A synopsis of the Pterophoridae (Lepidoptera) of the Galápagos Islands, Ecuador

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The habitus and genitalia are illustrated for the twelve species of Pterophoridae known from the Galápagos Islands (Ecuador). The status of one species is discussed, as it may be the unknown female of *Postplatyptilia minima* spec. nov. Five species are described as new: *Postplatyptilia huigraica, P. minima, Platyptilia nigroapicalis, Oidaematophorus cristobalis* and *O. devriesi*. Redescriptions and/or diagnoses are given for the other seven species. Lectotypes are designated for *Pterophorus nephogenes* Meyrick and *Platyptilia brevipennis* Zeller. A key based on adult external features is provided. Four species were found to be possibly endemic to the archipelago. New foodplant records are given for two species.

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Introduction

The purpose of this paper is to provide a faunistic update and a means of identification for the plume-moths (Pterophoridae) of the Galápagos Islands, Ecuador (fig. 1). Eventually, the first author intends to produce, with the collaboration of other lepidopterists, a complete faunistic treatment of all species of Lepidoptera from the Galápagos Islands.

The first mention of the presence of Pterophoridae on the Galápagos Islands was made by W. Schaus (1923) but the identity of the species, reported from Daphne Major and Santa Crúz Islands was not given. Edward Meyrick (1926) then described *Trichoptilus derelictus* from Floreana Island (recently synonymized with *Megalorhipida defectalis* (Walker) by Gielis (1991)) and *Pterophorus nephogenes* from the islands of Isabela and Floreana. These two species were then believed to be endemic to the archipelago. The above-mentioned reports were listed by Linsley & Usinger (1966).

Additional information on Galápagos plume-moths is scarce. Bowman (1961) reported larvae of Pterophoridae in the digestive tract of one species of Geospizine finch. In his autobiography, Usinger (1972) wrote that Dr D. Snow, then Director of the Charles Darwin Research Station, was collecting plume-moths associated with plants of the genus *Scalesia* (Asteraceae). Unfortunately, the results of his efforts, if any exist at all, are unknown to us. Finally, mention was made of an undetermined pterophorid species collected aboard a ship at Bahía Academy (Santa Crúz Island) by Robert Silberglied (1978). The moth had been attracted there by the ship lights. This fact suggests the possible inter-island transport of these fragile moths through man's help.

Twelve (possibly 13, see text) species of Pterophoridae are known to occur in the Galápagos Islands. Six of these are represented by less than ten specimens in collec-

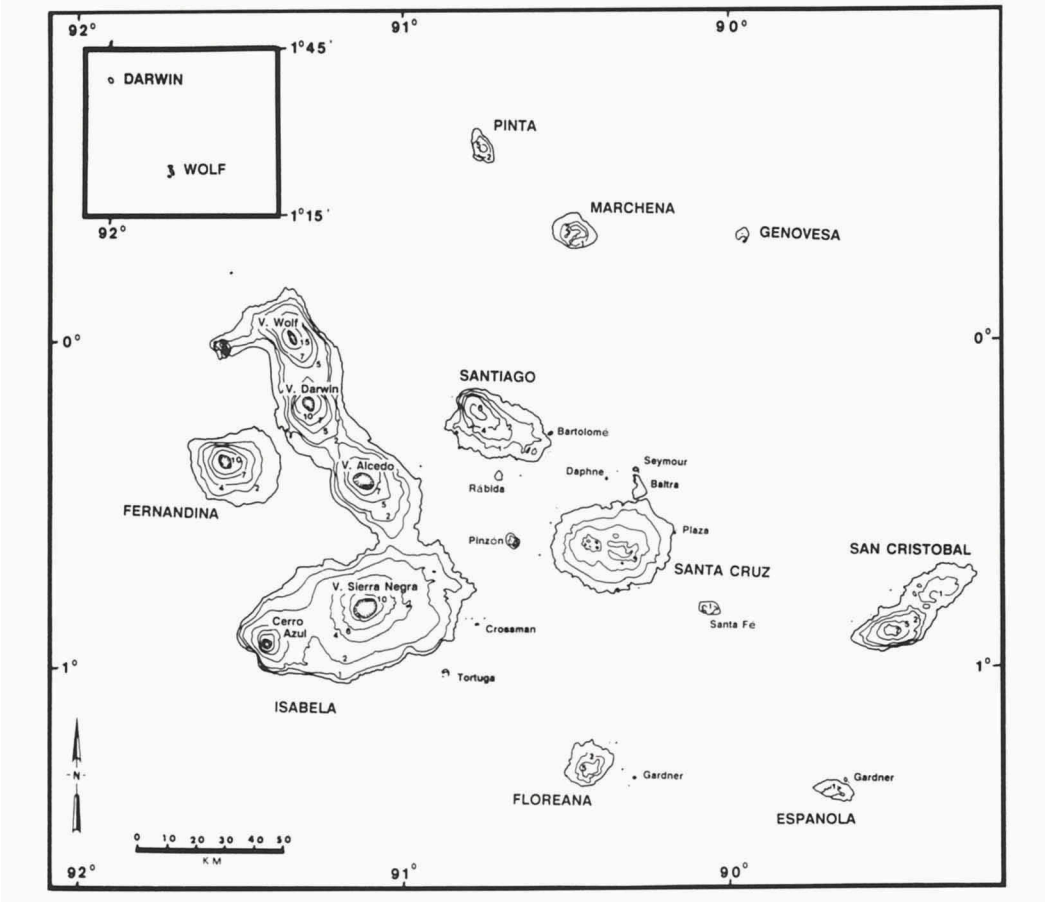

Fig. 1. The Galápagos archipelago.

tions; two by only one male. The other six species are known from larger series. Four (possibly five) species (*Oidaematophorus cristobalis* spec. nov., *O. nephogenes* (Meyrick), *O. devriesi* spec. nov., *Postplatyptilia minima* spec. nov., *Postplatyptilia* spec. 1) are not known from outside the Galápagos archipelago and are thus supposed to be endemic to these islands. We cannot at this point be certain of the endemicity of these species because the plume-moths of South and Central America have not been adequately sampled.

Some of the species, or their ancestors, were undoubtedly transported to the islands by strong winds. Some may have been introduced by humans.

The hostplants of two pterophorid species in the Galápagos Islands are known. *Oidaematophorus nephogenes* (Meyrick) was reared on *Scalesia affinis* Hooker (Asteraceae) and *Megalorhipida defectalis* (Walker) on *Commicarpus tuberosus* (Lam.) Standl. (Nyctaginaceae). In addition, *Lantanophaga pusillidactyla* (Walker), the Lantana plume-moth, is present but has not been reared on the archipelago. We suspected that the species of Pterophoridae associated with scalesias might show adaptive radiation as does the genus *Scalesia*. However, the morphological evidence pertaining to the Galápagos members of the genus *Oidaematophorus* as presented here seems to

rule out this possibility.

The morphology of the male genitalia of some species of Pterophoridae is rather complex. The nomenclature adopted here may be unsatisfactory but our goal is to point out the main diagnostic characters of the species. Detailed morphological studies are needed to bring light to these problems.

Material and Methods

The majority of the Galapagos Islands' specimens (106 out of 179, or 59%) which form the base of this research were collected by B. Landry in January, February and March 1989. The moths were obtained at night using a vertically set white sheet and a mercury vapor lamp powered by a small generator. The specimens were collected individually in small vials. They were kept alive until killed and immediately mounted and spread with the techniques outlined in Landry (1991). The majority of these 106 moths (including four of the six primary types of the species described herein) are deposited in the Canadian National Collection (CNC), Ottawa. Representatives of some species are also deposited in the Museo Ecuatoriano de Ciencias Naturales (MECN) in Quito, the Charles Darwin Research Station (CDRS) on Santa Crúz Island, and the collection of Cees Gielis (CG) in Lexmond, The Netherlands (eventually to be transferred to the Nationaal Natuurhistorisch Museum, Leiden, The Netherlands).

The 73 additional specimens we studied came from the following collections, whose curators are acknowledged: Natural History Museum (BMNH), London (Mr M. Shaffer); California Academy of Sciences (CAS), San Francisco (Dr P. Arnaud); American Museum of Natural History (AMNH), New York (Dr F.H. Rindge); Museum of Comparative Zoology (MCZ), Cambridge (C. Vogt); Charles Darwin Research Station (CDRS), Santa Crúz Island, Galápagos Islands (Dr D. Evans). Some specimens from Brazil, designated as paratypes of one new species, are deposited in Vitor Becker's collection (VBC), Brasilia. Other specimens, also designated as paratypes of another species are deposited in the Bernice P. Bishop Museum (BPBM), Honolulu (Dr S.E. Miller). Finally, we are illustrating the female genitalia of a specimen of *Lantanophaga pusillidactyla* borrowed from the Muséum National d'Histoire Naturelle (MNHN), Paris (Dr G. Luquet).

A key to the Galápagos Pterophoridae based on external structures

1. Third lobe of hindwing with one or two tufts of black scales on inner margin 2
- Third lobe of hindwing without tuft of scales on inner margin 8
2. Hindwing with two scale-tufts on inner margin of third lobe ..... ***P. huigraica*** spec. nov.
- Hindwing with one scale-tuft on inner margin of third lobe 3
3. Hindwing tuft on third lobe close to middle 4
- Hindwing tuft on third lobe near apex 5
4. Forewing lobes very slender apically ..... ***M. defectalis*** (Walker)
- Forewing lobes apically enlarged ..... ***S. juanfernandicus*** Gielis
5. Small (8-11 mm in wingspan) and appearing black in colour 6

- Bigger (more than 11 mm in wingspan) and brown in colour 7
6. Labial palps about as long as eye diameter, barely extended in front of face in dorsal view (only males known) ..... *P. minima* spec. nov.
- Labial palps twice as long as eye diameter, clearly visible in front of face in dorsal view (only females known) ..... *P.* species 1
7. Third hindwing lobe with scales on both inner and costal margins ..... *L. pusillidactyla* (Walker)
Third hindwing lobe with scales only on inner margin ..... *S. brevipennis* (Zeller)
8. First lobe of forewing larger basally 9
- First lobe of forewings larger apically ..... *P. nigroapicalis* spec. nov.
9. Forewing without noticeable markings . *E. cervinicolor* (Barnes & McDunnough)
- Forewing with at least a darker spot before cleft 10
10. Forewing pale greyish-brown, usually with some darker markings ..... *O. nephogenes* (Meyrick)
- Forewing dark grey or yellowish-brown 11
11. Forewing dark grey, without strong markings ..... *O. cristobalis* spec. nov.
- Forewing yellowish-brown, with contrasting dark brown markings before cleft and on costa 12
12. Wingspan 11-14 mm; abdomen dorsally with apico-median dark brown patches on most segments ..... *A. ambrosiae* Murtfeldt
- Wingspan 17-18 mm; abdomen dorsally with an apico-median dark brown patch only on one subapical segment ..... *O. devriesi* spec. nov.

Megalorhipida defectalis (Walker, 1864)
(figs. 2, 18, 28)

Pterophorus defectalis Walker, 1864: 943.
Trichoptilus defectalis; Fletcher, 1910: 398; 1926: 621.
Buckleria defectalis; Fletcher, 1910: 398; 1920: 6.
Pterophorus congrualis Walker, 1864: 943.
Trichoptilus congrualis; Fletcher, 1926: 622; Meyrick, 1913.
Pterophorus oxydactylus Walker, 1864: 944.
Trichoptilus oxydactylus; Walsingham, 1907: 471; Perkins, 1913: clxii; Fletcher, 1926: 623.
Aciptilia hawaiiensis Butler, 1881: 408.
Trichoptilus hawaiiensis; Meyrick, 1888: 239.
Trichoptilus ochrodactylus Fish, 1881: 142.
Trichoptilus centetes Meyrick, 1886:16.
Trichoptilus compsochares Meyrick 1886: 16.
Trichoptilus ralumensis Pagenstecher, 1900: 239.
Trichoptilus derelictus Meyrick, 1926: 276.
Megalorhipida palaestinensis Amsel, 1935: 283.
Megalorrhipida defectalis; Adamczewski, 1951: 382; Fletcher & Nye, 1984: 88.
Megalorhipida defectalis; Zimmerman, 1958: 397; Gielis, 1989: 393-394; Matthews et al., 1990: 615; Gielis, 1991: 9-11.

Material.— Ecuador, Galápagos Islands.— Baltra: 1 ♀, (South Seymour), 23.iv.1923, (AMNH). Isabela: 2 ♂ & 2 ♀ (BL slide 243), Puerto Villamil, 2.iii.1989; 1 ♂, 1 km W Puerto Villamil, 3.iii.1989; 1 ♂ & 2 ♀, 2 km W Puerto Villamil, 5.iii.1989; 2 ♂ & 4 ♀, 11 km N Puerto Villamil, 9.iii.1989; 2 ♂ & 2 ♀, 8.5 km N Puerto Villamil, 11.iii.1989; B. Landry (CNC, CG, MECN). Santiago: 1, (James Islan (sic)), 5.iv.1923

(AMNH); 2 ♂ & 2 ♀ , NW slope, 300 m, 30.v.1964, D.Q. Cavagnaro (CAS). Santa Crúz: 4 ♂ & 2 ♀, Academy Bay, Darwin Res. Sta., 21.iii.1964, D.Q. Cavagnaro (CAS); 1 ♀ , Darwin Res. Sta., 16.i.1989, B. Landry (CNC); 1 ♂ (BL Slide 219), Darwin Res. Sta., 28.ii.1989, B. Landry (CNC); 1 ♂, 2 km W Bella Vista, 27.ii.1989, B. Landry (CNC); 1 ♀ Finca (= farm of) S. Devine, 17.iii.1989, B. Landry (CNC). Island unknown: 1 ♂, 5 ♀, reared on *Commicarpus tuberosus* (CDRS).

Note.— This species was treated by Gielis (1991), who synonymized *Trichoptilus derelictus* Meyrick, described from the Galápagos, with it. Consequently, we have not included a complete redescription of the adult nor its complete distribution.

Diagnosis.— *Megalorhipida defectalis* is the only Galápagos plume-moth with very slender forewing lobes. Its reddish brown colour and the presence of a postmedian scale tuft on the third lobe inner margin preceded by long and slender white scales are also good diagnostic characters (fig. 2).

Variation.— Galápagos specimens varied in wingspan from 10 to 16 mm.

Male genitalia (fig. 18).— Uncus thumb-shaped, located at apex of tegumen, slightly longer than tegumen, basally larger, apically rounded, covered with short setae. Tegumen formed by two moderately sclerotized slender arms. Valvae simple, symmetrical, broadly rounded with short slender stalk basally. Juxta well sclerotized, narrow, almost as long as tegumen, apically bifid with pointed lobes. Vinculum well sclerotized, small; with a distinct saccus slightly bilobed at apex, lobes rounded. Aedeagus slender, moderately long and sclerotized, almost straight, without coecum penis, slightly tapering towards apex.

Female genitalia (fig. 28).— Papillae anales short, weakly sclerotized; setation moderately long, sparse. Apophyses posteriores strongly sclerotized, slender, mostly straight, extended to posterior margin of tergite VII. Tergite VIII well sclerotized with small humps at spiracles. Lamina ante-vaginalis of sternite VII extended posterior to about $^1/_3$ length of segment VIII, truncated medially. Ostium in middle. Antrum small, crescent-shaped, well sclerotized. Ductus bursae slender, membranous, extended to middle of segment VI. Bursa copulatrix membranous, with a pair of spine-shaped signa; cuticle covered with small rows of minute sclerotized spots. Ductus seminalis connected near base of bursa copulatrix.

Geographical distribution.— This species has a wide distribution in the New and Old World tropical and subtropical regions (Gielis, 1991). In the Galápagos we have seen specimens from the islands of Baltra, Isabela, Santa Crúz and Santiago.

Natural history.— The following hostplants of the larvae have been reported: *Boerhavia diffusa* L. and *Okenia hypogaea* Schlecht. & Cham. (Nyctaginaceae), and *Acacia neovernicosa* Isely (Fabaceae) (Matthews et al., 1990); *Boerhavia diffusa* L. (Zimmerman, 1958); *Boerhavia repens* ? (Fletcher, 1909); *Boerhavia* sp. (Perkins, 1913); *Amaranthus* spec. (Amaranthaceae) (Wolcott, 1936); *Mimosa tenuiflora* Benth. (Mimosaceae) (Gielis, 1991). In the Galápagos, this species has been reared on *Commicarpus tuberosus* (Lam.) Standl. (Nyctaginaceae) (specimens deposited in the CDRS).

Megalorhipida defectalis is certainly one of the most abundant plume-moth on the Galápagos Islands. It was collected at light in the coastal-arid to the transition-cultivated zones of many islands (see Material).

Phenology.— In the Galápagos, moths were collected from mid-January to late May.

Remarks.— The note accompanying the reared specimens in the Charles Darwin

Research Station indicates that they were reared on *Commicarpus tuberosus*. This plant taxon is known from Ecuador and Peru and is widely distributed in the Galápagos archipelago (Wiggins & Porter, 1971). According to these authors, there are also three species of *Boerhavia* on the islands. These could also be used as hostplants by *M. defectalis*.

