

## *Cochylini (Lepidoptera: Tortricidae) from Peru and Bolivia*

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Received: 26 July 1992

Accepted for publication: 10 Aug. 1993

RAZOWSKI J. 1993. *Cochylini (Lepidoptera: Tortricidae)* from Peru and Bolivia. Acta zool. cracov. 36(1): 161-181.

Abstract. Twenty-nine known Peruvian species are listed of which 16 are described as new and the fauna of this country is compared with the faunas of better known South American countries. The descriptions of two new Bolivian species are also given.

Key words: *Lepidoptera*, *Tortricidae*, *Cochylini*, Peru, Bolivia.

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The Neotropical *Cochylini* fauna is not sufficiently well known nor has it been regularly studied and so each collection provides many new data. Only the faunas of Brazil and Mexico have been studied more closely, but the preliminary reports published so far concern merely the Brazilian (RAZOWSKI & BECKER, 1983, 1993) and Costa Rican (RAZOWSKI, 1992) *Cochylini*. The *Cochylini* of the Eastern parts of the South American continent are much better known than those of the Central and Western areas. Only ZELLER (1877) described several species from Colombia and CLARKE (1968) added a few new taxa from Peru and Bolivia. The remaining few western species were described by MEYRICK or, recently, by me. The *Cochylini* of Peru were practically unknown, as only 13 species have been found there to date. The collecting trips has not been undertaken in the recent years or returned without any material (that of my institute was robbed by "Sendero luminoso" during its returning way after 4-month field work in 1990). Thus the material collected by Dr. Ole KARLSHOLT in 1987 is the only fairly large collection of these moths from Peru. It consists of ca 50 specimens of which 16 are now described as new. The discovery of only 9 already known species in this material speaks how poor our knowledge of the cochylys of this area is. The fauna of Peru is now represented by only 29 species and 8 genera. As it was expected two genera, *Phalonidia* and *Saphenista* are the most abundant, being represented by 13 and 8 species, respectively (for comparison their numbers are: in Brazil 23 and 5 and in Costa Rica 2 and 12 against 25 and 45 species known from the region). *Phalonidia* is the most widely distributed cochyline genus as it is unknown only from the Ethiopian and Australian regions. In the Palaearctic subregion

16 species have been found, in the Nearctic their number is not higher than 10 (not revised), whilst in the Neotropical Region there are 43 species. The morphological differentiation is in the Neotropic much greater than in the remaining regions and the species form several groups, that of the western part of the continent being the most pronounced (cf the drawings of the male genitalia of the new species). *Saphenista*, the genus closely related to *Phalonidia*, is restricted in its distribution to the New World, being represented by only one species in the Nearctic subregion. *Saphenista* is most abundant in Central America, especially in its damp parts. The morphological differentiation of this genus seems, however, rather slight.

Almost all Peruvian species are known from the type-localities only or their distribution is restricted to that country. The only exceptions are *Aethes dentifera* known also from Argentina and *Saphenista domna* from Bolivia. Some other species have the most closely related taxa known from Bolivia or Colombia (*Phalonidia dysmorphia*) or their status (*Phalonidia hypagosocia* sp.n. closely related to *P. dyas* RAZOWSKI & BECKER and *P. astricta* RAZOWSKI & BECKER from Brazil, *Aethesoides* sp. to *A. inanita* RAZOWSKI, from Mexico, *Spinipogon luxuria* sp.n. to *S. elaphroterus* RAZOWSKI & BECKER, from Costa Rica and *Monoceratuncus cryphalus* sp.n. to *M. eriodens* RAZOWSKI from Mexico) needs reconsideration.

Only two monotypical genera, *Tambomachaya* Razowski and *Amallectis* MEYRICK are endemic in Peru.

**Acknowledgments.** I am greatly obliged to Dr. Ole KARSHOLT, Kopenhagen, for providing valuable Peruvian and Bolivian material for study. The holotypes of the newly described species are in the collection of the Zoological Museum, Kopenhagen.

#### Review of species

##### *Phalonidia walkerana* RAZOWSKI, 1967

*Phalonidia walkerana* RAZOWSKI, 1967, Acta zool. cracov., 12(8): 166, figs 6,7 (male genit.), pl.15, fig. 2 (forewing). Type-locality: Peru: Callao. Type in NHML.

##### *Phalonidia acrota* sp.n.

Alar expanse 15 mm; head and thorax brownish grey; labial palpus over 1. Forewing distinctly expanding terminally, broad in distal part, with costa slightly concave medially; termen oblique, somewhat convex. Ground-colour clear white, in form of broad blotch extending from mid-costa to before apex, reaching beyond middle breadth of wing, with arched distal edge. Dorsal half of wing suffused grey; apical area dark grey with blackish reticulation and some whitish spots; base of wing brownish-grey with some black dashes; median fascia ill-defined, diffuse, blackish, darkest in costal half. Fringes whitish, with median line grey and divisions situated beyond black terminal dots blackish. Hindwing

white-cream, suffused and stigulated brownish grey on periphery; fringes long, cream; greyish median line only at apex.

**Male genitalia** (Figs 1,2): Socii fairly long, on rather short base; valva up-curved; sacculus with long, rounded free termination; median part of transtilla fairly long, with distinct apical bifurcation. Aedeagus slender, bent, with moderate terminal prominence; caulis very large, with protruding, spined lateral projections; cornutus as long as median part of transtilla.

Abdominal scent organ small, in form of short process of distal edge of sixth sternite, with extending lateral corners.

**Holotype, male**: "Peru, Dept. Ancash 24: 30 km E. Huarez Chávin de Huantar, 18.-19.II.1987, 3050 m, O. KARSHOLT leg. Zool. Mus. Copenhagen".

**Comments**. Closely related to *walkerana* but easily distinguished by more black pattern and white blotch of ground colour at forewing costa. As regards genitalia, the new species differs in having the rounded end of the sacculus, larger aedeagus and very large, spined caulis.

#### *Phalonidia dotica* sp.n.

Alar expanse 8 mm; head cream, vertex browner, labial palpus 1, cream, brownish anteriorly; thorax concolorous with vertex, tegula browner to middle. Forewing weakly expanding terminally, costa rather convex, termen strongly oblique, hardly convex. Ground-colour cream, tinged yellowish at base of costa and beyond median fascia; the latter diffuse, interrupted subcostally, with slender costal portion and broad remaining part, both yellow-brown, marked blackish at costa and in middle of wing, posteriorly; suffusion formed by blackish bars at dorsum incorporated in the fascia; subapical fascia rather concolorous, with some black dots, reaching to beyond mid-termen. Fringes pale cream. Hindwing pale brownish; fringes paler.

**Female genitalia** (Fig. 38): Postvaginal part of sterigma forming fairly broad arms, cup-shaped part broad; ductus bursae very short; corpus bursae with numerous sclerotized folds and some groups of small spines; accessory bursa from distal part of corpus, dorso-laterally; ductus seminalis dorsal, from middle of the latter.

**Holotype, female**: "Peru, Dept. Huánaco [=Huánuco] 16: Tingo Maria, 650 m, 10.-11.II. 1987, O. KARSHOLT leg. Zool. Mus. Copenhagen".

**Comments**. Genitally nearest Brazilian *P. brillanteana* (RAZOWSKI & BECKER, 1983) as far as can be judged by the shape of the sterigma and bursa copulatrix. It differs, however, in the shape of the small median convexity situated between the distal edges of the postvaginal sterigma, the longer corpus bursae, and more proximal accessory bursa.

#### *Phalonidia karsholti* sp.n.

Alar expanse 14 mm; head white-grey, labial palpus 1.5, olive-grey; thorax darker, tegula ochreous grey. Forewing expanding terminally, with costa almost straight to beyond



middle, apex broad, termen weakly oblique, rather straight. Ground-colour olive-grey, suffused grey and blackish (sparse scales), dispersely scaled glossy whitish in distal area of wing. Median fascia and subapical fascia diffuse, ochreous, preserved in median parts of wing. Fringes cream, grey at base and terminally. Hindwing grey-cream; strigulation weak, brownish grey; fringes white cream, with darker median line.

