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Nomenclatorial novelties of the genus *Leucania* Ochsenheimer, 1816 that occur in Central America (Lepidoptera: Noctuidae)

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Abstract

We treat five species of *Leucania* Ochsenheimer, 1816 originally described in *Cirphis* Walker, [1865, p. 623] by Draudt (1924), whose name-bearing types were destroyed in the bombing during World War II. These species are *Cirphis biforis* Draudt, 1924*, C. macellaria* Draudt, 1924*, C. clara* Draudt, 1924*, C. opalisans* Draudt, 1924*,* and *C. carnea* Draudt, 1924. We make the latter three species objective synonyms of *Leucania multipunctata* Druce, 1889. A neotype is designated for *Cirphis biforis* Draudt, 1924 and its original description is provided. *Cirphis macellaria* is recognized as a subjective synonym of *L. clarescens* Möschler, 1890. A total of eleven synonyms are proposed: four Draudt objective synonyms and seven additional synonymies for Central American *Leucania* species. Lectotypes are designated for *Cirphis pyrastis* Hampson, 1905 and *C. seteci* Dyar, 1914. Illustrations of the imago, valvae, everted endophallus, and bursa copulatrix are provided for *L. biforis* (Draudt, 1924), *L. multipunctata* Druce, 1889, *L. pyrastis* (Hampson, 1905), and *L. sarcistis* (Hampson, 1905). Photographs of the types of *L. extenuata* Guenée, 1852 and *L. infatuans* are provides. New character states of the forewing and genitalia are described. A list of nomenclatorial changes is provided.
Keywords: Lepidoptera, Noctuidae, *Leucania,* neotype, lectotypes, Draudt types, new synonyms, new characters states, Central America.

Novedades nomenclaturales del género *Leucania* Ochsenheimer, 1816 que se encuentran en América Central
(Lepidoptera: Noctuidae)

Resumen

Tratamos cinco especies de *Leucania* Ochsenheimer, 1816 descritas originalmente en *Cirphis* Walker, [1865, p. 623] e ilustradas por Draudt (1924), cuyos tipos homónimos fueron destruidos en los bombardeos durante la Segunda Guerra Mundial. Estas especies son *Cirphis biforis* Draudt, 1924, *C. macellaria* Draudt, 1924, *C. clara* Draudt, 1924, *C. opalisans* Draudt, 1924 y *C. carnea* Draudt, 1924. Hacemos de las tres últimas especies sinónimos objetivos de *Leucania multipunctata* Druce, 1889. Se designa un neotipo para *Cirphis biforis* Draudt, 1924 y se proporciona su descripción original. *Cirphis macellaria* se reconoce como sinónimo subjetivo de *L. clarescens* Möschler, 1890. Se propone un total de once sinonimias: cuatro sinonimias objetivas de Draudt y siete sinonimias adicionales para especies de *Leucania* centroamericanas. Se designan lectotipos para *Cirphis pyrastis* Hampson, 1905 y *C. seteci* Dyar, 1914. Se proporcionan ilustraciones del imago, las valvas, el endofalo evertido y la bursa copulatrix para *L. biforis* (Draudt, 1924), *L. multipunctata* Druce, 1889, *L. pyrastis* (Hampson, 1905) y *L. sarcistis* (Hampson, 1905). Se proporcionan fotografías de los tipos de *L. extenuata* Guenée, 1852 y *L. infatuans*. Se describen nuevos caracteres del ala anterior y de la genitalia. Se proporciona una lista de cambios nomenclatoriales.
Palabras clave: Lepidoptera, Noctuidae, *Leucania*, neotipo, lectotipos, tipos Draudt, nuevas sinonimias, nuevos estados de caracteres, América Central.

Introduction

Two primary constraints of biodiversity research are lack of information (undescribed species) and misinformation (synonyms). We addressed the first of these issues for the genus *Leucania* Ochsenheimer, 1816 in a recent publication (McCabe & Adams, 2023). Here we continue revisionary studies of the New World *Leucania* and propose new synonyms and a neotype designation. We have examined the type specimens and dissections, original descriptions, diagnoses, illustrations, synonyms, and bibliographic citations of all available names of *Leucania* in Central America.