Lantanophaga pusillidactyla (Walker, 1864)
(figs. 3, 20, 31)

Oxyptilus pusillidactylus Walker, 1864: 933; Fletcher 1926: 607.
Platyptilia tecnidion Zeller 1877: 468; Meyrick, 1913: 10.
Platyptilia hemimetra Meyrick 1886: 18; Meyrick, 1908: 483.
Platyptilia pusillidactyla; Fletcher, 1909: 13; 1914: 444; 1921: 19; Perkins & Swezey, 1924: 77.
Platyptilia lantana Busck, 1914: 103.
Platyptilia lantanadactyla Amsel, 1952: 66; Arenberger, 1987: 104.
Platyptilia pusillidactyla; Wolcott, 1951: 706-707.
Lantanophaga pusillidactyla; Zimmerman, 1958: 402; Matthews et al., 1990: 616.

Material.— Ecuador, Galápagos Islands.— 1 ♂ (BL slide 242), Santa Crúz, Conway Bay, 1.iv.1923, Gift of New York Zoo. Soc., Dept. Tropical Research, William Beebe (Dir.) (AMNH).

Note.— This widespread species was treated by Zimmerman (1958). Consequently, we have not included a complete redescription of the imago.

Diagnosis.— This species is very similar to *Stenoptilodes brevipennis* and the two (or three?) *Postplatyptilia* species occurring in the Galápagos because they all share similar wing colour and pattern. However, *L. pusillidactyla* is the only one of these to have scattered scales all along both the inner and the costal margins of the third forewing lobe in addition to a single scale tuft on the third lobe inner margin (fig. 3).

Variation.— Only one specimen of this species (with a wingspan of 12 mm) from the Galápagos was examined, so no variation of the habitus is reported. However, various genitalia slides from specimens collected in other parts of the world were seen and it was found that the male saccus is sometimes more slender without the baso-dorsal hump and is also sometimes more strongly cleft apically. The shape of the entrance of the ostium was also seen to be more U-shaped in one specimen from Jamaica in the British Museum (BM slide 8624).

Male genitalia (fig. 20).— Uncus moderately long (about half length of tegumen), moderately sclerotized, down-curved, apically flattened and pointed, its base at about $^3/_4$ length of tegumen ventrally. Tegumen large, apically bilobed; lobes small, rounded. Valvae symmetrical: sacculus with dorsal hump on inner side subbasally covered with thick setae; cucullus ventral part better sclerotized than larger dorsal part, with a short spine subapically; cucullus dorsal part apically more slender and shaped like a raptor's head in side view. Vinculum narrow. Saccus a little less longer than sacculus, strongly sclerotized, dorsally humped and spinose at base, apical half upturned, apically bifid. Anellus made of two slender, weakly sclerotized, setose arms. Juxta about half length of saccus, with broad lozenge-shaped base and longer, well sclerotized dorsal extension. Aedeagus rather short and stout, moderately sclerotized, more or less S-shaped with upper part longer; vesica with small semi-circular sclerotized markings; ventral process and coecum penis short and bulbous.

Female genitalia (fig. 31).— Papillae anales well sclerotized, setose and spiculate. Apophyses posteriores very long (extended slightly beyond ostium bursae), straight and slender. Tergite VIII of normal length. Sternite VII extended to $^2/_3$ the length of tergite VIII, gently tapering, shortly bilobed apically. Apophyses anteriores well sclerotized, slender, about five times as short as apophyses posteriores. Ostium in middle. Antrum about two times as long as wide, strongly sclerotized. Ductus bursae sclerotized on most of length, tortuous, slender. Ductus seminalis connected near base of bursa copulatrix. Bursa copulatrix slightly elongate, with two strongly sclerotized S-shaped signa at base.

Geographical distribution.— Only one specimen of this species, collected on the island of Santa Crúz, is known from the archipelago. However, *L. pusillidactyla* is pantropical in distribution.

Natural history.— This species is known as the Lantana plume-moth. *Lantana camara* L. is a Verbenaceae. Kimball (1965) reported it from *Caperonia* sp. (Euphorbiaceae). Zimmerman (1958) mentions that "the caterpillars feed in the flower clusters of lantana, thus reducing the seeding capacity of the plant and aiding in its control". Fletcher (1909) described the immature stages. The species was also reared from the seed heads of *Phyla nodiflora* (L.) Green (Verbenaceae) (Matthews et al., 1990).

Phenology.— The unique specimen under consideration was collected in April.

Remarks.— This species was not collected by B. Landry in 1989 although *Lantana* was abundant in some areas sampled on San Cristóbal Island. The species may either be seasonal or is not attracted to light. It would be interesting to conduct a thorough search of this species on the Galápagos Islands because of it's potential for the biological control of *Lantana*, which has been introduced to the islands and has become a pest on San Cristóbal.

The description of the female genitalia presented here is based on a specimen collected in Morocco and deposited in the Muséum National d'Histoire Naturelle, Paris.

Platyptilia(?) nigroapicalis spec. nov.
(figs. 4-6, 17, 32)

Material.— Holotype: ♂, Ecuador, Galápagos Islands, Sta Crúz, 2 km W Bella Vista, 27.ii.1989, MVL, B. Landry (CNC no. 21253). 16 paratypes: Ecuador, Galápagos Islands.— San Cristóbal: 2 ♂ (BL slide 241) & 1 ♀ (BL slide 225), 1 km S El Progreso, 14.ii.1989, B. Landry (CNC). Santa Crúz: 2 ♂ (BL Slide 215), Los Gemelos, 31.i.1989; 2 ♂ (BL slide 217) & 1 ♀, Tortuga Reserve W Santa Rosa, 6.ii.1989; 1 ♂, Media Luna, pampa zone, 8.ii.1989; 2 ♂ & 1 ♀, 2 km W Bella Vista, 27.ii.1989; 1 ♂ & 1 ♀, Finca S. Devine, 17.iii.1989; B. Landry (CNC, CG, MECN). Santiago: 1 ♂ (BL slide 313), Highlands, Los Jaboncillos, 520 m, 6-13.iv.1974, BM 1975-7 (BMNH). Venezuela.— 1 ♀ (CG slide 5037), Caracas, El Avila, 28.ix-3.x.1974, B.V. Rigout (BMNH).

Diagnosis.— Among other Galápagos plume-moths, this species is readily distinguished by the dark-coloured apical portion of the forewing lobes contrasting with a pale brown colour.

Description (figs. 4, 5, 6).— Wingspan 11-15 mm (holotype 13 mm). Labial palpi erect; without scale tuft; about as long as vertical eye-diameter; with mixed dark brown (mostly laterally), white (mostly ventrally) and yellowish brown (mostly dor-

sally) scales. Antennae longitudinally striped with dark brown and white on basal third, dark brown apically. Head mottled dark brown and yellowish brown, with row of white scales between antennae: occipital fringe brown, mostly bifid with few quadrifid scales. Thorax mostly dark brown anteriorly, yellowish brown to beige on posterior half. Fore- and midleg coxa to tibia with longitudinal white, dark brown or yellowish brown stripes; with small dark brown tufts at foreleg epiphysis and apically on midleg tibia; tarsi dark to greyish brown on outer side, pale greyish brown on inner side: hindleg yellowish brown to greyish brown on outer side from coxa to first tarsomere, beige on inner side; tarsomeres II-IV entirely beige. Forewing mostly reddish brown from base to middle of first lobe along costa and on apical third of both lobes; with a large dark brown patch before cleft, a small one at middle of discal cell and a moderately sized one anterad to discal patch near inner margin; mostly yellowish brown elsewhere except for elongate triangular patch from discal patch to cleft patch: fringe mostly beige with two dark brown patches at anal angle of first lobe, two at apex of second lobe and a large one at anal angle of second lobe; also with small patches of dark brown scales on inner margin of wing before lobe and in middle of it. Hindwing greyish brown, with yellowish brown scales on third lobe and scattered dark brown scales on inner margin of third lobe fringe; fringe otherwise greyish brown. Abdomen dorsally pale brown with a very thin longitudinal stripe of dark brown scales from base to last segment and with a conspicuous patch of dark brown scales at apex of each segment medially bordered with white scales; ventro-laterally with a large longitudinal stripe of dark brown scales from base to apex; ventrally pale brown in the middle, almost white as a patch in the middle of each segment apically. Scales on genitalia beige.

Variation.— As shown in figures 4 to 6, this species is quite variable in forewing ground colour and in contrast of its wing pattern markings. Some specimens are also more uniformly coloured and darker brown. The pattern of abdominal markings dorsally also varies greatly, some specimens almost lacking most of the markings.

Male genitalia (fig. 17).— Uncus a moderately sclerotized sac-like structure located almost at base of tegumen ventrally; less than half the length of the tegumen; laterally compressed on distal half; apically rounded in side view; covered with short setae. Tegumen large, moderately sclerotized, apically bilobed; lobes tapering and rounded. Valvae symmetrical, simple, elongate, twice as wide on apical $^2/_3$, apically rounded. Transtilla visible as a thin, weakly sclerotized bar. Juxta flat, well sclerotized, more or less triangular, apically produced into a sharp point, basally concave with angles rounded. Vinculum weakly sclerotized, very narrow. Sternite VIII differentiated into a moderately sclerotized bilobed structure bearing thick setae (not shown) at apex of rounded lobes. Aedeagus very slender, well sclerotized, curved almost rectangularly near base, apically pointed, basally open (without coecum penis); ventral process prominent.

Female genitalia (fig. 32).— Papillae anales evenly sclerotized on whole lateral surface; apically more slender, rounded; setation short. Apophyses posteriores strongly sclerotized, very slender, apically more so and bent inwards; extended to middle of tergite VIII. Cephalic margin of tergite VIII slightly produced medially. Membrane ventrally beyond ostium grooved on most of the length of segment VIII. Sternite VII with two weakly sclerotized lateral lobes extended slightly beyond anterior margin of tergite VIII. Ostium situated medially near the centre of sternite VII.

Ductus bursae slender, extended to beyond middle of segment VI, well sclerotized on basal half. Bursa copulatrix circular, signa in shape of the cuticle covered with a pattern of hexagons, these laterally compressed on four-five rows laterally along two bands, which run most of the length of the bursa copulatrix.

Geographical distribution.— The species is known from the Galápagos Islands of San Cristóbal and Santa Crúz and from one specimen collected in Venezuela.

Natural history.— This is unknown apart from its attraction to light and that its habitat is apparently restricted to higher elevations (from the transition forest to the pampa) on the islands.

Phenology.— In the Galápagos archipelago, the moths were collected from late January to mid-April.

Etymology.— The species' name is derived from the dark apex of its forewing lobes.

Remarks.— This species is currently placed in the genus *Platyptilia* although it diverges markedly from most other species in this genus, notably in male genitalia. A generic revision of New World Platyptiliinae is needed in order to find a better generic placement for this species.

Postplatyptilia huigraica spec. nov.
(figs. 7, 19, 35)

Material.— Holotype: ♂, Ecuador, Huigra, 4500 ft, vi.1914, Parish, BM slide no. 18336 (BMNH). 12 paratypes: Ecuador.— 1 ♀ (BM slide 18332), Huigra, 4500 ft, vi.1914, Parish (BMNH). Galápagos Islands, Isabela: 2 ♂ (BL slides 220 & 276) & 3 ♀ (BL slide 224), 3 km N Santo Tómas, 8.iii.1989; 1 ♀, 11 km N Puerto Villamil; B. Landry (CNC, MECN). Brazil.— D(istrito) F(ederal), Planaltina, 1000 m: 1 ♀ (CG slide 6030), 15.viii.1985, Becker no. 57719; 1 ♂, 21.iv.1977, Becker no. 19855. M(ato) G(rosso), Nova Lima, 850 m, 1 ♀ (CG Slide no. 6031), 8.x.1985, Becker no. 63131, Becker. Paraná, Marumbi, Morrestea, 500 m, 1 ♀, 17.xii.1969, Becker no. 9365, Becker; P.R.(?), Mandirituba, 1 ♀, 29.xi.1969, Becker no. 11031, Becker (VBC).

Diagnosis.— Among Galápagos plume-moths, *Postplatyptilia huigraica* very much resembles *L. pusillidactyla*, *P. minima*, *P.* species 1 and *S. brevipennis*, all dark species with apically enlarged forewing lobes and with a tuft of scales on the inner margin of the third hindwing lobe. However, it is the only one of the five with two (a subapical and an apical) scale tufts on the third hindwing lobe inner margin.

Description (fig. 7).— Wingspan 11-15 mm (holotype 14 mm). Palpi porrect, $1^1/_2$ times vertical diameter of eye, with apical scale tuft directed dorsad on second segment, mostly dark brown with white scales at base and apex. Antennal flagellomeres each with two rows of scales (dark brown basally, beige apically). Head uniformly brown: occipital fringe bifid; most scales brown except for beige apex, some scales entirely beige. Thorax mostly pale brown except for subapical V-shaped band of dark brown scales apically bordered by white scales. All legs with coxa and femur mottled with dark brown and white scales: foreleg tibia dark brown to grey-brown (last two tarsomeres) on outer side, white on inner side; epiphysis surrounded by moderate sized, mostly dark brown, tuft of scales: midleg tibia longitudinally striped in dark brown and white, with prominent subbasal and apical mostly dark brown scale tufts; apical spurs longitudinally striped in dark brown and beige; tarsomeres I-III

dark brown on outer side, beige on inner side; tarsomeres IV-V uniformly grey brown: hindleg tibia mottled dark brown and white on outer side, mostly uniformly pale greyish brown on inner side, without prominent scale tufts at base of spurs, the latter transversely striped in dark brown and beige; tarsomere I as in tibia; tarsomere II-V uniformly pale greyish brown. Forewing along costa mostly dark brown, interrupted by a series of white spots, to dark brown oblique mark before cleft; also dark brown as a patch near base of wing along inner margin, apically on first lobe and on most of second lobe (this reaching dark brown mark before cleft); both lobes crossed by more or less distinct white subapical transverse bands; also with reddish brown scaling on base of first lobe and along inner margin from mid-lenght to base of second lobe: fringe mostly pale greyish brown, with dark brown patches of scales (extensive on anal angle of both lobes). Hindwings dark greyish brown with concolorous fringe; inner margin of third lobe with a post median and an apical tuft of dark brown scales, with few scattered dark brown and white scales before and between those. Abdomen dorsally mostly pale brown on first three segments, dark brown on next two and paler again apically; ventrally mottled with pale and dark brown scales with white scales at apex of segments.

Variation.— The forewing varies in the tone of the brown colouration, sometimes being more reddish, paler yellowish or darker brown.

Male genitalia (fig. 19).— Uncus short (about $^1/_4$ length of tegumen), weakly sclerotized, slightly down-curved, not setose, its base at apex of tegumen. Tegumen large, apically truncated. Valvae symmetrical: sacculus extended to more than half length of valva, broadly rounded, with rather strong setae mostly dorsally; cucullus ventral margin better sclerotized than larger dorsal part, with strong setae on inner side, apically with a short point; cucullus dorsal part apically rounded, not extended beyond ventral margin. Vinculum narrow. Saccus short (about $^1/_3$ length of sacculus), weakly sclerotized, triangular, dorso-ventrally flattened. Anellus arms strongly sclerotized at base, less so apically where they enlarge slightly, as long as tegumen, with few setae. Juxta short; triangular base better sclerotized marginally; dorsal extension slightly longer than base, apically bifid. Aedeagus long and slender, moderately sclerotized, broadly down-curved; without ventral process; coecum penis short, rounded.

Female genitalia (fig. 35).— Papillae anales very short, weakly sclerotized; with few long setae. Apophyses posteriores very long (extended to middle of segment VIII), strongly sclerotized, slender but apically slightly enlarged. Tergite VIII rather long, well sclerotized. Sternite VII slender; with huge, well sclerotized, median, apically bilobed lamina ante-vaginalis, reaching posterior half of segment VIII. Ostium in middle. Antrum well sclerotized, slender, directed to the right; ductus bursae partly sclerotized on basal half. Bursa copulatrix circular with a pair of signa formed by a small circular plate and a short, laterally flattened spine in middle; cuticle covered with minute spines, larger between and lateral to signa.

Geographical distribution.— This species is currently known from Ecuador (Chimborazo Province), Brazil (Federal District, Mato Grosso and Paraná) and from the Galápagos island of Isabela.

Natural history.— Unknown except for the fact that it was collected at light in the transition zone (now cultivated) of Isla Isabela.

Phenology.— In the Galápagos, the moths were all collected in March.

Etymology.— The name of this new species is derived from the name of the type locality.

Postplatyptilia minima spec. nov.
(figs. 8, 21)

Material.— Holotype ♂ (BL slide 244), Ecuador, Galápagos Islands, Isabela, 8.5 km N Pto Villamil, 11.iii.1989, MVL, B. Landry (CNC no. 21252).

Diagnosis.— This species, with the next, is the smallest of all Pterophoridae in the Galápagos with a wingspan of 10 mm. This fact along with the apically enlarged forewings lobes, the black colour, and the unique scale-tuft on the third hindwing lobe inner margin will differentiate this species from others (unless the females described below under "Species 1" prove to belong to a different species).

