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Systematics and Faunistics of Neotropical Olethreutini, 3: *Omiostola* MEYRICK, 1922 (Lepidoptera: Tortricidae)

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ABSTRACT. Seven species of *Omiostola* are recorded from Brazil, Ecuador and Cuba, four of which (*O. longimacula*, *O. paragerda*, *O. manca*, *O. macella*) are described as new. An alphabetical list of the known species of the genus is provided. *O. macrotrachela* is synonymized with *O. hemeropis*. *Episimus melanaspis* and *E. varablancana* are transferred to *Omiostola*.

KEY WORDS: Lepidoptera, Tortricidae, *Omiostola*, Neotropic, new species, new synonym, new combinations.

INTRODUCTION

Omiostola MEYRICK, 1922 is an exclusively New World Olethreutini genus consisting of 15 described species, known chiefly from South America. However, several new undescribed species have recently been discovered in Central America.

Omiostola is closely related to another tropical genus, *Episimus* WALSINGHAM, 1892, recorded from the Neotropical (main bulk) and Afrotropical (two species) regions. Neotropical *Episimus* was revised by RAZOWSKI & BROWN (2010) and characterized chiefly as having "a variably-developed hair-pencil extending from the lower edge of the tegula laterally along the thorax beneath the wings". *Omiostola* lacks the hair-pencil (more correctly, a scale pencil). The tegulae of *Omiostola* are greatly lengthened, extending nearly to the end of the thorax.

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According to the original description and illustration by CLARKE (1958), *Omiostola* has stalked forewing veins R4-R5. This character state is almost constant (also found in *O. adamantea* MEYRICK, 1922, *O. macella* sp. n., *O. paragerda* sp. n.), but R4-R5 are occasionally separated at the median cell, as in *O. delta* RAZOWSKI & WOJTUSIAK 2008, *O. hemeropis* RAZOWSKI & WOJTUSIAK 2008 and *O. longimacula* sp. n., a state also found in *Episimus*. The most frequent forewing marking in *Omiostola* is a dark dorsobasal blotch, which may be divided into parts or more or less reduced. That of *Episimus* more closely resembles the general olethreutine markings but is also variable.

The two genera have similar genitalia. In *Episimus* males the genitalia have a simple, usually slender uncus, whereas in *Omiostola* the uncus has a more or less long, slender terminal process. Beyond the sacculus angle, *Episimus* has a variably-developed ventral lobe that in *Omiostola* is weakly developed or completely reduced, occasionally even lacking spines. The differences in the female genitalia are smaller still. A molecular study of these genera may shed light on their reciprocal relation.

The infrageneric system of *Omiostola* is certainly imperfect. The presence of the subterminal fascia (in *O. hemeropis*) is presumably the most generalized marking in this genus. This species also has the most primitive male genitalia, in which the ventral lobe of the sacculus and its group of spines (setae) are absent. In *O. hemeropis*, however, the pattern is represented only by the medioanterior part of the dorsobasal blotch. A distinct dorsobasal blotch is present in several species (e.g. *O. delta*). In other species, various parts of the blotch are preserved: in *O. macella*, *O. manca* sp. n. and a few other species the proximal part of the delta-shaped blotch is preserved and accompanied by a strong suffusion of the whole dorsum; in *O. varablancana* a fascia extends from the wing base along vein A1+A2; in *O. gerda* BUSCK, 1912 and *O. paragerda* there is complete reduction of the blotch. In all these species the male genitalia have a ventral lobe of the sacculus and the saccular spines.

The shape of the uncus is not correlated with the markings. As the most generalized character state, we treat it with uniformly broad basal part. In *O. varablancana* and a few undescribed Costa Rican species, the uncus is basally constricted; in others the uncus is long and slender (*O. macella*), or its terminal processes are long (*O. splendissima*); the forewing markings of the latter are unique, consisting of several parts of transformed tortricine markings.