Sexual dimorphism expressed in shape of wing which is slenderer in female than in male; ground colour paler, fascias ochreous, marked black; fringes ochreous with dark grey divisions; hindwing darker, creamer distally, with grey strigulation. Variation distinct in both male and female; ground colour more or less dark, suffusion beyond end of median cell often distinct, pale ochreous; blackish scales more dense; refractive pattern occasionally forming lines; median and subapical fascias in some specimens distinct, blackish.

Male genitalia (Figs 3,4) with base of socii well developed, terminal part of socius slender; median part of transtilla curved; valva slender, up-curved; sacculus large, angulate, rounded terminally, armed with long dorso-basal process; aedeagus slender, with short terminal part; cornutus small.

Female genitalia (Fig. 39): Postvaginal parts of sterigma delicate; cup-shaped part unified with colliculum to form long, slightly proximally tapering, sclerotized tube; ductus bursae very short; corpus bursae with spines and small latero-posterior sclerite; ductus seminalis ventral, from base of ductus bursae; accessory bursa dorsal, from proximal part of the corpus.

Holotype, male: "Peru, Prov. Ayacucho 39: 50 km E Nazca, 10.III.1987, 2500 m, O. KARSHOLT leg. Zool. Mus. Copenhagen". Paratypes: 5 males and 5 females labelled as above, or, two of them, with labels "Peru, Dept. Arequipa 69: 15 km SW Atico, 10.I.1987, sea level", and one from Dept. Ancash, 15 km N. Caras, Rio Salta Valley, 19-21.II., ca 2000 m.

Comments. The species is very distinct and easily distinguished by the presence of very long rod-like processes of the bases of the sacculi. The shape of the latter resembles that of *kathetospina* to some degree.

### *Phalonidia kathetospina* sp.n.

Alar expanse 11 mm; labial palpus over 1, brown, cream apically; front white, other parts of head brownish; thorax rust-brown, darker proximally, rust-grey distally, with collar partially white-grey. Forewing slender; costa weakly convex; termen strongly oblique, rather straight. Ground-colour ochreous-cream, suffused ochreous especially in middle of basal area, white from median fascia to blackish subapical blotch, suffused white in apex area; black dashes on white ground-colour posteriorly; base of costa and diffuse, indistinct median fascia ferruginous, tinged black in distal part dorsally, marked with long, black strip subcostally. Fringes pale ochreous. Hindwing slender, with long apex part, pale brownish grey, paler basally; fringes concolorous with base of wing.

Male genitalia (Figs 5,6): Socii large; valva slender; sacculus fairly broad, angulate distally, followed by sclerotized, sharp process of ventral portion of valva.



Median part of transtilla moderate, with distinct apical bifurcation. Aedeagus large, curved in distal third; cornutus longer than sacculus.

**H o l o t y p e**, m a l e : "Peru, Dept. Puno 56: 5 km E Limbani, 28.III.1987, 3000 m, O. KARSHOLT leg. Zool. Mus. Copenhagen".

**C o m m e n t s**. Externally this species resembles *Lasiothyris ficta* (RAZOWSKI & BECKER, 1983) from Brazil. It certainly is closely related to the preceding two species, but very distinct by the presence of the valval thorn. In Brazilian *P. unguifera* RAZOWSKI, 1967 there is a similar thorn, but directed distad and originating in the dorso-posterior part of the sacculus.

### *Phalonidia lochites* sp.n.

Alar expanse 16 mm; labial palpus 3, slender, brownish; remaining parts of head concolorous, thorax darker, flagellum of antenna whitish ringed brownish. Forewing expanding posteriorly, with apex broad, termen oblique, rather straight. Wing brownish cream, suffused brownish, scaled brown; pattern atrophied; fringes concolorous with wing. Hindwing cream, strigulated brownish grey; fringes concolorous with ground-colour.

**M a l e g e n i t a l i a** (Figs 6,7): Socii fairly large, with short base; basal half of valva broad, distal portion up-curved, tapering terminally; sacculus with ventral edge almost straight, terminating in small hook directed proximally, accompanied by a much larger spine originating in ventro-caudal part of valva. Median part of transtilla bifid apically. Aedeagus slender, bent beyond long caulis; terminal part of aedeagus short, curved; cornutus shorter than caulis.

**H o l o t y p e**, m a l e : "Peru, Dept. Apurimac 44: 25 km S Chalhuanca, Rio Lacaruse, Lacaia, 14.-15.III. 1987, 3500 m, O. KARSHOLT leg. Zool. Mus. Copenhagen". **P a r a t y p e**, a male with identical label.

**C o m m e n t s**. Monochrome species not similar to any other *Phalonidia* of this region. Distinct by the presence of the hook-shaped process at the end of the sacculus accompanied by a valval spine situated just above its base.

### *Phalonidia scolopis* sp.n.

Alar expanse 12 mm; head and thorax whitish, labial palpus over 2, tegula brownish. Forewing expanding terminally, costa rather straight, termen distinctly oblique, straight. Ground-colour whitish; base of wing and proximal third of costa brownish; median fascia similar in colour, with traces of yellow-brown suffusions, followed by weak brownish suffusion and dots, and diffuse fascia towards tornus; brownish dots at dorsum; subapical blotch triangular, followed by a line reaching mid-termen. Hindwing dirty white, minutely strigulated brownish; fringes whitish.

**M a l e g e n i t a l i a** (Figs 9,10) as in *lochites* but sacculus without hook-shaped process, broader, angulate distally, fusing with sclerite of caudal edge of valva; strong

spine at the end of sclerotization, in right valva three times as large as in the left. Aedeagus shorter than in *lochites*, more curved, with cornutus as long as spine of right valva and caulis similar but slenderer.

**Holotype**, male "Peru, Dept. Cuzco 51: 40 km NW Sicuani, 5 km E Laguna Pomacanchi, 24.III.1987, 3240 m, O. KARSHOLT leg. Zool. Mus. Copenhagen".

**Comments**. Externally resembling *lochites*, but its with pattern developed; the genitalia differing mainly in the shape of the sacculus and very large right spine of valva, homologous to that in the above-mentioned species. Asymmetry is visible in the size of the spine and the length of the sclerotized edge of the valva between it and the angulation of the sacculus.

### *Phalonidia sarovalva* sp.n.

Alar expanse ca 14 mm; head cream, labial palpus shorter than 1.5, brownish to before end; thorax pale ochreous cream proximally, otherwise white-cream. Forewing indistinctly expanding terminally, with costa weakly convex, apex broad, rounded and termen oblique, straight. Ground-colour whitish, with cream suffusions, tinged ochreous cream in distal portion. Wing edges spotted grey, black scales in terminal half of wing, medially, black spot near end of median cell; median fascia diffuse, incomplete, consisting of brownish costal blotch and submedian spots; subapical fascia cream, edged brownish, followed by ochreous-rust, minute fascia just before apex, terminating with somewhat paler suffusion at tornus. Fringes cream, tinged black at base and terminally. Hindwing cream with whiter fringes, strigulation dense, grey.

**Male genitalia** (Figs 11,12): Socii rather slender; median part of transtilla slender, curved; basal half of valva broad; right valva with arched dorsal fold protruding, reaching end half of sacculus, extending and bristled ventro-terminally; left valva with ovate depression edged by distal belt of spines, without ventro-terminal projection of sacculus. Aedeagus small, terminating in a short process; caulis with large lateral lobes; cornutus fairly long, slender.

**Holotype**, male: "Peru, Dept. Apurimac 45: 7 km E Chalhuanca, Rio Chalhuanca, 18.III.1987, 2770 m, O. KARSHOLT leg. Zool. Mus. Copenhagen".

**Comments**. Closely related to Brazilian *P. aetheria* RAZOWSKI, 1967, but with asymmetric valvae and large ventro-terminal process of the right sacculus. It also differs in some other characters namely, in having long cornutus or short end of aedeagus. Externally also similar to the mentioned species.

