

Argentine *Argyrotaenia* (Lepidoptera: Tortricidae): Synopsis and descriptions of two new species

PASQUALE TREMATERRA¹ & JOHN W. BROWN²

¹ Department of Animal, Plant and Environmental Science, University of Molise, Via De Sanctis, I-86100
Campobasso, Italy (e-mail: trema@unimol.it)

² Systematic Entomology Laboratory, PSI, Agricultural Research Service, U.S. Department of Agriculture,
National Museum of Natural History, Washington, DC 20560-0168, USA (e-mail: jbrown@sel.barc.usda.gov)

ABSTRACT

We present descriptions, redescrptions, and/or diagnoses of the four species of *Argyrotaenia* reported from Argentina: *A. pomililiana*, new species, from Neuquén and Buenos Aires provinces; *A. tucumana*, new species, from Tucumán; *A. loxonephes* (Meyrick), apparently endemic to Argentina; and *A. sphaleropa* (Meyrick) and its junior synonym, *A. fletcheriella* (Köhler), a widespread species of the New World tropics. We provide images of the adults and illustrations of the male and female genitalia. We also present host records from an unpublished manuscript by the noted Argentine lepidopterist, José A. Pastrana. We briefly discuss the previous erroneous report of *A. citrana* (Fernald) from South America.

Key words: Lepidoptera, Tortricidae, leafrollers, *Argyrotaenia*, new species, Argentina, morphology

INTRODUCTION

As current defined, the genus *Argyrotaenia* Stephens, 1852, includes 88 described species that occur in the Palearctic (Razowski, 1996), Nearctic (Powell, 1983), and Neotropical (Powell et al., 1995) regions, with greatest species richness attained in the last. The genus includes several economically important pest species, e.g., red-banded leafroller (*Argyrotaenia velutinana* (Walker)) and orange tortrix (*A. citrana* (Fernald)) in North America, *A. ljungiana* (Thunberg) in Europe, and *A. sphaleropa* (Meyrick) in South America. While species limits are well defined among most taxa, they are less conspicuous among others (e.g., *Argyrotaenia franciscana* complex) (Landry et al. 1999, Powell and Rubinoff, pers. comm.).

Powell *et al.* (1995) presented a list of Neotropical *Argyrotaenia*, which subsequently was augmented by descriptions of new species by Razowski (1999a, b), Brown and Cramer (1999), and Razowski and Becker (2000). The Neotropical *Argyrotaenia* (56 species and 1 subspecies) form several poorly defined groups based on external characters and genitalia, but the mosaic distribution of character states inhibits a meaningful classification within the genus (Razowski and Becker, 2000).

With the exception of a few pest species (e.g., *Proeulia auraria* (Clarke), *Deltinea costalimai* Pastrana, *Cydia araucariae* Pastrana, *Riculoides gallicola* Pastrana), little has been published on the Tortricidae of Argentina. In an unpublished manuscript ("Los Lepidopteros Argentinos, Sus Plantas Hospedadoras y Otros Sustratos Alimenticios," ca. 1980), the late José A. Pastrana, a noted Argentine lepidopterist, listed about 40 species of Tortricidae from Argentina, along with their host plants. In that manuscript he cited three species of *Argyrotaenia* from Argentina: *A. citrana* (Fernald) (now believed to represent a misidentification), *A. fletcheriella* (Köhler) (now considered a synonym of the widespread *A. sphaleropa*), and *A. loxonephes* (Meyrick). The purposes of this paper are to present descriptions and/or diagnoses and illustrations of the four species of *Argyrotaenia* now known to be present in Argentina, two of which are described as new, along with information on their host plants. Abbreviations used in the text are as follows: BMNH = The Natural History Museum, London, England; GS = genitalia slide; PTC = P. Trematerra Collection, Campobasso, Italy; r.f. = reared from; and USNM = U.S. National Museum of Natural History, Smithsonian Institution, Washington, D.C.

SYSTEMATICS

Argyrotaenia pomililiana, new species

Figs. 1, 2, 9, 16

Diagnosis. *Argyrotaenia pomililiana* appears to be related to the *polvosana* Obraztsov species group which occurs primarily in Mexico (see Obraztsov, 1961 for comparisons). It can be distinguished from other Argentine *Argyrotaenia* by the following: larger wingspan (18–19 mm) and more speckled forewing maculation; a slightly longer valva bearing a concave costa; vesica of the aedeagus with 8–10 short cornuti; a smaller, cup-shaped antrum than other species, with distinct microsetae; a distinct sclerotized anteostial portion of the sterigma; and the colliculum slightly broader than the ductus bursae.

