe. Third lobe with one vein.

Male genitalia.— Valvae symmetrical, rounded. Tegumen with swollen, "hairy" uncus. Vinculum rounded. Aedeagus slightly curved, without cornuti.

Female genitalia.— Bursa copulatrix with pair of bean-like signa. Ductus bursae narrow, tube-like. Antrum flattened. Margin of seventh sternite excavate. Central segment of eighth sternite posteriorly extended. Apophyses anteriores absent. Apophyses posteriores 3 to 4 times as long as papillae anales.

Ecology.— The recorded host plants are *Acacia neovernicosa* Isely (*C. vernicosa* Standl.) (Fabaceae), *Boerhavia diffusa* L. (red spiderling, Nyctaginaceae), *Okenia hypogae* Schlecht. and Cham. (beach peanut, also Nyctaginaceae), *Amaranthus* (Amaranthaceae) and *Mimosa* (Wolcott, 1936; Zimmerman, 1958; Matthews, 1989).

Distribution.— Pantropical and subtropical.

34. **Merrifieldia** Tutt, 1905
(figs. 27, 86, 146, 209)

Merrifieldia Tutt, 1905: 37. Type-species: *Phalaena tridactyla* Linnaeus, 1758, by original designation.

Redescription.— Head appressedly scaled, with smooth frons. Both fore wing lobes

with acute apex. Fore wings showing dark line or shading at costa. Some species have dark costal spots. Venation: R2 and R4 present and separate, R1, R3 and R5 absent; Cu1 absent, Cu2 from beyond angle of cell. Hind wings with two veins in third lobe.

Male genitalia.— The valvae asymmetrical. Saccular processes asymmetrical, and well-developed in both valvae. Tegumen arched, with tapering, well-developed uncus. Vinculum arched, with poorly developed saccus. Aedeagus slightly curved, without cornutus.

Female genitalia.— Ostium simple, but laterally and asymmetrically positioned. Antrum with small sclerotized region distad of ostium. Ductus bursae slender and long. Bursa copulatrix vesicular with pair of, sometimes pronounced, longitudinal ridge-like signa. Ductus seminalis originating in centre of ductus bursae.

Biology.— The host plants belong to the Labiatae.

Distribution.— Palaearctic.

35. **Nippoptilia** Matsumura, 1931
(figs. 28, 87, 147, 210)

Nippoptilia Matsumura, 1931: nr. 2060. Type-species: *Stenoptilia vitis* Sasaki, 1913, by monotypy.
Nippotilia Neave, 1940: 337; incorrect spelling.

Redescription.— Head appressedly scaled; without frontal tuft. The palpi slender, $2^1/_2$ times diameter of eye. Hind leg with terminal spur pair of unequal length. Fore wing cleft from $^2/_3$; costal triangle absent; both lobes with distinct termen. Fore wing veins (after Yano, 1961): R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wing Rs + R1 and Rs not diverging beyond cleft; Rs to apex of first lobe; M1 and Cu1a stalked; Cu1a weak, almost not visible. Frenulum ♀ in general double. Scale brush at third lobe apical or subapical; third lobe with one vein.

Male genitalia (after Yano, 1961).— Valvae symmetrical. Cucullus overriding, but not curved. Valve between sacculus and cucullus not indented at *N. issikii* Yano, 1961 and *N. vitis* Sasaki, 1913, but deeply indented at *N. minor* Hori, 1933. Tegumen strongly bilobate and indented. Uncus reduced. Vinculum arched. Saccus small.

Female genitalia.— Ostium and antrum centrally positioned. Antrum at most as long as slender ductus bursae. Ductus bursae without sclerite. Bursa copulatrix with pair of bean-like signa. Ductus seminalis near bursa copulatrix. Lamina ante-vaginalis and apophyses anteriores poorly developed. Apophyses posteriores 2 to 3 times papillae anales.

Ecology.— Recorded host plants are *Vitis lambruscana* Bailey, *V. thunbergii* Sieb. & Succ, *Cissus japonica* Willd. and *Ampelopsis heterophylla* Sieb. & Succ. (Yano, 1961).

Distribution.— East Palaearctic (Japan, Korea, Formosa).

36. **Ochyrotica** Walsingham, 1891
(figs. 29, 148, 211)

Ochyrotica Walsingham, 1891: 217. Type-species: *Ochyrotica fasciata* Walsingham, 1891, by original designation.
Steganodactyla Walsingham, 1891: 241. Type-species: *Steganodactyla concursa* Walsingham, 1891, by original designation.

Redescription.— Head appressedly scaled, without frontal tuft. Palpi short and without hair brush along third segment.

Fore wings not cleft. Without costal triangular marking. Terminal margin well defined. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; origine of Cu1 and Cu2 not examined. Hind wing not cleft. Underside with well-defined row of venous scales.

Male genitalia.— Valvae elongate and symmetrical. Cucullus almost as long as valvae, of simple shape. Valvae with processes directed peripherally. Saccus simple, small. Tegumen simple arched. Uncus as long as tegumen. Aedeagus slightly curved, without cornutus.

Female genitalia.— Ostium and antrum centrally positioned. Ductus bursae simple, without sclerite. Ductus seminalis from near bursa copulatrix. Bursa copulatrix vesicular without signum.

Ecology.— Recorded host plants belong to the Ipomomeae (Ortiz & Wong, 1985).

Distribution.— Circumtropical.

37. **Oidaematophorus** Wallengren, 1862
(figs. 30, 88, 149, 212)

Oidaematophorus Wallengren, 1862: 19. Type-species: *Alucita lithodactyla* Treitschke, 1833, by monotypy.
Oedaematophorus Zeller, 1867: 331; unjustified emendation.
Ovendenia Tutt, 1905: 37. Type-species: *Alucita septodactyla* Treitschke, 1833 (= *Oidaematophorus lithodactyla* Treitschke, 1833), by original designation.

Redescription.— Head appressedly scaled. Frons smooth. Palpi slender, upcurved, just over diameter of eye. First fore wing lobe with acute top, second lobe with terminal margin. Fore wings broad, in general well marked. Middle legs have distinct scale-brushes around base of spur pairs. Venation: R1 absent; R2, R3, R4 and R5 separate; Cu1 from angle of cell and Cu2 from cell. Hind wings ; third lobe with two veins.

Male genitalia.— Asymmetrical valvae, with spines and saccular processes. At base of valvae distinct brush of "hairs". Tegumen and uncus well-developed. Vinculum arched. Saccus hardly noticeable. Aedeagus slightly curved, without cornutus.

Female genitalia.— Antrum distinctly wide and "reversed bell-shaped", well-sclerotized, and asymmetrically in shape and positioned. Ductus bursae with sclerotized ridges. Ductus seminalis originating near antrum. Bursa copulatrix vesicular, without signum. Lamina ante-vaginalis poorly developed.

Ecology.— The host plants belong in general to the Compositae.

Distribution.— Cosmopolitan.

38. **Oxyptilus** Zeller, 1841
(figs. 31, 89, 150, 213)

Oxyptilus Zeller, 1841: 765. Type species: *Oxyptilus pilosellae* Zeller, 1841, by subsequent designation by Tutt, 1905.

Redescription.— Head appressedly scaled; no frontal tuft. Palpi upcurved, along

third segment appressed or parallel hair-brush. Abdomen with small "hairbrush" at lateral parts of eighth sternite. Fore wings dark to glossy brown; first lobe acute and second lobe with sinuate terminal margin. Both lobes of fore wings with two transverse white lines. Fore wing veins (after Hannemann: 1977): R1, R2, R3, R4 and R5 present; R2 and R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from middle of M3 in second lobe; Cu2 from cell. Hind wing at dorsum of third lobe with apical, sometimes subapical, black scale tooth; third lobe with one vein.

Male genitalia.— Valvae symmetrical, bilobate. Terminal lobe of valvae of variable size, species dependant. Tegumen bilobate, symmetrical. Aedeagus slightly curved, spiculate near top. Female genitalia.— Ostium centrally positioned. Antrum funnel-like, small. Ductus bursae long and slender. Bursa copulatrix vesicular, with two small bean-like signa. Apopohyses posteriores pronounced. Apophyses anteriores absent.

Distribution.— Mainly Palaearctic and few species in the Nearctic and Africanl regions.

39. **Paraamblyptilia** Gielis, 1991
(figs. 32, 90, 151, 214)

Paraamblyptilia Gielis, 1991: 68. Type-species: *Platyptilia eutalanta* Meyrick, 1931, by original designation.

Description.— Head appressedly scaled; no frontal tuft. Palpi protruding, twice diameter of eye. Fore wings with costal triangle. At dorsum of fore wing scale teeth. Both fore wing lobes with termen. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wing without scale tooth at dorsum of third lobe; third lobe with one vein.

Male genitalia.— Valvae symmetrical. Cucullus prolonged in "bird head"-like shape. Sacculus non-lobate, but in basal half enlarged, widened. Tegumen bilobate. Uncus double, slender. Vinculum arched. Saccus poorly developed. Aedeagus curved; small cornutus.

Female genitalia.— Ostium centrally positioned. Antrum funnel-shaped. Ductus bursae slender, without sclerite. Bursa copulatrix vesicular with pair of horn-like signa. Lamina ante-vaginalis not expressed. Apophyses anteriores small, half the papillae anales. Apophyses posteriores $2^1/_2$ times papillae anales.

Ecology.— Not known.

Distribution.— Neotropical (austral South America).

40. **Paracapperia** Bigot & Picard, 1986
(figs. 33, 91, 152, 215)

Paracapperia Bigot & Picard, 1986: 23. Type-species: *Oxyptilus anatolicus* Caradja, 1920: 79.

Redescription.— Externally and in wing venation not differing from the genus *Capperia*.

Male genitalia.— Valvae symmetrical; basally narrow, distally club-like widened.

Ninth sternite with bilobate, rounded tops; near top heavily setose. Aedeagus weakly S-shaped, top part narrow, tube-like.

Female genitalia.— Ostium in semi-circular plate, ductus bursae ending centrobasal. Lamina ante-vaginalis rounded, with large, elongated sclerorized margin.

Ecology.— Unknown.

Distribution.— Palaearctic (from Turkey to the east as far as Afghanistan).

Remarks.— In the genitalia the characters of this genus are distinct compared to the otherwise uniformly built genitalia of both *Procapperia* and *Capperia*, it has to be regarded as a separate genus.

41. **Paraplatyptilia** Bigot & Picard, 1986
(figs. 34, 92, 153, 216)

Paraplatyptilia Bigot & Picard, 1986: 17. Type-species: *Pterophorus metzneri* Zeller, 1841, by original designation.
Mariana Tutt, 1906: 160; homonymof *Mariana* Locard, 1899 (Mollusca).

Redescription.— Head appressedly scaled; small frontal tuft, as long as diameter of eye. Palpi protruding; second segment in distal half thickened by numerous scales; almost twice diameter of eye. Fore wing cleft from $^{4}/_{5}$; costal triangle present; both lobes with well-defined termen. Fore wing veins (after Buszko, 1979): R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wing with distally placed scale tooth on dorsum of third lobe; third lobe with one vein.

Male genitalia.— Valvae symmetrical; with "bird head"-like smooth top. Sacculus bilobate, terminal segment small, poorly developed. Vinculum arched. Saccus small. Tegumen bilobate. Uncus broad spoon like.

Female genitalia.— Ostium right laterally in well-sclerotized lamina ante-vaginalis. Antrum tube-like. In ductus bursae a well-developed sclerite. Lamina post-vaginalis centrally fused with the sclerotized distal margin of seventh sternite. Bursa copulatrix vesicular; signum double, horn-like. Apophyses anteriores as long as papillae anales. Apophyses posteriores 2 to 3 times longer than papillae anales.

Ecology.— Host plant probably belongs to the Scrophulariaceae (LHomme, 1939).

Distribution.— Holarctic and Neotropical.

42. **Patagonophorus** Gielis, 1991
(figs. 35, 93, 154, 217)

Patagonophorus Gielis, 1991: 70. Type-species: *Patagonophorus murinus* Gielis, 1991, by monotypy and original designation.

Description.— Head appressedly scaled. Palpi short, as long as diameter of eye, appressedly scaled. Fore wing cleft from $^{7}/_{10}$, both lobes without terminal margin; second lobe extremely narrow. R1 short, before base of cleft. R2 and R3 absent. R4 and R5 fused. An1, ill-developed. Hindwing cleft very deep. Sc and R separate. Cu2 separating from M3 in between the bases of both clefts. Third lobe with two veins.

Male genitalia.— Valvae symmetrical in structure, but the basally located saccular

processes asymmetrical. In left valve a semicircular process and in right valve two slightly curved ones. Distal half of sacculus symmetrical. Vinculum semicircular and wide. Tegumen bilobate. Uncus stout. Juxta asymmetrical, rather slender. Aedeagus slightly curved, conical.

Female genitalia.— Antrum consisting of almost rectangular, sclerotized plate, with ostium before middle. Ductus bursae slender, almost straight. Bursa copulatrix simple, with two longitudinally, ill-sclerotized, asymmetrical signa. Ductus seminalis originating beside ductus bursae. Papilles anales well-developed. Apophyses posteriores $2^1/_2$ times longer than papilles anales. Apophyses anteriores absent.

Ecology.— Unknown.

Distribution.— Neotropical (austral South America).

43. **Platyptilia** Hübner, [1825]
(figs. 36, 94, 155, 218)

Platyptilia Hübner, [1825]: 429. Type-species: *Alucita megadactyla* [Denis & Schiffermüller], 1775, (= *gonodactyla* [Denis & Schiffermüller], 1775), by subsequent designation by Tutt, 1905.
Platyptilus Zeller, 1841: 764 (invalid emendation).
Fredericina Tutt, 1905: 37. Type-species: *Alucita calodactyla* [Denis & Schiffermüller], 1775, by original designation.

Redescription.— Head appressedly scaled; no frontal tuft. Palpi protruding, second segment widened by numerous scales; $1^1/_2$ to 2 times diameter of eye. Fore wing cleft from $^4/_5$; costal triangle in most species well-developed; termen of both lobes well-developed. Fore wing veins (after Hannemann, 1977): R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell.

Hind wing with centrally placed scale tooth at dorsum of third lobe; third lobe with one vein.

Male genitalia.— Valvae symmetrical oval to lanceolate; sacculus and cucullus not overriding each other. Tegumen normal. Uncus slender, conical towards end. Vinculum arched. Saccus in shape of small pentangular plate, top sometimes indented. Aedeagus curved, well-developed coecum; minute spiculae as cornutus.

Female genitalia.— Ostium centrally positioned, oval. Antrum in shape of tubular sclerotized segment of variable length, ending centrally at distal margin of seventh sternite. Ductus bursae without sclerite. Lamina post-vaginalis with two blotches lateral of ostium, laterally progressing into short apophyses anteriores. Bursa copulatrix vesicular. Signum double, horn-like.

Ecology.— The host plants belong to the Compositae. (Gielis, pers. obs.; Schwarz, 1953; Hofmann, 1896; Barnes & Lindsey, 1921)

Distribution.— Holarctic, Neotropical, Afrotropical and Indo-Australian .

44. **Platyptiliodes** Strand, 1913

Platyptiliodes Strand, 1913: 65. Type-species: *Platyptilia* (*Platyptiliodes*) *albisignatula* Strand, 1913, by monotypy.

Description (after Strand, 1913).— Head without frontal tuft. Palpi extremely slender, third segment filiform, upcurved, $2^1/_2$ to 3 times diameter of eye. Fore wing black with white spotted markings. Hind wings with distinct scale tooth at dorsum of second lobe and smaller scale tooth at $^2/_3$ of dorsum of third lobe. Wing venation not described by Strand; no material available for examination.

Male genitalia.— Unknown.

Female genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— Afrotropical (Cameroun).

Remarks.— The type-series of the type species could not be traced. The description is unsufficient and can easily cause a misinterpretation with species of the *Oxyptilus* genus complex. Nevertheless Strand notices a close relation with the genus *Platyptilia*, and even suggests it to be a subgenus of *Platyptilia*.

45. **Porrittia** Tutt, 1905
(figs. 37, 95, 156, 219)

Porrittia Tutt, 1905: 37. Type-species: *Alucita galactodactyla* [Denis & Schiffermüller], 1775, by original designation.

Redescription.— Head appressedly scaled, with smooth frons. Palpi slender, protruding, short. Both fore wing lobes acute. Fore wings well-marked, with numereous spots and dark fringe brush at the anal region of dorsum of second lobe. Venation: R1, R3 and R5 absent, R2 and R4 separate; Cu1 absent and Cu2 from angle of cell. Hind wings in third lobe with two veins.

Male genitalia.— Genitalia asymmetrical. Left valve rounded, with large curved saccular process. Right valve more elongated, with saccular spine. Tegumen arched. Uncus tapering, as long as tegumen. Vinculum arched, saccus poorly developed. Aedeagus curved, without cornutus.

Female genitalia.— Ostium almost flat, wider than antrum, centrally positioned, symmetrical. Antrum as long as width of ostium, progressing into slender ductus bursae. Bursa copulatrix without signum. Ductus seminalis junctioned between bursa copulatrix and ductus bursae.

Ecology.— The host plants belong to the Compositae.

Distribution.— Palaearctic (western and southwestern parts).

46. **Postplatyptilia** Gielis, 1991
(figs. 38, 96, 157, 220)

Postplatyptilia Gielis, 1991: 39. Type-species: *Platyptilia camptosphena* Meyrick, 1931, by original designation.

Description.— Head without frontal tuft. Palpi protruding, distinct second segment, $1^1/_2$ times diameter of eye. Fore wing cleft from $^3/_4$; in most cases with costal triangle. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wing at dor-

sum of third lobe with, sometimes very indistinct, scale tooth, located from $^2/_3$ to subapical. In some species a second scale tooth is present between this subterminal scale tooth and wing base. Third lobe with one vein.

Male genitalia.— Valvae symmetrical. Cucullus longer than sacculus. Sacculus not or poorly bilobate. Distal part of sacculus, if bilobate, simple. Tegumen bilobate. Uncus rather slender, $^1/_2$ to $^3/_4$ of tegumen length. Saccus pronounced thorn-like. Aedeagus curved with pronounced coecum.

Female genitalia.— Ostium in some species centrally positioned, in other species (right) laterally. Antrum at sometimes very pronouncedly developed lamina ante-vaginalis, which laterally progresses into apophyses anteriores. Ductus bursae occasionally with sclerite. Bursa copulatrix with pair of horn-like signa, which may be small.

Ecology.— A recently discovered and undescribed species (Gielis, in press) has been bred on *Lantana hispida* H.B.K.

Distribution.— Neotropical region.

47. **Procapperia** Adamczewski, 1951
(figs. 39, 97, 158, 221)

Procapperia Adamczewski, 1951: 338. Type-species: *Oxyptilus maculatus* Constant, 1865, by original designation.

Redescription.— Head without frontal tuft. Palpi without hair-brush along third segment; $1^1/_2$ to 2 times diameter of eye.

Fore wing cleft from $^3/_5$; without costal triangle; vein R1 absent. First lobe acute, second lobe terminally excavate (not as sinuate as in *Geina*). Fore wing veins: R1 absent; R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe; Cu2 from cell. Hind wing with scale tooth at dorsum of third lobe well apart from apex. Third lobe with one vein.

Male genitalia.— Valvae symmetrical, simple. Distal half of valvae wider than basal half. Tegumen arched, centrally extended. Uncus small. Aedeagus curved in a **S**-shape, without cornuti.

Female genitalia.— Ostium centrally positioned, small, triangular sclerotized plate, progressing into slender ductus bursae. Ductus bursae without sclerite. Bursa copulatrix vesicular, without signum.

Distribution.— The genus is distributed in mountainous areas of the Palaearctic (south-east France and the Balcan countries, North Africa, extends into Asia Minor) and Oriental (India, Ceylon, Central Asia and Japan).

48. **Pselnophorus** Wallengren, 1881
(figs. 40, 98, 159, 222)

Pselnophorus Wallengren, 1881: 96. Type-species: *Alucita brachydactyla* Kollar, 1832, by monotypy.
Crasimetis Meyrick, 1890: 484 (key), 489. Type-species: *Alucita brachydactyla* Kollar, 1832, by subsequent designation by Meyrick, 1910.

Redescription.— Head appressedly scaled, without prominent frons. Palpi curved

upwards, slender. Antennae densely "ciliated". Hind legs with scale-brushes around base of spurs. Lateral spurs shorter than medial spurs. Fore wings without anal angles in lobes. Veins: R1 absent; R2 separate; R3, R4 and R5 stalked; Cu1 from middle of distal M3; Cu2 from just beyond the cell. Hind wing veins: M3 absent. Third lobe with two veins.

Male genitalia.— Valvae asymmetrical, sacculus with pronounced thorns or spines. Tegumen arched. Uncus tapering, as long as tegumen. Saccus narrow. Aedeagus slightly curved, with lateral spine, however, without cornutus.

Female genitalia.— Antrum and ostium symmetrical and centrally positioned. Ductus bursae simple, without sclerotized segments or ridges. Lamina ante-vaginalis poorly developed. Bursa copulatrix vesicular, signum absent.

Distribution.— In the Palaearctic region three species are known. The species from other faunal areas, and placed in this genus need to be re-examined.

Biology.— The host plants are *Mycelis muralis* L., *Prenanthes purpurea* L. and *Lapsana communis* L. The host plants grow in (mountainous) woodlands with a herbaceous soil vegetation. The larvae feed on the underside of a leaf. In August the feeding is stopped and hibernation in a withered leaf starts. In spring they feed again on a leaf, biting its mid-vein, causing it to knick. Pupation along the stem of the host plant.

Remarks.— The genus is closely related to the *Pterophorus* group of genera and the *Oidaematophorus* group, differing mainly in the wing venation.

49. **Pseudoxyroptila** Hori, 1933
(figs. 41, 99, 160, 223)

Pseudoxyroptila Hori, 1933: 390, 399. Type-species: *Xyroptila tectonica* Meyrick, 1914, by original designation.

Description (after Hori, 1933).— Head appressedly scaled; no frontal tuft. Palpi slender, more than $1^1/_2$ times diameter of eye.

Fore wings cleft from $^3/_5$; no costal triangular marking; both lobes with, albeit small, termen. Fore wing veins: R1 absent; R2, R3, R4 and R5 present; R3 and R4 stalked; Cu1 absent; Cu2 from middle of cell. Hind wings with small terminal scale tooth at dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Genitalia symmetrical. Valvae with indented top, and vesicular and thorn-like processes. Tegumen bilobate, indented at top. Uncus small and reduced, but wide, half the tegumen length. Vinculum arched. Saccus poorly developed. Aedeagus with posterior part hooked, with minute spiny and setose processes.

Female genitalia.— Ostium centrally positioned. Antrum long and slender and extending along eighth tergite. Ductus bursae slender, without sclerite. Bursa copulatrix vesicular, with pair of small spiculated plates. Lamina ante-vaginalis poorly developed. Apophyses anteriores half as long as papillae anales. Apophyses posteriores 3 times papillae anales.

Ecology.— The recorded host plant from Java is *Bridelia tomentosa* Bl. (Euphorbiaceae) (Meyrick, 1921)

Distribution.— Indo-Australian (South East Asia).

Remarks.— The description by Hori (1933) of the venation of the fore wing is in contrast with the Java specimen examined for this study, and compared with the

type-specimen (*Xyroptila tectonica* Meyrick, 1914). For this reason I prefer the present description of the venation based on the Java specimen.

50. **Pterophorus** Schäffer, 1766
(figs. 42, 100, 161, 224)

Pterophorus Schäffer, 1766: pl. 104, figs. 2, 3. Type species: *Phalaena Alucita pentadactyla* Linnaeus, 1758, by subsequent designation by Whalley, 1961.
Pterophorus Geoffroy, 1762: 90; suppressed (ICZN Op. 228).
Plumiger Valmont-Bomare, 1791: 575; unavailable (ICZN Op. 228).
Pterophora Hübner, [1806]: 2; suppressed (ICZN Op. 97).
Pterophora Hübner, 1822: 80, 81. Type-species: *Phalaena pentadactyla* Linnaeus, 1758, by subsequent designation by Tutt, 1905.
Aciptilia Hübner, [1825]: 430. Type-species: *Phalaena pentadactyla* Linnaeus, 1758, by subsequent designation by Tutt, 1905.
Aciptilus Zeller, 1841: 768; emendation.
Ptorophorus Zeller, 1841: 774; incorrect spelling.
Acoptilia Agassiz, 1847: 5; emendation.
Acoptilus Agassiz, 1847: 5; emmendation.
Acyptilus de Graaf, 1859, incorrect spelling.
Alucita auct., (nec Linnaeus, 1758) (ICZN Op. 703).

Redescription.— Head appressedly scaled, with smooth flat frons. Palpi slender, protruding, just over diameter of eye. Apex of both fore wing lobes acute. Fore wing cleft from $^1/_2$ or less. Top of lobes acute, without terminal margin. Venation: R1, R2, R3 and R5 absent, Cu1 absent and Cu2 from beyond angle of cell. Hind wing without scale tooth. Third lobe with two veins.

Male genitalia.— Valvae asymmetrical, with asymmetrical costal processes. At bases of valvae pronounced large scales. Tegumen arched, uncus tapering towards top. Vinculum arched, with poorly developed saccus. Aedeagus slightly curved, without cornutus.

Female genitalia.— Ostium and antrum centrally positioned. Ductus bursae with longitudinal sclerotized ridges. Bursa copulatrix blister-like with one signum in shape of spiculated plate. Ductus seminalis pronounced, originating near antrum.

Ecology.— The host plants belong to the Convolvulaceae.

Distribution.— Palaearctic, Afrotropical and Indo-Australian.

51. **Puerphorus** Arenberger, 1990
(figs. 43, 101, 162, 225)

Puerphorus Arenberger, 1990: 14 (key), 18. Type-species: *Pterophorus olbiadactylus* Millière, 1859, by original designation and monotypy.

Redescription.— Head appressedly scaled, without frontal tuft. Palpi slender, protruding, just over diameter of eye. Fore wings cleft from before $^1/_2$; both lobes acute. Veins R1 and R5 absent; R2, R3 and R4 separate; Cu1 from just beyond angle of cell; Cu2 from cell. In hind wings each lobe with two veins.

Male genitalia.— Valvae strongly asymmetrical. Left valve with curved rounded top, and sacculus with two centrally directed protrusions. Right valve with acute top, and sacculus with single protrusion. Uncus double. Vinculum rounded. Saccus

wide and top covered with bristle. Aedeagus with lateral spines near top, without cornutus.

Female genitalia.— Antrum central, with excavated ostium. Ductus bursae with longitudinal ridges. Bursa copulatrix simple. Signum double, in shape of two elongated triangles. Apophyses anteriores absent. Lamina ante-vaginalis poorly developed.

Ecology.— The host plants belong to *Phagnalon* spec. (Compositae) (Gibeaux & Nel, 1989).

Distribution.— Palaearctic (southern west part).

52. **Shafferia** nov. gen.
(figs. 44, 102, 163, 226)

Type-species: *Platyptilia nubilus* Felder & Rogenhofer, 1875.

Etymology.— The genus is named after Mr Micheal Shaffer for his positive critisisme in working on the systematics of plume moths.

Description.— Head appressedly scaled; no frontal tuft. Palpi slender, upcurved, $1^1/_2$ times eye diameter. Fore wings cleft from $^2/_3$; no costal triangular marking; both lobes with distinct termen. Fore wing veins: R1 absent; R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wings along costa of third lobe with row of pronounced black scales, less intense along dorsum. At dorsum subapical black scale tooth. Third lobe with one vein.

Male genitalia.— Genitalia symmetrical. Valve elongate to oval, with, some times large, cucullar spine. Tegumen arched. Uncus well-developed. Vinculum arched. Saccus poorly developed. Aedeagus conical, curved.

Female genitalia.— Ostium centrally positioned. Antrum narrow, slender and protruding into slender ductus bursae. Ductus bursae without sclerite. Bursa copulatrix vesicular, with pair of horn-like signa.

Ecology.— Unknown.

Distribution.— Neotropical.

Remarks.— Another species belonging to the genus is: *Oxyptilus dentiger* Meyrick, 1916 **comb. nov.** (Guyana).

53. **Singularia** Arenberger, 1988
(figs. 45, 103, 164, 227)

Singularia Arenberger, 1988: 87. Type-species: *Alucita walsinghami* Fernald, 1898, by original designation and monotypy.

Description.— Head appressedly scaled. Frons smooth. Palpi upcurved, slender, almost as long as diameter of eye. In fore wings apex of both lobes acute. No costal triangular markings. Venation: R1, R2, R3 and R5 absent, R4 to apex of first lobe. Cu1 absent, Cu2 from angle of cell.

Male genitalia.— Valvae symmetrical. Sacculus pronounced in basal half, with-

out adherent processes. Cucullus not developed. Tegumen arched. Uncus tapering, as long as tegumen. Vinculum arched, saccus not developed. Aedeagus slightly curved, without cornutus.

Female genitalia.— Ostium and antyrum centrally positioned and symmetrical. Ductus bursae slender, without sclerite. Ductus seminalis originating near bursa copulatrix. Bursa copulatrix vesicular, with T-shaped signum. Lamina ante-vaginalis poorly developed.

Ecology.— Unknown. Moths are reported to fly around thistle species.

Distribution.— Nearctic.

54. **Sochchora** Walker, 1864
(figs. 46, 104, 165, 228)

Sochchora Walker, 1864: 952. Type-species: *Sochchora donatella* Walker, 1864, by monotypy.

Redescription.— Head appressedly scaled, no frontal tuft. Palpi twice eye diameter, protruding, segment 2 and 3 of equal length. Fore wings cleft from $^4/_5$, before base of cleft an ill-defined reddish-brown, incomplete, transverse spot. Termen of first lobe sinuate, of second lobe discretely waved. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate, both from the cell.

Hind wings with black scale teeth present: (1) at anal angle of the second lobe, (2) subterminal at costa and dorsum of third lobe, and (3) in middle of dorsum of third lobe. Pronounced black scales in fringes between last scale tooth and wingbase. Third lobe with one vein.

Male genitalia.— Valvae symmetrical, rounded. Sacculus gradually narrowing toward top of valve. Cucullus with spine equal of width of valve at midway valval length. Tegumen wide. Uncus basally wide, rather short. Vinculum wide. Juxta symmetrical. Aedeagus curved, slender; no cornutus.

Female genitalia.— Ostium centrally positioned. Antrum square, distally progressing in a funnel-like section. From here, rather slender ductus bursae reaches to vesicular bursa copulatrix. Ductus bursae without sclerite. Signum double, horn-like. Lamina post-vaginalis fusing distad of antrum, and proximally progressing into lamina ante-vaginalis. Laterally, lamina ante-vaginalis progressing into apophyses anteriores. Apophyses anteriores half as long as papillae anales. Apophyses posteriores $2^1/_2$ times papillae anales.

Ecology.— Unknown.

Distribution.— Neotropical.

55. **Sphenarches** Meyrick, 1886
(figs. 47, 105, 166, 229)

Sphenarches Meyrick, 1886: 8. Type-species: *Sphenarches anisodactylus* Walker, 1864, (= *synophrys* Meyrick, 1886, nec *caffer* Zeller, 1852), by monotypy.
Sphenarctes Carus, 1887: 113; incorrect spelling.

Redescription.— Head appressedly scaled; no frontal tuft. Palpi without hair

brush along third segment; slender; more than $1^1/_2$ times eye diameter. Fore wing cleft from $^3/_5$; no costal triangular marking; first lobe without and second lobe with termen. Fore wing veins (after Yano, 1963): R1, R2, R3, R4 and R5 present; R1 stalked with R2; Cu1 and Cu2 present and separate; Cu1 from middle of M3 in second lobe; Cu2 from angle of cell. Hind wing with scale tooth (sub)terminal on dorsum of third lobe. Veins: M3 and Cu1a stalked. Frenulum of ♀ double. Third lobe with one vein.

Male genitalia.— Valve symmetrical, spoon shaped. Tegumen simple, pointed. Uncus small, reduced. Vinculum arched, well-developed. Aedeagus arched, rather small.

Female genitalia.— The ostium slightly excavated, centrally positioned. Antrum tube-like, narrow. The ductus bursae slender and long, without sclerite. Bursa copulatrix vesicular, without a signum, but with diffuse spiculae.

Ecology.— The host plant are *Dolichos lablab* L., *Lagenaria leucantha* Rosby var. *clavata* Makino, and *L. leucantha* var. *gourda* Makino (Yano, 1963).

Distribution.— Circumtropical, extending northwards to Japan and southern Canada.

56. **Stangeia** Tutt, 1908
(figs. 48, 106, 167, 230)

Stangeia Tutt, 1906: 492. Type-species: *Pterophorus siceliota* Zeller, 1847, by monotypy.

Redescription.— Head appressedly scaled, without frontal tuft. Palpi slender, without protruding brush along third segment; slightly over $1^1/_2$ times diameter of eye. Fore wings cleft from $^1/_2$; both lobes acute, without termen. Fore wing veins: R1, R2 and R5 absent; R3 and R4 separate; Cu1 and Cu2 absent. Hind wings with row of black and white scales at dorsum of third lobe, and an ill-defined scale tooth at $^2/_3$. Third lobe with one vein.

Male genitalia.— Valvae symmetrical, slender, simple, arched. Tegumen and vinculum pronounced. Aedeagus conical, almost straight.

Female genitalia.— Ostium centrally positioned; in shape of rectangular, oblique plate; in which short rounded antrum. Ductus bursae long and slender, without sclerite. Bursa copulatrix vesicular, covered with numerous minute spiculae, no signum. Laterad of ostium plate, seventh tergite expanding into longitudinal lobe, as long as diameter of ostium plate.

Ecology.— The Palaearctic *siceliota* Zeller, 1847, feeds on *Cistus monspeliensis* L. Other recorded host plants are *C. albidus* L., and *C. salviaefolius* L., *Sanguisorba* (= *Poterium*) spec., *Dittrichia viscosa* L. and *Ononis natrix* L. The species *S. rapae* Clarke, 1971, has been bred on *Siegesbeckia orientalis* L. (Clarke, 1971).

Distribution.— Palaearctic region (southern half), Afrotropical, Indo-Australian (including South and South East Asia) and Pacific.

57. **Stenodacma** Amsel, 1959
(fig. 168)

Stenodacma Amsel, 1959: 29. Type-species: *Stenodacma iranella* Amsel, 1959, by original designation.

Description (after Amsel, 1959).— Head without frontal tuft. Palpi slender, upcurved, more than $1^1/_2$ times diameter of eye. Fore wings without distinct costal triangle; apex of both lobes acute, no termen. Venation not described by Amsel; no material available for examination. Hind wings with two black scales groups at $^1/_5$ and $^1/_2$ of dorsum of third lobe, no scale tooth, and at $^2/_3$ and $^3/_4$ small groups of white scales.

Male genitalia.— Valvae symmetrical. Valve deeply indented to tegumen. Cucullar part of valve short, saccular half trapezoid, enlongated, basally widened. Tegumen arched. Uncus deeply indented, double. Vinculum arched. Aedeagus curved, no cornutus.

Female genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— Palaearctic (Iran: Anbar-Abad).

58. **Stenoptilia** Hübner, [1825]
(figs. 49, 107, 169, 231)

Stenoptilia Hübner, [1825]: 430. Type-species: *Phalaena pterodactyla* Linnaeus, 1761, by subsequent designation by Tutt, 1905.
Mimaeseoptilus Wallengren, 1862: 17. Type-species: *Alucita mictodactylus* [Denis & Schiffermüller], 1775, (= *bipunctidactyla* Scopoli, 1763), by monotypy.
Mimeseoptilus Zeller, 1867: 332; emendation.
Mimaesoptilus Snellen, 1884: 184; incorrect spelling.
Doxosteres Meyrick, 1886: 10. Type-species: *Pterophorus canalis* Walker, 1864, (= *zophodactyla* Duponchel, 1839), by monotypy.
Mimaesioptilus Barrett, 1904: 373; incorrect spelling.
Adkinia Tutt, 1905: 37. Type-species: *Phalaena bipunctidactyla* Scopoli, 1763, by original designation.

Redescription.— Head appressedly scaled; no frontal tuft. Palpi protruding, second segment distally widened by numerous scales, third segment small; 1 to 2 times diameter of eye. Fore wing cleft from $^3/_4$; costal triangle reduced to some dark spots; both lobes with well-developed termen. Fore wing veins (after Hannemann, 1977): R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wing without scale tooth at dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Valvae symmetrical. Valve top "bird head"-like. Sacculus bilobate, terminal segment small. Tegumen simple. Uncus small. Vinculum arched, saccus not developed. Aedeagus curved, coecum well-developed; cornuti in shape of minute spiculae.

Female genitalia.— Ostium centrally positioned. Antrum tube-like, centrally placed at the distal margin of the seventh sternite. Ductus bursae with sclerite. Lamina post-vaginalis not developed, apophyses anteriores absent. Bursa copulatrix vesicular, with double horn-like signum.

Ecology.— Host plants belong to Gentianaceae, Scrophulariaceae and Dipsacaceae. (Nel, 1986).

Distribution.— Holarctic, Neotropical, Afrotropical and Indo-Australian.

59. **Stenoptilodes** Zimmerman, 1958
(figs. 50, 108, 170, 232)

Stenoptilodes Zimmerman, 1958: 407. Type-species: *Platyptilus littoralis* Butler, 1882, by original designation.

Redescription.— Head appressedly scaled; no frontal tuft. Palpi protruding, second segment thickened by numerous scales, twice diameter of eye. Fore wings cleft from $^4/_5$; costal triangle well-developed; both lobes with well-developed termen. Fore wing veins (after Zimmerman, 1958): R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell. Hind wings with terminal scale tooth at dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Valvae symmetrical. Valvae with "bird head"-like shape, top smooth. Sacculus bilobate, terminal segment small. Tegumen simple. Uncus slender, length from $^1/_2$ to 1 times tegumen. Vinculum arched, saccus not developed.

Female genitalia.— Ostium both laterally and centrally positioned. Antrum square to longitudinal, sclerotized. Ductus bursae often with sclerite. Lamina antevaginalis as a curved ridge. Lamina post-vaginalis sclerotized ridge centrally, often indented . Bursa copulatrix vesicular; signum double, horn-like. Apophyses anteriores short. Apophyses posteriores 2 to 3 times papillae anales.

Ecology.— Recorded genera of host plants are *Vaccinium, Hyposoter, Plectranthus,* (Zimmerman, 1958)

Distribution.— Tropical and subtropical regions of the world.

60. **Stockophorus** nov. gen.
(fig. 171)

Type species: *Platyptilia charitopa* Meyrick, 1908

Etymology.— The genus is named after Prof. Dr J.H. Stock, for his help solving problems in this publication.

Description.— Head appressedly scaled, no frontal tuft. Palpi $1^1/_2$ times diameter of eye; second segment distally widened; third segment slender and smooth. Abdomen laterally small brushes of erect scales. Fore wings cleft from $^3/_4$, with ill-defined costal triangle, just before base of cleft, termen at both lobes. Venation not examined; no material available. Hind wings at dorsum of third lobe subapical black-brown scale tooth. Between scale tooth and wing base isolated pronounced scales. Third lobe with one vein.

Male genitalia.— Genitalia symmetrical. Valve with ill-developed "bird head"-like shape, with acute top. Sacculus basally wide, in distal half narrow. Tegumen bilobate and indented, distally progressing into two vesicular lobes. Uncus originating from mid-tegumenal, just over tegumen length; top forked, laterally projecting. Vinculum arched, wide. Saccus pronounced thorn-like. Aedeagus stout, curved. Cornutus irregular sclerotized plate, half as long as aedeagus.

Female genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— Neotropical (Bolivia: Songo).

61. **Tetraschalis** Meyrick, 1887
(figs. 51, 109, 172, 233)

Tetraschalis Meyrick, 1887: 267. Type-species: *Tetraschalis arachnodes* Meyrick, 1887, by monotypy.

Description (after Meyrick, 1887).— Head without frontal tuft. Palpi ascending slender, more than twice diameter of eye. Fore wings cleft from $^1/_2$; without costal triangular marking; both lobes with acute top, no termen. Fore wing veins (after *Tetraschalis ochrias* Meyrick, 1907): R1, R2, R3, R4 and R5 present; R2 and R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from middle of M3 in second lobe; Cu2 from beyond angle. Hind wings with almost continous row of scales from base to apex at dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Genitalia symmetrical. Valvae with saccular extension at $^1/_3$ and a spine-like extending process. Cucullus extending vesicular. Tegumen bilobate, indented at top. Uncus reduced, wide. Vinculum arched. Saccus distally widened, large. Aedeagus slender.

Female genitalia.— Ostium centrally positioned, slightly excavated. Antrum twice longer than wide, proximally narrowing. Ductus bursae slender, without a sclerite. Bursa copulatrix vesicular, with a pair of large bean-like signa. Lamina antevaginalis poorly developed. Apophyses anteriores short. Apophyses posteriores three times papillae anales.

Ecology.— Unknown.

Distribution.— South Palaearctic and Indo-Australian (South to South East Asia, from Aden to Indonesia: Kei Islands).

62. **Titanoptilus** Hampson, 1905
(figs. 52, 110, 173, 234)

Titanoptilus Hampson, 1905: 248. Type-species: *Titanoptilus melanodonta* Hampson, 1905, by monotypy.

Description (after Hampson, 1905).— Head without frontal tuft. Palpi protruding, slender, more than twice diameter of eye.

Fore wings cleft from $^2/_3$; no costal triangular marking; first lobe without termen, second lobe with strongly excavate termen. Fore wing veins (after illustration in original description): R1, R3, R4 and R5 present; R2 absent; R3 stalked with R4; Cu1 absent; Cu2 present, from cell. Hind wings with large and several smaller scale teeth at dorsum of third lobe; the large scale tooth is generally positioned centrally at dorsum, smaller scale teeth are apically placed and between large one and wing base. Third lobe with one vein.

Male genitalia.— Valvae symmetrical. Valve with large vesicular and thorn-like processes. Tegumen arched, in some species bilobate. Uncus reduced. Vinculum small. Saccus poorly developed.

Female genitalia.— Ostium centrally positioned. Antrum narrow. Ductus bursae long and slender; no sclerite. Bursa copulatrix vesicular, without signum.

Ecology.— Unknown.

Distribution.— Afrotropical.

Remarks.— The description and illustration of the venation by Hampson is ambiguous. The author's interpretation is given above.

63. **Tomotilus** Yano, 1961
(figs. 111, 174, 235)

Tomotilus Yano, 1961: 87. Type-species: *Tomotilus saitoi* Yano, 1961, by original designation.

Description (after Yano, 1961).— Head without frontal tuft. Palpi slender. Fore wings cleft from $^2/_3$; without costal triangular marking; both lobes with distinct termen. Fore wing veins: R1 absent; R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from basal half of M3 in second lobe; Cu2 from cell. Hind wing with central scale tooth at dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Genitalia symmetrical. Valve trapezoid, with sharp thorn-like process near top. Tegumen arched. Uncus small, half as large as tegumen. Vinculum arched, covered by large plate-like saccus. Aedeagus small, conical.

Female genitalia.— Ostium centrally positioned. Antrum narrow, tube-like. Ductus bursae slender, without sclerite. Bursa copulatrix vesicular, with pair of horn-like signa. Apophyses anteriores absent. Apophyses posteriores $2^1/_2$ times papillae anales.

Ecology.— The host plant is *Dunbaria villosa* Makino, the larvae feed on the leaves (Yano, 1961).

Distribution.— East Palaearctic (Japan).

64. **Trichoptilus** Walsingham, 1880
(figs. 53, 112, 175, 236)

Trichoptilus Walsingham, 1880: 62. Type-species: *Trichoptilus pygmeaus* Walsingham, 1880, by monotypy.

Redescription.— Head without frontal tuft. Palpi upcurved, hair-brush originating from second segment extending along third segment. Fore wings cleft from $^2/_5$; without costal triangular marking; both lobes acute, without termen. Fore wing veins (after Matthews, 1989): R1, R3, R5, and Cu2 absent; R2, R4 and Cu1 present and separate; Cu1 from middle of M3 in second lobe. Hind wings with small scale teeth at apex and at $^2/_3$ of dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Genitalia symmetrical. Valve lanceolate, with protrusion at $^1/_3$ of saccular margin. Tegumen arched. Uncus obsolete. Vinculum bilobate, with vesicular saccus. Aedeagus slightly curved at top.

Female genitalia.— Ostium centrally positioned. Antrum a bidentated conical tube, basally flattening along lamina ante-vaginalis. Ductus bursae slender, without sclerite. Bursa copulatrix vesicular, with two small areas, hardly spiculated, as signum. Apophyses anteriores absent. Apophyses posteriores twice papillae anales.

Ecology.— Recorded host plants are *Chrysopsis scabrella* Torr. & Gray and *Arctostaphylos columbiana* Piper (Matthews, 1989).

Distribution.— Nearctic, possibly Neotropical region.

Remarks.— Until all species now referred to this genus have been examined thoroughly, their generic status is highly uncertain.

65. **Uroloba** Wlasingham, 1891
(figs. 54, 113, 176)

Uroloba Wlasingham, 1891: 262. Type-species: *Uroloba fuscicostata* Walsingham, 1891, by original designation.

Redescription.— Head appressedly scaled; no frontal tuft. Palpi long, 2 to 4 times eye diameter. Fore wings with cleft located near costa; first lobe approximately $^1/_5$th of fore wing width; no costal triangular marking. Fore wing veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from angle of cell; Cu2 from cell.

Hind wing without scale tooth at dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Valvae symmetrical. Sacculus bilobate, extending. Shape of end of cucullus resembling a "bird head", with acute top. Tegumen arched. Uncus short and stout. Vinculum progressing into pronounced stout saccus. Aedeagus arched, slender; coecum pronounced. Vesicula seminalis with numerous small cornuti.

