Systematics and faunistics of Neotropical Grapholitini, 6:  
*Grapholita* TREITSCHKE, *Eriosocia* RAZOWSKI & BROWN and *Coniostola* DIAKONOFF 

JÓZEF RAZOWSKI¹, VITOR O. BECKER²

¹Institute of Systematics and Evolution of Animals, Polish Academy of Sciences,  
Sławkowska 17, 31-016 Kraków, Poland, e-mail: Razowski@isez.pan.krakow.pl;  
²Reserve Serra Bonita, PO Box 01, 45880-970 Camacan, BA, Brazil,  
e-mail: becker.vitor@gmail.com

**ABSTRACT.** Species of the genera *Grapholita*, *Eriosocia*, and *Coniostola* are treated as part of our ongoing studies of the Neotropical Grapholitini. *Grapholita saphinella* sp. n., *G. alagoasi* sp. n., *G. mollitia* sp. n., *G. habra* sp. n., *Eriosocia igarapeae* sp. n., and *E. euphrasta* sp. n. are described as new. *Dichrorampha eulepidana* (WALSINGHAM) comb. n., is transferred to *Grapholita*.

**KEY WORDS:** Tortricidae, Grapholitini, Neotropics, new taxa.

**INTRODUCTION**

Compared to Palaearctic and Nearctic Grapholitini, the systematics and geographical distributions of Neotropical Grapholitini are little known. This paper, part six in a series of papers on Neotropical Grapholitini, includes general data on three genera, i.e. *Grapholita*, *Eriosocia* and *Coniostola*, along with the descriptions of a few new species.

The species described here increase the number of known Neotropical *Grapholita* to 26. The two other genera treated in this paper are represented by far fewer species. *Coniostola* DIAKONOFF and *Eriosocia* RAZOWSKI & BROWN each include three newly-described Neotropical species.

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MATERIALS

All the specimens were collected by the second author, chiefly in Brazil and Costa Rica. The types of the new species have been temporarily deposited in the Becker Collection, Camacan, and will eventually be deposited in one of the Brazilian Museums. Some paratypes have been kindly donated to the Institute of Systematics and Evolution of Animals, PAS, Kraków.

Note. The numbers cited on the labels of the type material are the entry numbers of the specimens in the register book of the above-mentioned collection.

Abbreviations

RESULTS

Grapholita TREITSCHKE, 1929

The Palaearctic species of *Grapholita* were monographed by KOMAI (1999), and that contribution is the most complete work on the genus and allied genera since the publication on the Russian Grapholitini by DANILEVSKY & KUZNETZOV (1968). A diagnosis of the genus based on the Palaearctic fauna was presented by RAZOWSKI (1989, 2003), and a complete list of the species of the region was given by OBRAZTSOV (1959). Colour illustrations of adults were provided by KENNEL (1921) and RAZOWSKI (2003), and the latter also included drawings of the genitalia of the European species. The Afrotropical and Oriental faunas are little known and there are no monographic treatments. KOMAI & HORAK (2006) treated the genera of Australian Grapholitini, listing eight species of *Grapholita*. The Nearctic species were catalogued by POWELL (1983), and some of them have been illustrated by GILLIGAN et al. (2008). POWELL et al. (1995) listed 10 Neotropical species, but the genus is certainly more abundant in the Neotropical region, as RAZOWSKI (2011) recorded six new species. The six new species of *Grapholita* described here increase the number of known Neotropical species of the genus to 26.

*Grapholita saphinella* sp. n.
(Figs 1, 8, 12)

Diagnosis

*G. saphinella* is closely related to *G. tristrigana* (CLEMENTS, 1865) from Virginia, U.S.A., but the latter has a cream head, a rather uniformly broad aedeagus and a very small signa. In contrast, *G. saphinella* has a grey head, an aedeagus that tapers terminad and a larger signum.
**Description**

Wing span 8 mm. Head grey, labial palpus whitish cream; thorax brownish grey. Forewing weakly expanding terminally; costa and termen weakly oblique, the latter slightly oblique. Ground colour whitish, in form of dorsal patch consisting of two double lines; costal strigulae white; divisions brown; ocellus indistinct. Remaining area of wing brownish; cilia mostly concolorous. Hindwing brownish; cilia paler and anal half of wing whitish.

Variation. Female forewing broader than in male with apex broad, rounded; termen slightly concave beneath apex, then convex. Terminal third of wing cream, densely strigulated brown; remnants of ocellus present. Cilia brownish cream.

Male genitalia (Fig. 1). Distal part of tegumen tapering apicad, sparsely hairy; basal part of valva long; sacculus angulate, rounded; neck of valva short, rather slender; ventral incision deep; cucullus slightly broader than base of valva; aedeagus broad to middle, then tapering terminad; five cornuti in vesica.

