

**Systematics and faunistics of Neotropical Olethreutini, 1: *Lobesia* GUENÉE, 1845, *Ophiorrhabda* DIAKONOFF, 1966, *Megalota* DIAKONOFF, 1966, *Eumarozia* HEINRICH, 1926, *Zomaria* HEINRICH, 1926 and *Alexiloga* MEYRICK, 1922 (Lepidoptera: Tortricidae)**

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**ABSTRACT.** Six genera – *Lobesia*, *Ophiorrhabda*, *Megalota*, *Eumarozia*, *Zomaria* and *Alexiloga* – are treated, and the following species are described as new: *Lobesia uncata* sp. n., *Eumarozia atrotincta* sp. n., and *Zomaria dyscrita* sp. n. *Alexiloga defluxana* is removed from the synonymy of *A. rubiginosana* and four species are redescribed. *Statherotis hyeroglypha* is transferred to *Ophiorrhabda*.

**KEY WORDS:** Tortricidae, Olethreutini, Neotropical, new species.

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## INTRODUCTION

The present paper is the first in a series of papers dealing with the systematics and geographical distribution of Neotropical Olethreutini. The occurrence of *Lobesia* GUENÉE, 1845 in the Neotropics is supported by a description of one new species (the preceding species included in this genus are not congeneric). One genus (*Ophiorrhabda* DIAKONOFF, 1966) was to date only known from the Oriental/Australian region. Although the species described here fits well within the generic diagnosis for *Ophiorrhabda*, an additional study on its systematic position is needed.

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Part 2 of this series (in preparation) relates to *Episimus* WALSINGHAM, 1891, *Omiostola* MEYRICK, 1922, and *Cosmorrhyncha* MEYRICK, 1913.

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#### MATERIAL

The specimens examined for this paper were collected by the second author. The types of the newly described species are temporarily housed in the Becker Collection, Camacan, Brazil (VOBC), and will eventually be deposited in one of the Brazilian museums. A few specimens have been kindly donated to the Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Kraków (ISEA). The numbers cited on the labels of the specimens are the entry numbers in the register book of the VOBC.

Abbreviations used: GS – genitalia slide, NHML – Natural History Museum London (formerly the British Museum (Natural History)), WZ – Witold Zajda.