Description. Adult. Male (Fig. 1). *Head*: Frons with sparse, smooth scaling below mid-eye, pale brown; vertex roughened above, yellowish ochre-brown. Labial palpus yellowish ochre, brown terminally, speckled with brown scales laterally. Antennal scaling pale yellow speckled with brown scales. *Thorax*: Forewing length 6.8–8.1 mm (mean = 7.3; n = 7); forewing weakly expanding terminally, costa slightly concave subapically; termen slightly concave beneath apex, then convex. Forewing ground color yellowish ochre, with scattered brown specks and/or reticulation; basal and subbasal blotch obsolete or

reduced to a few brown spots; oblique median fascia weak, brown, slender at costa; subapical blotch and pretornal fascia brown; marginal line brown, more evident in apical 0.3. Cilia pale yellowish ochre. Hindwing pale whitish yellow, tinged grey in apical third; cilia whitish yellow. Variation rather slight, with forewing markings varying in intensity and development. *Abdomen*: Genitalia (Fig. 9) with uncus relatively long, nearly parallel-sided, weakly dilated distally, rounded apically, with weak ventral hairs; tegumen small; socius small, with weak hairs; gnathos arm slender, terminal plate pointed; vinculum with distal fold sclerotized; valva broad, elongate, with costa weakly concave, and distal portion below costa nearly straight; pulvinus distinct with long slender hairs; sacculus simple, convex in median part, attenuate distally, without free termination; transtilla plate-shaped, narrowed medially; juxta small. Aedeagus long and slender (Fig. 9), with sharp termination; caulis small, coecum penis well developed; vesica with 8–10 short, lanceolate, deciduous cornuti forming a dense fascicle (only one specimen still possessed cornuti; the number present in other specimens was estimated by counting the sockets in the vesica).

Female (Fig. 2). *Head, thorax*: Essentially as described for male, but forewing lacking reticulation, with more uniform brown ground color, length 7.2–8.3 mm (mean = 7.9, n = 7). *Abdomen*: Genitalia (Fig. 16) with papillae anales large, well developed; apophyses anteriores long; sterigma large, weakly sclerotized, with distinct microsetae, anteostial portion distinct, sclerotized; antrum small, cup-shaped, concave in middle dorsally, with distinctly sclerotized anterior edge; colliculum broader than ductus bursae, strengthened with internal sclerite; ductus bursae moderately long; ductus seminalis postmedian and receptaculum seminis developed; proximal sclerite of ductus bursae absent; corpus bursae spherical; signum typically archipine with well developed internal spine and external capitulum, length more than 0.5 of the corpus bursae.

Holotype, ♂, Argentina, Río Negro Province, Alto Valle de Río Negro, 242 m, 10 July 1998, L. I. Cichón (PTC).

Paratypes. Argentina: Río Negro Province: Río Negro, Gral Fernandez Oro, 17 Feb 1978 (13 ♂), C. M. & O. S. Flint (USNM, PTC); [no specific locality, assumed to be from Alto Valle de Río Negro], 2000 (8♂, 8♀), L. Cichón (USNM, PTC). Buenos Aires Province: Laguna de Gomez, Junin, 12 Dec 1979 (1♂), C. M. & O. S. Flint (USNM).

Distribution. Known only from the provinces of Río Negro and Buenos Aires, Argentina.

Biology. The larvae feed on leaves and fruit of apple trees (*Malus* spp., Rosaceae) in the Alto Valle de Río Negro in Río Negro Province. Their damage to fruit, which is economically significant, resembles that caused by other leafrollers. Adults have been collected in February, July, and December. Pheromones of this species have been the subject of investigation by Witzgall *et al.* (pers. comm.), and it is the need for a name that stimulated this taxonomic research.

Remarks. Association of the sexes is based on the series of specimens collected and reared at Alto Valle de Río Negro, Argentina.

Etymology. The specific epithet is derived from apple, *pomi*, and the Argentine entomologist Liliana I. Cichón, who collected the species.