### *Phalonidia introrsa* sp.n.

Alar expanse 14 mm; head cream, labial palpus ca 1.5; thorax brownish cream. Forewing hardly expanding terminally, costa weakly convex, termen straight, oblique. Ground-colour cream, suffused ochreous; base of costa, remnants of median fascia (costal blotch, dorsal fascia) and subapical, curved fascia brown; fringes cream. Hindwing pale brownish cream; fringes cream.

**Male genitalia** (Figs 13,14): socii rather short; valva broad to end of sacculus, then slender, tapering terminally; sacculus convex ventrally, rounded, somewhat protruding terminally, with deep dorso-terminal concavity armed with short, distal spine accompanied by several small thorns. Median part of transtilla broad basally, then very slender. Aedeagus slender, bent, with broad caulis.

**Holotype, male**: "Bolivia, Dept. Cochabamba, 10 km SW Aiquille, 2400 m, 18.-19.IV.1987, leg. P. ARCTANDER. Zool. Mus. Kopenhagen".

**Comments**. This species also resembles *aetheria* but has a broader forewing, ochreous suffusion along the median and subcostal parts of wing and longer subterminal fascia. In the male genitalia of these two species the dorso-posterior portion of the sacculus is concave, but in *P. introrsa* the concavity is edged by both dorsal and ventral folds.

### *Phalonidia hypagosocia* sp.n.

Alar expanse 14 mm; head cream, vertex tinged ochreous, labial palpus 1.5, brownish to beyond middle; thorax cream, ochreous proximally. Forewing slender, termen strongly oblique, straight. Ground-colour pale yellowish cream, glossy; suffusions more ochreous; costa brownish at base; median fascia consisting of ochreous spots at costa, middle of wing where it is tinged rust, scaled black and slender; oblique brown blotch at dorsum. Fringes yellowish cream. Hindwing grey-cream, paler basally; fringes cream.

**Male genitalia** (Figs 15,16) with socius flattened, directed ventrally; median part of transtilla slender, bifid apically; valva long, slender; sacculus with small, slender, subterminal process; aedeagus long, in distal part open dorsally; cornutus, a very thin spine.

**Holotype, male**: "Bolivia, Dept. Cochabamba, 25 km NW Mizque, 2950 m, 16.-17.IV.1987, P. ARCTANDER leg. Zool. Mus. Kopenhagen."

**Comments**. This species is very closely related to *P. stricta* (RAZOWSKI & BECKER, 1983) and *P. dyas* (RAZOWSKI & BECKER, 1983), both from Brazil. It differs from them in coloration and in its broad socius, short bifurcation of the end of the transtilla and the presence of the cornutus. In all these species the tegumen is broad, broadly fused with the vinculum whose arms are almost completely coalescent apically.

### *Phalonidia diamphidia* (CLARKE, 1968)

*Lasiothyris diamphidia* CLARKE, 1968, Proc. U.S. natn. Mus., **125**(3660): 49, fig. 26 (male & female genit.), pl. 4, fig. 5 (photogr. of paratype). Type-locality: Peru: Cuzco: Machu Picchu.

### *Phalonidia praemorsa* sp.n.

Alar expanse 16 mm; labial palpus 2.5, strongly curved upwards, brownish, cream at end of second joint, with rust terminal joint; remaining parts of head cream; thorax brown,



olive-grey medio-anteriorly, with cream end of tegula. Forewing slender, expanding terminally, with rather straight costa, broad apex and oblique, slightly sinuate termen. Ground-colour cream, suffused ferruginous, grey dotted along dorsum; with some minute brownish dots along costa, some black scales along middle of posterior half of wing as far as to termen. Base of wing rust, browner at costa; costal blotch brown, remaining traces of median fascia rust, marked with 3 darker, median spots; subapical blotch and apical suffusion ferruginous, the former with 2 brown spots at costa. Fringes cream, remnants of median fascia darker with some groups of blackish scales. Hindwing brownish cream, tinged brownish on periphery, with a few concolorous strigulae; fringes cream-white.

**Male genitalia** (Figs 17,18): Socius rather short, but with fairly long free part; median part of transtilla broad, expanding in middle laterally into small processes, with two rounded apical prominences. Valva broad at base, slender, tapering terminally beyond spined caudal projection; sacculus with long terminal part, left one with row of thorns along dorsal edge, right with longer, sharper end. Aedeagus long, slender, with dorso-sub-terminal thorn; caulis broad; cornutus shorter than median part of transtilla.

**Holotype**, male: "Peru, Dept. Puno 56: 5 km E Limbani, 28.III.1987, 3000 m, O. KARSHOLT leg. Zool. Mus. Copenhagen".

**Comments**. This species is distinct by ferruginous coloration of the forewing and by peculiar male genitalia. It certainly belongs in the group of species related to *dysmorphia* as it has a similar aedeagus, socii and the differentiated saccular portion of the valva.

### *Phalonidia dysmorphia* (CLARKE, 1968)

*Lasiothyris dysmorphia* CLARKE, Proc. U.S. natn. Mus., **125**(3660): 47, fig 25 (male genit.), pl. 2, fig. 6 (photogr. of paratype). **Type-locality**: Bolivia: Cochabamba: Incachaca. Type in NMNH.

The genitalia in CLARKE's illustration differ somewhat from those of the Peruvian specimens (Figs 19-21) but that is probably caused by their position in the slide. The Karsholt specimens are from Department Puno, 5 km E Limbani, 3000 m, 28.III.1987.

### *Amallectis devincta* MEYRICK, 1917

*Amallectis devincta* MEYRICK, 1917, Trans. ent. Soc. London, **1917**: 1. **Type-locality**: Peru: Lima. – CLARKE, 1963, Cat. *Microlepid*. MEYRICK, **4**: 4, pl.2, figs 1-1c (head, venat., male genit. of type).

### *Saphenista aeraria* (RAZOWSKI, 1967)

*Phalonidia aeraria* RAZOWSKI, 1967, Acta zool. cracov., **12**(8): 170, figs 15, 16 (male genit.), 17 (female genit.), pl. 15, fig. 4 (forewing). **Type-locality**: Peru: Cuzco.

*Saphenista penai* (CLARKE, 1968)

*Amallectis penai* CLARKE, 1968, Proc. U.S. natn. Mus., **125**(3660): 28, fig. 15 (female genit.), pl. 2, fig. 2 (photogr. of holotype). Type-locality: Bolivia: Cochabamba: Incachaca. Type in NMNH.

The paratype of this species is from Peru: Cuzco: Machu Picchu.

*Saphenista omoea* sp.n.

Alar expanse ca 22 mm; head whitish, labial palpus 2, suffused brownish, thorax paler than palpus, tegula concolorous. Forewing distinctly expanding terminally; costa hardly convex; termen rather straight. Ground-colour whitish tinged, suffused (mainly in basal third) and sprinkled brownish; pattern brown, in form of oblique, dorsal fascia and very slender subapical fascia; paler suffusion near tornus. Fringes concolorous with ground-colour, with slender brownish median line and terminations. Hindwing brownish white, darker in apex area; fringes similar.

Male genitalia (Figs 22,23): Distal parts of socii rather short; median part of transtilla broad, short; sacculus slender, without larger prominences. Aedeagus slender, with long ventral termination; caulis median; cornutus less than twice shorter than aeadeagus, bent postbasally. No abdominal scent organ.

Holotype, male: "Peru, Dept. Puno 54: 15 km E Ayaviri, Laguna Aznacocha, 26.-27.III.1987, 3940 m, O. KARSHOLT leg. Zool. Mus. Kopenhagen."

Comments. Externally, mainly in the shape of the forewing, resembling *S. sphragidias* (MEYRICK, 1932) from Bolivia but differing distinctly from it in the very short median part of the transtilla and long cornutus.

*Saphenista* sp.

Cream coloured specimen, with blackish grey spots at mid-costa and subterminally and grey strigulation, mainly along dorsum, in female genitalia (Fig. 40) very similar to *sphragidias*. It is most probably a distinct species, but I cannot decide to describe it without having examined a male. Collected near Chalhuanca, in the Department Apurimac.