Description (fig. 8).— Wingspan 10 mm (holotype). Palpi porrect, about as long as vertical eye diameter, mostly dark brown with scattered white scales (latter mostly on first segment dorsally and ventrally). Antennae with dark brown and white scales on all antennomeres except for last $^1/_4$ of flagellum, dark brown. Head mostly dark brown, with few white scales between antennae and at ventro-lateral corners of fronto-clypeus: occipital fringe bifid, with dark brown and white scales. Thorax dark brown with a pair of subapical patches of darker brown scales laterally, apically bordered by white scales. All legs coxa and femur dark brown with patches of scattered white scales; foreleg tibia dark brown with patches of white scales on outer side, mostly white on inner side, epiphysis scale tuft dark brown; tarsomeres I-II dark brown on outer side, white on inner side; tarsomeres III-V uniformly grey brown: midleg tibia and tarsomere I with patches and stripes of dark brown and white scales; tarsomeres II-III mostly dark brown but white at base; last two tarsomeres dark greyish brown; hindleg tibia dark brown on outer side, pale greyish brown on inner side with scattered white scales; tarsi mostly dark greyish brown on outer side and pale greyish brown on inner side but white at base of tarsomeres; all leg spurs dark brown and white with yellowish brown apex. Forewing mostly dark brown with small scattered white scale patches before lobes; darker brown as a triangular patch before cleft, on first lobe medially near inner margin and in middle of second lobe; both lobes crossed by a transverse white line near middle; posterior portion of both lobes yellowish brown; fringe pale greyish brown with shorter dark brown scales on outer margin and around anal angle of both lobes, this interrupted by about five small white scale patches; also with dark brown patches of scales on inner margin of wing below cleft and postmedially. Hindwing greyish brown with slightly paler fringe; inner margin of third lobe with subapical dark-brown scale tuft, also with scattered white and dark-brown scales before that. Abdominal colouration not observed.

Male genitalia (fig. 21).— Uncus short (extended to apex of tegumen), slender, down-curved, moderately sclerotized, its base near middle of tegumen. Tegumen large, apically bilobed; lobes small, pointed. Valvae symmetrical: sacculus with dorsal hump on inner side subbasally covered with thick setae; cucullus slightly wider near middle, slightly longer than sacculus, apically with pair of small ventral and

dorsal pointed extensions. Vinculum narrow. Saccus about half length of sacculus, subapically upturned, gradually tapering into a blunt point. Anellus visible as two weakly sclerotized and setose lobes. Juxta well sclerotized, about half length of sacculus, lozenge-shaped at base with longer, slender dorsal extension. Aedeagus slender, moderately sclerotized, broadly down-curved; vesica with small semi-circular sclerotized markings; ventral process very short, rounded; coecum penis bulbous, larger than diameter of aedeagus.

Geographical distribution.— The species is known only from the Galápagos island of Isabela.

Natural history.— The only known specimen of this species was collected at light in the arid zone of Isla Isabela.

Phenology.— The unique specimen under consideration was collected in March.

Postplatyptilia species 1
(figs. 12, 37)

Material.— Ecuador, Galápagos Islands, Isabela: 1 ♀, Puerto Villamil, 2.iii.1989; 1 ♀, 1 km W Puerto Villamil, 3.iii.1989; 2 ♀ (BL slide 275), 3 km W Santo Tómas, 8.iii.1989; 1 ♀, 11 km N Puerto Villamil, 9.iii.1989; 2 ♀ (BL slide 223), 8.5 km N Puerto Villamil, 11.iii.1989; B. Landry (CNC).

Note.— This "species" is treated informally here because its status is uncertain. It is possibly the female of *P. minima* due to very similar size, markings and colouration and because they were collected at the same locality at the same time. However, the length of the palps of these females is twice that of the palps of the holotype of *P. minima*. Such manifestation of "sexual dimorphism" is unusual in the Pterophoridae. Also, the male and female genitalia do not correspond when compared with male and female genitalia of other species in that genus. Although our concept of the genus might be erroneous, this solution seems to represent the best alternative given our actual knowledge of the Pterophoridae of the Neotropical region.

Diagnosis.— Similar in all respects to *P. minima* except for the twice longer labial palps of these females (fig. 12).

Variation.— Specimens vary in wingspan from 8.5 to 10.5 mm. Most specimens (except one) do not display the yellowish brown colour of the forewing lobes as in the holotype of *P. minima* and others show definite reddish brown reflections on the forewing.

Female genitalia (fig. 37).— Papillae anales extensively sclerotized, rather elongate; setation short and abundant. Apophyses posteriores slender, well sclerotized, mostly straight, extended almost to anterior margin of tergite VIII. Sternite VII extended to before middle of segment VIII but with a posterior flap extending to apex of segment VIII; ventro-lateral margins with paired, more or less rounded extensions. Apophyses anteriores present, short, apically pointed. Ostium to right of middle. Ductus bursae long, slender, well sclerotized on basal half. Bursa copulatrix circular; with a pair of long S-shaped signa; cuticle covered by a pattern of small hexagons with a minute spine in their middle, these spines larger near the signa. Ductus seminalis connected close to bursa copulatrix.

Geographical distribution.— The specimens considered here were all collected

on the Galápagos island of Isabela.

Natural history.— Unknown apart from the fact that the specimens collected were attracted to light on the coast, in the arid zone as well as in the cultivated areas of the transition zone on Isabela.

Phenology.— All specimens were collected in March.

Stenoptilodes brevipennis (Zeller, 1874)
(figs. 10, 23, 36)

Platyptilia brevipennis Zeller, 1874: 442.

Material.— Types, see below. Ecuador, Galápagos Islands,— Isabela: 1 ♀, Puerto Villamil, 2.iii.1989; 1 ♀, 2 km W Puerto Villamil, 5.iii.1989; 1 ♂ (BL slide 221) & 1 ♀ (BL slide 231), 3 km N Santo Tómas, 8.iii.1989; B. Landry (CNC). Santa Crúz: 1 ♂, Finca S. Devine, 17.iii.1989, B. Landry (CNC).

Types.— This species was described from two specimens (Zeller, 1874: 442-443). Both, now without abdomen, are located in the Natural History Museum, London. One is designated lectotype. It bears the following labels: **1.** Type, H.T. (red-edged circular label); **2.** Payta: Piura, Peru, iv.1873, G.F. Mathew, Zell. coll., Walsm., 102251; **3.** *Platyptilia brevipennis* Z., Peru April, Mathew 74 (Green label); **4.** 102251, Zeller Coll., Walsingham Collection., 1910-427; **5.** *Platyptilia* ♂, *BREVIPENNIS* Z., Verh. Z.B. Ges. Wien 24: 1874, abh. 442-3, Pf 12:12 (1874), Type ♂, deser., figd., 102251; **6.** Type Coll. Cab. 14 Dr. 4. Two additional lectotype labels were added: a small circular blue-edged label in first position and a white label with "LECTOTYPE, *Platyptilia brevipennis* Zeller, B. Landry 1991" in last position on the pin. The other specimen of the original description was designated paralectotype and we properly labelled it so. It possessed the same labels as the lectotype except for the absence of a small round type label in first position. It was said to be a female and it bears specimen no. 102252.

Diagnosis.— Among Galápagos Pterophoridae, *S. brevipennis* mostly resembles *P. huigraica* and *L. pusillidactyla* in shape of forewing, size and colouration. However, it has the anal angle of its forewing second lobe distinctly more rounded. It also has only one subapical scale tuft on its third hindwing lobe inner margin whereas *P. huigraica* as an additional one at apex. The presence of scales only on the inner margin of the third hindwing lobe will distinguish it from *L. pusillidactyla* which has scales on both sides of this lobe. The females of *S. brevipennis* also have a trio of black scale tufts on the abdomen ventro-apically.

Redescription (fig. 10).— Based on Galápagos specimens. Wingspan 12-14 mm. Palpi erect, about as long as vertical eye-diameter, with slightly projecting scales on second segment ventrally, white (mostly dorsally and ventrally on first segment), beige and dark brown. Antennae with alternating rows of beige and dark brown scales from base to $^1/_3$, dark brown on apical $^2/_3$. Head fronto-clypeus slightly produced, rounded; uniformly pale brown; occipital fringe mostly bifid with some trifid scales, pale brown. Thorax mostly pale brown, apically fringed by white scales. All legs coxa and femora, foreleg and midleg tibia and midleg tarsomere I longitudinally striped in dark brown and white; foreleg tarsomeres dark brown on outer side, white to beige (last two segments) on inner side; epiphysis scale tuft dark brown: midleg

tarsomeres II-V dark brown to greyish brown (apically) on outer side, white to greyish brown (apically) on inner side; apical tuft small; hindleg tibia dark brown mottled with white on outer side, whitish brown on inner side; spur tufts small, dark brown; tarsi mostly pale whitish brown with dark brown scales at apex of tarsomeres, last three tarsomeres almost white. Forewing dark brown on costa (interrupted by small white patches) to apex of wing; dark brown extended towards inner margin as a small patch at mid-cell and as a triangle shortly before cleft, also dark brown on most of the apical halves of both lobes, and as a small patch near inner margin subbasally; both lobes crossed by a thin white transverse line; pale yellowish brown elsewhere: fringe hairs basally white, apically greyish brown; with three extensive patches of dark brown scales (interrupted by small patches of white hairs) at anal angle, middle of outer margin and apex of both lobes; also with small patches of dark brown scales on inner margin before cleft and near middle. Hindwing dark greyish brown with concolorous fringe; inner margin of third lobe with small subapical patch of dark brown scales and scattered dark brown scales before that. Abdomen dorsally pale yellowish brown, most segments meso-apically with a small patch of dark brown scales; ventrally pale yellowish brown with white and dark brown scales at apical margin of most segments; females with three patches of dark brown scales apically, a short one medially and the other two on each sides, twice as long and projecting apico-ventrally.

Variation.— Forewing ground colour sometimes paler whitish brown or darker brown; markings also more or less contrasting.

Male genitalia (fig. 23).— Uncus long (as long as tegumen), slender, well sclerotized, weakly setose, broadly down-curved, hook-tipped; its base subapically on ventral side of tegumen. Tegumen moderate in size and sclerotization, apically incised in the middle; apical lobes short, rounded. Valvae symmetrical, with very short harpe: sacculus slightly more than half length of valva, slender basally, broader beyond base; cucullus subapically with bulbous setose hump on ventral side; apically with dorsal projection very slender, pointed, directed ventrad. Vinculum narrow. Saccus absent. Annellus weakly setose and sclerotized; with long (half length of tegumen), simple dorsal arms and short ventral arms apically rounded. Aedaegus moderately sclerotized, down-curved; vesica with small sclerotized markings; ventral process slender; coecum penis short, bulbous.

Female genitalia (fig. 36).— Papillae anales short, moderately sclerotized; setation long, sparse. Apophyses posteriores well sclerotized, slightly curved inwards, slender, extended to near anterior margin of segment VIII. Tergite VIII rather long, weakly sclerotized with humps laterally at spiracles (near base). Sternite VII not extended over segment VIII; apical margin with heart-shaped structure in middle and a pair of rounded lobes laterally. Ostium in middle, at base of segment VIII. Lamina ante-vaginalis absent. Antrum of ductus bursae with a pair of internal small curved knobs at ventral margin; tapering gently into ductus bursae; slightly sclerotized at base. Ductus bursae slender, extended to beyond middle of segment VI. Bursa copulatrix oval in shape; with a pair of long, slender, apically pointed signa; cuticle covered with minute spines more strongly sclerotized around signa.

Geographical distribution.— *Stenoptilodes brevipennis* was described from Peru. Specimens from Mexico (BMNH), Costa Rica (VBC) and Trinidad (CNC) were also seen. In the Galápagos, we have seen it from Isabela and Santa Crúz islands.

Natural history.— Unknown except for the fact that in the Galápagos, this species was attracted to light at localities in the arid zone and in the transition zone, now cultivated, of Isabela and Santa Crúz islands.

Phenology.— On the Galápagos islands, this species was collected only in March.

Remarks.— The absence of an abdomen on the lectotype of this species does not allow for a rigourous match of these Galápagos specimens to this name but other specimens from Peru agreed well with the Galápagos material.

Stenoptilodes juanfernandicus Gielis, 1991
(figs. 11, 22, 33)

Stenoptilodes juanfernandicus Gielis, 1991: 60-62.

Material.— Chile (Juan Fernandez Islands), holotype ♀ (CG slide 1983), Masatierra, Bahia Cumberland, 20.iii.1951, Kuschel (MNHC). Paratype ♀, same locality as holotype, 4.iii.1951, Kuschel (CG). Ecuador (Galápagos Islands), Isabela: paratype ♀ (BM slide 18465), Sierra Negra, NE slope, SE Volcan Chico, xi.1974, de Vries (BMNH); 1 ♂ (BL slide 233), 3 km N Santo Tómas, 8.iii.1989, B. Landry (CNC).

Note.— The species was described by Gielis (1991) from three females. A male was collected on the Galápagos Island of Isabela, 3 km North of Santo Tómas in the cultivated area on 8.iii.1989 at a mercury vapor lamp by B. Landry. Its genitalia are here described and figured for the first time. The habitus of this male is also figured (fig. 11) as well as the genitalia of the only female collected on Isabela.

Diagnosis.— This species (fig. 11) can be distinguished from other Galápagos plume-moths by its yellowish brown forewing ground colour added to very contrasting dark brown markings (especially diagnostic is the triangular patch in the first lobe) and by the presence of a tuft of dark brown scales slightly beyond the middle on the inner margin of the third hindwing lobe. The species appears most similar to *P. nigroapicalis* in colour, but many wing pattern features differentiate both species (for example, the dark brown apex of the forewing lobes in *P. nigroapicalis*).

Male genitalia (fig. 22).— Uncus slightly shorter than tegumen, moderately sclerotized, rather broad in diameter, slightly hooked apically; setation moderately abundant at base, short; its base at apex of tegumen. Tegumen moderate in size and sclerotization, apically incised in the middle; apical lobes short, rounded. Valvae symmetrical, with very short harpe: sacculus slightly longer than length of valva, of mostly even width; ventral part of cucullus gently rounded, not projected or setose; cucullus dorsally forming a rather stout projection directed ventrad and blunt apically. Annellus base broad, triangular; single pair of arms directed dorsally, weakly sclerotized, about half the length of tegumen. Vinculum narrow. Saccus absent. Aedeagus rather stout, moderately long and sclerotized, with small diagonal ridges dorsally; vesica with small sclerotized markings; coecum penis very short, rounded; ventral process slightly longer than coecum penis, more slender.

Female genitalia (fig. 33).— Antrum laterally ending at margin of the seventh sternite, one and a half times as long as wide. Ductus bursae in distal half little sclerotized; centrally making one twist and containing a slender sclerotized plate between this twist and the bursa. Bursa copulatrix vesicular, with a pair of horn-like signa. Distal half of bursa with minute spiculae. Lamina post-vaginalis as a wide M-

shaped sclerotized plate. Lamina ante-vaginalis fused with distal margin of seventh sternite; centrally a funnel-shaped ridge, laterally progressing into the apophyses anteriores, which are as long as the papillae anales. Apophyses posteriores slender, four to five times as long as the small papillae anales.

Geographical distribution.— *Stenoptilodes juanfernandicus* is only known from the Juan Fernandez island of Masatierra (Chile) and from Isla Isabela of the Galápagos Islands.

Natural history.— Unknown, except for the fact that the male collected by B.L. was attracted to light in a cultivated area.

Phenology.— The two known specimens from the Galápagos were collected in March and November.

Exelastis cervinicolor (Barnes & McDunnough, 1913) (figs. 13, 27, 39)

Pterophorus cervinicolor Barnes & McDunnough, 1913: 185.
Exelastis cervinicolor; Barnes & Lindsey, 1921: 347; Matthews et al., 1990: 617.

Material.— Ecuador, Galápagos Islands.— Baltra: 1 without abdomen, (South Seymour), 23.iv.1923 (AMNH). Isabela: 1 ♂, 11 km N Puerto Villamil, 9.iii.1989, B. Landry (CNC); 1 ♀, Puerto Villamil, 2.iii.1989, B. Landry (CNC). San Cristóbal: 2 ♂ (BL slide 216) & 1 ♀, 4 km SE Puerto Baquarizo, 12.ii.1989, B. Landry (CNC). Santa Crúz: 1 ♂ (BL slide 240) & 4 ♀, Conway Bay (Indefatigable), 1.iv.1923 (AMNH); 5 ♀ (BL slide 229), Finca S. Devine, 17.iii.1989, B. Landry (CNC, CDRS, MECN); 1 ♀, 2 km W Bella Vista, B. Landry (CNC). British Virgin Islands: 1 ♂ (CG slide 6129), Guana Island, 0-80 m, 9-23.vii.1987, Miller & Becker (BPBM).

Diagnosis.— Among Galápagos plume-moths, this species can be distinguished by its pale brown colour with virtually no wing markings, relatively slender forewing lobes and absence of scale tuft on third hindwing lobe.