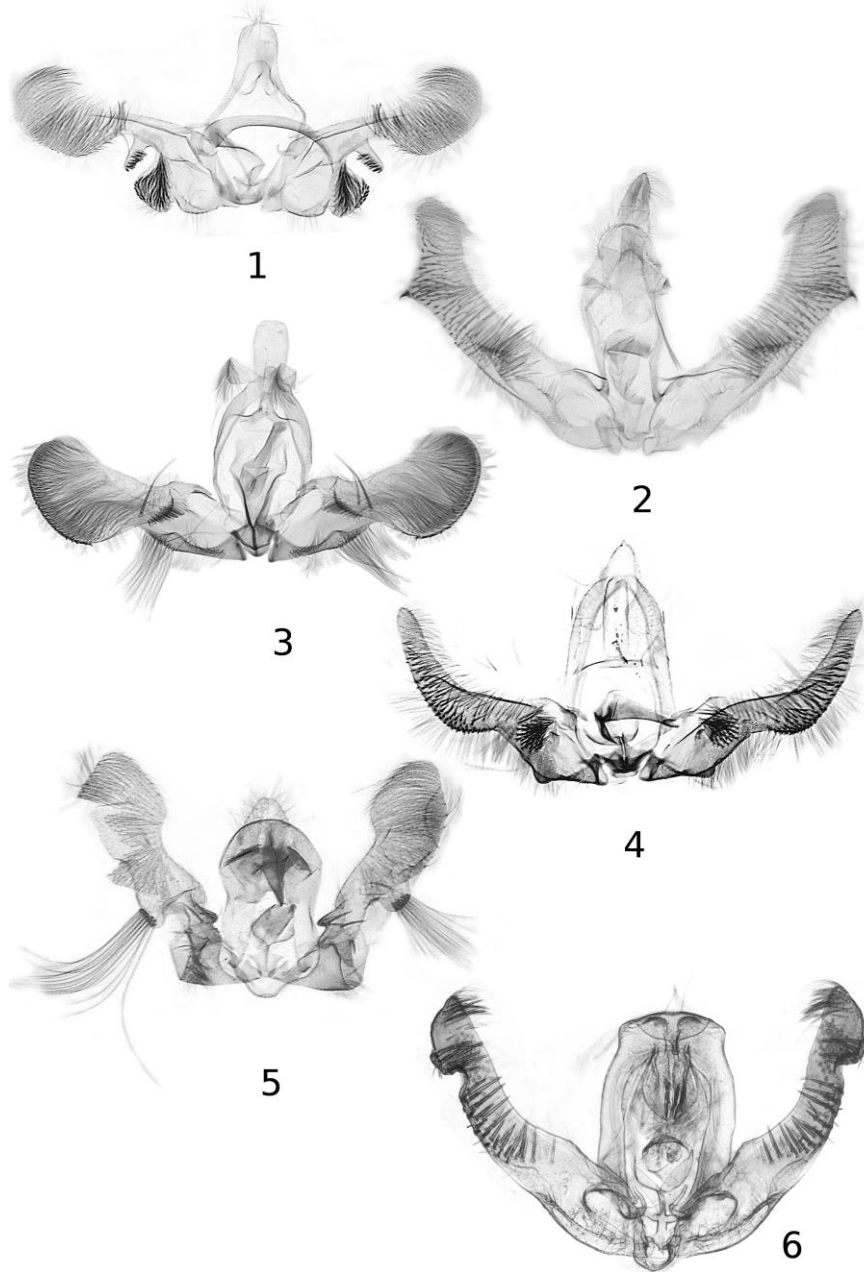
#### RESULTS

##### ***Lobesia* GUENÉE, 1845**

*Lobesia* GUENÉE, 1845, *Annls Soc. Ent. Fr.*, (2)3: 297. Type species: *Asthenia reliquana* HÜBNER, [1825] 1816. Europe.

#### **Remarks**

POWELL et al. (1995) catalogued two Neotropical species of *Lobesia*, both belonging, however, to other genera. The species described below is the first true Neotropical representative of the genus.



**Figs 1-6.** Male genitalia: 1 – *Lobesia uncata* sp. n., holotype; 2 – *Ophiorrhabda hyeroglypha* RAZOWSKI & WOJTUSIAK, Santa Catarina, Brazil; 3 – *Eumarozia beckeri* CLARKE, near Veracruz, Mexico; 4 – *Eumarozia atrotincta* sp. n., holotype; 5 – *Zomaria dystriacta* sp. n., holotype; 6 – *Alexiloga rubiginosana* WALKER, holotype.

***Lobesia uncata* sp. n.**  
(Figs 1, 9, 13)

**Diagnosis**

*L. uncata* is related to *L. carduana* (BUSCK, 1907) from Maryland, U.S.A. but *uncata* has a long, curved aedeagus, a broad ventrocaudal lobe of the sacculus, a more median spined process from the ventral incision of the valva, an oval cucullus, and a small, slender uncus.

**Description**

Wing span 9.5 mm. Head brownish white, frons whitish; thorax cream brown. Forewing expanding terminad; costa straight; apex and termen convexly rounded. Ground colour in costal and basal areas grey with blackish transverse lines, in dorsomedian part cream with rust suffusions, in terminal third darker with rust and brownish markings; costal strigulae brown and rust; median fascia rust, brown at costa. Cilia brown. Hindwing pale brown; cilia cream.

Variation. Female darker than male with more distinct markings.

Male genitalia (Fig. 1). Uncus small, slender, fused with vestigial socii, basal part of valva broad; ventral incision large with median, spiny process; sacculus weakly convex with large ventrocaudal, densely spined lobe; cucullus rather short, oval; aedeagus long, slender, curved, extending ventroterminally.