*Saphenista burrens* sp.n.

Alar expanse 18.5 mm; head cream-grey, front white, vertex brownish olive, labial palpus 1.5, brown-rust to before end, with grey terminal joint; thorax olive-brown, creamer distally. Forewing uniformly broad throughout; apex short, rounded; termen weakly convex and oblique. Ground-colour cream-ochreous in costal third of wing, to beyond triangular, greenish ochreous costal part of median fascia, concolorous with it along basal third of costa; dorsum grey-green crossed by convex cream line extending from costa along proximal edge of costal blotch; distal third of wing reddish cream, subapical blotch

purple-brown followed by two darker apical spots; the ground-colour between them dark grey, silver edged; strong suffusion fused with subapical blotch at costa reaching to tornus. Fringes cream-ochreous. Hindwing brownish, creamer towards base; fringes brownish cream, with brownish median line.

**Female genitalia** (Fig. 41): Distal part of sterigma except for posterior ribs membranous; cup-shaped part tubular, broad around ostium; ductus bursae sclerotized basally, membranous distally; ductus of accessory bursa from sclerotized tube at base of the latter; ductus seminalis dorsal, from distal part of corpus bursae, near base of its sclerite.

**Holotype, male**: "Peru, Dept. Huana'co 15: 25 km NE Huánaco [=Huánuco], Cordillera Carpish Pattytrail, 2600 m, 8.-10.II.1987, O. KARSHOLT leg. Zool. Mus. Kopenhagen."

**Comments**. Peculiar in coloration, and easily distinguished by purple and greenish areas of the forewing. The female genitalia resemble those of *sphragidias* to some degree.

### *Saphenista amusa* sp.n.

Alar expanse 21 mm; head yellowish cream, labial palpus 2, yellow-brown to before end laterally; thorax cream, tegula brown except terminal part. Forewing expanding terminally, costa weakly convex, termen oblique, gently sinuate. Ground-colour pale ochreous cream, suffusions and reticulation in distal part of wing ferruginous; base of wing rust-brown at costa and dorsum; median fascia brown, pale at costa; subapical blotch concolorous with the latter; dorsal spot at tornus brown. Remnants of fringes cream. Hindwing white-cream, darker at apex; fringes pale cream.

**Male genitalia** (Figs 24,25) as in *omoea* but socius long; median part of transtilla twice as long; aedeagus slenderer.

**Holotype, male**: "Peru, Dept. Puno 56, 5 km W Limbani, 28.III.1987, 3000 m, O. KARSHOLT leg. Zool. Mus. Kopenhagen."

**Comments**. Closely related to *omoea* but easily distinguished by ochreous-cream colour of forewing, and as regards the genitalia by the above-mentioned characters.

### *Saphenista peruviana* sp.n.

Alar expanse 21 mm; head cream, labial palpus ca 3, brownish; thorax greyish olive, with tegula brownish. Forewing broad, expanding posteriorly, termen long, hardly sinuate, fairly oblique. Ground-colour brownish-olive, suffused brown especially towards middle, paler, more ochreous cream in costal part of basal area and between tornus and middle, greyish terminally. Dorsal fascia brown, marked dark brown inside median cell. Fringes yellowish cream, greyish at tornus. Hindwing grey-cream, tinged brownish at apex; fringes concolorous with wing base. Variation: In one paratype median fascia distinct, bright brown.

**Male genitalia** (Figs 26-28): Socius broad, with inner edge expanding beyond middle; median part of transtilla rather short, minutely spined apically; sacculus slender, slightly convex postbasally; aedeagus shorter than costa of valva; cornutus longer than half the length of the latter; caulis postmedian.



**Holotype**, male: "Peru, Dept. Apurimac 47: 12 km N Abancay Cerro Turonmocco, 17.-18.III.1987, 3500 m, O. KARSHOLT leg. Zool. Mus. Copenhagen." **Paratypes**, 3 identically labelled males.

**Comments**. Similarly patterned and coming near to *S. nephelodes* (CLARKE, 1968) described from Bolivia. Distinct mainly much shorter socius and large cornutus. In the dentation of the distal edge of the median part of the transtilla resembles *S. praia* RAZOWSKI from Mexico, but differs mainly in the less dense and small spines of the transtilla.

*Saphenista campalita* sp.n.

Alar expanse 17 mm; head white, labial palpus 1.5, brownish to middle, laterally; thorax grey. Forewing slender, with costa straight, termen distinctly oblique, hardly convex. Ground-colour greyish white densely strigulated brownish, with darker spots along termen and distal part of dorsum, with sparse black scales in distal area. Median fascia in form of brown, diffuse subdorsal blotch; subapical blotch ill-defined, pale brownish. Fringes greish white; hindwing concolorous with dense brownish grey strigulation and whitish fringes. Variation: One specimen with large, grey suffusions and broad brown subdorsal blotch. Wing expanse varies from 14 to 17 mm.

**Male genitalia** (Figs 29,30) similar to those in *peruviana* but median part of transtilla slenderer, not spined, with longer lateral projections; sacculus shorter; aedeagus short, broad with caulis postmedian and cornutus long, curved, folding dorsally except for median portion, with long basal sclerite. Abdominal scent organ absent.

**Holotype**, male: "Peru, Dept. Lima 30: 10 km N Oyo'n Quabrada Quichas, Pueblo Quichas, 4000 m, 24.-26.III.1987. O. KARSHOLT leg. Zool. Mus. Copenhagen." **Paratypes**, 3 identically labelled males.

**Comments**. This species is distinct by the shape of the cornutus. It probably belongs in the same group as the preceding two species.

*Saphenista euprepia* sp.n.

Alar expanse 13-14 mm; head white, labial palpus 1.5, tinged ochreous to beyond middle; thorax olive brownish grey, darker proximally. Forewing termen straight, oblique. Ground-colour white; base of wing and dorsum as far as median cell concolorous with thorax, costal part of median fascia differentiated, triangular, paler, its dorso-median parts fused with dorsal suffusion, marked with ochreous and a few blackish spots; subapical blotch triangular or elongate, spots along termen, at apex and suffusion posterior to end of cell grey. Fringes (remnants) whitish, grey at tornus. Hindwing whitish, strigulated grey on periphery; fringes pale grey-cream.

**Male genitalia** (Figs 31,32) with long free part of socius, long valva and slender sacculus. Aedeagus stout; cornutus almost as long as aedeagus, curved, flat in distal third, with slender basal plate. Abdominal scent organ absent.

**H o l o t y p e**, male: "Peru, Dept. Cajamarca, 10 km W Huambos, 2900 m, 21.V.1987, leg. N. KRABBE. Zool. Mus. Copenhagen." Paratype, male, with identical label.

**C o m m e n t s**. This species belongs in the group of *S. cordifera* (MEYRICK, 1932) as its habitus shows. In the male genitalia it differs in absence of the submedian process of the ventral edge of the valva, the shape of the aedeagus and the cornutus. However, some species of this group are known from females only, and their males may be similar to *euprepia*. Of those species three are Columbian and one Bolivian.

*Platphalonidia sublimis* (MEYRICK, 1917)

*Phalonia sublimis* MEYRICK, 1917, Trans. ent. Soc. London, **1917**: 2. Type-locality: Peru: Huancayo. Type in NHML. – CLARKE, 1963, Cat. *Microlepid*. MEYRICK, **4**: 31, pl. 15, figs 1-1b (photogr. of type, female genit.). – *Cochylis sublimis*: RAZOWSKI, 1967, Acta zool. cracov., **12**(8): 206, note.

*Aphalonia monstrata* RAZOWSKI, 1984

*Aphalonia monstrata* Razowski, 1984, Annls zool., **38**(13): 276, figs 1-4 (male genit.). Type-locality: Peru: Diversoria. Type in NMNH.

*Tambomachaya pollexifera* RAZOWSKI, 1989

*Tambomachaya pollexifera* RAZOWSKI, 1989, SHILAP Revta lepid., **17**(66): 205, figs 1-4 (male genit.). Type-locality: Peru: Cuzco: Tambomachay. Type in NMNH.