Argyrotaenia tucumana, new species

Figs. 3, 4, 10, 15

Diagnosis. *Argyrotaenia tucumana* can be distinguished from other Argentine *Argyrotaenia* by the following: a more typical *Argyrotaenia* forewing pattern in the male with a median fascia and a well defined subapical blotch; a slightly shorter valva with a nearly straight costa; the sacculus extending to near the apex of the valva; the vesica of the aedeagus with approximately 14 deciduous cornuti, forming a dense fascicle; the sterigma of the female concave in the middle dorsally, with a weakly sclerotized anterior edge; the cup-shaped antrum with distinct microsetae; and the colliculum not broader than ductus bursae.

Description. Male (Fig. 3). *Head*: Pale brown. Labial palpus pale brown, speckled with dark brown scales. *Thorax*: Pale brown. Forewing length 5.1–7.1 mm (mean = 6.0, n = 3), oblong, weakly expanding terminally, costa moderately arched near base, slightly concave subapically, apex obtuse-pointed, termen rather oblique. Forewing ground color pale tan; basal blotch ill defined, pale brown; median fascia oblique, brown, dark and well defined in costal area, becoming less defined at dorsum; subapical blotch semicircular, dark brown; terminal fascia brownish. Cilia pale brownish. Hindwing pale cream grey, tinged grey in apical 0.3. Cilia pale cream. *Abdomen*: Genitalia (Fig. 10) with uncus relatively long, rounded apically; tegumen small; socius small with weak hairs; gnathos arm slender, terminal plate pointed; vinculum with distal fold sclerotized; valva broad, shorter than in *pomililiana*, with costa nearly straight; pulvinus distinct, digitate, with long slender hairs; sacculus simple, long, extending to apex of valva, slightly convex in median part, without free termination; transtilla plate-shaped, tapering medially; juxta small. Aedeagus long and slender, with sharp termination, caulis small, coecum penis rounded and developed; vesica with approximately 14 short, lanceolate, deciduous cornuti, forming a dense fascicle.

Female (Fig. 4): *Head*: As is male. *Thorax*: Forewing length 8.0 mm (n = 1), ground color slightly darker than in male, yellow ochre; basal blotch brownish; median fascia brownish, obsolete in costal area; subapical blotch faint. Hindwing darker than in male. *Abdomen*: Genitalia (Fig. 15) with papillae anales large, well developed; apophyses anteriores long; sterigma concave in middle dorsally, with weakly sclerotized anterior edge, anteostial portion weakly sclerotized; antrum large, cup-shaped, with distinct microsetae; colliculum not broader than ductus bursae, strengthened with internal sclerite; ductus bursae moderately long; ductus seminalis postmedian and receptaculum seminis developed; proximal sclerite of ductus bursae absent; corpus bursae well developed, spherical; signum typically archipine with internal spine and external capitulum, elongate, length less than 0.5 of corpus bursae.

Holotype, ♂, Argentina, Tucumán, Ciudad Universitaria, 800 m, 17 February 1959, J. F. G. Clarke (USNM).

Paratypes. Same data as holotype (2♂, 1♀) (USNM).

Distribution. Known only from the type locality of Ciudad Universitaria, Tucumán.

Biology. Unknown; adults have been collected in February.

Remarks. The association of the sexes is based on the identical collecting data of the type series.

Etymology. The species name is derived from the region of Tucumán in Argentina.

***Argyrotaenia loxonephes* (Meyrick, 1937)**

Figs. 5, 6, 11, 14

Eulia loxonephes Meyrick, 1937: 128.

Argyrotaenia loxonephes; Powell *et al.*, 1995: 147; Razowski and Becker, 2000: 321.

Diagnosis. *Argyrotaenia loxonephes* can be distinguished by the following characters: forewing length 10–12 mm, with ill defined markings; valva short and broad, with slightly convex costa; vesica with 2 spindle-shaped cornuti; sterigma weakly sclerotized, concave in middle dorsally, with weakly sclerotized anterior edge; and colliculum as broad as ductus bursae, strengthened with an internal sclerite.