Female genitalia (Fig. 9). Sterigma cone-shaped, distinctly expanding proximally, incised in middle posteriorly; antrum sclerite weak; distal part of ductus bursae weakly bent, built of thick membrane; signum absent.

**Material**

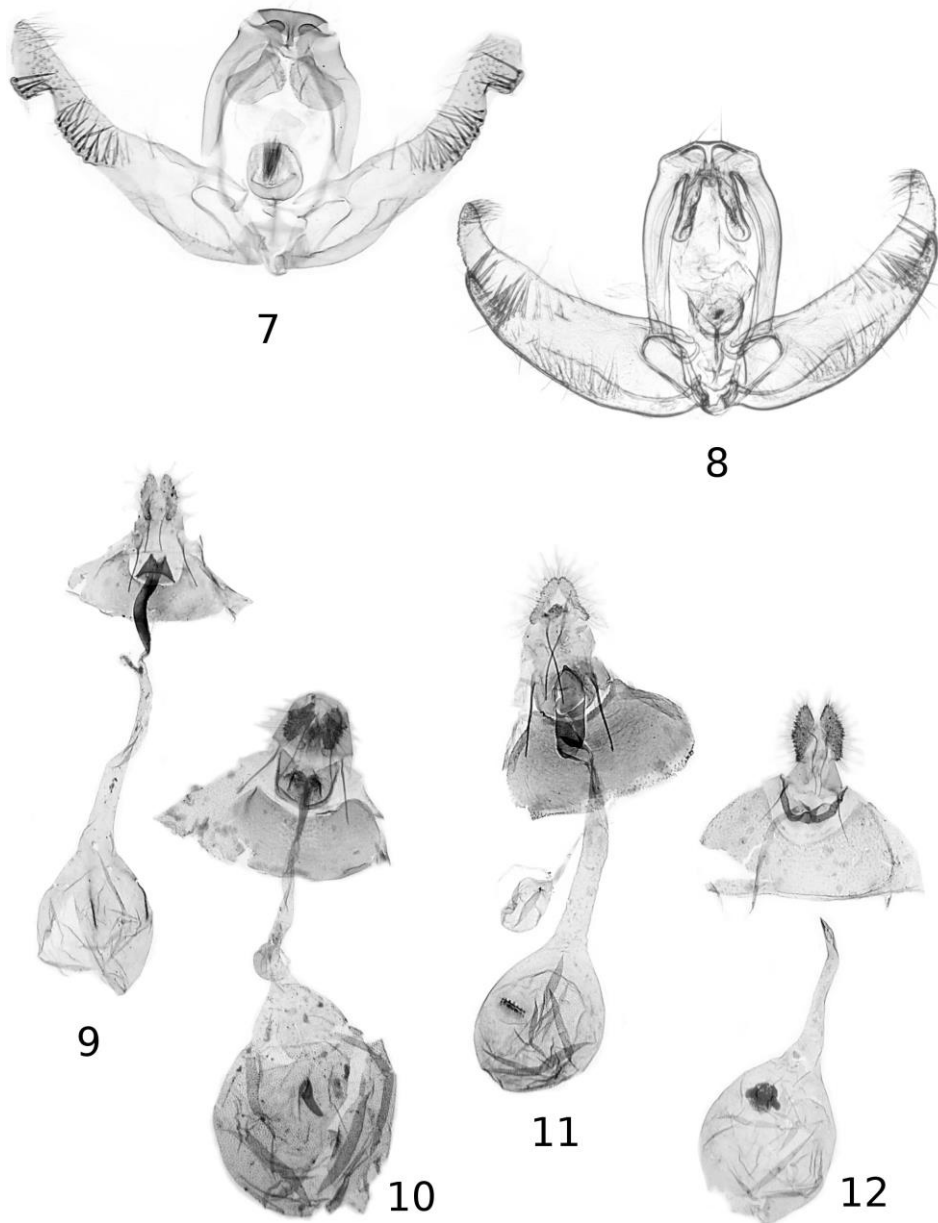
Holotype male: "Costa Rica, Turrialba 600 m, Vii. 1981, V.O. BECKER Col.; Col. BECKER 46050"; GS 1005 WZ. Paratype female, similar label but Nr of Becker col. 46051; GS 1004 WZ.