*Aethes dentifera* RAZOWSKI, 1967

*Aethes dentifera* RAZOWSKI, 1967, Acta zool. cracov., **12**(8): 186, figs 45-48 (male genit.), 49 (female genit.), pl. 15, fig 10 (forewing). Type-locality: Peru: Chauchayaya. Type in NHML.

*Aethes annosa* RAZOWSKI, 1967

*Aethes annosa* RAZOWSKI, 1967, Acta zool. cracov., **12**(8): 189, figs 54,55 (male genit.), pl. 15, fig. 11 (forewing). Type-locality: SE Peru: Santo Domingo. Type in NHML.

*Aethesoides* sp.

This species closely related to or perhaps conspecific with *A. inanita* (RAZOWSKI & BECKER, 1986) from Mexico was collected in Tingo Maria, Huánuco at an altitude of 650 m. *Aethesoides* is known from several Central American and Mexican species, but

only one species (*A. columbiana* RAZOWSKI, 1967) is known to occur in the NW part of the South American continent. The holotype was described from Colombia, but the paratypes are from Peru. They require a re-examination as a status of some other species of this genus.

*Spinipogon luxuria* sp.n.

Alar expanse 11 mm; head brownish cream, labial palpus over 1, thorax browner than head. Forewing with costa somewhat convex and termen straight, oblique (in female uniformly broad throughout, with almost straight costa); ground-colour pale ochreous-cream to median fascia, costa olive-brown, in distal area olive-brown, suffused grey amidst pattern of distal third of wing which consists of ochreous subapical blotch, broadest medially, and apical spot accompanied by much paler suffusion extending from mid-wing to tornus. Median fascia brownish ochreous suffused olive distally, marked black at costa, dorsum and in middle part distally. Fringes cream, black scaled. Hindwing brownish cream, darker on periphery, diffusely strigulated brownish; fringes paler. Female paler, with pattern more distinct than in male.

Male genitalia (Figs 23,34): Valva slender, broadest basally, base of sacculus expanding ventrad; socii and aedeagus as in *S. elaphroterus* (RAZOWSKI & BECKER, 1986) from Costa Rica, median part of transtilla with much broader, bifid terminal projections; cornutus very large, longer than 1/3 length of aedeagus.

Female genitalia (Fig. 35) as in *elaphroterus* but with indistinct colliculum; distal edges of subgenital sternite forming two lateral, shallow pockets.

Holotype, male: "Peru, Dept. Lima 33: Lima 30 m, Miraflores, 1.-4.III.1987, O. KARSHOLT leg. Zool. Mus. Copenhagen." Paratype, an identically labelled female.

Comments. This species is closely related to *elaphroterus*, but easily distinguished from it and all other species of *Spinipogon* by large cornutus. Lima is the southernmost stand of a member of this genus in the eastern part of the continent.

*Monoceratuncus cryphalus* sp.n.

Alar expanse 10 mm; head grey-white, labial palpus over 1, grey to before end; thorax grey. Forewing costa convex, termen oblique. Ground-colour white, suffusions greyish, the darkest extending from tornus; grey spots along dorsum. Pattern in form of broad median fascia grey in colour, marked black medially, and subapical fascia broadest in middle where convex towards apex, reaching to termen at tornus. Fringes (remnants) probably whitish. Hindwing brownish grey; fringes whiter.

Male genitalia (Figs 36,37). Apical process of tegumen with median broadening terminating in slender hook; row of strong spines in dorso-postmedian part of valva; sacculus slightly expanding basally.



**Holotype**, male: "Peru, Dept. Lima 3: 12 km SE Chosica, Zárate, 2200-2600 m, 23.-25.I.1987, O. KARSHOLT leg. Zool. Mus. Kopenhagen. **Paratype**, an identically labelled male.

**Comments**. This new species comes closest to *M. eriodens* (RAZOWSKI, 1986) from Mexico but is easily distinguished by more dorsal and oblique row of the spines of valva.

### Unplaced species

#### *Cochylis constantia* CLARKE, 1968

*Cochylis constantia* CLARKE, 1968, Proc. U.S. natn. Mus., **125**(3660): 22, fig. 11 (female genit.), pl. 4, fig. 8 (photogr. of holotype). Type-locality: Peru: Cuzco: Machu Picchu. Type in NMNH.

Described from a single female in the genus *Cochylis* TREITSCHKE and compared with *serena* which is a member of *Parirazona* RAZOWSKI. Genitally resembling *Phalonidia* LE MARCHAND, or *Saphenista* WALSINGHAM.

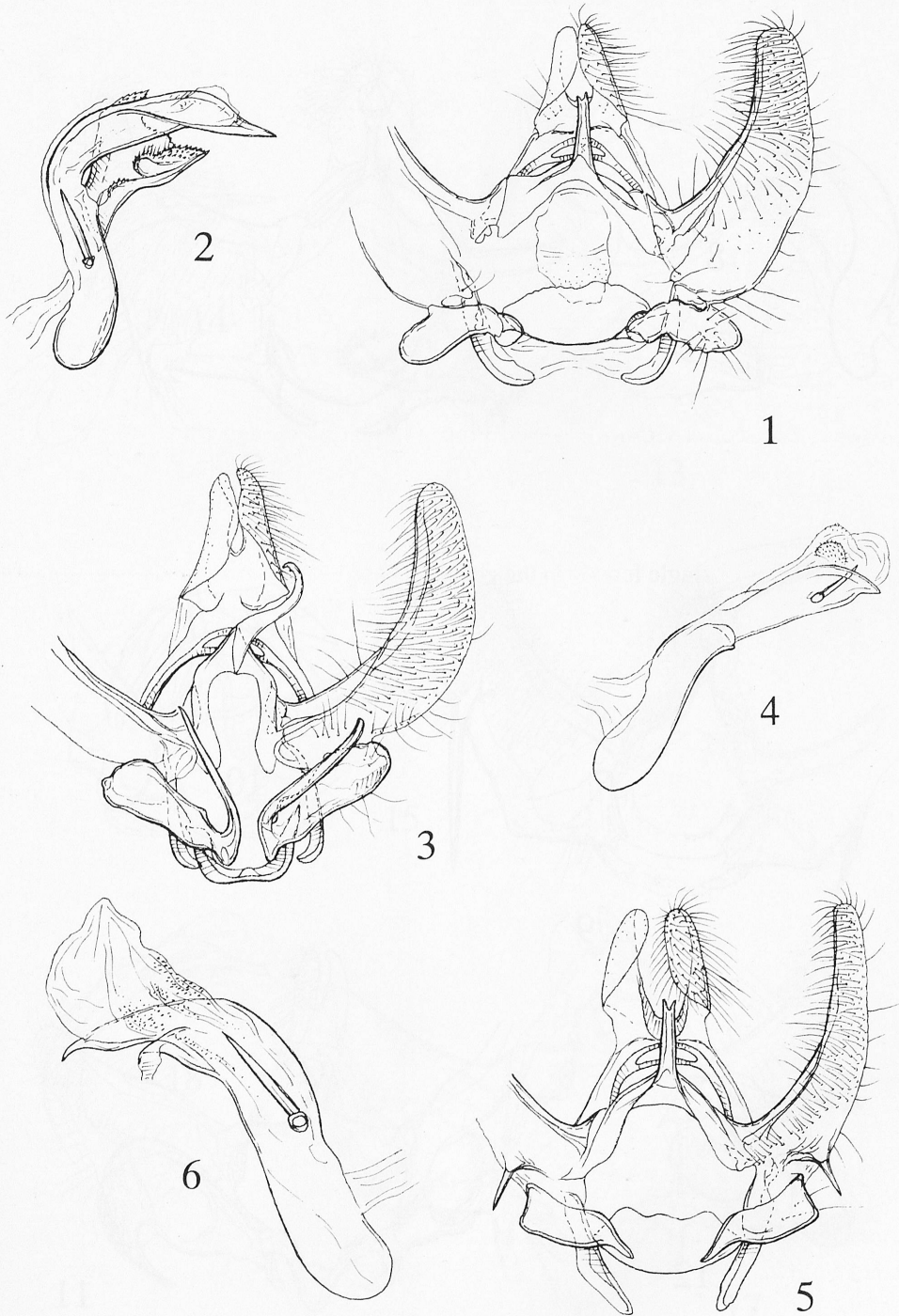
#### *Phtheochroa arrhostia* CLARKE, 1968

*Phtheochroa arrhostia* CLARKE, 1968, Proc. U.S. natn. Mus., **125**(3660): 56, fig. 30 (male genit.), pl. 3, fig. 5 (photogr. of holotype). Type-locality: Peru: Cuzco: Machu Picchu. Type in NMNH.

