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Eight new species of the Genera *Vulpoxena*, *Cuproxena* and *Bidorpitia* of the *Chrysoxena* group of genera from Ecuador (Lepidoptera: Tortricidae)

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ABSTRACT. Eight new species of the *Chrysoxena* group of genera are described as new from Ecuador: *Vulpoxena falcaria* n. sp., *Cuproxena golondrina* n. sp., *Bidorpitia biforis* n. sp., *B. columna* n. sp., *B. gomphifera* n. sp., *B. banosana* n. sp., *B. paracolumna* n. sp., and *B. unguifera* n. sp.

Key words: entomology, taxonomy, Lepidoptera, Tortricidae, *Chrysoxena* group, new species, Ecuador.

INTRODUCTION

The *Chrysoxena*-group of genera was first defined by BROWN & POWELL (1991) and contained primarily two genera, *Chrysoxena* MEYRICK, 1912 (*Cuproxena* was mentioned originally) and *Dorithia* POWELL, 1964. RAZOWSKI & BECKER (1989) revised the Brazilian species of these genera providing the morphological data and characteristics of eight species. In the monograph of this group BROWN & POWELL (1991) described further three genera and included 37 species. These authors supplemented the morphological characteristics and provided the data on the early stages, biology and systematics. The group was included for the first time in the tribe Euliini.

In this paper the first data on the Ecuadoran species are provided.

The holotypes of the new described species are deposited in the Lepidoptera collection of the Zoological Museum Jagiellonian University, Kraków, Poland.

DESCRIPTIONS

***Vulpoxena falcaria* n. sp.**

(figs 1, 9a, b)

ETYMOLOGY

The name refers to the shape of terminal part of aedeagus; Latin: *falx* - sickle, *arius* - adjective appendix.

DIAGNOSIS

Externally similar to *V. vulpicoma* (MEYRICK, 1932) from Santa Catarina, Brazil but *falcaria* possesses basal process of sacculus; terminal part of aedeagus resembling Colombian *Bidorpitia dictyophanes* (MEYRICK, 1926) from which *falcaria* differs in long posterior processes of gnathos.

DESCRIPTION

Wing span 20 mm. Head and proximal part of thorax brown; labial palpus 1.3 times of the diameter of compound eye; posterior part of thorax ochreous cream. Forewing slightly expanding terminad, broadest medially; costa convex; termen weakly oblique, sinuate beneath apex. Ground colour cream tinged with brownish and ochreous, distinctly suffused with brown in dorsobasal area and wing base. Markings brown consisting of two slender fasciae preserved in costal half of wing, postbasal and median; apex brown. Cilia completely damaged. Hindwing cream mixed with ochreous at apex; cilia whitish cream (worn).

Male genitalia (Figs 9a, b). Tegumen tapering terminally; base of uncus large, helmet-shaped; uncus flattened laterally, sharp, convex dorsally; socius large, broadest near middle, rather weakly sclerotized laterally; arm of gnathos slender, with long posterior process, terminal plate slender beyond middle; valva convex ventrally; sacculus short, with long posterior process; aedeagus slender, with long, curved terminal portion.

Female unknown.

TYPER MATERIAL

Holotype, male (Fig. 1): "Ecuador, Prov. Morona Santiago, Qda Shillñan, via Guamote Macas, 24.01.2004, 3100 m"; GS 414 MZUJ.

***Cuproxena golondrina* n. sp.**

(Figs 2, 16)

ETYMOLOGY

The name refers to the type locality: Forest Reserve Golondrinas.

DIAGNOSIS

Facies similar to Brazilian (known from Parana and Santa Catarina) *C. anielae* (RAZOWSKI et BECKER, 1989) but in *golondrina* costal blotch of forewing blackish; fe-

male genitalia resembling *Cuproxena flintana* BROWN, 1991 from Jalisco, Mexico (no sclerite of bursa copulatrix) but *golondrina* with broad, tapering terminally posterior sclerite of sterigma.

DESCRIPTION

Wing span 16.5 mm. Head brown, antenna brown, labial palpus (ca twice longer than diameter of eye) grey-brown, darker brown dorsally; thorax rust ochreous, darker brown proximally. Forewing indistinctly expanding posteriorly; apex very short; termen hardly oblique, straight beneath apex. Ground colour cinnamon, more orange around costal marking, with weak refractive strigulae. Markings in form of subtriangular blackish costal blotch slightly suffused with olive-grey, finely edged with white. Cilia rust brown, paler, more ochreous in terminal third. Hindwing orange; cilia cream orange.