Redescription. Male (Fig. 5). *Head*: Pale brown. Labial palpus pale brown, slightly darker terminally. Antennal scaling pale yellow speckled with brown scales. *Thorax*: Pale brown. Forewing length 7.3 mm (n = 1), oblong, costa arched near base, otherwise straight, apex obtuse-pointed, termen oblique. Ground color pale cream, transversely strigulated with light brownish; basal and subbasal fasciae obsolete; median fascia oblique, brownish, nearly obsolete, very slender in costal area; marginal line brown, evident in apical 0.3; no other conspicuous markings. Cilia pale cream. Hindwing pale yellowish, strigulated with light grey. Cilia pale cream. *Abdomen*: Genitalia (Fig. 11) with uncus relatively long, rounded apically; tegumen small; socius small, with weak hairs; gnathos arm slender, terminal plate pointed; vinculum with distal fold sclerotized; valva short and broad, with weakly convex costa; pulvinus indistinct, with weak hairs; sacculus simple, extending to apex of valva, slightly convex in median part, without free termination; transtilla tapering medially; juxta small. Aedeagus long, slender, with pointed termination, caulis small, coecum penis tapered; vesica with 2 spindle-shaped cornuti.

Female (Fig. 6). *Head, thorax*: Essentially as described for male; forewing length 5.9–6.1 mm (mean = 6.0; n = 3). *Abdomen*: Genitalia (Fig. 14) with papillae anales well developed; sterigma cup-shaped, concave in middle dorsally, with weakly sclerotized anterior edge; sterigma large, with distinct microsetae, anteostial portion distinct, weakly sclerotized; colliculum as broad as ductus bursae, strengthened with internal sclerite; ductus bursae moderately long and proximally enlarged; ductus seminalis postmedian; proximal sclerite of ductus bursae absent; corpus bursae subspherical; signum typically archipine, elongate, more than 0.5 length of bursa copulatrix, capitulum well developed.

Lectotype, ♀, Argentina, Pampa, r.f. Solanaceae, F. Bourquin (BMNH).

Additional specimens examined. ARGENTINA: [no locality data], Jan 1938 (1♂, 1♀), G. Pico (USNM).

Distribution. Pastrana (*in litt.*) reported this species from Jujuy, Córdoba, Mendoza, Buenos Aires, La Pampa, Neuquén, Río Negro, and Tucumán in Argentina. Unfortunately, because he did not distinguish it from *A. pomililiana* or *A. tucumana*, it is possible that some of his records refer to the latter two species.

Biology. The species was described from two females reared from a species of Solanaceae (Meyrick 1937). Bourquin (1938) reported it feeding on the flower heads of *Dahlia* spp. (Asteraceae); descriptions and illustrations of the early stages can be found in that paper. *Argyrotaenia loxonephes* was observed to be a pest of *Linum usitatissimum* (Linaceae) at Estación Experimental Agrícola de Pergamino (Chiarelli de Gáhan 1945). Pastrana (*in litt.*) recorded it from the following host plants: *Humulus lupulus* (Cannabaceae); *Baccharis salicifolia*, *Dahlia* spp., *Gutierrezia mondonii* (Asteraceae); *Pelargonium* sp. (Geraniaceae); *Zea mays* (Poaceae); *Gladiolus* sp. (Iridaceae); *Mentha piperita* (Lamiaceae); *Glycine max*, *Medicago sativa* (Fabaceae); *Asparagus officinalis*, *Lilium* sp. (Liliaceae); *Linum usitatissimum* (Linaceae); *Eucalyptus* spp. (Myrtaceae); *Plantago* spp. (Plantaginaceae); *Rumex* sp. (Polygonaceae); *Cydonia oblonga*, *Malus sylvestris*, *Prunus domestica*, *Pyrus communis*, *Rosa* spp., *Rubus idaeus*, *Rubus* sp. (Rosaceae); *Populus nigra* var. *italica* (Salicaceae); *Ribes grossularia*, *R. nigrum*, *R. sativum* (Saxifragaceae); *Apium graveolens* (Apiaceae); and *Vitis vinifera* (Vitaceae). Unfortunately, because Pastrana did not recognize either *A. tucumana* or *A. pomililiana*, it is likely that some of the host records presented above refer to the latter two species rather than *A. loxonephes*.

