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REVIEW OF THE NEOTROPICAL SPECIES OF THE FAMILY PTEROPHORIDAE, PART 6: ADDITIONS FROM BRAZIL (LEPIDOPTERA)

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Abstract: After the publication of parts 1 to 5 of this review, new faunistic, ecological, and taxonomic information, mainly derived from Brazilian material, is recorded. Twenty new species are described: Ochyrotica bonitae, Paraplatyptilia camacan, Hellinsia novalima, H. caraca, H. minasgerais, H. camposdojordao, H. impigritas, H. joinville, H. curvisacculus, H. saopaulo, H. curvatura, H. pichinguaba, H. pondero, H. tumeo, H. novafriburgo, H. bidens, Emmelina compactus, E. paradevriesi, and A. jequie. The genitalia are described and illustrated for the first time for Stenoptilodes drechseli, Megalorhipida bahiaensis, Hellinsia carpishia, H. paraguariae, Oidaematophorus uruguayensis and Adaina villagrani. The variation in the male and female genital structures of Hellinsia paraguariae is illustrated.

Key words: Lepidoptera, Pterophoridae, new species, new combinations, faunistics, ecology, Neotropics, Brazil.

Revisión de las especies neotropicales de la familia Pterophoridae, parte 6: Adiciones de Brasil (Lepidoptera)

Resumen: Después de la publicación de las partes 1 a 5 de esta revisión, se ha podido disponer de nueva información faunística, ecológica y taxonómica derivada de material de Brasil. Se describen veinte especies nuevas: Ochyrotica bonitae, Paraplatyptilia camacan, Hellinsia novalima, H. caraca, H. minasgerais, H. camposdojordao, H. impigritas, H. joinville, H. curvisacculus, H. saopaulo, H. curvatura, H. pichinguaba, H. pondero, H. tumeo, H. novafriburgo, H. bidens, Emmelina compactus, E. paradevriesi y A. jequie. Se describen e ilustran por primera vez las genitalias de Stenoptilodes drechseli, Megalorhipida bahiaensis, Hellinsia carpishia, H. paraguariae, Oidaematophorus uruguayensis y Adaina villagrani. Se ilustra la variación de las genitalias masculina y femenina de Hellinsia paraguariae.

Palabras clave: Lepidoptera, Pterophoridae, revisión, especies nuevas, combinaciones nuevas, faunística, ecología, Región Neotropical, Brasil.

Taxonomy / Taxonomía: Ochyrotica bonitae sp. n., Stenoptilodes drechseli comb. n., Paraplatyptilia camacan sp. n., Hellinsia novalima sp. n., H. caraca sp. n., H. minasgerais sp. n., H. camposdojordao sp. n., H. impigritas sp. n., H. joinville sp. n., H. curvisacculus sp. n., H. saopaulo sp. n., H. curvatura sp. n., H. pichinguaba sp. n., H. pondero sp. n., H. tumeo sp. n., H. novafriburgo sp. n., H. bidens sp. n., Oidaematophorus uruguayensis comb. n., Emmelina compactus sp. n., E. devriesi comb. n., E. glochinias comb. n., E. paradevriesi sp. n., A. jequie sp. n., Adaina villagrani comb. n.

Introduction

After the publication of the first five parts of the review of Neotropical Pterophoridae (Gielis, 2006, 2011, 2012, 2013, 2014), numerous specimens are still available for further study. This sixth part of the review of the Neotropical Pterophoridae contains information, mainly, derived from specimens from Brazil. The sequence of reproduction of species is in accordance with the checklists in the first and second part. The grouping code for species in the genus *Hellinsia* Tutt, 1908, as introduced in the second part, is used and mentioned in the species diagnosis.

Abbreviations.

ao = And others.

CG = Dr. Cees Gielis, Lexmond, The Netherlands. Collection CG is part of the collection of Naturalis Biodiversity Center (formerly: Rijksmuseum van Natuurlijke Historie: RMNH), Leiden, The Netherlands.

gent = Genital preparation.

MHNG = Muséum d'Histoire Naturelle de Genève, Switzerland.

MZUSP = Museum of Zoology of the University of São Paulo, São Paulo, Brazil.

NEENA = Netherlands Entomological Expedition to Northern Argentina (November 1995 – February 1996).

N.P. = National Park

P.N. = Parque Nacional

Res. = Reserva/ Reserve

Sta = Collecting station.

USNM = U.S. National Museum of Natural History, Smithsonian Institution, Washington, D.C., U.S.A.

VOB = Dr. Vitor O. Becker, Reserva Serra Bonita, Camacan, Bahia, Brazil.

ZMJU = Zoological Museum of the Jagiellonian University, Cracow, Poland.

Species examined

• Ochyrotica bonitae Gielis, sp. n. (Fig. 1, 20, 44.)

MATERIAL. Holotype ♂, Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 26.III.2011 (B. Landry & V.O. Becker), gent CG 7088 (MZUSP). Paratype ♀: Brazil, Bahia, Camacan, Res. Serra Bonita, 800 m, 15° 23'S 39° 33'W, 2 XII. 2013 (B. Landry & V.O. Becker), gent CG 7218 (MHNG).

DIAGNOSIS. This species resembles *O. fasciata* Walsingham, 1891 very much. It differs by the intense brown scaling on the fore wing, almost obscuring the white central and longitudinal fascia. In the male genitalia the species differs in the left valve by the wider saccular process, which has a serrate margin, and basal knob, in contrast to this smooth and narrow saccular process in *O. fasciata*. The right valve has a saccular process which has a small serrate part near the acute, angulated tip, and the basal knob, this in contrast to the smooth and straight process in *O. fasciata*. The aedeagus is gradually tapering and longer than that of *O. fasciata*. In the female genitalia the

ductus bursae is wider and shorter than in *O. fasciata*, and the signum has more and smaller sclerotized parts.

DESCRIPTION. Wingspan 12 mm. Head appressedly scaled, ferruginous-brown. Face whitish. Palps protruding, slender, second segment pale grey-brown, third segment grey-white. Antennae in mid-section slightly serrate, basal segment grevwhite, terminally faintly ringed pale grey-brown and dark grey-brown. Collar with long, erect, bifid, ferruginous-brown scales. Thorax and tegulae cranially ferruginous-brown, centrally and caudally white, caudal margin and mesothorax ferruginous-brown. Abdomen segments 2, 4 and 7 dorsally white, other segments dorsally ferruginous-brown. Hind legs with two pairs of long spurs; medial spurs longer than lateral spurs, and proximal pair longer than distal pair; proximal spurs dorsally ferruginous-brown, ventrally white; distal pair dorsally pale ferruginous-brown interrupted grey-white, and ventrally white; at base of spurs small scale bristle; legs pale ferruginous-brown, interrupted grey-white just before both spur pairs, and proximally at tarsal segments one to three.

Fore wings with mildly sinuate termen and acute tip; ferruginous-brown. A longitudinal, white fascia is present from wing base to $\frac{2}{3}$ of wing. Dorsally of this fascia diffuse white scales are noticed; in the terminal $\frac{1}{3}$ of wing a faint and oval spot is present; these patterns resemble the fascia and terminal spot as seen in *O. fasciata*. Fringes pale grey, with terminally a distinct basal row of dark brown scales. Underside dark brown.

Hind wings dark brown. Fringes dark grey-brown, with in terminal part a basal row of pale grey scales. Underside dark brown. Venous scales black, in double row, costal row well developed, dorsal row only indicated by sparse scales.

Male genitalia. Valves asymmetrical. Left valve lanceolate; with blunt saccular process with serrate margin and basally with knob. Right valve slightly more slender than left valve; saccular process slender, with serrate section near slender and hooked tip, with basal knob. Uncus rather stout, ¾ of tegumen length. Tegumen bilobed. Juxta wide and slender, with pair of slender and short anellus arms. Vinculum slender, arched. Aedeagus with acute coecum, and gradually tapering distal part; with cornuti in shape of delicately sclerotized ridges.

Female genitalia. Ostium as sclerotized curved ridge. Antrum gradually narrowing and progressing into long and rather wide ductus bursae. Bursa copulatrix vesicular. In the junction between the ductus and the bursa a signum of numerous sclerotized small ridges. Apophyses posteriores 1½x longer than papillae anales. Apophyses anteriores absent.

ECOLOGY. The moth flies in March, at an altitude of 800 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Bahia.

ETYMOLOGY. The moth is named after the locality of collection: the Serra Bonita, in Bahia, Brazil.

• Bipunctiphorus pelzi Gielis, 2002

Bipunctiphorus pelzi Gielis, 2002: 298.- Ecuador. MATERIAL. 1 &, Brazil, São Paulo, São Paulo, 900 m, 3-7.I.1983 (V.O. Becker), gent CG 7141 (VOB). New for Brazil.

• Stenoptilodes drechseli (Gielis, 2006) comb. n. (Fig. 21) Postplatyptilia drechseli Gielis, 2006: 114. - Paraguay.

MATERIAL. 3 & & Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 25.III.2011, 31.III.2011, 6.IV.2011 (B. Landry & V.O. Becker), gent CG 7093 (MHNG, CG). New for Brazil.

MALE GENITALIA. Valves with large, basal saccular part of $\frac{2}{3}$ of valve length, followed by relatively narrow process which extends into the birdhead-like tip of valve. Cucullar part of valve gradually progressing into tip parts. Uncus curved, rather stout, $\frac{2}{3}$ of tegumen length. Tegumen broad, bilobed. Juxta narrow, with pair of anellus arms, which gradually widen towards tip. Vinculum band-shaped, with minimal centrally widened tip. Aedeagus basally with well-developed coecum; curved; in distal part cornuti in shape of long ridges of punctate sclerotizations.

REMARKS. Male genitalia illustrated for first time. The discovery of male specimens of this species enabled me to precise the generic position of this species, and necessitated me to place it in the present genus.

• Paraplatyptilia camacan Gielis, sp. n. (Fig. 2, 22, 45)

DIAGNOSIS. The species best fits into the genus Paraplatyptilia. The species has well-developed scale-teeth at the dorsum of the third hind wing lobe. The other Neotropical species of Paraplatyptilia have poorly developed scale-teeth, and differ in this characteristic. This feature is often seen in *Stenoptilodes*. However, in the present species the apophyses anteriores are well separated from the lamina ante- and postvaginalis, whereas this is seldom seen in *Stenoptilodes*.

DESCRIPTION. Wingspan 15 mm. Head appressedly scaled, grey-brown. Palps protruding, grey-brown and dorsally grey-white mixed, 3x eye-diameter. Antennae ciliated, faintly ringed grey-brown and dark brown. Collar with erect, bifid, grey-brown and dark brown scales. Thorax and tegulae cranially grey-brown, caudal rim greyish. Mesothorax grey-white, with dorso-lateral dark brown scale wedges. Abdomen grey-brown, first segment dorso-laterally grey-white as an extension of the mesothorax. Hind legs pale brown-ochreous, laterally at and just before base of spurs grey-brown; terminally on tarsal segments dark brown.

Fore wings cleft from $\frac{2}{3}$, grey-brown. Markings dark brown: spot at $\frac{1}{4}$ of dorsum, small spot in discus area of wing, costal triangle just before base of cleft, in first lobe central spot, and in second lobe a less distinct central spot. In both lobes a narrow, almost straight, subterminal line. Termen of first lobe sinuate, of second lobe in waved shape. Fringes grey-brown, with basal rows of bark brown scales: in first lobe at apex, mid-termen, at termen near anal angle, and at dorsum just before anal angle; at second lobe at apex, mid-termen and around anal angle, and at mid-dorsum; at wing dorsum scale-tooth at $\frac{2}{3}$ of wing. Underside dark brown, mixed with reddish scales; white subterminal line as above.

Hind wings dark reddish-brown, fringes grey. At dorsum of third lobe a row of pronounced dark reddish-brown scales, followed by subterminal scale-tooth. Underside dark reddish-brown. Venous scales ferruginous, in double row, costal row longer.

Male genitalia. Genitalia symmetrical. Valve with curved tip. Saccular margin bilobed, tip lobe small. Uncus angulated, half the tegumen length. Tegumen simple. Juxta with pair of club-shaped anellus arms. Vinculum triangular, with rounded corners. Aedeagus strongly curved, with near tip a field of minute spiculae, creating cornuti.

Female genitalia. Ostium right laterally positioned. Antrum 4x longer than wide. Ostium attached to lamina antevaginalis, which has central widening with two extensions. Ductus bursae almost 2x antrum, narrow. Bursa copulatrix vesicular, with pair of long, well-developed horn-like signa. Apophyses anteriores short and slender, just under length of papillae anales. Apophyses posteriores long, 4x papillae anales

ECOLOGY. The moth flies in March and April, at an altitude of 800 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Bahia.

ETYMOLOGY. The species is named after the town near the place of collecting: Camacan, in Bahia, Brazil.

• Exelastis montischristi (Walsingham, 1897)

Pterophorus montischristi Walsingham, 1897: 59. - Dominica.
Pterophorus cervinicolor Barnes & McDunnough, 1913: 185. USA
(Fl).

MATERIAL. 1 ♂, Brazil, Bahia, Porto Seguro, A. d'Ajuda, 16° 27'S 39° 03'W, 40 m, 1-3.V.2009 (V.O. Becker), gent CG 7213 (VOB). New for Brazil.