**Etymology**

The name refers to the presence of an uncus.

***Ophiorrhada* DIAKONOFF, 1966**

*Ophiorrhada* DIAKONOFF, 1966, Zool. Verh. Leiden, **85**: 47. Type-species: *Olethreutes ergasima* MEYRICK, 1911 from New Guinea.



**Figs 7-12.** Male and female genitalia: 7 – *Alexiloga rubiginosana* WALKER, Parana, Brazil; 8 – *Alexiloga defluxana* WALKER, holotype; 9 – *Lobesia uncata* sp. n., paratype; 10 – *Ophiorrhabda hyeroglypha* RAZOWSKI & WOJTUSIAK, Santa Catarina, Brazil; 11 – *Megalota submicans* (WALSINGHAM), Brazil; 12 – *Zomaria dystricta* sp. n., paratype.

Fourteen species belong to *Ophiorrhabda*; they are distributed chiefly in the Oriental-Australian region (only one species is Palearctic). The male genitalia of *O. hyeroglypha* (RAZOWSKI & WOJTUSIAK, 2009) are very similar to those in representatives of *Statherotis* MEYRICK, 1909 but the female has a single funnel-like signum typical of *Ophiorrhabda*.

This genus is recorded here as new for the New World.

*Ophiorrhabda hyeroglypha* (RAZOWSKI & WOJTUSIAK, 2009), comb. n.  
(Figs 2, 10)

*Statherotis hyeroglypha* RAZOWSKI & WOJTUSIAK, 2009, Acta zool. cracov., **51B**(1-2): 159; type locality: Rio Mashpi, Ecuador.

#### **Description**

Female genitalia (Fig. 10). Sterigma plate-shaped with lateromedian folds at ostium bursae, rounded proximally; sclerite of antrum slender, long; signum with large blade.

#### **Material**

Three males and 1 female from Brazil (Rondonia, Caculandia 140 m, IX. 1991, V.O. BECKER Col; Col. BECKER 96274", GS 924 WZ); 1 male and 2 females labelled from Santa Catarina (Brusque 100 m, 15-20. I. 1983; Col. Nr. 51890, GS 925 WZ). Several specimens from Costa Rica, (Turrialba 600 m, IV. 1973, Nr 37683 and X. 1971 (Nr 35743).

#### **Remarks**

This species was described in *Statherotis* chiefly on basis of the male genitalia but the newly discovered female is typical of *Ophiorrhabda* (see the above genus).

The Costa Rica specimens are paler, have a brown-cream forewing ground colour than the Brazilian specimens, but have identical male genitalia.

#### **Distribution**

*Ophiorrhabda hyeroglypha* is widely distributed as evident from the three known populations: Province of Pichincha, Ecuador (type locality); Santa Catarina, Brazil; and Turrialba, Costa Rica.



**Figs 13-16.** Adults: 13 – *Lobesia uncata* sp. n., holotype; 14 – *Megalota submicans* (WALSINGHAM), Brazil; 15 – *Eumarozia atrotincta* sp. n., holotype; 16 – *Zomaria dystricta* sp. n., holotype.

*“Statherotis” sangaica* (RAZOWSKI & WOJTUSIAK, 2009)

*Statherotis sangaica* RAZOWSKI & WOJTUSIAK, 2009, Acta zool. cracov., **51B**(1-2): 159; type locality: Via Guamote Macas, Sangay, Morona Santiago, Ecuador.