Remarks. The association of the sexes is not without question - the male listed above and illustrated in Figs. 5 and 11 is considerably larger than the female. As in *A. tucumana* and *A. pomililiana*, the forewing pattern is not similar between the sexes. The male genitalia of the specimen we assign to *A. loxonephes* differ from all examples of *A. pomililiana* (n = 7) and *A. tucumana* (n = 3) that we examined, particularly in the number and shape of the cornuti. We assign this male to *A. loxonephes* on the basis of two related pieces of circumstantial evidence: (1) the male and female specimens cited above from USNM share identical collecting data and hence are suspected to be conspecific; and (2) the female of that pair is identical to the lectotype of *A. loxonephes*.

***Argyrotaenia sphaleropa* (Meyrick, 1909)**

Figs. 7, 8, 12, 13

Tortrix sphaleropa Meyrick, 1909: 15.

Argyrotaenia sphaleropa; Clarke, 1958: 56; Powell *et al.*, 1995: 147; Razowski and Becker, 2000: 317.

Eulia fletcheriella Köhler, 1940: 371.

Diagnosis. *Argyrotaenia sphaleropa* can be distinguished easily from other Argentine *Argyrotaenia* by its characteristic forewing color (darker than other species), pattern (more complex and with less dimorphism) and shape (usually with a more sinuate costa) (Figs. 7,

8) (see Clarke, 1958 for an additional illustration of the adult); by its distally expanded uncus and short valva in the male genitalia (Fig. 12); and by the short sterigma in the female genitalia, with a well developed anteostial part (Fig. 13) (see Köhler, 1940 and Clarke, 1958 for additional figures of the genitalia).

Types. Lectotype, ♂ (*sphaleropa*), Bolivia, Sapago, "S. .07" (BMNH). Two paralectotype males, same data as lectotype (BMNH). Holotype, ♂ (*fletcheriella*), Argentina, Tigre, Bourquin Collection. The lectotype of *A. sphaleropa* was designated by Clarke (1958), who figured the adult and male genitalia. Köhler (1940) figured the male and female genitalia of *E. fletcheriella*.

Distribution. *Argyrotaenia sphaleropa* is a common and widespread species in the New World tropics; Razowski and Becker (2000) reported it from Bolivia, Brazil, Uruguay, and Argentina. We have examined specimens that appear to be referable to this species from Argentina, Bolivia, Brazil, Panama, Peru, and Uruguay (USNM). Pastrana (*in litt.*) reported it from Chaco, Tucumán, Santa Fé, Buenos Aires, and Delta del Paraná in Argentina.

Specimens Examined. ARGENTINA: Tigre, Jun 1939 (1♀), Aug 1941 (1♂), Bourquin (USNM). Buenos Aires, 1939 (2♂), r.f. *Vitis vinifera*, Pastrana (USNM). BOLIVIA: Songo, May 1907 (1♂, paralectotype) (USNM). BRAZIL: Santa Catarina: São Bento do Sol, 2800', 6–9 Mar 1995 (2♂, 1♀), R. Leuschner (USNM). São Paulo: Ribeirão Preto, 4–17 Mar 1939 (1♂, 3♀), E. J. Hambleton (USNM). Campinas, 11 Mar 1936 (1♂), 2 Apr 1936 (1♂), E. J. Hambleton (USNM). Nova Teutonia: 27°11' B, 52°23' L, Jun 1938 (1♂), F. Plaumann (USNM). Rio Grande do Sul: Pinto Bandeira, May 2000 (5♂, 5♀), MECB, B. Gonçalves (USNM). Parana: Curitiba, 3 Mar 2002 (1♂), 3 Dec 2001 (1♂), r.f. *Schinus terebinthifolius*, J. Medal & H. Pedrosa (USNM). PANAMA: Cabima, May 1911 (1♂), A. Busck (USNM). PERU: Lima: Nov 1954 (4♂, 2♀), [no collector], May 1932 (2♀), Salmon & Wille, 10 Feb 1950 (2♂), de la Torre (USNM). URUGUAY: Montevideo, Sayago, 23 Aug 1970 (1♂), 28 Mar 1974 (1♂, 2♀), M. Moartoria (USNM), 5 Apr 1967 (2♂), r.f. *Medicago sativa*, Morey, Moratorio & Casini (USNM), 20 Jan 1965 (1♀), r.f. *Pyrus malus*, Mory & Casella (USNM); Montevideo, Villa Colón, 24 Nov 1965 (2♀), r.f. *Mentha rotundifolia*, Morey (USNM), 11 Nov 1965 (1♂), r.f. *Salix vitellina*, C. Morey (USNM); Montevideo, Lag. Morán, 26 Apr 1964 (1♂), r.f. *Schinus longifolia*, Morey & Casella (USNM); Montevideo, 14 Mar 1940 (3♂, 1♀), r.f. rose, E. Parker (USNM); San José, Mar 1973 (2♂, 1♀), C. Carbonell (USNM).