Female genitalia (Fig. 8). Cup-shaped sterigma tapering proximally, postostial sterigma rather weakly sclerotized consisting of two fused plates; sclerites of ductus bursae rather weak; corpus bursae pear-shaped with posterior accessory bursa and broad ductus seminalis; signa fairly large.

**Material**

Holotype male: "Brasil: D[istrito]F[ederal], Planaltina, 1000 m, 15°35'S 47°42'W, V.O. Becker; Col. Becker 41416"; paratypes 3 identically labelled specimens, two males and one female with GS 645 WZ.

**Etymology**

The name refers to the distinctiveness of the species: Greek: saphes – real (true), Latin: -ella – prefix expressing diminution.

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**Grapholita ensima**

*(Figs 9, 13)*

**Diagnosis**

*G. ensima* is related to *C. tristrigana* and *C. saphinella*, but *ensima* can be distinguished by the slender cup-shaped sterigma, the longer ductus bursae and its sclerites, and the very slender postbasal ductus seminalis.

**Description**

Wing span 10 mm. Head and thorax brownish grey with olive hue; labial palpus cream. Forewing weakly expanding terminally; costa almost straight; termen somewhat oblique. Dorsal patch consisting of two double whitish lines; costal strigulae white, fairly long; divisions brown; ocellus marked by refractive lines; remaining surface of wing brownish, basal area much greyer. Cilia brownish. Hindwing brown, cilia paler.
Male unknown.

Female genitalia (Fig. 9). Cup-shaped sterigma rather small, tapering terminally, well sclerotized; postostial sterigma weakly sclerotized, broadening posteriorly; ductus bursae rather long, with sclerites; distal part of corpus bursae with broad ductus of accessory bursae and bulbous base of slender ductus seminalis; blades of signa rather long.

**Material**

Holotype female: "Brasil: PA[ra], Capitao Poco, 28-31. I. 1984, V.O. Becker Col; Col. Becker 48003"; GS 701 WZ.

**Etymology**

The specific name refers to the distinct dorsal forewing patch; Greek: ensemos – marked.

*Grapholita eulepidana* (WALSINGHAM, 1914), comb. n.
(Fig. 10)

**Description**

Female genitalia (Fig. 10). Cup-shaped sterigma short, broad, extending latero-posterad; antrum sclerite absent; ductus bursae fairly long with two weak median sclerites; signa very small.

**Material**


**Remarks**

The specimens were identified by a comparison of the facies with the type from Guerrero, Mexico in the NHML. The species was described in *Dichrorampha* GUENÉE.

*Grapholita alagoasi* sp. n.
(Figs 2, 14)

**Diagnosis**

The male genitalia of this species are most similar to those of *G. eclipsana* ZELLER, 1875 from Texas and *G. yurubina* RAZOWSKI, 2011 from Venezuela. This species differs from them chiefly in having a broad ventral lobe of the cucullus and longer proximal processes of the cornuti.

**Description**

Wing span 12 mm. Head and thorax dark brown, distal part of tegula brownish, labial palpus dirty cream. Forewing weakly expanding terminally; costa almost straight; termen straight to beyond middle. Ground colour cream brown, brown in basal area, termen, apex and middle; dorsal patch, basal part of costa and parts of basal half of wing densely
sprinkled with cream; costal strigulae cream, absent in distal third; divisions dark brown; subterminal interfascia marked by a few brown dots. Cilia brownish. Hindwing brownish, cilia much whiter.

Male genitalia (Fig. 2). Tegumen weakly tapering terminally; valva slender with rather straight costa; sacculus weakly convex; ventral incision of valva with postbasal lobe, deepest before cucullus; cucullus with rather small group of long setae and large, naked ventral lobe; aedeagus stout; cornuti numerous with long proximal processes.

Female unknown.

Material
Holotype male: "Brasil: AL[agoas], Ibategauara, 400 m, 10-20. III, 1994, V.O. Becker Col; Col. Becker 91083"; GS 546 WZ.

Etymology
The name refers to the Brazilian state of Alagoas.

**Grapholita mollitia** sp. n.
(Figs 3, 15)

Diagnosis
*G. mollitia* is closely related to *C. alagoasi*, but *G. mollitia* has a larger aedeagus and a more distal ventral lobe of the cucullus.