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MATERIALS

The paper is based on specimens collected by the second author in Brazil and Ecuador. The holotypes of the new species are deposited in the BECKER Collection (BC) and will eventually be transferred to a major Brazilian museum. The numbers cited after the label data are the entry numbers to the specimens in the register book of V.O. BECKER.

Abbreviations

BC – BECKER Collection; GS – Genitalia slide; WZ – Witold ZAJDA; NHML – Natural History Museum London; USNM – National Museum of Natural History.

Omiostola MEYRICK, 1922

Omiostola MEYRICK, 1922, Exot. Microlepid., **2**: 519; Type-species: *Omiostola alphitopa* MEYRICK, 1922, by original designation.

Alphabetical list of species
(known sex, country of origin, and references given)

adamantea MEYRICK, 1922: 520 (*Omiostola*), male, Brazil; CLARKE 1958: 560
albidobrunnea RAZOWSKI & WOJTUSIAK, 2010: 122, (*Omiostola*), male, Peru
alphitopa MEYRICK, 1922: 519 (*Omiostola*), male, Brazil; CLARKE 1958: 560
basiramula RAZOWSKI & WOJTUSIAK, 2011: 114 (*Omiostola*), male, female, Colombia
brunneochroma RAZOWSKI & WOJTUSIAK, 2011: 114 (*Omiostola*), male, Ecuador
delta RAZOWSKI & WOJTUSIAK, 2008: 54 (*Omiostola*), male, Ecuador
detosema RAZOWSKI & WOJTUSIAK, 2011: 114 (*Omiostola*), female, Colombia
gerda BUSCK, 1912: 227 (*Olethreutes*), female, French Guiana
hemeropis DOGNIN, 1912: 49 (*Olethreutes*), male, Colombia
= *macrotrachela* MEYRICK, 1922: 519 (*Omiostola*), male, Colombia; CLARKE 1958: 560
melanaspis (MEYRICK, 1927): 337 (*Episimus*), Colombia; CLARKE 1958: 336
paradelta RAZOWSKI & WOJTUSIAK, 2010: 121 (*Omiostola*), male, Peru
splendissima RAZOWSKI & WOJTUSIAK, 2008: 540 (*Omiostola*), male, Ecuador
triangulifera RAZOWSKI & WOJTUSIAK, 2008: 452 (*Omiostola*), male, Ecuador
varablancana RAZOWSKI & BROWN, 2010, (*Episimus*), male and female, Costa Rica
youngi RAZOWSKI, 1999: 332 (*Omiostola*), male, Ecuador.

RESULTS

Omiostola hemeropis (DOGNIN, 1912)

(Figs 1, 9)

Material examined

One male from Ecuador (Carchi, Maldonado 2200 m, 9-11. I. 1993; BC 105304).

Remarks

Omiostola macrotrachela MEYRICK, 1922, (Exotic Microlep., **2**: 519), **syn. n.,** is a synonym of *Olethreutes hemeropis* DOGNIN, 1912 (Hétér. Nouveaux d'Amérique du Sud, **6**(6): 49). Both were described from males from San Antonio, Colombia. The lectotype (NHML) of the former was illustrated by CLARKE (1958), and the figure was compared with the type of *hemeropis* (USNM).

Our specimen (Fig. 1) was collected in the Province of Carchi, Ecuador, at a similar altitude as *O. macrotrachela*.