Female genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— Neotropical (austral South America).

66. **Walsinghamiella** Berg, 1898

Walsinghamiella Berg, 1898: 42. Type-species: *Gilbertia eques* Walsingham, 1891, by original designation. *Gilbertia* Walsingham, 1891: 259; homonym of *Gilbertia* Cossman, 1889 (Mollusca).

Description (after Walsingham, 1891).— Head without frontal tuft. Palpi slender, upcurved, second segment slightly thickened by pronounced scales; more than twice eye diameter.

Fore wings cleft from $^2/_5$; without costal triangular marking; first lobe acute, without termen, second lobe with falcate termen. Veins: R1, R2, R3, R4 and R5 present; R3 stalked with R4; Cu1 and Cu2 present and separate; origin of Cu1 and Cu2 not examined. Hind wings with two scale teeth, at $^1/_3$ and terminal, at dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Unknown.

Female genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— Afrotropical (western Africa).

67. **Wheeleria** Tutt, 1905
(figs. 55, 114, 177, 237)

Wheeleria Tutt, 1905: 37. Type-species: *Pterophorus spilodactylus* Curtis, 1827, by original designation.

Redescription.— Head appressedly scaled. Frons smooth. Palpi slender, protruding, short. Fore wings with strong to faint markings, grey-white in colour. Apex of both lobes acute. Venation: R1, R2, R3 and R5 absent, only vein R4 present; Cu1

absent and Cu2 present, originating from beyond angle of cell. Hind wings in third lobe with two veins.

Male genitalia.— Valvae asymmetrical. The saccular processes asymmetrically built, process in right valve in general smaller than that of left valve. Tegumen arched. Uncus tapering towards top, as long as tegumen. Vinculum narrow, with poorly developed saccus. Aedeagus simple, without cornutus.

Female genitalia.— Ostium slightly to strongly excavate, centrally and symmetrically positioned. Antrum gradually progressing into the ductus bursae. Lamina antevaginalis poorly developed. Bursa copulatrix vesicular, without signum. Ductus seminalis at junction between ductus bursae and bursa copulatrix.

Ecology.— The host plants belong to the Labiatae.

Distribution.—Palaearctic and Oriental (Indian subcontinent).

68. **Xenopterophora** Hori, 1933
(figs. 115, 178)

Xenopterophora Hori, 1933: 386. Type-species: *Xenopterophora mikado* Hori, 1933, by original designation.

Redescription.— Head without frontal tuft. Palpi slender, ascending. Fore wings cleft from $^{2}/_{5}$; no costal triangular marking; first lobe acute, without termen, second lobe with sinuate termen. Fore wing veins (after Hori, 1933): R1 absent; R2, R3, R4 and R5 present; R2 and R3 stalked with R4; Cu1 and Cu2 present and separate; Cu1 from middle of M3 in second lobe; Cu2 from angle of cell. Hind wings with black scale teeth at centre and subapically at dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Genitalia symmetrical. Valve with extending processes and ending in thorn, cuculluar half extended and vesicularly overriding for half its length the saccular half. Tegumen arched. Uncus small, half the tegumen length. Vinculum arched. Saccus as bidentate plate facing the tegumen. Aedeagus long and slender, without cornuti.

Female genitalia.— Unknown.

Ecology.— Unknown.

Distribution.— East Palaearctic (Japan).

69. **Xyroptila** Meyrick, 1908
(figs. 56, 116, 179, 238)

Xyroptila Meyrick, 1908: 479. Type-species: *Xyroptila oenophanes* Meyrick, 1908, by original designation. (Dated 1907 but published in 1908).
Xyroptilia Bigot, 1969: 180; incorrect spelling.

Redescription.— Head appressedly scaled, with some erect scales at collar; no frontal tuft. Palpi slender, upcurved, three times diameter of eye. Fore wings cleft from $^{3}/_{5}$; no costal triangular marking; both lobes with distinct termen. Fore wing veins (*Xyroptila marmarias* Meyrick, 1908): R1 absent; R2, R3, R4 and R5 present; R3 stalked with R4; CVu1 and Cu2 present and separate; Cu1 from basal half of M3 in

second lobe; Cu2 from cell. Hind wings without scale tooth at dorsum of third lobe. Third lobe with one vein.

Male genitalia.— Genitalia symmetrical. Valve indented at top, cucullus overriding sacculus. Sacculus bilobate, but simple. Tegumen bilobate, indented at top. Uncus small, half length of tegumen. Vinculum arched. Aedeagus straight.

Female genitalia.— Ostium centrally positioned. Antrum in shape of small simple funnel with extending lateral narrow ridge, fusing at three times the antrum length and closed by central conical thorn. Ductus bursae slender, long; without sclerite. Bursa copulatrix vesicular with pair of signa consisting of two small spiculated plates. Lamina ante-vaginalis not developed. Apophyses anteriores absent. Apophyses posteriores three times papillae anales.

Ecology.— Unknown.

Distribution.— Afrotropical (central Africa) and Oriental (South and South East Asia).

B. Macropiratidae, Meyrick, 1932

Agdistopis Hampson, 1917
(fig. 180)

Agdistopis Hampson, 1917: 43. Type-species: *Agdistopis petrochroa* Hampson, 1917, by original designation.
Macropiratis Meyrick, 1932: 249. Type-species: *Macropiratis halieutica* Meyrick, 1932, by original designation.

Description (after Meyrick, 1932).— Head appressedly scaled, with small protrusion at lower half. Ocelli present. Labial palpi protruding, $1^1/_2$ times diameter of eye or more. Maxillary palpi absent. Legs and abdomen long and slender. Fore wings not cleft. Fore wing veins: R1 present, R2 absent, R3 and R4 from R5, Cu1 from M3 and Cu2 from near angle of cell.

Male genitalia.— Valvae symmetrical. Top rounded. At cucullus a moderately long, strong process. Vinculum with long, pronounced saccus. Tegumen indented at the top. Uncus reduced and wide. Aedeagus stout, almost straight. Cornuti in shape of multiple spines of variable size.

Female genitalia.— Unknown.

Ecology.— Recorded as host plant (Common, 1990) is *Secamone elliptica* R. Br. (Asclepiadaceae). The larve feeds on the fruits.

Distribution.— Indo-Australian (South and South-East Asia), extending into Pacific.

Remarks.— The first review of the genus was by Whalley (1964). He synonymized *Macropiratis* and *Agdistopis*. Some confusion about the name may arise, because Minet (1991) without referring to the synonymy of the genera mentioned Macropiratinae as a subfamily of the Pterophoridae.

III. The sistergroup of the Pterophoroidea

It is difficult to decide which taxon is the most likely sister taxon of the Pterophoroidea. According to Zimmerman (1958) Pyraloidea are the most closely related

superfamily.

Recently Minet (1991) published a revised phylogenetic review of the families in the Lepidoptera. He concluded that Alucitoidea are the most likely sister group at superfamily level. His opinion is accepted and applied without further discussion in this paper.

Alucitoidae Kuznetsov & Stekolnikov, 1979
Alucitidae Curtis, 1821

Genera in the Alucitidae: *Alucita* Linnaeus, 1758, *Microschismus* Fletcher, 1909, *Paelia* Walker, 1866, *Pteropteryx* Hannemann, 1959, *Triscaedecia* Hampson, 1905, *Alinguata* Fleming, 1948.

Alucita Linnaeus, 1758
(figs. 57, 117, 181, 239)

Type-species: *Alucita hexadactyla* Linnaeus, 1758: 542, by subsequent designation, by Tutt, 1906.
Alucita Linnaeus, 1758: 542.
Orneodes Latreille, 1796: 148. Type-species: *Alucita hexadactyla* Linnaeus, 1758: 542, by subsequent designation, by Latreille, 1802.
Euchiradia Hübner, [1826]: 431. Type-species: *Alucita hexadactyla* Linnaeus, 1758: 542, by original designation.

Redescription.— Head appressedly scaled, without frontal tuft. Ocelli present. Labial palpi protruding, more than $1^1/_2$ times diameter of eye. Legs and abdomen compact. Fore wings cleft six times. Fore wing veins: R2 absent, R3 and R4 from R5. Cu1 and Cu2 from cell. Hind wings cleft six times.

Male genitalia.— Valvae symmetrical. No saccular nor cucullar processes. Vinculum arched. Saccus not developed. Tegumen arched. Uncus tapering towards top. Socius present. Aedeagus slightly curved, with cornutus of multiple spines and thorns.

Female genitalia.— Ostium and antrum centrally positioned, symmetrically built. Ductus bursae slender. Bursa copulatrix vesicular, without signum. Ductus seminalis from near bursa copulatrix. Lamina ante-vaginalis poorly developed.

Ecology.— The larval stages of the European species tend to form galls in the stems of *Lonicera* and *Scabiosa* species. Other species live on *Centaurea jacea* L., *Stachys alpina* L., *S. recta* L. and *S. silvatica* L. (Buszko, 1977).

IV. Phylogenetic analysis

A. Methods

For an analysis of the phylogenetic relationships between the genera the distribution of the states of 47 characters over the type-species of the genera was checked and summarized in a data matrix (table 2). The data matrix was subject to two phylogenetic computer programs, PAUP (versions 3.0 and 3.1, on a Macintosh LC2) and Hennig86 (on an IBM-compatible 386 DX-40Mhz with mathematical co-processor).

Both programs are designed to compute the most parsimonious phylogenetic tree. Although with the hardware used Hennig86 was considerably faster than PAUP, the ease of use of the latter program, the much larger number of options (among which the possibility to include multistate taxa, important in this study, and apparently not provided by Hennig86) and the nice and flexible outprint made me to use PAUP for the final constructions.

Many runs of the program were made, using the heuristic option, with the genera in varying sequential order to eliminate the possible influence of the place of the genus in the data matrix, and with genera grouped in differing ways. Since the number of equally parsimonious trees was more than the buffer could take, a limit was chosen of 100 trees. From these trees a 50% majority consensus tree was composed. The distribution of the character states over this tree was taken as starting point for further analysis.

Initially only the genera of the Platyptiliinae (in table 3 marked with *) were taken into account, with the Pterophorinae, Ochyrotinae, Agdistinae (all belonging to the Pterophoridae), the Macropiratidae and the Alucitoidea as outgroups. However, the position of the Pterophorinae remained unsatisfactory, the program placing again and again the Pterophorinae among the genera of the Platyptiliinae. This suggested a paraphyletic nature of the latter subfamily. Therefore all (16) genera of the Pterophorinae were included in the data matrix as well (marked with **), and the final constructions were made with the Macropiratidae and Alucitoidea as outgroups, and the Pterophoridae (including Pterophorinae, Platyptiliinae, Ochyrotinae and Agdistinae) as ingroup.

B. Characters and character states

The characters, and within the characters the characters states, are numbered consecutively. The numbering has no a priori meaning of polarity.

1. Venous scales (in older references referred to as androconial scales) absent (0); present (1).

2. Shape of male genitalia symmetrical (0); asymmetrical (1).

3. Hindwing not cleft (0); cleft, with 1 vein in third lobe (1); cleft with 2 veins in third lobe (2).

4. Fore wing not cleft (0); cleft once (1); cleft twice (2); cleft three times (3).

5. In fore wings cleft twice, costal cleft beyond $^1/_2$ of wing length, length of dorsal cleft less than $^1/_3$ of the costal cleft (0); costal cleft beyond $^1/_2$ of wing length, length of the dorsal cleft approximately $^1/_2$ the costal cleft (1); costal cleft $^1/_2$ the wing length (2).

6. In fore wings cleft once, the cleft positioned centrally (0); the cleft near apex (1).

7. Fore wings with distinct terminal margin in both lobes (0); first lobe acute, second lobe with distinct termen (1); both lobes acute, without termen (2).

8. Scale tooth at the dorsum of the third lobe of the hind wing absent (0); a single scale tooth present (1); two scale teeth present (2); three or more scale teeth present (3).

9. Position of single scale tooth terminal (0); central (1).

10. In case of double scale tooth, one central and the other distal (0); one $^1/_5$ and the other central (1); one $^1/_3$ and the other distal (2).

11. Fore wing without costal triangular marking near the base of the cleft (0);

with costal marking, albeit sometimes reduced (1).

12. Fore wing vein R1 present (0); absent (1).

13. Fore wing vein R2 present (0); absent (1).

14. Fore wing vein R3 present (0); absent (1).

15. Fore wing vein R4 present (0); absent (1).

16. Fore wing vein R5 present (0); absent (1).

17. Radial veins of fore wing: none stalked (0); R1 stalked with R2 and R3 with R4 (1); R2 with R4 (2); R2 with R3 and R4 (3); R3 with R4 (4); R3 and R4 with R5 (5); R4 with R5 (6); R2 with R3 (7).

18. Fore wing vein Cu1 present (0); absent (1).

19. Fore wing vein Cu2 present (0); absent (1).

20. Vein Cu1 of fore wing from middle of M3 in second lobe of wing (0); from $^1/_4$ to $^1/_3$ of M3 in second lobe (1); from angle of cell (2); from cell (3).

21. Vein Cu2 of fore wing from beyond angle of cell (0); from angle of cell (1); from cell (2).

22. Labial palpi without hair brush ventrally along the third segment (0); with hair brush along third segment (1).

23. Labial palpi short (0); long, more than $1^1/_2$ times eye diameter (1).

24. Cucullus at most as long as valvae (0); cucullus longer than valvae (1).

25. Overriding cucullus simple with smooth top (0); in "bird head"-like shape, with acute top (1); with spine-like process (2).

26. Valvae oval to elongate, top rounded (0); top of valvae slightly indented (1); valvae indented to $^1/_2$ or $^3/_4$ of length (2); valvae indented as far as junction with tegumen (3).

27. Valvae without spiny, thread-like process (0); with long processes (1); with a short process (2).

28. Valvae without pronounced ridges and "hairs" at the tip (0); with such structures (1).

29. Sacculus without vesicular process (0); with terminal vesicular process (1); with central vesicular process (2).

30. Sacculus undifferentiated, small (0); bilobate (1); extended (2); bilobate and extended (3); with ventral extension at $^1/_3$ of valve (4); spine from mid-sacculas directed to base of valve (5); with spine(s) directed distad (6); with small thorny process in centre (7); basally extended with row of pronounced hairs (8).

31. Cucullus undifferentiated (0); with spine or spines (1); with vesicular processes or with vesicular proces(ses) and spine(s) (2).

32. Saccus simple, small (0); complex and/or large (1); with bristled margin (which may be as small as two thorns) (2); with pronounced "anti-saccus" (Gielis, 1991: 13) structure (3); long, top bifurcate (4); wide, forked (5).

33. Tegumen simple, arched (0); bilobate (1); indented at top (2).

34. Uncus shape, tapering towards apex (0); apex spoon-like widened (1); apex bidentate (2); double (3).

35. Uncus as long as tegumen (0); uncus slender, length slightly to moderately reduced (1); uncus wide, length slightly to moderately reduced (2); uncus strongly reduced (3).

36. Aedeagus slightly curved (0); moderately to strongly curved (1); strongly curved, with lateral processes (2); with curled apex (3).

37. Aedeagus without a cornutus, at most some minute spiculae in the vesica (0); with well-developed cornutus (1).

38. Position and shape of ostium and antrum central and symmetrical (0); lateral and asymmetrical (1).

39. Antrum at margin of the seventh tergite (0); tube-like extended along the eighth tergite (1).

40. Lamina ante-vaginalis a poorly sclerotized ridge-like margin (0); with a central small sclerotized plate (1); heavily sclerotized, large (2); with laterally extending processes (3).

41. Ductus bursae simple (0); with a sclerite (1); with sclerotized ridges (2); with double sclerite (3).

42. Signum in bursa copulatrix absent (0); single (1); double (2); multiple and complex (3).

43. Double signum in shape of a spiculated plate (0); a combination of spiculae and thorns (1); plates of spiculae and thorns surrounded by sclerotized ridges (2); a pair of "horns" (3); a pair of "SS"-shaped structures (4); a pair of bean-like structures (5); in shape of longitudinal ridges (6); in shape of elongated triangles (7).

44. Single signum in shape of a spiculated plate (0); a single horn (1); a "T"-shaped structure (2).

45. Ostium and antrum not in shape of an extended large, well-sclerotized funnel or plate (0); forming a well-defined, large funnel or plate-like (1).

46. Ductus seminalis in female not noticeable (0); originating at or near antrum (1); originating in mid-section of ductus bursae (2); originating near or from top of bursa copulatrix (3).

47. Male genitalia without a specialized brush of hairs or large scales at the base of the valvae (0); valvae with such hair-brush (1); valvae with such scales (2).

Table 2. Data matrix.

**Adaina	1121-	020- -	01000	04001	2000-	00006	00000	01100	30- -0	11
Agdistinae	1100-	- -0- -	00000	00002	2000-	30002	20031	10000	00- -0	10
*Amblyptilia	1011-	0011-	10000	04002	20011	-0000	-2000	00102	123-0	30
*Anstenoptilia	1011-	0010-	10000	04001	2000-	10001	05001	00000	023-0	30
*Arcoptilia	1111-	0010-	01000	04001	2000-	00000	01003	00000	00- -0	30
*Buckleria	1011-	0210-	01000	03000	0000-	00020	00003	00000	00- -0	20
*Buszkoiana	1011-	0010-	00000	04003	2000-	00000	00000	00000	01-00	30
**Calyciphora	1121-	020- -	01010	06000	1000-	00006	00000	30001	00- -0	30
*Capperia	1011-	0110-	01000	04001	1000-	00100	00003	20001	00- -0	30
*Cnaemidophorus	1011-	0010-	00000	04001	2000-	00005	00000	00000	020-0	30
*Cosmoclostis	1111-	020- -	01110	1-11-	-010-	20000	20000	00000	01-10	30
*Crocydoscelus	1?11-	0010-	00000	04000	101??	?????	?????	?????	?????	??
*Crombrugghia	1011-	0111-	01100	04000	0100-	00010	00002	00000	025-0	30
*Dejongia	1011-	0211-	01100	00011	-100-	00010	00002	00000	025-0	30
*Deuterocopus	10121	- -2-0	00000	04002	2010-	20006	20202	00000	00- -0	30
**Diacrotricha	1121-	020- -	01110	1-11-	-010-	00006	00000	00100	03- -0	31
**Emmelina	1121-	020- -	01000	00001	2000-	00006	00000	00100	30- -0	11
*Exelastis	1111-	000- -	01000	04001	2000-	10000	00002	00000	022-0	30
*Fletcherella	1011-	002-0	00000	03003	2010-	00007	00000	00000	00- -0	30

*Geina	1011-	0110-	01000	04001	2000-	00000	00002	00000	00- -0	30
*Gillmeria	1011-	0011-	10000	04002	2010-	00000	00000	00000	023-0	30
**Gypsochares	1121-	020- -	01000	05000	1000-	00000	11001	00100	00- -0	10
**Hellinsia	1121-	020- -	01000	00000	1000-	00006	00000	01100	31-00	21
*Heptaloba	1?13-	- -10-	00000	0400?	?01??	?????	?????	?????	?????	??
*Hexadactilia	1?122	- -10-	0????	?????	?01??	?????	?????	?????	?????	??
**Karachia	10?1-	020- -	00000	?700?	?000-	00008	00002	00???	?????	?0
*Koremaguia	1?11-	000- -	0?010	02002	201??	?????	?????	?????	?????	??
*Lantanophaga	1011-	0010-	10000	04002	20010	-0001	-4001	00001	024-0	30
*Leptodeuterocopus	10120	- -10-	01000	04001	2010-	20000	20002	00000	00- -0	30
*Lioptilodes	1011-	0000-	00000	04002	2000-	00000	03000	00000	023-0	30
*Macrotinactis	1?11-	012-0	00110	0000?	?01??	?????	?????	?????	?????	??
*Marasmarcha	1111-	000- -	01000	04001	2000-	01000	00002	00000	00- -0	30
*Megalorhipida	1011-	0211-	01000	1011-	-010-	00000	00002	00000	021-0	30
**Merrifieldia	1121-	020- -	01010	1-10-	0000-	00006	00000	00100	226-0	20
*Nippoptilia	1011-	000- -	00000	04002	10110	10000	00202	00010	021-0	30
Ochyrotinae	1000-	- -0- -	00000	0400?	?000-	00006	00000	00000	00- -0	30
**Oidaematophorus	1121-	010- -	01000	00002	2000-	00006	00000	00100	30- -1	11
*Oxyptilus	1011-	0110-	00000	03000	2100-	00010	00002	00000	025-0	30
*Paraamblyptilia	1011-	000- -	10000	04002	20111	-0002	-0130	01000	123-0	30
*Paracapperia	1011-	0110-	01000	04001	1000-	00000	00003	20001	00- -0	30
*Paraplatyptilia	1011-	0010-	10000	04002	20110	-0001	-0010	00102	123-0	30
**Patagonophorus	1121-	020- -	01010	1-10-	2000-	00006	00000	00000	026-0	30
*Platyptilia	1011-	0011-	10000	04002	2000-	00000	00000	00000	023-0	30
*Platyptiliodes	1?11-	0011-	0????	?????	?01??	?????	?????	?????	?????	??
**Porrittia	1121-	020- -	01010	1-10-	1000-	00006	00000	00000	00- -0	30
*Postplatyptilia	1011-	0010-	10000	04002	20010	-0000	-3001	00102	123-0	30
*Procapperia	1011-	0111-	01000	04001	2010-	00000	00003	10001	00- -0	30
**Pselnophorus	1121-	020- -	01000	05000	0000-	00006	00000	00000	00- -0	10
*Pseudoxyroptila	1011-	0010-	01000	0410-	20110	00001	00202	11010	021-0	30
**Pterophorus	1121-	020- -	01110	1-10-	0000-	00006	00000	00000	21-00	12
**Puerphorus	1121-	020- -	01000	10000	00012	00000	10030	00000	227-0	10
*Shafferia	1011-	0010-	01000	04002	2000-	00000	10000	00000	01-00	30
**Singularia	1021-	020- -	01110	1-10-	1000-	00000	00000	00000	01-20	30
*Sochchora	1011-	002-0	00000	04002	2010-	00000	00000	00000	023-0	00
*Sphenarches	1011-	0110-	00000	01000	1010-	00000	00002	00000	01-00	30
*Stangeia	1011-	0211-	01100	1011-	-010-	00000	01002	00003	00- -0	30
*Stenodacma	1011-	022-1	0????	?????	?010-	30002	20030	00???	?????	?0
*Stenoptilia	1011-	000- -	00000	04002	20010	-0001	-0003	00000	123-0	30
*Stenoptilodes	1011-	0010-	10000	04002	20110	-0001	-0001	00100	023-0	30
*Stockophorus	1011-	0010-	1????	?????	?0011	-0000	-0220	01???	?????	?0
*Tetraschalis	1011-	023- -	00000	03000	0010-	00006	21202	00000	025-0	30
*Titanoptilus	1011-	013- -	00100	0410-	20110	20020	21002	00000	00- -0	30
*Tomotilus	1011-	0011-	01000	04001	2000-	02000	10000	00000	023-0	30
*Trichoptilus	1011-	022-0	01010	10010	-000-	00004	00002	00000	00- -0	30
*Uroloba	1011-	100- -	00000	04002	20111	-0003	-1002	00???	?????	?0
*Walsinghamiella	1?11-	012-2	00000	0400?	?01??	?????	?????	?????	?????	??
**Wheeleria	1121-	020- -	01110	1-10-	0000-	00006	00000	00000	00- -0	30
*Xenopterophora	1011-	012-0	01000	03000	10010	20004	21002	00???	?????	??
*Xyroptila	1011-	000- -	01000	04001	20110	10001	00202	00010	021-0	30
Macropiratidae	0000-	- -0- -	00100	05002	2010-	00000	21202	01???	?????	?0
Alucitoidea	00- --	- -0- -	-0100	05003	2010-	00000	00000	01000	00- -0	30

C. Results

The shortest tree length for the data matrix of table 2 found in a number of runs was 313, with a Consistency Index (CI) of 0.38. The total number of trees with this length and CI was not established, since for reasons of computer capacity only 100 trees were saved each time. The CI is low, indicating a high degree of homoplasy (homoplasy index HI = 1 - CI). This is not surprising since the number of terminal taxa was much larger than the number of characters. It reflects the difficulty of finding synapomorphies for larger groups of taxa.

The 50% majority consensus tree was modified by hand in three places to adopt the tree to the intuitive opinion of the author: *Buckleria* was connected to *Crombrugghia*, *Geina* to *Capperia*, and *Gillmeria* to *Platyptilia*. This action raised the tree length from 313 to 315, while the CI fell from 0.380 to 0.378. These costs were considered low enough to be acceptable. The modified consensus tree (fig. 240) was taken to be the best attainable hypothesis of relationships between the genera. Analysis of the distribution of character states per character across the tree (table 3) leads to a hypothesis of character evolution as described in the next chapter.

D. Character evolution based on the consensus tree

In the discussion below the subfamily names Platyptiliinae and Pterophorinae are used in their traditional sense, the former subfamily comprising genera with one vein in the third lobe of the hind wing, the latter the genera with two veins in the same lobe.

If not indicated otherwise, a plesiomorphy is applicable to Pterophoroidea.

Where genus groups are mentioned, e.g. the *Marasmarcha* group, the group comprises the named genus and its sister genus or sister group as defined by the consensus tree.

The numbers refer to the numbers of the characters in the list of characters and character states.

1. Venous scales

The presence of venous scales placed on the underside of the hind wing along veins Cu2 and M3, is unique to the Pterophoridae, and not found in any other family of Lepidoptera. It is a firm autapomorphy of the family.

2. Symmetry of male genitalia

In the Alucitoidea and the Macropiratidae the male genitalia are symmetrically built. Consequently the symmetrical male genital shape, as present in the subfamilies Ochyrotinae and Platyptiliinae is regarded as the plesiomorphic state. The asymmetrical male genitalia in the subfamilies Agdistinae and Pterophorinae, and the *Marasmarcha* group are convergent developments. Placing the Agdistinae at the basal internode of the Pterophorinae increased the length of the tree by seven steps. This is too much to be acceptable.

In the genus *Singularia* this character has reversed to a symmetrical male genital structure.

3. Clefts of hind wing

The wing shape in the Pterophoridae has developed along two major lines: uncleft and cleft wings. In the sistergroup of the superfamily multiple clefts in the wings are present. However the sistergroup of the family, the Macropiratidae have uncleft wings, and this condition is considered the plesiomorphic state.

Apart from Alucitoidea and Pterophoridae, wing clefts are found in a third lepidopterous family: Oxychirotidae. Considering the number of clefts and the shape of the wings, it is highly probable that wing clefts have developed on more than one occasion. The three forms of cleft wings are apomorphies for the respective (sub)families. In the Pterophoridae with cleft wings, the hind wing has three lobes.

The single vein in the third lobe of the hind wing, as found in the Platyptiliinae, is considered a synapomorphy of the the Pterophoridae with cleft wings. The presence of two veins in this lobe is seen as a further development and forms a synapomorphy of the Pterophorinae. In this group, however, a reversal to the single vein condition took place in *Cosmoclostis*.

4-6. Indentation of fore wings

Apparently the uncleft fore wing is the plesiomorphic state. First a single cleft developed (cladogram branch 8). In the *Deuterocopus* group a second cleft originated and finally a third one in *Heptaloba*. In this genus group there is also variation in the depth of the cleft, whereby the development is towards deeper clefts, but this development can be partly reversed: in *Leptodeuterocopus* the dorsal cleft is shortened again.

In most cases in which there is a single cleft, this cleft splits the termen in the middle. In *Uroloba* the cleft is displaced and situated close to the costa, an apparent autapomorphy.

Note: This line of development agrees with the consensus tree. There is, however, a contradiction between the results of character 4 and 6. The single-cleft state is computed to have been present before the multi-cleft state, at branch 8. This implies that the cleft originated in the middle of the termen. This character is computed at branch 10.

In tree modifying with the accelerated evolutionary transformation a preference is given to reversals. In the delayed evolutionary transformation parallelisms are preferred (Wiley, 1991). Both modes can be followed with an upward and downward pass in the cladogram, making it difficult to decide which way is followed by PAUP.

7. Terminal margin of fore wing

Distinct terminal margins of the fore wing are the usual condition in the Lepidoptera. In the sister family, the Macropiratidae, this feature is well-developed, as in the Ochyrotinae and Agdistinae. With the development of clefts a narrowing of the wing apex occurs. The character remains unaltered in the majority of the species of the Platyptiliinae. In this respect the *Deuterocopus* group is difficult to interpret, since there are no terminal margins left by the clefts.

Apparently first the front lobe developed an acute apex, as in *Sphenarches* and, independently, at branch 82, comprising the *Geina* group and higher. Later also the second lobe got an acute top, in the *Buckleria* and *Trichoptilus* groups and in the Pterophorinae. In the *Tetraschalis* group the two acute lobes developed directly from the two blunt lobes. Reversals also occur: in the *Oxyptilus* and *Walsinghamiella* groups

and in *Oidaematophorus* the second lobe is blunt again, while in *Dejongia* two acute lobes are present again.

8-10. Scale tooth at dorsum of third lobe of hind wing

The development of scale teeth at the dorsum of the third lobe of the hind wing is an apomorphy not met in any other Lepidopteron. Structures that may be related to these scale teeth are the bristle-like accumulations of scales on the upper surface of the fore wing, occasionally met in Epermenidae, Cochylidae, Momphidae, Cosmopterygidae and Crambinae. The scale teeth in the Pterophoridae consist of large and broad scales, in contrast to the scale bristles in the other families, which consist of accumulated regular scales. In the Pterophoridae the character arose for the first time as a double scale tooth at branch 8, comprising the Platyptiliinae and Pterophorinae. Within the family this state is plesiomorphic.

In the majority of the Platyptiliinae, the character changed to a single scale tooth. This change is also met in the genera *Heptaloba*, *Hexadactilia* and *Leptodeuterocopus* in the *Deuterocopus* group.

Loss of the scale teeth occurred in the *Paraplatyptilia* group, the *Marasmarcha* group, the genus *Lioptilodes* and the Pterophorinae. While in the genus *Pseudoxyroptila* a single scale tooth is present again.

In *Trichoptilus* a reversal to the earlier state of two scale teeth is seen, in an otherwise single scale tooth group.

Three or more scale teeth developed independently in *Tetraschalis* and *Titanoptilus*.

The position of the single scale tooth on the dorsum of the third lobe of the hind wing is extremely variable within the groups and genera, and does not add phylogenetic information to the cladogram. Apparently paralellisms are involved.

The state with a central and distal scale tooth is found in *Deuterocopus*, the *Sochchora* group, *Macrotinactis*, *Xenopterophora*, and *Trichoptilus*. These genus groups show a convergent development. This configuration is the first expression of the double scale teeth found in the Pterophoridae.

For *Stenodacma* an autapomorphy is found in the position of scale teeth at $^1/_5$ and central, and another for *Walsinghamiella* in the position of scale teeth at $^1/_3$ and distal.

11. Costal triangular spot on fore wing

The plesiomorphic state is without a costal triangular spot as in the outgroup and sister group. The presence of a costal triangular spot on the fore wing is a uniquely derived feature of the genus *Platyptilia* and higher. This character is not found in any other group. In the genus group *Stenoptilia/Nippoptilia* and in the ancestor of the genus *Lioptilodes* and higher in the Pterophorinae the costal triangle is lost again.

12-16. Radial veins of fore wing

The presence of vein R1, R3, R4 and R5 and the absence of vein R2 in the fore wing are plesiomorphic states found also in the outgroups. Apparently radial veins easily appear and disappear in the fore wings, leading to a high degree of homoplasy.

Vein R2 of the fore wing is absent in the outgroups. Therefore its presence in the Pterophoridae is considered a synapomorphy.

17. Branching pattern of radial veins in fore wing

The following branching patterns of the radial veins of the fore wing are found in Pterophoridae: (0) not stalked; (1) R1 stalked with R2 and R3 with R4; (2) R2 with R4; (3) R2 and R3 with R4; (4) R3 with R4; (5) R3 and R4 with R5; (6) R4 with R5; and (7) R2 with R3.

In the outgroups veins R3 and R4 of the fore wing are stalked with R5. Taking this situation at the plesiomorphic level, the patterns given above are derivative. Apparently the character rather easily switches between other states, leading to a high degree of homoplasy.

Pterophoridae show stalked R3 an R4, except in the Agdistinae. This state represents an apomorphy for the Ochyrotinae and higher.

Apparently the patterns of four genera are autapomorphic, viz. *Sphenarches*, *Koremaguia*, *Calyciphora* and *Karachia*.

18-19. Cubital veins in fore wing

The presence of cubital vein Cu1 in the fore wing is a plesiomorphy seen in both the outgroups and the ingroup. The vein is lost in the genera *Pseudoxyroptila*, *Stangeia*, *Megalorhipida*, *Titanoptilus* and in the genus group *Porrittia* and higher.

The presence of cubital vein Cu2 in the fore wing is a plesiomorphy seen in both the outgroup and ingroup. The vein is lost in the genera *Diacrotricha*, *Cosmoclostis*, *Dejongia*, and the *Trichoptilus* group.

20. Origin of fore wing vein Cu1

In the Alucitoidea vein Cu1 branches from the cell. This represents the plesiomorphic state at the level of the Pterophoroidea. In the latter superfamily Cu1 originates form the angle of the cell. Though reversals and other developments are found in the Pterophoridae, this is best considered an apomorphy for the superfamily.

In the character matrix a distinction was made between state 20^0 (Cu1 from middle of M3) and 20^1 (Cu1 from $^1/_4$ to $^1/_3$ of M3). It seems appropriate to combine these states to a single one, namely Cu1 originates beyond the cell angle. This state is found in the *Heptaloba* subgroup of the group *Deuterocopus*, the *Stenodacma* group, the *Xyroptila* group, the *Sphenarches* group, the genus *Anstenoptilia* and from *Cnaemidophorus* and higher.

In *Oidaematophorus* the origin of Cu1 from beyond the angle of the cell has changed back to the cell angle.

In two separate cases, *Buszkoiana* and *Fletcherella*, Cu1 branches from the cell as in the Alucitoidea.

21. Origin of fore wing vein Cu2

In the ingroup and in the outgroup Cu2 of the fore wing originates from the cell. This is a plesiomorphy present in the entire group.

The origin of Cu2 changes often and without significant pattern; it does not contribute to the understanding of the phylogeny of the superfamily. The changes of character state are, however, indicated in the cladogram.

22-23. Labial palpi

The labial palpi have a simple structure, without an extra hair brush along the

third segment in both the ingroup and the outgroup. This apparently represents the plesiomorphic state. In the *Oxyptilus* group the labial palpi show a distinct "hair" brush along the third segment. This state is not found elsewhere in the family or in the outgroup. It is an autapomorphy of the genus group.

The length of the labial palpi switches so often and irregularly in the genera and groups that no apomorphies are recognized. The pattern does not help to understand the phylogeny of the family.

24-25. Cucullar shape

A simple cucullus, almost as long as the rest of the valve, is seen in the outgroup and most of the ingroup genera. This is the plesiomorphic state.

The overriding cucullus is found in three occasions: the genus group *Lantanophaga* and *Titanoptilus*, and the genus *Puerphorus*. In the *Lantanophaga* group the character is combined with symmetrical genitalia. No other valvular processes are present. It is an apomorphy for this group.

Remarks.— With regard to this character the position of the genus *Anstenoptilia* is uncertain. In this genus the type-species has the cucullus as long as the rest of the valve, but in an undescribed species (in press) an overriding cucullus is present. In this case I would like to deviate from the results of the cladogram and include this genus in the *Lantanophaga* group.

In *Puerphorus* the cucullus is overriding and asymmetrical with spine-like processes. It is an autapomorhy for this genus.

In the *Titanoptilus* group symmetrical genitalia are found, but other spine-like and vesicular processes are present. This character is an apomorphy for this group.

The overriding cucullus with a smooth top as found in the *Titanoptilus* and *Lantanophaga* groups is a convergent development.

The "bird head"-like shape is seen in four genera: *Amblyptilia*, *Stockophorus*, *Uroloba* and *Paraamblyptilia*, apparently a convergent development. It is, however, noteworthy that this "bird head"-like development of the cucullus has developed in a single genus group: *Anstenoptilia*.

26-28. Valve shape and processes

Valves with rounded top are found in the outgroups. They represent the plesiomorphic state of the character.

A slight indentation of the top of the valvae is found in three genera cq. genus groups. In the *Nippoptilia* group and the genus *Anstenoptilia* (remark at character 24) the convergent development is noticeable. In *Exelastis* the situation appears to be different, however, the shape in the type-species is merely the start of a development within the genus and the indentations vary in size. For this reason *Exelastis* has to be considered in this homoplasial development as well.

A reversal to the plesiomorphic state, with rounded top, is seen in the genus *Pseudoxyroptila*.

A deeply indented valve is found in the *Deuterocopus* group, the *Titanoptilus* group and the genus *Cosmoclostis*.

In case of extreme indentation of the valves, a separate lobe is created along and at the cucullar margin of the valve. This is found as a convergent development in Agdistinae and *Stenodacma*.

In the outgroups and most of the ingroup neither valvular processes nor ridges and terminal "hairs", not related to either the sacculus or cucullus, are present. This represents the plesiomorphic state.

Autapomorphies are found in the presence of a long, filiform valvular process in *Marasmarcha*; a relatively short spiny process in the terminal one-third of the valve of *Tomotilus*; and the valve with pronounced sclerotized ridges and distinct "hairs" at the top of *Capperia*.

29-30. Saccular shape and processes

The valve without vesicular processes is the state found in the majority of the ingroup and the entire outgroup, representing the plesiomorphic state.

A resemblance in the development of a central vesicular process at the valve is noticed between *Buckleria* and *Titanoptilus*. However, in *Buckleria* this vesicular process is the only process present. It is an autapomorphy of *Buckleria*.

In *Titanoptilus* the central vesicular process is combined with multiple processes at the valve, and an autapomorphy for *Titanoptilus*.

The development of a vesicular process at the top of the valve is an apomorphy for the group *Oxyptilus*, which may well be a development from the single, central vesicular process in *Buckleria*.

The sacculus with a simple, not extended shape is found in the outgroups and dispersed over the ingroup, and considered plesiomorphic.

In the *Anstenoptilia* group the sacculus has developed into a bilobate shape. This apomorphy is not met in any of the other groups.

Other genera or genus groups tend to develop a spine or spines.

In both groups of states mentioned above, homoplasies occur frequent and are listed in the character listing.

Autapomorphies are found in the genera: *Uroloba*, *Cnaemidophorus*, *Fletcherella*, *Karachia*, *Trichoptilus* and *Xenopterophora*.

31. Cucullar processes

In the outgroup Alucitoidea the cucullus is undifferentiated. This state may be referred to as plesiomorphic. A cucullus with spines and vesicular processes is an apomorphy for the Pterophoroidea. This character reverses to the plesiomorphic state in the Ochyrotinae, and from *Fletcherella* and higher. After the development of the overriding cucullus the state reappears in the *Nippoptilia* group.

In the *Puerphorus* group and the genera *Shafferia* and *Tomotilus* the development of a simple cucullar thorn is found. In the genus *Cosmoclostis* a complex cucullar shape reappears.

32. Saccus

In the ingroup and Alucitoidea a small and simple saccus occurs. This state is referred to as plesiomorphic.

In the Pterophoroidea the saccus has developed several shapes and structures which can be used to define genera or groups. Such developments are: a large and sometimes complex saccus structure found in *Uroloba*, *Arcoptilia*, *Stangeia*, *Gypsochares* and the *Tetraschalis* group. This character is present in the sistergroup of the family, the Macropiratidae, as well. This state apparently easily developed and occurred often.

The saccus with adjacent heavily sclerotized "anti-saccus" is a convergent development in *Postplatyptilia* and *Lioptilodes*.

Autapomorphies of genera are found in the saccus with the bristle-like "hairs" along its margin of *Amblyptilia*; the long and forked saccus of *Lantanophaga*; and the short and wide, forked saccus of *Anstenoptilia*.

33. Tegumen

The simply arched tegumen is the plesiomorphic state. It is seen in the Alucitoidea and in the greater part of the ingroup.

A clearly bilobate tegumen is an autapomorphy of *Paraamblyptilia*.

An indented top of the tegumen is a convergent development found in several genera, *Stockophorus*, the *Nippoptilia* group, *Tetraschalis*, *Deuterocopus* and the sister-family Macropiratidae.

34-35. Uncus

The uncus shape is simple, tapering towards the top, in the outgroup and most of the ingroup.

In the shape of the uncus two autapomorphies are found: the spoon-like widening of the top of *Paraplatyptilia*, and the bidentate top of *Stockophorus*.

The double uncus is a development found on more occasions: *Paraamblyptilia*, *Puerphorus*, *Stenodacma* and in Agdistinae. No evolutionary relation is found between the bidentate and double uncus.

In the Alucitoidea the uncus is as long as the tegumen. This is considered the plesiomorphic state. In the Pterophoridae the uncus is reduced in size. This was achieved in three ways: uncus moderately reduced and wide; moderately reduced and slender; and strongly reduced. Apparently the character rather easily switches to other states, leading to a high degree of homoplasy. The steps are tabulated in the listing of the character states.

36. Shape of aedeagus

The aedeagus is slightly curved in the outgroups and the greater part of the ingroup. It represents the plesiomorphic state.

In a convergent development a strongly curved aedeagus is found in the Agdistinae, the *Procapperia* group and *Pseudoxyroptila*.

In the *Procapperia* group lateral processes are found in *Paracapperia* and *Capperia*, and nowhere else, apparently an apomorphy for the two genera.

In *Calyciphora* the curved aedeagus ends "pigtailed", a unique development and an autapomorphy for the genus.

37. Cornuti in aedeagus

In the outgroups the aedeagus possesses a cornutus, representing the plesiomorphic state.

Generally there is no cornutus in the Pterophoridae. This absence is an apomorphy of the family.

A cornutus is present, however, in the genera *Hellinsia*, *Adaina*, *Paraamblyptilia*, *Pseudoxyroptila* and *Stockophorus*.

38-39 and 45. Position and shape of ostium and antrum

The central and symmetrical position of the antrum and ostium is the plesiomorphic state as found in the outgroups and the majority of the ingroup genera.

A convergent development in the position of the antrum is seen in the displacement to the sides. This occurs in *Gypsochares*, *Merrifieldia*, *Diacrotricha* and the *Hellinsia* and *Stenoptilodes* group.

Reversal of a laterally positioned antrum to a central position occurs in the *Paraamblyptilia* group.

In the outgroup and most of the ingroup the antrum is not extended. This is the plesiomorphic state of the Pterophoroidea. The presence of a tube-like extended antrum, along the eighth tergite, is an apomorphy of the *Nippoptilia* group.

In *Oidaematophorus* the antrum and ostium have a wide funnel-like shape and are well-sclerotized. This an autapomorphy for this genus.

40. Lamina ante-vaginalis

In the outgroup the lamina ante-vaginalis is represented by a poorly developed, ridge-like margin. This feature is dispersed in the greater part of the ingroup.

In *Calyciphora*, the *Procapperia* group and *Lantanophaga* the lamina ante-vaginalis shows a small central, sclerotized, plate, as a convergent development.

The large, heavily sclerotized, and often asymmetrical lamina ante-vaginalis in the *Paraplatyptilia* group is an apomorphy, not found elsewhere.

The development of lateral processes at the lamina ante-vaginalis is an autapomorphy for *Stangeia*.

41. Ductus bursae

In the plesiomorphic state, the ductus bursae is a simple tube, without sclerites or sclerotized ridges.

The presence of a single sclerite in the ductus bursae is seen in the *Paraamblyptilia/Amblyptilia* group and is an apomorphy for this group. The sclerite is lost again in the *Nippoptilia* group.

In *Puerphorus*, *Merrifieldia* and *Pterophorus*, sclerotized ridges are present in the ductus bursae, in a convergent development.

The presence of two sclerites in the ductus bursae is an apomorphy for the *Hellinsia* group.

42-44. Signum

In the Alucitoidea nor in the basally arranged subfamilies and genera of the ingroup the a signum is present. This represents the plesiomorphic state.

The development of a double signum is an apomorphy for the Pterophorinae (new definition). This character, however, is lost again on a number of occasions. Other developments occur as well, viz. single and complex signa. The character reverses to the plesiomorphic state again in the *Arcoptilia* group and higher.

The development of a single signum is found in *Hellensia*, the *Pterophorus* and *Shafferia* group.

In *Exelastis*, *Puerphorus*, the *Merrifieldia* group, *Megalorhipida* and the *Oxyptilus* group the character of a double signum appears again as a homoplasy.

The development of a complex signum is an autapomorphy for the genus *Diacrotricha*.

The development of a double signum in the shape of a pair of horns is, after the single development of a double "bean"-like signum in *Tetraschalis*, found in *Sochchora* and higher and represents an apomorphy.

In *Tomotilus*, the character of the double horned signum reappears.

The convergent development of spiculate plates with thorns is seen in the *Nippoptilia* group and *Megalorhipida*.

The character changes often in shape. Autapomorphies are found in a double signum in shape of: spiculate plates in *Cnaemidophorus*; spiculate plates with thorns and surrounded by sclerotized ridges in *Exelastis*; a "SS"-shape in *Lantanophaga*; a large, elongated, triangular, double signum in *Puerphorus*; and longitudinal ridges in the *Merrifieldia* group.

A double "bean"-like signum is a convergent development seen in *Tetraschalis* and in the *Oxyptilus* group.

A signum shapes as a single spiculated plate is found in the genera *Hellinsia*, *Pterophorus* and the *Shafferia* group. Apparently it originated independently several times.