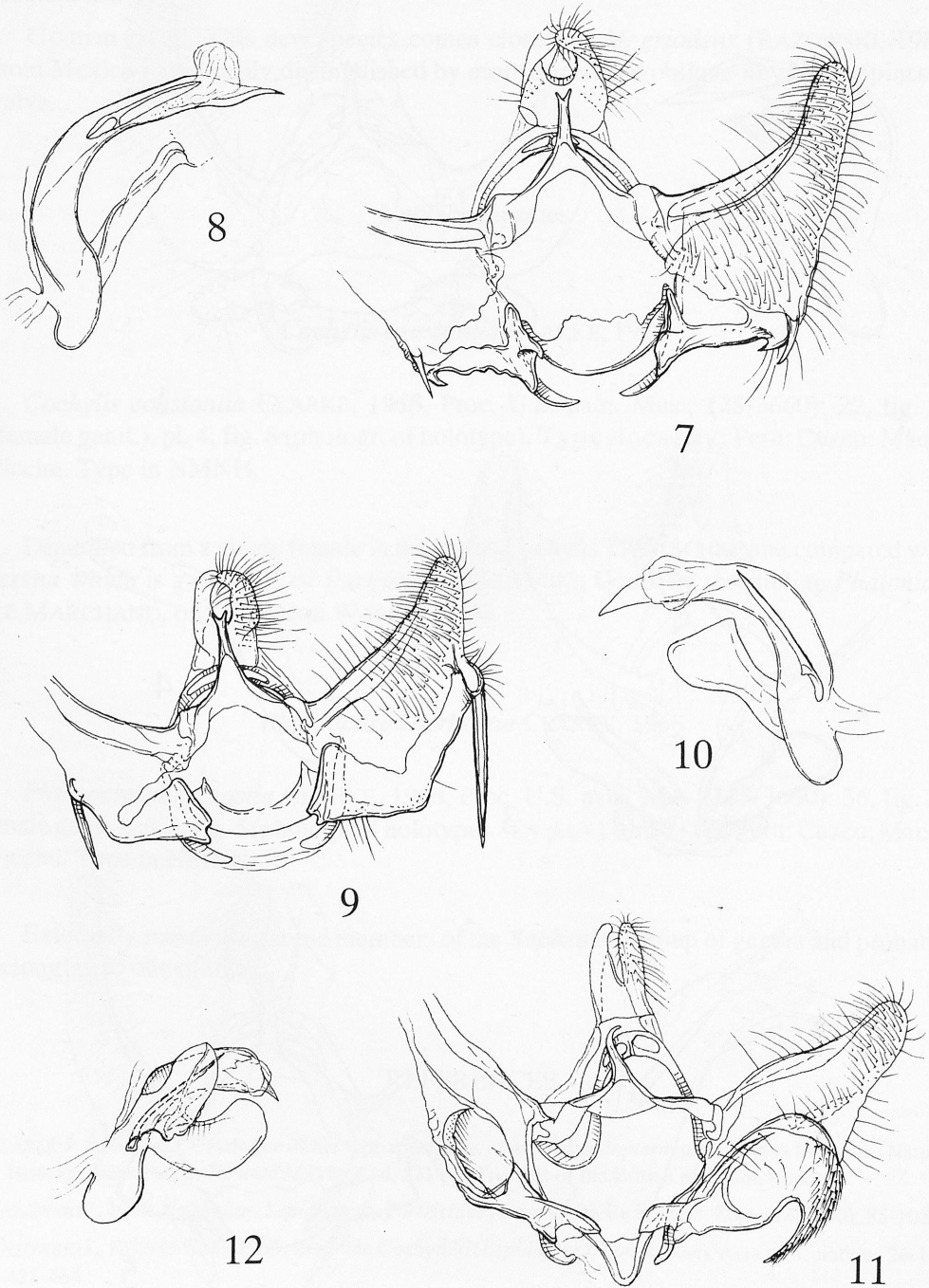
Externally resembling some members of the *Saphenista* group of genera and probably belonging to one of them.

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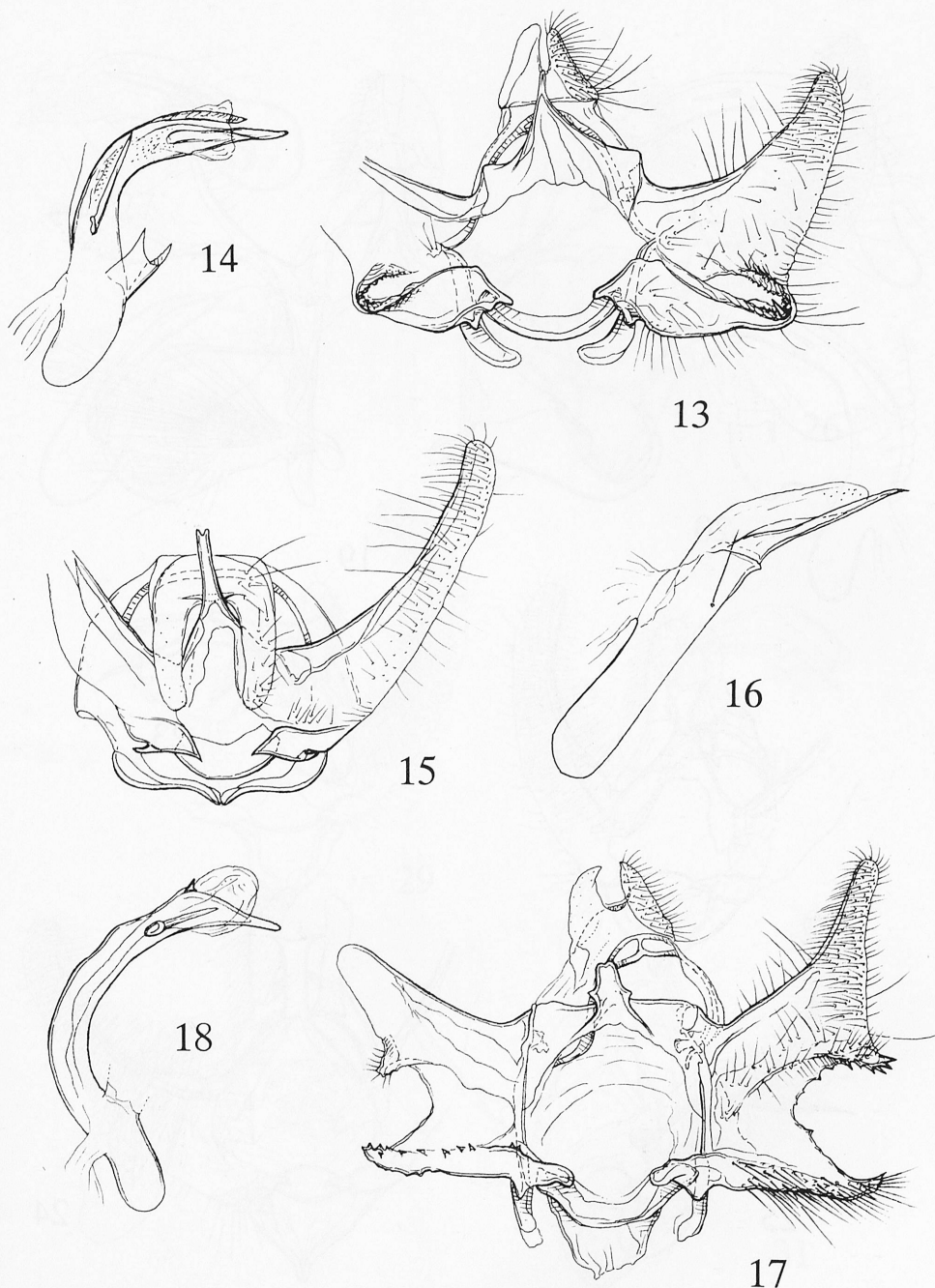


Figs 1 - 6. Genitalia of *Phalonidia* LE MARCHAND: 1,2 - *P. acrota* s.n., holotype; 3,4 - *P. karsholti* sp.n., 3 - holotype, 4 - paratype; 5,6 - *P. kathetospina* sp.n., holotype.