• Megalorhipida bahiaensis (Gielis, 2006) comb. n. (Fig. 23)

Michaelophorus bahiaensis Gielis, 2006: 186. - Brazil. MATERIAL. 1 ♂, Brazil, Bahia, 9 km W Boa Nova, 630 m, 14° 22'S 40° 15'W, 4.xii.2013 (B Landsry & VO Becker), gent CG 7217 (MHNG).

MALE GENITALIA. Genitalia symmetrical. Valve rectangularly trapezoid in shape, densely covered with setae. Uncus swollen, long and wide, covered with numerous setae. Vinculum narrow, slightly extended. Aedeagus curved, basally wide and gradually tapering towards tip. No cornutus

REMARKS. Male genitalia illustrated for the first time. With the discovery of the male, the generic position of this species has become evident.

• Hellinsia sapucayae Gielis, 2012

Hellinsia sapucayae Gielis, 2012: 106. - Paraguay.

MATERIAL. 2 ♂♂, 1 without abdomen, Brazil, Santa Catarina, São Joaquim, 1400 m, 22-24.I.1983 (V.O. Becker), gent CG 7168 (♂), 7169 (♂) (VOB, CG); 1 ♂, Brazil, Santa Catarina, Joinville, 10 m, 6.XII.1969 (V.O. Becker), gent CG 7171 (VOB); 3 ♂♂, 1 ♀, Brazil, Santa Catarina, Bom Jardin do Serra, 1500 m, 1-4.X.1996 (V.O. Becker), gent CG 7111 (♂), 7184 (♂) (VOB); ! ♀, Brazil, São Paulo, São Paulo, 900 m, 3-7.I.1983 (V.O. Becker) (VOB). New for Brazil.

DIAGNOSIS. Group: B03 (Gielis, 2011).

• Hellinsia novalima Gielis, sp. n. (Fig. 3, 24)

MATERIAL. Holotype ♂, Brazil, Minas Gerais, Nova Lima, 850 m, 1-3.V.1983 (V.O. Becker), gent CG 7165 (VOB).

DIAGNOSIS. Group: B02 (Gielis, 2011). Left valve with short, curved saccular process, which holds basally three spiny extensions. In right valve small saccular knob. The species externally and in the male genitalia resembles *H. angulofuscus* (Gielis, 1991), but differs in the moth by the absence of the dark abdominal marking on segment four, a saccular process left- curved instead of straight, and basally with three spiny extensions.

DESCRIPTION. Wingspan 15 mm. Head appressedly scaled, face ochreous. Palps straight, protruding, 1x eye-diameter. Antennae shortly ciliated, faintly ringed pale ochreous-grey and pale grey-brown. Collar with erect, long, bifid scales, pale grey-brown. Thorax and tegulae pale ferruginous-white, caudally pale grey-white; mesothorax pale ferruginous-white. Abdomen pale ferruginous-white, with three faint, pale brown, dorsal lines.

Fore wings cleft from $\frac{9}{3}$, pale ferruginous-grey-white. Markings dark brown: small discal spot; triangular spot just before base of cleft, which slightly extends costally and dorsally into first and second lobe; first lobe with costal spots at $\frac{1}{3}$ and $\frac{2}{3}$, and a dot at anal region; second lobe with diffuse central scales. Fringes pale brown-grey. Underside greybrown, with dark brown spots before base of cleft, first lobe with two costal spots, and central darkening.

Hind wings and fringes pale grey-brown. Underside grey-brown. Venous scales black, in double row, costal row longer.

Male genitalia. Valves asymmetrical, left wider. Left valve with short, curved saccular process, which holds basally three spiny extensions. In right valve small saccular knob. Uncus as long as tegumen; slender and straight. Juxta slender and long, ¾ of tegumen length, with asymmetric anellus arms. Vinculum centrally widely arched. Aedeagus almost straight, with delicate sclerotized condensations near tip.

Female genitalia. Unknown.

ECOLOGY. The moth flies in May, at an altitude of 850 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Santa Catarina.

ETYMOLOGY. The species is named after the collecting locality: Nova Lima in Santa Catarina state in Brazil.

• Hellinsia caraca Gielis, sp. n. (Fig. 4, 25)

MATERIAL. Holotype &, Brazil, Minas Gerais, Caraça, 1300 m, 25.X.1994 (V.O. Becker), gent CG 7114 (VOB).

DIAGNOSIS. Group: B05 (Gielis, 2011). Left valve with saccular process short, less than $\frac{1}{3}$ of valve length, basally slightly widened, and with extensions towards valve base. Right valve with long and slender saccular process, which holds a knoblike widening at 2/5 of length. This combination has not been met before.

DESCRIPTION. Wingspan 16 mm. Head appressedly scaled, pale ochreous, vertex pale brown with some scattered white scales. Palps protruding, ventrally black-brown, mixed with grey-white scales, and dorsally grey-white, mixed with black-brown scales, 1½x eye-diameter. Antennae pale ochreous-brown, on basal segments some white and dark brown scales, shortly ciliated. Collar pale ochreous, with long, erect, bifid scales. Thorax and tegulae pale ferruginous-ochreous, rostrally pale ferruginous. Mesothorax ochreous-white. Abdomen ferruginous-ochreous, on segments 2, 4 and 5 with dorsally dark brown, and on segment 3 two longitudinal spots. Hind legs pale ferruginous-brown, with black-brown scale bristle at base of spurs.

Fore wings cleft from approximately ½3, pale ferruginous-brown. Markings dark brown: small discal spot; in dorsal field diffuse scaling; large spot just before and around base of cleft; longitudinal costal spot above base of cleft; first lobe with costal spot in middle, dark apical area, spot at anal region, and central diffuse scaling; second lobe dark apical area, and spot at anal angle. Fringes brown-grey, at anal region of

first lobe dark brown patch. Underside grey-brown, with dark costal, longitudinal spot above base of cleft.

Hind wings and fringes brown-grey. Underside brown-grey, along costa and at base some dark brown scales. Venous scales ferruginous-black, in double row, costal row longer.

Male genitalia. Valves asymmetrical. Left valve with saccular process short, less than ½ of valve length, basally slightly widened, and with extensions towards valve base. Right valve with long and slender saccular process, which holds a knob-like widening at 2/5 of length. Uncus as long as tegumen, rather stout. Tegumen bilobed. Juxta basally slender, with pair of asymmetrical anellus arms. Vinculum narrow, arched. Aedeagus mildly curved, and minimally tapering. Cornuti in shape of delicate, condensed sclerotizations.

Female genitalia. Unknown.

ECOLOGY. The moth flies in October, at an altitude of 1300 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Minas Gerais.

ETYMOLOGY. The species is named after the collecting locality: Caraça, in the state of Minas Gerais in Brazil.

• Hellinsia minasgerais Gielis, sp. n. (Fig. 5, 26)

MATERIAL. Holotype ♂, Brazil, Minas Gerais, Caraça, 1300 m, 1-2.IV.1992 (V.O. Becker), gent CG 7142 (VOB).

DIAGNOSIS. Group: B05 (Gielis, 2011). Genitalia asymmetrical. Left valve with saccular process just under ½ of valve length, almost angulated, rather slender. Right valve with saccular process short, slender and rod-shaped. The species resembles *H. sucrei* Gielis, 2011, but the moth differs in the shape of the spot before base of cleft, which extends slightly into second lobe, and clear costa spot above base of cleft; in male genitalia left valve with saccular process longer and almost angulated in shape; in right valve saccular process based nearer to base of valve.

DESCRIPTION. Wingspan 20 mm. Head appressedly scaled, pale ferruginous-brown; between base of antennae creamywhite. Palps protruding, slender, third segment longitudinally marked ochreous-white and pale brown, 1½x eye-diameter. Antennae longitudinally lined pale brown and pale ochreouswhite, shortly ciliated. Collar pale ferruginous-brown, with numerous long, erect, bifid scales. Thorax and tegulae pale ochreous-white, in caudal half with faint brownish gloss. Mesothorax pale ochreous-white. Abdomen pale ochreouswhite with faint pale brown longitudinal, dorsal lines, and pairs of brown dots at segments 2, 3, 4, and 5. Fore and mid legs in femur and tibia longitudinally striped ochreous-white and dark grey-brown. Hind legs pale ochreous-white, with small dark brown scale-bristles at base of spurs; spur pairs asymmetrical, medial spurs longer than lateral spurs, and proximal pair longer than distal pair.

Fore wings cleft from 3/5, pale brown-ochreous. Markings brown: diffuse and scattered scales along costal margin of discal cell from wing base to tip of first lobe, and along dorsal margin of this cell from base to base of cleft; oblique spot just before base of cleft, which extends slightly into second lobe, and between this spot and base of cleft white; in first lobe longitudinal costal spot above base of cleft, at costa at ½, ¾, at apex and at anal region; in second lobe spots at mid-termen, anal angle and at mid-dorsum of lobe. Pale wedge from middle of discal cell, extending into dorsal area of first lobe and costal area of second lobe. Fringes pale

ochreous-brown, with in first lobe narrow dark brown dash spot at anal angle, and in second lobe around anal region. Underside pale brown.

Hind wings and fringes brown-grey. Underside pale brown. Venous scales pale ferruginous, in double row, costal row longer.

Male genitalia. Genitalia asymmetrical. Left valve with saccular process just under ½ of valve length, almost angulated, rather slender. Right valve with saccular process short, slender and rod-shaped. Uncus curved, ½ of tegumen length. Tegumen bilobed. Juxta basally wide, tapering towards pair of asymmetrical anellus arms. Vinculum narrow, centrally widened. Aedeagus almost straight, tapering towards acute tip. No cornuti.

Female genitalia. Unknown.

ECOLOGY. The moth flies in April, at an altitude of 1300 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Minas Gerais.

ETYMOLOGY. The species is named after the state of collecting, Minas Gerais in Brazil.

• Hellinsia camposdojordao Gielis, sp. n. (Fig. 6, 27)

MATERIAL. Holotype \circlearrowleft , Brazil, São Paulo, Campos do Jordão, 22° 46'S 45°, 41'W, 1600-1900 m, 20-27.II.2001 (V.O. Becker), gent CG 7122 (VOB).

DIAGNOSIS. Group: B06 (Gielis, 2011). Left valve with stout saccular process of less than $\frac{1}{3}$ of valve length, tip after strong narrowing with acute terminal part; near tip small group of spiny sclerotizations. Right valve with saccular process of almost $\frac{2}{3}$ of valve length; cucullar part of valve with particular fold of surface, which creates "hat"-like cover over tip of saccular process.

DESCRIPTION. Wingspan 16 mm. Head appressedly scaled, mixed grey and white scales, between base of antennae greywhite. Palps protruding, length just over eye-diameter, pale grey, third segment basal half dark brown. Antennae in basal part longitudinally scaled grey and white, distal part browngrey; shortly ciliated. Collar grey with numerous long, erect, bifid scales. Thorax and tegulae brown-grey, darker in caudal half. Mesothorax grey-white. Abdomen grey white, with three dorsal longitudinal lines. Fore legs laterally ochreous-white, medially dark brown. Hind legs ochreous-white; with two pairs of spurs, no apparent scale-brushes.

Fore wings cleft from 4/7, grey. Markings dark brown: discal spot; spot just before base of cleft, which progresses in narrow dark lines along cleft into first and second lobe; first lobe with longitudinal costal spots at ½ and at middle, apical spot and spot near anal region; second lobe with small apical darkening and spot at mid-termen; on entire wing diffusely scattered dark scales. Fringes dark grey. Underside dark grey-brown.

Hind wings and fringes grey-brown. Underside dark grey-brown. Venous scales dark ferruginous, in double row, costal row longer.

Male genitalia. Valves asymmetrical, left valve narrower than right. Left valve with stout saccular process of less than ½ of valve length, tip after strong narrowing with acute terminal part; near tip small group of spiny sclerotizations. Right valve with saccular process of almost ¾ of valve length; cucullar part of valve with particular fold of surface, which creates "hat"-like cover over tip of saccular process. Uncus slender, mildly curved, ¾ of tegumen. Tegumen bi-

lobed. Vinculum ribbon-like, rather narrow. Aedeagus almost straight, slightly tapering. No cornuti.

Female genitalia. Unknown.

ECOLOGY. The moth flies in February, at an altitude of between 1600 – 1900 meters. Hostplant unknown.

DISTRIBUTION. Brazil: São Paulo.

ETYMOLOGY. The species is named after the collecting locality: Campos do Jordão, in the state of São Paulo, Brazil.

• Hellinsia impigritas Gielis, sp. n. (Fig. 7, 28)

MATERIAL. Holotype ♂, Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 25.III.2011 (B. Landry & V.O. Becker), gent CG 7090 (MZUSP).

DIAGNOSIS. Group: B08 (Gielis, 2011). Left valve with saccular process just under ½ of valve length, basally transverse-positioned in valve, tip half almost angularly curved towards tip, and gently curved. Right valve with double saccular process, basally small, curved process, followed by straight section, from center curved towards tip. Externally and in the male genitalia this species resembles *H. paraguariae* Gielis very much, but it differs in the fore wings by spot before base of cleft, which is stretched, and not rounded; the apex of first and second lobes which are rounded and not acute; and dots at costa of first lobe, which are differently dispersed. Palps have laterally dark grey color, and not evenly ochreous-white.