Biology. In his description of the early stages, Bourquin (1940) reported larvae from the fruit of *Solanum bonariense* (Solanaceae) and the flower heads of *Cosmos* sp. and *Baccharis* cf. *salicifolia* (Asteraceae). Pastrana (*in litt.*) reported the following hosts: *Ilex paraguariensis* (Aquifoliaceae); *Araucaria angustifolia* (Araucariaceae); *Lonicera japonica* (Caprifoliaceae); *Chrysanthemum vulgare*, *Cosmos bipinnatus*, *Dahlia pinnata*, *Wedelia glauca* (all Asteraceae); *Antirrhinum majus* (Scrophulariaceae); *Pelargonium domesticum* (Geraniaceae); *Zea mays* (Poaceae); *Mentha piperita* (Lamiaceae); *Laurus nobilis*, *Nectandra saligna*, *Ocotea acutifolia* (Lauraceae); *Acacia farnesiana*, *Acacia* sp., *Arachis hypogaea*, *Medicago sativa*, *Phaseolus vulgaris*, *Vigna sinensis* (Fabaceae); *Mag-*

nolia grandiflora (Magnoliaceae); *Rapanea lorentziana* (Myrsinaceae); *Ligustrum lucidum*, *L. sinense* (Oleaceae); *Polygonum* sp. (Polygonaceae); *Punica granatum* (Punicaceae); *Crataegus* sp., *Malus sylvestris*, *Prunus domestica*, *P. persica*, *Pyrus communis*, *Rosa* spp. (Rosaceae); *Citrus aurantifolia*, *C. paradisi*, *C. sinensis*, *C. sp.*, *Ruta chalepensis* (Rutaceae); *Salix humboldtiana* (Salicaceae); *Capsicum annuum*, *Cestrum parqui*, *Lycopersicum esculentum*, *Solanum bonariense*, *S. tuberosum* (Solanaceae); *Apium graveolens* (Apiaceae); and *Vitis vinifera* (Vitaceae). Because this species is distinct from other Argentine *Argyrotaenia*, we assume that these host plants are correctly attributed to *A. sphaleropa*. Specimens in the USNM are reared from the following hosts: *Diospyros khaki* (Ebenaceae), *Lantana camera* (Verbenaceae), *Medicago sativa* (Fabaceae), *Mentha rotunifolia* (Lamiaceae), *Persea* sp. (Lauraceae), *Pyrus malus*, *Rosa* sp. (both Rosaceae), *Salix vitellina* (Salicaceae), *Schinus terebinthifolius*, *S. longifolia* (Anacardiaceae), *Vitis* sp., and *Vitis vinifera* (Vitaceae). The sex pheromone of this species recently was reported by Nuñez et al. (2002).

***Argyrotaenia citrana* (Fernald, 1889)**

Argyrotaenia citrana is known as the orange tortrix or apple skinworm in the older American economic literature. It occurs along the West Coast of North America from Canada to Mexico. We have examined specimens from British Columbia, Canada; Washington, Oregon, California, U.S.A.; and Baja California, Mexico. Freeman (1944) and Obraztsov (1961) both reported it only from the West Coast of North America. Powell (1964) stated that it is one of the most polyphagous species of North America Lepidoptera.

Bondar (1915) reported *A. citrana* as attacking *Citrus* in Brazil, and this record probably was the source of subsequent citations of the species in South America (e.g., Essig 1926, Ebeling 1959). However, Bondar (1929) had reported this an error in identification (see Powell 1964). It is likely that this species also was misidentified by Pastrana (*in litt.*) based on the previous literature, and we have no direct evidence that *A. citrana* occurs in Argentina.

Based on evidence from mitochondrial DNA and laboratory hybridization trials, Landry *et al.* (1999) concluded that *A. citrana* is not clearly distinct from *A. franciscana*. Although they did not propose the synonymy of the two, their data strongly suggest that neither species is monophyletic relative the other. Hence the two may be considered more appropriately as synonyms, with *A. franciscana* as the correct name based on priority.