Autapomorphies are found in the development of a single large horn in *Cosmoclostis*; and the large "T"-shape single signum of *Singularia*.

46. Ductus seminalis

The origin of the ductus seminalis is not noticeable in the slides of *Sochchora* examined. For this reason the genus is not considered in the discussion of this character.

In the plesiomorphic state the ductus seminalis originates near the bursa copulatrix. This is found in the Alucitoidea and the greater part of the Pterophoridae.

In the subfamily Agdistinae, and the *Karachia* group the ductus seminalis arises from or near the antrum, in a convergent development. In the *Calyciphora* group the plesiomorphic state is present again, except for the genus *Merrifieldia* where the origin of the ductus seminalis is central in the ductus bursae; and *Pterophorus* where the origin is near the antrum.

A separate switch to an origin at the centre of the ductus bursae is seen in *Hellinsia* and *Buckleria*.

47. Special "hairs" or scales on male genitalia

In the plesiomorphic state the valve has no distinct brush of "hairs" or large scales at the base.

In the *Hellinsia* group and *Diacrotricha* a distinct brush of "hairs" is present, originating from the base of the valve.

In *Pterophorus* distinct large scales are seen on the base of the valve. This represents an autapomorphy for this genus.

Table 3. The character states listed by branches in the cladogram.

branch position	plesiomorphic	apomorphic	parallel/convergent	reversed
1	1 2 3 4 7^0 8 11^0 12^0 13 14 15 16 17^5 18 19 20^3 21^2 22 24^0 26^0 27^0 28^0 29^0 30^0 31^0 32^0 33^0 34^0 35^0 37^1 39^0 40^0 41^0 42^0 45^0 46^3 47^0			
2		20^2 31^2		
3				
4			1 13^0 37^0	
5			32^1 33^2 35^2	
6		17^4		
7		46^1	2 26^3 30^2 34^3 35^1 36^1	
8		3^1 4^1 8^2		
9			30^6 31^0	
10		6^0 42^2		
11		4^2	26^2 35^2	
12		5^0	10^1 30^6 33^2	
13			8^1 20^0	
14		4^3		
15				
16		5^1		
17		5^2	12^1	
18			10^1 31^0	
19			7^2 20^0	
20			32^1 35^2	
21		10^1	26^3 30^2 34^3	
22			25^0 26^2	7^2
23			8^3 17^3 21^0 30^6 33^2 42^2 43^5	
24		24^1		13^1
25		10^2		
26			10^1 17^0 21^1	
27		29^2	8^3 18^1	
28			14^1	
29		30^4	12^1 17^3	13^1
30		43^3	42^2	
31		30^7	17^3	20^3
32			8^1	10^1
33				
34		11^1		
35				
36				
37				
38				
39				
40				11^0
41		24^1 30^1	35^1	
42			25^0	
43		32^5	20^0 26^1	

44		38^{1}	
45	$32^{4}\ 43^{4}$	40^{1}	
46	41^{1}		
47			
48	40^{2}		
49		25^{1}	$8^{1}\ 38^{0}$
50			$11^{0}\ 35^{2}$
51	33^{1}	$30^{2}\ 34^{3}\ 37^{1}$	
52	17^{2}	14^{1}	
53			
54			25^{0}
55	$6^{1}\ 30^{3}$	32^{1}	
56	39	$26^{1}\ 31^{0}\ 33^{2}\ 43^{1}$	41^{0}
57		35^{3}	
58		21^{1}	30^{0}
59		$12^{1}\ 20^{0}$	
60		$18^{1}\ 36^{1}\ 37^{1}$	$8^{1}\ 26^{0}$
61			
62			30^{0}
63	34^{1}		
64		25^{1}	
65		32^{3}	35^{1}
66	32^{2}		
67	34^{2}	$33^{2}\ 37^{1}$	
68			
69		32^{3}	8^{1}
70			
71		$42^{1}\ 44^{0}$	
72		20^{0}	
73		$12^{1}\ 31^{1}$	
74			20^{3}
75		$21^{1}\ 35^{2}$	
76			
77	17^{1}	7^{1}	
78		$12^{1}\ 20^{0}$	
79	$30^{5}\ 43^{0}$		
80		35^{2}	42^{0}
81	27^{2}	31^{1}	43^{3}
82		7^{1}	
83		2	
84		$32^{1}\ 35^{3}$	
85			8^{1}
86	43^{2}	$26^{1}\ 42^{2}$	
87	27^{1}		
88		$7^{2}\ 17^{0}\ 21^{0}$	
89			
90		$35^{3}\ 36^{1}\ 40^{1}$	
91			
92	36^{2}	21^{1}	
93			
94	28^{1}		
95			
96			
97	29^{1}	17^{3}	

98	29^{2}	$35^{3}\ 46^{2}$	
99	22^{1}	$42^{2}\ 43^{5}$	7^{2}
100			13^{1}
101			$12^{0}\ 21^{2}$
102			17^{4}
103		$17^{0}\ 19^{1}$	
104	3^{2}	46^{1}	
105		$16^{1}\ 19^{1}$	
106		18^{1}	
107	30^{4}	$10^{1}\ 14^{1}$	8^{2}
108		$42^{2}\ 43^{1}$	
109	40^{3}	32^{1}	
110		2	35^{0}
111	$17^{7}\ 30^{8}$		12^{0}
112		30^{6}	
113		31^{1}	
114		$21^{1}\ 32^{1}\ 38^{1}$	$17^{5}\ 35^{1}$
115	$24^{1}\ 25^{2}\ 43^{7}$	$16^{1}\ 34^{3}\ 41^{2}\ 42^{2}$	
116		21^{1}	
117			17^{5}
118		14^{1}	46^{3}
119	41^{3}	$38^{1}\ 47^{1}$	
120			21^{2}
121		$37^{1}\ 42^{1}\ 44^{0}\ 46^{2}$	
122			
123	45^{1}		$7^{2}\ 20^{2}$
124		37^{1}	17^{4}
125			
126		$16^{1}\ 18^{1}$	
127	$17^{6}\ 36^{3}$	40^{1}	
128			20^{0}
129			
130			13^{1}
131	43^{6}	42^{2}	
132			21^{2}
133		$38^{1}\ 41^{2}\ 46^{2}$	
134			
135			
136			$21^{1}\ 30^{0}$
137	47^{2}	$41^{2}\ 42^{1}\ 44^{0}$	46^{1}
138		19^{1}	
139	44^{2}		2
140	44^{1}	26^{2}	$3^{2}\ 31^{2}$
141	42^{3}	$38^{1}\ 47^{1}$	30^{6}

V. Taxonomic conclusions

The effort of undertaking a phylogenetic study of the subfamily Platyptiliinae has been made to attack the problems which arose in the faunistic study of the Pterophoridae of the New World, especially the Neotropical area. After initial failures to arrive at satisfactory conclusions, first solely blamed on the quality of the data matrix, I decided to widen the scope of the study to include the genera of the

other subfamilies as well. Up till then, the other subfamilies had been defined as outgroups of the Platyptiliinae. The widened scope and the definition of outgroups above the subfamily level, viz. Macropiratidae and Alucitoidea, dramatically altered the results of the computations.

In accordance with Minet (1991) the superfamily Alucitoidea was considered the sistergroup of the superfamily Pterophoroidea. The present study, however, does not support Minet's opinion of Macropiratinae as a subfamily of the Pterophoridae, since it lacks some apomorphies of the family and I consider it to be a separate family. Together with the Pterophoridae it forms the Pterophoroidea.

The initial subfamily system of the Pterophoridae was based on morphological units, of which the phylogenetic basis was not determined. Already Zeller (1852), in his description of the genus *Diacrotricha*, mentioned the questionable position of the genus. Meyrick (1908) and T.B. Fletcher (1947) later had the same problem with *Cosmoclostis*. It became evident, after the phylogenetic analysis of the genera the Pterophoridae, that a reshuffling of the genera of the subfamilies Platyptiliinae and Pterophorinae was necessary. The subfamilies with uncleft wings, Agdistinae and Ochyrotinae, proved to be monophyletic.

Their monophyly is based on the following apomorphies:

— Agdistinae; fore wings with "naked field", not found in other genera;

— Ochyrotinae; fore wings with brightly coloured costal and dorsal margin, central field white; abdomen with alternating coloured and white segments.

The remaining genera are also monophyletic. They share two apomorphies, viz. cleft fore wings and double scale teeth. This group can be divided into two monophyletic groups, both based on a single apomorphy:

— Pterophorinae **stat. rev.**; signum in bursa copulatrix double; the subfamily includes the former Platyptiliinae;

— Deuterocopinae **subfam. nov.**; fore wings with two or three clefts.

Type-genus: *Deuterocopus* Zeller, 1852. Included genera: *Deuterocopus*, *Hexadactylia*, *Heptaloba* and *Leptodeuterocopus*.

Within the Pterophorinae stat. rev. several apparently monophyletic subgroups can be distinguished, e.g. the *Capperia/Geina* group, *Buckleria/Oxyptilus* group, *Arcoptilia/Marasmarcha* group, *Anstenoptilia/Amblyptilia* group and the "old" group of the Pterophorinae. It is, however, impossible to subdivide the Pterophorinae into tribes without creating paraphyletic rest groups or a plenitude of names for subgroupings.

VI. Biogeographical notes

The discussion on the biogeography of the Pterophoroidea is hampered by the incomplete knowledge of the superfamily. A large number of species in tropical areas are placed in genera originally described for species from the palaearctic region. The generic position of the extra-Palaearctic species is, however, not certain and needs further investigation. This is illustrated by a provisional review of the neotropical Pterophoridae that prompted to the description of six new genera (Gielis, 1991; present publication). The fauna of Africa, South Asia and the greater part of the Indo-Australian region have not yet been examined in detail. Consequently the

knowledge about the allocation of the species to the genera is incomplete. This is reflected in the checklist, where species with an uncertain, not yet confirmed generic identity are placed in the genera they were described in, with a note on their doubtful status.

The distribution areas in the area cladogram (fig. 241) are based on species for which the generic allocation is certain. A reliable insight in the biogeography of the Pterophoridae may only be reached after revision of the faunas of the regions mentioned above. Examples of the unsatisfactory situation can be found in the genera *Oxyptilus*, *Trichoptilus*, *Hellinsia* and *Pterophorus*. From approximately 980 species, nearly 500 are known from the Holarctic region and relatively well studied. However, 191 species are placed in the groups with an uncertain status. Except for a single species, all these species originate from tropical regions. The majority of these species have insufficiently been examined and a generic reclassification, based on the methods mentioned in the first half of this publication, is highly necessary.

Despite the incomplete knowledge some interesting observations can be made. As can be seen from fig. 241, 36 of the 70 genera of the Pterophoridae occur in more than one of the regions distinguished. If we subtract the strictly Holarctic genera, there are still 33 genera occurring in more than one region. Of these, 15 are found in both the Old World and the New World. This suggests either a very old age of the genera, dating back from before the break-up of Pangaea in mid-Cretaceous time, or strong dispersive powers. This seems to correspond well with the strong radiation of the Angiosperms, the main food of the Ditrisia to which the Pterophoridae belong, took place in the Cretaceous (Felix, 1906). Disconcerting for such an old age is the absence of clear vicariance patterns, except for the following cases:

— *Singularia* (NAm) versus *Cosmoclostis* and *Diacrotricha* (Old World Tropics). However, *Pterophorus*, the sister taxon of the three genera together, and *Wheeleria*, the sister taxon of the four just-mentioned genera together, are purely Old World, and the occurrence of *Singularia* in North America is more likely to be the result of dispersal from the Old World than a relic of the break-up of Pangaea or Laurasia.

— *Patagonophorus* (SAm) versus *Merrifieldia* (Pal). An unlikely vicariance since the two regions were never directly connected. Either this is a relic distribution or the two genera are not really monophyletic. It must be remarked here that the whole, supposedly monophyletic group of genera from *Cosmoclostis* to *Calyciphora*, including the above-mentioned genera, is restricted to the Old World, except for *Singularia* and *Patagonophorus*. This leaves at least three possibilities for the origin of the two New World taxa: they are either incorrectly placed here; or are the result of dispersal; or the intermediate taxa are extinct now.

— *Crombrugghia* (Old World) versus *Dejongia* (NAm). The sister taxon of the two genera, *Oxyptilus*, has a Holarctic distribution, and we do not need to go back to Pangaea or Laurasian times to explain this distribution, as there were ample opportunities for Holarctic distributions in Tertiary times.

— *Macrotinactis* (Afr) versus *Xenopterophora* (Japan). The sister taxon of the two genera (*Titanoptilus*) and the sister taxon of the three genera together (*Walsinghamiella*) are both African. If *Xenopterophora* is correctly placed, the distribution is an enigma.

Note that there are no vicariance patterns exclusively involving fragments of Gondwana. One reason may be the incomplete knowledge of the faunas of these fragments, but the lack of such pattern could as well be real, i.e. the present-day occur-

rence on these fragments could be secondary. For instance, from the Seychelles ten species are known, of which three species are apparently endemic, but none of the genera is endemic.

In summary, the present knowledge of the phylogeny and distribution of the Pterophoroidea does not allow far-reaching conclusions about the biogeographic history or the age of the group. Fossils are no great help either. Already Adamczewski (1951) mentioned the absence of Pterophoridae in the Baltic amber, so rich in other insects. Only one publication on a fossil Pterophorid appeared. Bigot, Nel & Nel (1986) described *Pterophorus oligocenus* from the late Oligocene, near Aix-en-Provence, Bouches-du-Rhône, France, nr. B 47277 (MNHN). This fossil is dated 25-30 million years B.P. The specimen was compared with recent specimens of *Merrifieldia* and *Capperia* (the authors considered *tridactylus* and *fuscolimbatus* to belong to *Pterophorus* instead of *Merrifieldia*). This comparison involved the wing shape, with two acute fore wing lobes, the shape of the spur pairs of the legs and the venous scales on the underside of the hind wing.

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Abbreviations used:

BMNH British Museum of Natural History, London, Great Britain;
CNC Canadian National Collection, Ottawa, Canada;
ITZ Instituut voor Taxonomische Zoologie, Amsterdam, The Netherlands;
MNHN Muséum national d'Histoire naturelle, Paris, France;
NNM Nationaal Natuurhistorisch Museum, Leiden, The Netherlands;
USNM United States National Museum, Washington DC., U.S.A.;
ZMUC Zoologisk Museum, University of Copenhagen, Denmark.

VIII. Checklist of taxa of the superfamily Pterophoroidea

The valid names are printed in bold, synonyms of both genus and species names in italics. The type-species of a genus is preceded by an asterisk. The sequence of the genera corresponds with the consensus tree. The sequence of the species within the genera has no phylogenetic basis. The species are roughly grouped by the areas the type-specimens come from (given after the species name).

Superfamily **PTEROPHOROIDEA** Kuznetsov & Stekolnikov, 1979

Family **PTEROPHORIDAE** Zeller, 1841

Subfamily **PTEROPHORINAE** [Zeller, 1841]
Syn.: *PLATYPTILIINAE* Tutt, 1907

Genus **Cosmoclostis** Meyrick, 1886
***aglaodesma** Meyrick, 1886 Australia
hemiadelpha Fletcher, 1947 Australia
lamprosema Fletcher, 1947 Bismarck Is.
auxileuca (Meyrick, 1907) (*Diacrotricha*) India
leucomochla Fletcher, 1947 Sri Lanka
pesseuta Meyrick, 1906 Sri Lanka
premnicola Fletcher, 1932 India
quadriquadra Walsingham, 1900 Christmas Isl.
schouteni Gielis, 1990 Ivory Coast
chalconota Fletcher, 1947 Uganda
brachybela Fletcher, 1947 Rep. S. Africa

Genus **Diacrotricha** Zeller, 1852
***fasciola** Zeller, 1852 Indonesia, Java

Status not certain, either originally placed in current genus or considered best possible genus in present view.
guttuligera Diakonoff, 1952 Indonesia, Irian Jaya

Genus **Singularia** Arenberger, 1988
***walsinghami** (Fernald, 1898) (*Alucita*) USA (Col)

Genus **Pterophorus** Schäffer, 1766
Syn.: *Pterophorus* Geoffroy, 1762, suppressed (ICZN Op. 228)
Plumiger Valmont-Bomare, 1791 (unavailable)
Pterophora Hübner, [1806], suppressed (ICZN Op. 97)
Pterophora Hübner, 1822
Aciptilia Hübner, [1825]
Aciptilus Zeller, 1841 (emendation)
Ptorophorus Zeller, 1841 (incorrect spelling)
Acoptilia Agassiz, 1847 (emendation)
Acoptilus Agassiz, 1847 (emendation)
Acyptilus de Graaf, 1859 (incorrect spelling)
Alucita auct., (nec Linnaeus, 1758)(ICZN Op. 703)
***pentadactyla** (Linnaeus, 1758) (*Phalaena Alucita*) Sweden
syn.: *tridactyla* (Scopoli, 1763) (*Phalaena*) Slovenia
ischnodactyla (Treitschke, 1833) (*Alucita*) Hungary
syn.: *actinodactyla* (Chrétien, 1891) (*Alucita*) Italy
eburnella (Amsel, 1968) (*Aciptilia*) Iran
djebeli Arenberger, 1981 Iran
alaica (Caradja, 1920) (*Alucita*) Turkestan
elbursi Arenberger, 1981 Iran
parthicus Lederer, 1870 Russia
raphiodactyla (Rebel, 1900) (*Aciptilia*) Spain
decipiens Lederer, 1870 Russia
volgensis Möschler, 1862 Russia
ussuriensis (Caradja, 1920) (*Alucita*) Russia
melanopoda (T.B. Fletcher, 1907) (*Alucita*) Sri Lanka
nigropunctatus Arenberger, 1989 India
ebbei Arenberger, 1989 Papua New Guinea
niveodactyla (Pagenstecher, 1900) (*Aciptilia*) Solomon Is., Ralum
syn.: *nivea* (Snellen, 1907) (*Aciptilia*) Indonesia, Java
albida (Zeller, 1852) (*Aciptilia*) Southern Africa
rhyparias (Meyrick, 1907) (*Alucita*) Rep. S. Africa
syn.: *centrocrates* (Meyrick, 1933) (*Alucita*) Zaire
endophaea (Meyrick, 1930) (*Alucita*) Mozambique
bacteriopa (Meyrick, 1922) (*Alucita*) Tanzania
ceraunia (Bigot, 1969) (*Aciptilia*) Zaire
lampra (Bigot, 1969) (*Aciptilia*) Zaire
spissa (bigot, 1969) (*Aciptilia*) Zaire
lindneri (Amsel, 1963) (*Aciptilia*) Ethiopia
candidalis (Walker, 1864) (*Aciptilus*) Sierra Leone
dallastai Gielis, 1991 Zaire
massai Gielis, 1991 Kenya
uzungwe Gielis, 1991 Tanzania
cleronoma (Meyrick, 1920) (*Alucita*) Kenya
griveaudi (Bigot, 1964) (*Aciptilia*) Malagasy Rep.
vietlei (Bigot, 1964) (*Aciptilia*) Malagasy Rep.
legrandi Gibeaux, 1992 Guinée
lamottei Gibeaux, 1992 Guinée

Status not certain, either originally placed in current genus or considered best possible genus in present view.
leptochorda (Meyrick, 1913) (*Alucita*) Ecuador
syn.: *trichogramma* (Walsingham, 1915) (*Alucita*) Costa Rica
carabayus Arenberger, 1990 Peru
calamodactyla Zerny, 1935 Algeria
afghanus Arenberger, 1981 Afghanistan
farsi Arenberger, 1981 Iran
luteodactyla (Turati, 1926) (*Alucita*) Lybia
stauderi (Caradja, 1928) (*Alucita*) Italy
tuneta (Staudinger, 1892) (*Aciptilia*) Tunisia
chosokeialis (Strand, 1922) (*Alucita*) Taiwan
albitarsella (Walsingham, 1900) (*Alucita*) India
denticulata (Yano, 1963) (*Aciptilia*) Indonesia, Irian Jaya
lacteipennis (Walker, 1864) (*Aciptilus*) India
leucodactylus (Walker, 1864) (*Aciptilus*) Sri Lanka
elacopa (Meyrick, 1907) (*Alucita*) India

aptalis (Walker, 1864) (*Aciptilus*) Australia
chionadelpha (Meyrick, 1929) (*Alucita*) Vietnam
endogramma (Meyrick, 1922) (*Alucita*) Fiji
furcatalis (Walker, 1864) (*Aciptilus*) New Zealand
syn.: *lycosema* (Meyrick, 1884) (*Aciptilus*) New Zealand
innotatalis (Walker, 1864) (*Pterophorus*) New Zealand
leucophasma (Turner, 1911) (*Alucita*) Australia
similalis (Walker, 1864) (*Aciptilus*) Sarawak
syn.: *malacensis* (Zeller, 1877) (*Aciptilus*) Malacca
monospilalis (Walker, 1864) (*Aciptilus*) New Zealand
patrualis (Felder & Rogenhofer, 1875) (*Aciptilia*) New Zealand
suffiata (Yano, 1963) (*Aciptilia*) Japan, Okinawa
defectus Bigot & Luquet, 1991 Malagasy Rep.
baliolus Bigot & Luquet, 1991 Malagasy Rep.
pseudolaudatus Gibeaux. 1992 Malagasy Rep.

Genus **Wheeleria** Tutt, 1905
phlomidis (Staudinger, 1870) (*Aciptilus*) Russia
***spilodactylus** (Curtis, 1827) (*Pterophorus*) Great Britain
syn.: *confusus* (Herrich-Schäffer, 1855) (*Aciptilus*)
obsoletus (Zeller, 1841) (*Pterophorus*) Italy
syn.: *desertorum* (Zeller, 1867) (*Aciptilus*) Jordania
gonoscia (Meyrick, 1922) (*Alucita*) Israel
marrubii (Wasserthal, 1970) (*Alucita*) Greece
phlomidactylus (Wasserthal, 1970) (*Alucita*) Greece
lyrae (Arenberger, 1983) (*Pterophorus*) Greece
ivae (Kasy, 1960) (*Aciptilia*) Macedonia
diwani (Arenberger, 1981) (*Pterophorus*) Iran
kabuli (Arenberger, 1981) (*Pterophorus*) Afghanistan
leptopsamma (Meyrick, 1925) (*Alucita*) Egypt
parviflorellus (Arenberger, 1981) (*Pterophorus*) Afghanistan
marptys (Christoph, 1873) (*Aciptilia*) Russia
syn.: *kaszabi* (Bigot, 1967) (*Aciptilia*) Mongolia

Genus **Patagonophorus** Gielis, 1991
***murinus** Gielis, 1991 Argentina

Genus **Merrifieldia** Tutt, 1905
leucodactyla (Denis & Schiffermüller, 1775) (*Alucita*) Austria
syn.: *tridactylus* auct., (nec Linnaeus, 1758)
leucodactyla (Hübner, [1805]) (*Alucita*) Europe
theiodactyla (Hübner, [1825] (*Alucita*) Europe
wernickei (Wocke, 1897) (*Aciptilia*) Austria
fitzi (Rebel, 1912) (*Alucita*) Herzegovina
dryogramma (Meyrick, 1930) (*Alucita*) Croatia
***tridactyla** (Linnaeus, 1758) (*Phalaena Alucita*) Europe
syn.: *fuscolimbatus* (Duponchel, 1844) (*Pterophorus*) France
icterodactylus (Mann, 1855) (*Pterophorus*) France
noctis (Caradja, 1920) (*Alucita*) France
menthae (Chrétien, 1925) (*Alucita*) France
phillipsi (Huggins, 1955) (*Alucita*) Ireland
exilidactyla (Buszko, 1975) (*Aciptilia*) Poland
neli Bigot & Picard, 1989 France
baliodactylus (Zeller, 1841) (*Pterophorus*) Austria
syn.: *meridionalis* (Staudinger, 1880) (*Aciptilia*)
malacodactylus (Zeller, 1847) (*Pterophorus*) Italy
syn.: *indocta* (Meyrick, 1913) (*Alucita*) Syria
subtilis (Caradja, 1920) (*Alucita*) Turkey
parca (Meyrick, 1921) (*Alucita*) Israel
subcretosa (Meyrick, 1922) (*Alucita*) Syria
phaeoschista (Meyrick, 1923) (*Alucita*) Cypres
spicidactyla (Chrétien, 1923) (*Alucita*) France
rayatella (Amsel, 1959) (*Alucita*) Egypt
insularis (Bigot, 1962) (*Aciptilia*) Malta
livadiensis (Zagulajev & Filippova, 1976) (*Aciptilia*) Russia
transdanubinus (Fazekas, 1986) (*Pterophorus*) Hungary
garrigae Bigot & Picard, 1989 France
moulignieri Nel, 1991 France
semiodactylus (Mann, 1855) (*Pterophorus*) France
hedemanni (Rebel, 1896) (*Gypsochares*) Canary Is.
syn.: *hesperidella* (Walsingham, 1908) (*Alucita*) Canary Is.
chordodactylus (Staudinger, 1859) (*Pterophorus*) Spain
syn.: *probolias* (Meyrick, 1891) (*Pterophorus*) Algeria
particiliata (Walsingham, 1908) (*Alucita*) Canary Is.
bystropogonis (Walsingham, 1908) (*Alucita*) Canary Is.
cana Arenberger, 1990 Morocco
deprinsi Arenberger, 1990 Turkey
brandti (Arenberger, 1981) (*Pterophorus*) Iran
calcaria (Lederer, 1870) (*Pterophorus*) Russia
caspius (Lederer, 1868) (*Pterophorus*) Russia
sobeidae (Arenberger, 1981) (*Pterophorus*) Iran
flavus (Arenberger, 1991) (*Pterophorus*) Nepal
tristanae (Zagulajev, 1986) (*Pterophorus*) Russia

Genus **Porrittia** Tutt, 1905
***galactodactyla** (Denis & Schiffermüller, 1775) (*Alucita*) Austria
imbecilla (Meyrick, 1925) (*Alucita*) Egypt

Genus **Calyciphora** Kasy, 1960
punctinervis (Constant, 1885) (*Aciptilia*) France
syn.: *tyrrhenica* (Amsel, 1954) (*Alucita*) France
homoiodactyla (Kasy, 1960) (*Aciptilia*) Slovenia

adamas (Constant, 1895) (*Aciptilia*) France
acarnella (Walsingham, 1898) (*Alucita*) France
xerodactylus (Zeller, 1841) (*Pterophorus*)
syn.: *xanthodactylus* auct., (nec Treitschke, 1833)
sicula (Fuchs, 1901) (*Aciptilia*) Italy
***xanthodactyla** (Treitschke, 1833) (*Alucita*) Hungary
syn.: *klimeschi* Kasy, 1960 Hungary
nephelodactyla (Eversmann, 1844) (*Alucita*) Russia
syn.: *apollina* (Millière, 1882) (*Aciptilia*) France
subalternans (Lederer, 1866) (*Pterophorus*) Russia
extensa (Christoph, ??) (??) Russia
marashella Zagulajev, 1986 Russia
hissaricus (Zagulajev, 1986) (*Pterophorus*) Russia
sesamitis (Meyrick, 1905) (*Alucita*) India

Genus **Adaina** Tutt, 1905
***microdactyla** (Hübner, [1813]) (*Alucita*) Europe
syn.: *montivola* Meyrick, 1928 China
subflavescens Meyrick, 1930 Indonesia, Sumatra
bipunctatus (Möschler, 1890) (*Pteroporus*) Puerto Rico
syn.: *simplicius* (Grossbeck, 1917) (*Pterophorus*) USA (Fl)
excreta Meyrick, 1930 Peru
everdinae Gielis, 1991 Argentina
hodias (Meyrick, 1908) (*Marasmarcha*) Brazil (SP)
fuscahodias Gielis, 1992 Mexico
ambrosiae (Murtfeldt, 1880) (*Pterophorus*) USA (Fl)
syn.: *participatus* (Möschler, 1890) (*Pterophorus*) Puerto Rico
perplexus (Grossbeck, 1917) (*Pterophorus*) USA (Fl)
invida (Meyrick, 1908) (*Marasmarcha*) Brazil (SP)
parainvida Gielis, 1992 Costa Rica
costarica Gielis, 1992 Costa Rica
naiadopa Meyrick, 1931 Paraguay
praeusta (Möschler, 1890) (*Pterophorus*) Puerto Rico
primulacea Meyrick, 1929 Panama
thomae (Zeller, 1877) (*Leioptilus*) Virgin Is., St. Thomas
buscki Barnes & Lindsey, 1921 USA (Fl)
beckeri Gielis, 1992 Costa Rica
bernardi Gielis, 1992 Costa Rica
planaltina Gielis, 1992 Brazil (DF)
zephyria Barnes & Lindsey, 1921 USA (Cal)
montanus (Walsingham, 1880) (*Aciptilus*) USA (Cal)
syn.: *declivis* (Meyrick, 1913) (*Pterophorus*) Canada
cinerascens (Walsingham, 1880) (*Aciptilus*) USA (Cal)
gentilis Meyrick, 1911 Rep. S. Africa
periarga Meyrick, 1913 Rep. S. Africa
propria Meyrick, 1921 Rep. S. Africa

Genus **Emmelina** Tutt, 1905
***monodactyla** (Linnaeus, 1758) (*Phalaena Alucita*) Europe
syn.: *bidactyla* (Hochenwarth, 1785) (*Phalaena*)
albodactyla (Fabricius, 1794) (*Pterophorus*) France
cineridactyla (Fitch, 1854) (*Pterophorus*) USA (NY)
naevosidactyla (Fitch, 1854) (*Pterophorus*) USA (NY)
pergracilidactyla (Packard, 1873) (*Pterophorus*) USA (Cal)
barberi (Dyar, 1903) (*Pterophorus*) USA (Az/Cal)
pictipennis (Grinnell, 1908) (*Pterophorus*) USA (Cal)
argoteles (Meyrick, 1922) Japan
syn.: *jezonicus* (Matsumura, 1931) (*Pterophorus*) Japan
komabensis (Matsumura, 1931) (*Pterophorus*) Japan
menoko (Matsumura, 1931) (*Pterophorus*) Japan
yanagawanus (Matsumura, 1931) (*Pterophorus*) Japan
pseudojezonica Derra, 1987 Germany
amseli (Bigot, 1969) (*Leioptilus*) Zaire
lochmaius (Bigot, 1974) (*Leioptilus*) Gabon
bigoti Gibeaux, 1990 Kenya

Genus **Oidaematophorus** Wallengren, 1862
Syn.: *Utuca* Walker, 1864
Oedematophorus Zeller, 1867, emend.
Ovendenia Tutt, 1905
***lithodactyla** (Treitschke, 1833) (*Alucita*) Hungary
syn.: *septodactyla* (Treitschke, 1833) (*Alucita*) Hungary
similidactylus (Dale, 1834) (*Pterophorus*)
phaeodactylus (Stephens, 1834) (*Pterophorus*) Great Britain
lithoxylodactylus (Duponchel, 1838) (*Pterophgorus*) France
rogenhoferi (Mann, 1871) (*Pterophorus*) Austria
constanti (Ragonot, 1875) (*Oedaematophorus*) France
giganteus (Mann, 1855) (*Pterophorus*) France
vafradactylus Svensson, 1966 Sweden
iwatensis (Matsumura, 1931) (*Pterophorus*) Japan
aethes (Walsingham, 1915) (*Pterophorus*) Mexico (Ver)
argutus (Meyrick, 1926) (*Pterophorus*) Colombia
barbatus Gielis, in press Colombia
grisescens (Walsingham, 1880) (*Oedaematophorus*) USA (Cal)
syn.: *acrias* (Meyrick, 1908) (*Pterophorus*) USA (Co)
behrii (Grinnell, 1908) (*Pterophorus*) USA (Cal)
nigrofuscus Gibeaux, 1986 Venezuela
alaskensis Barnes & Lindsey, 1921 USA (Alas)
balsamorrhizae McDunnough, 1939 Canada
brucei (Fernald, 1898 (*Pterophorus*) USA (Col)

syn.: *chionastes* (Meyrick, 1907) (*Pterophorus*) USA (Col)
cineraceus (Fish, 1881) (*Oedaematophorus*) USA (Wash)
syn.: *lugubris* (Fish, 1881) (*Oedaematophorus*) USA (Cal)
guttatus (Walsingham, 1880) (*Oedaematophorus*) USA (Cal)
mathewianus (Zeller, 1874) (*Lioptilus*) Canada
syn.: *gorgoniensis* (Grinnell, 1908) (*Pterophorus*) USA (Cal)
hilda (Grinnell, 1908) (*Pterophorus*) USA (Cal)
phaceliae McDunnough, 1938 Canada

Status not certain, either originally placed in current genus or considered best possible genus in present view.
leucodactyla (Fabricius, 1794) (*Pterophorus*) Virgin Is.
nigrosparsus (Zeller, 1877) (*Leioptilus*) Peru
ochricostatus (Zeller, 1877) (*Leioptilus*) Colombia
ossipellis (Walsingham, 1897) (*Pterophorus*) Dominican Rep.
pelospilus (Zeller, 1877) (*Leioptilus*) Peru
praenigratus (Meyrick, 1921) (*Pterophorus*) Peru
surinamensis (Sepp, 1855) (*Phalaena*) Surinam
suspiciosus (Meyrick, 1921) (*Pterophorus*) Ecuador
tepidus (Meyrick, 1922) (*Pterophorus*) Costa Rica
zetes (Meyrick, 1930) (*Pterophorus*) Brazil (Ba)
baroni (Fish, 1881) (*Oedaematophorus*) USA (Cal)
castor Barnes & Lindsey, 1921 USA (Az)
catalinae Grinnell, 1908 (*Pterophorus*) USA (Cal)
cretidactylus (Fitch, 1854) (*Pterophorus*) USA (NY)
syn.: *gypsodactylus* (Walsingham, 1880) (*Oedaematophorus*) USA (Cal)
eupatorii (Fernald, 1893) (*Alucita*) USA (NY)
occidentalis (Walsingham, 1880) (*Oedaematophorus*) USA (Cal)
syn.: *californicus* (Grinnell, 1908) (*Stenoptilia*) USA (Cal)
downesi McDunnough, 1927 Canada
lindseyi McDunnough, 1923 Canada
rileyi (Fernald, 1898) (*Pterophorus*) USA (Cal)

Genus **Hellinsia** Tutt, 1905
Syn.: *Leioptilus* Wallengren, 1862 (homonym)
Lioptilus Zeller, 1867 (emendation & homonym)
inulae (Zeller, 1852) (*Pterophorus*) Poland
syn.: *coniodactylus* (Staudinger, 1859) (*Pterophorus*) Spain
aegyptiacus (Rebel, 1914) (*Pterophorus*) Egypt
korbi (Caradja, 1920) (*Pterophorus*) Siberia
carphodactyla (Hübner, [1813]) (*Alucita*) Europe
syn.: *buphthalmi* (Hofmann, 1898) (*Leioptilus*) Germany
inulaevorus (Gibeaux, 1989) (*Leioptilus*) France
chrysocomae (Ragonot, 1875) (*Leioptilus*) France
syn.: *bowesi* (Whalley, 1960) (*Oidaematophorus*) Great Britain
***osteodactylus** (Zeller, 1841) (*Pterophorus*) Poland
syn.: *cinerariae* (Millière, 1874) (*Leioptilus*) France
pectodactylus (Staudinger, 1859) (*Pterophorus*) Spain
syn.: *melanoschisma* (Walsingham, 1908) (*Pterophorus*) Canary Is.
angustus (Walsingham, 1880) (*Lioptilus*) **syn. nov.** USA (Cal)
stramineus (Walsingham, 1880) (*Lioptilus*) **syn. nov.** USA (Cal)
gozmanyi (Bigot, 1969) (*Leioptilus*) Mongolia
distinctus (Herrich-Schäffer, 1855) (*Pterophorus*) Germany
syn.: *sibericus* (Caradja, 1920) (*Pterophorus*) Siberia
zermattensis (Müller-Rutz, 1933) (*Leioptilus*) Switzerland
didactylites (Ström, 1783) (*Phalaena Alucita*) Norway
syn.: *scarodactyla* (Hübner, [1813]) Europe
icarodactyla (Treitschke, 1833) (*Alucita*) Hungary
tephradactyla (Hübner, [1813]) (*Alucita*) Europe
lienigianus (Zeller, 1852) (*Pterophorus*) USSR, Letland
syn.: *melinodactylus* (Herrich-Schäffer, 1855) (Pterophorus), nomen nudum
scarodactylus (Becker, 1861) (*Pterophorus*)
serindibanus (Walsingham, 1887) (*Leioptilus*)
sericeodactylus (Pagenstecher, 1900) (*Leioptilus*) Bismarck Is.
victorianus (Strand, 1913) (*Pterophorus*) Cameroon
var. *catharodactylus* (Caradja, 1920) (*Pterophorus*) central Asia
hirosakianus (Matsumura, 1931) (*Pterophorus*) Japan
innocens (Snellen, 1884) (*Pterophorus*) Russia
wrangeliensis (Zagulajev, 1985) (*Leioptilus*) Russia
acutus (Yano, 1963) (*Oidaematophorus*) Japan
albidactylus (Yano, 1963) (*Oidaematophorus*) Japan
aruna Arenberger, 1991 Nepal
fuscomarginata Arenberger, 1991 Nepal
laciniata Arenberger, 1991 Nepal
excors (Meyrick, 1930) (*Pterophorus*) E. Siberia
gypsotes (Meyrick, 1937) (*Pterophorus*) China
ishiyamanus (Matsumura, 1931) (*Pterophorus*) Japan
kuwayamai (Matsumura, 1931) (*Pterophorus*) Japan
lacteolus (Yano, 1963) (*Oidaematophorus*) Japan
mongolicus (Zagulajev & Pentschukowskaje, 1972) (*Oidaematophorus*) Mongolia

mutuurai (Yano, 1963) (*Oidaematophorus*) Japan
nigridactylus (Yano, 1963) (*Oidaematophorus*) Japan
logistis (Meyrick, 1935) (*Pterophorus*) China
sophronistes (Meyrick, 1938) (*Pterophorus*) China
triadias (Meyrick, 1907) (*Pterophorus*) India
procontias (Meyrick, 1907) (*Pterophorus*) India
impersonalis (Walker, 1864) (*Pterophorus*) Venezuela
angulofuscus Gielis, 1991 Argentina
ares (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ut)
balanotes (Meyrick, 1908) (*Pterophorus*) USA (Fl)
syn.: *aquila* (Meyrick, 1908) (*Pterophorus*) USA (Tx)
beneficus Yano & Heppner, 1983 Mexico (D.F.)
betsiei Gielis, 1991 Chile
cervicalis (Meyrick, 1932) (*Pterophorus*) Bolivia
chionophanes (Meyrick, 1930) (*Pterophorus*) Peru
chionoptila T.B. Fletcher, 1940 Colombia
cinerarius (Philippi, 1864) (*Pterophorus*) Chile
conjunctus (Zeller, 1877) (*Mimeseoptilus*) Colombia
coquimboica Gielis, 1991 Chile
crescens (Walsingham, 1915) (*Pterophorus*) Colombia
cristobalis (B. Landry & Gielis, 1992) (*Oidaematophorus*) Galapagos Is.
devriesi (B. Landry & Gielis, 1992) (*Oidaematophorus*) Galapagos Is.
delospilus (Meyrick, 1921) (*Pterophorus*) Peru
discors (Meyrick, 1913) (*Pterophorus*) Guyana
emmorus (Walsingham, 1915) (*Pterophorus*) Mexico (Ver)
epileucus (Walsingham, 1915) (*Pterophorus*) Mexico (Tab)
fieldi (Wright, 1921) (*Pterophorus*) USA (Cal)
syn.: *meyricki* (Barnes & Lindsey, 1921) (*Oidaematophorus*) **syn. nov.** USA (Cal)
fumiventris (Zeller, 1877) (*Mimeseoptilus*) Colombia
fusciciliatus (Zeller, 1877) (*Mimeseoptilus*) Colombia
glaphyrotes (Meyrick, 1908) (*Pterophorus*) Brazil/Argentina
glochinias (Meyrick, 1908) (*Pterophorus*) Brazil (RJ)
grandaevus (Meyrick, 1931) (*Pterophorus*) Chile
grandis (Fish, 1881) (*Lioptilus*) USA (Cal)
syn.: *baccharides* (Grinnell, 1908) (*Pterophorus*) USA (Cal)
hebrus (Meyrick, 1932) (*Pterophorus*) Costa Rica
hololeucos (Zeller, 1874) (*Leioptilus*) Chile
homodactylus (Walker, 1864) (*Pterophorus*) USA
ignifugax (Walsingham, 1915) (*Pterophorus*) Guatemala
inquinatus (Zeller, 1873) (*Oedaematophorus*) USA (Tx)
jason (Meyrick, 1930) (*Pterophorus*) Brazil (MG)
lenis (Zeller, 1877) (*Leioptilus*) Colombia
linus (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (NY) **stat. rev.**, valid species
longifrons (Walsingham, 1915) (*Pterophorus*) Mexico (Gue)
syn.: *philocremna* (Meyrick, 1930) (*Stenoptilia*) USA (Tx)
malesanus (Meyrick, 1921) (*Pterophorus*) Peru
mallecoica Gielis, 1991 Chile
mauleica Gielis, 1991 Chile
mollis (Walsingham, 1915) (*Pterophorus*) Guatemala
nauarches (Meyrick, 1930) (*Pterophorus*) Peru
nephogenes (Meyrick, 1926) (*Pterophorus*) Galapagos Is.
nivalis (Meyrick, 1908) (*Pterophorus*) Jamaica
nodipes (Zeller, 1877) (*Mimeseoptilus*) Colombia
ochracealis Walker, 1864 (*Utuca*) Brazil (Am)
subochracealis Gielis, 1992 Brazil (DF)
chamelai Gielis, 1992 Mexico
oxyntes (Meyrick, 1908) (*Pterophorus*) Brazil (SP)
paleaceus (Zeller, 1873) (*Leioptilus*) USA (Oh/Tx)
syn.: *sericidactylus* (Murtfeldt, 1880) (*Leioptilus*) USA (Mo)
palmatus (Meyrick, 1908) (*Pterophorus*) Brazil (SP)
pelodactylus (Berg, 1885) (*Oedaematophorus*) Argentina/Uruguay
syn.: *sacrificus* (Meyrick, 1926) (*Pterophorus*) **syn. nov.** Colombia
phlegmaticus (Walsingham, 1915) (*Pterophorus*) Mexico (Ver)
syn.: *correptus* (Walsingham, 1915) (*Pterophorus*) Mexico (Ver)
phloeochroa (Walsingham, 1915) (*Pterophorus*) Mexico (Gue)
praealtus (Walsingham, 1915) (*Pterophorus*) Guatemala
salticola (Meyrick, 1913) (*Pterophorus*) Peru
scribarius (Meyrick, 1926) (*Pterophorus*) Colombia
siskaella Gielis, 1991 Argentina
socorroica Gielis, 1991 Mexico, Socorro Isl.
spermatias (Meyrick, 1908) (*Pterophorus*) Brazil (SP)
stadias (Meyrick, 1908) (*Pterophorus*) Brazil (RJ)
sublatus (Walsingham, 1915) (*Pterophorus*) Mexico (Gue)
tetraonipennis (Walsingham, 1915) (*Pterophorus*) Guatemala
tinctus (Walsingham, 1915) (*Pterophorus*) Mexico (Gue)
trachyphloeus (Meyrick, 1926) (*Pterophorus*) Costa Rica

urbanus (Walsingham, 1915) (*Pterophorus*) Guatemala
auster (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
subochraceus (Walsingham, 1880) (*Pterophorus*) USA (Cal)
syn.: *australis* (Grinnell, 1908) (*Pterophorus*) USA (Cal)
cadmus (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
caudelli (Dyar, 1903) (*Pterophorus*) USA
kellicottii (Fish, 1881) (*Lioptilus*) USA (NY)
syn.: *chlorias* (Meyrick, 1907) (*Pterophorus*) USA (Col)
lacteodactylus (Chambers, 1873) (*Pterophorus*) USA (Ken)
citrites (Meyrick, 1907) (*Pterophorus*) USA (Col)
cochise (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
confusus Braun, 1930 USA (Cal)
contortus (McDunnough, 1938) (*Oidaematophorus*) USA (Ar)
corvus (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Wash)
costatus (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Cal)
elliottii (Fernald, 1898) (*Alucita*) USA (NY)
eros (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
falsus (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
fishii (Fernald, 1893) (*Pterophorus*) USA (Nev)
glenni (Cashatt, 1972) (*Oidaematophorus*) USA (Ill)
gratiosus (Fish, 1881) (*Oedatophorus*) USA (Cal)
integratus (Meyrick, 1913) (*Pterophorus*) USA (Ar)
iobates (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
medius (Barnes & lindsey, 1921) (*Oidaematophorus*) USA (Tx)
mizar (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
pan (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
phoebus (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Cal)
serenus (Meyrick, 1913) (*Pterophorus*) USA (NM)
simplicissimus (McDunnough, 1938 (*Oidaematophorus*) USA (Cal)
subochraceus (Walsingham, 1880) (*Lioptilus*) USA (Cal)
sulphureodactylus (Packard, 1873) (*Pterophorus*) USA (Cal)
syn.: *sulphureus* (Walsingham, 1880) (*Lioptilus*) USA (Cal)
thoracica (McDunnough, 1939) (*Oidaematophorus*)USA (Ar)
triton (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
unicolor (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Fl)
varioides (McDunnough, 1939) (*Oidaematophorus*) USA (Cal)
venapunctus (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Tx)
pacifica (Meyrick, 1911) (*Marasmarcha*) Rep. S. Africa
acuminatus (Meyrick, 1920) (*Pterophorus*) Rep. S. Africa
adumbratus (Walsingham, 1881) (*Aciptilus*) Rep. S. Africa
aethiopicus (Amsel, 1963) (*Leioptilus*) Ethiopia
aldabrensis (T.B. Fletcher, 1910) (*Pterophorus*) Aldabra Isl.
ambitiosus (Meyrick, 1911) (*Pterophorus*) Rep. S. Africa
callidus (Meyrick, 1913) (*Pterophorus*) Rep. S. Africa
conscius (Meyrick, 1920) (*Pterophorus*) Kenya
devius (Bigot, 1969) (*Leioptilus*) Zaire
ecstaticus (Meyrick, 1932) (*Pterophorus*) Uganda
eparches (Meyrick, 1931) (*Pterophorus*) Uganda
ruwenzoricus (Gielis, 1991) (*Oidaematophorus*) Zaire
orchatias (Meyrick, 1907) (*Pterophorus*) Rep. S. Africa
furfurosus (Meyrick, 1911) (*Pterophorus*) Rep. S. Africa
imerinae (Bigot, 1964) (*Pterophorus*) Malagasy Rep.
tripunctatus (Walsingham, 1881) (*Aciptilus*) Rep. S. Africa
syn.: *laqueatus* (Meyrick, 1913) (*Pterophorus*) Rep. S. Africa
madecasseus (Bigot, 1964) (*Pterophorus*) Malagasy Rep.
sordidatus (Meyrick, 1912) (*Pterophorus*) Rep. S. Africa
sphenites (Meyrick, 1913) (*Pterophorus*) Rep. S. Africa
timidus (Meyrick, 1907) (*Pterophorus*) Rep. S. Africa
borbonicus Gibeaux, 1991 Réunion Isl.