Omiostola adamantea MEYRICK, 1922

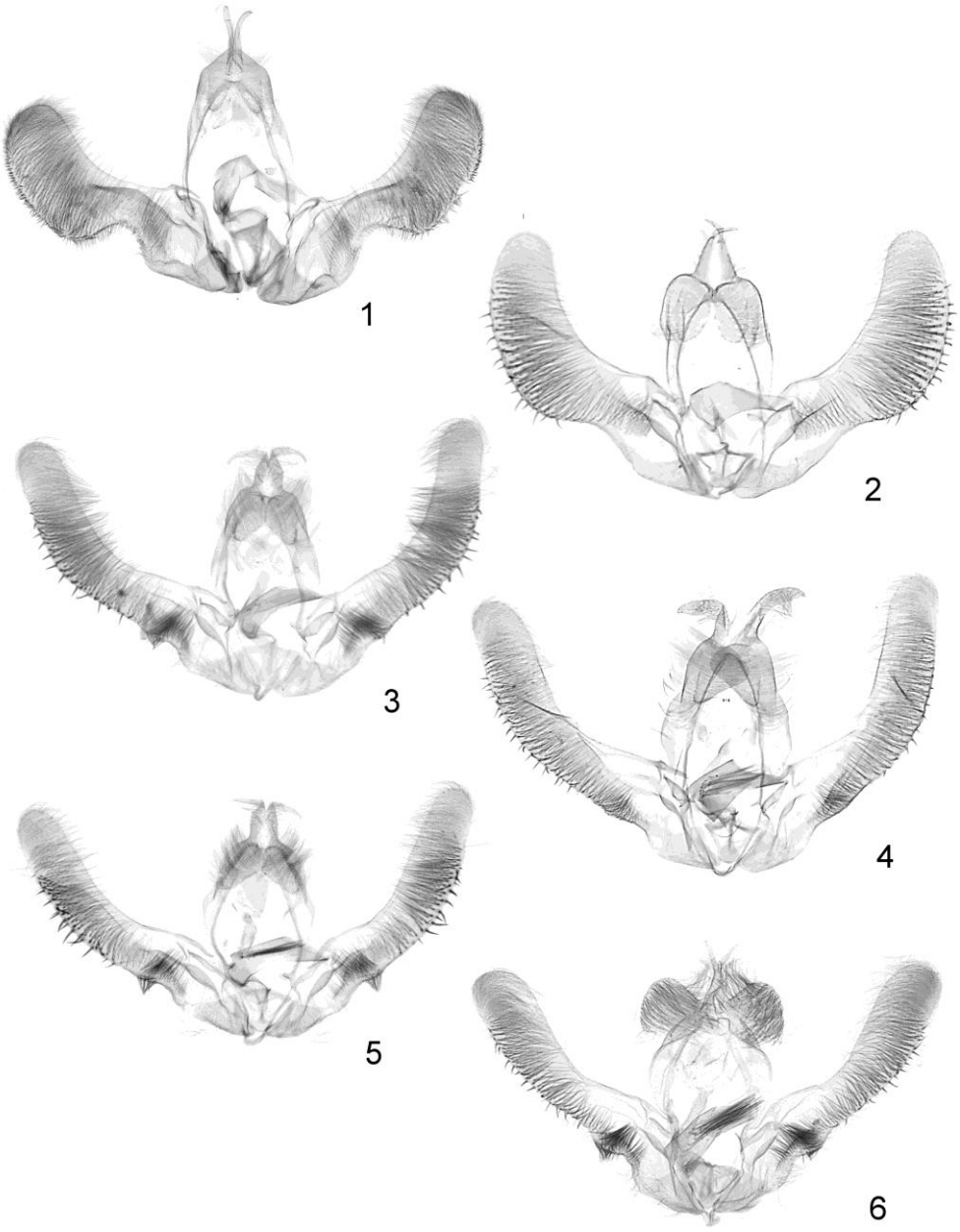
(Figs 2, 7, 10, 11)