Redescription (fig. 13).— Based on Galápagos specimens only. Wingspan 12-17 mm. Palpi erect, slightly longer than vertical diameter of eye, mostly beige with few dark brown scales. Antennae striped longitudinally with white and dark brown on basal $^1/_3$, dark brown apically. Head beige, scales apically with a patch of pale greyish brown surrounded by beige; with a tuft of moderately long scales projecting anterad between the antennae: occipital fringe bifid, pale brown. Thorax beige, scale colour as on head except at apex of tegula and scutum, more uniformly pale beige. Fore- and midleg coxa, femur and tibia longitudinally striped in dark brown and pale beige; tarsi dark brown on outer side, beige on inner side; with small dark brown tufts of scales on foreleg epiphysis and midleg tibial spurs; hindleg coxa, femur and tibia greyish brown on outer side, beige on inner side, with same pattern on tibial spurs; tarsi uniformly pale beige. Forewing pale brown, colour greyish brown on whole wing covered by longer pale yellowish beige scales (sometimes with distinct pale brown patch at apex of scale as on head and thorax); also with a few scattered dark brown scales especially before cleft and in fringe at apex of both lobes and on inner margin of wing: fringe grey brown with basally white hairs subapically on inner margin of both lobes. Hindwing grey brown; fringe concolorous, with scattered dark brown, and sometimes beige, elongate scales on basal half of inner margin of

third lobe. Abdomen dorsally with dark brown and beige longitudinal stripes (the larger dark brown stripe situated mesally); ventrally similarly patterned.

Variation.— On some specimens, the forewing ground colour can be darker brown, small dark brown spots are sometimes present on the costal margin of the first forewing lobe, scattered dark brown scales on the forewing inner margin can be present, and the abdominal markings are sometimes inconspicuous.

Male genitalia (fig. 27).— Uncus large, ovoid, apically with a shallow median concavity, cervically with a small triangular protruding knob; with moderately long setae dorsally and laterally, stiffer laterally. Tegumen weakly sclerotized, with median supports at right angle. Valvae symmetrical: sacculus with glabrous basal hump, distally forming a heavily sclerotized spine-shaped process curved inwards at $^2/_3$ length of valva; cucullus weakly sclerotized, rounded. Vinculum complex, with bilobed projection (saccus?) proximally. Eighth sternite with a pair of apico-laterally projecting elongate sac-like extensions. Aedeagus weakly sclerotized, short; coecum penis half the length of aedeagus proper, extended at half right angle.

Female genitalia (fig. 39).— Papillae anales rounded, weakly sclerotized; setation moderately long and abundant. Apophyses posteriores well sclerotized, slender, mostly straight, extended to posterior margin of tergite VII. Tergite VIII slender, moderately sclerotized. Posterior margin of sternite VII broadly rounded, extended over ventro-lateral extensions of tergite VIII. Ostium in the middle, dorsal to apical extension of sternite VII. Lamina ante-vaginalis semi-circular in shape, rather well sclerotized. Ductus bursae completely membranous, extended to middle of segment VI. Bursa copulatrix oval in shape; with a pair of elliptical signa with short elongate keel in middle; cuticle wrinkled. Ductus seminalis connected near bursa copulatrix.

Geographical distribution.— This species was described from Florida (U.S.A.). From the Galápagos, we have seen it from the islands of Baltra, Isabela, San Cristóbal and Santa Crúz. We have also seen a specimen from the British Virgin Island of Guana.

Natural history.— This species comes to light. In the Galápagos, it was usually collected at low elevation but also in the transition zone (now mostly cultivated) of Isabela, Santa Crúz and San Cristóbal. Its foodplant is unknown. The greasy condition of the abdomen of the specimens collected indicates that the larva is probably a borer.

Phenology.— On the Galápagos archipelago, moths were collected from mid-February to late April.

Discussion.— Although the type of this species was not examined, the illustration of its genitalia by Barnes and Lindsey (1921) and Matthews (1989) leave little doubt as to the identity of this species. It is to be noted that the geographical distribution of this species is undoubtedly more extensive than what is currently known.

Adaina ambrosiae (Murtfeldt, 1880)
(figs. 14, 25, 38)

Pterophorus ambrosiae Murtfeldt, 1880: 236.
Pterophorus perplexus Grossbeck, 1917: 136.
Adaina ambrosiae; Barnes & Lindsey, 1921: 371.

Material.— Ecuador, Galápagos Islands: 3 ♂& 7 ♀, (BL slide 212 ♂, BL slides 227 ♀ & 297 ♀) Santa Crúz, Los Gemelos, 31.i.1989, MVL, B. Landry (CNC no. 21249); 1 ♀, Los Gemelos, 25.i.1989; 1 ♂ & 1 ♀, Tortuga Reserve W Santa Rosa, 6.ii.1989; 2 ♀ , Finca S. Devine, 17.iii.1989, B. Landry (CNC, CG, MECN, CDRS); 1 ♂, Horneman Farm, 220 m, 15.ii.1964, D.Q. Cavagnaro (CAS); 1 ♀, Horneman Farm, 220 m, 7.v.1964, D.Q. Cavagnaro & R.O. Schuster (CAS).

Diagnosis.— The moth can be distinguished by its produced forewing lobes, absence of scale-tuft on third hindwing lobe and yellowish brown or greyish brown forewing colour with contrasting darker brown markings. *Adaina ambrosiae* is mostly similar to *Oidaematophorus devriesi* except for its smaller size and the presence of dark brown spots at the apical margins of the tergites medially.

Redescription (fig. 14).— Wingspan 11-14 mm. Labial palpi erect, brown laterally on outer side, beige elsewhere. Antennae mostly beige with few dark brown scales. Head dark brown on fronto-clypeus and occiput, beige on vertex; occipital fringes bifid, beige at base, dark brown apically. Thorax mostly beige, anterior half with scales apically pale brown. Legs beige on coxa, on femora as longitudinal stripes, on foreleg tibia ventrally, on mid- and hind tibia as intermixed scales on tibial spines ventrally at base, and at base of all tarsi; dark brown elsewhere. Forewings mostly pale brown, irrorated with dark brown scales in costa, with yellowish brown stripe from base of wing to middle of anterior lobe, with a triangular patch of dark brown scales before white scaled cleft and on inner margin from middle to cleft: anterior lobe costa whitish brown with a large dark brown patch near base and a smaller patch subapically; inner margin fringe with two corresponding small dark brown patches: posterior lobe mostly dark brown, paler at base; fringe mostly dark brown with scattered paler brown scale patches. Hindwings unicolorous, grey brown; fringe concolorous. Abdomen dorsally mostly pale brown irrorated with dark brown scales, with dark brown spots medially at apex of first six segments; laterally with longitudinal whitish and dark brown stripes ending in a contrasting dark brown tuft on valva; ventrally mostly dark brown irrorated with paler scales.

Variation.— In forewing colouration, specimens may appear yellowish brown, beige or greyish brown. The abdominal and antennal markings are also variable.

Male genitalia (fig. 25).— Uncus long, slender, broadly down-curved. Tegumen dorsal connection short, with long pedunculi. Valvae asymmetrical: inner side of right valve with subapical scoop-like structure extended cephalad along dorsal margin in a narrow sclerotized band; ventral margin with a sclerotized band on inner side from before middle to subapical scoop-like structure; sacculus rounded; membranous apex pointed: left valve larger than right, apically rounded; harpe with a distinct weakly sclerotized part apically free and curved at right angle toward apex situated at base and dorsally; main harpe structure short, strongly sclerotized, with both apices free and curved in opposite directions, anterior end more rounded and weakly sclerotized with longer hairs. Vinculum narrow. Arms of juxta apically asymmetrical and strongly sclerotized. Aedeagus about half the length of valva, strongly sclerotized, mostly straight but with margins broadly undulated; vesica membranous; coecum penis about $^1/_4$ length of aedeagus, in line with its long axis.

Female genitalia (fig. 38).— Papillae anales rounded, weakly sclerotized. Posterior apophyses slender, straight, extended to posterior third of segment VIII. Right half of segment VIII larger than left half and forming a large semi-circular depression

before ostium; left half with two small bumps at base dorsally. Ostium to left of middle. Lamina ante-vaginalis strongly sclerotized and semi-circular. Ductus with secondary pouch at base. Corpus circular without signum. Ductus seminalis from corpus.

Geographical distribution.— This species is known from the Galápagos island of Santa Crúz, the British Virgin Island of Guana and is wide spread in the U.S.A.

Natural history.— The moths are attracted to light and were collected only in the transition (including some cultivated areas) and scalesia zones of Santa Crúz. In the U.S.A. the hostplant is *Ambrosia artemisiaefolia* L. (Common ragweed) (Asteraceae) (Matthews, 1989).

Phenology.— In the Galápagos, the moths have been collected from late January to early May.

Oidaematophorus nephogenes (Meyrick, 1926)
(figs. 15, 24, 34)

Pterophorus nephogenes Meyrick, 1926: 276.

Material.— Types, see below. Ecuador, Galápagos Islands.— Floreana: 1 ♂ (lectotype, BM slide no 18449), sea level, 30.vii.1924, at light, St. George Expedn., C.L. Collenette (BMNH). Isabela: 4 without abdomen (paralectotypes), 200 ft, 7.viii.1924, at light, St. George Expedn., C.L. Collenette (BMNH); 6 ♂ (BL slide 213) & 1 ♀, Puerto Villamil, 2.iii.1989; 1 ♀, 1 km W Puerto Villamil, 3.iii.1989; 1 ♀ (BL slide 226), 2 km W Puerto Villamil, 5.iii.1989; 1 ♂, 8.5 km N Puerto Villamil, 11.iii.1989; B. Landry (CNC, CG, MECN). Santa Crúz: 1 ♂, Darwin Res. Sta., 10.iii.1970; 1 ♀, Darwin Res. Sta., 11.iii.1970; 1 ♂, Darwin Res. Sta., 12.iii.1970; 1 ♀ (BL slide 232), Darwin Res. Sta., 19.vii.1970; 1♂ (BL slide 222), 1 ♀ & 1 without abdomen, Darwin Res. Sta., viii.1970, R. Silberglied (MCZ); Santa Cruz: 3 ♂ (BL slide 303), 2 ♀, 1 without abdomen, xii.1968, B.M. 1969-17, Ref No. L. 22 (BMNH). Island unknown: 2 ♂& 5 ♀, reared from *Scalesia affinis* Hooker (CDRS).

Types.— This species was described from five specimens (Meyrick 1926: 276). They are located in the Natural History Museum, London. Four lack their abdomen. The only specimen with an abdomen, a male, is here designated as lectotype. It bears the following labels: **1.** Charles Island, Galápagos, at light, sea level, 30.7.24, St. George Expedn., C.L. Collenette; **2.** Brit. Mus, 1925-488 (upside down); **3.** M33; **4.** *Pterophorus nephogenes* Meyr., Paratype; **5.** ♂ Pyralidae Brit. Mus. Slide No. 18449. Two additional lectotype labels were added on the pin: a small circular blue-edged label in first position and a white label with "LECTOTYPE, *Pterophorus nephogenes* Meyr., B. Landry 1991" in last position. The four other specimens of the original description were designated as paralectotypes. They were collected by C.L. Collenette during the St. George Expedition on Albermarle (Isabela) island in August 1924. One was labelled as the type subsequent to the original description.

Diagnosis.— This species can be distinguished from other species in the Galápagos by the pale "grey" colour of its forewings with usually distinct darker markings, by the absence of hindwing scale tufts, by the pointed forewing lobes and by the prominent scale tufts on the fore- and midleg tibia near the middle and at apex.

Redescription (fig. 15).— Wingspan 14-17 mm. Labial palpi erect, about as long as eye diameter; scales basally beige, apically brown. Antennae with scales on each

segment white at base and dark brown apically forming an annulate pattern. Head mostly with basally beige, apically dark brown scales except between eyes, completely white: occipital fringe bifid; scales beige at base, brown apically. Thorax mostly with basally beige, apically brown scales but with white scales apically as a fringe from tegula to tegula. Legs coxa and femora mottled with white and half brown-half white scales: tibia on foreleg with two conspicuous, mostly dark brown tufts of scales; also with two large tufts (one median, one apical) on midleg; with distinct dark brown patches on hindleg but without tufts; all tibial spurs short, dark brown on outer side and apex, white on inner side: all tarsi pale (white or beige) on most of length, brown apically. Forewings appearing grey, covered with basally beige, apically brown scales, with completely white scales near middle, before cleft and sometimes at base and on costa beyond cleft; also with apically dark brown scales before white cleft as a distinct patch, and usually also between cleft and base as one or two longitudinal dashes and on costa before and beyond white costal dash: fringe a mixture of white and brown hairs. Hindwings appearing dark grey, covered with brown (paler basally, darker apically) scales; fringe concolorous. Abdomen ventrally and dorsally pale, mostly with basally white, apically pale brown scales; sometimes with more entirely white scales, especially in the middle: scales at tip of male genitalia dark brown.

Variation.— The specimens examined varied mostly in the intensity of the ground colour, appearing more or less grey, and in the contrast of the forewing markings.

Male genitalia (fig. 24).— Uncus moderate in degree of sclerotization, length and slenderness. Tegumen long, almost completely sclerotized dorsally, with very short pedunculi. Valvae asymmetrical: right valve more slender than left, simple; left valve with harpe extension forming a loop at base, long, slender, extended to subapex of valve. Vinculum narrow, weakly sclerotized. Arms of juxta moderately sclerotized, apically asymmetrical. Aedeagus about $^3/_4$ length of valve, moderately sclerotized, slightly curved downwards; vesica somewhat sclerotized; coecum penis very short.

Female genitalia (fig. 34).— Papillae anales with a distinct sclerotized band at their base; setation long, sparse. Apophyses posteriores slender, well sclerotized, mostly straight, extended to anterior margin of tergite VIII. Apical margin of sternite VII broadly rounded, extended to beyond middle of tergite VIII. Tergite VII rather poorly sclerotized. Ostium left from middle. Lamina ante-vaginalis cup-shaped, intimately connected to posterior margin of sternite VII. Antrum of ductus bursae well sclerotized; ductus bursae short, not separable from elongate bursa copulatrix. Latter without signa. Ductus seminalis as large and more than twice the length of bursa copulatrix, ending in a very slender tube.

Geographical distribution.— This species is known from the Galápagos islands of Floreana, Isabela and Santa Crúz.

Natural history.— Based on reared specimens deposited in the Charles Darwin Research Station collection, Isla Santa Crúz, the foodplant of this species is known to be *Scalesia affinis* Hooker (Asteraceae).

The specimens collected at light were all taken in the arid zone of the islands.

Phenology.— In the Galápagos, specimens were collected in March, July, August and December.

Remarks.— The foodplant record mentioned here for the first time for this

species is also the first evidence of a possibly endemic species of Pterophoridae feeding on an endemic plant species. According to Wiggins and Porter (1971), the host-plant, *Scalesia affinis*, is present on the Galápagos islands of Fernandina, Isabela, Santa Crúz and Santa María (Floreana). Thus, we may expect the moth to occur also on Fernandina. As evidenced by the morphological characteristics of the other *Oidaematophorus* species occurring in the Galápagos, none would readily qualify as a close relative of *O. nephogenes*. Thus it seems that the genus, as far as known, did not radiate into many closely related species associated with different species of scalesias. Rather, it appears that the Galápagos species belong to separate monophyletic lineages which are not sister-groups.

Oidaematophorus cristobalis spec. nov.
(figs. 9, 26, 30)

Material.— Holotype ♀, Ecuador, Galápagos Islands, San Cristóbal, 4 km SE Pto Baquarizo, 12.ii.1989, MVL, B. Landry (CNC No. 21251). 14 paratypes: Galápagos Islands.— San Cristóbal: 1 ♀, 4 km SE Puerto Baquarizo, 12.ii.1989; 2 ♀, 1 km S El Progreso, 14.ii.1989; 1 ♀, 4 km SE Puerto Baquarizo, pampa zone, 18.ii.1989; 1 ♂ (BL slide 214) & 3 ♀, 4 km SE Puerto Baquarizo, 20.ii.19891; 4 ♀ (BL slide 228), base of Cerro Pelado, 22.ii.1989; B. Landry (CNC, CG, MECN). Isabela: 1 ♂ (BL slide no 301), Sierra Negra, Corazon Verde, xi-xii.1974, T.J. de Vries, BM 1976-58; 1 ♀, Sierra Negra Alemania, xi.1974, T.J. de Vries, BM 1976-58 (BMNH).

Diagnosis.— This species is distinguished from other Galápagos pterophorids by its plain mouse-grey colouration of the wings and very faint forewing markings, by the absence of a scale-tuft on the third hindwing lobe and by its pointed forewing lobes.