Status not certain, either originally placed in current genus or considered best possible genus in present view.
scholasticus (Meyrick, 1924) (*Pterophorus*) Israel
terrenus (Meyrick, 1936) (*Pterophorus*) Iraq

agraphodactylus (Walker, 1864) (*Pterophorus*) Hispaniola
syn.: *aspilodactylus* (Walker, 1864) (*Pterophorus*) Jamaica
basalis (Möschler, 1890) (*Oedematophorus*) Puerto Rico
bogotanus (Felder & Rogenhofer, 1875) (*Mimeseoptilus*) Colombia
calais (Meyrick, 1930) (*Pterophorus*) Brazil (Pe)
albilobata McDunnough, 1939 Canada
arion (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
helianthi (Walsingham, 1880) (*Lioptilus*) USA (Cal)
inconditus (Walsingham, 1880) (*Lioptilus*) USA (Cal)
luteolus (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
perditus (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Col)
pollux (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Ar)
rigidus (McDunnough, 1938) (*Oidaematophorus*) USA (Cal)
thor (McDunnough, 1939) (*Oidaematophorus*) USA (Col)
varius (Barnes & Lindsey, 1921) (*Oidaematophorus*) USA (Cal)
griseodactylus (Pagenstecher, 1900) (*Leioptilus*) Solomon Is., Ralum
haplistes (Meyrick, 1936) (*Pterophorus*) Indonesia, Java
harpactes (Meyrick, 1907) (*Pterophorus*) India
iraneaus (Diakonoff, 1952) (*Oidaematophorus*) Indonesia, Irian Jaya
mesoleucus (Diakonoff, 1952) (*Oidaematophorus*) Indonesia, Irian Jaya
probatus (Meyrick, 1938) (*Pterophorus*) Papua New Guinea
sematias (Meyrick, 1907) (*Pterophorus*) Sri Lanka
ammonias (Meyrick, 1909) (*Pterophorus*) Rep. S. Africa
bigoti (Rougeot, 1983) (*Leioptilus*) Ethiopia
colubratus (Meyrick, 1909) (*Pterophorus*) Rep. S. Africa
illutus (Meyrick, 1917) (*Pterophorus*) Rep. S. Africa
invidiosus (Meyrick, 1911) (*Pterophorus*) Rep. S. Africa
purus (Meyrick, 1913) (*Pterophorus*) Rep. S. Africa
serpens (Meyrick, 1909) (*Pterophorus*) Rep. S. Africa
subnotatus (Walker, 1875) (*Pterophorus*) St. Helena Isl.

Genus **Paravinculia** Cåpuse, 1987
***bolivari** Cåpuse, 1987 Venezuela

Genus **Pselnophorus** Wallengren, 1881
Syn.: *Crasimetis* Meyrick, 1890
***heterodactyla** (Müller, 1764) (*Phalaena Alucita*) Germany
syn.: *brachydactyla* (Kollar, 1832) (*Alucita*) Austria
aetodactylus (Duponchel, 1840) (*Pterophorus*) France
poggei (Mann, 1862) (*Oxyptilus*) Russia
syn.: *borzhomi* Zagulajev, 1987 Russia
japonicus Marumo, 1923 Japan
syn.: *hirayamai* (Matsumura, 1931) (*Stenoptilia*) Japan
janicus Marumo, 1951 Japan
vilis (Butler, 1881) (*Aciptilus*) Japan
syn.: *amurensis* (Christoph, 1882) (*Aciptilia*) E. Siberia

Status not certain, either originally placed in current genus or considered best possible genus in present view.
lanceatus Arenberger, 1986 Saudi Arabia
belfragei (Fish, 1881) (*Aciptilus*) USA (Tx)
alternarius (Zeller, 1874) (*Aciptilia*) Chile
albitarsellus (Walsingham, 1900) (*Alucita*) India
astragalotes Meyrick, 1909 Rep. S. Africa
festivus Bigot, 1964 Malagasy Rep.
laudatus Bigot, 1964 Malagasy Rep.
pachyceros Meyrick, 1921 Mozambique/ Rep. S. Africa

Genus **Gypsochares** Meyrick, 1890
***baptodactylus** (Zeller, 1850) (*Pterophorus*) Italy
bigoti Gibeaux & Nel, 1989 France
nielswolffi Gielis & Arenberger, 1992 Portugal, Madeira
kukti Arenberger, 1989 India
catharotes (Meyrick, 1908) (*Pselnophorus*) Pakistan
aulotes Meyrick, 1911 Rep. S. Africa

Genus **Puerphorus** Arenberger, 1989
***olbiadactylus** (Millière, 1859) (*Pterophorus*) France
syn.: *hemiargus* (Meyrick, 1907) (*Pselnophorus*) Syria
dactilographa (Turati, 1927) (*Gypsochares*) Lybia

Genus **Karachia** Amsel, 1968
***xylochromella** Amsel, 1968 Pakistan

Genus **Megalorhipida** Amsel, 1935
Syn.: *Megalorrhipida* Amsel, 1935, missp.
***defectalis** (Walker, 1864) (*Pterophorus*) Sierra Leone
syn.: *congrualis* (Walker, 1864) (*Pterophorus*) N. India
oxydactyla (Walker, 1864) (*Pterophorus*) Sri Lanka
hawaiiensis (Butler, 1881) (*Aciptilia*) Hawaii
ochrodactyla (Fish, 1881) (*Trichoptilus*) USA (Tx)

centetes (Meyrick, 1886) (*Trichoptilus*) Papua New Guinea
compsochares (Meyrick, 1886) (*Trichoptilus*) Cape Verde Is.
ralumensis (Pagenstecher, 1900) (Trichoptilus) Bismarck Is.
derelictus (Meyrick, 1926) (*Trichoptilus*) Galapagos Is.
palaestinensis Amsel, 1935 Israel
palästinensis Amsel, 1935, incorr. spell.
pseudodefectalis Gielis, 1989 Argentina

Status not certain, either originally placed in current genus or considered best possible genus in present view.
dulcis (Walsingham, 1915) (*Trichoptilus*) Mexico (Gue)

Genus **Stangeia** Tutt, 1905
***siceliota** (Zeller, 1847) (*Pterophorus*) Italy
syn.: *ononidis* (Zeller, 1852) (*Pterophorus*) Croatia
distantia Clarke, 1986 Fatu Hiva
rapae Clarke, 1971 Rapa Isl.
xerodes (Meyrick, 1886) Australia

Genus **Trichoptilus** Walsingham, 1880
***pygmaeus** Walsingham, 1880 USA (Cal)
potentellus Lange, 1940 USA (Cal)

Status not certain, either originally placed in current genus or considered best possible genus in present view.
indentatus (Meyrick, 1930) (*Oxyptilus*) USA (Tx)
californicus (Walsingham, 1880) (*Aciptilus*) USA (Cal)
syn.: *wrightii* Grinnell, 1908 USA (Cal)
esakii Hori, 1936 Ryu Kyu Is.
adelphodes Meyrick, 1887 Australia
archeodes Meyrick, 1913 India
bidens Meyrick, 1930 India
ceramodes Meyrick, 1886 Australia
dryites Meyrick, 1936 Indonesia, Java
pelias Meyrick, 1907 India
scythrodes Meyrick, 1886 Australia
animosus Meyrick, 1921 Rep. S Africa
cryphias Meyrick, 1912 Rep. S. Africa
festus Meyrick, 1917 Rep. S. Africa
infernus Meyrick, 1939 Zaire
leptomeres Meyrick, 1886 Réunion Isl.
maceratus Meyrick, 1909 Rep S. Africa
negotiosus Meyrick, 1926 Rep. S. Africa
varius Meyrick, 1909 Rep. S. Africa
viduus Meyrick, 1917 Rep. S. Africa
vivax Meyrick, 1909 Rep. S. Africa

Genus **Buckleria** Tutt, 1905
***paludum** (Zeller, 1841) (*Pterophorus*) Germany
syn.: *paludicola* (Fletcher, 1907) (*Trichoptilus*) Sri Lanka
parvulus (Barnes & Lindsey, 1921) (*Trichoptilus*) **comb. nov.** USA (La)
girardi Gibeaux, 1992 Guinée

Genus **Crombrugghia** Tutt, 1906
Syn.: *Combrugghia* Neave, 1939 (incorrect spelling)
***distans** (Zeller, 1847) (*Pterophorus*) Italy
syn.: *clarisignis* (Meyrick, 1924) (*Oxyptilus*) India (Uttar Pradesh)
buvati Bigot & Picard, 1988 France
propedistans Bigot & Picard, 1988 France
adamczewskii Bigot & Picard, 1988 France
pravieli Bigot, Nel & Picard, 1989 France
gibeauxi Bigot, Nel & Picard, 1990 France
jaecki Bigot & Picard, 1991 France
tristis (Zeller, 1841) (*Pterophorus*) Poland
kollari (Stainton, 1851) (*Pterophorus*) Austria
laetus (Zeller, 1847) (*Pterophorus*) Italy
syn.: *loetidactylus* (Bruand, 1859) (*Pterophorus*) France
lantoscanus Millière, 1883 France
wahlbergi (Zeller, 1851) (*Pterophorus*) southern Africa
syn.: *rutilalis* (Walker, 1864) (*Pterophorus*) Rep. S. Africa
pyrrhodes (Meyrick, 1889) (*Trichoptilus*) Australia
kinbane (Matsumura, 1931) (*Oxyptilus*) Japan

Genus **Dejongia** nov.
***lobidactylus** (Fitch, 1854) (*Pterophorus*) **comb. nov.** USA

Genus **Oxyptilus** Zeller, 1841
***pilosellae** (Zeller, 1841) (*Pterophorus*) Poland
syn.: *bohemanni* (Wallengren, 1862) (*Pterophorus*) Sweden
chrysodactyla (Denis & Schiffermüller, 1775) (*Alucita*) Austria
syn.: *hieracii* (Zeller, 1841) (*Pterophorus*) Poland
ericetorum (Stainton, 1851) (*Pterophorus*) Poland
parvidactyla (Haworth, 1811) (*Alucita*) Great Britain
syn.: *obscurus* (Zeller, 1841) (*Pterophorus*) Poland
hoffmannseggi Möschler, 1866 Spain
maroccanensis Amsel, 1956 Morocco
delawaricus Zeller, 1873 USA (Delaware)
syn.: *finitimus* (Grinnel, 1908) (*Oxyptilus*) USA (Cal)

Status not certain, either originally placed in current genus or considered best possible genus in

present view.
caryornis Meyrick, 1935 China
languidus Felder & Rogenhofer, 1875 Colombia
maleficus Meyrick, 1926 Peru
scutifer Meyrick, 1930 Ecuador
catathectes Meyrick, 1933 Indonesia, Java
causodes Meyrick, 1905 Sri Lanka
celebratus Meyrick, 1932 Indonesia, Java
chordites Meyrick, 1913 India/ Sri Lanka
cinctipedalis Walker, 1864 Australia
lactucae Fletcher, 1920 India
epidectis Meyrick, 1907 Birma/ India/ Sri Lanka
idonealis Walker, 1864 Sarawak
praedator Meyrick, 1910 India
regalis Fletcher, 1909 Sri Lanka
regulus Meyrick, 1906 Sri Lanka
wallecei Fletcher, 1911 Indonesia, Aru Isl.
anthites Meyrick, 1936 Uganda
erebites Meyrick, 1937 Zaire
erythrodactylus Fletcher, 1911 Rep. S. Africa
esuriensis Meyrick, 1932 Ethiopia
insomnis Townsend, 1956 Kenya
orichalcias Meyrick, 1916 Malawi
secutor Meyrick, 1911 Rep S. Africa
variegatus Meyrick, 1920 Rep. S. Africa
vibrans Meyrick, 19?? Rep. S. Africa

Genus **Capperia** Tutt, 1905
Syn.: *Anacapperia* Bigot & Picard, 1986
***britanniodactylus** (Gregson, 1869) (*Oxyptilus*) Great Britain
syn.: *teucrii* (Jordan, 1869) (*Pterophorus*) Great Britain
sequanensis Gibeaux, 1991 France
irkutica Arenberger, 1989 Siberia
celeusi (Schmid [in: Frey], 1887) (*Oxyptilus*) Germany
syn.: *intercisus* (Meyrick, 1930) (*Oxyptilus*) Croatia
trichodactyla (Denis & Schiffermüller, 1775) (*Alucita*) Austria
syn.: *leonuri* (Stange, 1882) (*Oxyptilus*) Poland
affinis (Müller-Rutz, 1933) (*Oxyptilus*) Switzerland
fusca (Hofmann, 1898) (*Oxyptilus*) France
syn.: *marrubii* Adamczewski, 1951 Germany
bonneaui Bigot, 1987 Spain
hellenica Adamczewski, 1951 Greece
loranus (Fuchs, 1895) (*Oxyptilus*) Germany
marginellus (Zeller, 1847) (*Pterophorus*) Italy
zelleri Adamczewski, 1951 Italy
polonica Adamczewski, 1951 Italy
maratonica Adamczewski, 1951 Greece
taurica Zagulajev, 1987 Russia
fletcheri Adamczewski, 1951 Israel
washbourni Adamczewski, 1951 Syria
geodactyla (Fuchs, 1903) (*Oxyptilus*) Armenia
jozana (Matsumura, 1931) (*Oxyptilus*) Japan
belutschistanella Amsel, 1959 Iran
ningoris (Walsingham, 1880) (*Oxyptilus*) USA (Cal)
syn.: *bernardinus* (Grinnell, 1908) (*Oxyptilus*) USA (Cal)
evansi (McDunnough, 1923) (*Pterophorus*) Canada
raptor (Meyrick, 1908) (*Oxyptilus*) USA (Col)

Genus **Paracapperia** Bigot & Picard, 1986
***anatolicus** (Caradja, 1920) (*Oxyptilus*) Turkey
syn.: *tamsi* (Adamczewski, 1951) (*Capperia*) Turkey

Genus **Procapperia** Adamczewski, 1951
***maculatus** (Constant, 1865) (*Oxyptilus*) France
croatica Adamczewski, 1951 Croatia
linariae (Chrétien, 1922) (*Oxyptilus*) Morocco
kuldschaensis (Rebel, 1914) (*Oxyptilus*) China
syn.: *asiatica* Zagulajev, 1986 Russia
amira Arenberger, 1988 Afghanistan
orientalis Arenberger, 1988 India (Kashmir)
pelecyntes (Meyrick, 1907) (*Oxyptilus*) India

Genus **Intercapperia** Arenberger, 1988
***scindia** Arenberger, 1988 India (Kashmir)

Genus **Geina** Tutt, 1906
***didactyla** (Linnaeus, 1758) (*Alucita*) Europe
syn.: *brunneodactylus* (Millière, 1854) (*Pterophorus*) France
periscelidactyla (Fitch, 1854) (*Pterophorus*) USA (NY)
tenuidactyla (Fitch, 1854) (*Pterophorus*) USA (NY)
syn.: *nigrociliatus* (Zeller, 1873) (*Oxyptilus*) USA (Delaware)
cygnus (Barnes & Lindsey, 1921) (*Pterophorus*) USA (Ia)
buscki (McDunnough, 1933) (*Pterophorus*) Canada
sheppardi B. Landry, 1989 Canada

Genus **Arcoptilia** Arenberger, 1985
***gizan** Arnberger, 1985 Saudi Arabia

Genus **Fuscoptilia** Arenberger, 1991
jarosi Arenberger, 1991 Korea
***emarginata** (Snellen, 1884) (*Pterophorus*) Russia, Amur
syn.: *castaneodactyla* (Caradja, 1920) (*Platyptilia*) nomen nudem Siberia
metricoterma (Caradja, 1920) (*Platyptilia*) nomen nudem Siberia
nakanensis (Matsumura, 1931) (*Stenoptilia*) Japan
sapporensis (Matsumura, 1931) (*Stenoptilia*) Japan

Genus **Exelastis** Meyrick, 1908
Syn.: *Marasmarcha*.— auct. (not Meyrick, 1886)
pumilio (Zeller, 1873) (*Mimeseoptilus*) USA (Tx)
syn.: *liophanes* Meyrick, 1886 (*Marasmarcha*) Réunion Isl.
gilvidorsis (Hedemann, 1896) (*Mimaesoptilus*) (not Zeller, 1877) Virgin Is., St. Croix
***atomosa** (Walsingham, 1885) India
syn.: *ebalensis* (Rebel, 1907) (*Alucita*) Yemenite Rep.
phlyctaenias (Meyrick, 1911) (*Marasmarcha*) Sri Lanka
sarcochroa (Meyrick, 1932) (*Marasmarcha*) Indonesia, Java
montischristi (Walsingham, 1897) (*Pterophorus*) Dominican Rep.
syn.: *cervinicolor* (Barnes & McDunnough), 1913 (*Pterophorus*) USA (Fl)
rhynchosiae (Dyar, 1898) (*Pterophorus*) **comb. nov.** USA (Fl)
bergeri Bigot, 1969 Zaire
crepuscularis Meyrick, 1909 Rep. S. Africa
crudipennis (Meyrick, 1932) (*Marasmarcha*) Uganda
pavidus (Meyrick, 1907) (*Pterophorus*) Rep. S. Africa
tenax (Meyrick, 1913) (*Marasmarcha*) Rep. S. Africa
vuattouxi Bigot, 1970 Ivory Coast

Genus **Marasmarcha** Meyrick, 1886
brevirostris Walsingham, 1915 (*Platyptilia*) **comb. nov.** Panamá
***lunaedactyla** (Haworth, 1811) (*Alucita*) Great Britain
syn.: *phaeodactyla* (Hübner, [1813]) (*Alucita*) Europe
agrorum (Herrich-Schäffer, 1855) (*Pterophorus*) Spain
altaica Krulikowski, 1906 Russia
tuttodactyla Chapman, 1906 France
fauna (Millière, 1871) (*Mimaeseoptilus*) France
oxydactylus (Staudinger, 1859) (*Pterophorus*) Spain
syn.: *wullschlegeli* Müller-Rutz, 1914 Switzerland
picardi Gibeaux, 1990 Algeria
tugaicola Zagulajev, 1986 Russia
asiatica (Rebel, 1906) (*Platyptilia*) China
trimmatodactylus (Christoph, 1872) (*Leioptilus*) Russia, Sarepta
cinnamomea (Staudinger, 1870) (*Pterophorus*) Russia
syn.: *glycyrrhizae* Zagulajev, 1969 Armenia
colossa Caradja, 1920 China
samarcandica Gerasimov, 1930 Russia
rhypodactyla (Staudinger, 1870) (*Pterophorus*) Russia, Sarepta
syn.: *decolorum* (Caradja, 1920) (*Pterophorus*) Turkey
leucocrossa Meyrick, 1936 Iraq
ehrenbergianus (Zeller, 1852) (*Pterophorus*) Syria
verax Meyrick, 1909 Rep. S. Africa

Status not certain, either originally placed in current genus or considered best possible genus in present view.
spinosa Meyrick, 1925 China
bonaespei (Walsingham, 1881) (*Lioptilus*) Rep. S. Africa
sisyrodes Meyrick, 1921 Zimbabwe

Genus **Tomotilus** Yano, 1961
***saitoi** Yano, 1961 Japan

Genus **Cnaemidophorus** Wallengren, 1862
Syn.: *Cnemidophorus* Zeller, 1867 (emendation & homonym)
Eucnemidophorus Wallengren, 1881
Euenemidophorus Pierce & Metcalfe, 1938 (incorrect spelling)
***rhododactyla** (Denis & Schiffermüller, 1775) (*Alucita*) Austria
syn.: *koreana* (Matsumura, 1931) (*Platyptilia*) Japan/ Korea
smithi Gielis, 1992 Colombia

Genus **Buszkoiana** Koçak, 1981
Syn.: *Richardia* Buszko, 1978 (homonym)
***capnodactylus** (Zeller, 1841) (*Pterophorus*) Poland

Genus **Crocydoscelus** Walsingham, 1897
***ferrugineum** Walsingham, 1897 Nigeria/ Zaire

Genus **Sphenarches** Meyrick, 1886
Syn.: *Sphenarctes* Carus, 1887, missp.
Sphenarchis Tutt, 1905, emend.
***anisodactyla** (Walker, 1864) (*Oxyptilus*) Sri Lanka
syn.: *caffer*.— Fletcher, 1909 (not Zeller, 1852) Rep. S. Africa
diffusalis (Walker, 1864) (*Pterophorus*) Australia
direptalis (Walker, 1864) (*Oxyptilus*)[part] Zaire
synophrys Meyrick, 1886 New Hebrides/Tonga
vilis.— (Matsumura, 1905) (*Alucita*) (not Butler, 1881) Japan
chroesus Strand, 1913 Cameroun
dolichos (Matsumura, 1931) (*Pselnophorus*) Japan
ontario (McDunnough, 1927) (*Pterophorus*) Canada
caffer (Zeller, 1852) (*Pterophorus*) southern Africa
syn.: *walkeri* (Walsingham, 1881) (*Oxyptilus*) Rep. S. Africa
nanellus (Walker, 1864) (*Oxyptilus*) **comb. nov.** Brazil (Am)
bilineatus Yano, 1963 Samoa
aguessei (Bigot, 1964) (*Oxyptilus*) Guinée
zanclistis (Meyrick, 1905) (*Oxyptilus*) Birma

Genus **Shafferia** nov.
***nubilus** (Felder & Rogenhofer, 1875) (*Oxyptilus*) Colombia
syn.: *virilis* (Meyrick, 1916) (*Platyptilia*) **syn. nov.** Colombia
dentiger (Meyrick, 1916) (*Oxyptilus*) **comb. nov.** Guyana

Genus **Lioptilodes** Zimmerman, 1958
subantarctica Gielis, 1991 Argentina
***parvus** (Walsingham, 1880) (*Lioptilus*) USA (Cal)
syn.: *insperata* (Meyrick, 1921) (*Stenoptilia*) Peru
trigonometra (Meyrick, 1931) (*Stenoptilia*) Paraguay
partiseca (Meyrick, 1931) (*Stenoptilia*) Argentina
albistriolatus (Zeller, 1871) (*Mimeseoptilus*) Colombia
zapalaica Gielis, 1991 Argentina
rionegroica Gielis, 1991 Argentina
neuquenica Gielis, 1991 Argentina
aguilaica Gielis, 1991 Argentina
fetisi Gielis, 1991 Chile
alolepidodactyla Gielis, 1991 Argentina
testacea (Blanchard, 1852) (*Pterophorus*) Chile
topali Gielis, 1991 Chile
tribonia (Meyrick, 1921) (*Stenoptilia*) Peru
antarcticus (O. Staudinger, 1899) (*Mimaeseoptilus*) Argentina
prometopa (Meyrick, 1909) (*Utuca*) Peru

Genus **Amblyptilia** Hübner, [1825]
Syn.: *Amplyptilia* Hübner, [1825] (incorrect spelling)
Amblyptilus Wallengren, 1862 (emendation)
***acanthodactyla** (Hübner, [1813]) (*Alucita*) Europe
syn.: *calaminthae* Frey, 1886 Switzerland
tetralicella Hering, 1891 nomen nudum Poland
punctidactyla (Haworth, 1811) (*Alucita*) Great Britain
syn.: *cosmodactyla* (Hübner, [1819]) (*Alucita*) Europe
ulodactyla (Zetterstedt, 1840) (*Alucita*) Sweden
stachydalis (Frey, 1870) (*Platyptilus*) Switzerland
pica (Walsingham, 1880) (*Platyptilia*) USA (Cal)
syn.: *punctidactyla* auct., nec Haworth, 1811
cosmodactyla auct., nec Hübner, 1813
ulodactyla auct., nec Zetterstedt, 1840
calisequoiae (Lange, 1950) (*Platyptilia*) USA (Cal)
marina (Lange, 1950) (*Platyptilia*) USA (Cal)
sierra (Lange, 1950) (*Platyptilia*) USA (Cal)
monticola (Grinnell, 1908) (*Platyptilia*) USA (Cal)
crataea (T.B. Fletcher, 1940) (*Platyptilia*) USA (Cal)
bella (Yano, 1963) (*Platyptilia*) **comb. nov.** Japan
japonica (Yano, 1963) (*Platyptilia*) Japan
jezoensis (Matsumura, 1931) (*Platyptilia*) **comb. nov.** Japan
moerens (Snellen, 1884) (*Platyptilia*) **comb.nov.** Siberia
scutellaris (Felder & Rogenhofer, 1875) (*Platyptilia*) **comb. nov.** Colombia
sythoffi (Snellen, 1903) (*Platyptilia*) **comb. nov.** Indonesia, Java
aeolodes (Meyrick, 1902) (*Platyptilia*) **comb. nov.** New Zealand
deprivatalis (Walker, 1964) (*Pterophorus*) **comb. nov.** New Zealand
syn.: *haasti* (Felder & Rogenhofer, 1875) (*Platyptilia*) New Zealand
epotis (Meyrick, 1905) (*Platyptilia*) **comb. nov.** New Zealand
falcatalis (Walker, 1964) (*Platyptilus*) **comb. nov.** New Zealand
syn.: *repletalis* (Walker, 1864) (*Platyptilia*) New Zealand
forcipata (Zeller, 1867) (*Pterophorus*) India
galactostacta (Diakonoff, 1952) (*Stenoptilia*) **comb. nov.** Indonesia, Irian Jaya
heliastis (Meyrick, 1884) (*Platyptilia*) **comb. nov.** New Zealand
iriana (Diakonoff, 1952) (*Stenoptilia*) **comb. nov.** Indonesia, Irian Jaya
lithoxestes (Meyrick, 1885) (*Mimaeseoptilis*) **comb. nov.** New Zealand
vigens (Felder & Rogenhofer, 1875) (*Platyptilia*) **comb. nov.** New Zealand
amblydectis (Meyrick, 1932) (*Platyptilia*) **comb. nov.** Ethiopia
direptalis (Walker, 1864) (*Oxyptilus*) **comb. nov.** Rep. S. Africa
pentheres (Bigot, 1969) (*Platyptilia*) Zaire
stoltzei Gielis, 1990 Tanzania

Status not certain, either originally placed in current genus or considered best possible genus in present view.
shirozui (Yano, 1965) (*Platyptilia*) Taiwan
atrodactyla Pagenstecher, 1900 Solomon Is., Ralum

Genus **Stockophorus** nov.
***charitopa** (Meyrick, 1908) (*Platyptilia*) Bolivia

Genus **Postplatyptilia** Gielis, 1991
***camptosphena** (Meyrick, 1931) (*Platyptilia*) Argentina
eelkoi Gielis, 1991 Chile
naranja Gielis, 1991 Argentina
fuscicornis (Zeller, 1877) (*Platyptilia*) Colombia
nubleica Gielis, 1991 Chile
alexisi Gielis, 1991 Chile
akerbergsi Gielis, 1991 Chile
biobioica Gielis, 1991 Chile

talcaica Gielis, 1991 Chile
huigraica B. Landry & Gielis, 1992 Ecuador
saeva Meyrick, 1930 Peru
flinti Gielis, 1991 Argentina
paraglyptis (Meyrick, 1907) (*Platyptilia*) Argentina
pusillus (Philippi, 1864) (*Pterophorus*) Chile
nielseni (Gielis, 1991) (*Lantanophaga*) **comb. nov.** Argentina
aestuosa (Meyrick, 1916) (*Platyptilia*) **comb. nov.** Peru
genisei (Pastrana, 1989) (*Stenoptilia*) Argentina
minima B. Landry & Gielis, 1992 Galapagos Is.

Status not certain, either originally placed in current genus or considered best possible genus in present view.
haemogastra (Meyrick, 1926) (*Platyptilia*) Peru

Genus **Paraplatyptilia** Bigot & Picard, 1986
Syn.: *Mariana* Tutt, 1905 (homonym)
***metzneri** (Zeller, 1841) (*Pterophorus*) Hungaria
syn.: *bollii* (Frey, 1856) (*Pterophorus*) Switzerland
terminalis (Erschoff, 1877) (*Platyptilia*) Russia
syn.: *carelica* (Zagulajev, 1983) (*Mariana*) Russia
catharodactyla (Gaj, 1959) (*Platyptilia*) **comb. nov.** Russia
sahlbergi (Poppius, 1936) (*Stenoptilia*) Russia, Kanin
syn.: *lineata* (Arenberger, 1984) (*Mariana*) Russia
gaji (Zagulajev, 1983) (*Mariana*) **comb. nov.** Russia
hedemanni (Snellen, 1884) (*Pterophorus*) **comb. nov.** Russia, Amur
inanis (Caradja, 1920) (*Platyptilia*) **comb. nov.** Siberia
sibirica (Zagulajev, 1983) (*Mariana*) Siberia
vacillans (Snellen, 1884) (*Pterophorus*) **comb. nov.** Russia, Amur
optata (Yano, 1963) (*Platyptilia*) Japan
grandis (Walsingham, 1880) (*Platyptilia*) **comb. nov.** USA (Cal)
carolina (Kearfott, 1907) (*Platyptilia*) **comb. nov.** USA (Car)
immaculata (McDunnough, 1939) (*Platyptilia*) **comb. nov.** USA (Cal)
auriga (Barnes & Lindsey, 1921) (*Platyptilia*) **comb. nov.** USA (NJ)
edwardsii (Fish, 1881) (*Platyptilia*) **comb. nov.** USA (Mass)
baueri (Lange, 1950) (*Platyptilia*) **comb. nov.** USA (Cal)
albiciliata (Walsingham, 1880) (*Platyptilia*) **comb. nov.** USA (Cal)
syn.: *canadensis* (McDunnough, 1927) (*Platyptilia*) Canada
rubricans (Lange, 1950) (*Platyptilia*) USA (Cal)
orthocarpi (Walsingham, 1880) (*Platyptilia*) USA (Cal)
lutescens (Lange, 1950) (*Platyptilia*) **comb. nov.** USA (Cal)
albida (Walsingham, 1880) (*Platyptilia*) **comb. nov.** USA (Cal)
shastae (Walsingham, 1880) (*Platyptilia*) **comb. nov.** USA (Cal)
nana (McDunnough, 1927) (*Platyptilia*) **comb. nov.** Canada
albidorsella (Walsingham, 1880) (*Platyptilia*) **comb. nov.** USA (Cal)
fragilis (Walsingham, 1880) (*Platyptilia*) **comb. nov.** USA (Cal)
maea (Barnes & Lindsey, 1921) (*Platyptilia*) **comb. nov.** USA (Cal)
cooleyi (Fernald, 1898) (*Platyptilia*) **comb. nov.** USA (Col)
xylopsamma (Meyrick, 1908) (*Platyptilia*) **comb. nov.** USA (Col)
syn.: *schwarzi* (Dyar, 1903) (*Stenoptilia*) **syn. nov.** USA
modesta (Walsingham, 1880) (*Platyptilia*) **comb. nov.** USA (Cal)
bifida (Lange, 1950) (*Platyptilia*) **comb. nov.** USA (Ariz)
petrodactyla (Walker, 1864) (*Pterophorus*) **comb. nov.** Arctic America
bowmani (McDunnough, 1923) (*Stenoptilia*) **comb. nov.** Canada

Genus **Koremaguia** Hampson, 1891
***alticola** (Felder & Rogenhofer, 1875) (*Cnemidophorus*) India
syn.: *aurantidactylus* Hampson, 1891 India

Genus **Nippoptilia** Matsumura, 1931
issikii Yano, 1961 Japan
minor Hori, 1933 Japan
***vitis** (Sasaki, 1913) (*Stenoptilia*) Japan
syn.: *formosanus* (Matsumura, 1931) (*Oxyptilus*) Japan
mycites (Meyrick, 1914) (*Oxyptilus*) Tahourin
spinosa Yano, 1963 Indonesia, Irian Jaya

Status not certain, either originally placed in current genus or considered best possible genus in present view.
dissipata Yano, 1963 (*Stenoptilia*) Japan
eochrodes Meyrick, 1935 (*Trichoptilus*) China

Genus **Pseudoxyroptila** Hori, 1933
***tectonica** (Meyrick, 1914) (*Xyroptila*) Taiwan

Genus **Xyroptila** Meyrick, 1908
marmarias Meyrick, 1908 Australia
***oenophanes** Meyrick, 1908 India
peltastes (Meyrick, 1908) (*Oxyptilus*) Australia
vaughani (Fletcher, 1909) (*Oxyptilus*) Sri Lanka
africana Bigot, 1969 Zaire

Status not certain, either originally placed in current genus or considered best possible genus in present view.
caminites (Meyrick, 1907) (*Oxyptilus*) India

Genus **Stenoptilia** Hübner, [1825]
Syn.: *Mimaeseoptilus* Wallengren, 1862
Mimeseoptilus Zeller, 1867, *emend.*
Mimaesoptilus Snellen, 1884, missp.
Doxosteres Meyrick,1886
Mimaesioptilus Barrett, 1904, missp.
Adkinia Tutt, 1905
Adkina Yano, 1963, missp.
graphodactyla (Treitschke, 1833) (*Alucita*) Hungaria
pneumonanthes (Büttner, 1880) (*Mimeseoptilus*) Poland
syn.: *nelorum* Gibeaux, 1989 France
arenbergeri Gibeaux, 1990 France
gratiolae Gibeaux & Nel, 1989 France
syn.: *paludicola*, auct., nec Wallengren, 1862
***pterodactyla** (Linnaeus, 1761) (*Alucita*) Sweden
syn.: *fuscus* (Retzius, 1783) (*Pterophorus*) ??
fuscodactyla (Haworth, 1811) (*Alucita*) Great Britain
ptilodactyla (Hübner, [1813]) (*Alucita*) Europe
paludicola (Wallengren, 1862) (*Mimaeseoptilus*) Sweden
mannii (Zeller, 1852) (*Pterophorus*) Turkey
syn.: *megalochra* Meyrick, 1927 Bulgaria
veronicae Karvonen, 1932 Finland
bipunctidactyla (Scopoli, 1763) (*Phalaena*) Austria
syn.: *mictodactyla* (Denis & Schiffermüller, 1775) (*Alucita*) Austria
hodgkinsonii (Gregson, 1868) (*Pterophorus*) Great Britain
hirundodactyla (Gregson, 1871) (*Pterophorus*) Great Britain
serotinus (Zeller, 1852) (*Pterophorus*) Germany
plagiodactylus (Stainton, 1851) (*Pterophorus*) Great Britain
scabiodactyla (Gregson, 1871) (*Pterophorus*) Great Britain
aridus (Zeller, 1847) (*Pterophorus*) Italy
syn.: *csanadyi* Gozmany, 1959 Egypt
gallobritannidactylus Gibeaux, 1985 France
mimula Gibeaux, 1985 France
picardi Gibeaux, 1986 France
elkefi Arenberger, 1984 Tunisia
succisae Gibeaux & Nel, 1991 France
friedeli Arenberger, 1984 Morocco
lucasi Arenberger, 1990 Turkey
amseli Arenberger, 1990 South-West Arabia
annadactyla Sutter, 1988 Germany
syn.: *annickana* Gibeaux, 1989 France
pelidnodactyla (Stein, 1837) (*Alucita*) Germany
syn.: *alpinalis* Burmann, 1954 Austria
bigoti Gibeaux, 1986 France
gibeauxi Nel, 1989 France
cerdanica Nel & Gibeaux, 1990 France
cebennica Nel & Gibeaux, 1990 France
mercantourica Nel & Gibeaux, 1990 France
reisseri Rebel, 1935 Spain
hahni Arenberger, 1990 Spain
millieridactyla (Bruand, 1861) (*Pterophorus*) France
syn.: *saxifragae* Fletcher, 1940 Ireland
islandicus (Staudinger, 1857) (*Pterophorus*) Iceland
syn.: *borealis* (Wocke, 1864) (*Pterophorus*) Norway
parnasia Arenberger, 1986 Greece
coprodactylus (Stainton, 1851) (*Pterophorus*) Austria
syn.: *zalocrossa* Meyrick, 1907 Switzerland
pseudocoprodactyla Gibeaux, 1991 Austria
scoprodactyla Zagulajev, 1986 Russia
eborinodactyla Zagulajev, 1986 Russia
buvati Nel & Gibeaux, 1992 France
molleti Gibeaux, 1991 Pakistan
brigantiensis Nel & Gibeaux, 1992 France
lutescens (Herrich-Schäffer, 1855) (*Pterophorus*) Switzerland
syn.: *arvernicus* (Peyerimhof, 1875) (*Mimaeseoptilus*) France
grandis Chapman, 1908 France
nepetellae Bigot & Picard, 1983 France
syn.: *cyrnea* Nel, 1991 France
nolckeni (Tengstrom, 1869) (*Pterophorus*) Finland
syn.: *caesius* (Snellen, 1884) (*Pterophorus*) Siberia
stigmatodactylus (Zeller, 1852) (*Pterophorus*) Austria
syn.: *oreodactylus* (Zeller, 1852) (*Pterophorus*) terra typica unknown
stigmatoides Sutter, 1992 Czechoslovakia
atlanticola Zerny, 1935 Morocco
zophodactyla (Duponchel, 1838) (*Pterophorus*) France
syn.: *loewii* (Zeller, 1847) (*Pterophorus*) Italy
canalis (Walker, 1864) (*Pterophorus*) Australia
semicostata (Zeller, 1873) (*Mimeseoptilus*) USA (Tx)
oxyactis Meyrick, 1922 Israel
wagneri Zerny, 1940 Iran
pinkeri Arenberger, 1984 Turkey
nurolhaki Amsel, 1967 Afghanistan

luteocinereus (Snellen, 1884) (*Pterophorus*) Siberia
pulcher (Christoph, 1885) (*Mimaeseoptilus*) Russia
admiranda Yano, 1963 Japan
latistriga Rebel, 1916 China
pinarodactyla (Erschoff, 1877) (*Mimaeseoptilus*) Siberia
albilimbata Yano, 1963 Japan
saigusai Yano, 1963 Japan
caroli Arenberger, 1988 Nepal
pallistriga Barnes & McDunnough, 1913 USA (Fl)
mengeli Fernald, 1898 Greenland
exclamationis (Walsingham, 1880) (*Mimeseoptilus*) USA (Cal)
coloradensis Fernald, 1898 USA (Col)
columbia McDunnough, 1927 Canada
grandipuncta McDunnough, 1939 Canada
suprema Meyrick, 1927 Colombia
tenuis (Felder & Rogenhofer, 1875) (*Mimesaeoptilus*) Colombia
syn.: *gilvidorsis* (Zeller, 1877) (*Mimeseoptilus*) Colombia
bandamae Bigot, 1964 Ivory Coast
conicephala Gielis, 1990 Kenya
ionata Meyrick, 1920 Kenya

Status not certain, either originally placed in current genus or considered best possible genus in present view.
nivea Sahlberg, ???
stenodactyla Turati & Fiori, 1930 Greece
leuconephes (Meyrick, 1886) (*Mimeseoptilus*) Australia
orites (Meyrick, 1884) (*Mimaeseoptilus*) New Zealand
petraea Meyrick, 1907 India
phaeonephes (Meyrick, 1886) (*Mimeseoptilus*) Tasmania
platanodes Meyrick, 1914 Taiwan
longalis (Walker, 1864) (*Pterophorus*) Rep. S. Africa
melanoloncha Meyrick, 1927 Kenya
tyropiesta Meyrick, 1932 Ethiopia

Genus **Uroloba** Walsingham, 1891
calycospila (Meyrick, 1932) (*Utuca*) Argentina
***fuscicostata** Walsingham, 1891 Chile

Genus **Paraamblyptilia** Gielis, 1991
***eutalanta** (Meyrick, 1931) (*Platyptilia*) Argentina

Genus **Stenoptilodes** Zimmerman, 1958
taprobanes (Felder & Rogenhofer, 1875) (*Amblyptilia*) Sri Lanka
syn.: *brachymorpha* (Meyrick, 1888) (*Platyptilia*) India
seeboldi (Hofmann, 1898) (*Platyptilia*) Syria
terlizzii (Turati, 1926) (*Platyptilia*) Libya
zavatterii (Hartig, 1953) (*Amblyptilia*) Italy
legrandi (Bigot, 1962) (*Platyptilia*) Seychelles
brevipennis (Zeller, 1874) (*Platyptilia*) Peru
syn.: *crenulata* (Barnes & McDunnough, 1913) (*Platyptilia*) USA (Fl)
taprobanes.— auct. (not Felder & Rogenhofer, 1875)
sematodactyla (Berg, 1885) (*Platyptilia*) Argentina
syn.: *epidelta* (Meyrick, 1907) (*Platyptilia*) Argentina
juanfernandicus Gielis, 1991 Chile
hypsipora (Meyrick, 1916) (*Platyptilia*) **comb. nov.** Peru
postica (Felder & Rogenhofer, 1875) (*Mimeseoptilus*) **comb. nov.** Colombia
stigmatica (Felder & Rogenhofer, 1875) (*Platyptilia*) **comb. nov.** Colombia
syn.: *pyrrhina* (Zeller, 1877) (*Platyptilia*) **syn. nov.** Colombia
gilvicolor (Zeller, 1877) (*Platyptilia*) Colombia
duckworthi Gielis, 1991 Argentina
thrasydoxa (Meyrick, 1926) (*Platyptilia*) **comb. nov.** Colombia
antirrhina (Lange, 1950) (*Platyptilia*) **comb. nov.** USA (Cal)
***littoralis** (Butler, 1882) (*Platyptilia*) Hawaii Is.
syn.: *rhynchophora* (Meyrick, 1888) (*Platyptilia*) Hawaii Is.
inceptrix (Meyrick, 1913) (*Platyptilia*) Hawaii Is.
insularis (Walsingham, 1907) (*Platyptilia*) Hawaii Is.
vittata Service, 1966 Nigeria

Status not certain, either originally placed in current genus or considered best possible genus in present view.
sordipennis (Zeller, 1877) (*Platyptilia*) Colombia

Genus **Lantanophaga** Zimmerman, 1958
***pusillidactyla** (Walker, 1864) (*Oxyptilus*) Jamaica
syn.: *technidion* (Zeller, 1877) (*Platyptiptilia*) Virgin Is. (St. Thomas)
hemimetra (Meyrick, 1886) (*Platyptilia*) Réunion Isl.
lantana (Busck, 1914) (*Platyptilia*) Hawaii Is.
lantanadactyla (Amsel, 1951) (*Platyptilia*) Morocco

Status not certain, either originally placed in current genus or considered best possible genus in present view.
longiductus Gibeaux, 1992 Malagasy Rep.