Description

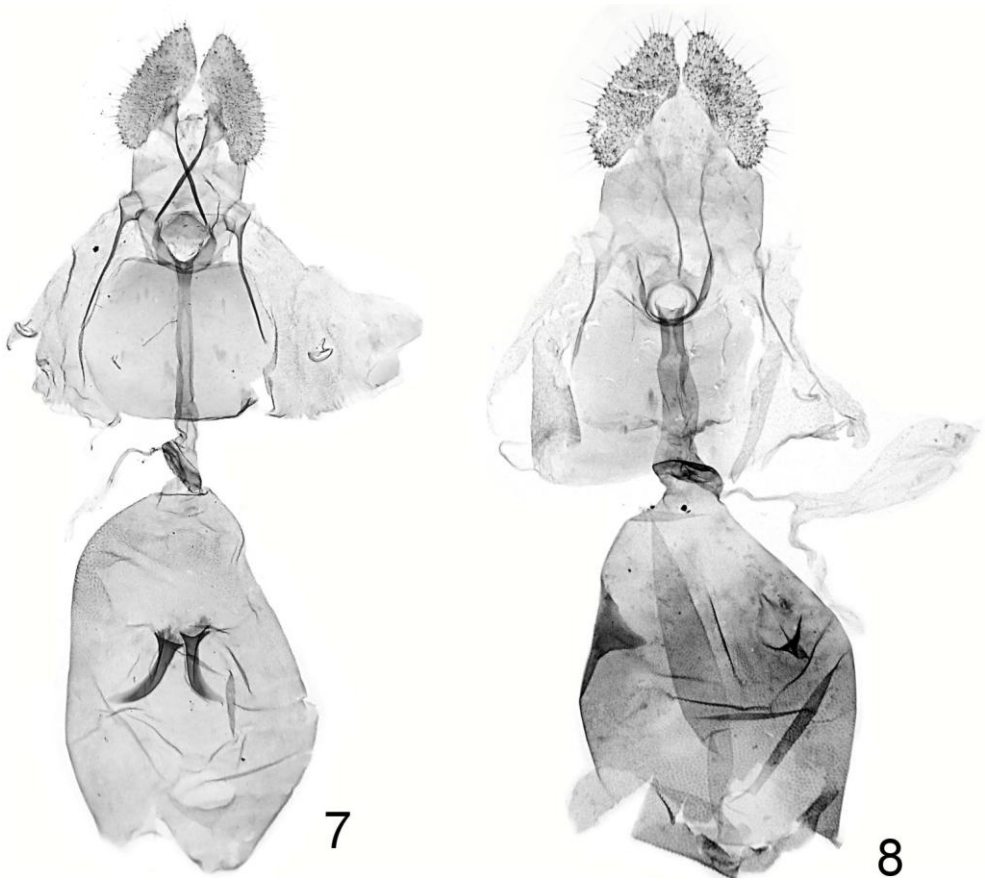
Examined specimens. Wingspan 23 mm. Head and thorax creamish, head with slight yellowish admixture, thorax mixed greyish, labial palpus brown. Forewing ground colour pale ferruginous cream; posterior halves of costa and dorsum more rust; basal half of costa greyish brown, dorsal half of dorsal area brownish; median area between these marginal parts and base cream dotted. Costa strigulae indistinct, creamish; divisions rust; ocellar area with series of dark brown spots extending towards costa where small. Tornal area suffused brown grey; terminal area more rust. Cilia blackish brown, creamer at apex of wing, whitish at tornus. Hindwing brownish grey, cilia paler.

Variation. Female wing span 25 mm. Ground colour suffused rust; tornus mixed grey; remnants of dorsobasal blotch rust brown.

Male genitalia (Fig. 2). Uncus broad basally, tapering to beyond middle with slender terminal arms; socius ovoid; basal part of sacculus curved outwards; neck of valva broad; ventral incision shallow; cucullus convex caudally; aedeagus broad proximally, tapering ventroterminally.



Figs 1-6. Male genitalia: 1 – *Omiostola hemeropis*, Maldonado, Carchi, Ecuador; 2 – *O. adamantea*, Bahia, Brazil; 3 – *O. longimacula* sp. n., holotype; 4 – *O. manca* sp. n., holotype; 6 – *O. macella* sp. n., holotype.