**Material**

One male from Ecuador (Maldonado 2200 m, 9-11. I. 1993, V.O. BECKER Col; Col. BECKER 105307; GS 507 WZ).

**Distribution**

Known from Ecuador only; it was described from the Province of Morona Santiago from the altitude of 3100 m.

**Remarks**

This species was described in *Statherotis* on basis of the male genitalia; its facies and the shape of the gnathos and uncus are, however, distinct. Examination of the female genitalia may verify its systematic position. Until then we leave its generic assignment unchanged.

***Megalota* DIAKONOFF, 1966**

*Megalota* DIAKONOFF, 1966, Zool. Verh. Leiden, **85**: 52. Type-species: *Polychrosis fallax* MEYRICK, 1909, Oriental.

Neotropical *Megalota* was revised by BROWN (2009); RAZOWSKI & BECKER (2011) described several new species and provided some remarks.

*Megalota ?submicans* (WALSINGHAM, 1897)  
(Figs 11, 14)

**Material**

One male from Brazil (Minas Gerais, Sete Lagoas 720 m, 19.V. 1969, V.O. BECKER Col; Col. BECKER 10689"; GS 499 WZ) and one pair from Rio de Janeiro (Mangaratiba 1500 m, 20. I. 1993; Nr 10689; GS 499 WZ and Nr 85723, 694 WZ).

**Remarks**

BROWN (2009) did not find any differences between the specimens from the West Indies (terra typica) and Argentina; this was confirmed by RAZOWSKI & BECKER (2011). Re-examination of the Brazilian specimens allows us to mention the following differences from the West Indies population, although they will require further confirmation: forewings broader with slenderer subterminal fascia; incision of the top of uncus deep; dorsobasal process of valva with additional, lateromedian spines; and terminal part of sacculus with a short row of spines and free termination. Female genitalia as in Fig. 11.

***Eumarozia* HEINRICH, 1926**

*Eumarozia* HEINRICH, 1926, Bull. U.S. Natn. Mus., **132**: 110; type-species: *Grapholitha (Poecilochroma) malachitana* ZELLER, 1875, Nearctic.

*Eumarozia* is known from four New World species, two of which are Neotropical. Recently the Nearctic species, *malachitana*, was well illustrated by GILLIGAN et al. (2008).



*Eumarozia beckeri* CLARKE, 1973

(Fig. 3)

**Material**

Twelve specimens from the U.S.A. Virgin Islands (San Thomas 300 m, 25-30. VII. 1987, Nr 67165, GS 1327 WZ); Mexico, Veracruz (Estacion Biologica Los Tuxtlas, 11-16. VI. 1981, Nr 42468, GS 788 WZ); Costa Rica (Turrialba 600 m, VI. 1972, Nr 36718, GS 795; Nr. 3782, GS 793 WZ, 794 WZ); Cuba (Pinar Rio, Sierra Rosario 400 m, 5-15. VI. 1990, Nr 71518, GS 1326 WZ).

**Distribution**

*Eumarozia beckeri* was known from Turrialba, Costa Rica; the new data from the Virgin Islands, Mexico (Veracruz), and Cuba suggests that *beckeri* is widely distributed in Central America and southern Mexico.

**Remarks**

To complete the original description (CLARKE 1973) we can add that the socius is triangular, the aedeagus is almost as long as the sacculus, and on the proximal part of the fold there occur chiefly spines, not hairs (Fig. 3). There is also a slight variation in the number of long setae situated dorsally to middle of the neck.

*Eumarozia atrotincta* sp. n.

(Figs 4, 16)

**Diagnosis**

*E. atrotincta* is related to *E. elaeantes* (MEYRICK, 1927) from Bolivia but *atrotincta* has blackish markings on the forewing, a large uncus, a protuberance on the caudal corner of the sacculus and a slender cucullus.