Genus **Anstenoptilia** Zimmerman, 1958
***marmarodactyla** (Dyar, [1903]) (*Platyptilia*) USA (Ca/NM)
syn.: *fuscicornis* auct., nec Zeller, 1877

pasadenensis (Grinnell, 1908) (*Platyptilia*) USA (Cal)

Genus **Gillmeria** Tutt, 1905
miantodactylus (Zeller, 1841) (*Pterophorus*) Hungaria
armeniaca Zagulajev, 1984 Armenia
kerzhneri Zagulajev & Penischukowskaja, 1972 (*Platyptilia*) **comb. nov.** Mongolia
melanoschista (Fletcher, 1940) (*Platyptilia*) **comb. nov.** Siberia
macrornis (Meyrick, 1930) (*Platyptilia*) **comb. nov.** Russia
rhusiodactyla (Fuchs, 1903) (*Platyptilia*) **comb. nov.** Russia
sachalinensis (Matsumura, 1931) (*Platyptilia*) **comb. nov.** Russia, Sachalin
stenoptiloides (Filipjev, 1927) (*Amblyptilia*) Siberia
scutata (Yano, 1961) (*Platyptilia*) **comb. nov.** Japan
syn.: *pallidiola* (Matsumura, 1931) (*Platyptilia*) Japan
pallidactyla (Haworth, 1811) (*Alucita*) Great Britain
syn.: *migadactylus* (Curtis, 1827) (*Pterophorus*) Great Britain
ochrodactyla (Treitschke, 1833) (*Alucita*) Austria/Hungary
marginidactylus (Fitch, 1854) (*Pterophorus*) USA (NY)
nebulaedactylus (Fitch, 1854) (*Pterophorus*) USA (NY)
bertrami Roessler, 1864 Germany
bischoffi Zeller, 1867 terra typica unknown
cervinidactylus (Packard, 1873) (*Pterophorus*) USA
adustus (Walsingham, 1880) (*Platyptilus*) USA (Cal)
***tetradactyla** (Linnaeus, 1761) (*Alucita*) Europe
syn.: *ochrodactyla* (Denis & Schiffermüller, 1775) (*Alucita*) Austria
dichrodactylus (Mühlig, 1863) (*Platyptilus*) terra typica unknown
borgmanni (Roessler, 1880) (*Platyptilia*) Germany
bosniaca (Rebel, 1904) (*Platyptilia*) Bosnia
pallida (Dufrane, 1949) (*Platyptilia*) Belgium
irakella (Amsel, 1959) (*Platyptilia*) **comb. nov.** Iraq
albertae (Barnes & Lindsey, 1921) (*Platyptilia*) **comb. nov.** Canada

Status not certain, either originally placed in current genus or considered best possible genus in present view.
omissalis (Fletcher, 1925) (*Platyptilia*) Australia

Genus **Platyptilia** Hübner, [1825]
Syn.: *Platyptilus* Zeller, 1841
Fredericina Tutt, 1905
tesseradactyla (Linnaeus, 1761) (*Alucita*) Sweden
syn.: *fischeri* (Zeller, 1841) (*Pterophorus*) Czechoslovakia
hibernica Tutt, 1906 Great Britain
farfarellus Zeller, 1867 Poland
nemoralis Zeller, 1841 Poland
syn.: *macrodactyla* (Zeller, 1841) (*Pterophorus*) terra typica unknown
saracenica Wocke, 1871 Poland
grafii Zeller, 1873 Netherlands
***gonodactyla** (Denis & Schiffermüller, 1775) (*Alucita*) Austria
syn.: *diptera* (Sulzer, 1776) (*Alucita*) terra typica unknown
megadactyla (Denis & Schiffermüller, 1775) (*Alucita*) Austria
trigonodactyla (Haworth, 1811) (*Alucita*) Great Britain
farfara Gregson, 1885 Great Britain
calodactyla (Denis & Schiffermüller, 1775) (*Alucita*) Austria
syn.: *petradactyla* (Hübner, [1819]) (*Alucita*) Europe
zetterstedtii (Zeller, 1841) (*Pterophorus*) terra typica unknown
taeniadactyla South, 1882 Great Britain
leucorrhyncha Meyrick, 1902 Switzerland
doronicella Fuchs, 1902 Dalmatia
iberica Rebel, 1935 Spain
syn.: *nevadensis* Rebel, 1935 Spain
isodactylus (Zeller, 1852) (*Pterophorus*) Great Britain
syn.: *similidactyla* Stephens, 1835 Great Britain
brunneodactyla D. Lucas, 1955 Morocco
chondrodactyla Caradja, 1920 Turkey
ainonis Matsumura, 1931 Japan
diversicilia Filipjev, 1931 Russia
euridactyla Zagulajev & Filippova, 1976 Russia
manchurica Buszko, 1977 Manchuria
ussuriensis Caradja, 1920 Siberia
montana Yano, 1963 Japan
sinuosa Yano, 1960 Japan
profunda Yano, 1963 Japan
resoluta Meyrick, 1937 China
sedata Meyrick, 1932 India
syn.: *semnocharis* Meyrick, 1932 India
cacaliae Fletcher, 1920 India
petila Yano, 1963 Solomon Is.
phanerozona Diakonoff, 1952 Irian Jaya
celidotus (Meyrick, 1885) (*Lioptilus*) **comb. nov.** New Zealand
johnstoni Lange, 1940 USA (Cal)
percnodactyla Walsingham, 1880 USA (Cal)
comstocki Lange, 1939 USA (Ariz)
williamsii Grinnell, 1908 USA (Cal)
ardua McDunnough, 1927 Canada
washburnensis McDunnough, 1929 USA (Wyo)
albicans Fish, 1881 USA (Nev)

carduidactyla (Riley, 1869) (*Pterophorus*) USA
syn.: *cardui* (Zeller, 1873) (*Platyptilia*) USA (Mo)
hesperis Grinnell, 1908 USA (Cal)
davisi Gielis, 1991 Peru
gentilii Gielis, 1991 Argentina
gravior Meyrick, 1932 Costa Rica
thyellopa Meyrick, 1926 Colombia
umbrigeralis (Walker, 1864) (*Pterophorus*) Colombia
sabia (Felder & Rogenhofer, 1875) (*Mimeseoptilus*) southern Africa
syn.: *africae* (Walsingham, 1881) (*Amblyptilus*) Rep. S. Africa
centralis Bigot, 1964 Malagasy Rep.
censoria Meyrick, 1910 Mauritius
claripicta Fletcher, 1910 Seychelles
daemonica Meyrick, 1932 Ethiopia
humida Meyrick, 1920 Kenya
fulva Bigot, 1964 Malagasy Rep.
maligna Meyrick, 1913 Rep. S. Africa
melitroctis Meyrick, 1924 Ruwanda/ Zaire
molopias Meyrick, 1906 Rep. S. Africa
morophaea Meyrick, 1920 Kenya
postbarbata Meyrick, 1938 Zaire
proterischna Meyrick, 1935 Zaire
rhyncholoba Meyrick, 1924 Ruwanda/ Zaire
sciophaea Meyrick, 1920 Kenya

Status not certain, either originally placed in current genus or considered best possible genus in present view.
ignifera Meyrick, 1908 India
suigensis Matsumura, 1931 Korea
arsenica Meyrick, 1921 Peru
chalcogastra Meyrick, 1921 Guyana
nigroapicalis B. Landry & Gielis, 1992 Galapagos Is.
onias Meyrick, 1916 Peru
philorectis Meyrick, 1926 Peru
semnopis Meyrick, 1931 Brazil (Sc & Es)
archimedon Meyrick, 1938 Papua New Guinea
calamicola Meyrick, 1937 Indonesia, Java
campsiptera Meyrick, 1907 New Zealand
charadrias Meyrick, 1885 (*Mimaeseoptilus*) New Zealand
chosokeiella Strand, 1922 Taiwan
citropleura Meyrick, 1907 India
exaltatus (Zeller, 1867) (*Pterophorus*) India
syn.: *dejecta* Meyrick, 1932 India
emissalis Walker, 1864 Australia
enargota Durrant, 1915 Indonesia, Irian Jaya
euctimena Turner, 1913 Australia
indubitata Philpott, 1929 New Zealand
syn.: *ferruginea* Philpott, 1923 New Zealand (homonym)
hokowhitalis Hudson, 1936 New Zealand
isocrates Meyrick, 1924 India
isoterma Meyrick, 1908 New Zealand
monotrigona Diakonoff, 1952 Indonesia, Irian Jaya
pulverulenta Philpott, 1923 New Zealand
superscandens Fletcher, 1940 India
teleacma Meyrick, 1932 Indonesia, Java
triphracta Meyrick, 1932 India
amphiloga Meyrick, 1907 Rep. S. Africa
borbonica Viette, 1957 Réunion Isl.
bullifera Meyrick, 1928 Rep.S. Africa
corniculata Meyrick, 1913 Rep. S. Africa
dimorpha Fletcher, 1910 Seychelles
empedota Meyrick, 1907 Rep. S. Africa
heterolicma Meyrick, 1936 Zaire
illustris Townsend, 1958 Kenya
implacata Meyrick, 1932 Ethiopia
infesta Meyrick, 1934 São Tomé
interpres Meyrick, 1922 Uganda
locharcha Meyrick, 1924 Zimbabwe
odiosa Meyrick, 1924 Rep. S. Africa
patriarcha Meyrick, 1912 Rep. S. Africa
periacta Meyrick, 1910 Rep. S. Africa
picta Meyrick, 1913 Kenya
strictiformis Meyrick, 1932 Uganda
thiosoma Meyrick, 1920 Kenya
toxochorda Meyrick, 1934 São Tomé
spiculivalva Gielis, 1990 Tanzania

Genus **Platyptiliodes** Strand, 1913
***albisignatula** Strand, 1913 Cameroun

Genus **Sochchora** Walker, 1864
albipunctella Fletcher, 1911 Brazil (Am)
***donatella** Walker, 1864 Brazil (Am)
dotina Walsingham, 1915 Panamá

Genus **Fletcherella** Diakonoff, 1952
***niphadothysana** Diakonoff, 1952 Indonesia, Irian Jaya
niphadarcha Meyrick, 1930 Uganda

Genus **Macrotinactis** Meyrick, 1912
***stenodactylus** Fletcher, 1911 Rep. S. Africa

Genus **Xenopterophora** Hori, 1933
***mikado** Hori, 1933 Japan

Status not certain, either originally placed in current genus or considered best possible genus in present view.
cretalis (Meyrick, 1908) (*Platyptilia*) **comb. nov.** Japan

syn.: *kiiensis* Matsumura, 1931 Japan, Ryu Kyu Is.

Genus **Titanoptilus** Hampson, 1905
laniger Bigot, 1969 Zaire
***melanodonta** Hampson, 1905 Uganda
patellatus Meyrick, 1913 Rep. S. Africa
procerus Bigot, 1969 Zaire
serrulatus Meyrick, 1935 Nigeria

Genus **Walsinghamiella** Berg, 1898
Syn.: *Gilbertia* Walsingham, 1891 (homonym)
***eques** (Walsingham, 1891) (*Gilbertia*) Ghana

Genus **Tetraschalis** Meyrick, 1887
***arachnodes** Meyrick, 1887 Australia
deltozela Meyrick, 1924 India
ischnites Meyrick, 1907 India
lemurodes Meyrick, 1907 Indonesia, Kei Is.
ochrias Meyrick, 1907 India
subtilis (Rebel, 1907) (*Trichoptilus*) Sokotra Isl.

Genus **Stenodacma** Amsel, 1959
***iranella** Amsel, 1959 Iran

Subfamily **DEUTEROCOPINAE nov.**

Genus **Deuterocopus** Zeller, 1852
Syn.: *Deuteroscopus* Hofmann, 1898, missp.
socotranus Rebel, 1907 Sokotra Isl.
alopecodes Meyrick, 1911 India
atrapex Fletcher, 1910 Sri Lanka
bathychasma Fletcher, 1910 Indonesia, Sumbawa Isl.
dorites Meyrick, 1913 India
famulus Meyrick, 1907 Indonesia, Kei Is.
fervens Meyrick, 1913 India
issikii Yano, 1963 Indonesia, Irian Jaya
lophopteryx Fletcher, 1910 Sri Lanka
viticola Meyrick, 1911 Sri Lanka
melanota Fletcher, 1910 Malaya, Perak
planeta Meyrick, 1908 India
ritsemae Walsingham, 1884 Indonesia, Java
syn.: *rubrodactylus* (Pagenstecher, 1900) (*Deuteroscopus*) Neu Pommern (= New Britain)
***tengstroemi** Zeller, 1852 Indonesia, Java
torridus Meyrick, 1913 Indonesia, Irian Jaya/Kei Is.
albipunctatus T.B. Fletcher, 1910 Japan
triannulatus Meyrick, 1913 Australia
honoratus Meyrick, 1921 Australia
deltoptilus Meyrick, 1930 Uganda

Genus **Heptaloba** Walsingham, 1885
***argyriodactylus** (Walker, 1864) (*Platyptilia*) Sri Lanka

Genus **Hexadactilia** Fletcher, 1910
civilis Meyrick, 1921 Australia
***trilobata** Fletcher, 1910 Indonesia, Irian Jaya

Genus **Leptodeuterocopus** Fletcher, 1910
***citrogaster** Fletcher, 1910 Indonesia, Amboina Isl.
exquisitus (Meyrick, 1921) (*Deuterocopus*) **comb. nov.** Brazil (Am)
fortunatus (Meyrick, 1921) (*Deuterocopus*) **comb. nov.** Brazil (Am)
gratus (Meyrick, 1921) (*Deuterocopus*) **comb. nov.** Peru
hipparchus (Meyrick, 1921) (*Deuterocopus*) **comb. nov.** Brazil (Pa/Am)
sochchoroides Fletcher, 1910 Brazil (Am)
zonites (Meyrick, 1913) (*Oxyptilus*) **comb. nov.** Guyana

Status not certain, either originally placed in current genus or considered best possible genus in present view.
neales (Walsingham, 1915) (*Oxyptilus*) Mexico (Tab)

Subfamily **OCHYROTINAE** Wasserthal, 1970

Genus **Ochyrotica** Walsingham, 1891
Syn.: *Steganodactyla* Walsingham, 1891
***fasciata** Walsingham, 1891 Brazil (ES)
mexicana Arenberger, 1990 Mexico (Pue)
placozona Meyrick, 1921 Peru
gielisi Arenberger, 1990 Panamá
cretosa (Durrant, 1916) (*Steganodactyla*) Indonesia, Irian Jaya
buergersi Gaede, 1916 Indonesia, Irian Jaya
concursa (Walsingham, 1891) (*Steganodactyla*) Sri Lanka
breviapex Gielis, 1990 Indonesia, Irian Jaya
yanoi Arenberger, 1988 Japan
rufa Arenberger, 1987 Malagasy Rep.
toxopeusi Gielis, 1988 Indonesia, Sulawesi
connexiva (Walsingham, 1891) (*Steganodactyla*) Birma
celebica Arenberger, 1988 Indonesia, Sulawesi
kurandica Arenberger, 1988 Australia
misoolica Gielis, 1988 Indonesia, Misool
javanica Gielis, 1988 Indonesia, Java
borneoica Gielis, 1988 Indonesia, Kalimantan
taiwanica Gielis, 1990 Taiwan
salomonica Arenberger, 1991 Solomon Is.
pseudocretosa Gielis, 1991 Indonesia, Irian Jaya
koteka Arenberger, 1992 Papua New Guinea
africana (Bigot, 1969) (*Steganodactyla*) Zaire

Subfamily **AGDISTINAE** Tutt, 1907

Genus **Agdistis** Hübner, [1825]
Syn.: *Adactylus* Curtis, 1834
Agdistes Stephens, 1835 (incorrect spelling)
Adactyla Zeller, 1841 (emendation)
Ernestia Tutt, 1906
Herbertia Tutt, 1906 (synonym & homonym)
tamaricis (Zeller, 1847) (*Adactyla*) France
syn.: *bagdadiensis* Amsel, 1949 Iraq
intermedia Caradja, 1920 Russia
syn.: *hungarica* Amsel, 1955 Hungary
bennetii (Curtis, 1833) (*Adactyla*) Great Britain
meridionalis (Zeller, 1847) (*Adactyla*) Italy
syn.: *staticis* Millière, 1875 France
portlandica Tutt, 1906 Great Britain
clivicola Meyrick, 1928 Great Britain
tyrrhenica Amsel, 1951 France
prolai Hartig, 1953 Italy
salsolae Walsingham, 1908 Canary Is.
syn.: *pinkeri* Bigot, 1972 Canary Is.
delicatulella Chrétien, 1917 France
syn.: *melitensis* Amsel, 1954 Malta
neglecta Arenberger, 1976 Spain
protai Arenberger, 1973 Italy
***adactyla** (Hübner, [1823]) (*Alucita*) Austria
syn.: *huebneri* Curtis, 1834
huebneri (Zeller, 1841) (*Adactyla*)
delphinensella Bruand, 1858 France
heydeni (Zeller, 1852) (*Adactyla*) France
syn.: *canariensis* Rebel, 1896 Canary Is.
excurata Meyrick, 1921 Israel
satanas Millière, 1875 France
syn.: *nanus* Turati, 1924 Lybia
pseudosatanas Amsel, 1951 Italy
frankeniae (Zeller, 1847) (*Adactyla*) Italy
syn.: *lerinsis* Millière, 1875 France
bahrlutia Amsel, 1955 Jordania
fiorii Bigot, 1960 Lybia
tondeuri Bigot, 1963 Greece
rupestris Bigot, 1974 France
gittia Arenberger, 1988 Spain
espunae Arenberger, 1978 Spain
glaseri Arenberger, 1978 Spain
bigoti Arenberger, 1976 Greece
symmetrica Amsel, 1955 Malta
manicata Staudinger, 1859 Spain
syn.: *gigas* Turati, 1924 Lybia
lutescens Turati, 1927 Lybia
tunesiella Amsel, 1955 Tunisia
paralia (Zeller, 1847) (*Adactyla*) Italy
bifurcatus Agenjo, 1952 Morocco
pseudocanariensis Arenberger, 1973 Canary Is.
hartigi Arenberger, 1973 Italy
betica Arenberger, 1978 Spain
rubasiensis Zagulajev, 1985 Russia
falkovitshi Zagulajev, 1986 Russia
karakalensis Zagulajev, 1990 Russia
karabachica Zagulajev, 1990 Russia
turkestanica Zagulajev, 1990 Russia
kulunda Ustjuzhanin, 1991 Russia
adenensis Amsel, 1961 Jemetine Rep.
arabica Amsel, 1958 Saudi Arabia
hakimah Arenberger, 1985 Saudi Arabia
asthenes Bigot, 1970 Mongolia
bellissima Arenberger, 1975 Egypt
caradjai Arenberger, 1975 Russia
cypriota Arenberger, 1983 Cypres
dagestanica Zagulajev & Filippova, 1976 Russia
nanodes Meyrick, 1906 Sri Lanka
syn.: *sindicola* Amsel, 1968 Pakistan
debilis Bigot, 1968 Iran
flavissima Caradja, 1920 China
halodelta Meyrick, 1925 Egypt
syn.: *lippensi* Amsel, 1955 Jordania
ingens Christoph, 1885 Siberia
maghrebi Arenberger, 1976 Algeria
mevlaniella Arenberger, 1972 Turkey
sissia Arenberger, 1987 Turkey
pygmaea Amsel, 1955 Israel
syn.: *minima* Amsel, 1954 (homonym)
minima Walsingham, 1900 Yemenite Rep.
nigra Amsel, 1955 Israel
olei Arenberger, 1976 Bahrein
parvella Amsel, 1958 Saudi Arabia
rjabovi Zagulajev & Filippova, 1976 Russia
sphinx Walsingham, 1907 Algeria
tenera Arenberger, 1976 Iran
takamukui Nohira, 1919 Japan
americana Barnes & Lindsey, 1921 USA (Cal)
aberdareana Arenberger, 1988 Kenya
arenbergeri Gielis, 1986 Rep. S. Africa
clara Arenberger, 1986 Botswana
cretifera Meyrick, 1909 Rep. S. Africa
criocephala Meyrick, 1909 Rep. S. Africa
dentalis Arenberger, 1986 Rep. S Africa
dimetra Meyrick, 1924 Rep. S. Africa
facetus Bigot, 1969 Zaire
infumata Meyrick, 1912 Rep. S. Africa
insidiatrix Meyrick, 1933 Sokotra Isl.
kenyana Arenberger, 1988 Kenya
korana Arenberger, 1988 Kenya
lomholdti Gielis, 1990 Namibia
malitiosa Meyrick, 1909 Rep. S. Africa
malleana Arenberger, 1988 Rep. S. Africa
namibiana Arenberger, 1988 Namibia
obstinata Meyrick, 1920 Kenya
pala Arenberger, 1986 Namibia

picardi Bigot, 1964 Malagasy Rep.
piccolo Gielis, 1990 Namibia
pustulalis Walker, 1864 Rep. S. Africa
reciprocans Meyrick, 1924 Rep. S. Africa
sanctaehelenae (Wollaston, 1879) (*Adactyla*) St. Helena Isl.
spinosa Arenberger, 1986 Namibia
toiarensis Bigot, 1986 Malagasy Rep.
unguica Arenberger, 1988 Rep. S. Africa

Family **MACROPIRATIDAE** Meyrick, 1932

Genus **Agdistopis** Hampson, 1917
Syn.: *Macropiratis* Meyrick, 1932
halieutica (Meyrick, 1932) (*Macropiratis*) Fiji
***sinhala** (Fletcher, 1909) (*Agdistis*) Sri Lanka
syn.: *petrochroa* Hampson, 1917 Taiwan
heteromantis (Meyrick, 1932) (*Macropiratis*) Sri Lanka

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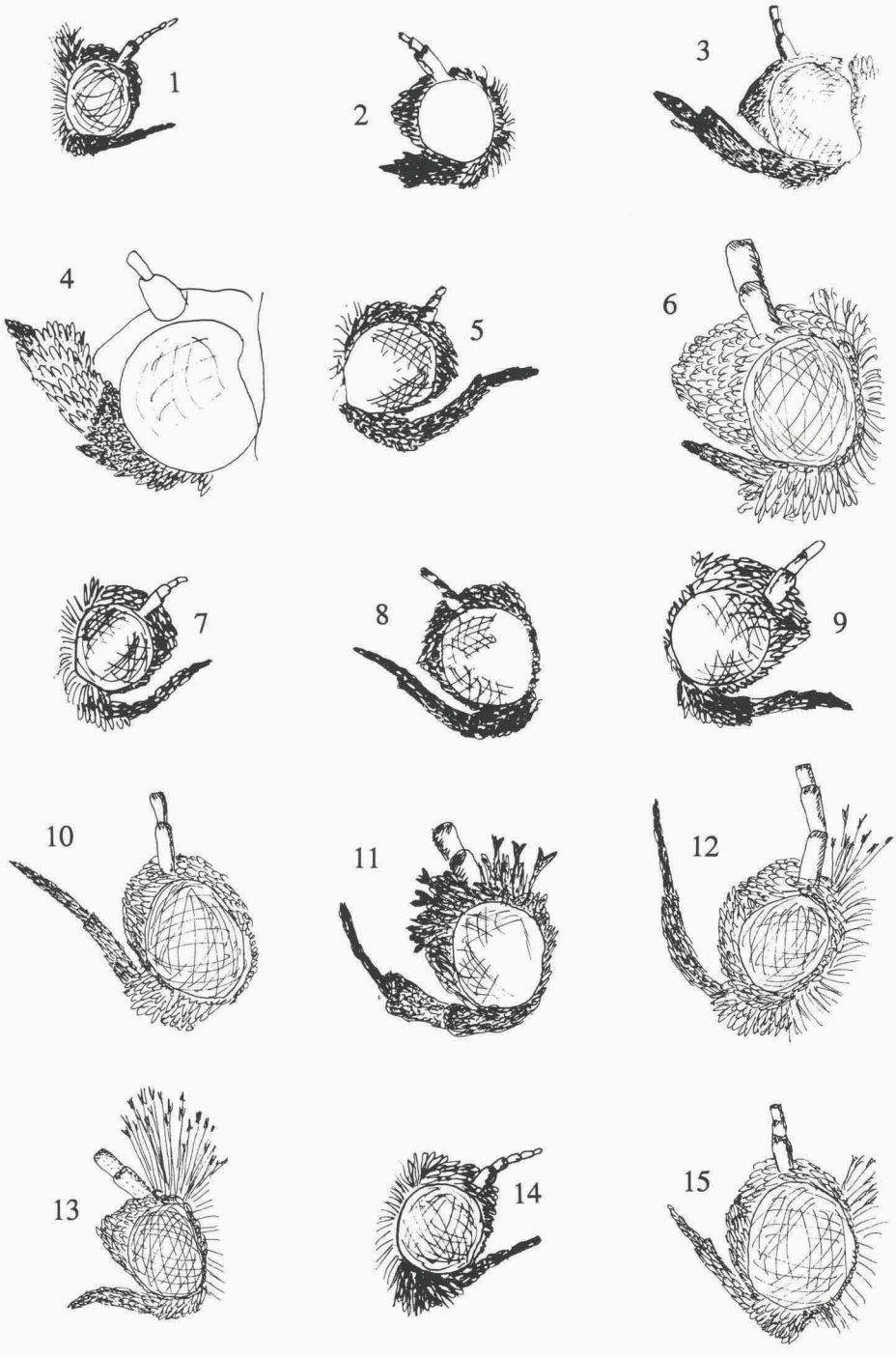
Figs. 1-57. Head of imagines; 1. *Adaina microdactyla* (Hübner) (after Buszko, 1979); 2. *Agdistis adactyla* (Hübner) (after Buszko, 1979); 3. *Amblyptilia acanthodactyla* (Hübner) (after Kuchlein & Gielis, 1982); 4. *Anstenoptilia marmarodactyla* (Dyar) (after Zimmerman, 1958); 5. *Buckleria paludum* (Zeller) (after Buszko, 1979); 6. *Buszkoiana capnodactyla* (Zeller). Germany, Essen, Kupferish, 9.vi.1983 (W. Biesenbaum); 7. *Calyciphora* (after Buszko, 1979); 8. *Capperia* (after Buszko, 1979); 9. *Cnaemidophorus rhododactyla* (Denis & Schiffermüller) (after Buszko, 1979); 10. *Cosmoclostis schouteni* Gielis. Côte d'Ivoire, Daloa, Daloa, 17.vii.1983 (R.T.A. Schouten); 11. *Crocydoscelus ferrugineum* Walsingham (after Walsingham, 1897); 12. *Deuterocopus* spec. W Java, Buitenzorg (presently Bogor), 27.i.1948 (A. Diakonoff) (NNM); 13. *Diacrotricha fasciola* Zeller. W Java, Pekalangan, (v. Deventer) (NNM); 14. *Emmelina monodactyla* (Linnaeus) (after Buszko, 1979); 15. *Exelastis pumilio* (Zeller). Paraguay, Paraguani, Sapucay, 28.i.1992 (U. Drechsel); 16. *Fletcherella niphadothysana* Diakonoff (after Diakonoff); 17. *Geina didactyla* (Linnaeus) (after buszko, 1979); 18. *Gillmeria* spec. (after Kuchlein & Gielis, 1982); 19. *Gypsochares baptodactyla* (Zeller) (after Arenberger, 1990); 20. *Hellinsia lienigianus* (Zeller) (after Buszko, 1979); 21. *Hexadactylia trilobata* Fletcher (after Fletcher, 1910); 22. *Lantanophaga pusillidactyla* (Walker) (after Zimmerman, 1958); 23. *Leptodeuterocopus citrogaster* Fletcher (after Fletcher, 1909 [1910]); 24. *Lioptilodes parvus* (Walsingham) (after Zimmerman, 1958); 25. *Marasmarcha lunaedactyla* (Haworth) (after Kuchlein & Gielis, 1982); 26. *Megalorhipida defectalis* (Walker) (after Zimmerman, 1958); 27. *Merrifieldia* spec. (after Buszko, 1979); 28. *Nippoptilia vitis* (Sasaki). Japan, Fukuoka prefecture, Kyushu, Tachihanayama, 10.ix.1960 (K. Yano); 29. *Ochyrotica fasciata* Walsingham. Puerto Rico, Patillas, 590 m, viii.1987 (V.O. Becker); 30. *Oidaematophorus* spec. (after Buszko, 1979); 31. *Oxyptilus pilosellae* (Zeller) (after Hannemann, 1977); 32. *Paraamblyptilia eutalanta* (Meyrick). Argentina, Rio Negro, San Carlos de Bariloche, Colonia Suiza, 810 m, 13.xi.1978 (Mis. Cie. Danesa); 33. *Paracapperia anatolicus* (Caradja). Turkey, Konya, 15 km S Karaman, 1200 m, 19.vii.1985 (B. van Oorschot); 34. *Paraplatyptilia metzneri* (Zeller) (after Buszko, 1979); 35. *Patagonophorus murinus* Gielis. Argentina, Rio Negro, Norquinco, 18.ii.1961 (G. Topal); 36. *Platyptilia* spec. (after Kuchlein & Gielis, 1982); 37. *Porrittia galactodactyla* (Denis & Schiffermüller) (after Buszko, 1979); 38. *Postplatyptilia camptosphena* (Meyrick). Argentina, Rio Negro, San Carlos de Bariloche, Colonia Suiza, 810 m, 7.xii.1978 (Mis. Cie. Danesa); 39. *Procapperia maculatus* (Constant). France, Haute Alpes, Les Laus, nr Col d'Izoard, 1850 m, 16.vii.1987 (C. Gielis); 40. *Pselnophorus heterodactyla* (Müller) (after Buszko, 1979); 41. *Pseudoxyroptila tectonica* (Meyrick). E Java, Pogal Falls, 8.v.1940 (NNM); 42. *Pterophorus pentadactyla* (Linnaeus) (after Buszko, 1979); 43. *Puerphorus olbiadactylus* (Millière) (after Arenberger, 1990); 44. *Shafferia paranubilus* Gielis, in press. Mexico, Baja California del Sur, Cabo San Lucas, Hotel Finisterra, 8-14.ix.1978 (J.P. Donohue); 45. *Singularia walsinghami* (Fernald). U.S.A., Arizona, Coconino Co., Bonito Park, alt. 7080' (= 2190 m), 2.vii.1987 (E.H. Metzler); 46. *Sochchora albipunctella* Fletcher. Brazil, Distrito Federal, Planaltina, 1000 m, i.1984 (V.O. Becker); 47. *Sphenarches ontario* McDunnough. Canada, Quebec, Aylmer, 9-11.vii.1990 (C. Gielis); 48. *Stangeia siceliota* (Zeller). Spain, Malaga, Marbella, 5.v.1981 (C. Gielis); 49. *Stenoptilia* spec. (after Kuchlein & Gielis, 1982); 50. *Stenoptilodes littoralis* (Buttler) (after Zimmerman, 1958); 51. *Tetraschalis ochrias* Meyrick. Java, Telawa, 22.xii.1931 (v. Kalshoven) (NNM); 52. *Titanoptilus melanodonta* Hampson (after Hampson, 1905); 53. *Trichoptilus californicus* (Walsingham). U.S.A., Florida, Marlon Co., 1 mi N 5th Ave, 23.viii.1989 (D. Matthews); 54. *Uroloba fuscicostata* Walsingham. Chile, Portezuelo, 7 km N Santiago, 500 m, 22-25.x.1981 (D.R. Davis); 55. *Wheeleria* spec. (after Buszko, 1979); 56. *Xyroptila afrotropicala* Bigot. Tanzania, Uluguru Mountains, Kimboza forest, 250 m, 18.vii.1981 (Stoltze & Scharff); 57. *Alucita hexadactyla* Linnaeus (after Buszko, 1977).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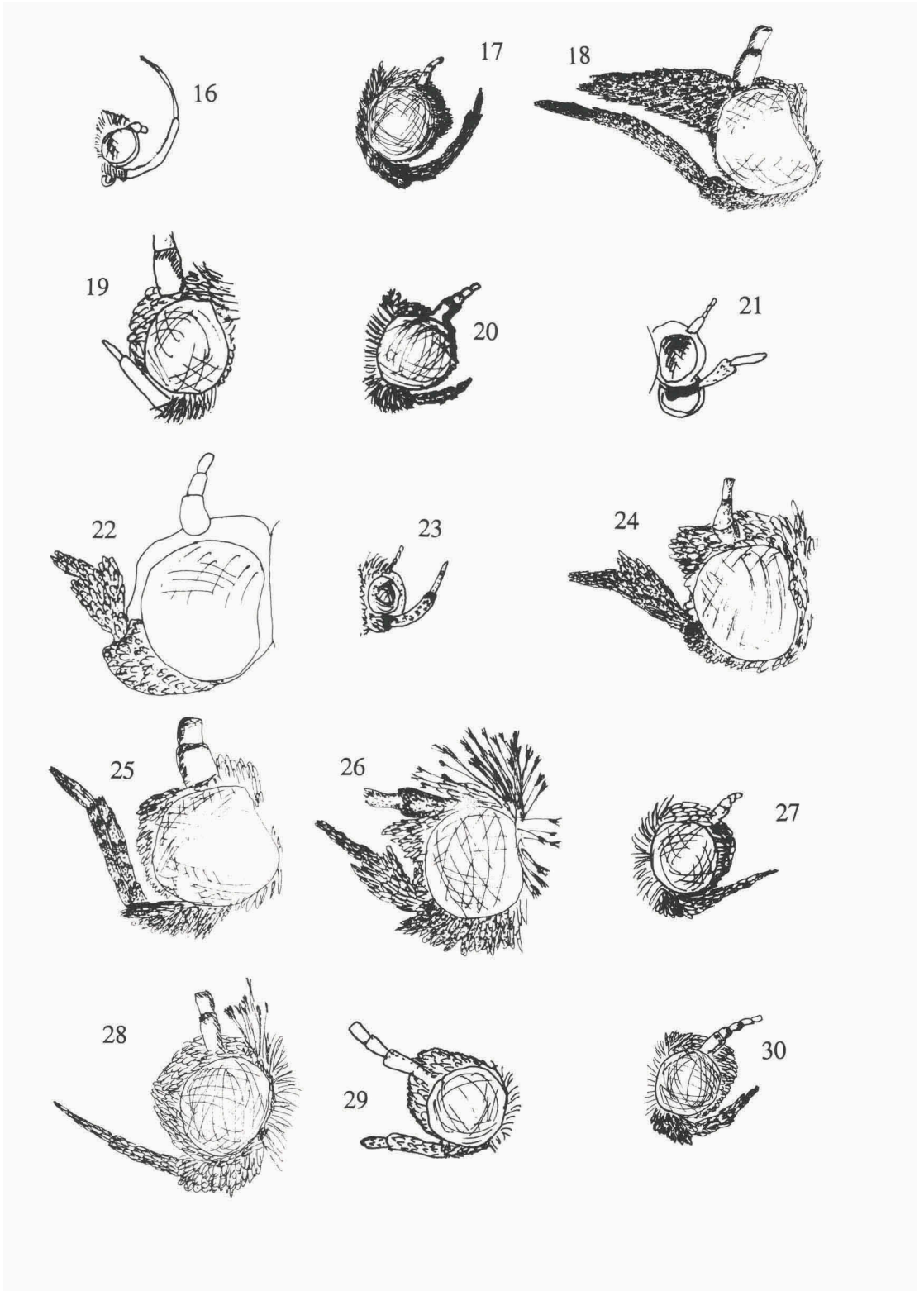
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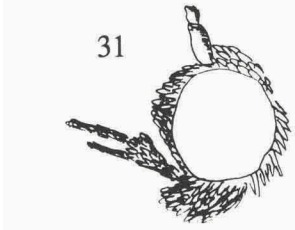
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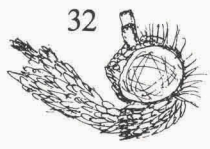
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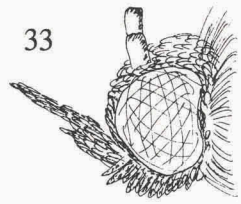
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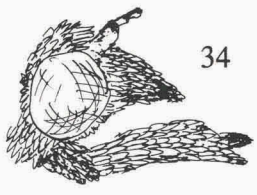
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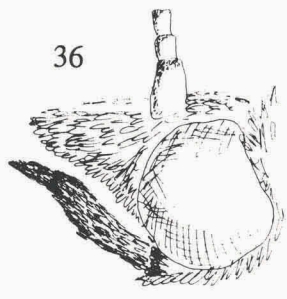
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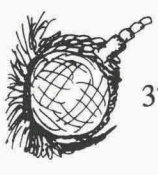
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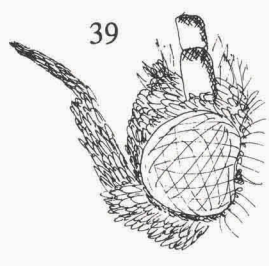
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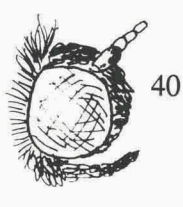
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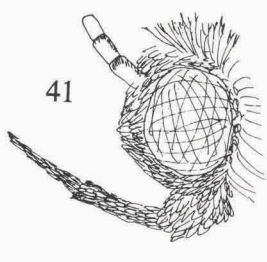
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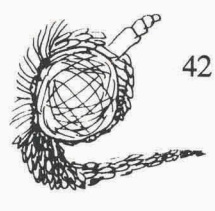
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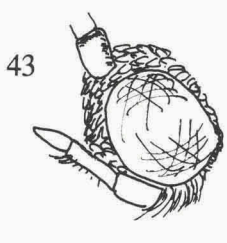
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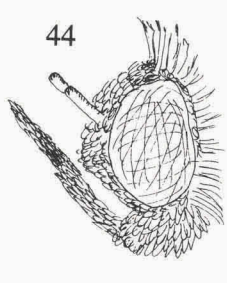
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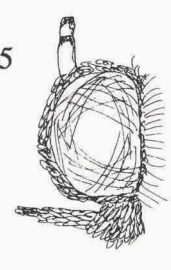
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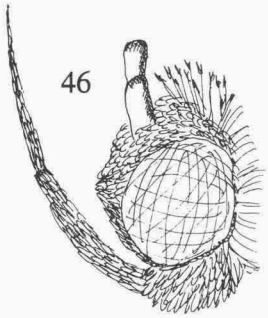
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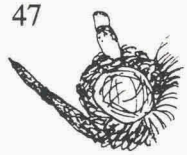
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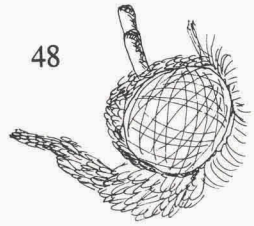
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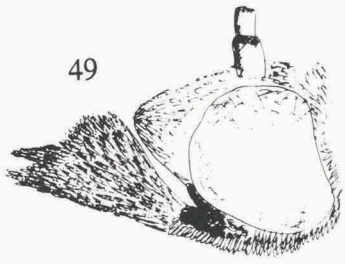
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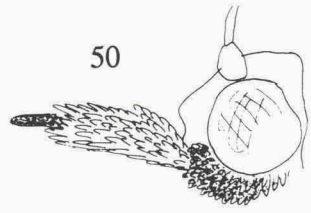
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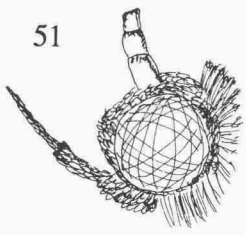
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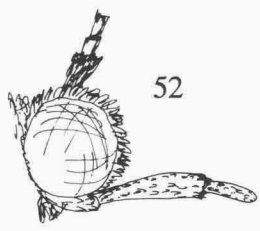
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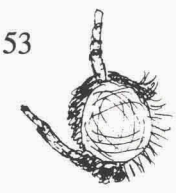
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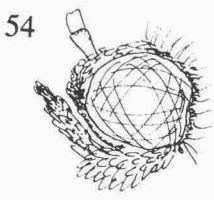
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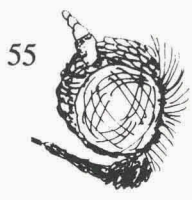
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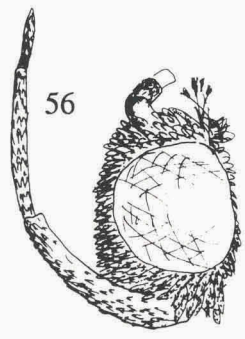
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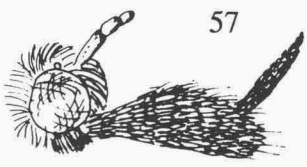
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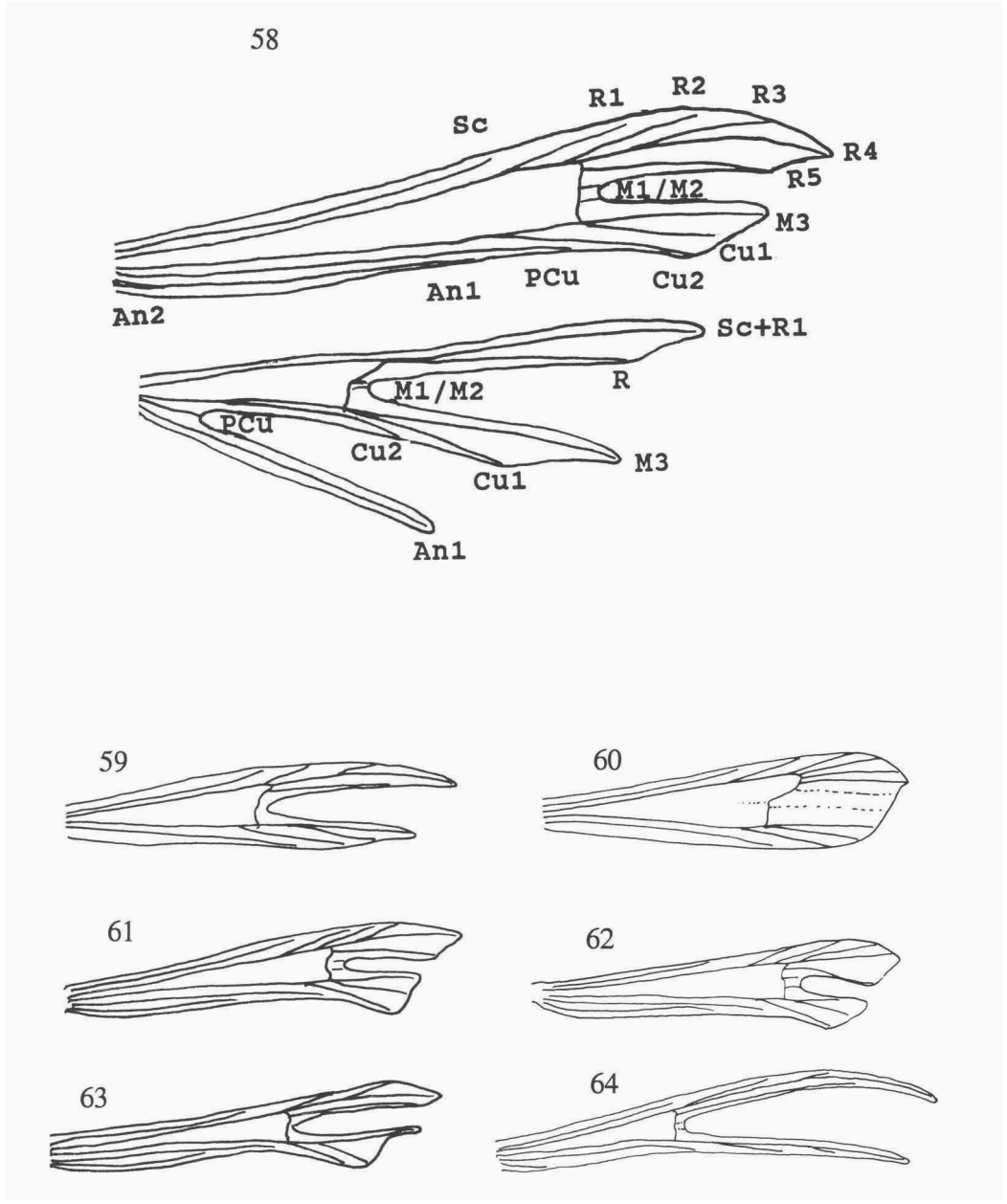
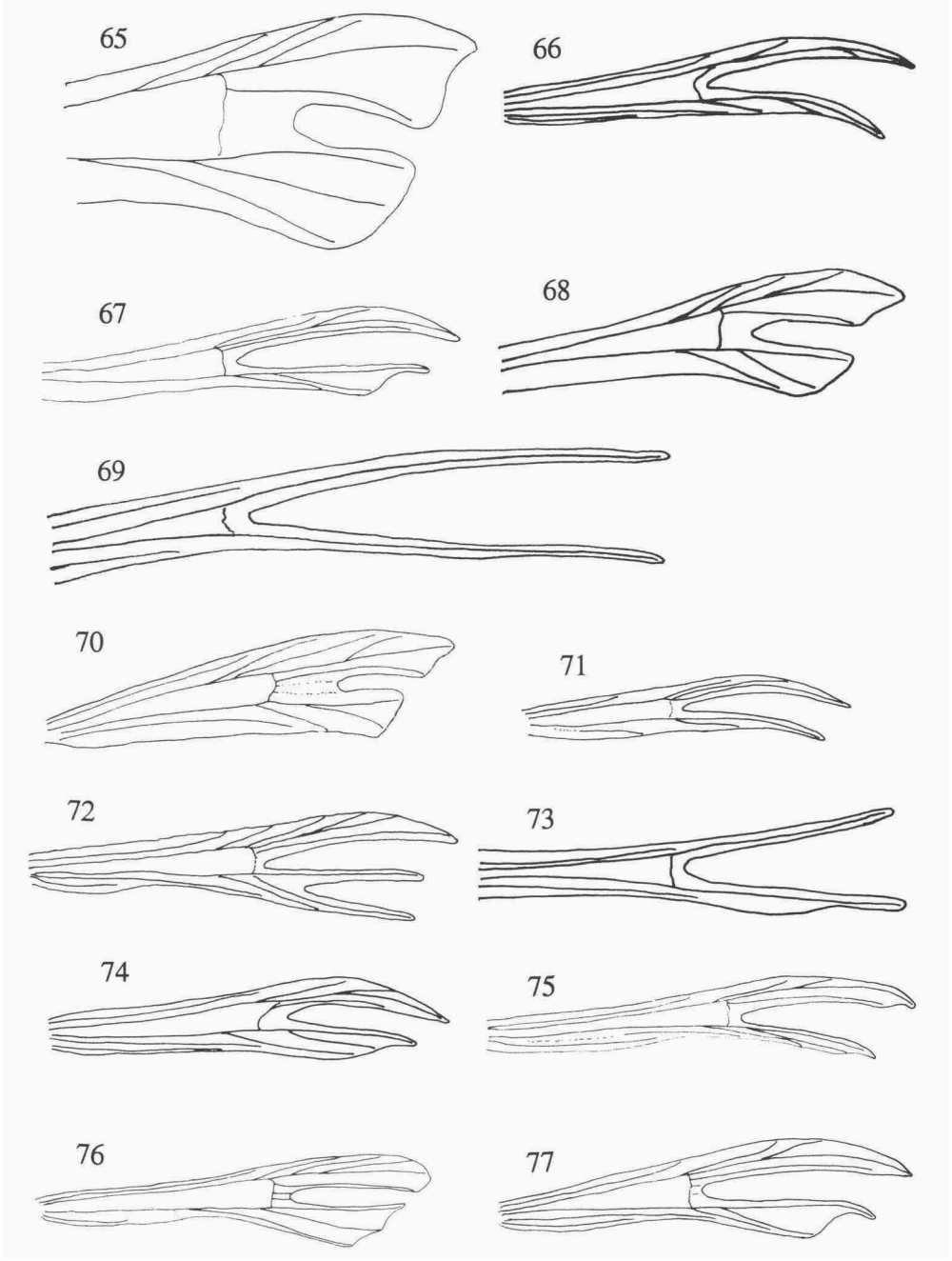
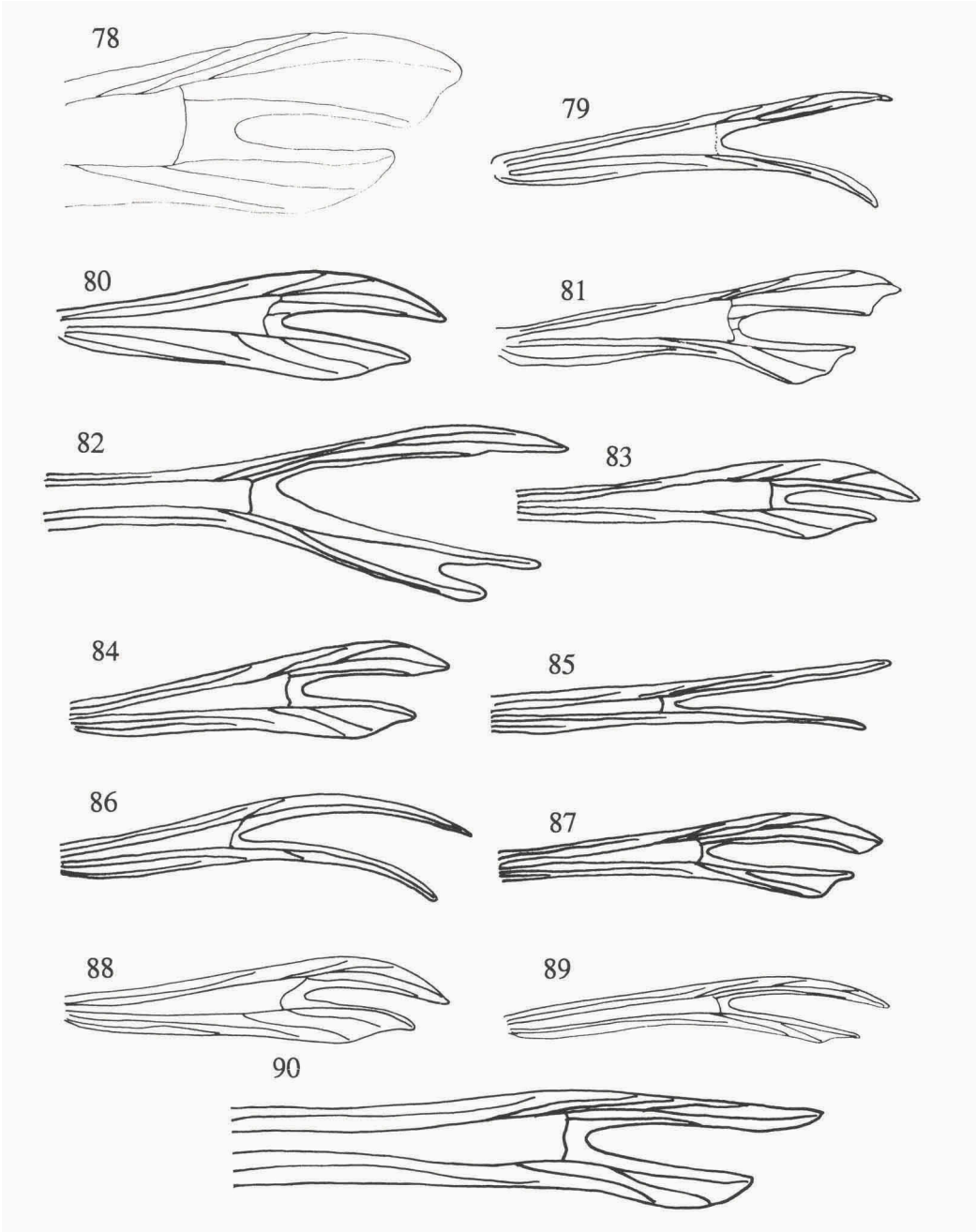