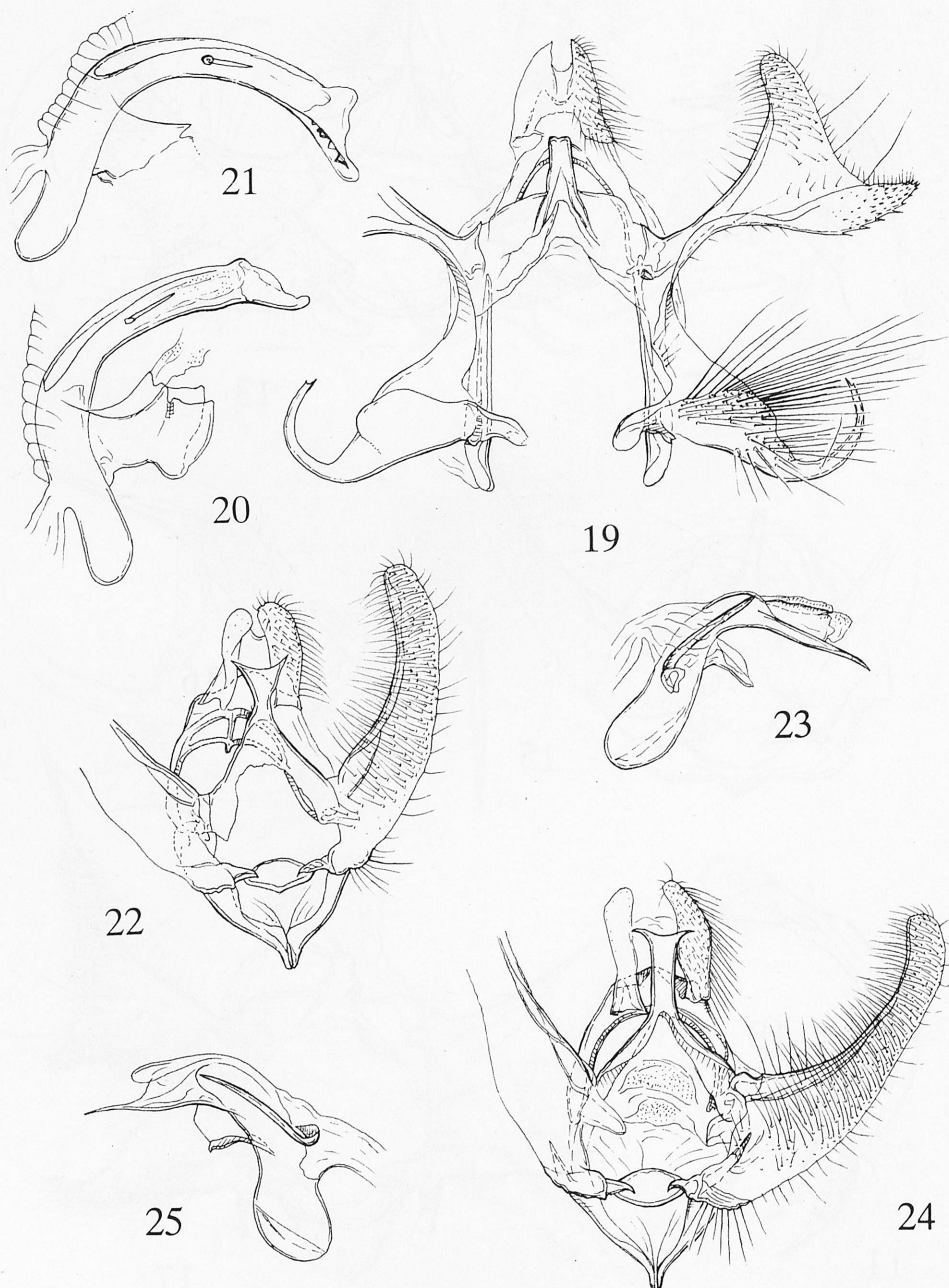


Figs 7 - 12. Genitalia of *Phalonidia* LE MARCHAND: 7,8 - *P. lochites* sp.n., holotype; 9,10 - *P. scolopis* sp.n., holotype; 11,12 - *P. sarovalva* sp.n., holotype.

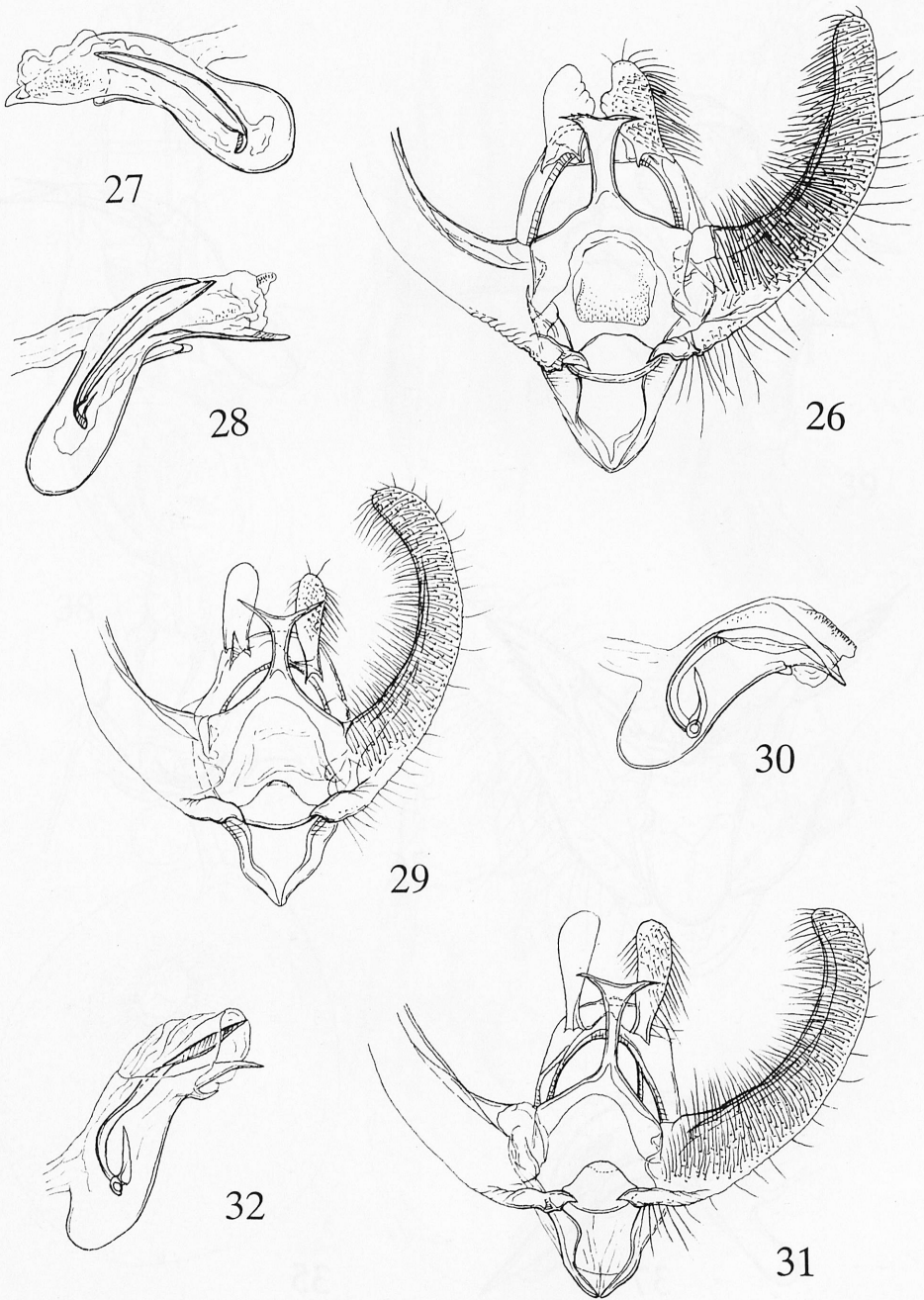




Figs 13 - 18. Genitalia of *Phalonidia* LE MARCHAND: 13,14 - *P. introrsa* sp.n., holotype; 15,16 - *P. hypagosocia* sp.n., holotype, 17,18 - *P. praemorsa* sp.n., holotype.