DESCRIPTION. Wingspan 17 mm. Head appressedly scaled, pale brown, between base of antennae and lower part of face shining white. Palps pale ochreous-white, medially and laterally with dark brown line, protruding, 1½x eye-diameter, first segment with drooping scales. Antennae basally longitudinally lined with row of pale brown and pale ochreous-brown scales, midsection pectinate. Thorax and tegulae pale ochreous-brown, caudally gradually darker in tinge. Mesothorax pale ochreous-brown. Hind legs pale ochreous-brown; with two pairs of spurs, medial spurs longer than lateral spurs and proximal pair longer than distal pair.

Fore wings cleft from ²/₃, pale ochreous. Markings dark brown: small spot in middle of discus; oblique, almost linear spot before base of cleft; diffuse darkening along entire costa; first lobe at costa with longitudinal spot just beyond base of cleft, and smaller at ²/₃, small spot just before apex, and at anal angle; second lobe gradually darkening towards apex, progressing into small apical dot. Fringes pale brown-grey, dark brown in first lobe between apex and anal angle, and in second lobe around apex. Underside pale brown, with marking as above, but less well expressed.

Hind wings and fringes pale brown-grey. Underside pale brown. Venous scales dark ferruginous-brown, in double row, costal row longer.

Male genitalia. Asymmetrical. Left valve oval, with relatively narrow distal half. Saccular process basally almost transversely positioned in valve, centrally strongly curved towards tip, distal half mildly curved; at base small spine directed towards base. Right valve with double saccular process, basally small, and gently curved process, followed by straight section, from center curved towards tip. Uncus ½ of tegumen, minimally curved. Tegumen bilobed. Juxta blunt, with two short, asymmetrical anellus arms. Vinculum narrow, curved. Aedeagus mildly curved, gradually tapering towards tip. Cornutus curved spine.

Female genitalia. Unknown.

ECOLOGY. The moth flies in March, at an altitude of 800 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Bahia.

ETYMOLOGY. The name *impigritas* (= indefatigability) refers to the indefatigable ways nature develops and adapts to new environments and challenges, creating again and again new species to fit these niches.

• Hellinsia joinville Gielis, sp. n. (Fig. 8, 29)

MATERIAL. Holotype $\ \$, Brazil, Santa Catarina, Joinville, 10 m, 6.XII.1969 (V.O. Becker), gent CG 7163 (VOB).

DIAGNOSIS. Group: C02 (Gielis, 2011). Genitalia asymmetrical. Left valve with slightly curved saccular process, almost ½ valve length. Right valve with saccular knob, tenting over a hook-shape, and with tip rounded. Externally the species resembles *H. espejoi* Gielis, 2014, but differs in larger and more extensive markings on fore wing; and in male genitalia, in a more slender shape of valves and straighter saccular process.

DESCRIPTION. Wingspan 24 mm. Head appressedly scaled, pale ochreous. Palps protruding; second segment with long drooping white scales; third segment slender, laterally white, medially pale brown-ochreous; 1½x eye-diameter. Antennae pale brown-ochreous, shortly ciliated. Collar pale brown-ochreous, with long, erect, bifid scales. Thorax, tegulae and mesothorax pale brown-ochreous. Abdomen pale ochreousgrey, with indistinct longitudinal dorsal lines, and pairs of brown-grey dots on segments 2, 3, 4 and 5. Fore and mid leg in femur and tibia longitudinally lined pale brown-ochreous and dark brown. Hind legs pale ochreous, with two pairs of asymmetrical spurs, medial spurs longer than lateral spurs, and proximal pair longer than distal pair.

Fore wings cleft from approximately $\frac{2}{3}$, pale brown-ochreous. Markings dark brown: diffuse scaling in basal half of wing, extending along dorsal area into second lobe; spot just before base of cleft, best expressed around basal margin; first lobe with costal, longitudinal spot above base of cleft, small spot at middle of costa and at $\frac{3}{5}$, apical dot and spot in anal region; second lobe with small apical, at mid-termen, and at anal angle, diffuse scaling in center of lobe. Fringes pale brown-ochreous. Underside pale brown, in basal half of wing slightly darker tinged.

Hind wings and fringes pale brown-ochreous. Underside brown-ochreous. Venous scales pale ferruginous, in dense, double rows, costal row longer.

Male genitalia. Genitalia asymmetrical. Left valve with slightly curved saccular process, almost ½ valve length. Right valve with saccular knob, tenting over a hook-shape, and with tip rounded. Uncus mildly curved, ¾ of tegumen length. Tegumen bilobed. Juxta gradually tapering, with pair of asymmetrical anellus arms. Vinculum narrow, arched. Aedeagus minimally curved, acute tip. No cornuti.

Female genitalia. Unknown.

ECOLOGY. The moth flies in December, at an altitude of 5 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Santa Catarina.

ETYMOLOGY. The species is named after the collecting locality: Joinville, in Santa Catarina state, Brazil.

• Hellinsia carpishia Gielis, 2014 (Fig. 46)

Hellinsia carpishia Gielis, 2014: 74. - Peru, Argentina. MATERIAL. 1 ♀, Argentina, Tucuman, 11 km S Tacanas, 28 km WSW Trancas, 800 m, 15.XI.1995 (NEENA sta 13), gent CG 6829 (CG).

DIAGNOSIS. Group: C03 (Gielis, 2011).

DESCRIPTION. Female genitalia. Ostium gently curved. Antrum 1½x width of ostium, distal half almost parallel, proximal half funneled towards the very short ductus bursae. Right tip of antrum extended into lamina ante-vaginalis, left tip minimally extended. Bursa copulatrix with narrow top part and vesicular ending. Ductus seminalis slender. No signum. Apophyses anteriores short, with acute tip. Apophyses posteriores 1½x papillae anales, with spade-like terminal end. REMARKS. Female genitalia illustrated for the first time.

• Hellinsia curvisacculus Gielis, sp. n. (Fig. 9, 30, 47)

MATERIAL. Holotype \Im , Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, IV.2008 (V.O. Becker), gent CG 7214 (VOB). Paratypes: $7\Im\Im$, $3\Im$, 1 without abdomen, same locality, I.2008, V.2008, VII.2007, VII.2009, VIII.2009, IX.2008 (V.O. Becker', gent CG 7215 (\Im) (VOB, CG); \Im , Brazil, Minas Gerais, Caraça, 1300 m, 19.I.1998 (V.O. Becker), gent CG 7189 (VOB).

DIAGNOSIS. Group: C05 (Gielis, 2011). Male genitalia asymmetrical. Left valve with curved saccular process, between ½ and ½ of valve length. Right valve with saccular process, based in middle of valve, with basal transverse position, at ½ rectangularly curved towards tip. The shape of the right saccular process is unique, and diagnostic.

DESCRIPTION. Wingspan 19-22 mm. Head appressedly scaled Ochreous/white, face pale brown. Palps protruding, minimally curved up, pale ochreous with lateral and medial brown scaling; the intensity of the lateral and medial brown scaling is very variable, from almost absent to uniformly covered brown. Antennae pale ochreous-brown, shortly ciliated. Collar pale brown. Thorax, tegulae, mesothorax and abdomen pale ochreous-white; dorsally on abdomen two narrow pale brown lines. Legs pale white-ochreous; hind legs with two pairs of spurs of unequal length, medial spurs longer than lateral spurs, and proximal pair longer than distal pair.

Fore wings cleft from $\frac{7}{3}$, pale white-ochreous. Markings pale brown: some scattered scales in basal half of wing; dot just before base of cleft, extending slightly towards wing dorsum; first lobe with costal dots at base of cleft, $\frac{2}{3}$, and near wing tip, and at anal angle; second lobe with dot at tip, midtermen, and at anal angle. Fringes pale grey-ochreous, with at anal angle of first lobe small dark dash. Underside pale brown.

Hind wings and fringes very pale brown-white. Underside pale brown. Venous scales dark ferruginous-brown to black-brown, in double row, costal row longer.

Male genitalia. Genitalia asymmetrical. Left valve with curved saccular process, between ½ and ⅓ of valve length. Right valve with saccular process, based in middle of valve, with basal transverse position, at ⅓ rectangularly curved towards tip. Uncus ½ tegumen length, curved. Tegumen bilobed. Juxta blunt, with pair of almost symmetrical anellus arms. Vinculum arched. Aedeagus gradually tapering towards tip. No cornutus.

Female genitalia. Ostium excavate. Antrum as long as width of ostium, with pair of small, longitudinal sclerites. Ductus bursae rather wide, and 4x longer than wide. Bursa copulatrix vesicular, without signum. Ductus seminalis longer than bursa copulatrix and slender, ending in acute tip. Lamina ante-vaginalis broad, laterally with apophyses anteriores with length of ²/₃ of papillae anales, centrally widened with rectan-

gular shape and at anterior corners small thorn-like extensions. Lamina post-vaginalis absent. Apophyses posteriores just under 2x papillae anales.

ECOLOGY. The moth flies from January till September, at an altitude of 800 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Bahia, Minas Gerais.

ETYMOLOGY. The name: *curvisacculus* (curvus = curved, bent; sacculus = sacculus) reflects the shape of the saccular process in the right valve, which is diagnostic for the species.

• *Hellinsia paraguariae* Gielis, 2012 (Fig. 31 - 32, 48-50) *Hellinsia paraguariae* Gielis, 2012: 111. Paraguay.

MATERIAL. 3 & Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 23.III.2011, 30.III.2011, 2.IV.2011 (B. Landry & V.O. Becker), gent CG 7098, 7100, 7101 (MHNG, CG); 1 3, Brazil, São Paulo, Campos do Jordão, 22° 46'S 45° 31'W, 1600-1900 m, 20-27.II.2001 (V.O. Becker), gent CG 7106 (VOB); 1 ♀, Brazil, São Paulo, Capão Bonito Intervales, 24° 16'S 48° 24'W, 900 m, 5-7.XII.2001 (V.O. Becker), gent CG 7140 (VOB); 1 ♂, 1 ♀, Brazil, Minas Gerais, Caraca, 1300 m, 2-4.II.1985 (♀), 1-2.IV.1992 (\mathcal{O}) (V.O. Becker), gent CG 6044 (\mathcal{O}), 7128 (\mathcal{O}) (VOB); 1 \mathcal{O} , Brazil, Minas Gerais, Nova Lima, 850 m, 25-27.XII.1982 (V.O. Becker) (VOB); 1 $\stackrel{?}{\circ}$, Brazil, Goiás, Alto Paraíso, 1350 m, 20.II.2000 (V.O. Becker), gent CG 7129 (VOB); 1 ♂, 1 ♀, Brazil, Rio de Janeiro, P.N. Itatiaia, 2400 m, 18.X.1985 (V.O. Becker), gent CG 7158 (♀), 7159 (♂) (VOB); 1 ♀, Brazil, Santa Catarina, 10.VII.1936 (F. Hoffmann), gent CG 7081 (USNM). 1 ♀, Ecuador, Zamora-Chinchipe, Loja- Zamora, 2100 m, 12.IX.2004 (J Wojtusiak), gent CG 6983 (ZMJU). New for Brazil and Ecuador.

DIAGNOSIS. Group: C05 (Gielis, 2011).

DESCRIPTION. Female genitalia. Ostium almost straight. Antrum funnel-shaped, as long as width of ostium, with basally a pair of narrow, longitudinal sclerites. Ductus bursae slender, almost 3x width of ostium. Bursa copulatrix vesicular, without signum. Ductus seminalis just longer than bursa copulatrix, vesicular, and narrower. Lamina ante-vaginalis wide, centrally bulged out cranially, laterally progressing into well-developed apophyses anteriores, and caudally gradually progressing into lateral margin of sternite. Apophyses posteriores slender, $2\frac{1}{2}$ x papillae anales.

REMARKS. Female genitalia illustrated for the first time. In the male and female genitalia some variation appears in the shape of saccular processes in the left and right valve, as well as in the female genitalia in the shape of the lamina ante-vaginalis.

• Hellinsia saopaulo Gielis, sp. n. (Fig. 10, 33)

MATERIAL. Holotype ♂, Brazil, São Paulo, Campos do Jordão, 22° 46'S 45° 31'W, 1600-1900 m, 20-27.II.2001 (V.O. Becker), gent CG 7107 (VOB).

DIAGNOSIS. Group: C08 (Gielis, 2011). Male genitalia asymmetrical. Left valve saccular process waved-shaped, >½ of valve length, positioned on broad pedestal which on ventral margin extends towards valve base. Right valve with double short, basally parallel, saccular spines. This species differs from other species in this group by right saccular processes with their unique parallel position.