**Description**

Wing span 10.5 mm. Head brownish, front blackish; thorax grey with weak black marks and whitish grey posterior half of tegula. Forewing slightly expanding terminad; costa and termen weakly convex. Ground colour white-grey with grey suffusions and fine, sparse strigulation; costal strigulae minute, whitish. Markings blackish: basal blotch suffused grey-white; median fascia brownish medially, atrophying dorsally; subterminal fascia small. Cilia blackish. Hindwing brown; cilia slightly paler.

Male genitalia (Fig. 4). Uncus large with apical prominence; socius broad, lateroposterior; tuba analis long, subscaphium weak; basal part of valva broad; neck short; fold with two longer setae proximally; sacculus straight with well-developed protuberance at the angle; and median lobe anteriorly to strong group of spines; cucullus slender; aedeagus tapering terminad, slender posteriorly.

Female unknown.

#### **Material**

Holotype male; “Brasil: S[ão]P[aulo], Bartioga 5 m, 5. XI. 1985; V.O. BECKER Col; Col. BECKER 99171”; GS 535 WZ.

#### **Etymology**

The specific name refers to the colouration of the forewing; Latin: ater - black, tincta - painted.

### ***Zomaria* HEINRICH, 1926**

*Zomaria* HEINRICH, 1926, Bull. U.S. Natn. Mus., **132**: 111; type-species: *Penthina interruptolineana* FERNALD, 1882, Nearctic.

Three North American species have so far been included in *Zomaria*. *Zomaria andromedana* (BARNES & MCDUNNOUGH, 1917) was described from Florida, U.S.A., which suggests that the distribution of the genus may extend farther southwards. This is now confirmed by the discovery of one new species in Cuba.

GILLIGAN et al. (2008) provide a colour figure of the adult of the type species.

### ***Zomaria dyscrita* sp. n.**

(Figs 5, 12, 17)

#### **Diagnosis**

*Zomaria dyscrita* is closely related to *Z. interruptolineana* (FERNALD, 1882) from the U.S.A. but *dyscrita* has a broad, wedge-shaped median part of the gnathos, a broad naked process from the middle of the basal part of the valva (in *interruptolineana* this process is more ventral, slender and densely spined), a slenderer cucullus, and a broad, well-sclerotized fold of the anterolateral edge of the sterigma.

### Description

Wing span 13 mm. Head and thorax brownish grey, head blackish laterally. Forewing weakly expanding terminad; costa convex; termen weakly convex and oblique. Basal area forming triangular patch of grey ground colour extending to before middle of costa and median fascia; remaining part of base rust brown; median fascia chestnut brown with three darker marks; markings in distal third of wing similarly coloured, weak; dorsum pale rust. Cilia rust brown. Hindwing brownish; cilia similar.

Male genitalia (Fig. 5). Uncus absent; socii tapering terminad; median part of gnathos strong, wedge-shaped; basal part of valva broad, angulate posteriorly with wedge-like process, without any spines; three spines in dorsobasal area; neck of valva slender; cucullus elongate-oval with outer proximal lobe armoured with group of long setae; aedeagus short.

Female genitalia (Fig. 12). Sterigma weakly sclerotized posteriorly strengthened by sclerotized ventral and lateral edge, incised medioproximally; antrum sclerite short; signum concave medially with broad proximal and pair of slender lateral lobes.

### Material

Holotype male: "Cuba: Holguin, Pin. Mayari 640 m, VII. 1990, V.O. BECKER Col; Col. BECKER 72041"; GS 1156 WZ. Paratype identically labelled female, GS 1155 WZ.

### Etymology

The name refers to the identification of the moth; Greek: dyscritos – difficult to defeat.

### Remarks

The examined specimens were compared with the illustrations by HEINRICH (1926) and GILLIGAN & al. (2008).

## *Alexiloga* MEYRICK, 1922

*Alexiloga* MEYRICK, 1922, Exotic Microlepidoptera, 2: 526. Type-species: *Carpocapsa rubiginosana* WALKER, 1863, Brazilian.