Description
Wing span 10 mm. Head and thorax cream, densely scaled brownish; labial palpus brownish cream. Forewing not expanding terminally; costa weakly bent; termen concave beneath apex. Ground colour brownish cream, consisting of numerous lines from dorsum with an area of concolorous dots towards tornus and middle of median cell, and a few short lines at the end of the latter; costal strigulae cream; divisions pale brown; ocellus marked by three brown dots. Cilia pale brownish. Hindwing brown paler basally; cilia creamish.

Male genitalia (Fig. 3). Tegumen long, tapering terminally; valva proportionally short with broad base, tapering towards middle of ventral incision; angle of sacculus indistinct; cucullus small, heavily spined, with hairless ventral lobe perpendicular to costa; aedeagus large, protruding ventro-terminally; cornuti numerous.

Female unknown.

Material
Holotype male: "Brasil: D[istricto]F[ederal], Planaltina, 1000 m, 15°35'S 47°42'W, V.O. Becker Col; Col. Becker 58619"; GS 617 WZ.

Etymology
The name refers to the colouration of the moth; Latin: mollitia – softness.
Figs 1-6. Male genitalia: 1 – *Grapholita saphinella* sp. n., holotype, 2 – *Grapholita alagoasi* sp. n., holotype, 3 – *Grapholita mollitia* sp. n., holotype, 4 – *Grapholita chapeuana* sp. n., holotype, 5 – *Grapholita habra* sp. n., holotype, 6 – *Eriosocia igarapeae* sp. n., holotype.
Figs 7-11. Male and female genitalia: 7 – *Eriosocia euphrasta* sp. n., holotype, 8 – *Grapholita saphinella* sp. n., paratype, 9 – *Grapholita ensima* sp. n., holotype, 10 – *Grapholita eulepidana* WALSINGHAM, Costa Rica, 11 – *Eriosocia igarapeae* sp. n., paratype.
Grapholita chapeuana sp. n.
(Figs 4, 16)

Diagnosis
G. chapeuana is related to C. mollitia, but chapeuana has a longer aedeagus, which is similar to that of G. delineana (WALKER, 1863) and G. catarranae RAZOWSKI, 2011 from Costa Rica. In G. chapeuana the neck of the valva is shorter and the cucullus is broader.

Description
Wing span 9 mm. Head and thorax brownish. Forewing weakly expanding terminad; costa almost straight; termen slightly oblique, not concave beneath apex. Ground colour brown cream (dorsal patch ill-defined); costal strigulae creamer, indistinct, a few fine white subapical strigulae. Markings brownish in form of transverse slender fasciae; a few brown dots on subterminal fascia. Cilia concolorous with ground colour. Hindwing brownish; cilia paler.

Male genitalia (Fig. 4). Tegumen slightly protruding terminally; valva rather slender with broad neck and weak ventral incision; sacculus not angulate, with weak median prominence; cucullus short with broad ventral lobe; aedeagus fairly long, slender.

Female unknown.

Material
Holotype male: "Brasil: BA[his], 1400 m, Morro do Chapeu, 23-24. IV. 1991, V.O. Becker Col; Col. Becker 78355"; GS 552 WZ.

Etymology
The name is derived from the type locality.

Grapholita habra sp. n.
(Figs 5, 17)

Diagnosis
The male genitalia of G. habra are similar to those of C. chapeuana, but the facies of G. habra are completely different, with a densely strigulate basal half of the forewing. In the male genitalia of G. habra the angle of the sacculus is distinct and the aedeagus is much shorter than in C. chapeuana.

Description
Wing span 8 mm. Head and thorax olive grey. Forewing expanding terminally; costa gently, uniformly convex; apex rounded; termen moderately oblique, slightly convex. Basal part of wing yellowish, dorsal half to before tornus distinctly strigulated with black, costal area to before apex and end of median cell finely strigulated with same colour; remaining area dark violet-brown, paler in middle subterminally; costal strigulae white; divisions brown. Cilia brownish. Hindwing brownish; cilia paler.
Male genitalia (Fig. 5). Tegumen well sclerotized with protruding apical part; basal third of valva broad; neck fairly broad; ventral incision broad; sacculus short, angulate; cucullus subtriangular-rounded, distinctly spined; aedeagus moderate.

Female unknown.

Material
Holotype male: "Brasil: GO[ias], Formosa, 800 m, 28. III. 1993, V.O. Becker Col; Col. Becker 89827"; GS 598 WZ.

Etymology
The name refers to the colouration of the forewing; Greek: habros – delicate, soft.

**Eriosocia RAZOWSKI & BROWN, 2008**

_Eriosocia_ was described as monotypic but is now represented by three species: one widespread species mapped by _RAZOWSKI & BROWN_ (2008) (Costa Rica, Panama, Dominica, Venezuela, French Guiana, Brazil, Paraguay, Colombia), and two Brazilian species, one from Rondonia and the other from Para.