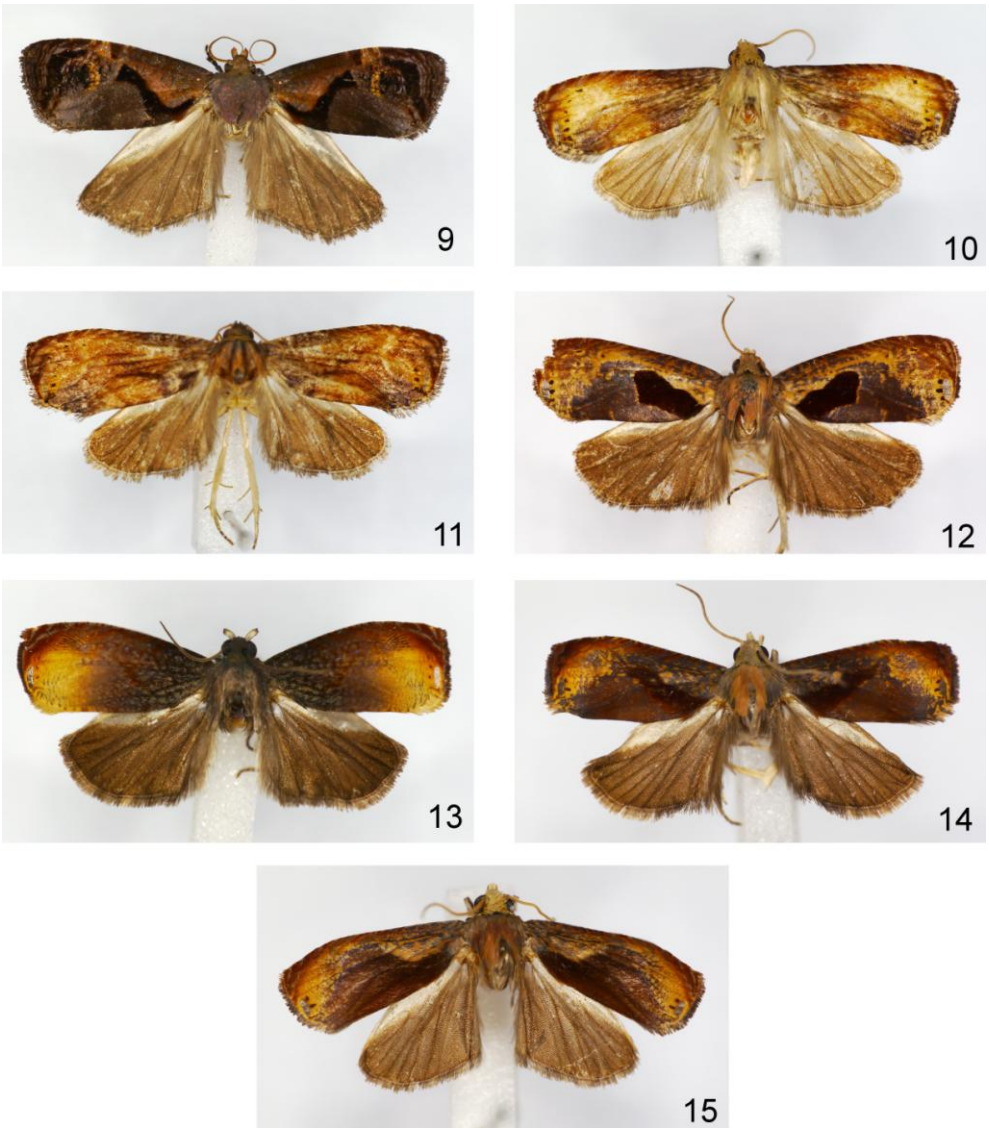


Figs 7, 8. Female genitalia: 7 – *Omiostola adamantea*, Bahia, Brazil; 8 – *O. paragerda* sp. n., paratype.

Female genitalia (Fig. 7). Sterigma rounded with broad anteostial half extending in middle posteriorly; sclerite of antrum weak, short; cingulum slender, oblique; signa long with small basal parts.

Material examined

Two males and two females: "Brasil: BA[hia], Jequie 600-750 m, 11-22. XI. 1985, V.O. BECKER Col.; Col. BECKER 105924" GS 754 WZ (male), 755 WZ (female).