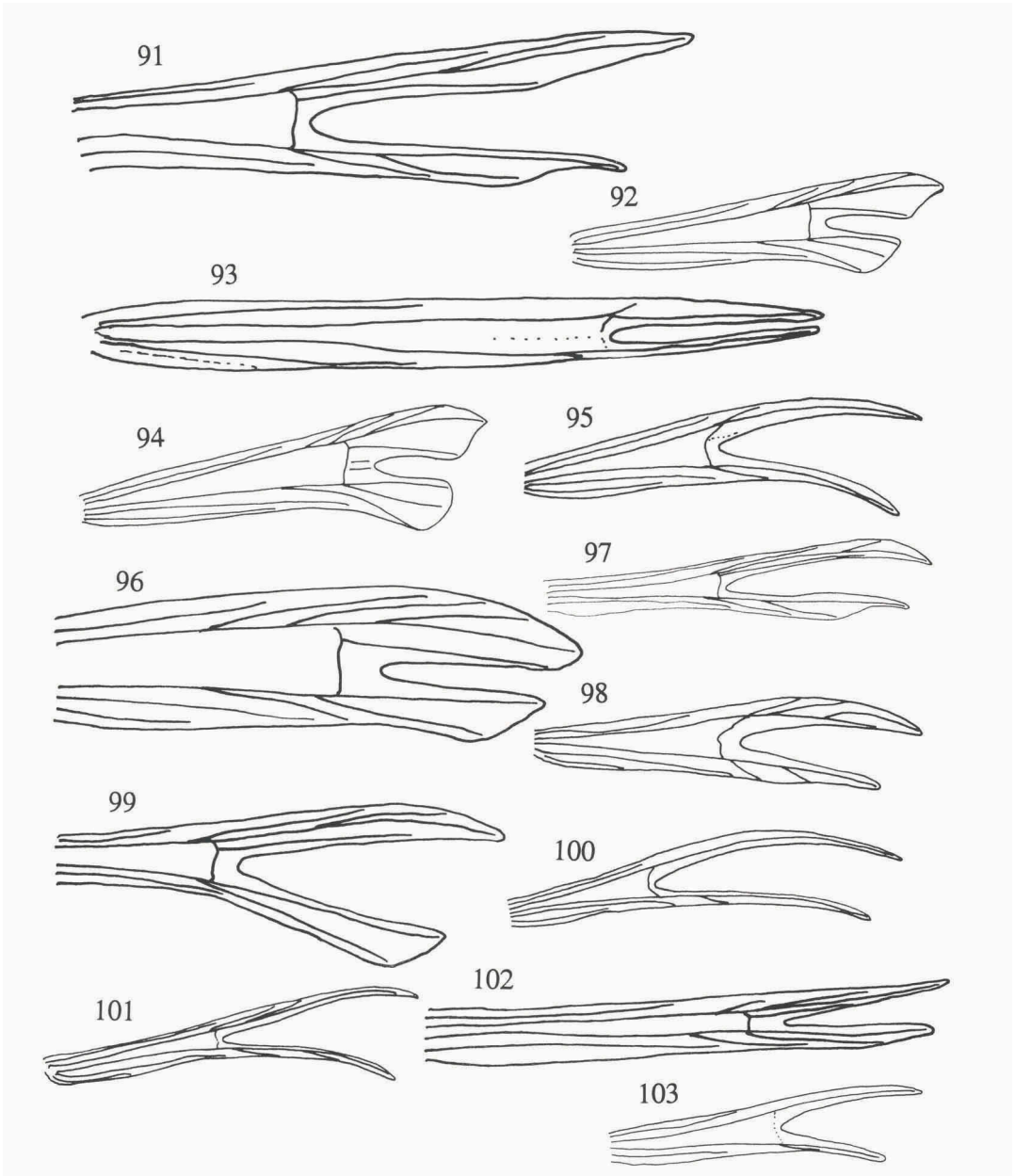
Figs. 58-64. Wing venation; 58. Example of nomenclature in wing venation; 59. *Adaina microdactyla* (Hübner) (after Buszko, 1979); 60. *Agdistis adactyla* (Hübner) (after Buszko, 1979); 61. *Amblyptilia* (after Buszko, 1979); 62. *Anstenoptilia marmarodactyla* (Dyar) (after Zimmerman, 1958); 63. *Arcoptilia gizan* Arenberger (after Arenberger, 1985); 64. *Buckleria paludum* (Zeller) (after Buszko, 1979).



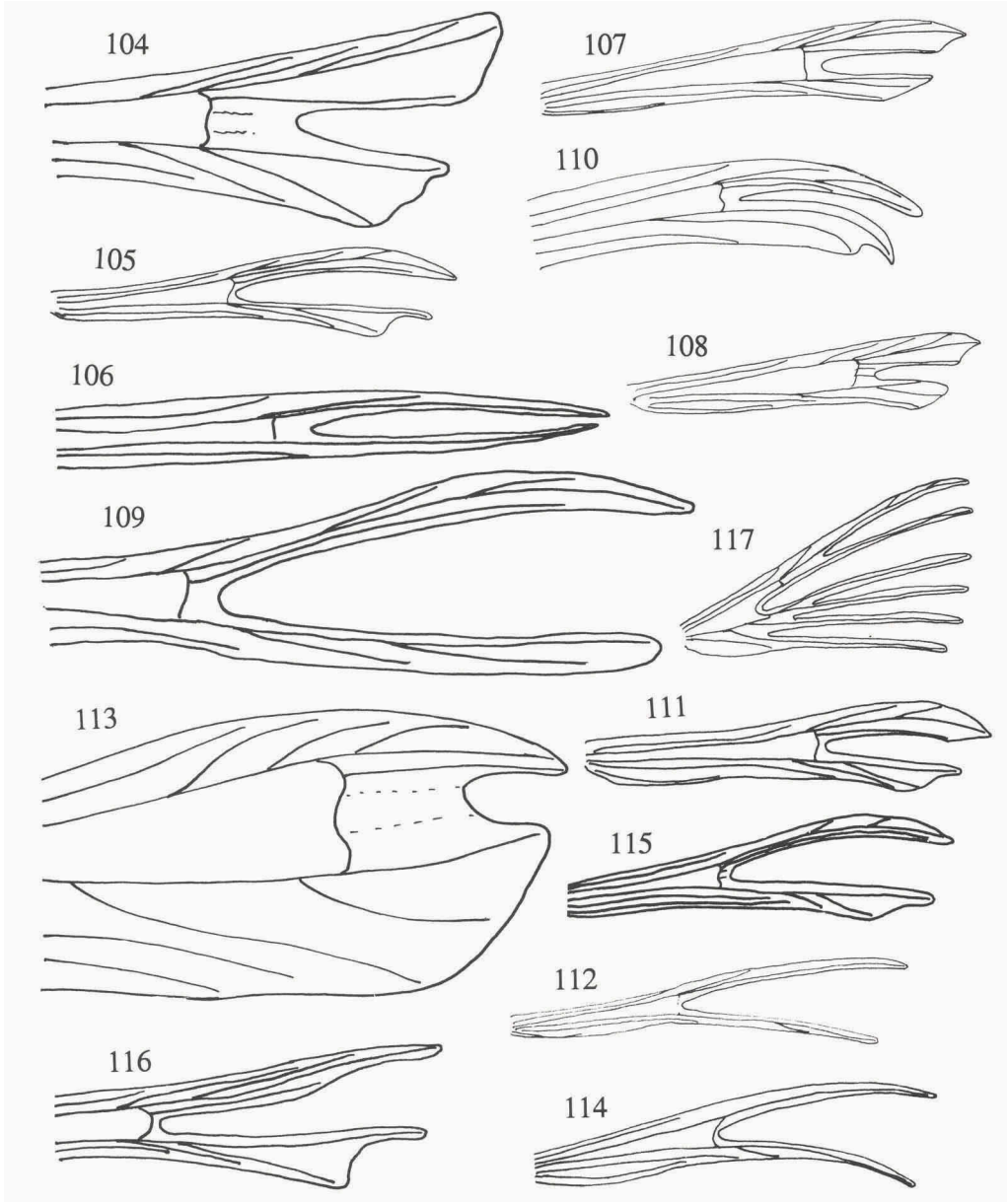
Figs. 65-77. Wing venation; 65. *Buszkoiana capnodactyla* (Zeller). Denmark, F. Havndrup, 14.vii.1988 (P. Falck), prep. CG 2456; 66. *Calyciphora* (after Buszko, 1979); 67. *Capperia* (after Buszko, 1979); 68. *Cnaemidophorus rhododactyla* (Denis & Schiffermüller) (after Buszko, 1979); 69. *Cosmoclostis schouteni* Gielis. Côte d'Ivoire, Daloa, Daloa, 17.vii.1983 (R.T.A. Schouten), prep. CG 2460; 70. *Crocydoscelus ferrugineum* Walsingham (after Walsingham, 1897); 71. *Dejongia lobidactyla* (Fitch) (after Barnes & Lindsey, 1921); 72. *Deuterocopus* (after Yano, 1963); 73. *Diacrotricha fasciola* Zeller. Java, Pekalangan, (v. Deventer), prep. CG 3138 (NNM); 74. *Emmelina monodactyla* (Linnaeus) (after Buszko, 1979); 75. *Exelastis pumilio* (Zeller) (after Matthews, 1989); 76. *Fletcherella niphadothysana* Diakonoff (after Diakonoff, 1952); 77. *Geina didactyla* (Linnaeus) (after Buszko, 1979).



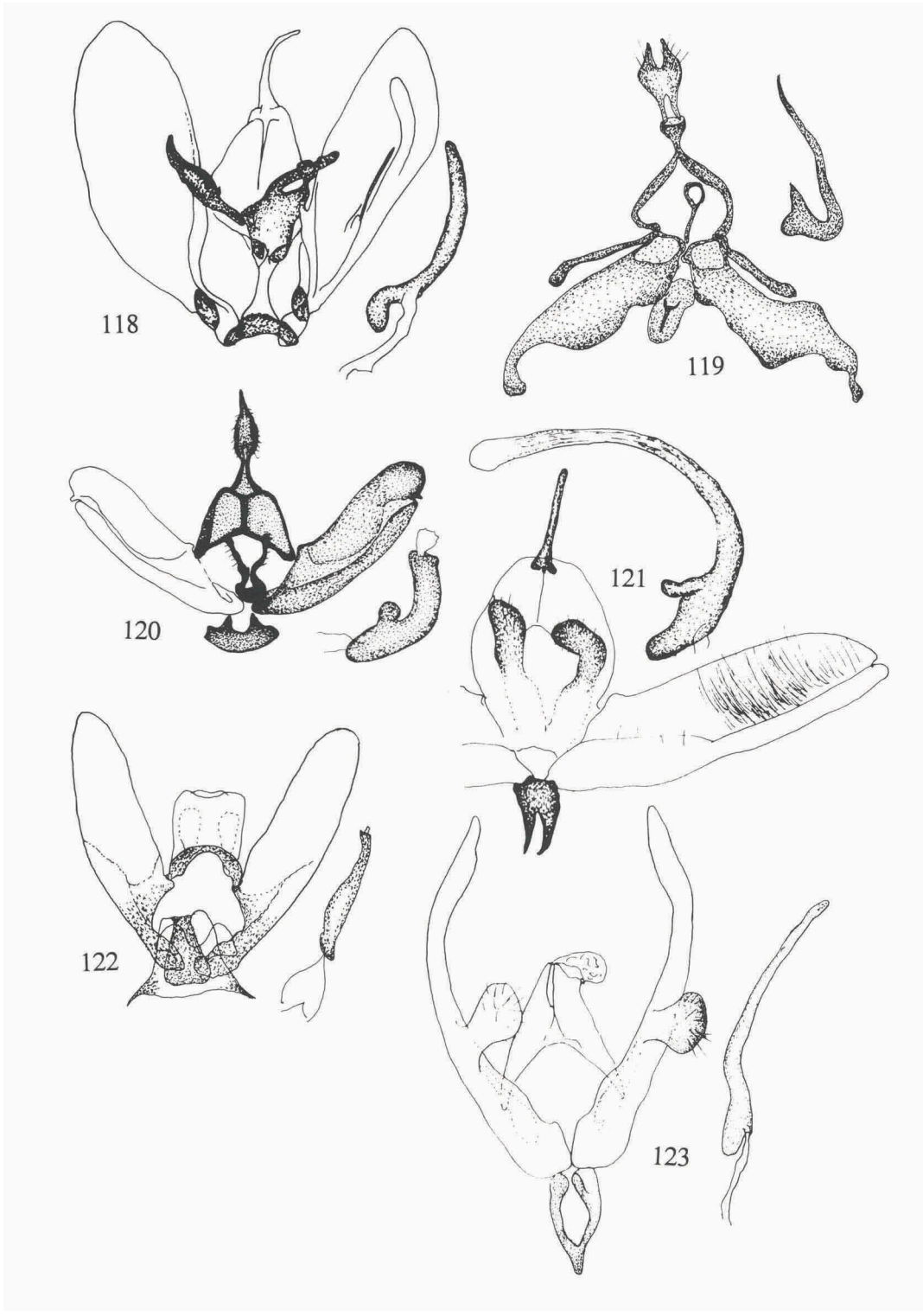
Figs. 78-90. Wing venation; 78. *Gillmeria pallidactyla* (Haworth). France, Alpes-des-Hautes Provence, Bayasse, 1700-1900 m, 18.vii.1991 (C. Gielis), prep. CG 2453; 79. *Gypsochares baptodactyla* (Zeller) (after Arenberger, 1990); 80. *Hellinsia lienigianus* (Zeller) (after Buszko, 1979); 81. *Lantanophaga pusillidactyla* (Walker) (after Zimmerman, 1958); 82. *Leptodeuterocopus sochchoroides* Fletcher. Brazil, Distrito Federal, Planaltina, 1000 m, 10.vi.1983 (V.O. Becker), prep. CG 2459 (Becker); 83. *Lioptilodes parvus* (Walsingham) (after Zimmerman, 1958); 84. *Marasmarcha lunaedactyla* (Haworth) (after Buszko, 1979); 85. *Megalorhipida defectalis* (Walker) (after Zimmerman, 1958); 86. *Merrifieldia* sp. (after Buszko, 1979); 87. *Nippoptilia* sp. (after Yano, 1963); 88. *Oidaematophorus* sp. (after Buszko, 1979); 89. *Oxyptilus pilosellae* (Zeller) (after Hannemann, 1977); 90. *Paraamblyptilia eutalanta* (Meyrick). Argentina, Rio Negro, San Carlos de Bariloche, Colonia Suiza, 810 m, 13.xi.1978 (Mis. Cie. Danesa), prep. CG 2458.



Figs. 91-103. Wing venation; 91. *Paracapperia anatolicus* (Caradja). Turkey, Konya, 15 km S Karaman, 1200 m, 19.vii.1985 (B. van Oorschot), prep. CG 2554; 92. *Paraplatyptilia metzneri* (Zeller) (after Buszko, 1979); 93. *Patagonophorus murinus* Gielis (after Gielis, 1991); 94. *Platyptilia* sp. (after Buszko, 1979); 95. *Porrittia galactodactyla* (Denis & Schiffermüller) (after Buszko, 1979); 96. *Postplatyptilia camptoshena* (Meyrick). Argentina, Neuquen, Lago Laean, 5 km E Hua Hum, 25.xi.1981 (Nielsen & Karsholt), prep. CG 2457; 97. *Procapperia* sp. (after Yano, 1963); 98. *Pselnophorus heterodactyla* (Müller) (after Buszko, 1979); 99. *Pseudoxyroptila tectonica* (Meyrick). Java, Pogal Falls, 8.v.1940, prep. CG 3146 (NNM); 100. *Pterophorus pentadactyla* (Linnaeus) (after Buszko, 1979); 101. *Puerphorus olbiadactylus* (Millière) (after Arenberger, 1990); 102. *Shafferia* sp. (inedit.) Brazil, Distrito Federal, Planaltina, 1000 m, 20.iv.1982 (V.O. Becker), prep. CG 6366 (Becker); 103. *Singularia walsinghami* (Fernald) (after Barnes & Lindsey, 1921).



Figs. 104-117. Wing venation; 104. *Sochchora albipunctella* Fletcher. Brazil, PA., Belem, i.1984 (V.O. Becker), prep. CG 6365; 105. *Sphenarches anisodactyla* (Walker) (after Matthews, 1989); 106. *Stangeia siceliota* (Zeller). Spain, Granada, Puerto de Mora, 21.ix.1979 (C. Gielis), prep. CG 2455; 107. *Stenoptilia pallistriga* Barnes & McDunnough (after Matthews, 1989); 108. *Stenoptilodes littoralis* (Butler) (after Zimmerman, 1958); 109. *Tetraschalis ochrias* Meyrick. Java, Telawa, e.l. stengel (= stem) Girang (= local Malayan plantname), 22.xi.1933 (van Kalshoven), prep. CG 3148 (NNM); 110. *Titanoptilus melanodonta* Hampson (after Hampson, 1905); 111. *Tomotilus saitoi* Yano (after Yano, 1961); 112. *Trichoptilus pygmeaus* Walsingham (after Matthews, 1989); 113. *Uroloba fuscicostata* Walsingham. Chile, Portezuelo, 7 km N Santiago, 500 m, 22-25.x.1981 (D.R. Davis), prep. CG 2461; 114. *Wheeleria* sp. (after Buszko, 1979); 115. *Xenopterophora mikado* Hori (after Yano, 1963); 116. *Xyroptila marmarias* Meyrick. S Celebes, Bantimurung, 50 m, 9-18.viii.1949 (A. Diakonoff), prep. CG 3147 (NNM); 117. *Alucita grammodactyla* Zeller (after Buszko) (Interpretation of nomenclature of veins different!).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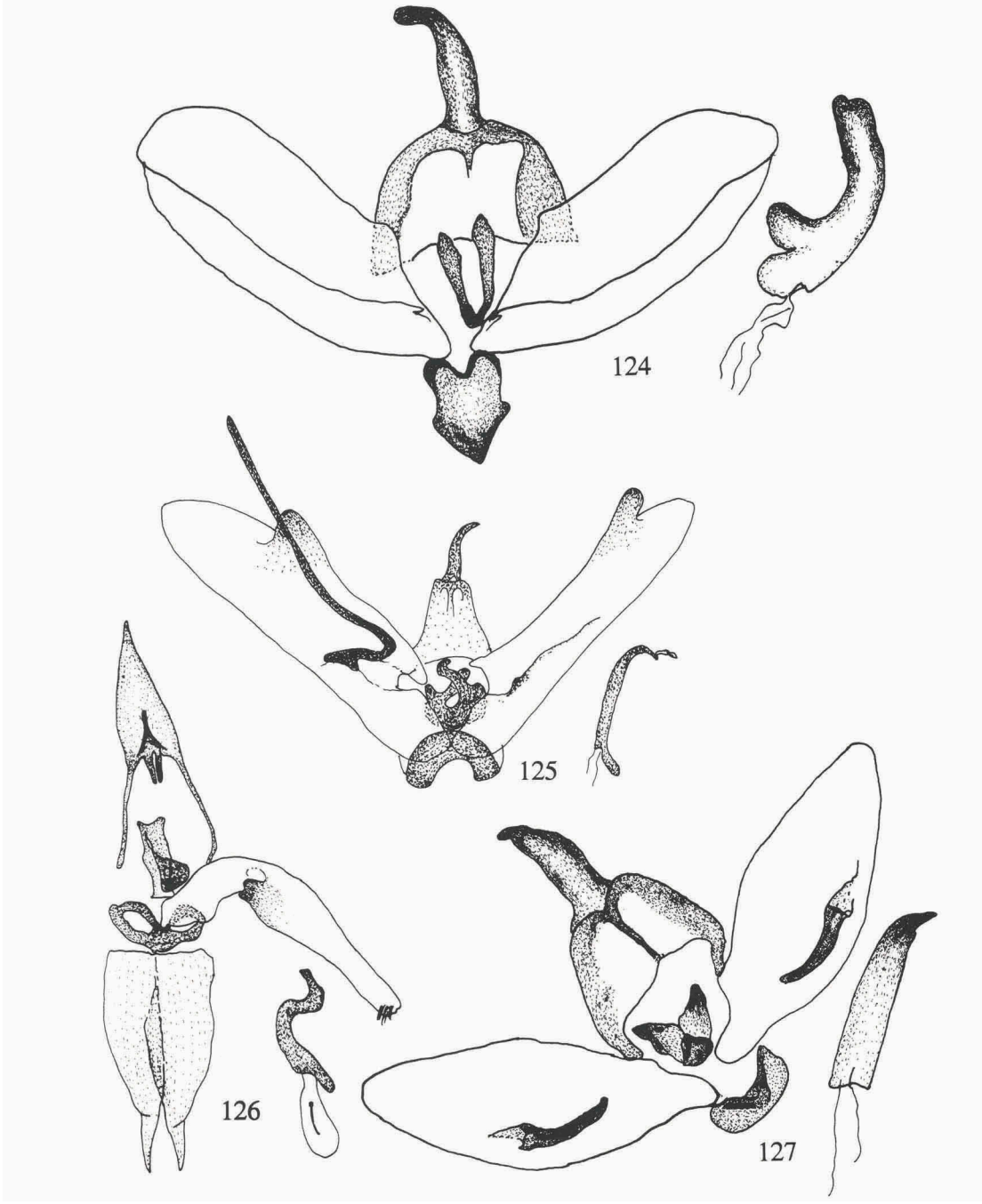
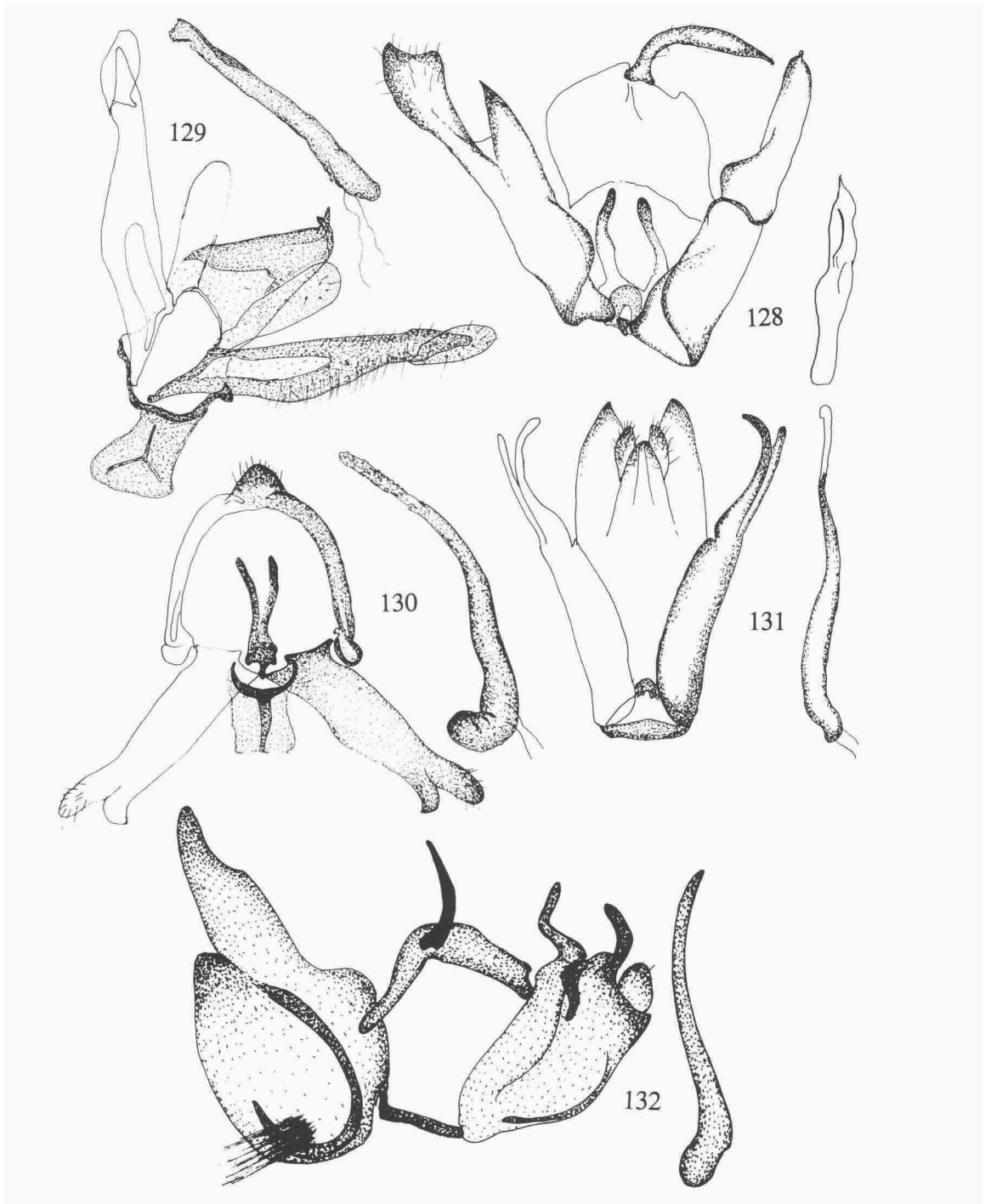
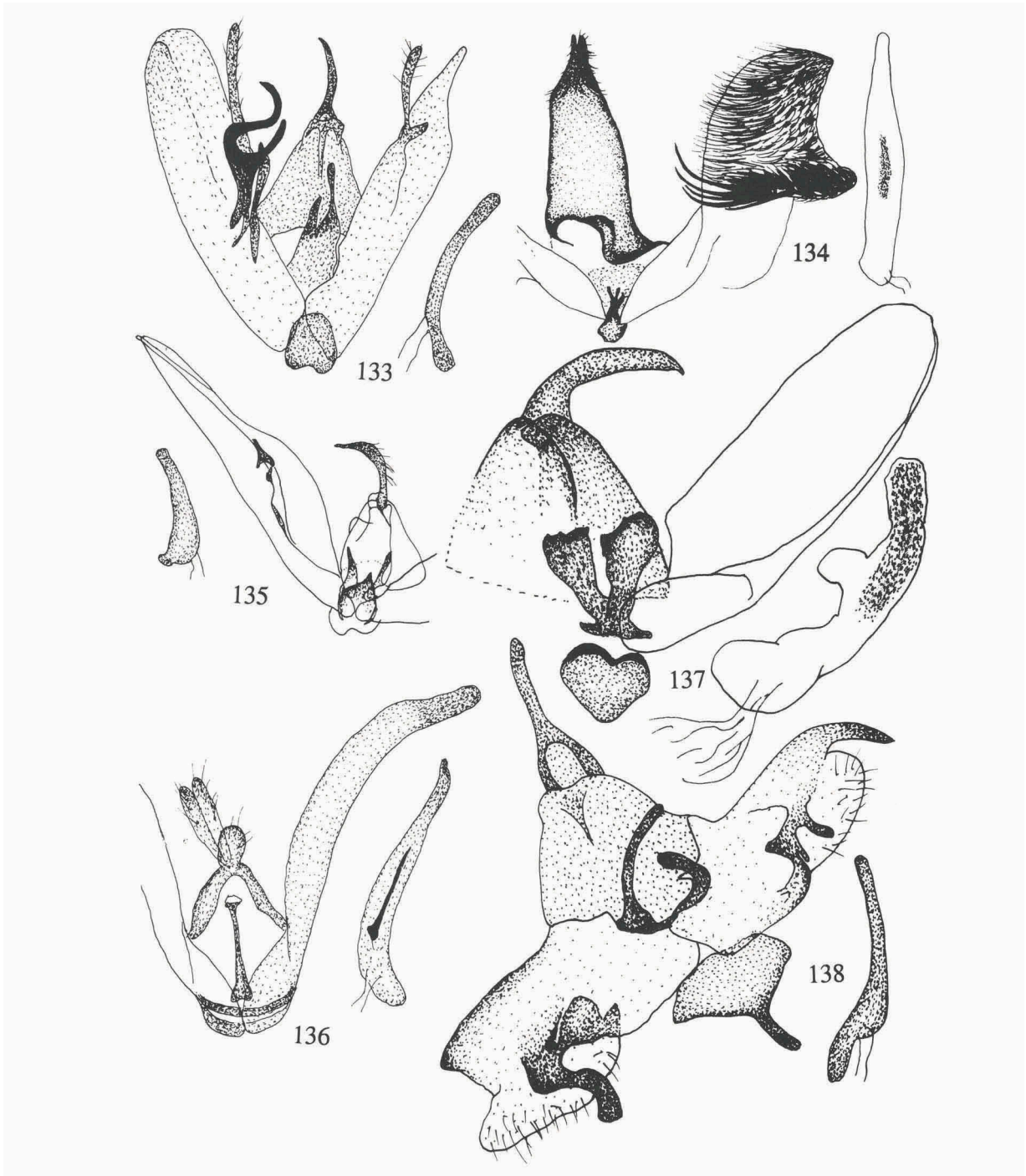


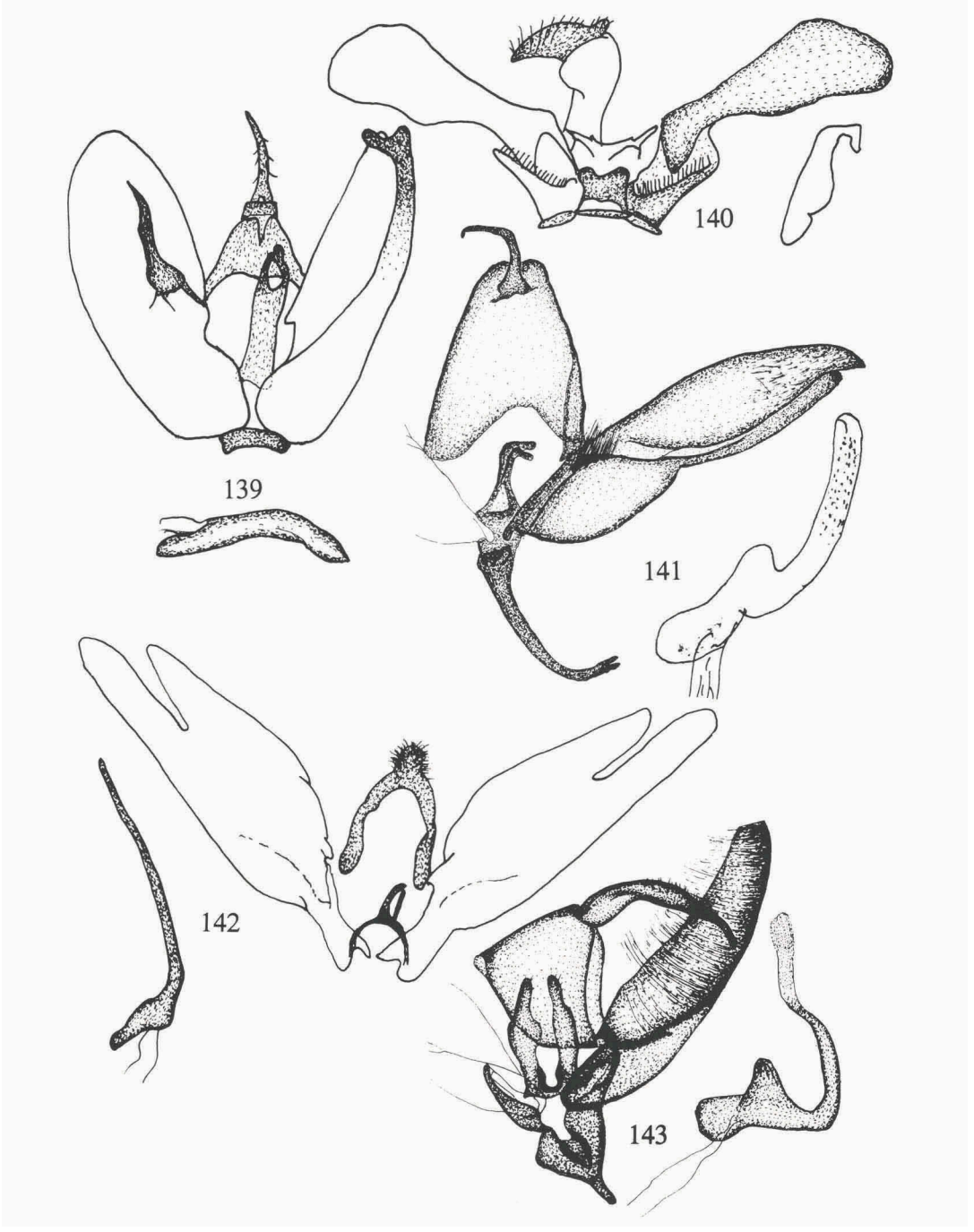
Figs. 118-127. Male genitalia; 118. *Adaina fuscahodias* Gielis (after Gielis, 1992); 119. *Agdistis adactyla* (Hübner) (after Hannemann, 1977); 120. *Amblyptilia* spec., in press. Peru, Puno, 10 km N Lampa, Quadrabra Metara, 3900 m, 31.iii-3.iv.1987 (O. Karsholt) (ZMUC); 121. *Anstenoptilia marmarodactyla* (Dyar). U.S.A., New Mexico, Las Vegas, prep. JFGC 9969 (USNM); 122. *Arcoptilia gizan* Arenberger (after Arenberger, 1985); 123. *Buckleria paludum* (Zeller) (after Gielis, in press); 124. *Buszkoiana capnodactyla* (Zeller) (after Gielis, in press); 125. *Calyciphora xerodactyla* (Zeller) (after Buszko, 1979); 126. *Capperia fusca* (Hofmann) (after Gielis, in press); 127. *Cnaemidophorus rhododactyla* (Denis & Schiffermüller) (after Gielis, in press).



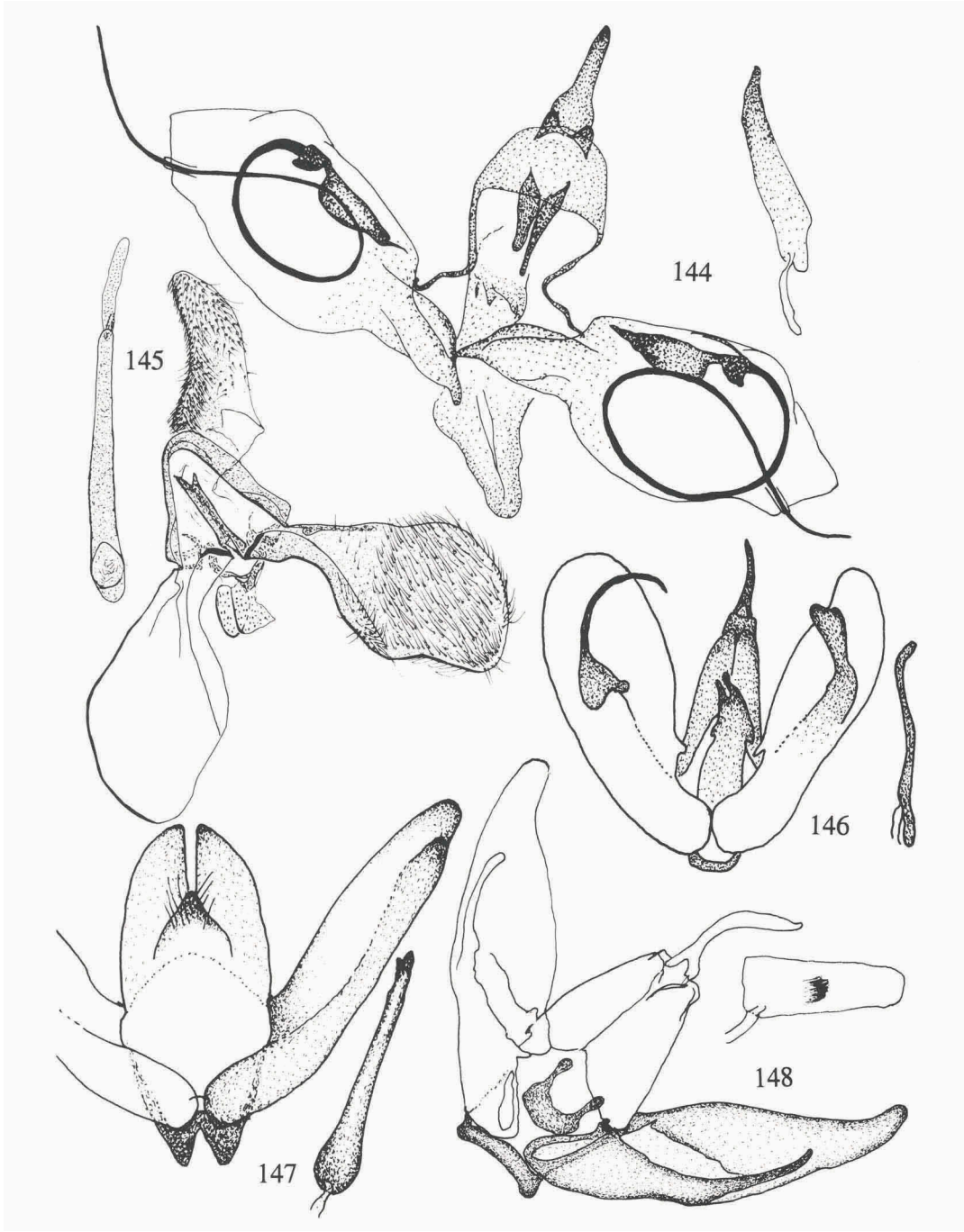
Figs. 128-132. Male genitalia; 128. *Cosmoclostis* sp. West Java, Buitenzorg (presently Bogor), 1892, prep. CG 3116, (ex coll. Snellen) (NNM); 129. *Crombrugghia wahlbergi* (Zeller). Tanzania, East Usambara, Amani, 1000 m, 22.i.1977 (H. Enghof), prep. CG 4030 (ZMUC); 130. *Dejongia lobidactyla* (Fitch). U.S.A., Utah, Brice Canyon Lodge, 2450 m, 17-18.vii.1988 (H.W. van der Wolf), prep. CG 2261; 131. *Deuterocopus albipunctatus* Fletcher (after Yano, 1963); 132. *Diacrotricha fasciola* Zeller. Java, Salotiga, 1920 (Lekmann), prep. CG 3139 (NNM).



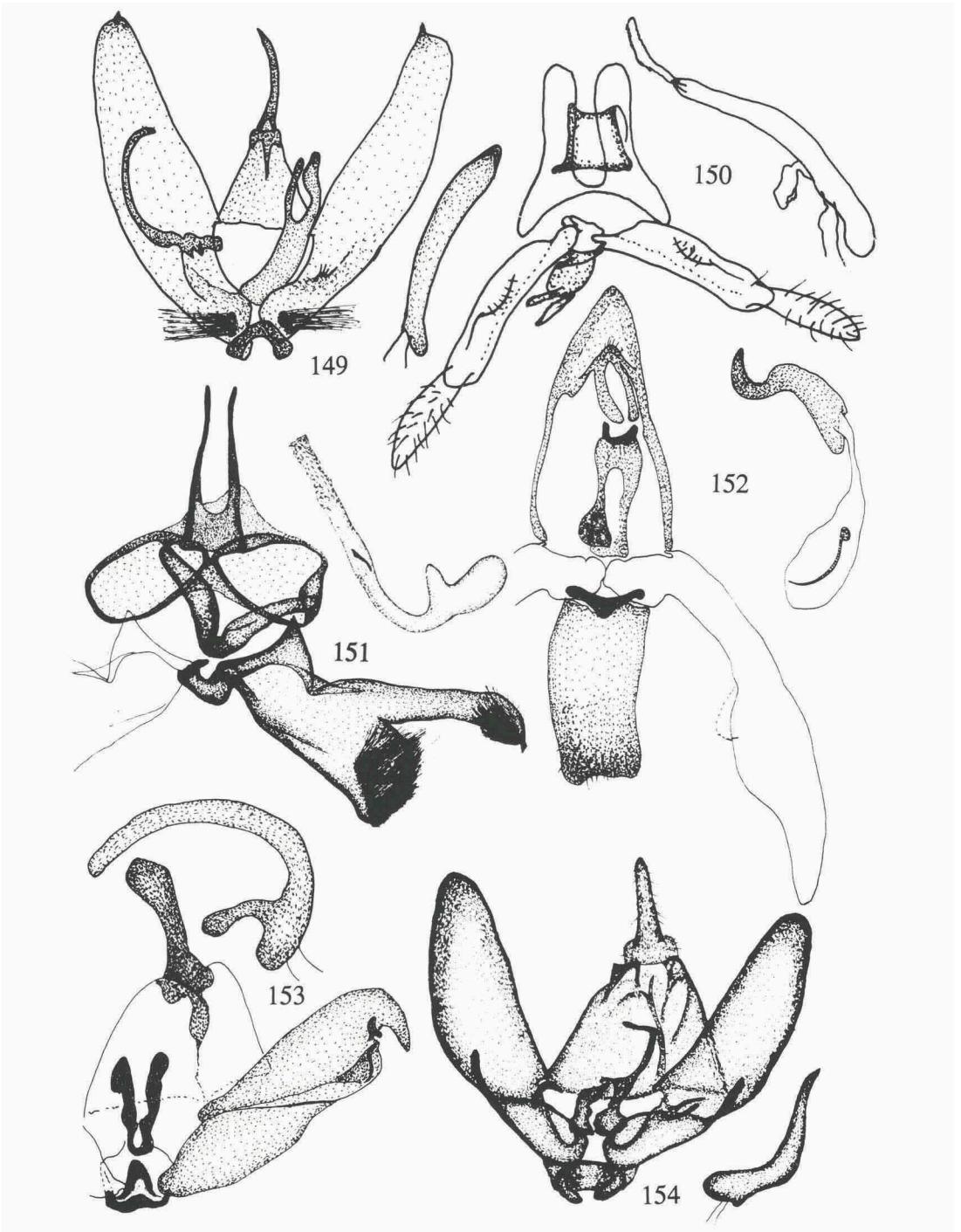
Figs. 133-138. Male genitalia; 133. *Emmelina monodactyla* (Linnaeus) (after Buszko, 1979); 134. *Exelastis pumilio* (Zeller). Guadeloupe, Domaine Duclos, I.N.R.A., vi.1978 (J. Boudinot), prep. CG 1974 (MNHN); 135. *Fletcherella niphadothysana* Diakonoff (after Diakonoff, 1952); 136. *Geina didactyla* (Linnaeus) (after Buszko, 1979); 137. *Gillmeria pallidactyla* (Haworth) (after Gielis, in press); 138. *Gypsochares nielswolffi* Gielis & Arenberger. Madeira, prep. Wf. 4201 (ZMUC).