**Eriosocia igarapeae** sp. n.
(Figs 6, 11, 18)

Diagnosis
_E. igarapeae_ is very closely related to type species of the genus, _E. guttifera_ (MEYRICK, 1913), but _E. igarapeae_ has a broader neck of the valve, a broader sacculus, and a much shorter ductus bursae.

Description
Wing span 14 mm. Head brown cream, labial palpus grey; thorax brown-grey with olive hue. Forewing rather broad, weakly expanding terminad; termen mostly straight, slightly oblique. Ground colour brownish; costal strigulae white followed by refractive and grey fasciae; divisions dark brown; apex and termen with irregular orange spots; group of concolorous marks in tornal third, crossed by refractive grey fascia, spotted dark brown; orange line along distal half of median cell. Cilia (remnants) brown. Hindwing dark brown; cilia paler.

Male genitalia (Fig. 6). Pedunculi of tegumen long with well-developed terminal lobes; socii absent; basal part of valva moderately broad; neck broad; ventral incision weak; cucullus broad with long, convex caudal edge and broad ventral lobe; aedeagus typical of the genus.

Female genitalia (Fig. 11): Apophyses short; sterigma weakly sclerotized, moderately long; ductus bursae short, broadening proximally; signa small.
Material
Holotype male: "Brasil: PA[ra], Igarape Acu, 2. I. 1984, V.O. Becker Col; Col. Becker 48440"; GS 569 WZ. Female paratype: "Brasil: PA[ra], Belem 20 m, 10-15. XI. 1984, V.O. Becker Col; Col. Becker 53397"; GS 540 WZ.

Etymology
The species is named after the type locality.

Remarks
Externally, the female is identical to the male holotype, but we do not include it in the type series because it is from a different locality. As there is a high degree of speciation in this region, the absence of external differences can be misleading.

Eriosocia euphrasta sp. n.
(Figs 7, 19)

Diagnosis
E. euphrasta is closely related to C. igarapeae, but euphrasta has smaller tegumen lobes and larger oval socii.

Description
Wing span 12 mm. Head and thorax grey-brown; labial palpus cream. Forewing slightly expanding terminally; costa almost straight; termen somewhat oblique. Ground colour brownish grey with olive hue and some diffuse darker marks; orange in tornal half with two black-brown spots and grey transverse division; orange area extending to latter from apex of wing and along costal branch of median cell almost to basal area; costal strigulae white and cream followed by grey lines; divisions blackish. Cilia (rubbed) brownish. Hindwing brown; cilia cream brown scaled.

Male genitalia (Fig. 7). Lobes of tegumen terminal; socii large, submembranous, hairy; valva rather slender; sacculus weakly angulate; neck of valva broad, fairly long; ventral incision shallow; cucullus moderate, broadly rounded ventrally; aedeagus typical of the genus.

Female unknown.

Material
Holotype male: "Brasil: RO[ndonia], Porto Velho, 180 m, 24.IV-12.V. 1989, V.O. Becker Col; Col. Becker 76347"; GS 679 WZ.

Etymology
The specific epithet refers to the distinctiveness of this moth; Greek: euphrastos – easily perceptible.
Figs 12-19. Adults: 12 – *Grapholita saphinella* sp. n., paratype, 13 – *Grapholita ensima* sp. n., holotype, 14 – *Grapholita alagoasi* sp. n., holotype, 15 – *Grapholita mollitia* sp. n., holotype, 16 – *Grapholita chapeuana* sp. n., holotype, 17 – *Grapholita habra* sp. n., holotype, 18 – *Eriosocia igarapeae* sp. n., holotype, 19 – *Eriosocia euphrasta* sp. n., holotype.
**Coniostola DIAKONOFF, 1961**

This genus was proposed for two Old World species: *C. stereoma* (MEYRICK, 1912) from Bengal, India, with its synonymy *Eucosma eriomis* MEYRICK, 1933) from Java and Indonesia; and *C. omistus* DIAKONOFF, 1988 from Madagascar. Recently, the genus was discovered in the Galapagos Islands from where *C. isabelae* RAZOWSKI & LAUNDRY, 2008 was described.

**Coniostola isabelae** RAZOWSKI & LAUNDRY, 2008

**Material**

Several specimens from the U.S.A. (Texas: San Benito, 10 m, 25. VII. 1988, V.O. Becker & M.A. Solis; Col. Becker; no collection number); Virgin Islands (St. Thomas 300 m 25-30. VII. 1987, Colln. Nr. 66714; also British Virgin I. (Guana Island 0-80 m, 9-23. VII. 1987; Colln Nr. 66714).

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