Figs 9-15. Adults: 9 – *Omiostola hemeropis*, Maldonado, Carchi, Ecuador; 10 – *O. adamantea*, male, Bahia, Brazil; 11 – *O. adamantea*, female, Bahia, Brazil; 12 – *O. longimacula* sp. n., holotype; 13 – *O. paragerda* sp. n., holotype; 14 – *O. manca* sp. n., holotype; 15 – *O. macella* sp. n., holotype.

Remarks

CLARKE (1958) illustrated the male lectotype of *O. adamantea* (from Manaos, Brazil) but the genitalia cannot be accurately compared with those of our specimens because of their slight deformations (insufficiently pressed cover slip) in the lectotype. The specimens also differ in colouration, hence the above descriptions. The female genitalia of this species were previously unknown.

Omiostola longimacula **sp. n.**

(Figs 3, 12)

Diagnosis

In facies, *O. longimacula* is similar to *O. hemeropis* but is distinguished by a broad, oblique dorsobasal blotch and the lack of a fascia extending from the tornus. This species differs from *O. triangulifera* in the shape of the dorsobasal blotch (broad, triangular in the latter), the longer basal part of the uncus and the broader aedeagus.

Description

Wingspan 22 mm. Head and thorax brownish, thorax tinged grey medially, tegula similarly so distally. Forewing weakly expanding posteriorly; termen indistinctly concave medially. Ground colour brownish cream suffused rust and spotted grey in costal area with diffuse rust in posterior and apical parts of wing; dorsum dark grey. Costal strigulae brownish cream; divisions rust; ocellus with three dark brown spots and posterior refractive line. Dorsobasal blotch elongate, rounded terminally, purple brown, finely edged creamish; arched rust line representing subapical fascia. Cilia rust brown, creamish in tornal third. Hindwing dark brown; cilia similar.

Male genitalia (Fig. 3). Basal half of uncus broad, posterior parts in form of two slender arms; socius broad, oval; sacculus weakly angulate; ventral incision of valva weak; ventral lobe of sacculus small, area above it spined; cucullus long; aedeagus short, extending ventroposteriorly.

Female unknown.

Holotype male: "Ecuador: Tung[urahua], Rio Verde 1600 m, 26. XII. 1992, V. O. BECKER Col; Col. BECKER 104070"; GS 765 WZ.

Etymology

The name refers to the shape of the dorsobasal forewing blotch; Latin: longus – long, macula – a blotch.

Omiostola paragerda sp. n.

(Figs 4, 8, 13)

Diagnosis

In the facies, *O. paragerda* is similar to *O. gerda* but *O. paragerda* can be distinguished by the large blades of the signum and the well sclerotized cingulum.

Description

Wingspan 22 mm. Head and proximal third of thorax dark brown, remaining parts of latter brownish. Forewing expanding posteriorly; costal half of termen not oblique. Ground colour yellow cream suffused pink brown to middle, dark brown in basal third, densely refractive dotted; costa and apical area more rust. Costal strigulae indistinct, divisions rust brown; posterior area of wing from tornus to before 3/4 of costa cream tinged rust towards costa posteriorly where marked by fine brown lines; ocellus with three spots and broad posterior line. Subterminal fascia slender, rust. Cilia brown, cream in tornal fourth. Hindwing dark brown; cilia slightly paler.

Male genitalia (Fig. 3). Basal part of uncus broad, short, posterior arms broad; socius subtriangular, rounded, broad; sacculus fairly short, angulate; ventral lobe of sacculus indistinct, hairy and spined; aedeagus short, broad; cornuti long.

Female genitalia (Fig. 8). Sterigma broad, rounded proximally, expanding in middle posteriorly; sclerite of antrum well developed; cingulum slender; signa large with strong blades.