### Remarks

Two species of *Alexiloga* described in *Carpocapsa* TREITSCHKE, 1829 (= *Cydia* HÜBNER, [1825]) from Amazonas were included in *Alexiloga*. *Carpocapsa defluxana* WALKER, 1863 was then incorrectly synonymized with *A. rubiginosana* (cf. BROWN 2005).

The female genitalia are unknown, so the correct systematic position of this genus is uncertain. The males are characterized by an uncus present, broad rather well sclerotized naked

socii, and long, slender proximal processes from the inner edges of the pedunculi of the tegumen. The valvae of the two species differ distinctly (as described and illustrated with the species below); the aedeagi are simple, short. The shape and position of the processes of pedunculi are the putative autapomorphies of this genus.

*Alexiloga rubiginosana* (WALKER, 1863)  
(Figs 6, 7)

*Carpocapsa rubiginosana* WALKER, 1863, Specimens lepid. Insects Colln. Br. Mus., **28**: 401. Type locality: Ega, Amazonas, Brazil. Coll. NHML.

**Description**

Male genitalia (Figs 6, 7). Ventrolateral folds of pedunculi large; processes of pedunculi proximal, slender curved; uncus broad basally, forming small, slender apical process; socius broad, rounded apically with slender basal part, devoid of hairs; valva slender with large basal process; sacculus weakly convex; neck ill-defined; cucullus incised subterminally with distinct spines before and beyond incision and posterior hairy part; fold short; aedeagus short, submembranously connected with subscaphium; bunch of moderately large cornuti present; caulis short.

**Material**

One male from Brazil (Paraná, Telemaco Borba, 750 m, 13-19.X. 1995; Col. BECKER 97796; GS 669 WZ.

**Distribution**

Known from Brazil: Amazonas and Paraná.

*Alexiloga defluxana* (WALKER, 1863), bona sp.  
(Fig. 8)

*Carpocapsa defluxana* WALKER, 1863, Specimens lepid. Insects Colln. Br. Mus., **28**: 407. Type locality: Ega, Amazonas, Brazil. Coll. NHML.

**Description**

Male genitalia (Fig. 8). Uncus elongate, slender basally, weakly incised apically to form pair of rounded lobes; socius broad, rounded apically; pedunculi, basal processes of valvae and

aedeagus as with preceding species; valva rather short, tapering terminad; sacculus convex with terminal process and spines; fold small; neck absent; terminal part of valva pointed, hairy; aedeagus short.

#### REFERENCES

- BROWN J.W. 2005. World Catalogue of Insects. Vol. 5: Tortricidae (Lepidoptera). Apollo Books, Stenstrup.
- BROWN J.W. 2009. The discovery of *Megalota* in the Neotropics, with a revision of the New World species (Lepidoptera: Tortricidae: Olethreutini). *Zootaxa* **2279**: 1–50.
- CLARKE J.F.G. 1973. The genus *Eumarozia* HEINRICH (Olethreutidae). *Journal of the Lepidopterist's Society* **27**(4): 268–274.
- GILLIGAN T. M., WRIGHT D.J., GIBSON L.D. 2008. Olethreutinae moths of the Midwestern United States. An identification guide. *Ohio Biological Survey Bulletin, New Series* **16**(2): vii + 1–334.
- HEINRICH C. 1926. Revision of the North American moths of the subfamilies Laspeyresiinae and Olethreutinae. *Bulletin of the United States National Museum* **132**: 1–126.
- POWELL J.A., RAZOWSKI J., BROWN J.W., BROWN R.L. 1995. Tortricidae. [in] J. HEPPNER (ed.). *Atlas of Neotropical Lepidoptera*, Vol. 3. Checklist: Part 2. Hyblaeoidea – Pyraloidea – Tortricoidea. Scientific Publishers, Gainesville, 138–157.
- RAZOWSKI J., BECKER V.O. 2011. Records and descriptions of Neotropical *Megalota* DIAKONOFF (Lepidoptera: Tortricidae). *Polish Journal of Entomology* **80**(3): 523–534.

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