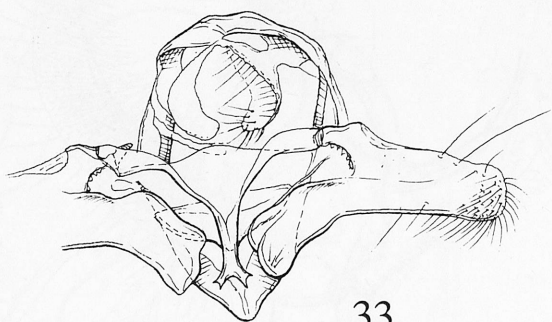


Figs 19-25. Genitalia of *Phalonidia* LE MARCHAND and *Saphenista* WALSINGHAM: 19 - 21 - *S. dysmorphia* (CLARKE), Peru; 22, 23 - *S. omoea* sp.n., holotype; 24, 25 - *S. amusa* sp.n., paratype.

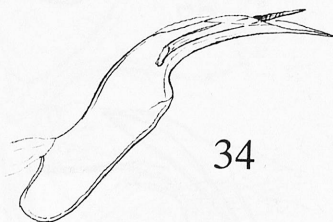


Figs 26 - 32. Genitalia of *Saphenista* WALSINGHAM: 26,27 - *S. peruviana* sp.n., holotype; 28 - same species, paratype; 29,30 - *S. campalita* sp.n., holotype; 31,32 - *S. euprepia* sp.n., holotype.





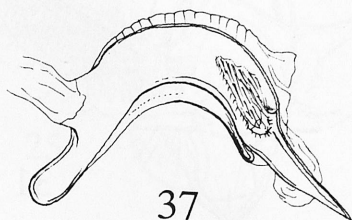
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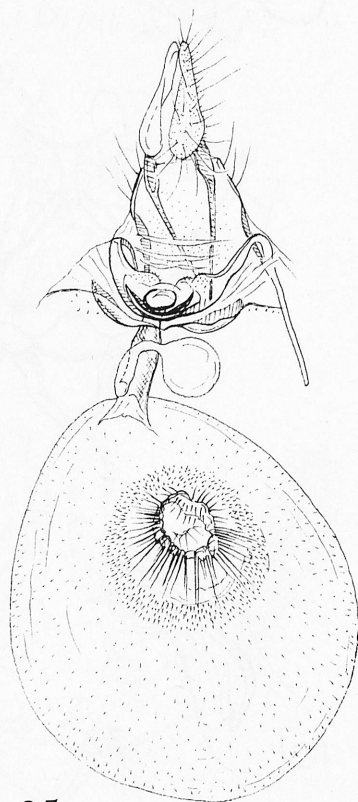
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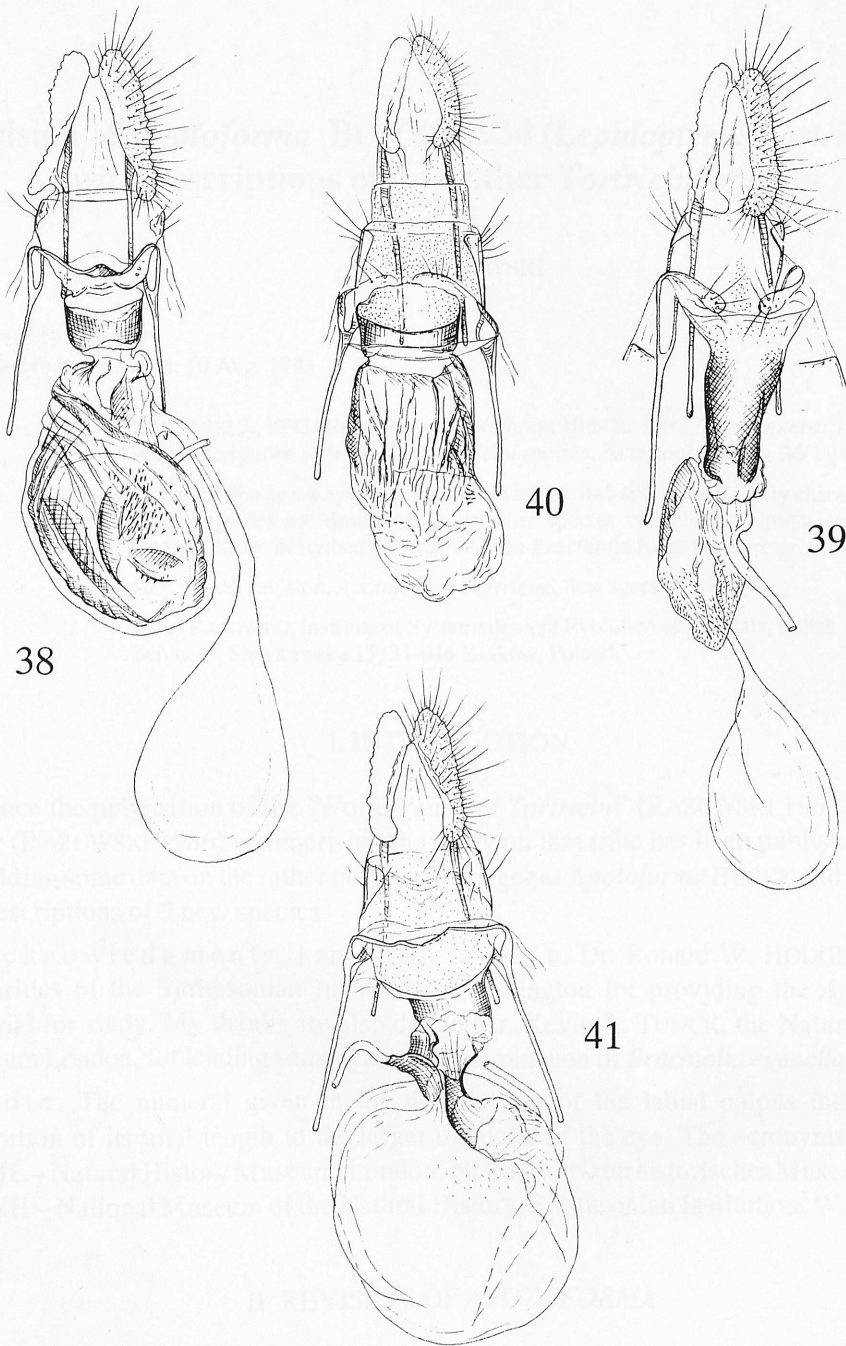


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Figs 33 - 37. Genitalia of *Spinipogon* RAZOWSKI and *Monoceratuncus* RAZOWSKI: 33,34 - *S. luxuria* sp.n., holotype, 35 - same species, paratype; 36,37 - *M. cryphalus* sp.n., holotype.



Figs 38 - 41. Genitalia of *Phalonidia* LE MARCHAND and *Saphenista* WALSINGHAM: 38 - *P. dotica* sp.n., holotype; 39 - *P. karsholti*, paratype; 40 - *S.* sp. near *sphragidias*; 41 - *S. burrens* sdp.n., holotype.