DESCRIPTION. Wingspan 20 mm. Head appressedly scaled, creamy-white, face pale brown. Palps protruding, 1½x eyediameter; first segment with large drooping scales, mixed creamy-white and brown; second and third segments longitudinally striped creamy-white and dark brown. Antennae brown-grey, shortly ciliated. Collar ferruginous-brown, with large, erect, bifid scales. Thorax and tegulae greyish-white,

caudally darker. Mesothorax and abdomen greyish-white; dorsally on segments 2 and 3 narrow diverging brown lines, and on segments 4 to 7 broad diverging brown-grey dashes; on segments 2 to 7 dark brown dot at distal centre of segments. In fore- and mid-legs femur and tibia longitudinally lined grey-brown and dark brown. Hind legs pale grey-brown, with two pairs of asymmetrical spurs, medial spurs longer than lateral spurs, and distal pair shorter than proximal pair; at base of spurs small scale-bristles.

Fore wings cleft from approximately ½3, creamy-white. Markings dark brown: dense scaling in subcostal area from near base to base of cleft; along dorsum from base into second lobe, in second lobe scaling splits into two branches; well-defined spot in discal cell; dense scaling from discal cell into first lobe; slightly oblique spot just before base of cleft; first lobe with longitudinal spot above base of cleft and smaller at ¾4. Fringes pale grey-brown, with dark brown patches where dark scaling reaches apices and termen of lobes. Underside grey-brown, with darker markings before base of cleft, and longitudinal spot in centre of first lobe.

Hind wings and fringes grey-brown. Underside browngrey. Venous scales black, in double row, costal row longer.

Male genitalia asymmetrical. Left valve saccular process waved-shaped, >½ of valve length, positioned on broad pedestal which on ventral margin extends towards valve base. Right valve with double short, basally parallel, saccular spines. Uncus slender, mildly curved, ¾ of tegumen length. Tegumen bilobed. Juxta spindle-shaped, with pair of asymmetrical anellus arms. Vinculum arched, narrow. Aedeagus mildly curved, tip rounded. Cornuti shaped as minimally sclerotized condensations.

Female genitalia. Unknown.

ECOLOGY. The moth flies in February, at an altitude between 1600 and 1900 meters. Hostplant un known.

DISTRIBUTION. Brazil: São Paulo.

ETYMOLOGY. The species is named after the state of collecting: São Paulo, in Brazil.

• Hellinsia surinamensis (Sepp, 1855)

Phalaena didactyla surinamensis Sepp, 1855: 311. Surinam.

Oedaematophorus pelodactylus Berg, 1885: 284. Argentina & Uruguay

Pterophorus sacrificus Meyrick, 1926: 299. Colombia.

MATERIAL. 1 \circlearrowleft , 1 \hookrightarrow , Brazil, Paraná, Telêmaco Borba, 750 m, 13-19.X.1995 (V.O. Becker), gent CG 7104 (\circlearrowleft) (VOB); 1 \circlearrowleft , Brazil, Paraná, Curitiba, 920 m, 20.II.1975 (VOB); 1 \circlearrowleft , Brazil, Minas Gerais, Sete Laoas, 720 m, 5.V.1969 (V.O. Becker) (VOB). New for Brazil.

DIAGNOSIS. Group: C08 (Gielis, 2011).

• Hellinsia magnus Gielis, 2011

Hellinsia magnus Gielis, 2011: 641. Ecuador

MATERIAL. 1 &, Brazil, São Paulo, 50 km SE Mogi das Cruzes, Serra do Mar, Est. Biol. Boracéia, 800-900 m, 27-30.IV.1997 (F. Génier & S. Ide), gent CG 7084 (CG); 1 &, Brazil, Bahia, Camacan, Reseva Serra Bonita, 25° 28'S 39° 33'W, 800 m, IV.2008 (V.O. Becker0 (VOB). New for Brazil.

DIAGNOSIS. Group: C09 (Gielis, 2011).

• Hellinsia zetes (Meryrick, 1930) (Fig. 34)

Pterophorus zetes Meyrick, 1930: 569. Brazil.

MATERIAL. 1♂, Brazil, Ceara, Guaramiranga, 1000 m, 9.IV.1994 (V.O. Becker), gent CG 7108 (VOB); 1 ♂, Brazil, Bahia, 9 km E Boa Nova, Atlantic Forest, 14° 41'S 40° 14'W, 750 m, 7-9.XII.2013 (V.O. Becker), gent CG 7203 (CG); 1 ♀, Brazil, Bahia, Camacan,

Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 24.XI-2.XII.2013 (B. Landry & V. O. Becker), gent CG 7219 (MNHG).

DIAGNOSIS. Group: C11 (Gielis, 2011). Male genitalia asymmetrical. Left valve with saccular process strongly curved, with length just under ½ of valve length. Right valve with complex saccular process, built up in several components: short saccular spine, long saccular rod at tip with broad-based hook, and blister-like extension just basal of saccular hook. In this group a complex saccular structure as seen in the right valve has not been noticed before.

MALE GENITALIA. Asymmetrical. Left valve with saccular process strongly curved, with length just under 2 /3 of valve length. Right valve with complex saccular process, composed of several structures: short saccular spine, long saccular rod at tip with broad-based hook, and blister-like extension just basal of saccular hook. Uncus short, less than 1 /2 tegumen length, curved, and slender. Tegumen bilobed. Juxta basally narrow, widened towards base of anellus arms. Anellus arms well-developed, asymmetrical. Vinculum, narrow, arched. Aedeagus spindle-shaped, with rounded tip. No cornuti.

REMARKS. Male genitalia illustrated for the first time. The match between a male with the already known female has made the group position of this species possible.

• Hellinsia curvatura Gielis, sp. n. (Fig. 11, 35)

Material. Holotype \circlearrowleft , Brazil, Santa Catarina, São Joaquim, 1400 m, 22-24.I.1983 (V.O. Becker), gent CG 7112 (VOB).

DIAGNOSIS. Group: D01 (Gielis, 2011). Male genitalia asymmetrical. Left valve with long, smoothly curved, slender saccular process, longer than $\frac{2}{3}$ of valve length. Right valve without saccular process. Both valves have well-developed cucullar rim. The moth externally resembles *H. argutus* (Meyrick, 1926), but is less spotted and differs in the shape of the saccular process in the left valve. The gradually curved saccular process in the left valve is also met in *H. fusciciliatus* (Zeller, 1877), but here it is well-developed and coarse. In other species in this group the saccular shape is either straight or basally strongly curved to angulated.

DESCRIPTION. Wingspan 21 mm. Head shining white. Palps protruding, slender, shining white, first segment with long white drooping scales. Antennae white, shortly ciliated. Thorax, tegulae, mesothorax and abdomen shining white. Abdominal segments 3 to 8 with faint greyish dorso-lateral lines. Legs shining white. Hind legs with two pairs of asymmetrical spurs, medial spurs longer than lateral spurs, and proximal pair longer than distal pair.

Fore wings cleft from approximately 3/5, shining white. Markings pale grey-brown: few diffusely scattered scales on entire wing; small dot dorsally and just before base of cleft; subcostally in both lobes pale grey-brown field; first lobe small dots at ½ and ¾ of dorsum; second lobe with small dots at apex, mid-termen and anal angle. Fringes shining white. Underside pale brown-grey, white fields in first lobe subdorsal, and in second lobe subterminal.

Hind wings and fringes shining white, tip of third lobe black dot. Underside pale brown-grey. Venous scales pale brown-grey, minimally contrasting with wing color, in double row, costal row longer.

Male genitalia. Asymmetrical. Left valve with long, smoothly curved, slender saccular process, longer than $\frac{2}{3}$ of valve length. Right valve without saccular process. Both valves have well-developed cucullar rim. Uncus in distal half slightly widened, $\frac{2}{3}$ of tegumen length. Tegumen bilobed.

Juxta basally well-developed junction to valves, stout, with short, asymmetrical anellus arms. Vinculum narrow. Aedeagus minimally curved, with blunt tip. No cornutus.

Female genitalia. Unknown.

ECOLOGY. The moth flies in January, at an altitude of 1400 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Santa Catarina.

ETYMOLOGY. The species name, *curvatura* (= curved, bent) reflects the smooth curved shape of the saccular process in the left valve.

• Hellinsia longeanellus Gielis, 2012

Hellinsia longeanellus Gielis, 2012: 112. - Paraguay.

MATERIAL. 1 &, Brazil, Bahia, Camacan, Res. Serra Bonita, 15°
23'S 39° 33'W, 800 m, 24.XI-2.XII.2013 (B. Landry & V.O. Becker), gent CG 7223 (MHNG). New for Brazil.

DIAGNOSIS. Group: D01 (Gielis, 2011).

• Hellinsia pichinguaba Gielis, sp. n. (Fig. 12, 36)

MATERIAL. Holotype \circlearrowleft , Brazil, São Paulo, Pichinguaba, near Ubatuba, 23° 22'S 44° 50'W, 2-20 m, 10-12.XI.2001 (V.O. Becker), gent CG 7134 (VOB).

DIAGNOSIS. Group: D02 (Gielis, 2011). Male genitalia asymmetrical. Left valve with long saccular spine, $> \frac{2}{3}$ of valve length, almost straight. Right valve with small saccular knob. The species externally and in the male genitalia resembles H. obandoi Gielis, 1999 but differs in wider left valve, and the straight, instead of "S"-shaped aedeagus; and H. costalba Gielis, 1996 but differs in right saccular process, with knob instead of hook-shape.

DESCRIPTION. Wingspan 19 mm. Head appressedly scaled, vertex white, face pale brown, between base of antennae white. Palps mildly curved up, white, 1½x eye-diameter, slender; first segment with white drooping, long white scales; second and third segment smooth, longitudinally lined pale brown. Antennae longitudinally lined white and pale brown, shortly ciliated, basal segment white with small scale brush, on which narrow, longitudinal pale brown line. Thorax and tegulae white, towards caudal gradually turning pale greyish. Mesothorax and abdomen pale grey-white.

Fore wings cleft from 3/5, pale ochreous-brown. Markings brown: diffuse scaling from base into both lobes, gradually decreasing in intensity; small oblique spot just before base of cleft; first lobe with well-defined, longitudinal costal spot above base of cleft, and small spot at ½, minimal spot at apex, and small spot at anal angle; second lobe with small spots apically, at mid-termen, and anal angle. Fringes pale grey-brown, dark brown at apices and anal angle of first lobe. Underside brown, with dark brown spots as above.

Hind wings and fringes pale grey-brown. Underside pale brown. Venous scales ferruginous, in double row, costal row longer, scales less densely implanted as normally seen.

Male genitalia. Male genitalia asymmetrical. Left valve with long saccular spine, > ²/₃ of valve length, almost straight. Right valve with small saccular knob. Uncus slender, mildly curved, ²/₃ of tegumen length. Tegumen bilobed. Juxta progressively widening, fusiform, with pair of asymmetrical anellus arms. Vinculum arched. Aedeagus straight, gradually tapering towards acute tip. No cornutus.

Female genitalia. Unknown.

ECOLOGY. The moth flies in November, at an altitude of 20 meters. Hostplant unknown.

DISTRIBUTION. Brazil: São Paulo.

ETYMOLOGY. The species is named after the collecting locality: Pichinguaba, near the city of Ubatuba, in São Paulo state, Brazil.

• Hellinsia pondero Gielis, sp. n. (Fig. 13, 37, 51)

MATERIAL. Holotype \circlearrowleft , Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 22.III.2011 (B. Landry & V.O. Becker), gent CG 7085 (MZUSP). Paratypes: $4 \circlearrowleft \circlearrowleft$, $2 \circlearrowleft \circlearrowleft$, Same locality, 22.III.2011, 24.III.2011, 28.III.2011, 30.III.2011, 24.XI-2.XII.2013 (B. Landry & V.O. Becker), gent CG 7102 \circlearrowleft , 7087 \circlearrowleft , 7220 \circlearrowleft (MHNG, CG); $1 \circlearrowleft$, same locality, V.2008 (V.O. Becker), gent CG 7199 (VOB).

DIAGNOSIS. Group: D03 (Gielis, 2011). Male genitalia with left valve with long saccular spine, >½ valve length, and extending beyond tip of valve. Right valve narrow saccular rod with small hook-like knob. Female genitalia with arched lamina ante-vaginalis; bursa copulatrix with signum in shape of plate constructed with numerous, minute spiculae.

DESCRIPTION. Wingspan 19-23 mm. Head appressedly scaled, pale grey-brown, between base of antennae broadly ochreous-white. Palps protruding, pale ochreous-white, third segment laterally pale ochreous-brown. Antennae with first segment whitish, thickened with scale-brush; longitudinally with rows of very pale grey-brown and greyish-white scales, ciliated. Collar pale grey-brown. Thorax, tegulae, mesothorax and abdomen pale ochreous; on abdomen longitudinal pale brown lines: mid-dorsal, narrow on segments 1 – 4; laterally along entire abdomen, more expressed on segments 4 - 8. Hind legs pale ochreous, with two pairs of spurs, median spurs longer than lateral spurs, and proximal pair longer than distal pair.

Fore wings cleft from $\frac{2}{3}$, pale ochreous. Markings brown: diffuse dispersed scales in entire dorsal field, and some scales in middle of costa; small spot just before base of cleft; first lobe small spot at costa above base of cleft, and minimal spots at costa at $\frac{1}{3}$ and $\frac{2}{3}$, spot at anal angle; second lobe with diffuse darkening in costal $\frac{1}{3}$ of lobe from spot at base of cleft towards tip of lobe, small spot at tip of lobe and at mid-termen, small dash at anal angle. Fringes pale ochreous, with grey dashes: first lobe at anal angle, second lobe at tip, and around anal angle. Underside pale brown, with spots recognizable as above.