Description (fig. 9).— Wingspan 13-16 mm (holotype 16 mm). Labial palpi erect, about as long as eye diameter, with mixed white and dark brown scales. Antenna with longitudinal dark brown and white stripes on basal $^1/_3$; dark brown on apical $^2/_3$. Head with dark brown fronto-clypeus and occiput, paler brown mixed with white scales on vertex with a pure white row of scales between antennae: occipital fringe bifid, dark brown. Thorax with basally beige, apically greyish brown scales except laterally at apex, white. Fore- and midleg coxa to tarsomere I with longitudinal dark brown and white stripes; tibia with small dark brown tufts at foreleg epiphysis and medially and apically on midleg; tarsomeres II-III pale basally, greyish brown apically; tarsomeres IV-V greyish-brown; hindleg mostly greyish brown (paler on inner side), except for paler last four tarsomeres apically ringed with dark brown: all leg spurs long, dark greyish brown. Forewings mostly with more or less basally pale brown, apically darker brown scales, irrorated with pure white scales (especially from discal dark brown spot to before cleft); other dark brown scales slightly before cleft, at four spots on first lobe costal margin and apex, and at three spots on second lobe outer margin; fringe mostly brown, white as a small patch on first lobe inner margin subapically and on apical half of second lobe's inner margin. Hindwing uniformly greyish brown with concolorous fringe. Abdomen dorsally mostly with basally white apically brown scales with scattered (or sometimes lateral patches of) pure white scales; latero-ventrally with two large stripes of mostly dark brown scales, with a mixture of dark brown and white scales between stripes.

Variation.— The forewing pattern tends to vary in the contrast shown by its dark brown spots. The abdomen is also sometimes more evenly dark brown with a large longitudinal stripe in the middle bordered with white scales.

Male genitalia (fig. 26).— Uncus strongly sclerotized, slender. Tegumen long, almost completely sclerotized dorsally, with very short pedunculi. Valvae asymmetrical: right valve more slender, especially at apex; saccullus strongly sclerotized, large, indistinctly separated from cucullus; latter with shallow sclerotized depression near base on inner side: left valve with large sacculus separated from cucullus; latter with sclerotized ventral margin ending beyond middle in a free, finger-like, flat extension directed apico-dorsally; harpe formed by a rather large sclerotized plate adorned with a tiny hook ventro-basally and a longer, slightly curved, slender extension apico-dorsally; inner side medially slightly sclerotized. Vinculum narrow. Juxta rather short; arms asymmetrical; left arm with additional basal extension. Aedeagus less than half length of valva, weakly sclerotized; vesica membranous; coecum penis about $^1/_5$ length of aedeagus, in line with its long axis.

Female genitalia (fig. 30).— Papillae anales rounded, moderately sclerotized, with sparse setation of medium length. Apophyses posteriores strongly sclerotized, straight, extended to middle of tergite VIII. Sternite VII weakly sclerotized; apical margin broadly rounded, extended to beyond middle of tergite VIII. Tergite VIII strongly sclerotized, with strongly marked circular spiracles. Ostium to the left. Lamina ante-vaginalis mouth-shaped with small spines internally and externally. Ductus bursae rather large, extended to anterior margin of segment VII. Bursa copulatrix circular with a pair of small circular signa near base. Ductus seminalis long and relatively wide, from base of ductus bursae.

Geographical distribution.— This species is known only from the islands San Cristóbal and Isabela of the Galápagos.

Natural history.— *Oidaematophorus cristobalis* was collected at light in the transition forest, in cultivated and wild areas, of San Cristóbal Island and in the pampa zone of San Cristóbal and Isabela islands. It does not seem to occur at low elevations. The foodplant is unknown.

Phenology.— Specimens of this species were collected in February on San Cristóbal and in November (possibly December also ?) on Isabela.

Etymology.— This species is named after San Cristóbal, the name of the island where it was discovered by the first author.

Oidaematophorus devriesi spec. nov.
(figs. 16, 29)

Types.— Holotype: ♀, Ecuador, Galápagos Islands, Isabela, Sierra Negra, Corazon Verde, xi-xii.1974, T.J. de Vries, BM 1976-58 (BMNH). Five paratypes: Galápagos Islands, Isabela: 4 ♀ (BL slide 302, BM slide 18466), Sierra Negra, Corazon Verde, xi-xii.1974; 1 ♀, Sierra Negra, Alemania, xi.1974, T.J. de Vries, BM 1975-58 (BMNH, CNC).

Diagnosis.— This moth is very similar to *Adaina ambrosiae* although it is larger by at least three millimeter in wingspan in the series of specimens examined. Both species have different dorso-abdominal and leg markings (see descriptions and key).

The two species are similar in their yellowish brown forewing ground colour, their apically pointed forewing lobes and the absence of any scaling on the inner margin of their third hindwing lobe. They also differ markedly in the structure of their female genitalia (figs. 29, 38).

Description (fig. 16).— Wingspan 17-18 mm (holotype 18 mm). Palpi erect, slightly longer than vertical diameter of eye, without scale tufts, brown with white scales on first segment. Antennae with beige and pale brown scales. Head brown on frontoclypeus, white as a thin row between antennae, beige on anterior half of vertex, brown on posterior half of vertex and on occiput; occipital fringe bifid or trifid, brown or beige. Thorax yellowish brown anteriorly, paler (beige) posteriorly. All legs coxa, femora and tibia brown with scattered (except on tibia, as patches) white scales; all tibial spurs dark brown on outer side and apically, white on inner side; foreleg epiphysis tuft dark brown; foreleg tarsomeres mostly pale greyish brown with dark brown and white areas, especially on first tarsomere; midleg tarsomeres mostly greyish brown except base of first tarsomere, white; hindleg tarsi pale brown with paler (almost white) areas. Forewing yellowish brown with dark brown markings: first third mottled with pale brown, yellowish brown and dark brown scales; apical $^2/_3$ mostly white with scattered dark brown scales, a large dark brown patch slightly before cleft, on costa at base of first lobe and at apex of both lobes; more uniformly white between middle of cell and dark brown patch before cleft, at cleft and on inner margin of both lobes medially: fringe mostly pale greyish brown, with shorter dark brown scales at apex of both lobes usually with white hairs and/or scales on both sides. Hindwing uniformly greyish brown with concolorous fringe. Abdomen dorsally mostly beige in the middle as a large longitudinal stripe, with yellowish brown and dark brown scaling on each side, subapically with a large dark brown patch; ventrally mottled with dark brown and beige scales on anterior $^2/_3$, apical $^1/_3$ almost uniformly pale (yellowish brown, beige and white).

Variation.— Not observable due to poor condition of most specimens.

Male genitalia.— Unknown.

Female genitalia (fig. 29).— Papillae anales with a very long (as long as a normal segment, e.g. VI) sclerotized base before the short, spiculate, setose and membranous apical lobes. Apophyses posteriores moderately long, straight, directed inwards. Tergite VIII well sclerotized, narrow. Sternite VII with a large median rounded lobe extended to middle of sclerotized part of papillae anales; this lobe with a small hole connected to a tube medio-ventrally, also with spinules on dorsal side medially. Apophyses anterior absent. Ostium bursae located to the left on dorsal side of sternite VII lobe. Antrum weakly sclerotized, large. Ductus bursae very weakly sclerotized and slender, extended to middle of segment VI. Ductus seminalis not located. Bursa copulatrix short, narrow, very weakly sclerotized, without visible cornuti.

Geographical distribution.— This new species has been collected only on the Galápagos island of Isabela.

Natural history.— The species is an inhabitant of the transition zone (now partly cultivated) on Isla Isabela.

Phenology.— All known adults were collected in November and December.

Etymology.— This species is named after Professor T.J. de Vries of the "Pontificia Universidad Católica del Ecuador" in Quito, who collected the type series.

Remarks.— The description of the head, thorax and abdomen of this species was

based on paratypes due to the greasy condition of these parts on the holotype.

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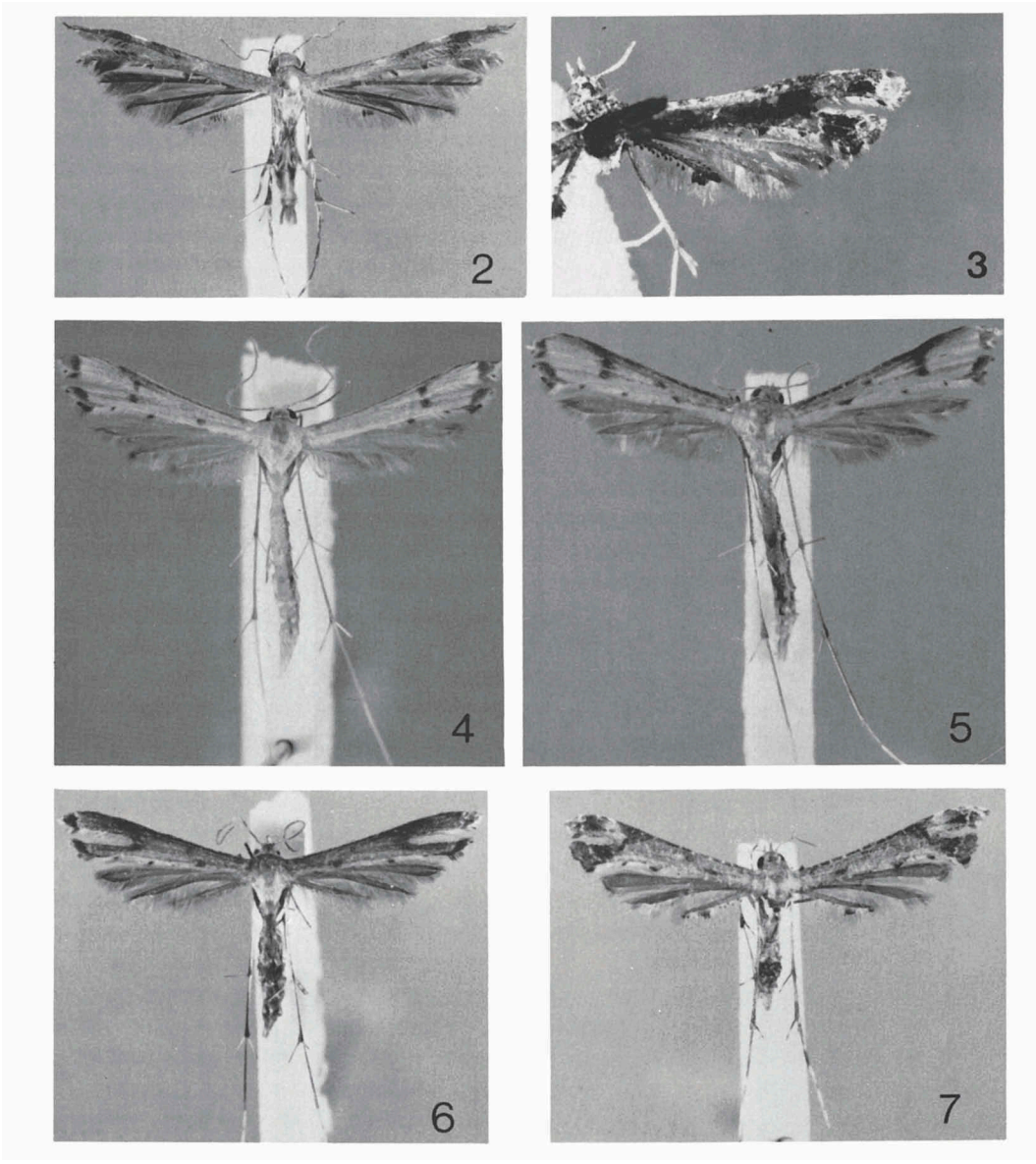
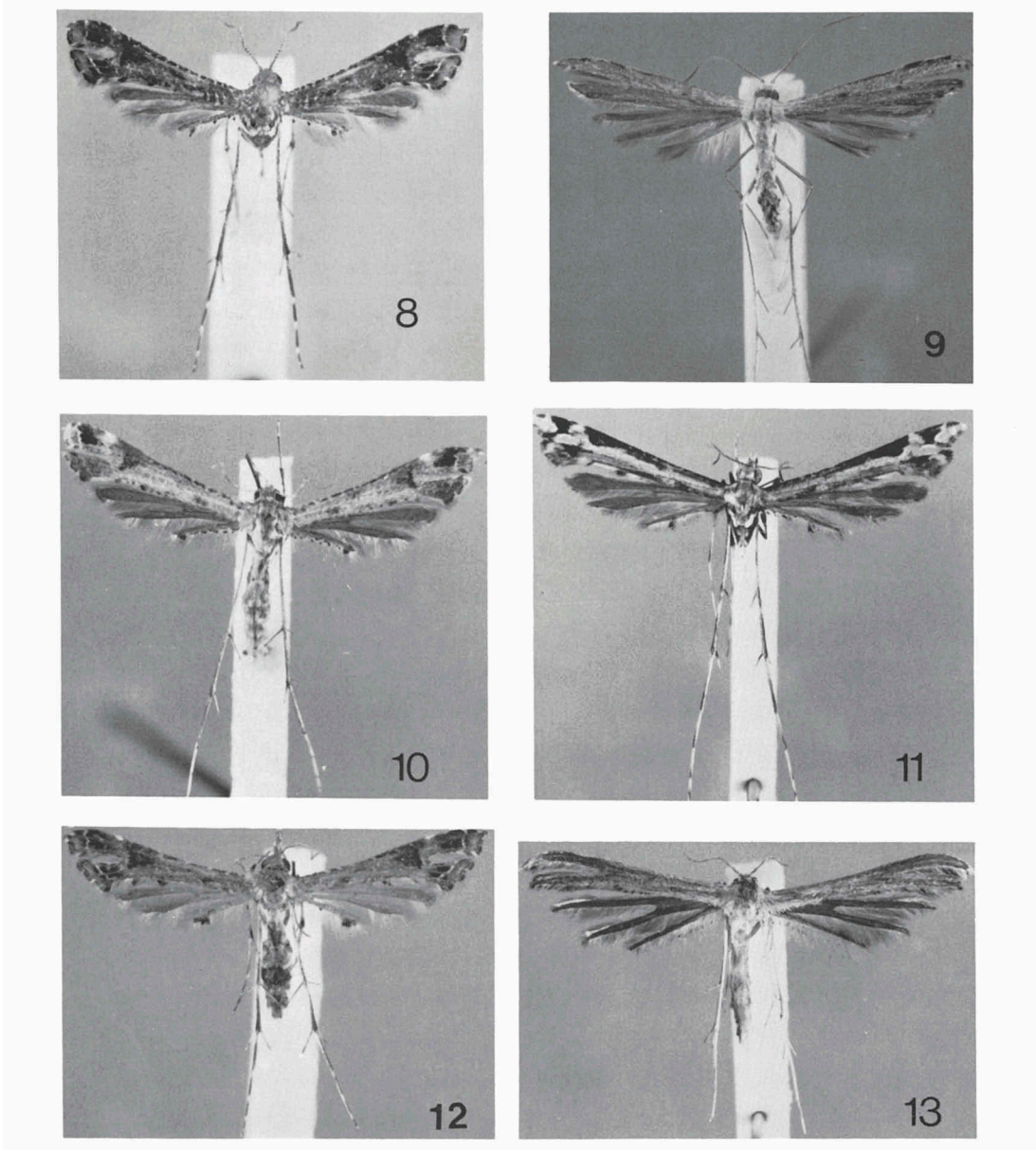
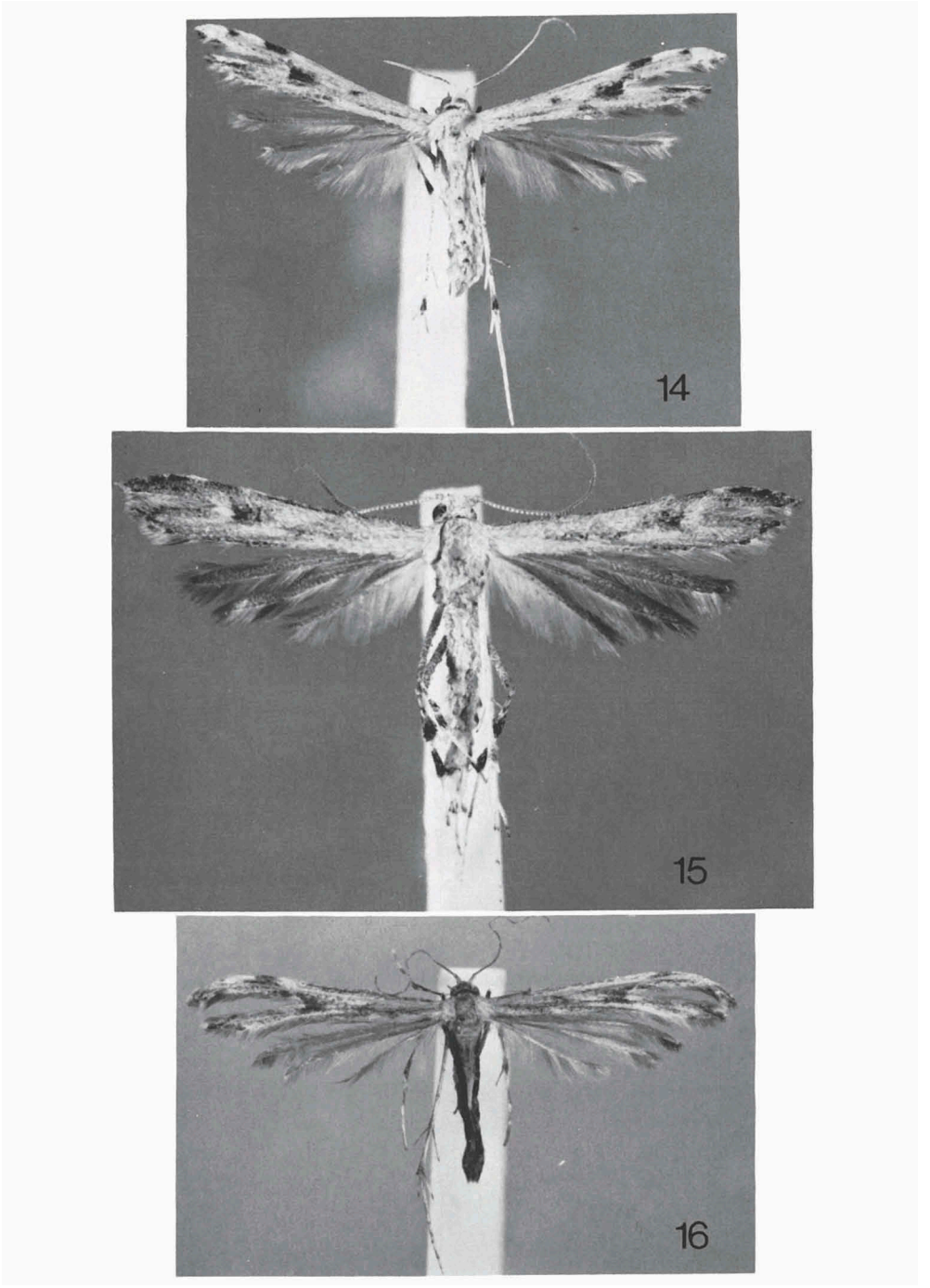