Male unknown.

Female genitalia (Fig. 16). Sterigma broad with large membranous anteostial part and broad posterior sclerite; sclerite of colliculum distinct; bursa copulatrix without sclerites.

TYPE MATERIAL

Holotype, female (Fig. 2): "Ecuador, Prov. Carchí, Res. Forest Golondrinas, West Cordillera, 28-30.01.2005, 2000 m"; GS 492 MZUJ.

***Bidorpitia biformis* n. sp.**

(Figs 3, 10a, b)

ETYMOLOGY

The species name refers to the shape of the arm of gnathos; Latin: *biformis* - bilobed.

DIAGNOSIS

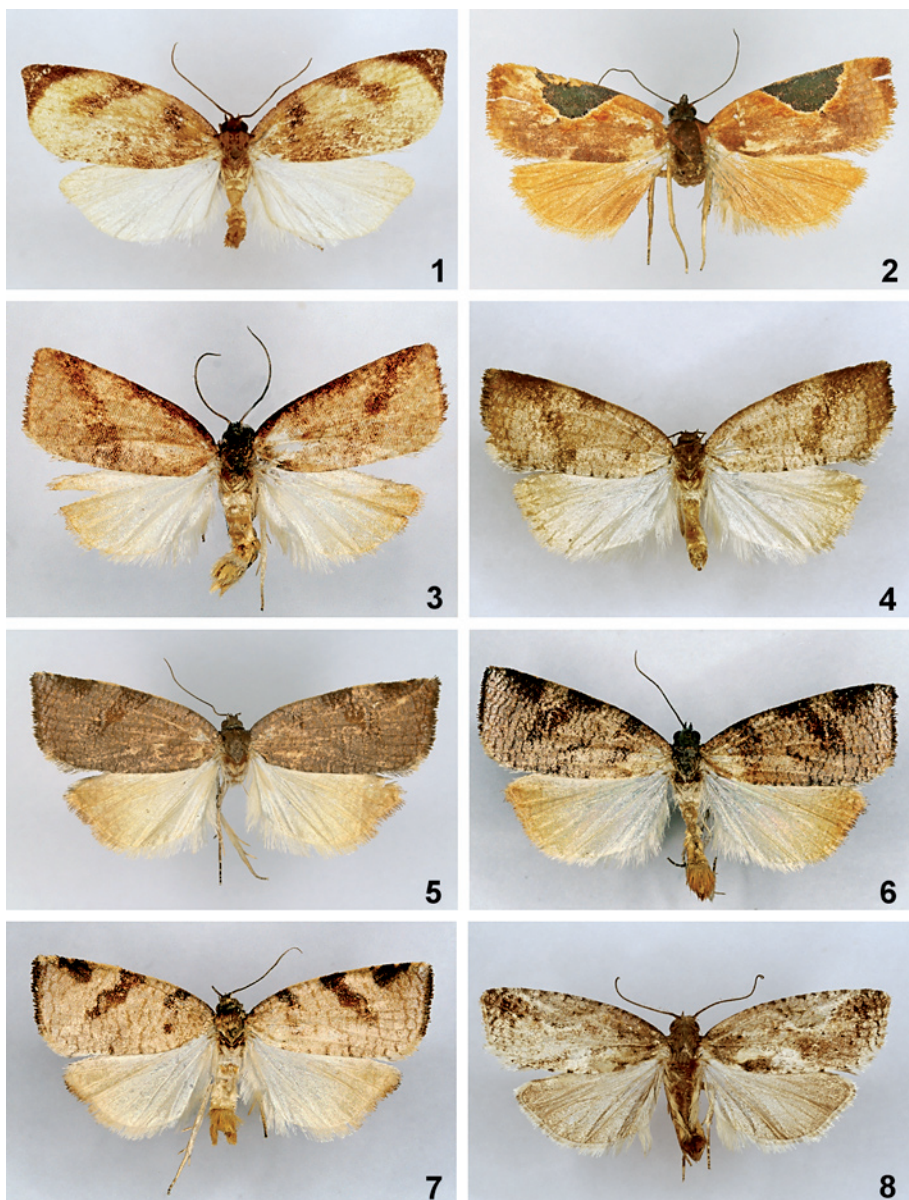
Facies similar to *B. poolei* BROWN, 1991 from Venezuela but *biformis* with the cream ferruginous ground colour of forewing, the very slender uncus, and bilobed lateroterminal part of arm of gnathos.