Type material

Holotype male: "Brasil: M[ato]G[rosso] 800 m, Chapada dos Guimaraes, 20. XI. 1994, V.O. BECKER Col; Col. BECKER 94164"; GS 758 WZ. Paratype female, identical label; GS 757 WZ.

Etymology

The specific epithet refers to the external similarity of this species to *O. gerda*; Latin: para – near.

Omiostola hemeropis RAZOWSKI & WOJTUSIAK, 2008

Material examined

Three specimens from Ecuador (Carchi, Maldonado 2200 m, 9-11. I. 1993; GS 105303).

Remarks

O. delta was described from same Province and was collected at similar altitude (2000 m in the Golodrinas Forest Reserve). Our specimens differ from the type in having a more elongate, posteriorly rounded, dorsobasal blotch and somewhat longer aedeagus and socii.

***Omiostola manca* sp. n.**

(Figs 5, 14)

Diagnosis

O. manca is related to *O. triangulifera* but *O. manca* is distinguished chiefly by the slender dorsobasal blotch and the strongly reduced pale area of the forewing ground colour. The genital differences between these species are slight: *O. manca* has a deeper ventral incision of the sacculus and a broader aedeagus.

Description

Wingspan 17 mm. Head and collar cream grey, end of labial palpus and tegula darker, greyer; median part of thorax rust. Forewing termen straight to beyond middle. Ground colour cream tinged ferruginous preserved in subcostal and tornosubterminal area of wing, densely strigulated leaden grey in basal half of wing weakly so in subterminal surface; costa and apex rust; costal strigulae indistinct, mostly cream, divisions brown. Dorsum dark brown, tinged grey posteriorly. Markings in form of slender, purple brown dorsobasal blotch. Cilia blackish brown, rust at apex, creamish at tornus. Hindwing and cilia brown.

Male genitalia (Fig. 5). Anterior part of uncus uniformly broad; posterior arms slender; socius broad slightly tapering ventrad; angle of sacculus weak; ventral lobe of cucullus with spines; aedeagus moderately short and broad; cornuti long.

Female unknown.

Material examined

Holotype male: "Brasil: R[io de]J[aneiro 800 m, Nova Friburgo, 22. I. 1993, V.O. BECKER Col; Col. BECKER 86032"; GS 758 WZ. Paratype one identically labelled male.

Etymology

The name refers to the reduced area of pale forewing ground colour; Latin: manca – incomplete.

***Omiostola macella* sp. n.**
(Figs 6, 15)

Diagnosis

In facies, *O. macella* somewhat resembles *O. alphitopa* but *O. macella* has a well-developed dorsobasal blotch on the forewing and a slender, terminally bifurcate uncus.

Description

Wingspan 22 mm. Head greyish white, labial palpus more brown, frons white; thorax rust brown, dark brown proximally, base of tegula greyish. Forewing termen mostly straight. Ground colour cream in basal area spotted dark grey in distal half of wing tinged rust posteriorly, weakly spotted only at markings edges. Costa and apex rust, in basal third rust brown; costal strigulae indistinct, creamish; divisions rust; ocellar area with two black spots and dark brown row of spots posteriorly. Dorsum rust brown, dark brown anteriorly (diffuse remnants of dorsobasal blotch) and at tornus accompanied by brownish grey strong suffusion inside posterior half of median cell. Cilia rust brown, brown basally and at tornus. Hindwing brown, cilia paler.

Male genitalia (Fig. 6). Uncus slender, gradually tapering towards middle, then bifurcate; socius large, broad, rounded; sacculus angulate; ventral incision of valva indistinct; ventral lobe of sacculus weak, broad, densely spined; costal part of cucullus broadening terminad; aedeagus moderately broad; cornuti long.

Female unknown.

Material examined

Holotype male: "Cuba: Pinar Rio, Sierra Rosario 400 m, 5-15. VI. 1990, V.O. BECKER Col; Col. BECKER 71536"; GS 1265 WZ.

Etymology

The specific name refers to the shape of the uncus; Latin: macella – lean.

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