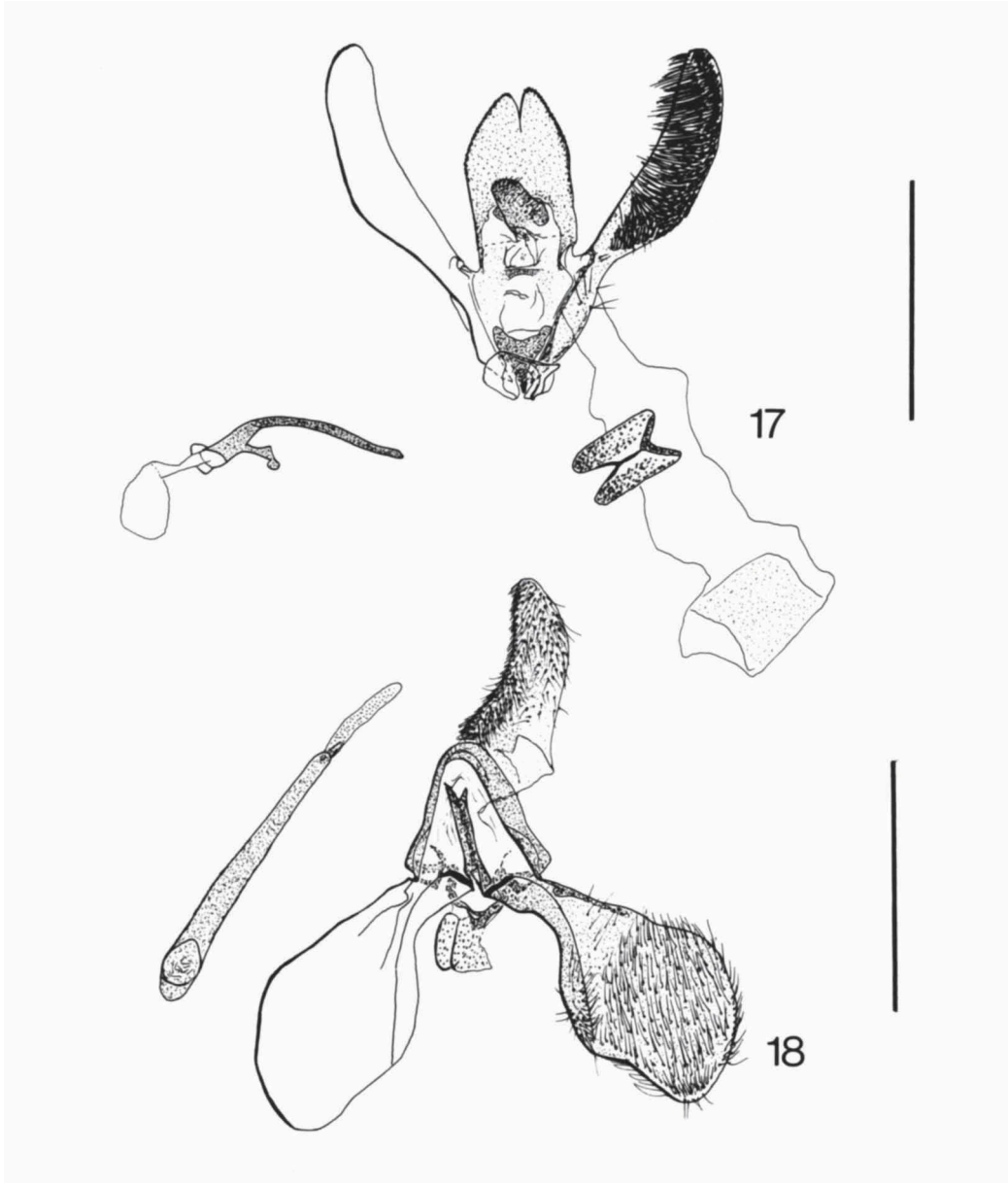
Figs. 2-7. Dorsal views of adult Pterophoridae treated in this study. 2. *Megalorhipida defectalis*, ♂ (Isabela Island, CNC, wingspan = 14 mm). 3. *Lantanophaga pusillidactyla*, ♂ (Indefatigable Island, AMNH, wingspan = 13 mm). 4-6. *Platyptilia nigroapicalis*: 4, ♂ (Santa Crúz Island, CNC, wingspan = 11 mm); 5, holotype ♂ (Santa Crúz Island, CNC, wingspan = 13 mm); 6, ♂ (Santa Crúz Island, CNC. wingspan = 13 mm). 7. *Postplatyptilia huigraica*, ♀ (Isabela Island, CNC, wingspan = 13 mm).



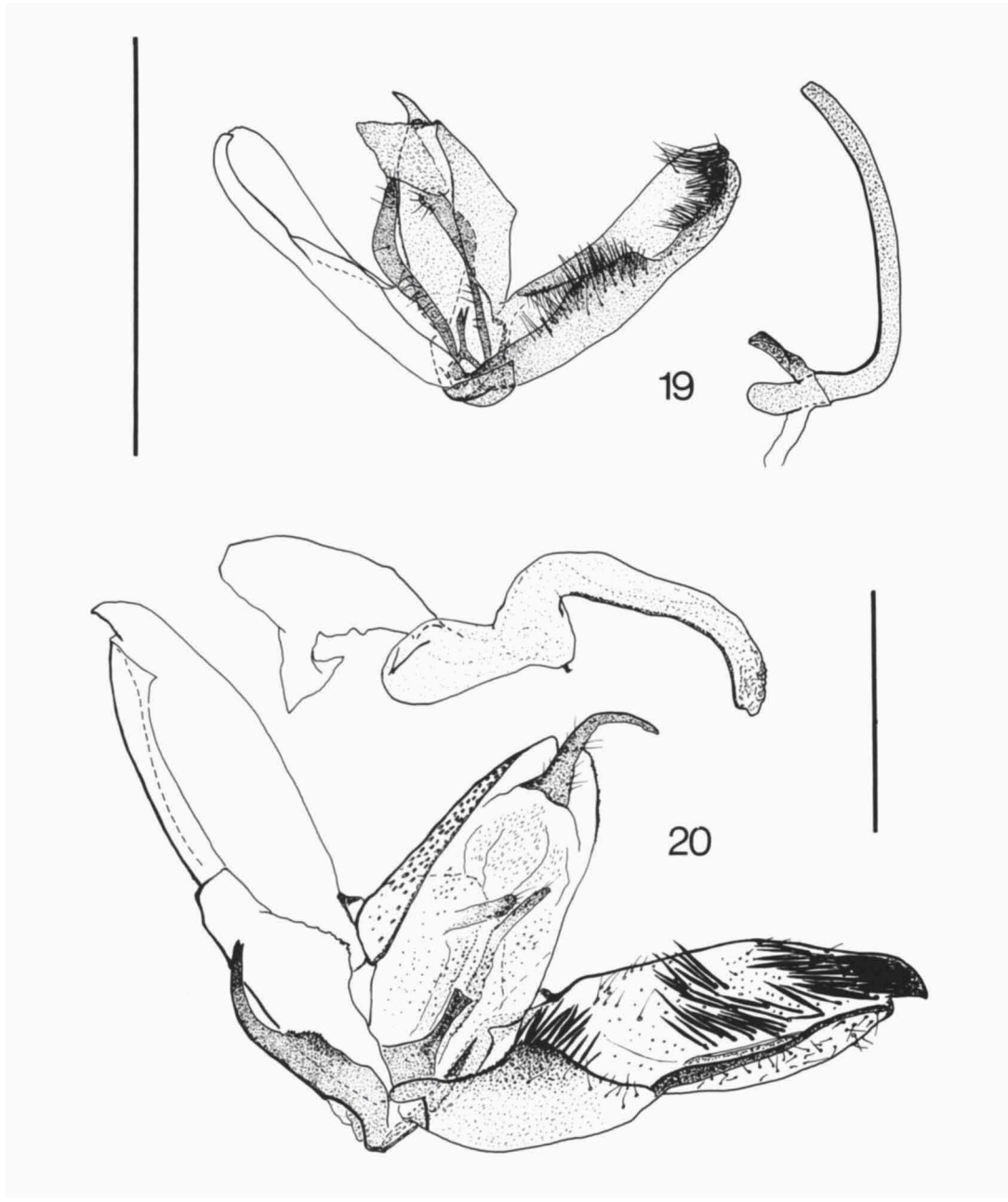
Figs. 8-13. Dorsal views of adult Pterophoridae treated in this study. 8. *Postplatyptilia minima*, holotype ♂ (Isabela Island, CNC, wingspan = 10 mm). 9. *Oidaematophorus cristobalis*, holotype ♀ (San Cristóbal Island, CNC, 16 mm). 10. *Stenoptilodes brevipennis*, ♀ (Isabela Island, CNC, wingspan = 13 mm). 11. *Stenoptilodes juanfernandicus*, ♂ (Isabela Island, CNC, wingspan = 15 mm). 12. *Postplatyptilia* sp. 1, ♀ (Isabela Island, CNC, wingspan = 10 mm). 13. *Exelastis cervinicolor*, ♂ (Isabela Island, CNC, wingspan = 16 mm).



Figs. 14-16. Dorsal views of adult Pterophoridae treated in this study. 14. *Adaina ambrosiae*, (Santa Crúz Island, CNC, wingspan = 13 mm). 15. *Oidaematophorus nephogenes*, ♂ (Isabela Island, CNC, wingspan = 16 mm). 16. *Oidaematophorus devriesi*, holotype (Isabela Island, BMNH, wingspan = 18 mm).



Figs. 17-18. Male genitalia of Pterophoridae in posterior view with aedeagus removed. 17. *Platyptilia nigroapicalis* (1.0 mm). 18. *Megalorhipida defectalis* (1.0 mm).



Figs. 19-20. Male genitalia of Pterophoridae in posterior view with aedeagus removed. 19. *Postplatyptilia huigraica* (1.0 mm). 20. *Lantanophaga pusillidactyla* (0.5 mm).