DESCRIPTION

Wing span 15 mm. Head grey-brown, labial palpus ca 1.5 times longer than diameter of eye, thorax pale ferruginous brown. Forewing moderately broad; ground colour cream ferruginous, suffusions and strigulation more rust. Markings brownish rust consisting of a fascia extending from mid-dorsum to before apex of wing accompanied by a costal trace of median fascia. Cilia (heavily worn) rust brown, cream at tornus. Hindwing cream, mixed with orange in apical part; cilia (worn) cream.

Male genitalia (Figs 10a, b). Uncus slender except for base; socius large, rounded posteriorly; arm of gnathos terminating in two lobes, the external distinctly thorny; terminal plate of gnathos broad; transtilla fairly broad with large submedian lobes; aedeagus long, with groups of thorns dorsolateral part short, weakly bent apically.

Female not known.



1-8. Adults: 1 – *Vulpoxena falcaria* n. sp., 2 – *Cuproxena golondrina* n. sp. 3 – *Bidorpitia biforis* n. sp., 4 – *Bidorpitia gomphifera* n. sp., 5 – *Bidorpitia banosana* n. sp. 6 – *Bidorpitia column* n. sp., 7 – *Bidorpitia paracolumn* n. sp., 8 – *Bidorpitia unguifera* n. sp.

TYPE MATERIAL

Holotype, male (Fig. 3): “Ecuador, Prov. Cotopaxi, San Francisco de las Pampas, Res. La Otonga, 1.02.2002, 1935 m”; GS 186 MZUJ.

***Bidorpitia gomphifera* n. sp.**

(Figs 4, 11a, b, 17)

ETYMOLOGY

The epithet refers to the shape of uncus; Latin: *gomphus* - plug, *fero* - carry.

DIAGNOSIS

Most similar to Venezuelan *B. poolei* BROWN, 1991 from which *gomphifera* differs chiefly in much larger uncus terminating in a small process and the presence of large lobes of transtilla; *gomphifera* is also similar to *columna* but uncus of *columna* is characterized by lateral lobes and sclerites of bursa copulatrix large. For the differences to *banosana* see the description of that species.