Hind wings and fringes pale grey-ochreous. Underside pale brown. Venous scales ferruginous, in double row, costal row longer.

Male genitalia. Asymmetrical. Left valve oval with straight, long saccular spine, >½ of valve length. Right valve lanceolate, with slightly extended tip, saccular process sclerotized ridge with small hook-like knob. Uncus curved, as long as tegumen. Tegumen bilobed. Juxta short and broad, with long asymmetrical anellus arms. Vinculum arched, narrow. Aedeagus mildly curved, with acute tip.

Female genitalia. Ostium slightly excavated. Antrum tapering, 2x longer than width at ostium; with two longitudinal sclerites. Ductus bursae as long as antrum. Bursa copulatrix gradually widening into vesicular part. Ductus seminalis slender, longer than bursa copulatrix. Lamina ante-vaginalis as arch in abdominal segment, rather wide. Apophyses anteriores absent. Apophyses posteriores 2x papillae anales. Papillae anales well-developed.

ECOLOGY. The moth flies in March, at an altitude of 800 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Bahia.

ETYMOLOGY. The name *pondero* (= I consider) reflects the numerous consideration I have to make in examining specimens for identification, before one can decide a specimen has to be accepted as new for science.

• Hellinsia boliviana Gielis, 2013

Hellinsia boliviana Gielis, 2013: 100. Bolivia.

MATERIAL. 1 ♂, Brazil, São Paulo, Luis Antonio Jataí, 21° 35'S 47° 44'W, 500 m, 13-18.X.2001 (V.O. Becker), gent CG 7162 (VOB). New for Brazil.

DIAGNOSIS. Group: D06 (Gielis, 2011).

• Hellinsia tumeo Gielis, sp. n. (Fig. 14, 38)

MATERIAL. Holotype &, Brazil, Bahia, Camacan, Res. Serra Bonita, 800 m, I.2008 (V.O. Becker), gent CG 7201 (VOB).

DIAGNOSIS. Group: D06 (Gielis, 2011). Male genitalia asymmetrical. Left valve with long, minimally curved saccular spine, extending well beyond tip of valve, and facing cucullar slightly hooked knob, in middle of valve. Right valve with swollen, blunt saccular process, of ½ of valve length, originating from middle of valve. This combination has so far not been met in other species.

DESCRIPTION. Wingspan 18 mm. Head appressedly scaled, pale grey-white; face pale brown-white. Palps slender, mildly curved up, pale grey-white, as long as eye-diameter. Antennae longitudinally marked very pale grey-brown and pale grey-white, shortly ciliated. Collar pale brown-grey. Thorax, tegulae, mesothorax and abdomen pale grey-white, abdomen dorsally with three narrow pale brown longitudinal lines. Hind legs pale grey-white, around tibia two broad, brown rings; two pairs of white and black tipped spurs of unequal length, medial spurs longer than lateral spurs, and proximal pair longer than distal pair.

Fore wings cleft from 3/5, pale grey-white. Markings brown: diffuse costal scales from wing base to just before base of cleft; small spot at termen of discal cell; spot just before base of cleft, which extends dorsally; first lobe with longitudinal spot just beyond base of cleft, small costal dot at ²/₃, and dot at apex, centrally in distal part of lobe small longitudinal spot, dot at anal angle of lobe, and small line at dorsum along cleft; second lobe with along cleft longitudinal line opposite ditto in first lobe, small spots at tip, mid-termen and at anal angle, and some scattered scales in terminal part of lobe. Fringes pale grey-white, with small dark brush at anal angle of first lobe. Underside pale grey-brown, with indications of markings seen above.

Hind wings and fringes pale grey. Underside pale greybrown. Venous scales ferruginous, in double row, costal row longer.

Male genitalia. Genitalia asymmetrical. Left valve with long, minimally curved saccular spine, extending well beyond tip of valve, and facing cucullar slightly hooked knob, in middle of valve. Right valve with swollen, blunt saccular process, of ½ of valve length, originating from middle of valve. Uncus short, under ½ tegumen length, rather stout. Tegumen bilobed. Juxta with asymmetrical pair of anellus arms, a long and slender arm, and blunt, short arm. Vinculum with extended center part, narrow. Aedeagus short, with rounded tip. No cornuti.

Female genitalia. Unknown.

ECOLOGY. The moth flies in January, at an altitude of 800 meters. Hostplant unknown.

DISTRIBUTION, Brazil: Bahia.

ETYMOLOGY. The name: *tumeo* (=being swollen), reflects to the thick and swollen saccular process in the right valve.

• Hellinsia barbatus (Gielis, 1996)

Oidaematophorus barbatus Gielis, 1996: 97. Colombia.

MATERIAL. 1 ♂, Brazil, Santa Catarina, Såo Jaoquim, 1400 m,
2.II.1993 (V.O. Becker), gent CG 7103 (VOB); 3 ♂♂, Brazil, Bahia,
Camacan, Res. Serra Bonita, 15° 23′S 39° 33′W, 800 m, IV.2011
(V.O. Becker) (VOB, CG). New for Brazil.

DIAGNOSIS. Group: E04 (Gielis, 2011).

• Hellinsia novafriburgo Gielis, sp. n. (Fig. 15, 39, 52)

MATERIAL. Holotype \circlearrowleft , Brazil, Rio de Janeiro, Nova Friburgo, 1100 m, 9.XI.1998 (V.O. Becker), gent CG 7110 (VOB). Paratypes: 1 \circlearrowleft , same locality, 1000 m, 10.XI.1998 (V.O. Becker), gent CG 7192 (VOB); 1 \backsim , same locality, 1100 m, 9.XI.1998 (V.O. Becker) (CG).

DIAGNOSIS. Group: K01 (Gielis, 2011). Male genitalia asymmetrical. Left valve with saccular process with spine of ½ valve length, and short thorn-like spine at ¼. Right valve simple, without saccular process.

DESCRIPTION. Wingspan 20-22 mm. Head appressedly scaled. Head and collar pale brown, between base of antennae creamy-white. Palps slender, protruding, pale brown; first segment with drooping white scales. Antennae longitudinally pale grey-brown and cream-white, shortly ciliated. Thorax, tegulae and mesothorax very pale grey-brown. Abdomen very pale grey-brown, with dorsally diffuse pale brown scales; segments 2 to 7 with termino-laterally small brown dots. Fore and mid legs pale grey-brown, with longitudinal narrow dark brown line on femur and tibiae. Hind legs pale grey-brown; with two pairs of spurs, median spurs longer than lateral spurs, and proximal pair longer than distal pair.

Fore wings cleft from $\frac{2}{3}$, very pale brown-grey. Markings brown: scattered scales on entire wing; small spot just before base of cleft; first lobe with costal longitudinal spots above base of cleft and at $\frac{3}{4}$, spot at anal angle; second lobe with darkening at apex, small spots at mid-termen and anal angle, and a small spot at dorsum below base of cleft. Fringes grey-brown, with darker brush at anal angle of first lobe. Underside pale brown, gradually paler towards tip of lobes.

Hind wings and fringes pale brown-grey. Underside pale brown, paler towards tip of lobes. Venous scales dark ferruginous, in double row, costal row longer.

Male genitalia. Asymmetrical. Left valve with saccular process with spine of ½ valve length, and short thorn-like spine at ¼. Right valve simple, without saccular process. Uncus short, ½ tegumen length, curved, slender. Tegumen bilobed. Juxta basally wide and rounded, top half slender with asymmetrical anellus arms. Vinculum ribbon-like, minimally widened in centre. Aedeagus mildly curved, with acute tip. No cornuti.

Female genitalia. Ostium mildly convex, as wide as length of antrum. Antrum funnel-shaped, with pair of well-developed sclerites. Ductus bursae almost straight, almost 2x antrum length. Bursa copulatrix vesicular, short, no signum. Ductus seminalis long and slender 3x bursa copulatrix. Lamina ante-vaginalis narrow ridge, with centrally gradually widening, and at cranial side two small thorn-like protrusions. Apophyses anteriores absent. Apophyses posteriores slender, just over length of slender papillae anales.

ECOLOGY. The moth flies in November, at an altitude of 1100 meter. Hostplant unknown.

DISTRIBUTION. Brazil: Rio de Janeiro.

ETYMOLOGY. The species is named after the collecting locality: Nova Friburgo, in Rio de Janeiro State, Brazil.

• Hellinsia bidens Gielis, sp. n. (Fig. 16, 40)

MATERIAL. Holotype & Brazil, Minas Gerais, Nova Lima, 850 m, 1-3.V.1983 (V.O. Becker), gent CG 7166 (VOB).

DIAGNOSIS. Group K05 (Gielis, 2011). Genitalia asymmetrical. Left valve with double spined saccular process, ventral spine 2x dorsal spine. Right valve with rod-shaped saccular process. Other species in K-group have in right valve either no, or small double saccular processes.

DESCRIPTION. Wingspan 15 mm. Head appressedly scaled, very pale brown, between eyes creamy-white. Palps protruding, slender, creamy-white, third segment very pale brown, just over eye-diameter. Antennae pale brown-white, shortly ciliated. Collar creamy-white with brown tinge, with long erect, bifid scales. Thorax, tegulae, mesothorax and abdomen creamy-white; abdomen with three faint very pale brown, longitudinal dorsal lines. Fore and mid legs creamy-white with longitudinal brown lines on femur and tibiae. Hind legs creamy-white, with two pairs of asymmetrical spurs; median spurs longer than lateral spurs, and proximal pair longer than distal pair.

Fore wing cleft from 10/17, creamy-white. Markings brown: small spot just before base of cleft; first lobe with small spot at anal angle; scattered and sparse dark scales on wing. Fringes creamy-white, with small pale brown dash at anal angle of first lobe. Underside pale brown, paler along costa and dorsum.

Hind wings and fringes creamy-white. Underside pale brown. Venous scales in double row, costal row ferruginous and longer than blackish and shorter dorsal row.

Male genitalia. Asymmetrical. Left valve with double spined saccular process, ventral spine 2x dorsal spine. Right valve with rod-shaped saccular process. Uncus curved, slender, just over ½ tegumen length. Tegumen bilobed. Juxta stout, with asymmetrical anellus arms. Vinculum ribbon-like. Aedeagus almost straight, acute tip. No cornutus.

Female genitalia. Unknown.

ECOLOGY. The moth flies in May, at an altitude of 850 meter. Hostplant unknown.

DISTRIBUTION. Brazil: Rio de Janeiro.

ETYMOLOGY. The species name *bidens* (=forked) refers to the forked, double saccular process in the left valve of male genitalia

• Hellinsia pichincha Gielis, 2011

Hellinsia pichincha Gielis, 2011: 689. Ecuador.

MATERIAL. 1 ♀, Brazil, Paraná, Banhado, Quatro Barras, 800 m, 29.VIII.1970 (V.O. Becker), gent CG 7177 (VOB). New for Brazil. DIAGNOSIS. Group: XXX (Gielis, 2011).

• *Oidaematophorus uruguayensis* (Gielis, 2013) comb. n. (Fig. 53)

Hellinsia uruguayensis Gielis, 2013: 101. Uruguay.

MATERIAL. 1 ♀, Brazil, Santa Catarina, São Joaquim, 1400 m, 25.X.1995 (V.O. Becker), gent CG 7105 (VOB). New for Brazil. DESCRIPTION. Female genitalia. Ostium rounded. Antrum barrel-shaped, basally funneling towards the short ductus bursae. In base of antrum two small sclerites. Bursa copulatrix vesicular, without signum. Ductus seminalis 2x length of bursa copulatrix, acutely ending. Apophyses anteriores ab-

sent. Apophyses posteriores slender, 4x papillae anales. REMARKS. Female genitalia illustrated for the first time. The finding of a female of this species, and the possibility to examine the antrum, enables establishing the genus of this species: Oidaematophorus Wallengren, 1862.

• Emmelina buscki (Barnes & Lindsey, 1921)

Adaina buscki Barnes & Lindsey, 1921: 370. USA (FI).

MATERIAL. 1♂, Brazil, Minas Gerais, Unai, 700 m, 27.IX.1983
(V.O. Becker), gent CG 7125 (VOB). New for Brazil.