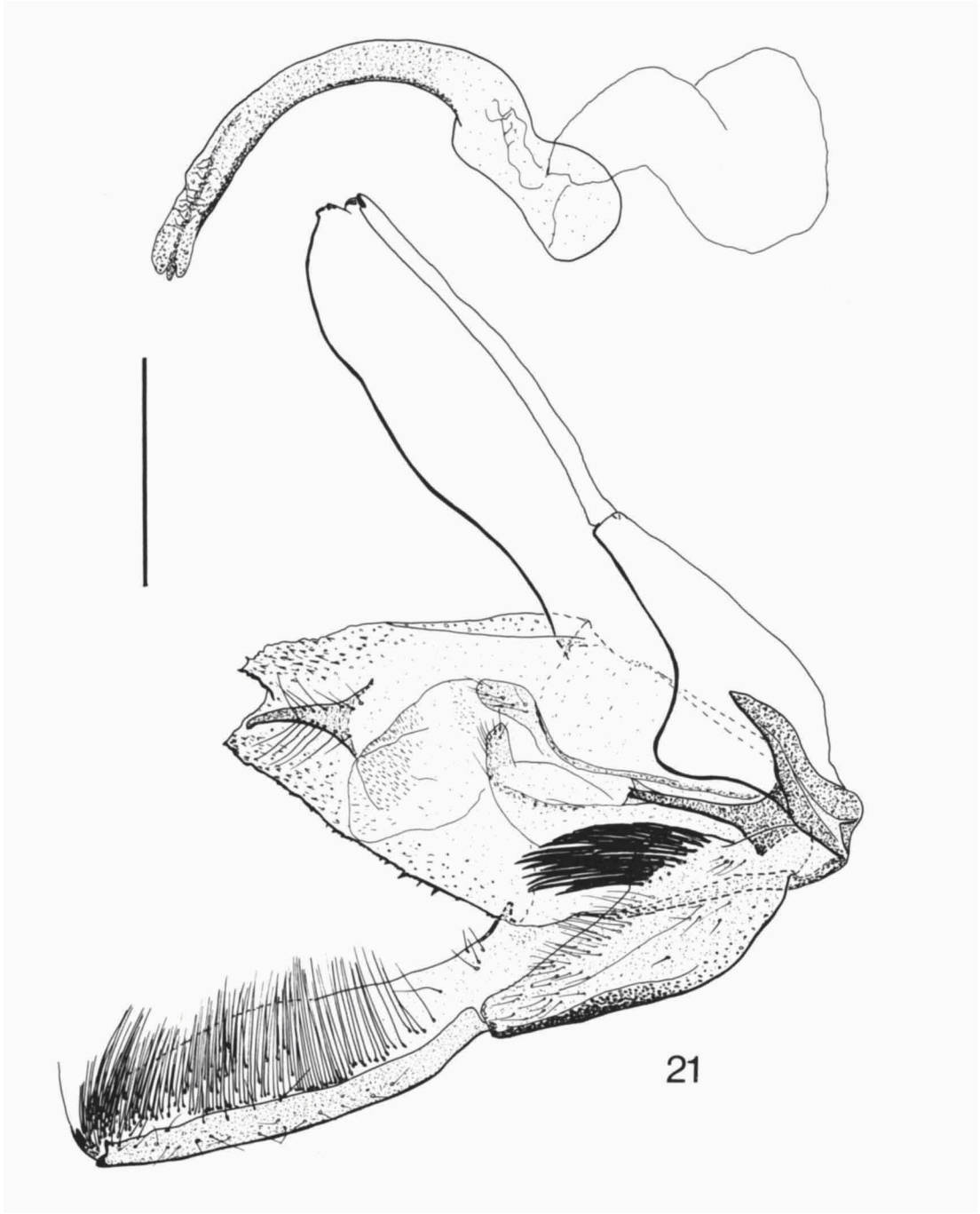
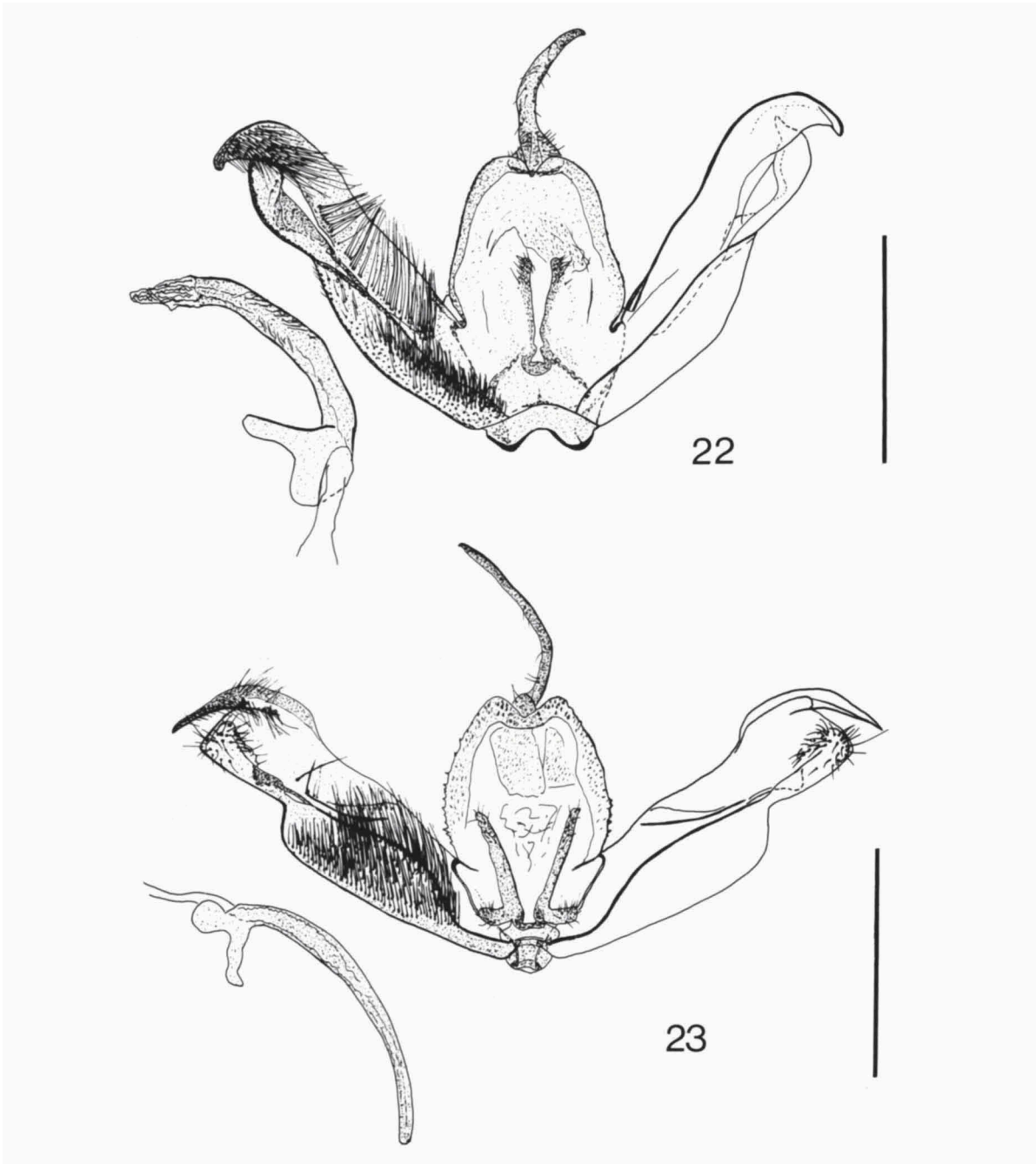
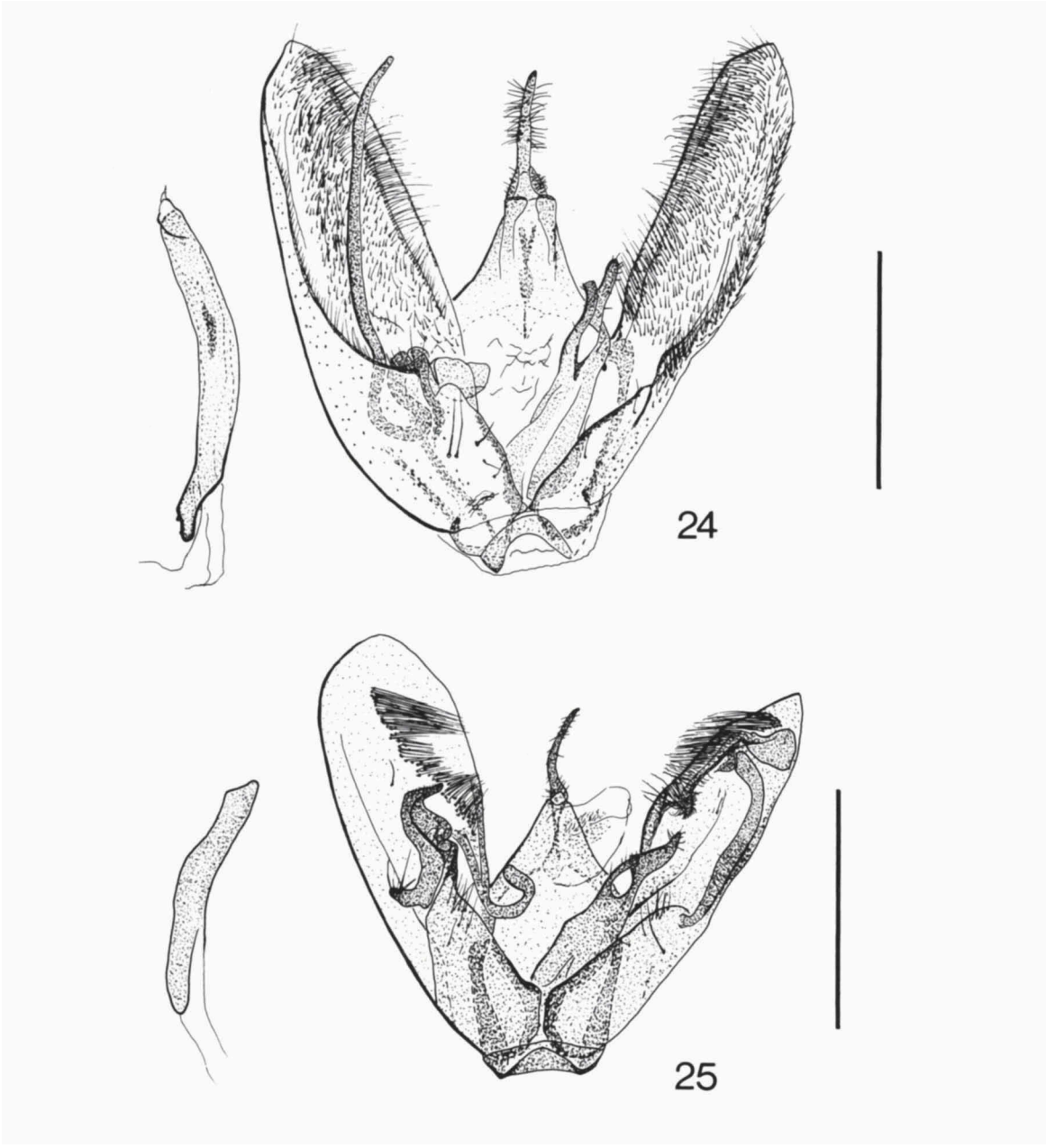


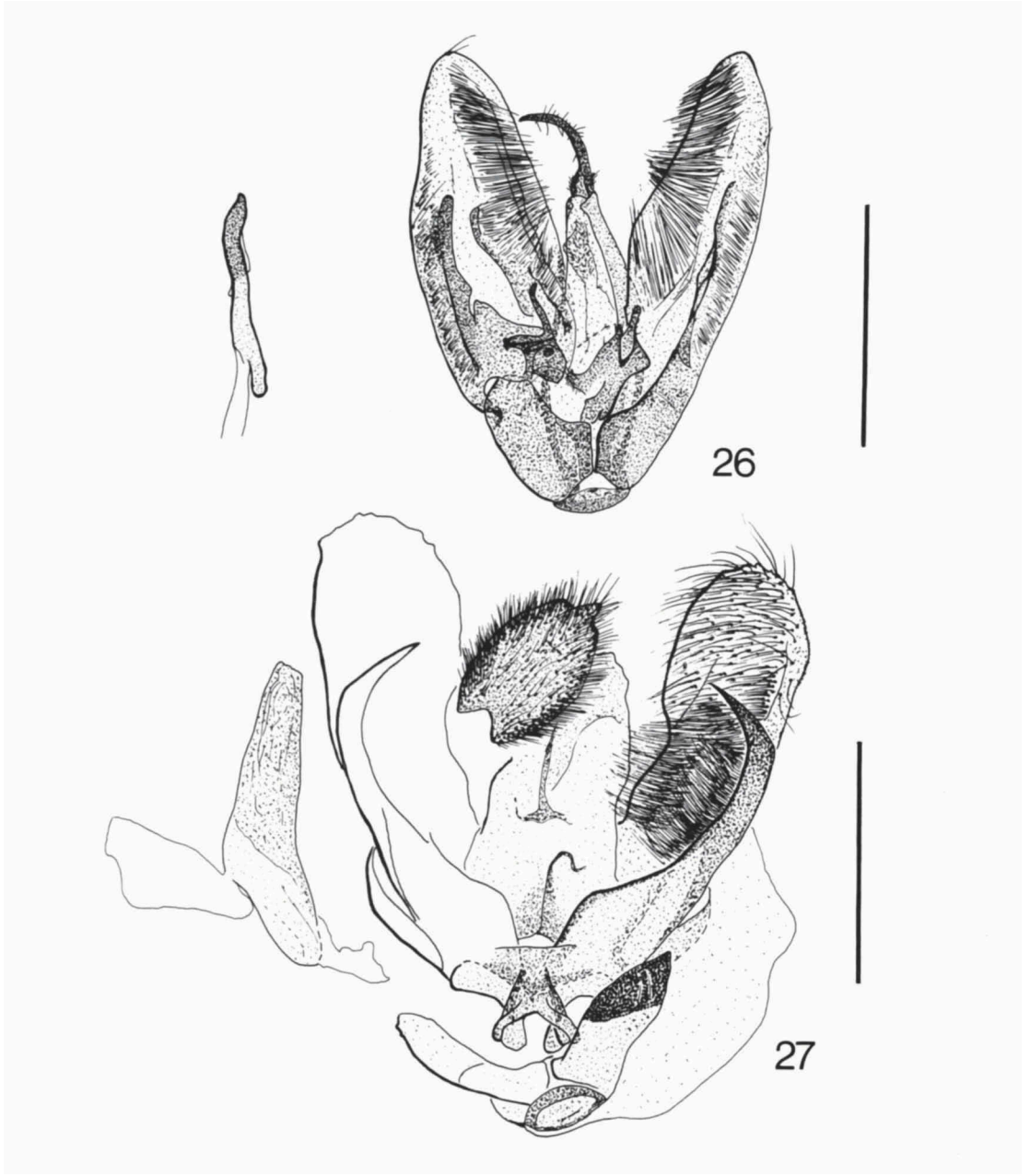
Fig. 21. Male genitalia of *Postplatyptilia minima* (0.5 mm) in posterior view with aedeagus removed.



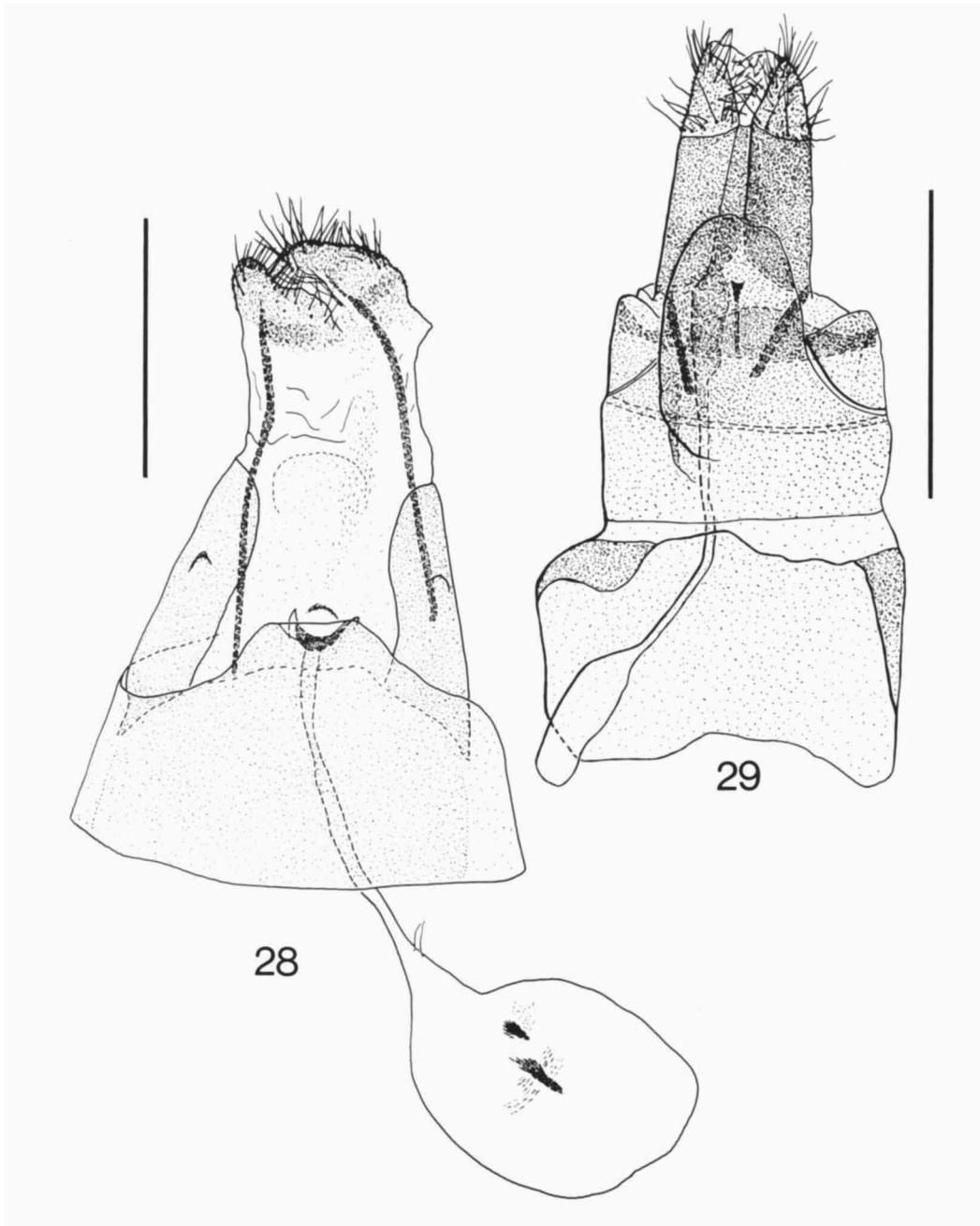
Figs. 22-23. Male genitalia of Pterophoridae in posterior view with aedeagus removed. 22. *Stenoptilodes juanfernandicus* (1.0 mm). 23. *Stenoptilodes brevipennis* (1.0 mm).



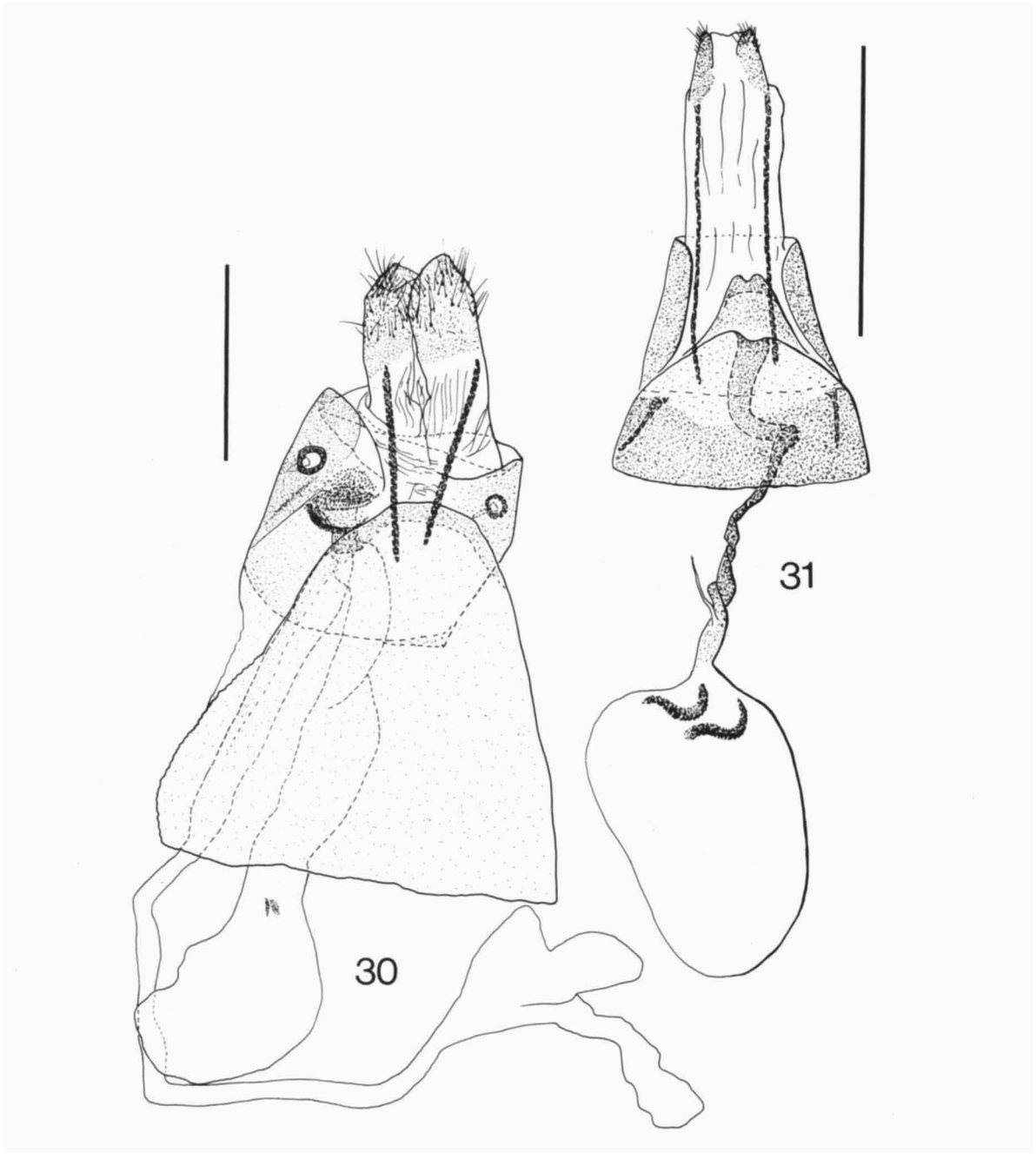
Figs. 24-25. Male genitalia of Pterophoridae in posterior view with aedeagus removed. 24. *Oidaematophorus nephogenes* (1.0 mm). 25. *Adaina ambrosiae* (1.0 mm).