DESCRIPTION

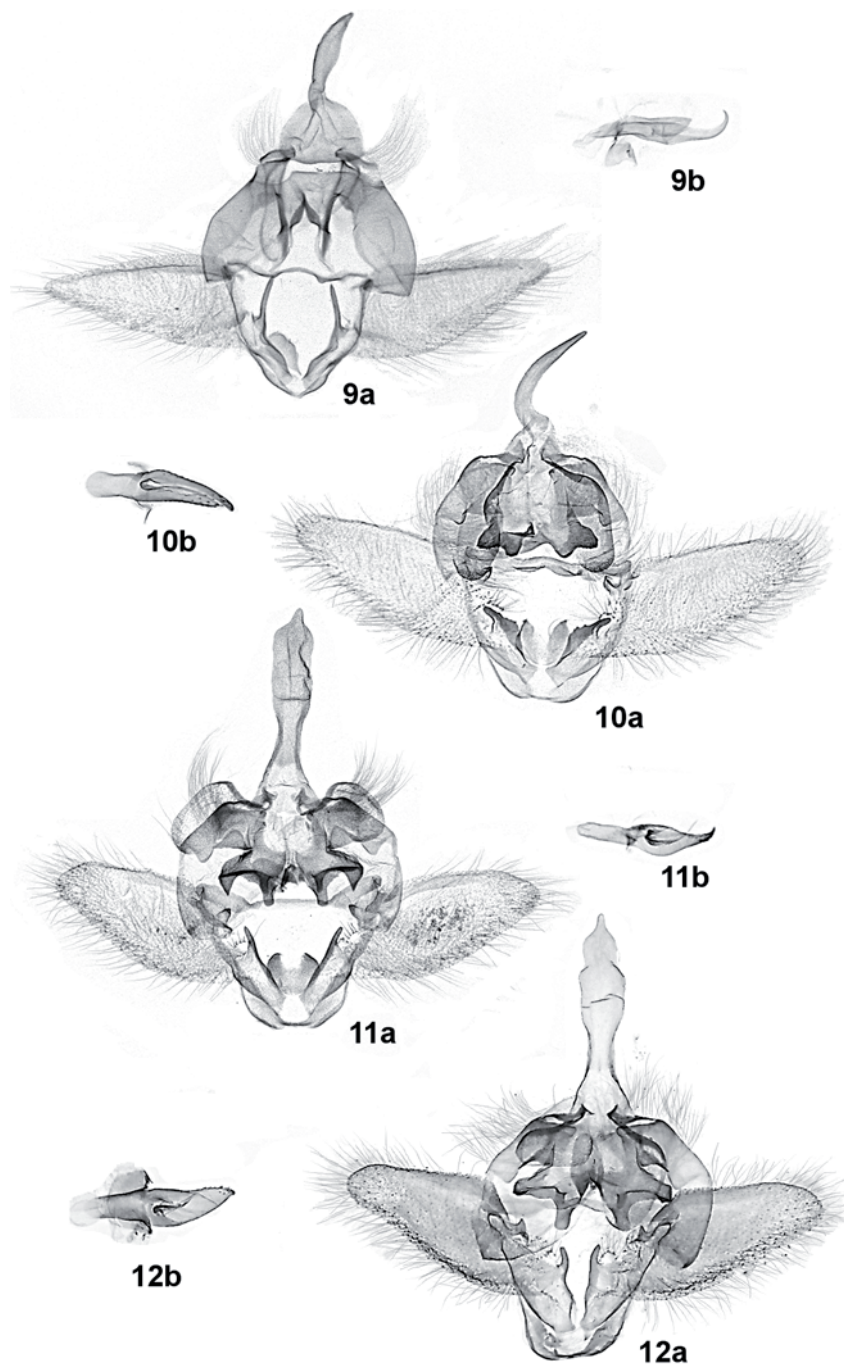
Wing span 25 mm. Head brown, antenna brownish ochreous, labial palpus over twice the diameter of eye. tinged black terminally; thorax brownish, collar and base of tegula blackish brown. Forewing broad, expanding posteriorly; costa convex basally, then weakly so; apex very short; termen straight, not oblique beneath apex. Ground colour pale cinnamon, sprinkled and densely strigulated with dark cinnamon, with fine refractive strigulae and some blackish strigulae along costa. Markings brownish consisting of interrupted median fascia dorsal portion of which connected with subapical blotch. Cilia ochreous brownish, dark brown from apex to M3, cream at tornus. Hindwing cream, pale dirty orange posteriorly.

Male genitalia (Figs 11a, b). Tegumen broad, with well sclerotized posterior third; uncus very large column-like, slightly tapering submedially, uniformly broad in distal half, with small apical prominence; socius large, elliptic, strongly sclerotized in basal half posteriorly; arm of gnathos short armed with large, sharp postmedian process and pair of subterminal, rounded apically processes; terminal plate fairly broad; valva broadest medially, convex ventrally; sacculus short, with one digital process at end of well sclerotized ventral edge; transtilla slender with large subbasal process; aedeagus small, curved, sharp terminally; coecum penis slender, long.

Female genitalia (Fig. 17). Papilla analis broad; apophyses short; anteostial part of sterigma well sclerotized proximally, postostial part broad, in large portion weakly sclerotized; sclerites of bursa copulatrix proportionally slender.

TYPE MATERIAL

Holotype, male: “Ecuador, Prov. Cotopaxi, via la Maná, Pilaló, 2.09.2004, 3200 m”; GS 264 MZUJ. Paratype, an identically labelled female, GS 1001 MZUJ.



9-12. Male genitalia: 9a, b – *Vulpoxena falcaria* n. sp., holotype, 10a, b – *Bidorpitia biforis* n. sp., holotype, 11a, b – *Bidorpitia gomphifera* n. sp., holotype, 12a, b – *Bidorpitia banosana* n. sp., holotype

***Bidorpitia banosana* n. sp.**

(Figs 5, 12a, b)

ETYMOLOGY

The name refers to the type locality area.