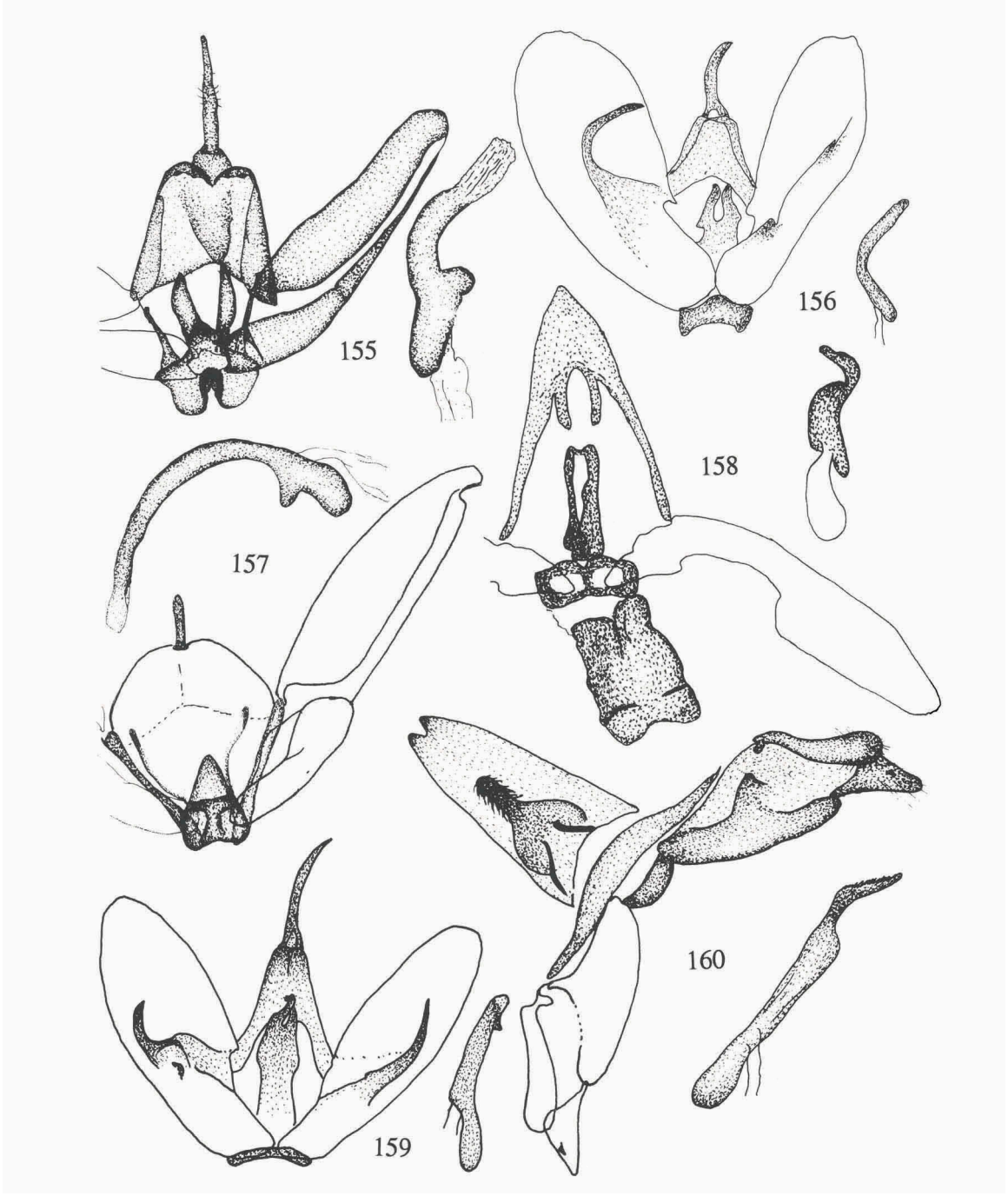
Figs. 139-143. Male genitalia; 139; *Hellinsia osteodactylus* (Zeller) (after Buszko, 1979); 140. *Karachia xylochromella* Amsel (after Amsel, 1968); 141. *Lantanophaga pusillidactyla* (Walker). Jamaica, prep. BM 11867 (MBNH); 142. *Leptodeuterocopus sochchoroides* Fletcher. Brazil, Distrito Federal, Planaltina, 1000 m, 10.vi.1983 (V.O. Becker), prep. CG 5061 (Becker); 143. *Lioptilodes albistriolata* (Zeller). Colombia, Bogota, Type, prep. BM 18192 (BMNH).



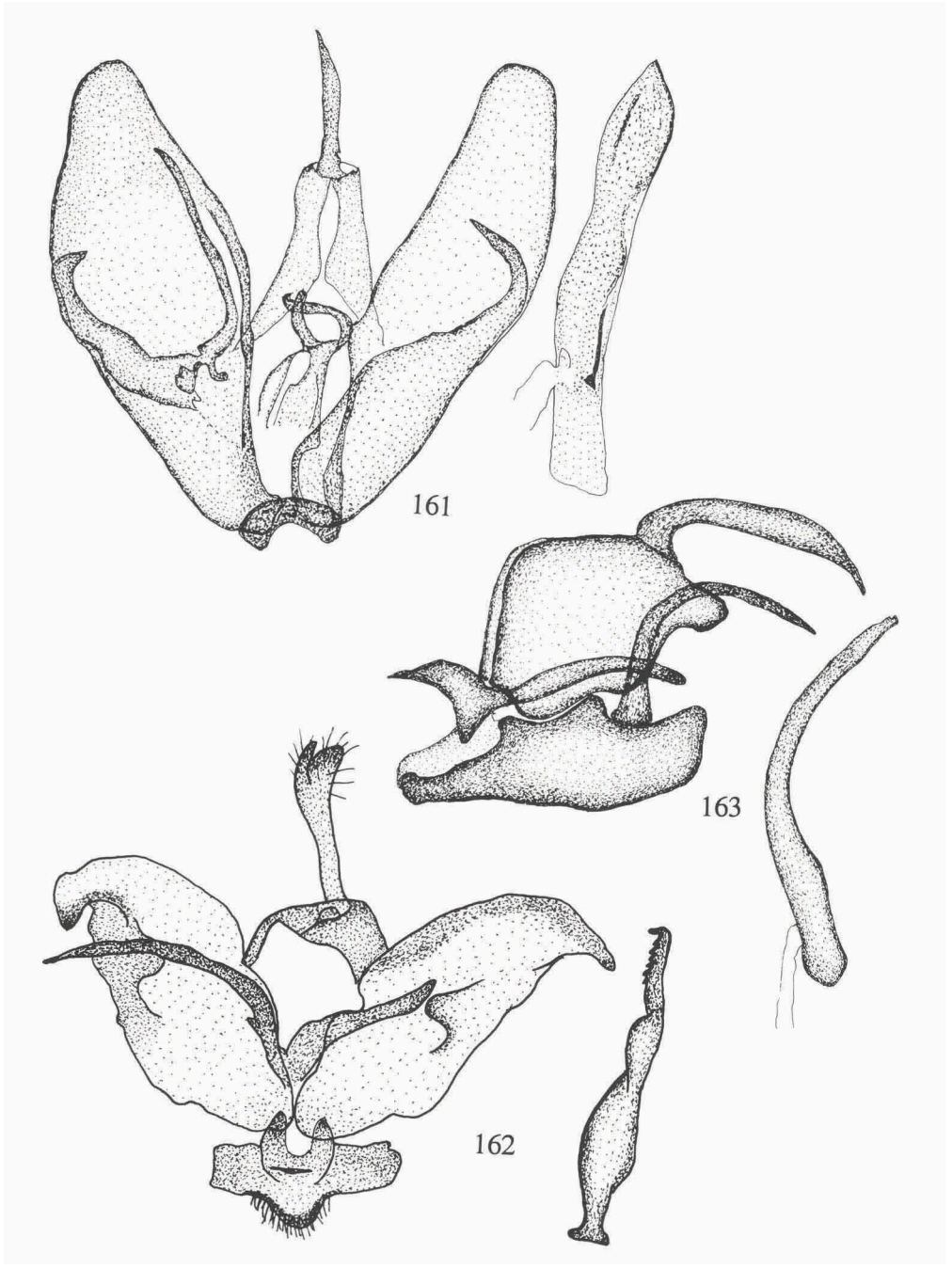
Figs. 144-148. Male genitalia; 144. *Marasmarcha brevirostris* (Walsingham). Mexico, Guerrero, Tepetlapa, 3000' (= 915 m), x (H.H. Smith), prep. CG 5053 (BMNH); 145. *Megalorhipida defectalis* (Walker) (after Landry & Gielis, 1992); 146. *Merrifieldia leucodactyla* (Denis & Schiffermüller) (after Buszko, 1979); 147. *Nippoptilia vitis* (Sasaki) (after Yano, 1963); 148. *Ochyrotica fasciata* Walsingham. Cuba, prov. Sierra del Rosario, Pinar del Rio, Soroa, 400 m, 5-6.ii.1981 (D.R. Davis), prep. CG 6005 (USNM).



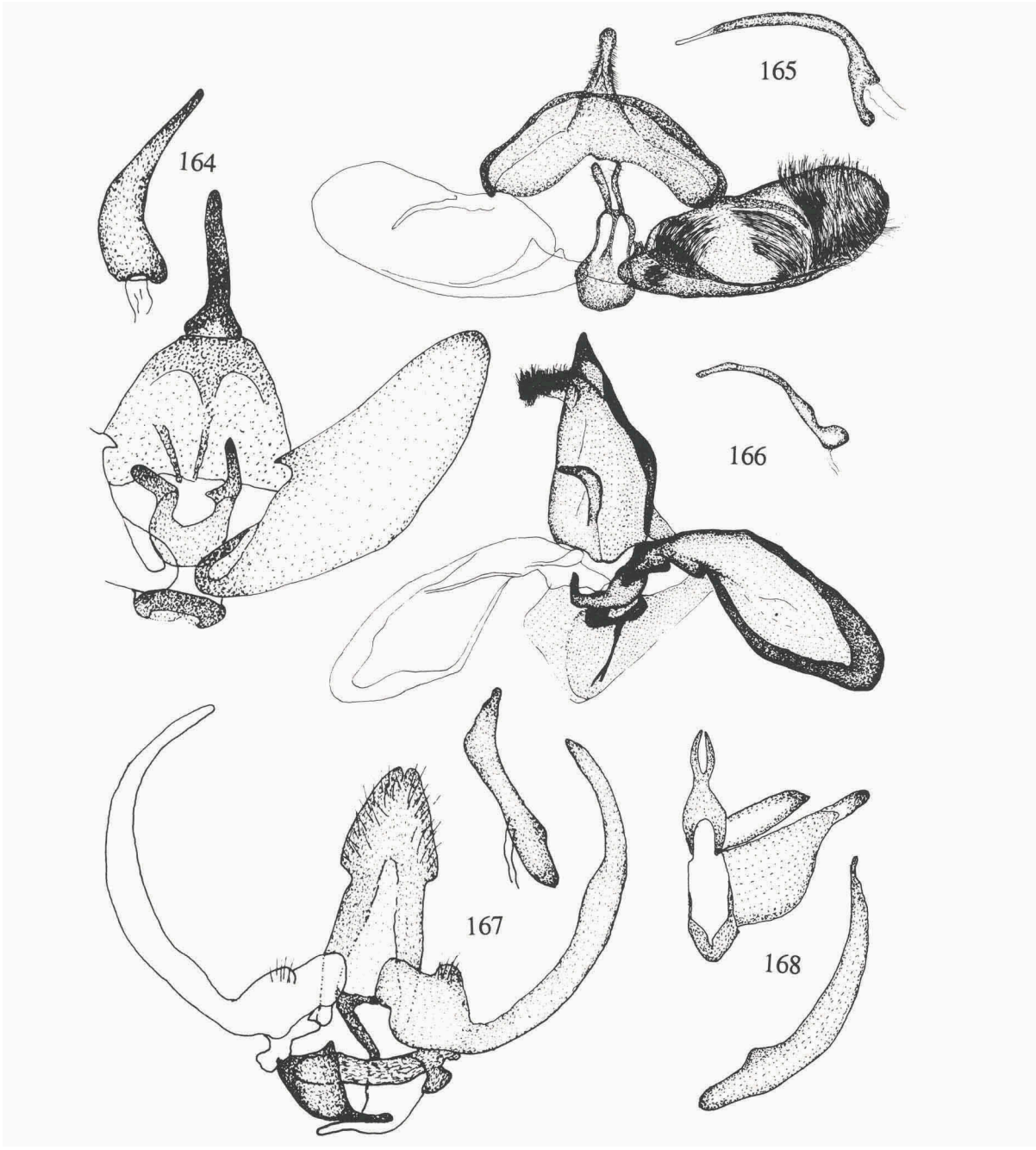
Figs. 149-154. Male genitalia; 149. *Oidaematophorus lithodactyla* (Treitschke) (after Buszko, 1979); 150. *Oxyptilus pilosellae* (Zeller) (after Gielis, in press); 151. *Paraamblyptilia eutalanta* (Meyrick). Argentina, Rio Negro, San Carlos de Bariloche, Colonia Suiza, 800 m., 23.xii.1981 (Nielsen & Karsholt), prep. CG 4100 (ZMUC); 152. *Paracapperia anatolicus* (Caradja) (after Gielis, in press); 153. *Paraplatyptilia metzneri* (Zeller) (after Gielis, in press); 154. *Patagonophorus murinus* Gielis (after Gielis, 1991).



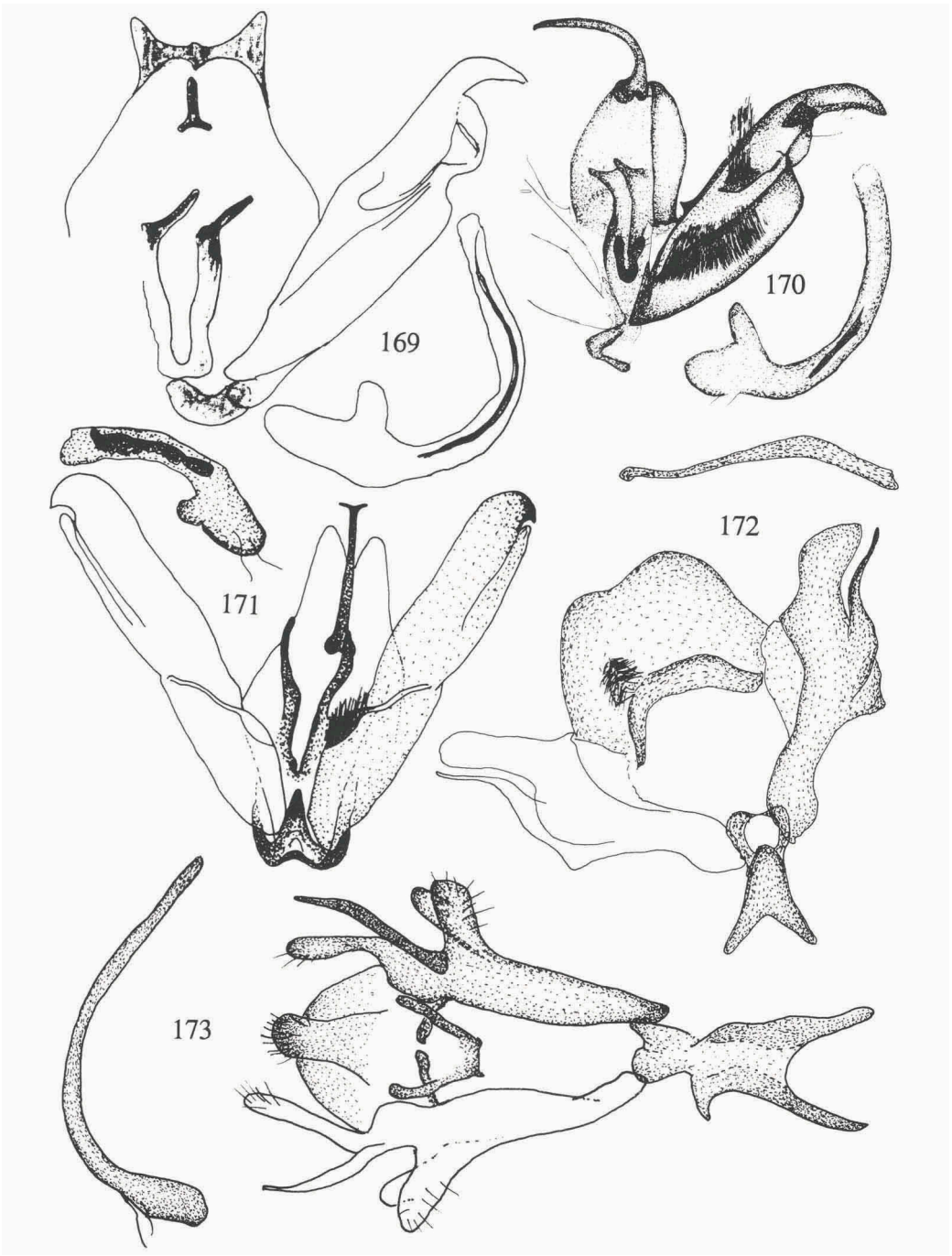
Figs. 155-160. Male genitalia; 155. *Platyptilia melitroctis* Meyrick. Urundi, Kitega, 8.xii.1964 (Mus. Tervuuren); 156. *Porrittia galactodactyla* (Denis & Schiffermüller) (after Buszko, 1979); 157. *Postplatyptilia eelkoi* Gielis (after Gielis, 1991); 158. *Procapperia maculatus* (Constant) (after Gielis, in press); 159. *Pselnophorus heterodactyla* (Müller) (after Buszko); 160. *Pseudoxyroptila tectonica* (Meyrick). E Java, Pogal Falls, 8.v.1940, prep. CG 3141 (NNM).



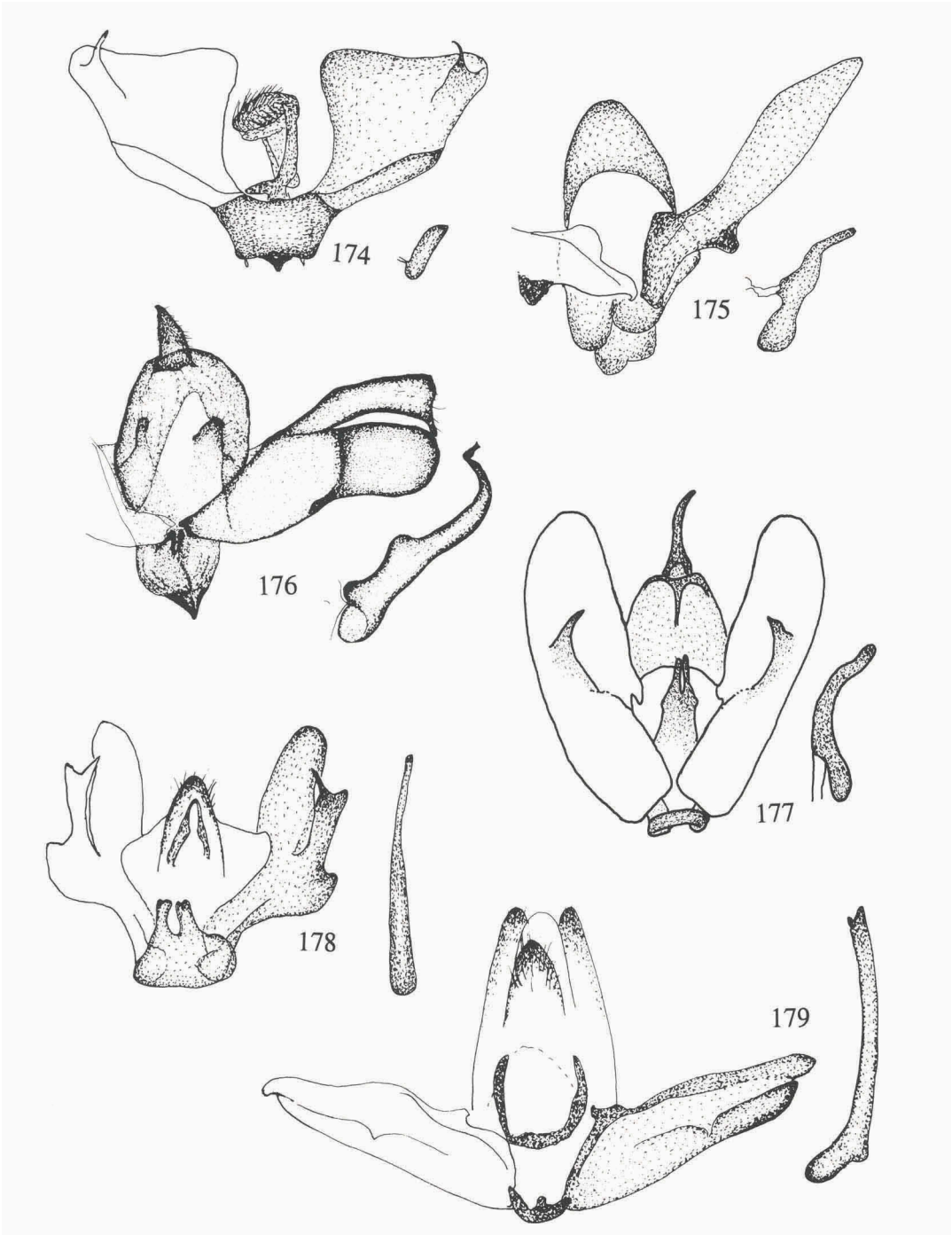
Figs. 161-163. Male genitalia; 161. *Pterophorus ischnodactyla* (Treitschke) (after Gielis, 1991); 162. *Puerphorus olbiadactylus* (Millière). Spain, Malaga, Ronquillo, 15.v.1981 (C. Gielis), prep. CG 2060; 163. *Shafferia nubilus* (Felder & Rogenhofer). Costa Rica, prep. BM 4701 (BMNH). In lateral view.



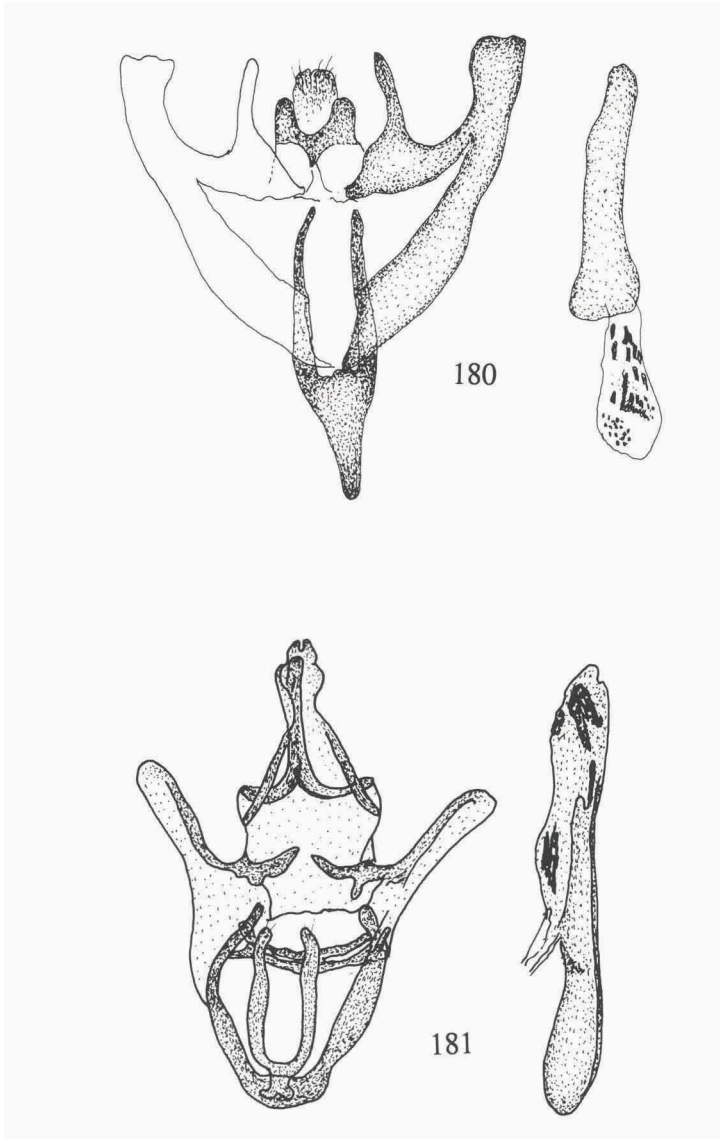
Figs. 164-168. Male genitalia; 164. *Singularia walsinghami* (Fernald). U.S.A., Colorado, Loveland, viii.1891 (Smith), prep. BM 18025 (BMNH); 165. *Sochchora donatella* Walker. Brazil, n.d. (Lund), prep. CG 4081 (ZMUC); 166. *Sphenarches anisodactyla* (Walker). Indonesia, Ardjoeno, n.d. (Herkmeyer), prep. CG 3108 (NNM); 167. *Stangeia rapae* Clarke (after Clarke, 1971); 168. *Stenodacma iranella* Amsel (after Amsel, 1959).



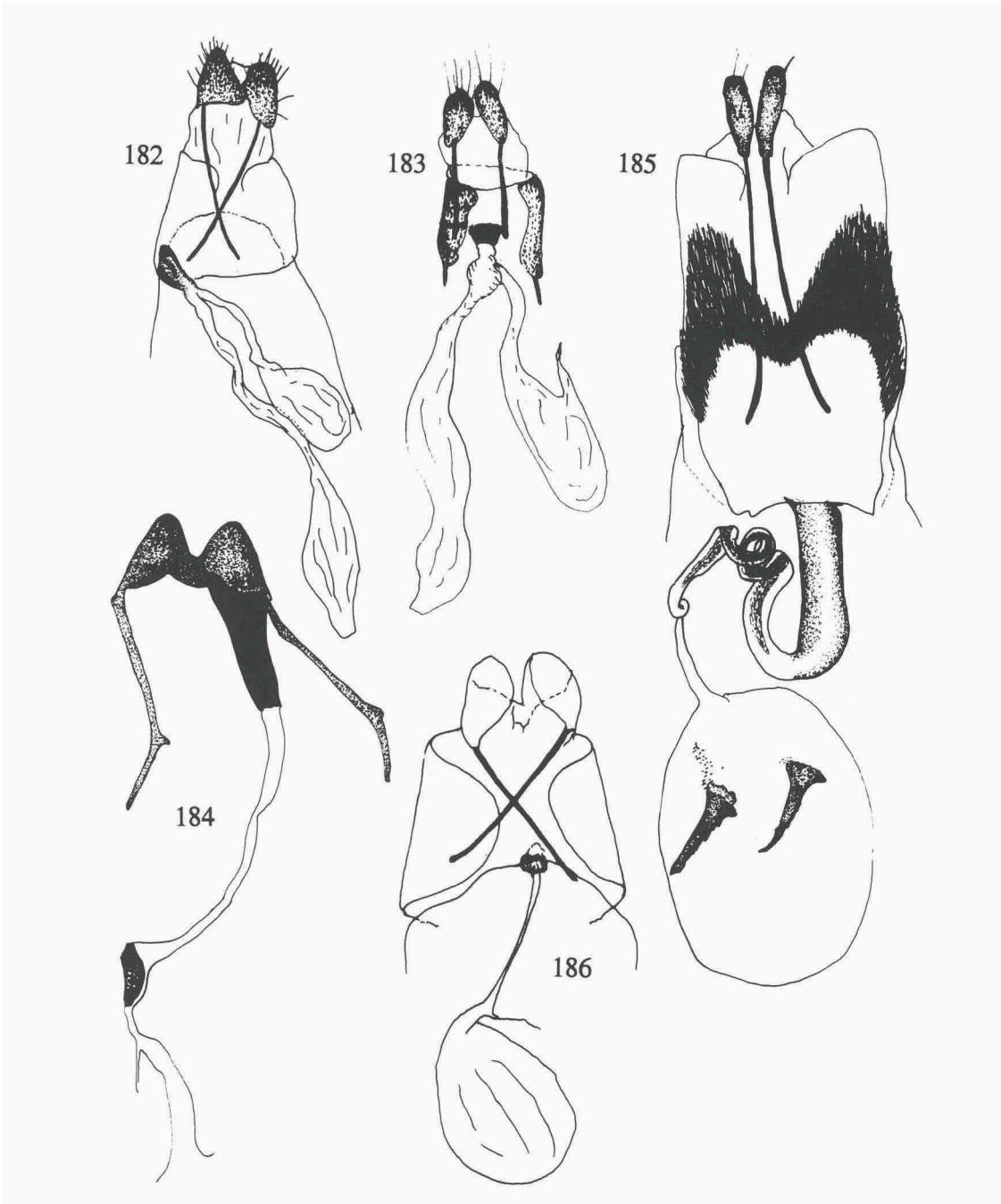
Figs. 169-173. Male genitalia; 169. *Stenoptilia zophodactyla* (Duponchel) (after Gielis, in press); 170. *Stenoptilodes stigmatica* (Felder & Rogenhofer). Ecuador, Guachayacu, ix-x.1926 (Vorbeck), prep. CG 4105 (ZMUC); 171. *Stockophorus charitopa* (Meyrick). Bolivia, Songo, ix.1907, prep. CG 5024 (BMNH); 172. *Tetraschalis ochrias* Meyrick. Java, Telawa, 22.xii.1934 (v. Kalshoven), prep. CG 3145 (NNM); 173. *Titanoptilus melonodonta* Hampson. Zaire, Eala, ix.1935 (Mus. Tervuren).



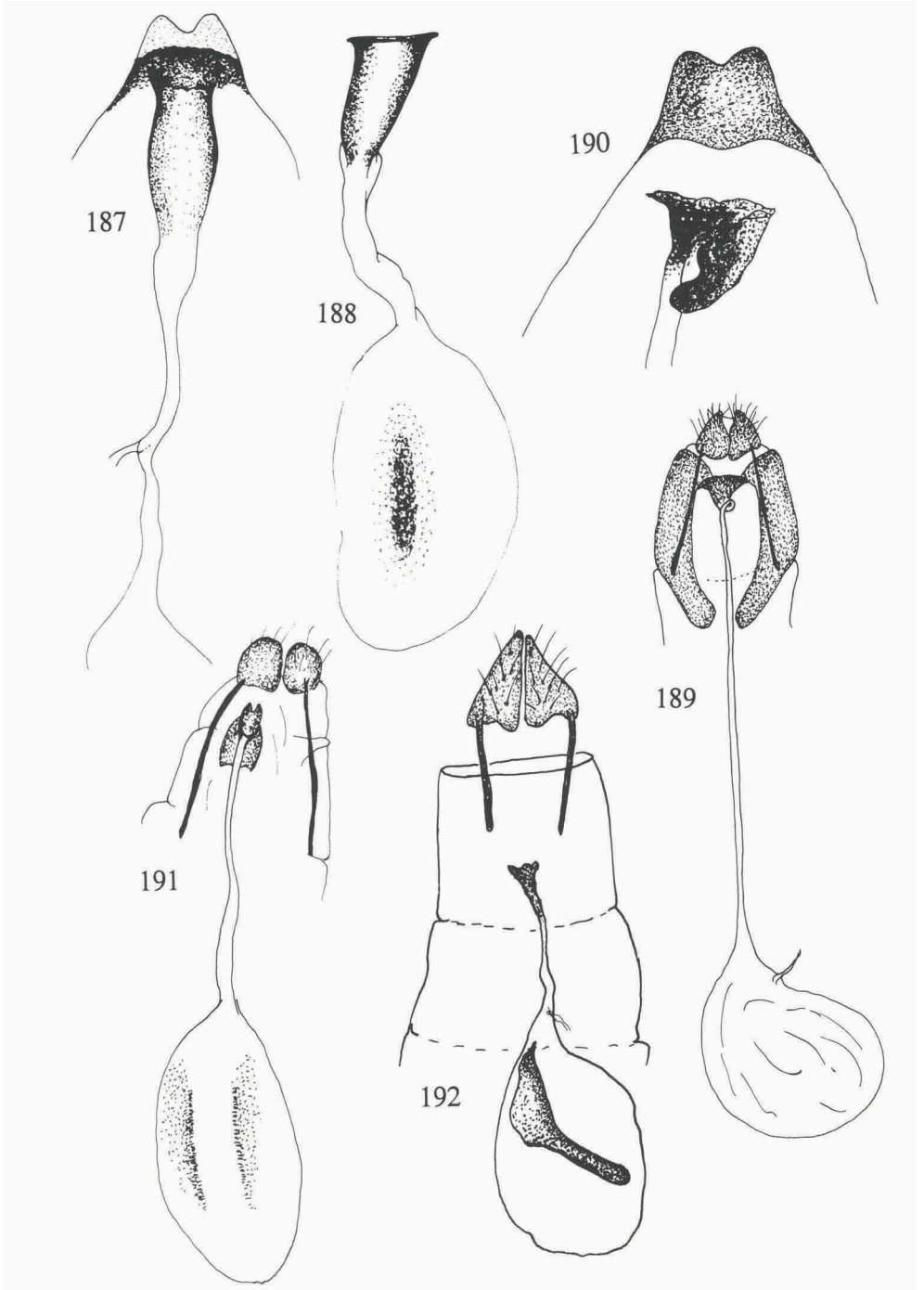
Figs. 174-179. Male genitalia; 174. *Tomotilus saitoi* Yano (after Yano, 1961); 175. *Trichoptilus pygmaeus* Walsingham (after Matthews, 1989); 176. *Uroloba calycospila* (Meyrick) (after Gielis, 1991); 177. *Wheeleria spilodactylus* (Curtis) (after Buszko, 1979); 178. *Xenopterophora mikado* Hori (after Yano, 1963); 179. *Xyroptila africana* Bigot. Zaire, Stanleyville, 20.iv.1928, type (Mus. Tervuren).



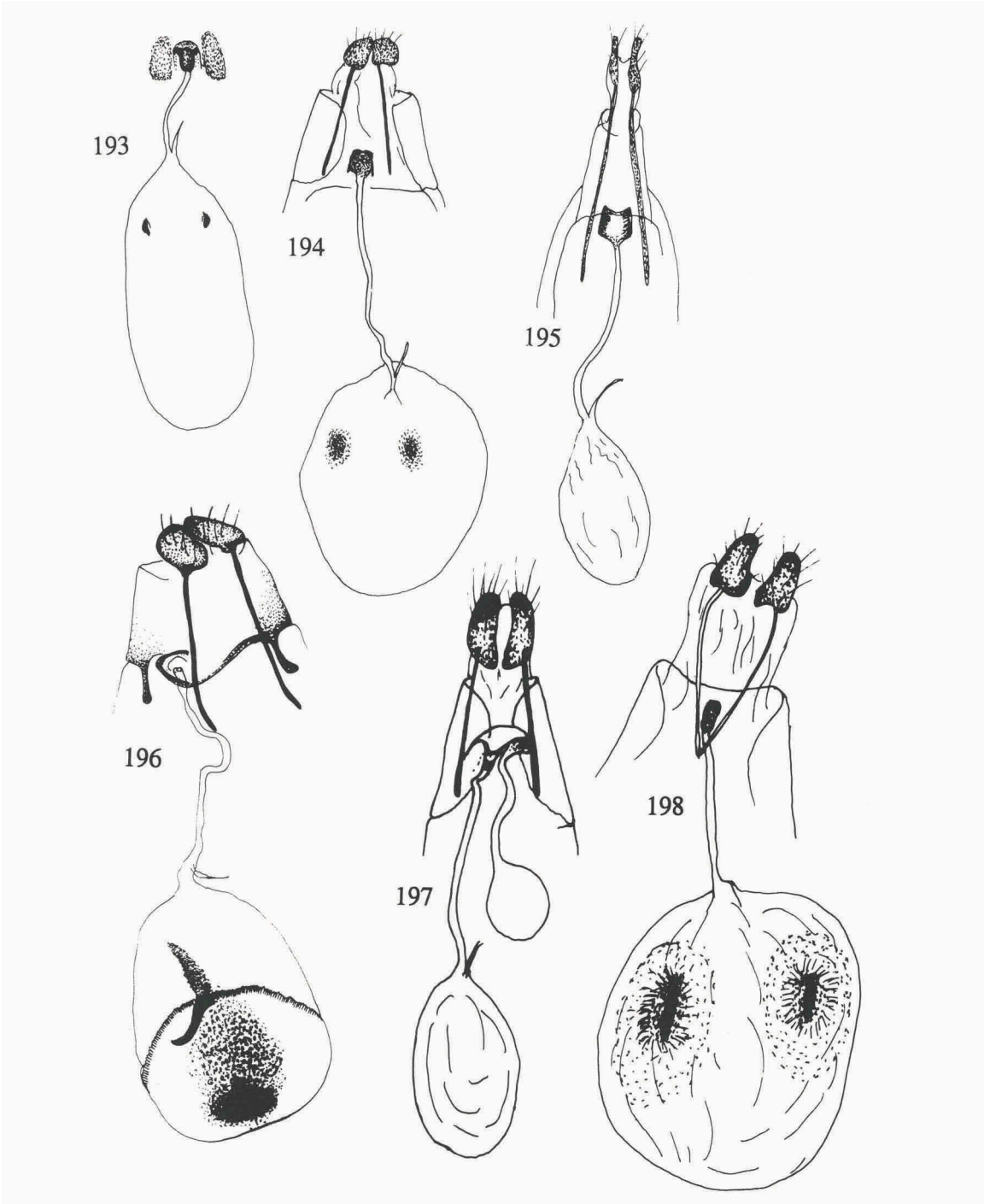
Figs. 180-181. Male genitalia; 180. *Agdistopis sinhala* (Fletcher). Ceylon, Kandy, 2000 ft (= 610 m), 22.xii.1907, prep. BM 14255 (BMNH); 181. *Alucita hexadactyla* Linnaeus (after Medvedev, 1986)



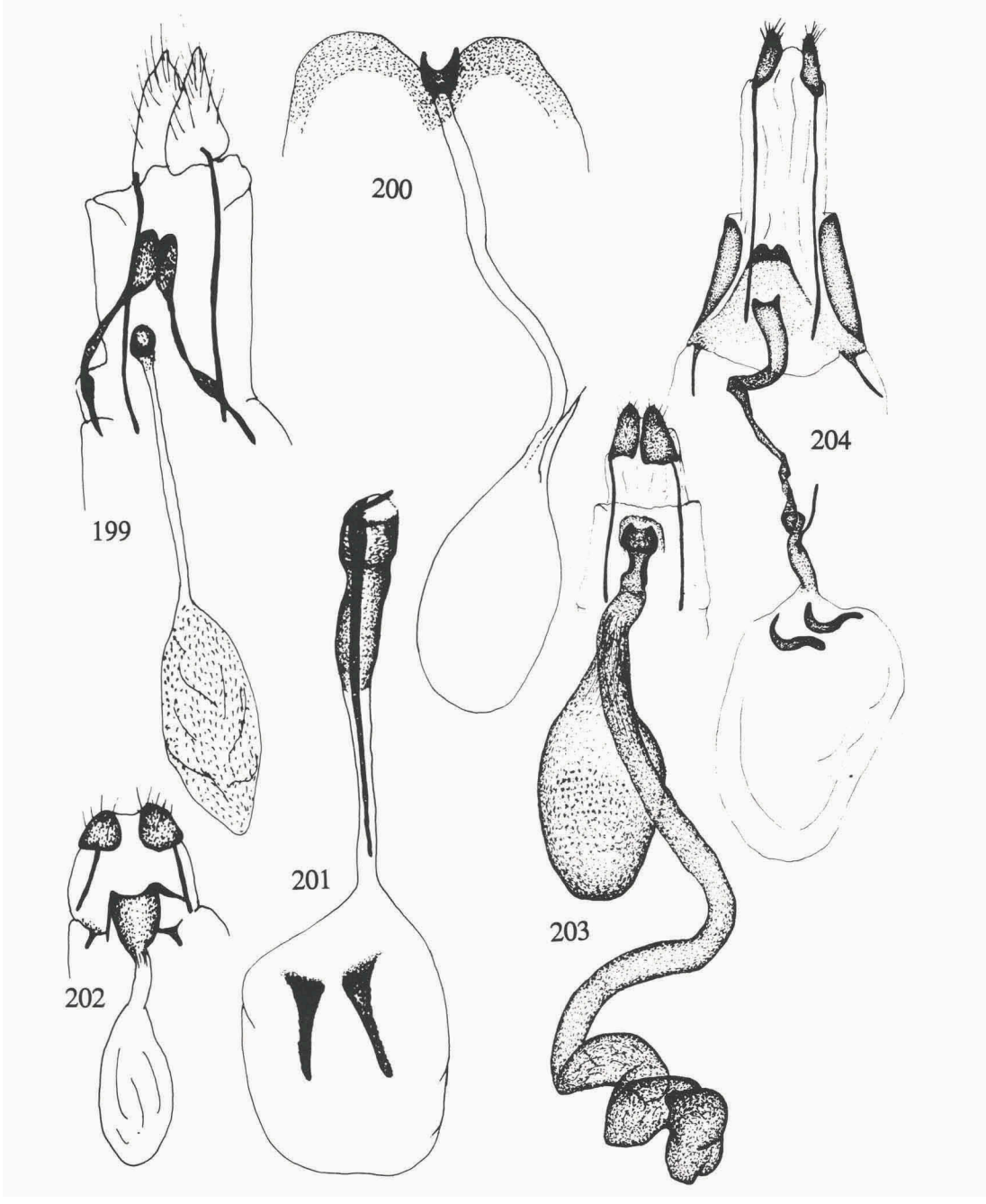
Figs. 182-186. Female genitalia; 182. *Adaina fuscahodias* Gielis (after Gielis, 1992); 183. *Agdistis adactyla* (Hübner) (after Hannemann, 1977); 184. *Amblyptilia acanthodactyla* (Hübner) (after Gielis, in press); 185. *Anstenoptilia marmarodactyla* (Dyar). U.S.A., New Mexico, Las Vegas, prep. AB, Aug. 13, 1935 (USNM); 186. *Arcoptilia gizan* Arenberger (after Arenberger, 1985).



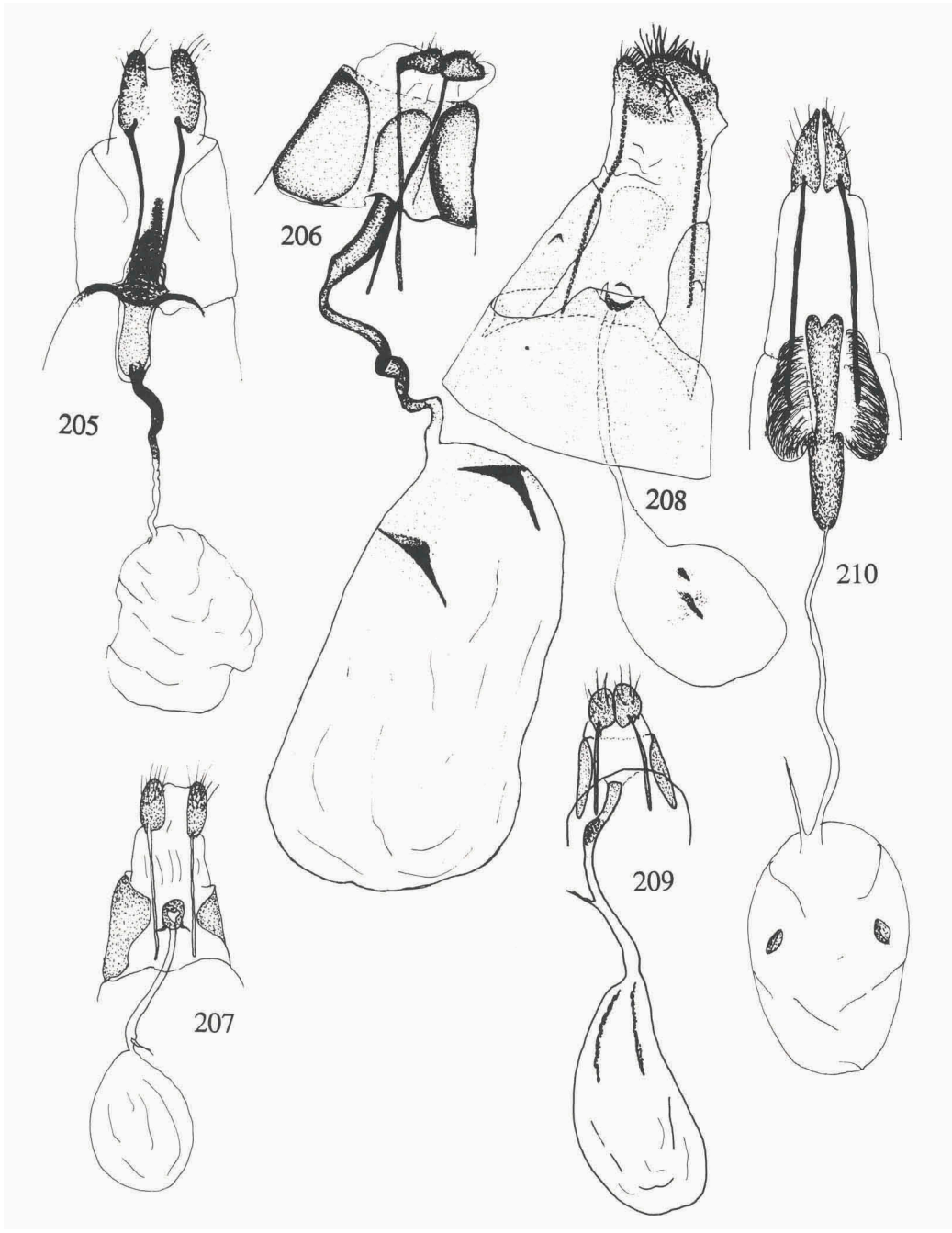
Figs. 187-192. Female genitalia; 187. *Buckleria paludum* (Zeller) (after Gielis, in press); 188. *Buszkoiana capnodactyla* (Zeller) (after Gielis, in press); 189. *Calyciphora xerodactyla* (Zeller) (after Buszko, 1979); 190. *Capperia britanniodactyla* (Gregson) (after Gielis, in press); 191. *Cnaemidophorus rhododactyla* (Denis & Schiffermüller) (after Buszko, 1979); 192. *Cosmoclostis* sp. West Java, Buitenzorg (presently Bogor), Depok, v.1948, prep. CG 3092 (NNM).