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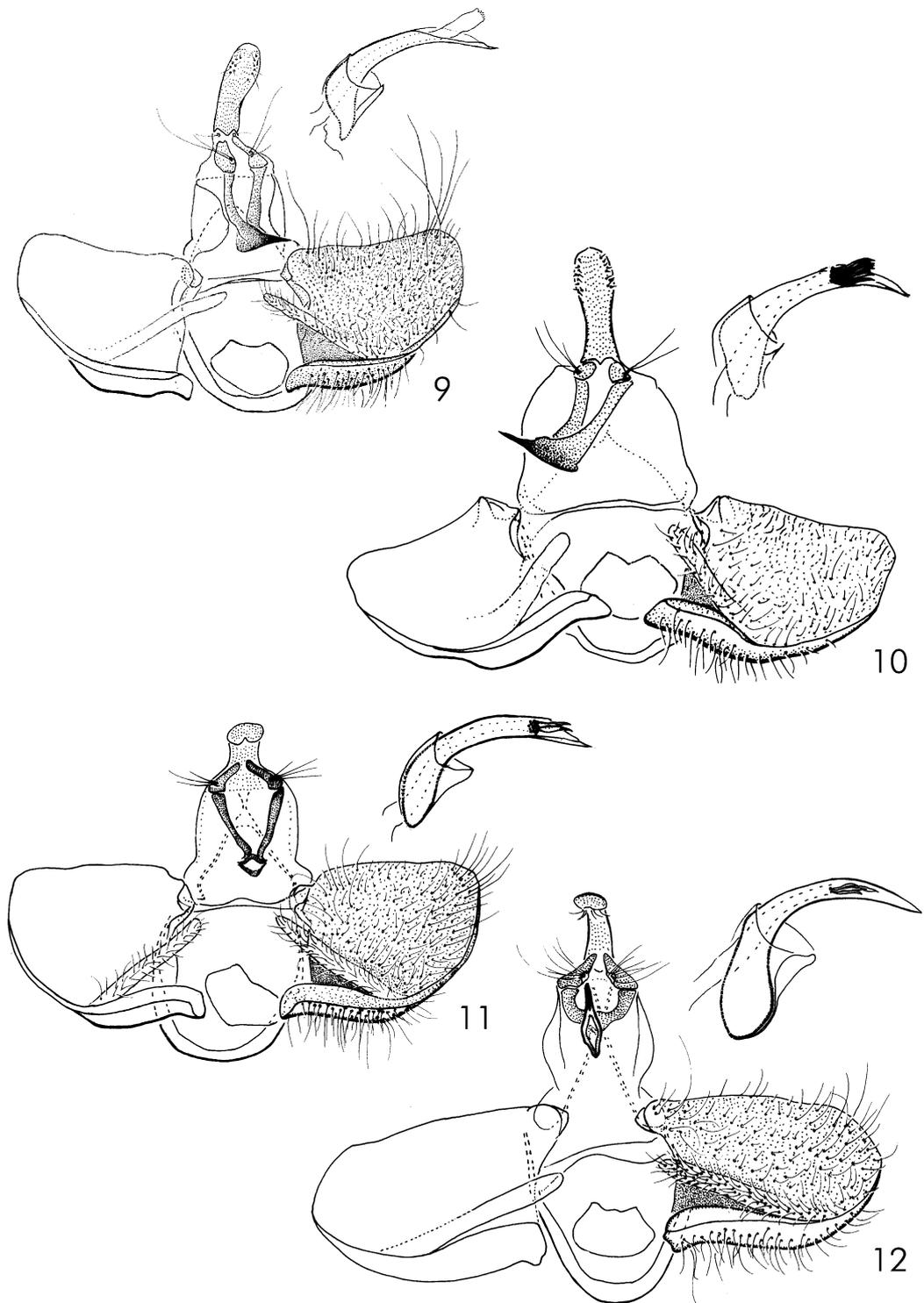
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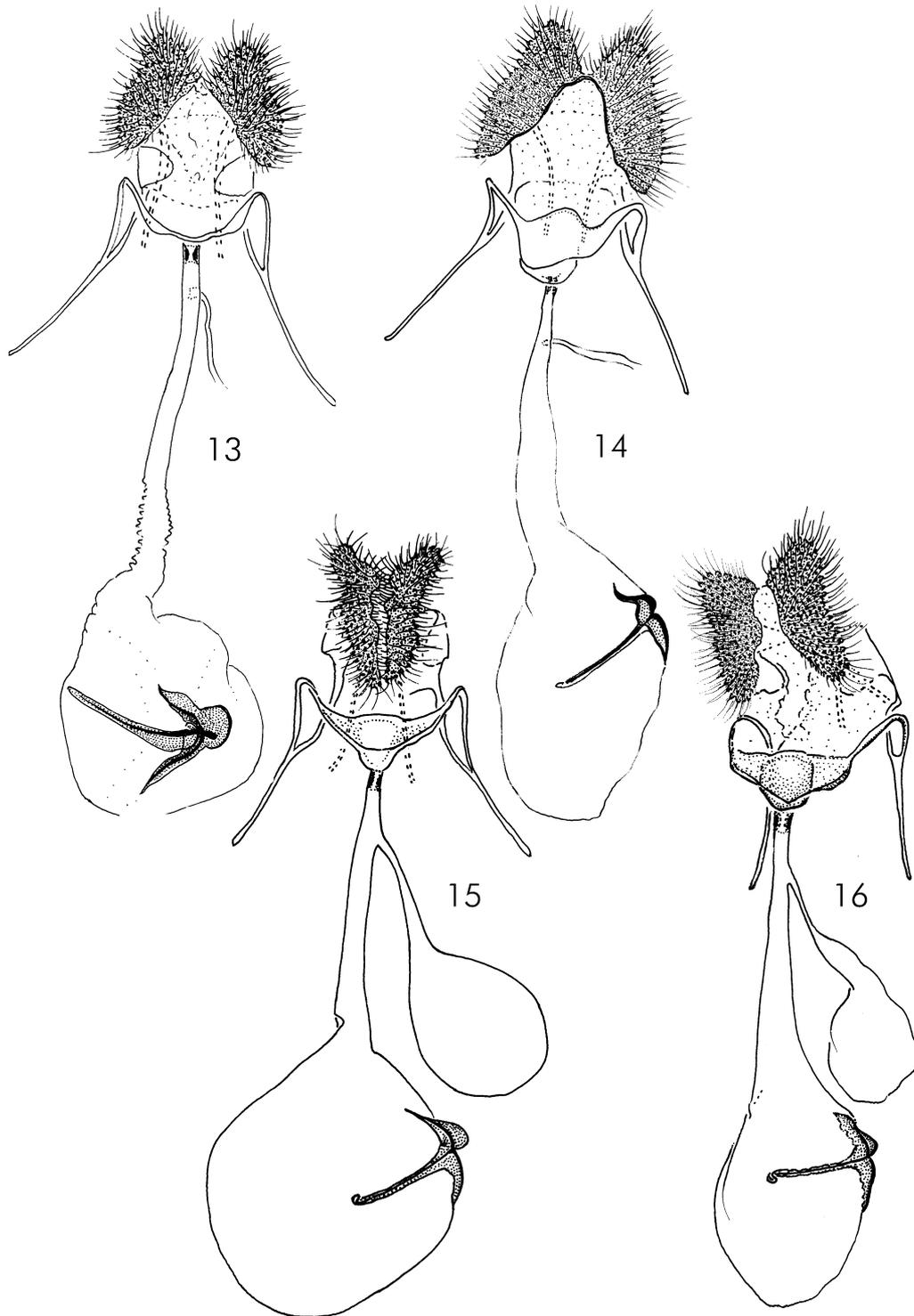
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FIGURES 1–8. Adults of *Argyrotaenia* species. 1, *A. pomililiana* (male); 2, *A. pomililiana* (female); 3, *A. tucumana* (male); 4, *A. tucumana* (female); 5, *A. loxonephes* (male); 6, *A. loxonephes* (female); 7, *A. sphaleropa* (male); 8, *A. sphaleropa* (female).



FIGURES 9–12. Male genitalia of *Argyrotaenia* species; valvae spread and aedeagus removed. 9, *A. pomililiana*; 10, *A. tucumana*; 11, *A. loxonephes*; 12, *A. spheropa*.



FIGURES 13–15. Female genitalia of *Argyrotaenia* species. 13, *A. sphaleropa*; 14, *A. loxonephes*; 15, *A. tucumana*; 16, *A. pomililiana*.