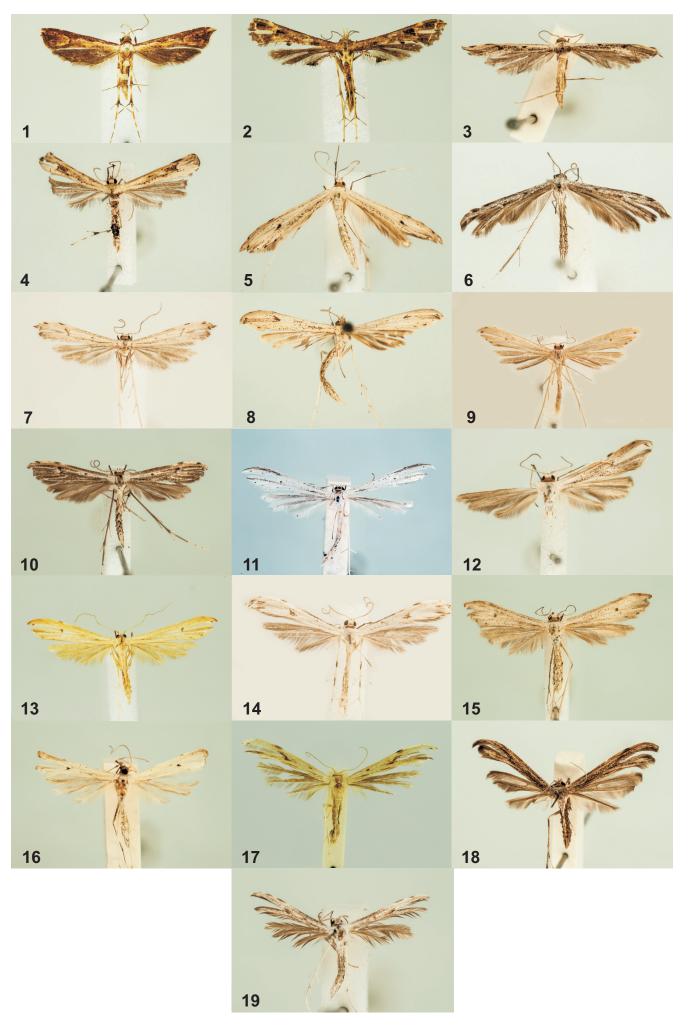
REMARKS. In part 5 of this review (Bull. SEA 55: 81) this species is accidently recorded in the genus Adaina Tutt, 1905, instead of the correct genus Emmelina Tutt, 1905.

• Emmelina compactus Gielis, sp. n. (Fig. 17, 41, 54)

MATERIAL. Holotype \circlearrowleft , Brazil, Distrito Federal, Planaltina, 15° 35'S 47° 42'W, 1000 m, 25.VI.1983 (V.O. Becker), gent CG 7174 (VOB). Paratypes: 2 \circlearrowleft , 4 \circlearrowleft , Same locality, 15.II.1982 (\circlearrowleft), 22.II.1985 (\circlearrowleft), 15.V.1982 (\circlearrowleft), 17.V.1976 (\circlearrowleft), 17.VIII.1978 (1 \circlearrowleft , 1 \circlearrowleft) (V.O. Becker), gent CG 7176 (\circlearrowleft), 7178 (\circlearrowleft), 7193 (\circlearrowleft) (VOB, CG); 1 \hookrightarrow , Brazil, Paraná, Curitiba. 920 m, 20.II.1975 (V.O. Becker) (VOB).

DIAGNOSIS. Male genitalia asymmetrical. Left valve with complex and compact saccular process at $\frac{2}{3}$ of valve length. Right valve with saccular process near tip, rod-shaped. This combination has not been found before.

► Fig.1-19. Imago. 1. Ochyrotica bonitae Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 26.III.2011 (B. Landry & V.O. Becker), gent CG 7088 (MZUSP). 2. Paraplatyptilia camacan Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 31.III.2011 (B. Landry & V.O. Becker), gent CG 7097 (MZUSP). 3. Hellinsia novalima Gielis, sp. n. Holotype. Brazil, Minas Gerais, Nova Lima, 850 m, 1-3.V.1983 (V.O. Becker), gent CG 7165 (VOB). 4. H. caraca Gielis, sp. n. Holotype. Brazil, Minas Gerais, Caraça, 1300 m, 25.X.1994 (V.O. Becker), gent CG 7114 (VOB). 5. H. minasgerais Gielis, sp. n. Holotype. Brazil, Minas Gerais, Caraça, 1300 m, 1-2.IV.1992 (V.O. Becker), gent CG 7142 (VOB). 6. H. camposdojordao Gielis, sp. n. Holotype. Brazil, São Paulo, Campos do Jordão, 22° 46'S 45° 41'W, 1600-1900 m, 20-27.II.2001 (V.O. Becker), gent CG 7122 (VOB). 7. H. impigritas Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 25.III.2011 (B. Landry & V.O. Becker), gent CG 7090 (MZUSP). 8. H. joinville Gielis, sp. n. Holotype. Brazil, Santa Catarina, Joinville, 10 m, 6.XII.1969 (V.O. Becker), gent CG 7163 (VOB). 9. H. curvisacculus Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, IV.2008 (V.O. Becker), gent CG 7214 (VOB). 10. H. saopaulo Gielis, sp. n. Holotype. Brazil, São Paulo, Campos do Jordão, 22° 46'S 45° 31'W, 1600-1900 m, 20-27.II.2001 (V.O. Becker), gent CG 7107 (VOB). 11. H. curvatura Gielis, sp. n. Holotype. Brazil, Santa Catarina, São Joaquim, 1400 m, 22-24.I.1983 (V.O. Becker), gent CG 7112 (VOB). 12. H. pichinguaba Gielis, sp. n. Holotype. Brazil, São Paulo, Pichinguaba, near Ubatuba, 23° 22'S 44° 50'W, 2-20 m, 10-12.XI.2001 (V.O. Becker), gent CG 7134 (VOB). 13. H. pondero Gielis, sp. n. Paratype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 22.III.2011 (B. Landry & V.O. Becker), gent CG 7087 (MHNG). 14. H. tumeo Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, , 800 m, I.2008 (V.O. Becker), gent CG 7201 (VOB). 15. H. novafriburgo Gielis, sp. n. Paratype. Brazil, Rio de Janeiro, Nova Friburgo, 1100 m, 9.XI.1998 (V.O. Becker) (CG). 16. H. bidens Gielis, sp. n. Holotype. Brazil, Minas Gerais, Nova Lima, 850 m, 1-3.V.1983 (V.O. Becker), gent CG 7166 (VOB). 17. Emmelina compactus Gielis, sp. n. Holotype. Brazil, Distrito Federal, Planaltina, 15° 35'S 47° 42'W, 1000 m, 25.VI.1983 (V.O. Becker), gent CG 7174 (VOB). 18. E. paradevriesi Gielis, sp. n. Holotype. Brazil, São Paulo, 900 m, 3-7.I.1983 (V.O. Becker), gent CG 7138 (VOB). 19. A.jequie Gielis, sp. n. Holotype. Brazil, Bahia, Jequié, 500 m, 16.II.1998 (V.O. Becker), gent CG 7137 (VOB).



DESCRIPTION. Wingspan 19-23 mm. Head appressedly scaled, pale brown, between base of antennae paler. Palps protruding, slender, pale white-brown, 1½x eye-diameter; third segment with pale brown ring. Antennae grey-white, shortly ciliated. Collar pale white-brown, with long, erect, bifid scales. Thorax, tegulae, and mesothorax very pale brown. Abdomen pale brown, with dorsally narrow brown, longitudinal line, and dorsal-lateral broad longitudinal lines. Legs white with brownish gloss. Hind legs with two pairs of asymmetrical spurs, median spurs longer than lateral spurs, and proximal and distal pair of equal length.

Fore wings cleft from near ½, pale brown. Markings brown: scattered scales on entire wing; small spot in discal cell; spot before base of cleft, base slightly dorsally positioned and longitudinally shaped, obliquely extending around base of cleft into first lobe; first lobe with longitudinal costal spot just beyond base of cleft, small costal spot at ½, apical dot, and small longitudinal spot at anal region; second lobe with longitudinal spots at apex and anal region. Fringes grey-brown, at anal region of first lobe with small dark brown brush, and at dorsum of both lobes with pale basal part. Underside dark brown, with spots as above.

Hind wings and fringes grey-brown. Underside brown. Venous scales ferruginous-orange, in double row, costal row longer.

Male genitalia. Asymmetrical. Left valve with complex and compact saccular process at $\frac{2}{3}$ of valve length. Right valve with saccular process near tip, rod-shaped. Uncus well-developed, almost as long as tegumen. Tegumen bilobed. Juxta rather slender in basal part, tube-like extending, with two asymmetrical anellus arms. Vinculum arched, broad. Aedeagus mildly curved just before tip. Cornuti shaped as field of spiculae near tip.

Female genitalia. Ostium mildly convex. Antrum gradually narrowing, 2x width of ostium. Ductus bursae tubelike,2x antrum. Bursa copulatrix vesicular, without signum. Lamina ante-vaginalis as narrow ridge from ostium to lateral in segment. Apophyses anteriores absent. Apophyses posteriores 1½x papillae anales.

ECOLOGY. The moth flies in February, May, June and August, at an altitude of 900-1000 meter. Hostplant unknown.

DISTRIBUTION. Brazil: Paraná, Distrito Federal.

ETYMOLOGY. The name *compactus* (= compact, thick) refers to the compact shape of the saccular process in the left valve.

Emmelina devriesi (B. Landry & Gielis, 1992) comb. n.
 Oidaematophorus devriesi B. Landry & Gielis, 1992: 24.- Galapagos Islands.

REMARKS. In respect to the genital structures, particularly in the male, this species has to be transferred to the genus *Emmelina*.Tutt, 1905.

• Emmelina glochinias (Meyrick, 1908) comb. n. Pterophorus glochinias Meyrick, 1908: 501. Brazil (RJ).

REMARKS. In respect to the genital structures, particularly in the male, this species has to be transferred to the genus *Emmelina*.Tutt, 1905.

• Emmelina paradevriesi Gielis, sp. n. (Fig. 18, 42, 55)

MATERIAL. Holotype ♂, Brazil, São Paulo, 900 m, 3-7.I.1983 (V.O. Becker), gent CG 7138 (VOB). Paratype ♀, Brazil, Minas Gerais, Nova Lima, 850 m, 8.X.1985 (V.O. Becker), gent CG 7185 (CG).

DIAGNOSIS. The species resembles *E. devriesi* (B. Landry & Gielis, 1992) externally as well as in the male genitalia. It differs in the wing markings by its darker color, extensive markings which have a linear shape, the longitudinal line between spot at base of cleft and costal spot above base of cleft; darker colored legs. In the male genitalia left valve wider before tip and with separate acute tip, left saccular process shorter. Tip of right valve concave instead of convex, right valve at ventral without thorn, which is present in *E. devriesi*. Uncus slightly more slender. In the female genitalia the distal margin of segment 7 smooth, instead of lobulated in *E. devriesi*.

DESCRIPTION. Wingspan 19-21 mm. Head appressedly scaled, vertex pale grey, face pale brown, between base of antennae white. In female all tinges more greyish. Palps slender, protruding, pale grey-brown, third segment pale brown, 1½x eyediameter. Antennae basal segment with brush of white and pale brown scales; faintly ringed grey-white and pale grey-brown; shortly ciliated. Collar grey-white and pale brown long erect and bifid scales. Thorax, and tegulae brown-grey, mesothorax grey-white. Abdomen brown-grey, dorsally grey-white with central narrow, longitudinal brown line. Hind legs pale grey-brown, with two pairs of asymmetrical spurs, median spurs longer than lateral spurs, and proximal pair as long as distal pair.

Fore wings cleft from $\frac{5}{8}$, ochreous-brown. Markings dark brown: dark scales from wing base up to dorsum of first and second lobe, in first lobe progressing into narrow, longitudinal, central line; oblique spot just before base of cleft; at $\frac{1}{3}$ of costa first lobe longitudinal spot, and longitudinal spot at anal region; second lobe with central longitudinal spot, and along costa from $\frac{2}{3}$ to tip long darkening. Fringes browngrey, darker at tip of lobes. Underside dark brown.

Hind wings and fringes dark brown-grey. Underside dark brown. Venous scales orange-ferruginous to ferruginous, in double row, costal row longer.

Male genitalia. Asymmetrical. Left valve with rounded tip, in tip half rather wide; saccular process " Ω "-shaped, with short basal parts. Right valve with concave tip, tip without prominent thorn. Uncus slender, mildly curved. Tegumen bilobed. Juxta rounded, with pair of asymmetrical, long anellus arms. Vinculum broad and long, with rounded tip. Aedeagus curved at $\frac{2}{3}$, cornuti as spiculae group near tip.

Female genitalia. Ostium left lateral, concave. Antrum strongly narrowed directly below ostium, widened towards ductus bursae; length 4x ostium width. Top part of ductus bursae angulated, as long as antrum. Bursa copulatrix vesicular, without signum. Vesica seminalis 3x longer than bursa copulatrix, top ½ narrow tube, last ½ vesicular. Lamina antevaginalis and lamina post-vaginalis forming an oval ring around ostium. Apophyses anteriores absent. Apophyses posteriores just less than 2x papillae anales.

ECOLOGY. The moth flies in January and October, at an altitude of 850-900 meter. Hostplant unknown.

DISTRIBUTION. Brazil: Minas Gerais, São Paulo.

ETYMOLOGY. The species is named *E. paradevriesi*, because of its striking similarity to E. devriesi (B. Landry & Gielis, 1992).

REMARKS. The status of the specimens recorded from the island of Martinique by Bigot and Deknuydt (1998) is not completely certain yet. Externally and in the male genitalia

the similarity with *E. devriesi* (B. Landry & Gielis, 1992) is great, but in the female genitalia the antrum in the Galapagos specimens is small, and narrow, while in the Martinique specimen, which Prof. L. Bigot kindly sent to me, the antrum is wide and long.