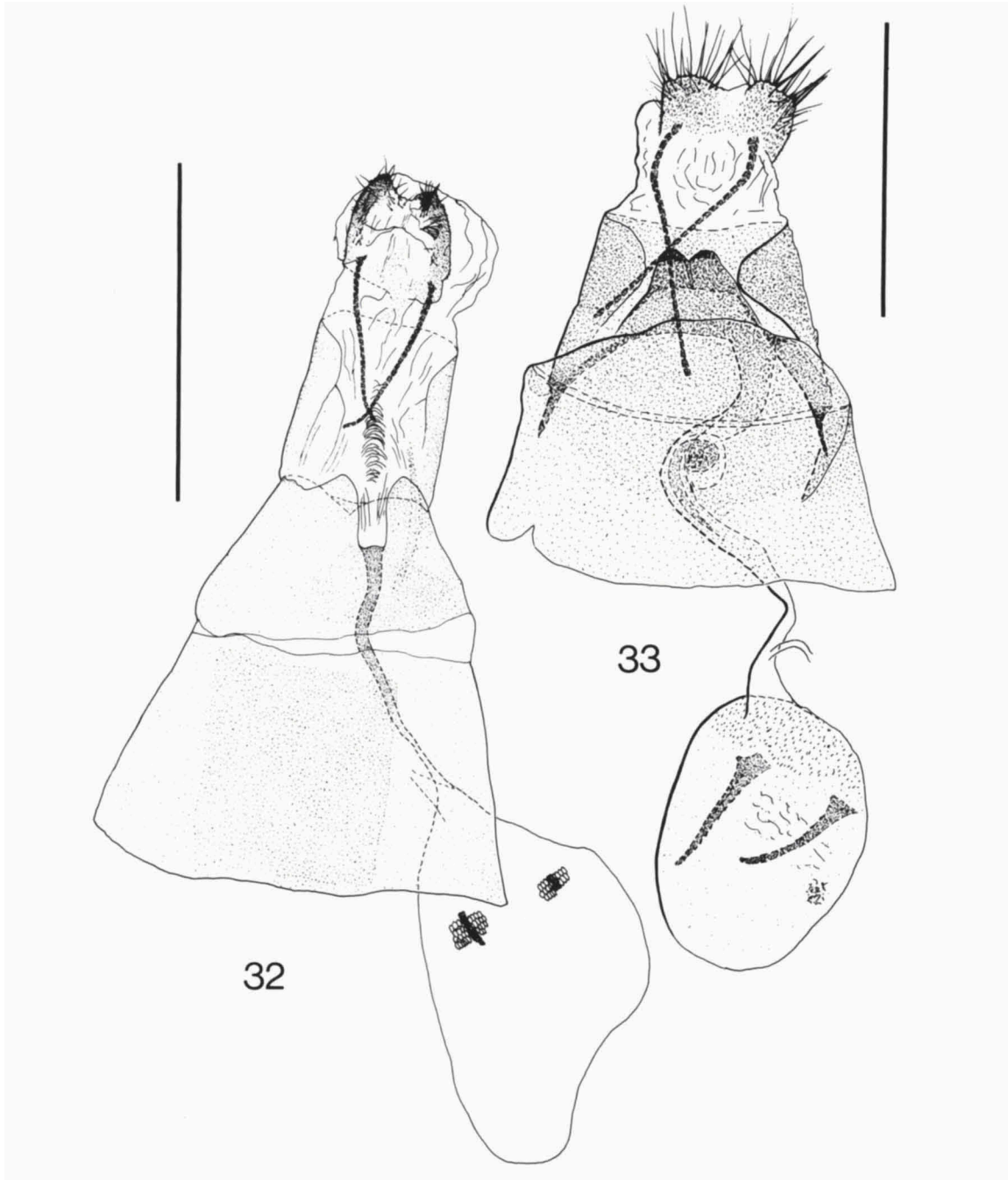
Figs. 26-27. Male genitalia of Pterophoridae in posterior view with aedeagus removed. 26. *Oidaematophorus cristobalis* (1.0 mm). 27. *Exelastis cervinicolor* (0.5 mm).



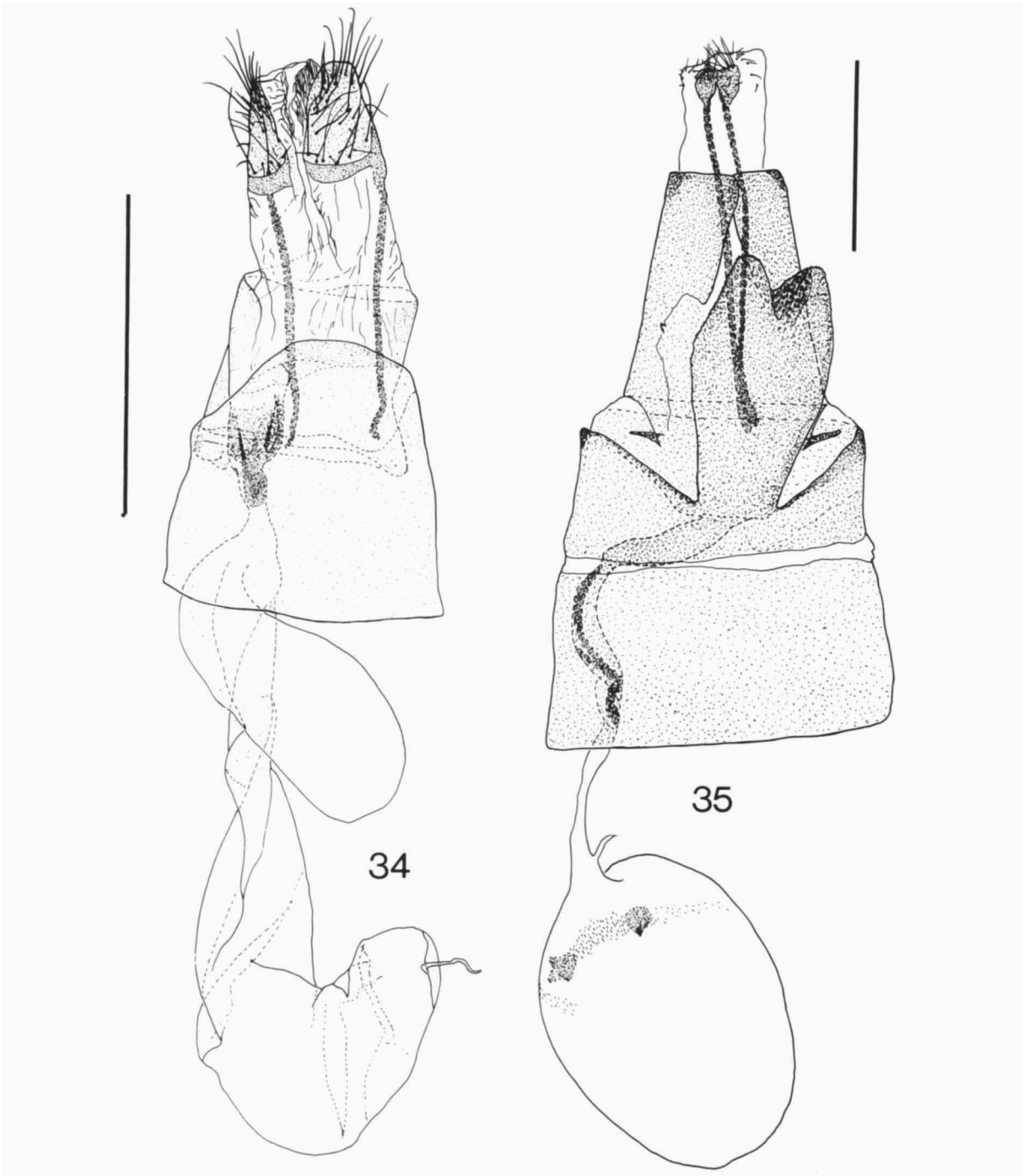
Figs. 28-29. Female genitalia in ventral view. 28. *Megalorhipida defectalis* (0.5 mm). 29. *Oidaematophorus devriesi* (1.0 mm).



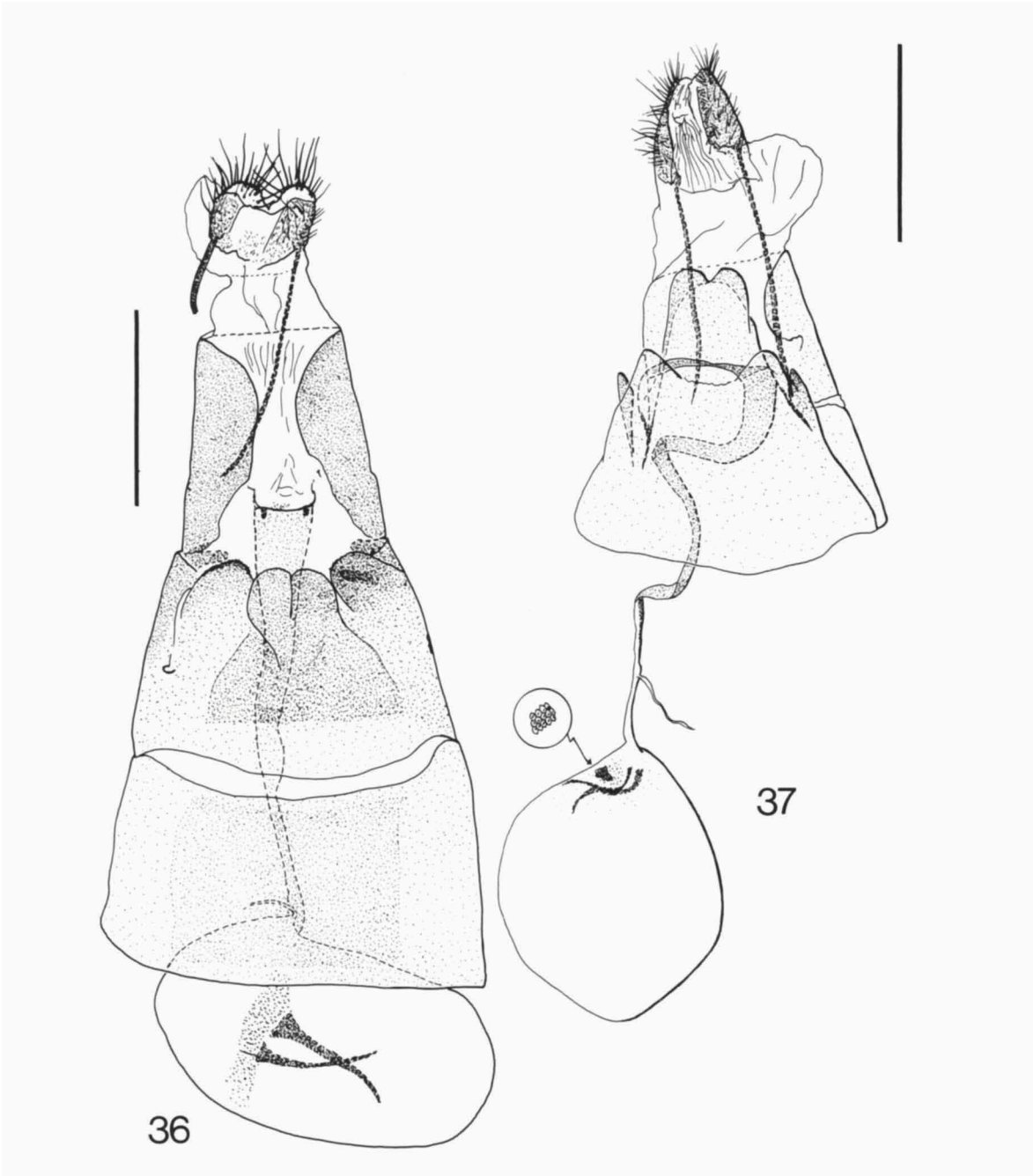
Figs. 30-31. Female genitalia in ventral view. 30. *Oidaematophorus cristobalis* (0.5 mm). 31. *Lantanophaga pusillidactyla* (1.0 mm).



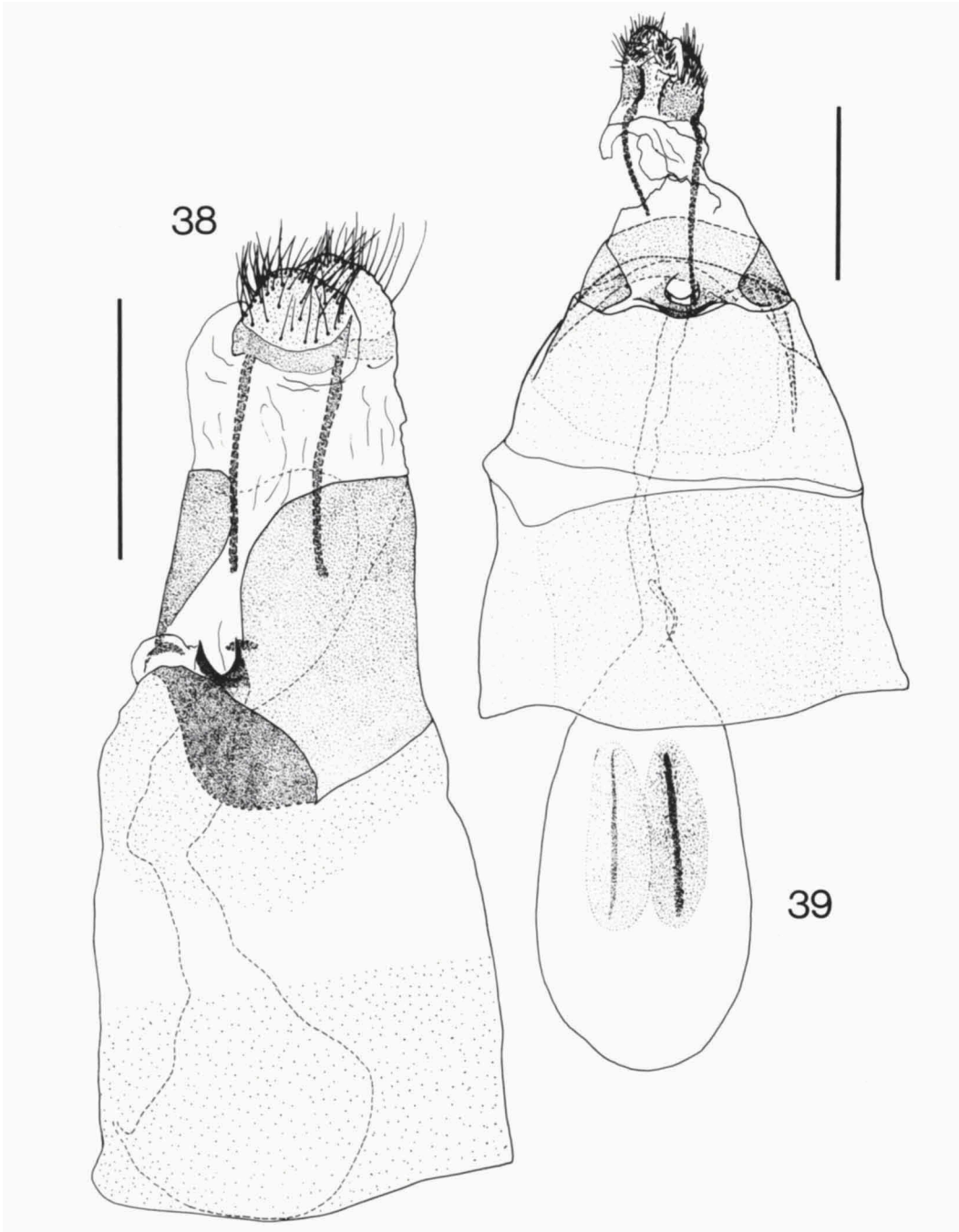
Figs. 32-33. Female genitalia in ventral view. 32. *Platyptilia nigroapicalis* (1.0 mm). 33. *Stenoptilodes juan-fernandicus* (1.0 mm).



Figs. 34-35. Female genitalia in ventral view. 34. *Oidaematophorus nephogenes* (1.0 mm). 35. *Postplatyptilia huigraica* (0.5 mm).



Figs. 36-37. Female genitalia in ventral view. 36. *Stenoptilodes brevipennis* (0.5 mm) (the left posterior apophysis is broken). 37. *Postplatyptilia* species 1 (0.5 mm).



Figs. 38-39. Female genitalia in ventral view. 38. *Adaina ambrosiae* (0.5 mm). 39. *Exelastis cervinicolor* (0.5 mm); (the left posterior apophysis is broken).