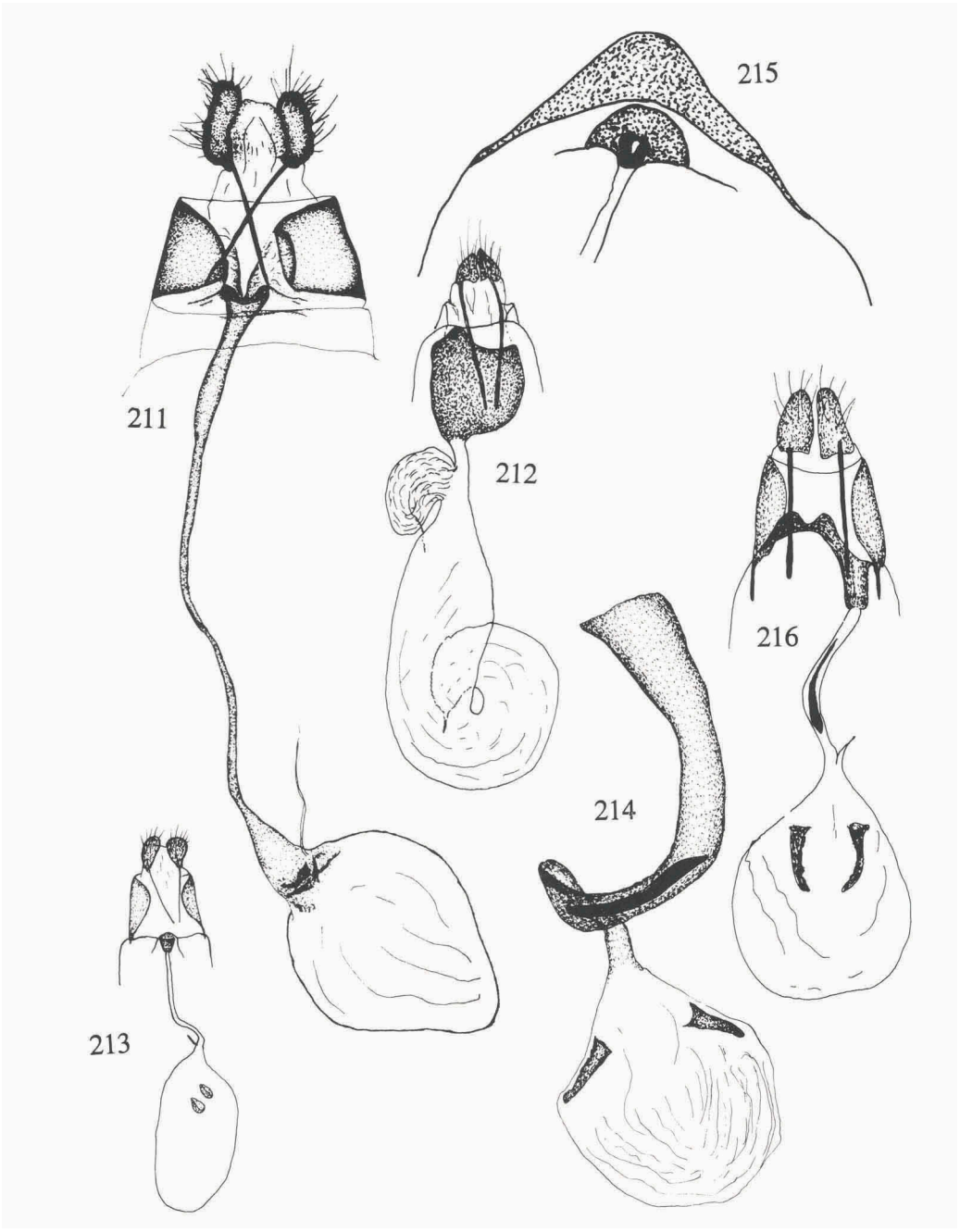
Figs. 193-198. Female genitalia; 193. *Crombrugghia distans* (Zeller) (after Buszko, 1979); 194. *Dejongia lobidactyla* (Fitch). Canada, Ontaro, Ottawa, 12-19.vii.1990 (C. Gielis), prep. CG 2452; 195. *Deuterocopus albipunctatus* Fletcher (after Yano, 1963); 196. *Diacrotricha fasciola* Zeller. W Java, Pekalangan, (van Deventer), prep. CG 3136 (NNM); 197. *Emmelina monodactyla* (Linnaeus) (after Buszko, 1979); 198. *Exelastis vuattouxi* Bigot. Côte d'Ivoire, Bouaflé, Bouaflé, 5.xi.1983 (R.T.A. Schouten), prep. CG 2199.



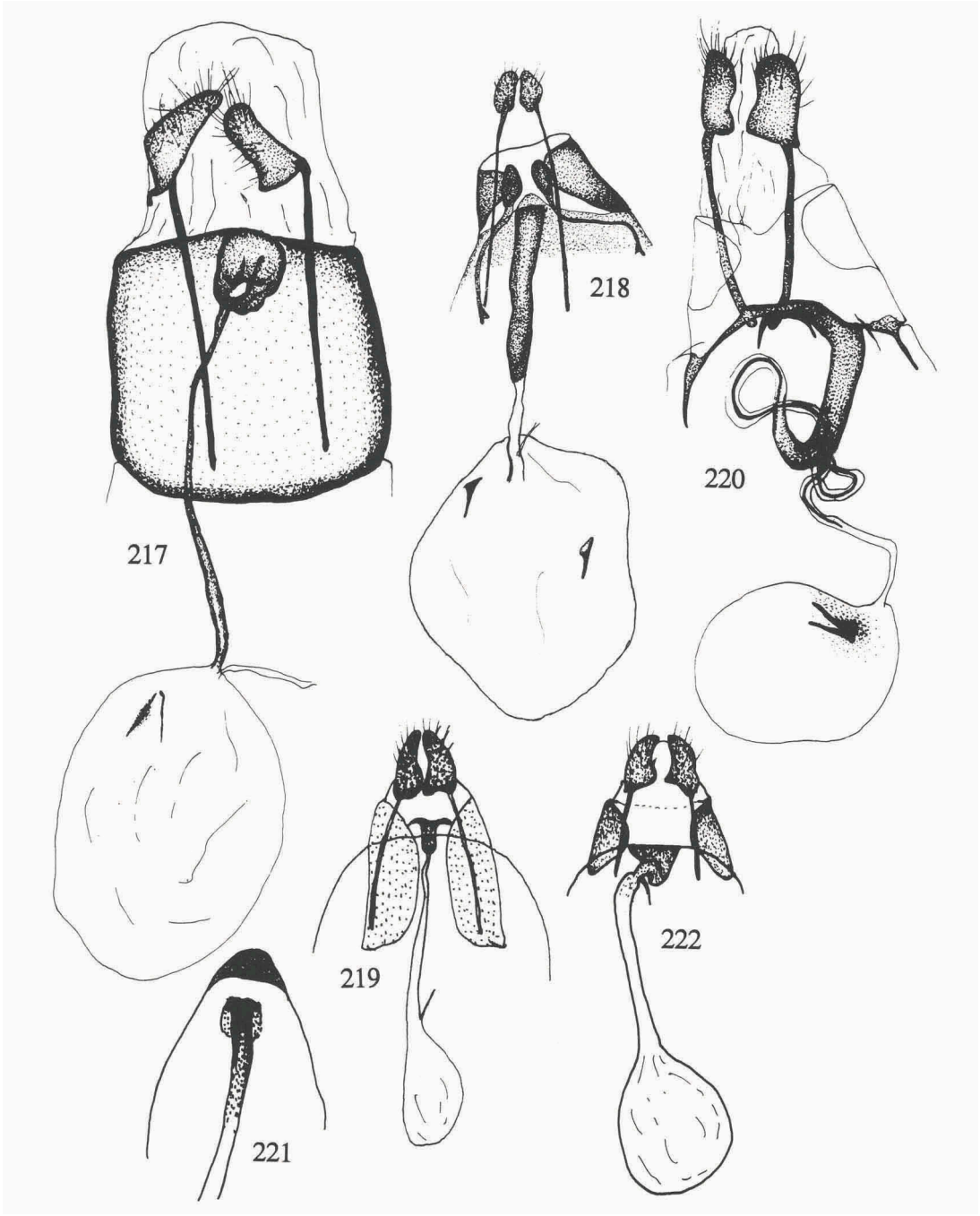
Figs. 199-204. Female genitalia; 199. *Fletcherella niphadarcha* (Meyrick). Zaire, Eala (Mus. Tervuren); 200. *Geina didactyla* (Linnaeus) (after Gielis, in press); 201. *Gillmeria pallidactyla* (Haworth) (after Gielis, in press); 202. *Gypsochares baptodactyla* (Zeller) (after Gibeuax & Nel, 1989); 203. *Hellinsia epileucos* (Walsingham). Mexico, Tabasco, Teapa, iii (H.H. Smith), prep. BM 18144 (BMNH); 204. *Lantanophaga pusillidactyla* (walker). Maroc, Rabat, Jardin d'Essai, 20.vii.1953 (Ch. Rungs), e.l. *Lantana*, prep. CG 1670 (MNHN).



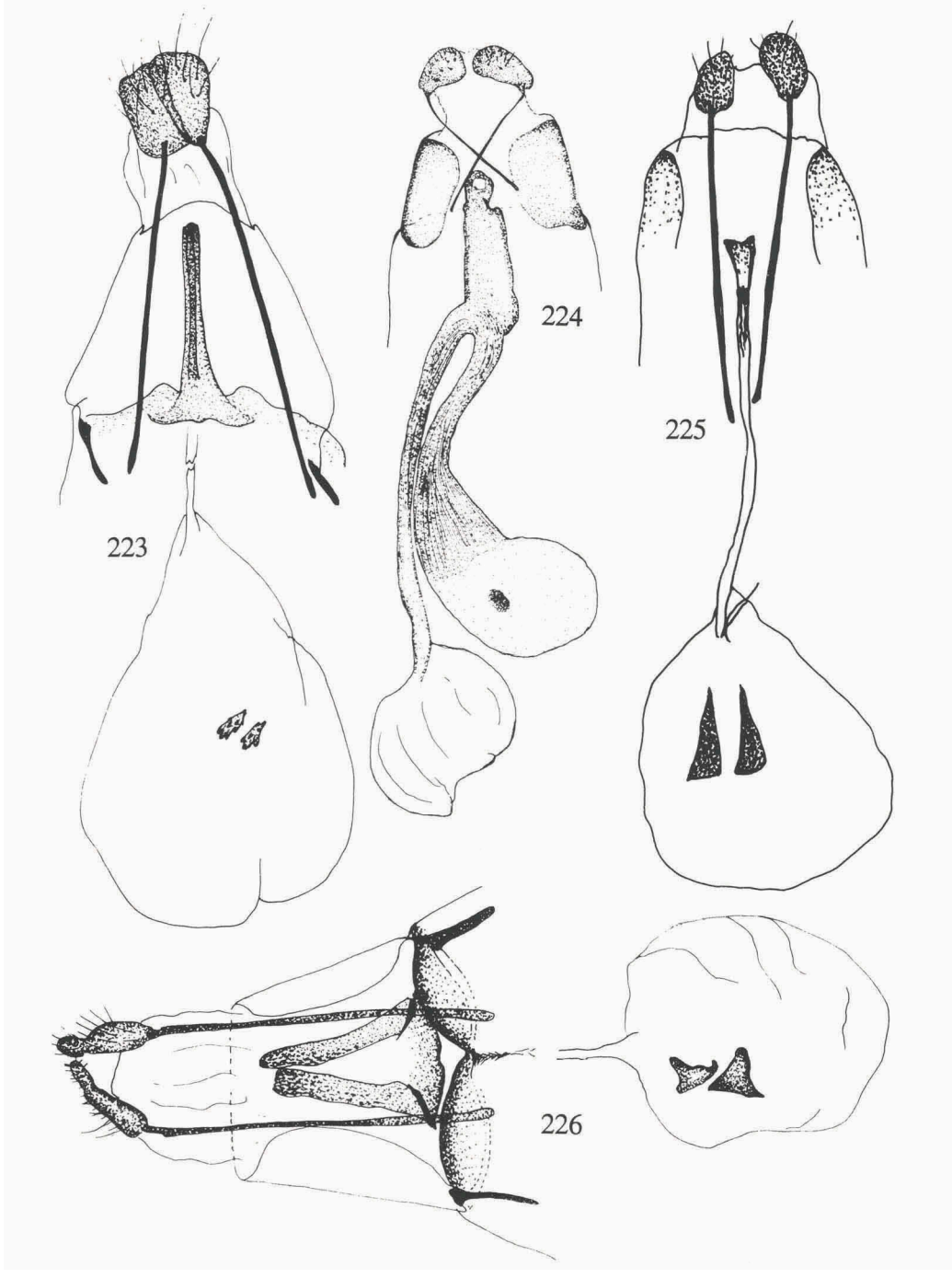
Figs. 205-210. Female genitalia; 205. *Leptodeuterocopus trinidad* Gielis, in press. Venezuela, Caracas, El Avila, 28.ix-3.x.1974 (B.V. Ridout), prep. CG 5037 (BMNH); 206. *Lioptilodes parvus* (Walsingham). Argentina, Buenos Aires, Tres Arroyos, Copetonas, 100 m, 12.i.1982 (Nielsen & Karsholt), prep. CG 4101 (ZMUC); 207. *Marasmarcha lunaedactyla* (Haworth) (after Hannemann, 1977); 208. *Megalorhipida defectalis* (Walker) (after Landry & Gielis, 1992); 209. *Merrifieldia leucodactyla* (Denis & Schiffermüller) (after Buszko, 1979); 210. *Nippoptilia vitis* (Sasaki) (after Yano, 1963).



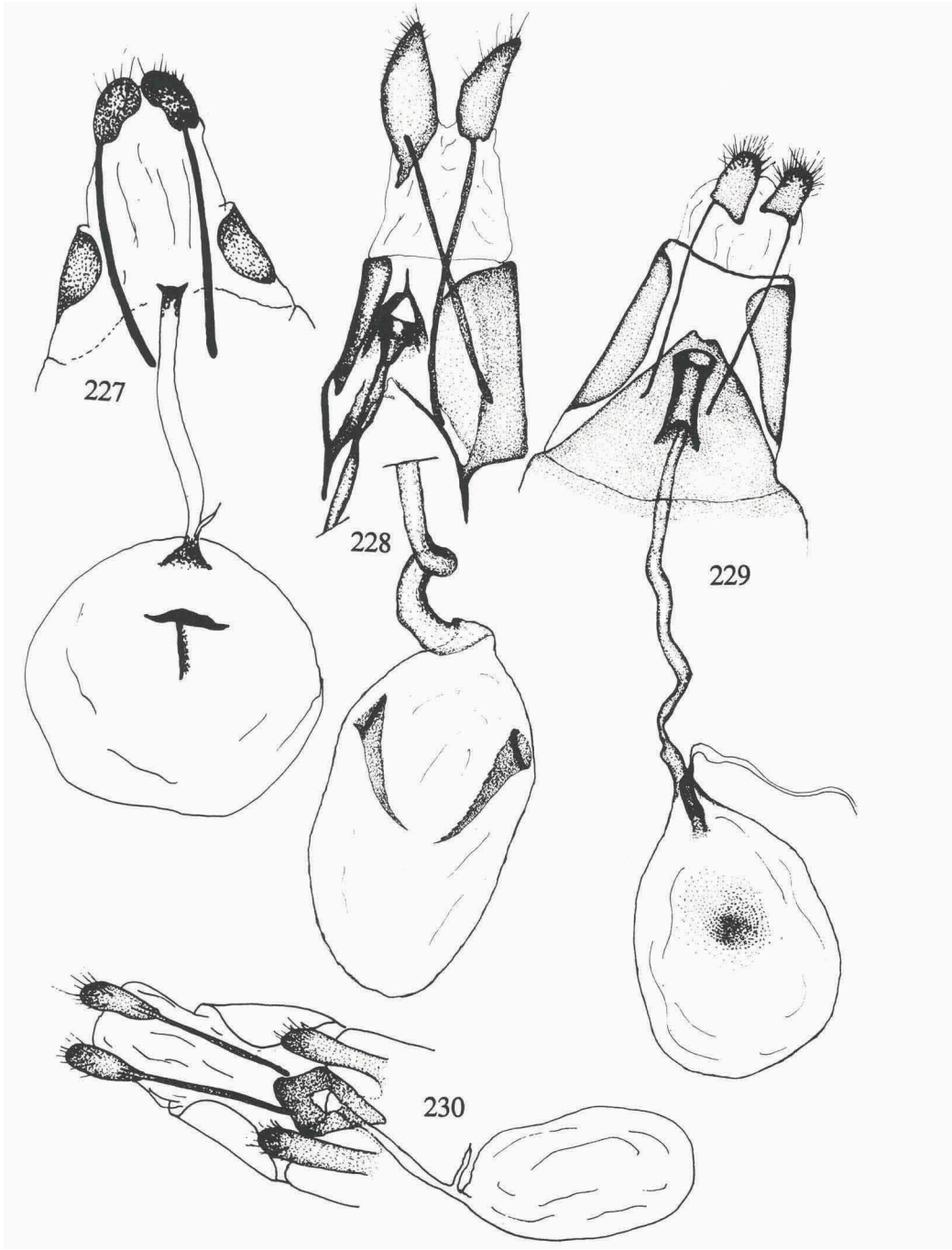
Figs. 211-216. Female genitalia; 211. *Ochyrotica fasciata* Walsingham. Jamaica, Runaway Bay, 30.iii.1905, prep. BM 17909 (BMNH); 212. *Oidaematophorus lithodactyla* (Treitschke) (after Buszko, 1979); 213. *Oxyptilus pilosellae* (Zeller) (after Hannemann, 19.7); 214. *Paraamblyptilia eutalanta* (Meyrick). Argentina, Rio Negro, Lago Nahuel Huapi, eastern end, 17.x.1926 (F. & M. Edwards), prep. BM 18194 (BMNH); 215. *Paracapperia anatolicus* (Caradja) (after Gielis, in press); 216. *Paraplatyptilia metzneri* (Zeller) (after Buszko, 1979).



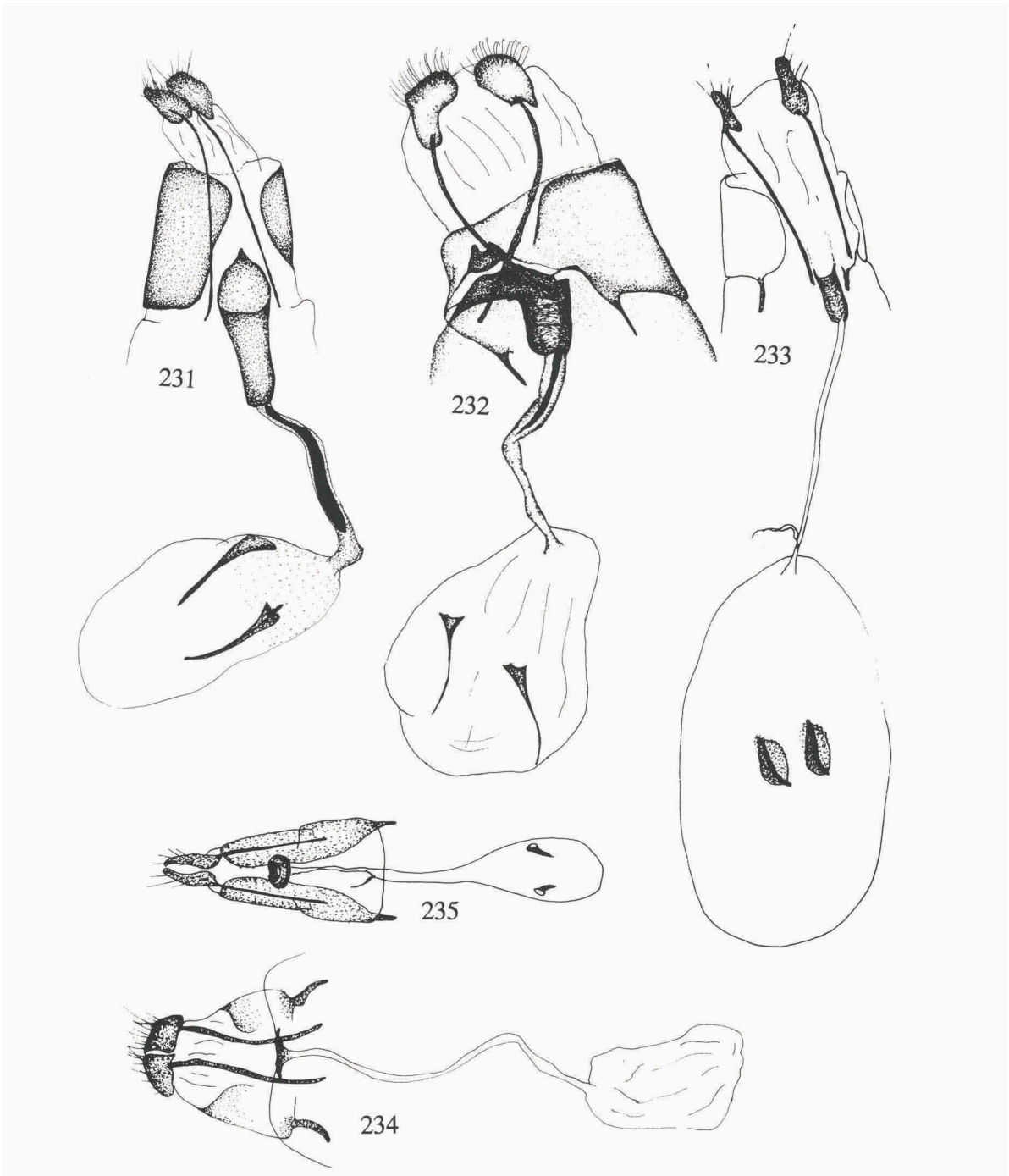
Figs. 217-222. Female genitalia; 217. *Patagonophorus murinus* Gielis (after Gielis, 1991); 218. *Platyptilia morophaea* Meyrick. Urundi, Kitega, 1923 (Mus. Tervuren); 219. *Porrittia galactodactyla* (Denis & Schiffermüller) (after Buszko, 1979); 220. *Postplatyptilia eelkoi* Gielis (after Gielis, 1991); 221. *Procapperia maculatus* (Constant) (after Gielis, in press); 222. *Pselnophorus heterodactyla* (Müller) (after Buszko, 1979).



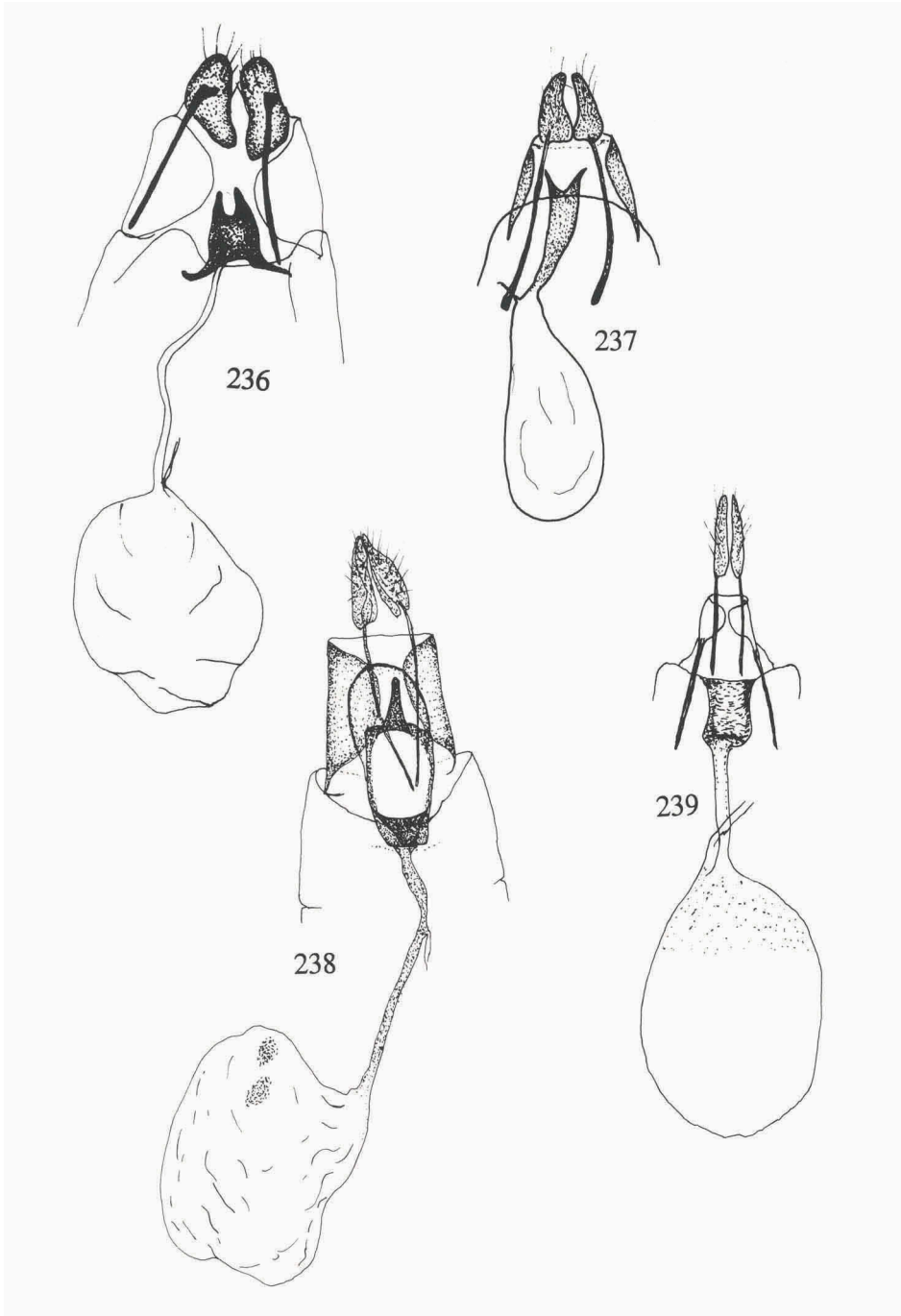
Figs. 223-226. Female genitalia; 223. *Pseudoxyroptila tectonica* (Meyrick). E Java, Pogal Falls, 8.v.1940, prep. CG 3142 (NNM); 224. *Pterophorus candidalis* (Walker) (after Gielis, 1991); 225. *Puerphorus olbiadactylus* (Millière). Spain, Huelva, Calañas, 15.v.1981 (C. Gielis), prep. CG 2356; 226. *Shafferia* spec, in press. Mexico, Baja California del Sur, Bahia Falsa nr La Paz, 20.ix.1969 (C.L. Hogue), prep. CG 6227 (LACM).



Figs. 227-230. Female genitalia; 227. *Singularia walsinghami* (Fernald). U.S.A., New Mexico, Sallinas Canyon, 1902 (BMNH); 228. *Sochchora donatella* Walker. Brazil, Ega, n.d., prep. BM 1696 (BMNH); 229. *Sphenarches anisodactyla* (Walker). Tanzania, Mwanihana Forest above Sanje, 1000 m, 1.viii.1984 (Stoltze & Scharff), prep. CG 4052 (ZMUC); 230. *Stangeia rapae* Clarke (after Clarke, 1971).



Figs. 231-235. Female genitalia; 231. *Stenoptilia zophodactyla* (Duponchel). Type, (MNHN); 232. *Stenoptilodes stigmatica* (Felder & Rogenhofer). Ecuador, Guachayacu, ix-x.1926 (Vorbeck), prep. CG 4104 (ZMUC); 233. *Tetraschalis ochrias* Meyrick. Java, Telawa, 22.xii.1934 (van Kalshoven), prep. CG 3144 (NNM); 234. *Titanoptilus melanodonta* Hampson. Zaire, Eala, ix.1935 (Mus. Tervuren); 235. *Tomotilus saitoi* Yano (after Yano, 1961).



Figs. 236-239. Female genitalia; 236. *Trichoptilus pygmaeus* Walsingham. Canada, Vancouver Island, Shawnigan, 18.vii.1923 (Blackmore), prep. USNM 106.064 (USNM); 237. *Wheeleria spilodactylus* (Curtis) (after Buszko, 1979); 238. *Xyroptila africana* Bigot. Tanzania, Uluguru Mountains, Kimbane forest, 250 m, 18.vii.1981 (Stoltze & Scharff), prep. CG 4035 ((ZMUC); 239. *Alucita grammodactyla* (Zeller) (after Buszko, 1977).

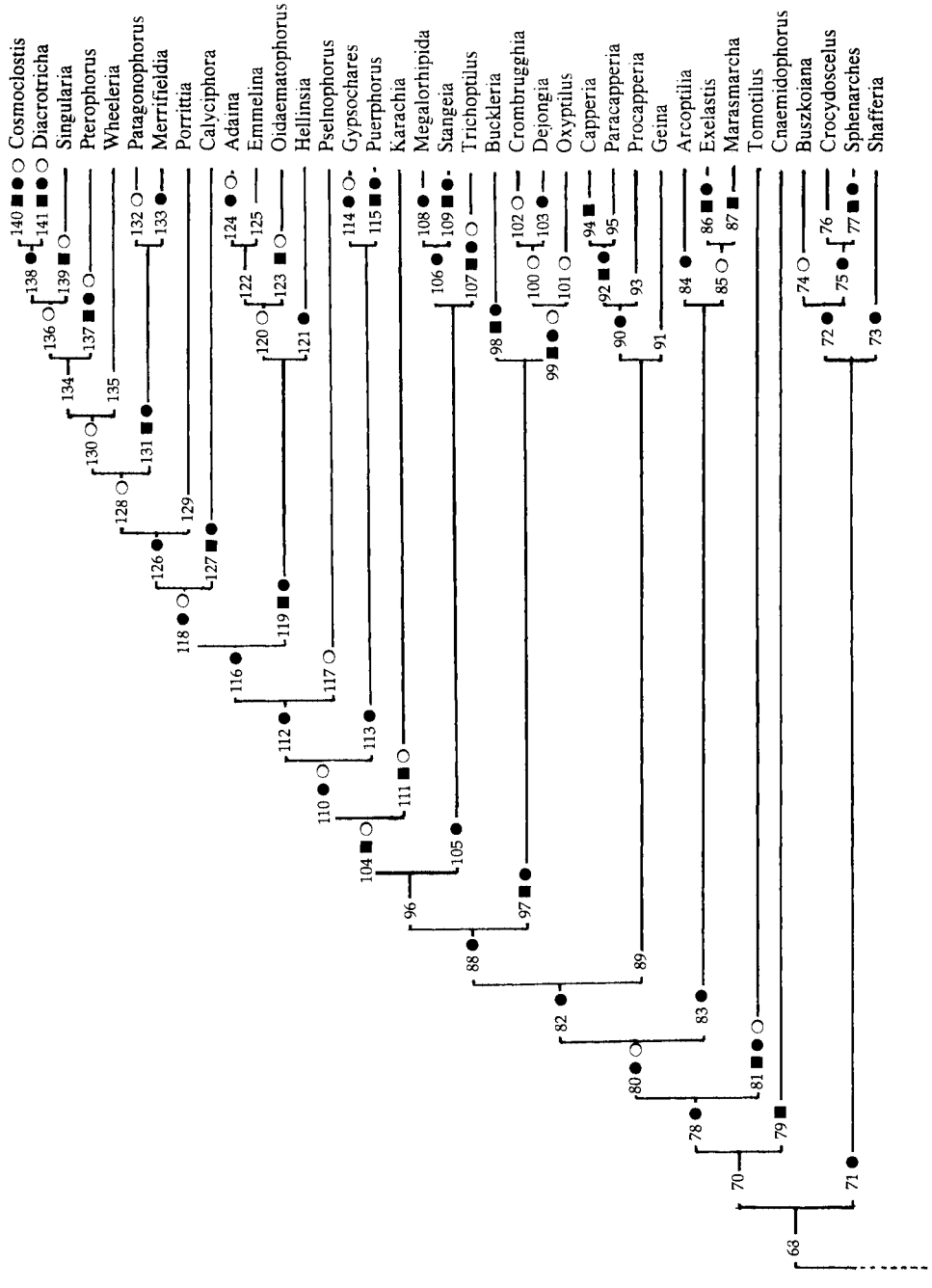
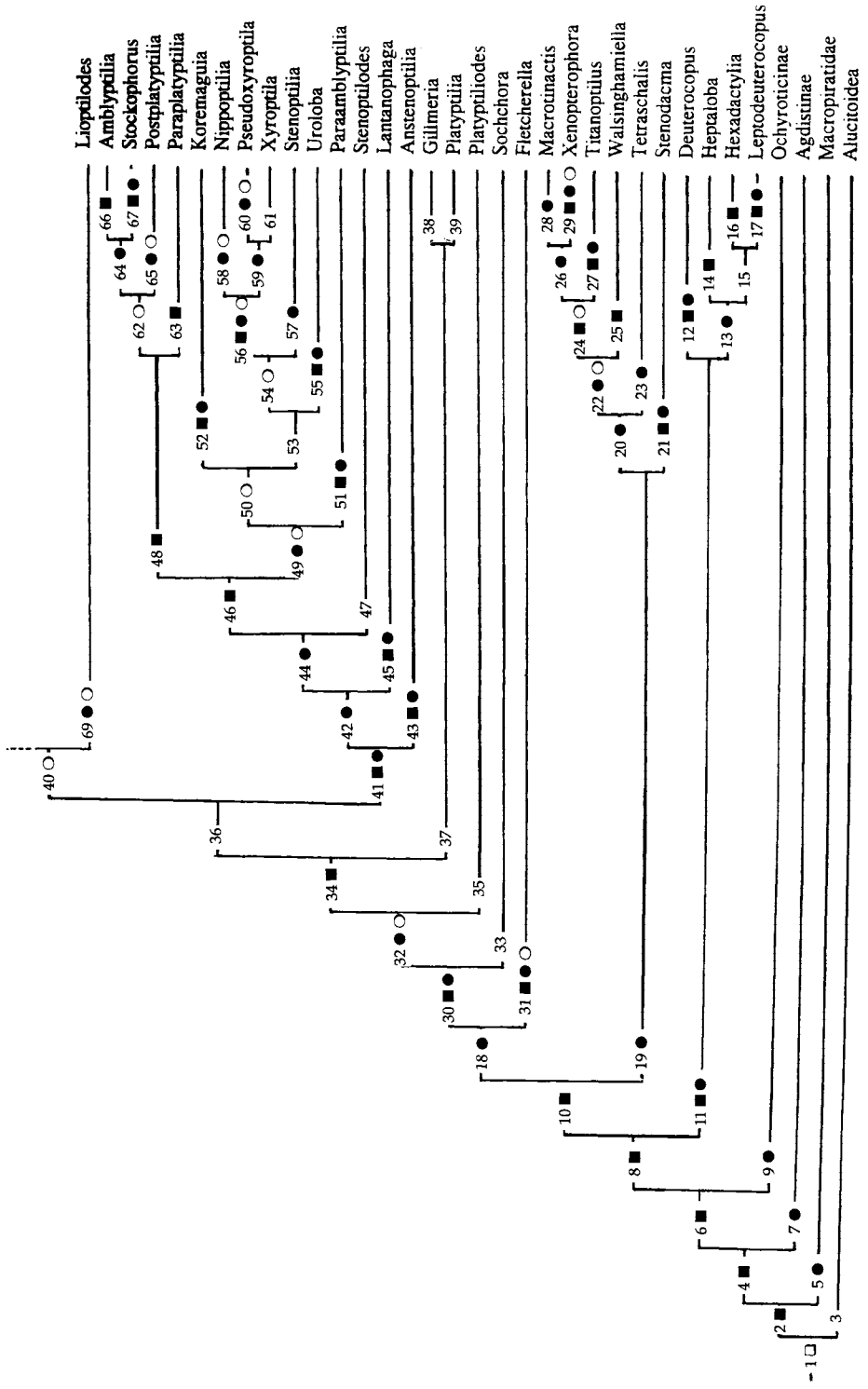


Fig. 240. Cladogram of the generic relations in the superfamily Pterophoroidea. □ = plesiomorph; ■ = apomorph; ● = parallel /convergent; ○ = reversed.


Lioptilodes
Amblyptilia
Stockophorus
Postplatyptilia
Paraplatyptilia
Koremaguia
Nippoptilia
Pseudoxyroptila
Xyroptila
Stenoptilia
Uroloba
Paraamblyptilia
Stenoptilodes
Lantanophaga
Anstenoptilia
Gillmeria
Platyptilia
Platyptiliodes
Sochchora
Fletcherella
Macrotinactis
Xenopterophora
Titanoptilus
Walsinghamiella
Tetraschalis
Stenodacma
Deuterocopus
Heptaloba
Hexadactylia
Leptodeuterocopus
Ochyroticinae
Agdistinae
Macropiratidae
Alucitoidea

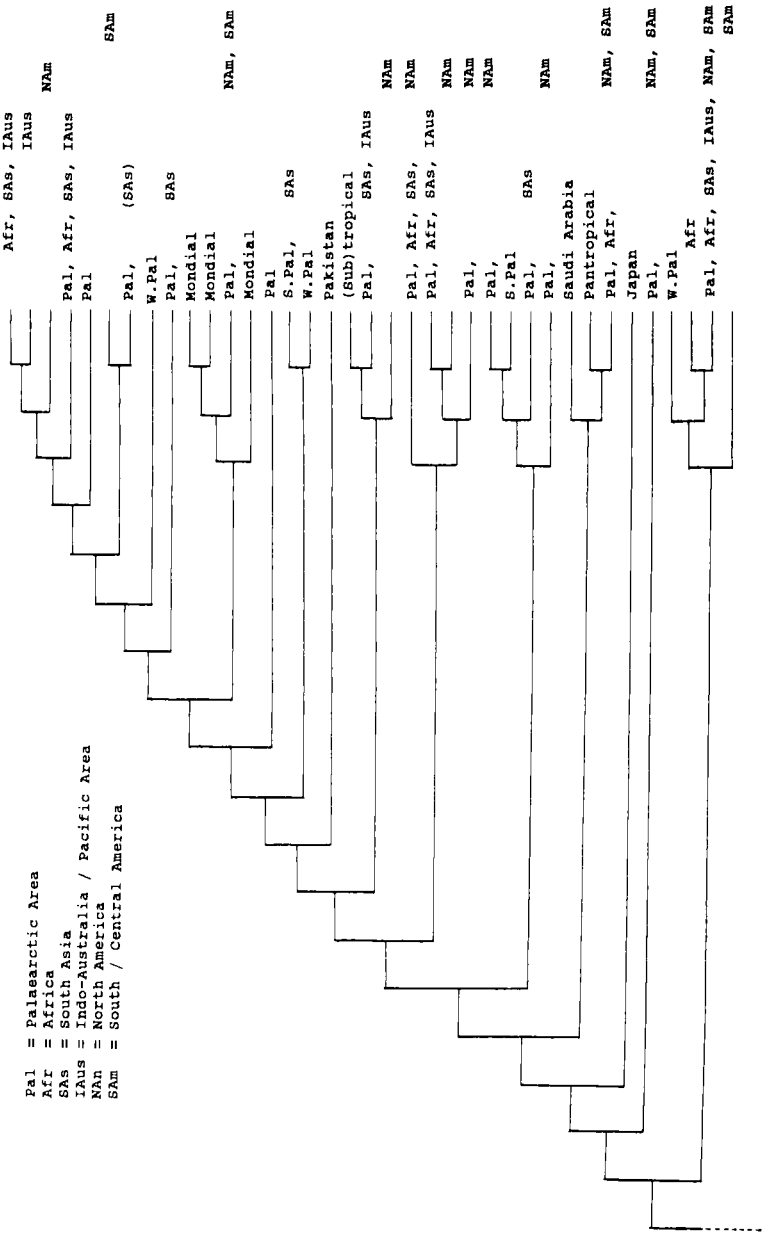
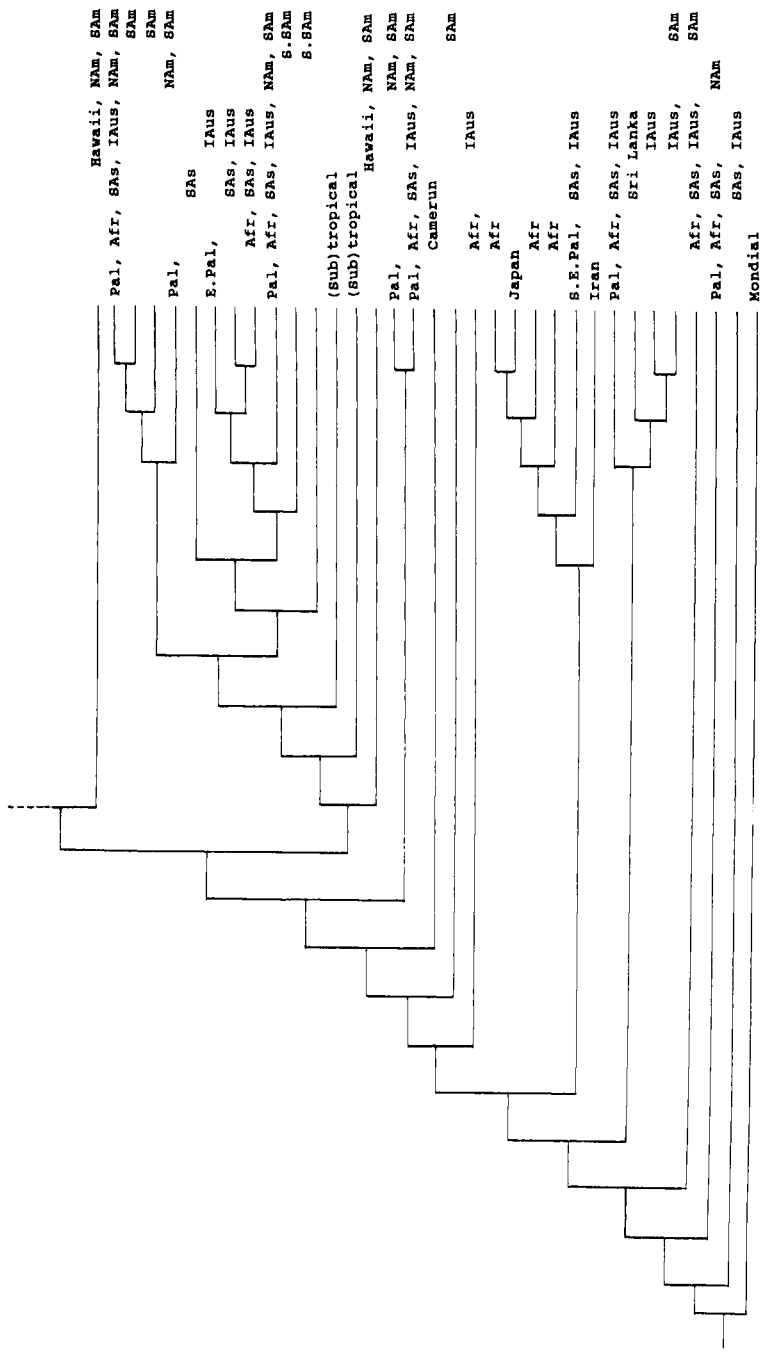


Fig. 241. Area cladogram, based on the cladogram in fig. 240.


Hawaii, NAm, SAm
Pal, Afr, SAs, IAus, NAm, SAm
SAm
SAm
Pal, NAm, SAm
SAs
E.Pal, IAus
SAs, IAus
Afr, SAs, IAus
Pal, Afr, SAs, IAus, NAm, SAm
S.SAm
S.SAm
(Sub)tropical
(Sub)tropical Hawaii, NAm, SAm
Pal, NAm, SAm
Pal, Afr, SAs, IAus, NAm, SAm
Camerun
SAm
Afr, IAus
Afr
Japan
Afr
Afr
S.E.Pal, SAs, IAus
Iran
Pal, Afr, SAs, IAus
Sri Lanka
IAus
IAus, SAm
Afr, SAs, IAus, SAm
Pal, Afr, SAs, NAm
Mondial
SAs, IAus

XI. Index Pterophoroidea