DIAGNOSIS

Facies similar to *B. gomphifera* n. sp. but *B. banosana* n. sp. with ground colour cinnamon, subapical blotch not connected with mid-dorsum, terminal portion of uncus separated from its median part by means of small lateral concavities, ventroterminal lobe of gnathos with minute prominence, and aedeagus broad.

DESCRIPTION

Wing span 24 mm. Head and thorax brownish; labial palpus greyish, ca twice longer than diameter of eye. Forewing as in *gomphifera*; ground colour cinnamon with distinct refraction and numerous fine rust brown strigulae. Markings rust brown consisting of costal portion of median fascia and subapical blotch. Cilia dark rust brown, brownish basally, brownish cream at tornus. Hindwing ochreous cream tinged with orange on periphery; cilia concolorous with middle of wing, mixed with brown in apical third.

Male genitalia (Figs 12a, b). Uncus very large terminating in a slender process, median portion separated from the broad, distal part by small lateral incisions; socius large; arm of gnathos with lateral and subterminal lobes, the former with a very small ventroterminal prominence; process of sacculus proportionally thick; transtilla with broad subbasal lobes; aedeagus broad, with broad, laterally serrate terminal portion.

Female not known.

TYPE MATERIAL

Holotype male (fig 5): "Ecuador, Tungurahua Baños - Runtun, 22.01. 2002, 3170 m,"; GS 1002 MZUJ. Paratypes, two identically labelled males: Ecuador, Tungurahua Baños - Runtun, 22.01. 2002, 3170 m.

***Bidorpitia columna* n. sp.**

(Figs 6, 13a, b, 18)

ETYMOLOGY

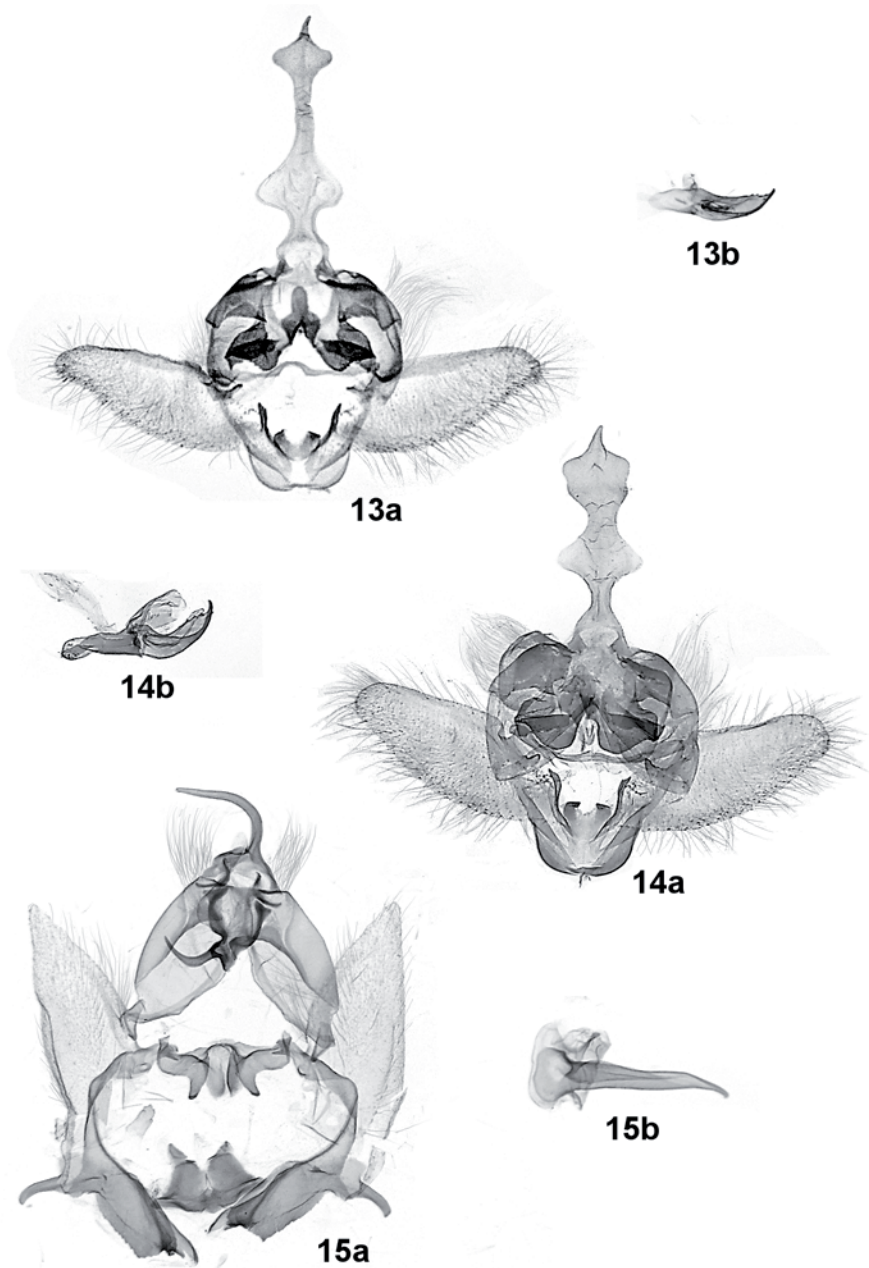
The name refers to shape of the uncus; Latin: *columna* - column.