• Adaina bolivari (Căpușe, 1987)

Paravinculia bolivari Căpușe, 1987: 185. Venezuela.

MATERIAL. 1 \updownarrow , Brazil, Rio de Janeiro, 22.IV.1914 (A. Bentao), gent CG 7082 (USNM); 1 \updownarrow , Brazil, Sta Catharina, 1.I.1936, F. Hoffmann), (CG). New for Brazil.

• Adaina everdinae Gielis, 1991 (Fig. 56)

Adaina everdinae Gielis, 1991: 75. Argentina.

MATERIAL. 1 ♂, 3♀♀, Brazil, Paraná, Telêmaco Borba, 750 m, 13-19.X.1995 (V.O. Becker), gent CG 7119 (♂) (VOB, CG); 1 ♀, Brazil, Såo Paulo, Cotia, Morro Grande, 23° 40'S 47° 01'W, 900 m, 13-18.X.2001 (V.O. Becker), gent CG 7120 (VOB); 1 ♂, Brazil, Såo Paulo, Campos do Jordão, 22° 46'S 45° 31'W, 1600-1900 m, 20-27.II.2001 (V.O. Becker), gent CG 7121 (VOB). New for Brazil. DESCRIPTION. Female genitalia. Ostium left lateral positioned, mildly excavated, with spiculated and rounded edge left, and smooth and rounded edge right. Antrum funneling towards ductus bursae, with pair of elongated sclerites, 11/2x longer than width of ostium. Ductus bursae 2x length of antrum, slender. Bursa copulatrix vesicular, with narrow tube to ductus bursae; ductus seminalis slender twice length of bursa copulatrix. No signa. Lamina ante-vaginalis narrow, straight ridge, with laterally small knobs, as indications of apophyses anteriores. Apophyses posteriores slender 3½x papillae ana-

REMARKS. Female genitalia described and illustrated for the first time.

• Adaina excreta Meyrick, 1930

Adaina excreta Meyrick, 1930: 568. Peru.

MATERIAL. 9 ♀♀, Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 29.III.2011, 30.III.2011, 31.III.2011, 4.IV.2011, 5.IV.2011, 6.IV.2011 (B. Landry & V.O. Becker), gent CG 7096 (MHNG). New for Brazil.

• Adaina ipomoeae Bigot & Etienne, 2009

Adaina ipomoeae Bigot & Etienne, 2009: 465. Guadeloupe. MATERIAL. 2 ♀♀, Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 6.IV.2011 (B. Landry & V.O. Becker), gent CG 7092, 7099 (MHNG). New for Brazil.

• Adaina jequie Gielis, sp. n. (Fig. 19, 43)

MATERIAL. Holotype ♂, Brazil, Bahia, Jequié, 500 m, 16.II.1998 (V.O. Becker), gent CG 7137 (VOB).

DIAGNOSIS. Both valves rather slender. Left valve with saccular process about ½ valve length, mildly curved, with pronounced basal process. Right valve with narrow sclerotized rim along saccular margin. Externally the species resembles *A. perplexus* (Grossbeck, 1917), but differs in shorter left saccular process with basally extending process, and in right valve shape of sclerotized rim along the sacculus.

DESCRIPTION. Wingspan 11 mm. Head appressedly scaled, pale brown-white, between base of antennae white. Palps slightly curved up, pale brown-white; second segment with drooping long scales; 1x eye-diameter. Antennae pale brown-white, shortly ciliated. Collar white, with some long, erect, bifid scales. Thorax and tegulae pale brown-white, towards abdomen darker brownish. Mesothorax white. Abdomen longitudinally striped pale brown-white and grey-white. Hind legs ochreous-white, with two pairs of asymmetrical spurs,

medial spurs longer than lateral spurs, and proximal pair longer than distal pair.

Fore wings cleft from approximately 4/7, pale grey-white. Markings grey-brown: discal spot; rectangular spot just before base of cleft; first lobe with longitudinal costal spots at ¹/₃ and ²/₃, basal spot larger; diffuse and densely scattered pale ochreous-brown scales on wing, from base extending into both lobes. Fringes greyish. Underside grey-brown.

Hind wings and fringes pale brown-grey. Underside grey-brown. Venous scales dark ferruginous, in double row, costal row longer.

Male genitalia. Asymmetrical. Both valves rather slender. Left valve with saccular process about ½ valve length, mildly curved, with pronounced basal process. Right valve with narrow sclerotized rim along saccular margin. Uncus curved, as long as tegumen. Tegumen bilobed. Juxta narrow and slender. Only one long and slender anellus arm is noticed. (Actual situation or artefact?). Vinculum narrow, curved. Aedeagus curved in "S"-shape. No cornutus.

Female genitalia. Unknown.

ECOLOGY. The moth flies in February, at an altitude of 500 meters. Hostplant unknown.

DISTRIBUTION. Brazil: Bahia.

ETYMOLOGY. The species is named after the collecting locality: Jequié, in Bahia state, Brazil.

• Adaina quieta Gielis, 2012

Adaina quieta Gielis, 2012: 115. Paraguay.

MATERIAL. 1 &, Brazil, Paraná, Telêmaco Borba, 750 m, 13-19.X.1995 (V.O. Becker), gent CG 7123 (VOB); 1 &, Brazil, Minas Gerais, Sete Lagoas, 720 m, IV.1974 (V.O. Becker), gent CG 7180 (VOB). New for Brazil.

• Adaina villagrani (Gielis, 2013) comb. n. (Fig. 57)

Hellinsia villagrani Gielis, 2013: 97.- Argentina.

MATERIAL. 2 ♂♂, Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 28.III.2011, 24.XI-2.XII.2013, 11-16.XII.2013 (B. Landry & V.O. Becker), gent CG 7095 (♂), 7222 (♂), 7225 (♀) (MZUSP, MHNG). New for Brazil.

DESCRIPTION. Female genitalia. Ostium excavated. Antrum as long as wide, with rounded margins towards ductus bursae. Ductus bursae as long as antrum. Bursa copulatrix vesicular. Ductus seminalis vesicular, $\frac{2}{3}$ of bursa copulatrix length. No signum. Apophyses anteriores shaped as bundle of sclerotized ridges, approximately $\frac{1}{2}$ papillae anales. Apophyses posteriores curved, slender, 2x papillae anales.

REMARKS. Female genitalia illustrated for the first time. After re-examination of this species I have to conclude it has to be transferred to the genus Adaina Tutt.

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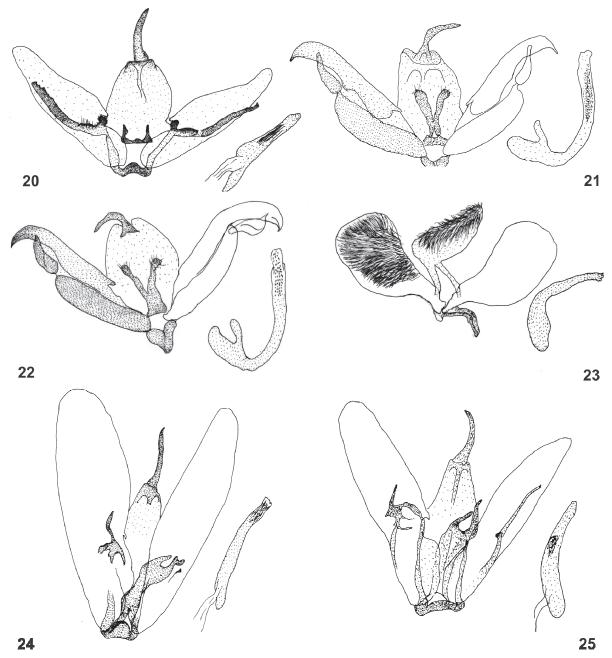


Fig. 20 -25. Male genitalia. 20. Ochyrotica bonitae Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 26.III.2011 (B. Landry & V.O. Becker), gent CG 7088 (MZUSP). 21. Stenoptilodes drechseli (Gielis, 2006). Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 25.III. 2011 (B. Landry & V.O. Becker), gent CG 7093 (CG). 22. Paraplatyptilia camacan Gielis, sp. n. Paratype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 11-16.XII.2013 (B. Landry & V.O. Becker), gent CG 7224 (MHNG). 23. Megalorhipida bahiaensis (Gielis, 2006). Brazil, Bahia, 9 km W Boa Nova, 630 m, 14° 22'S 40° 15'W, 4.XII.2013 (B Landsry & VO Becker), gent CG 7217 (MHNG). 24. Hellinsia novalima Gielis, sp. n. Holotype. Brazil, Minas Gerais, Nova Lima, 850 m, 1-3.V.1983 (V.O. Becker), gent CG 7165 (VOB). 25. H. caraca Gielis, sp. n. Holotype. Brazil, Minas Gerais, Caraça, 1300 m, 25.X.1994 (V.O. Becker), gent CG 7114 (VOB).

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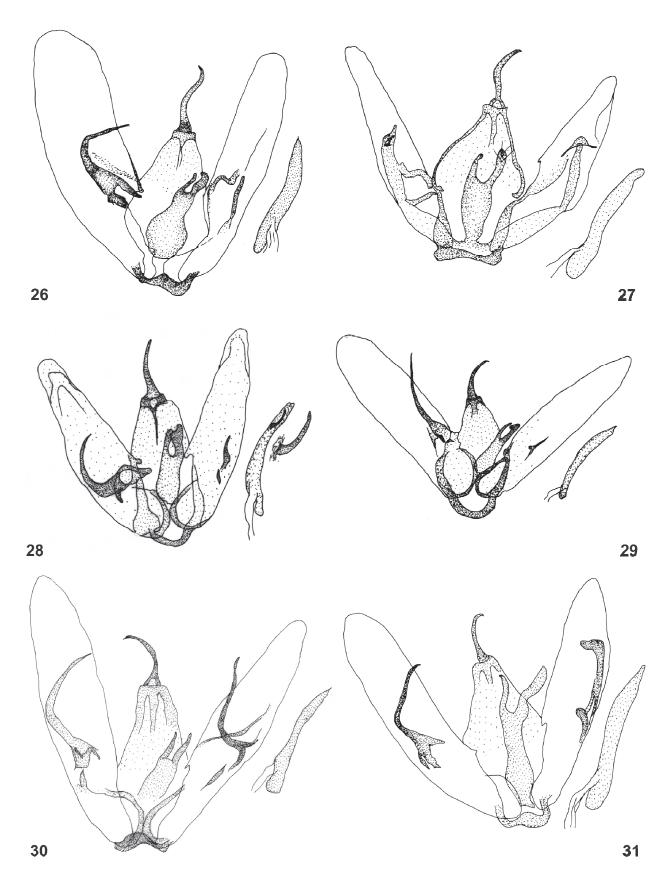


Fig. 26-31. Male genitalia. 26. *H. minasgerais* Gielis, sp. n. Holotype. Brazil, Minas Gerais, Caraça, 1300 m, 1-2.IV.1992 (V.O. Becker), gent CG 7142 (VOB). 27. *H. camposdojordao* Gielis, sp. n. Holotype. Brazil, São Paulo, Campos do Jordão, 22° 46'S 45° 41'W, 1600-1900 m, 20-27.II.2001 (V.O. Becker), gent CG 7122 (VOB). 28. *H. impigritas* Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 25.III.2011 (B. Landry & V.O. Becker), gent CG 7090 (MZUSP). 29. *H. joinville* Gielis, sp. n. Holotype. Brazil, Santa Catarina, Joinville, 10 m, 6.XII.1969 (V.O. Becker), gent CG 7163 (VOB). 30. *H. curvisacculus* Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, IV.2008 (V.O. Becker), gent CG 7214 (VOB). 31. *H. paraguariae* Gielis. Brazil, Rio de Janeiro, P.N. Itatiaia, 2400 m, 18.X.1985 (V.O. Becker), gent CG 7159 (VOB).