DIAGNOSIS

Closely allied with *B. gomphifera* n. sp. but *B. columna* n. sp. with large lateral lobes of uncus and broad terminal lobe of arm of gnathos. From *B. poolei* BROWN, 1991 it differs in much larger uncus and smaller posterior lobe of gnathos.

DESCRIPTION

Wing span 14 mm. Head cream brown with grey suffusions, frons paler, labial palpus about 1.5 times longer than diameter of eye, grey-white, with grey and blackish



13-15. Male genitalia: 13a, b – *Bidorpitia columnna* n. sp., holotype, 14a, b – *Bidorpitia paracolumnna* n. sp., holotype, 15a, b – *Bidorpitia unguifera* n. sp., holotype

markings; thorax cream brown, tegula brown. Forewing as in *B. paracolumna* n. sp. Ground colour pale ferruginous to middle, dark brownish ferruginous in posterior portion, with refractive suffusions and rust brown strigulation; dorsum suffused with grey posteriorly; apex greyish white. Markings brown with rust admixture consisting of incomplete postbasal fascia, median fascia weakly developed at tornus, and subapical blotch. Cilia rust brown, orange cream at tornus. Hindwing cream tinged with orange in terminal third; cilia cream.

Female paratype. Wing span 27 mm. Colouration darker, grey suffusion of dorsum stronger than in holotype.

Male genitalia (Figs 13a, b). Uncus broad, well sclerotized posteriorly; uncus extremely large, broad at base, expanding laterally before middle and subterminally, with claw like apical process; arm of gnathos broad with large, sharp apically lateral lobe fused with broad posterior lobe; terminal plate of gnathos broad to middle, slender posteriorly; transtilla slender with arch-shaped median portion; sacculus short, with ventro-posterior process; aedeagus short, with curved terminal process and lateral thorns.

Female genitalia (Fig. 18). Papilla analis broad, apophyses short; sterigma large, well sclerotized in medioanterior portion; sclerites of median and posterior portions of bursa copulatrix fused.

TYPE MATERIAL

Holotype, male (fig. 6): "Ecuador, Prov. Loja, Saraguro, 06.09.2004, 2980m"; GS 172 MZUJ. Paratype female, same label; GS 171 MZUJ.

***Bidorpitia paracolumna* n. sp.**

(Figs 7, 14a, b)

ETYMOLOGY

The name concerns the similarity to *B. columna*; Latin: *para* - near.

DIAGNOSIS

Very closely related with *B. columna* n. sp. from which *B. paracolumna* n. sp. differs chiefly in the much paler, cream ferruginous ground colour of forewing, the shorter and broader postmedian part of uncus, the larger subterminal broadening of uncus and the longer termination of aedeagus.

DESCRIPTION

Wing span 23 mm. Head brownish grey, antenna brownish grey, labial palpus ca 1.5 diameter of eye, white-grey with blackish marks; thorax cream ferruginous. Forewing broad, somewhat expanding posteriorly; costa convex in basal half; apex very short; termen not sinuate, not oblique. Ground colour ferruginous cream with rust brown suffusion along costa, sparse transverse strigulae and weak refractive marks; apex of wing tinged with grey. Markings rust brown consisting of ill-defined postbasal fascia,

oblique median fascia and subapical blotch. Cilia brown, cream at tornus. Hindwing cream mixed with orange in apical third; cilia cream.