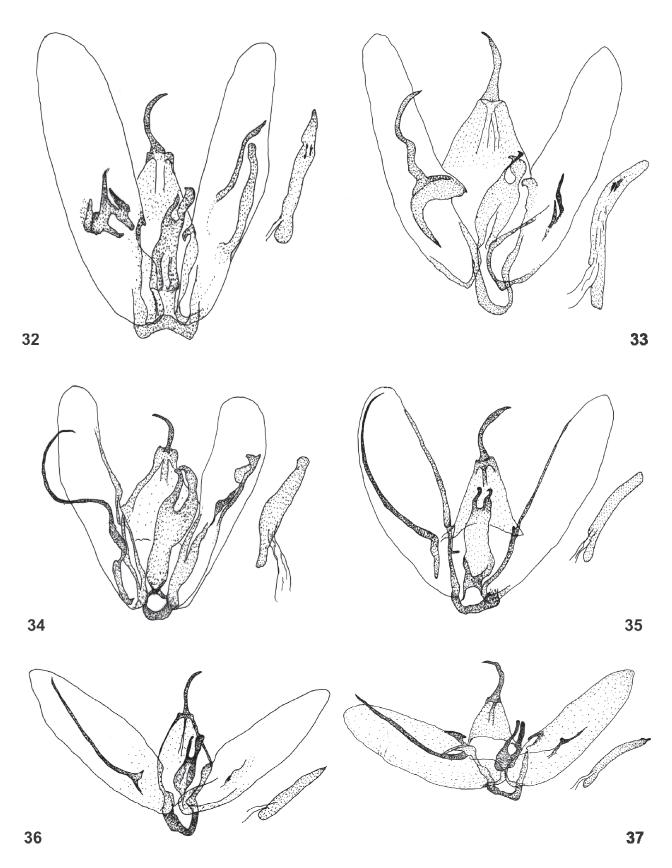


Fig. 32-37. Male genitalia. 32. *H. paraguariae* Gielis. Brazil, São Paulo, Campos do Jordão, 22° 46'S 45° 31'W, 1600-1900 m, 20-27.II.2001 (V.O. Becker), gent CG 7106 (VOB). 33. *H. saopaulo* Gielis, sp. n. Holotype. Brazil, São Paulo, Campos do Jordão, 22° 46'S 45° 31'W, 1600-1900 m, 20-27.II.2001 (V.O. Becker), gent CG 7107 (VOB). 34. *H. zetes* (Meyrick, 1930). Brazil, Ceara, Guaramiranga, 1000 m, 9.IV.1994 (V.O. Becker), gent CG 7108 (VOB). 35. *H. curvatura* Gielis, sp. n. Holotype. Brazil, Santa Catarina, São Joaquim, 1400 m, 22-24.I.1983 (V.O. Becker), gent CG 7112 (VOB). 36. *H. pichinguaba* Gielis, sp. n. Holotype. Brazil, São Paulo, Pichinguaba, near Ubatuba, 23° 22'S 44° 50'W, 2-20 m, 10-12.XI.2001 (V.O. Becker), gent CG 7134 (VOB). 37. *H. pondero* Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 22.III.2011 (B. Landry & V.O. Becker), gent CG 7085 (MZUSP).

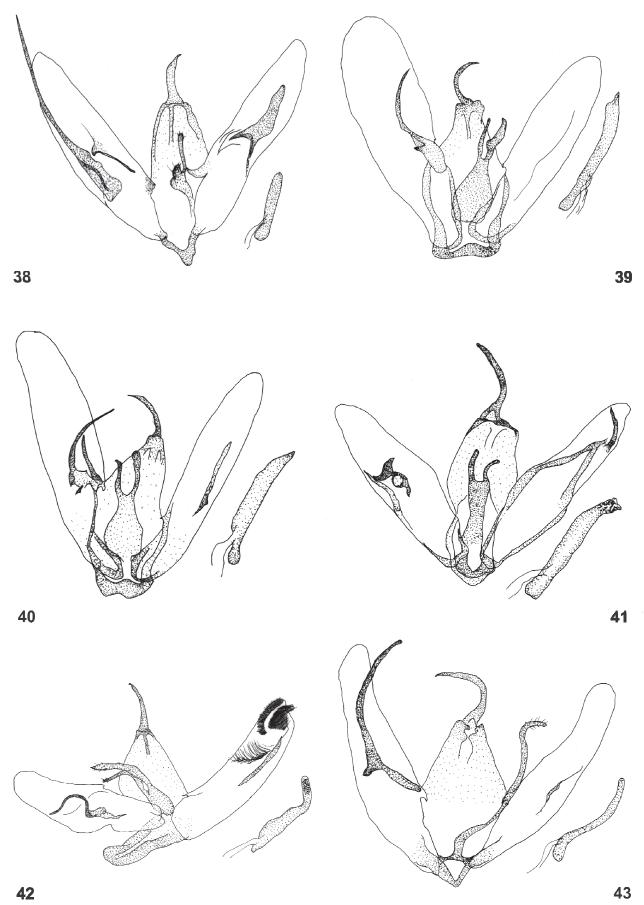


Fig. 38-43. Male genitalia. 38. *H. tumeo* Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 800 m, I.2008 (V.O. Becker), gent CG 7201 (VOB). 39. *H. novafriburgo* Gielis, sp. n. Holotype. Brazil, Rio de Janeiro, Nova Friburgo, 1100 m, 9.XI.1998 (V.O. Becker), gent CG 7110 (VOB). 40. *H. bidens* Gielis, sp. n. Holotype. Brazil, Minas Gerais, Nova Lima, 850 m, 1-3.V.1983 (V.O. Becker), gent CG 7166 (VOB). 41. *Emmelina compactus* Gielis, sp. n. Holotype. Brazil, Distrito Federal, Planaltina, 15° 35′S 47° 42′W, 1000 m, 25.VI.1983 (V.O. Becker), gent CG 7174 (VOB). 42. *E. paradevriesi* Gielis, sp. n. Holotype. Brazil, São Paulo, 900 m, 3-7.I.1983 (V.O. Becker), gent CG 7138 (VOB). 43. *A. jequie* Gielis, sp. n. Holotype. Brazil, Bahia, Jequié, 500 m, 16.II.1998 (V.O. Becker), gent CG 7137 (VOB).

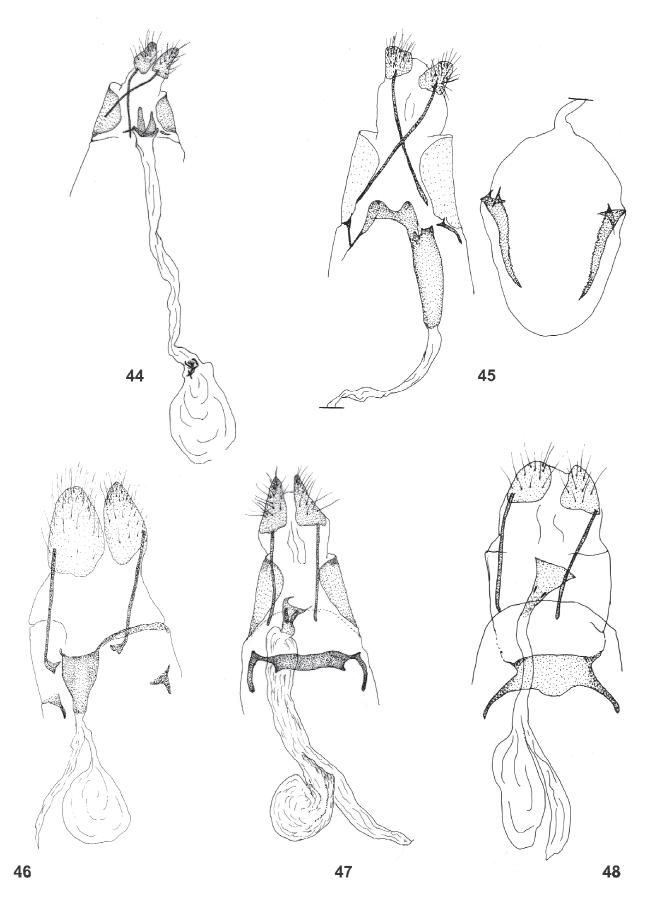


Fig. 44-48. Female genitalia. 44. Ochyrotica bonitae Gielis, sp. n. Paratype. Brazil, Bahia, Camacan, Res. Serra Bonita, 800 m, 15° 23'S 39° 33'W, 2 XII. 2013 (B. Landry & V.O. Becker), gent CG 7218 (MHNG). 45. Paraplatyptilia camacan Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 31.III.2011 (B. Landry & V.O. Becker), gent CG 7097 (MZUSP). 46. Hellinsia carpishia Gielis, 2014. Paratype. Argentina, Tucuman, 11 km S Tacanas, 28 km WSW Trancas, 800 m, 15.XI.1995 (NEENA sta 13), gent CG 6829 (CG). 47. H. curvisacculus Gielis, sp. n. Holotype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, VII.2009 (V.O. Becker), gent CG 7215 (CG). 48. H. paraguariae Gielis, 2012. Brazil, Minas Gerais, Caraca, 1300 m, 2-4.II.1985 (V.O. Becker), gent CG 6044 (VOB).

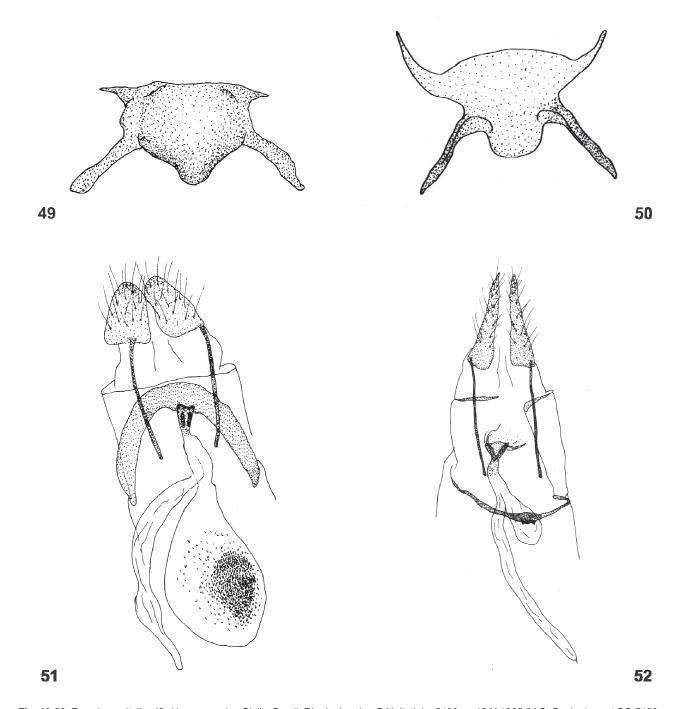


Fig. 49-52. Female genitalia. 49. *H. paraguariae* Gielis. Brazil, Rio de Janeiro, P.N. Itatiaia, 2400 m, 18.X.1985 (V.O. Becker), gent CG 7158 (VOB). 50. *H. paraguariae* Gielis. Ecuador, Zamora-Chinchipe, Loja- Zamora, 2100 m, 12.IX.2004 (J Wojtusiak), gent CG 6983 (JW). 51. *H. pondero* Gielis, sp. n. Paratype. Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23′S 39° 33′W, 800 m, 22.III.2011 (B. Landry & V.O. Becker), gent CG 7087 (MHNG). 52. *H. novafriburgo* Gielis, sp. n. Paratype. Brazil, Rio de Janeiro, Nova Friburgo, 1100 m, 9.XI.1998 (V.O. Becker), gent CG 7192 (VOB).

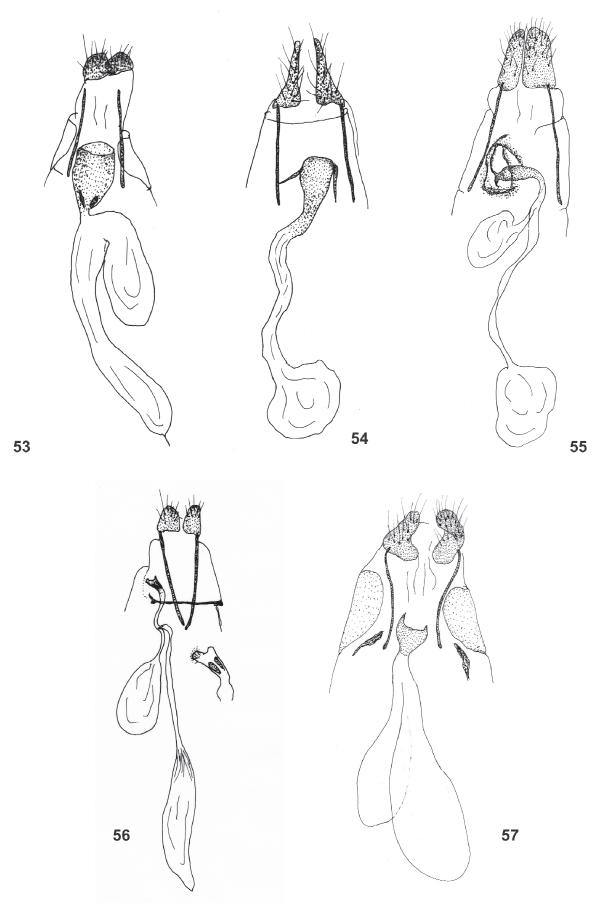


Fig. 53-57. Female genitalia. 53. Oidaematophorus uruguayensis (Gielis, 2013). Brazil, Santa Catarina, São Joaquim, 1400 m, 25.X.1995 (V.O. Becker), gent CG 7105 (VOB). 54. Emmelina compactus Gielis, sp. n. Paratype. Brazil, Distrito Federal, Planaltina, 15° 35'S 47° 42'W, 1000 m, 17.V.1976 (V.O. Becker), gent CG 7178 (CG). 55. E. paradevriesi Gielis, sp. n. Paratype. Brazil, Minas Gerais, Nova Lima, 850 m, 8.X.1985 (V.O. Becker), gent CG 7185 (CG). 56. Adaina everdinae Gielis, 1991. Brazil, Sao Paulo, Cotia, Morro Grande, 23° 40'S 47° 01'W, 900 m, 13-18.X.2001 (V.O. Becker), gent CG 7120 (VOB). 57. Adaina villagrani (Gielis, 2013). Brazil, Bahia, Camacan, Res. Serra Bonita, 15° 23'S 39° 33'W, 800 m, 11-16.XII.2013 (B. Landry & V.O. Becker), gent CG 7225 (MHNG).