Variation. Paratypes much paler than the holotype, with somewhat more complete markings and well developed strigulation.

Male genitalia (Figs 14a, b). Uncus very large, thick, with short, broad postmedian portion, large, slightly elongate subterminal part and large apical process; arm of gnathos with large lateroterminal lobes, broad submedian plate and shorter plate above it; the two plates form outer thorn like process; postmedian part of uncus rather short, broad, terminal part broad, somewhat elongate, concaving laterally; apical part of aedeagus long, curved.

TYPE MATERIAL

Holotype, male (Fig. 7): "Ecuador, Tungurahua, Baños - Runtun, 22.01.2002, 3170 m"; GS 336 MZUJ.

Paratypes, two males with same labels.

Bidorpitia unguifera n. sp.

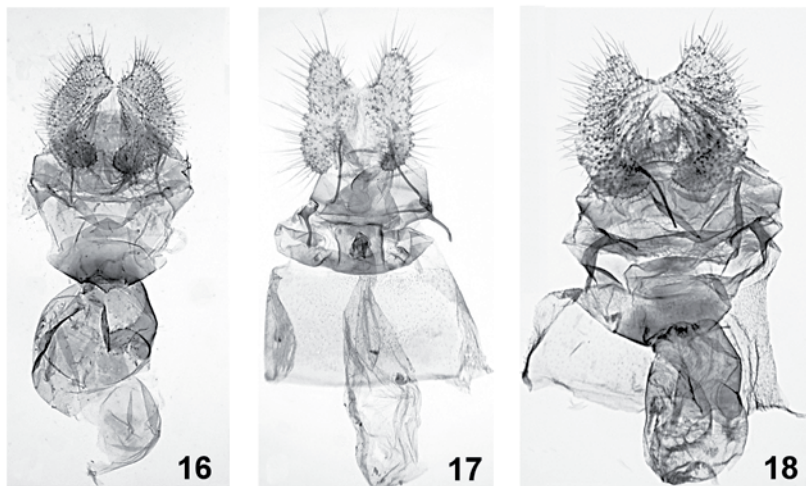
(Figs. 8, 15a, b)

DIAGNOSIS

Facies somewhat similar to Bolivian *B. boliviana* BROWN, 1991 and Venezuelan *B. cryptica* BROWN, 1991 but *unguifera* with the postbasal triangular blotch at dorsum.

ETYMOLOGY

The species name refers to shape of the lateral processes of arms of gnathos; Latin: *unguis* - claw, *fero* - carry.



16-18. Female genitalia: 16 – *Cuproxena golondrina* n. sp., holotype, 17 – *Bidorpitia gomphifera* n. sp., paratype, 18 – *Bidorpitia columna* n. sp., paratype

DESCRIPTION

Wing span 21 mm. Head and thorax brownish grey; labial palpus ca 2. Forewing broadest medially; costa weakly convex; termen slightly oblique, indistinctly concave at median veins. Ground colour dirty cream suffused and sprinkled with brown, darkest in basal and postmedian parts of wing; some brown strigulae in terminal area; costal blotch large, grey with some black-grey dots chiefly along costa. Remaining markings atrophied. Cilia cream with brownish divisions. Hindwing brownish cream to middle, darker in remaining area, brown on periphery; cilia cream with brownish lines.

Male genitalia (Figs 15a, b). Tegumen tapering posteriorly; base of uncus broad; uncus slender; arm of gnathos with laterosubterminal process; terminal plate short; valva distinctly tapering terminally; sacculus broad, with large, minutely thorny proximal lobe followed by a claw-shaped process; transtilla with four distinct submedian processes; aedeagus slender, slightly bent terminally; coecum penis broad, short.

Female unknown.

TYPE MATERIAL

Holotype, male (Fig. 8): "Ecuador, Prov. Carchí, Volc. Chiles massive, Res. Forest Golondrinas, 2050 m, 28.06.1999"; GS 404 MZUJ.

REMARKS

The two species mentioned in the diagnosis are known only from females.

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