The name-bearing specimens of Draudt, 1924, *in* Seitz are lost and presumed destroyed in the WWII bombing (Dr. Wolfgang A. Nässig, former curator of Lepidoptera at Naturmuseum Senckenberg, Frankfurt am Main, in litt.). Mr. Massimo Terragni, former Technical Assistant to Dr. Nässig, carefully searched for the Draudt *Leucania* types. He checked the main noctuid collection, the Seitz collection and the Hadeninae type drawers, but did not find these types despite other type specimens being clearly marked by type labels. The lost species were not contained in the Senckenberg catalogue.

The following lightly edited letter from Dr. Nässig is published with permission. It clarifies the circumstances surrounding the destruction of many of the type specimens of species described by Draudt, 1924, *in* Seitz.

"I fear that the types got lost in World War II, when mainly American bombing airplanes bombed the area of Darmstadt, ca. 25 km south of Frankfurt. Draudt then lived in a small house outside part of Darmstadt and did not expect bombing in this housing area in midst of the forest, so he took most of the material he was working on to his home, as the city of Frankfurt am Main was severely bombed. When then there fell bombs into this housing area, he came away alive, but his house burned out, including the entire insect collection drawers. As there obviously never was a catalogue of Draudt's collection and all the type of material borrowed by him from other collections and museums, we have no idea which irreplaceable type specimens got lost then. Sorry. War time in Germany was very hard, and the survivors did not look for such "details", and later generations of curators had no information to produce such a catalogue later. I cannot say for sure that this is the real and only explanation, but in the past 25 years I found at several occasions that types and material said to be in Frankfurt Senckenberg (or also in other collections or museums) and said to be worked on/described by Draudt were missing at all places where they were expected to be, and the most likely explanation for this is the bombing of Draudt's house in WW-II, although we cannot definitively say for sure. I do not know where Poole took the information that the types are in Senckenberg; he did not correspond with me about them, and Heinz G. Schröder, the Lepidoptera curator in Senckenberg Frankfurt before me, is over 90 years old now, his health is down, and he does no more work in science."

We have found several previously unrecognized character states, which have proven useful for identification of several species. These states pertain to only a subset of the species but are constant within a species. We have not seen these states discussed elsewhere and describe and illustrate them to make them available for use in species' descriptions.

Undulating uncus (Fig. 10). Typically, in *Leucania,* the uncus is sickle-shaped (a smoothly curving semicircular structure with a sharp tip) (Fig. 9). McCabe & Adams (2023) noted a claw-like modification of the uncus tip in several species. We add to this another modification, an undulating uncus, i.e., with an undulating profile, observed in: *L. multipunctate* Druce, 1889*, L. pyrastis* (Hampson, 1905)*, L. sarcistis* (Hampson, 1905)*,* and *L. misteca* Schaus, 1898. An intermediate or incomplete condition occurs in *L. clarescens* Möschler, 1890*, L. inconspicua* Herrich-Schäffer, 1868*, L. dorsalis* Walker, [1856]*,* and *L. extenuatae* Guenée, 1852. Other species discussed have a sickle-shaped uncus.

Reduced reniform. The reniform is an element of the typical noctuid forewing pattern. It occupies the lower corner of the distal end of the cell. It is always reduced in *Leucania.* It may be either a small, black spot or a white spot. Among the species considered in this publication, the white spot condition occurs in: *L. pyrastis, L. multipunctata, L. rawlinsi* Adams, 2001*,* and *L. misteca.* This state is variable in *L. senescens* Möschler, 1890. The remaining Central American species have a small, black, reniform spot.

Material and methods

The expanse of adult moths was measured from forewing apex to apex of spread specimens. Dissections were performed after an 8-12 hour treatment of the entire abdomen in unheated 10% sodium hydroxide solution. If spermatophores persisted within the corpora bursae, after this initial treatment, they were further treated with hot 10% sodium hydroxide solution for 3-4 minutes. A soft brush was used to remove scales. Transparent tissue was stained with mercurochrome, the endophallus, and bursa copulatrix were inflated with 95% ethanol followed by dehydration in oil of cloves and clearing in xylene (McCabe, 1980). The valvae were gently spread under a glass chip. The genitalia and abdominal plates were mounted in Canada Balsam. Adults were photographed with a Canon R5 with a 60mm macro lens and a ring flash. Permanent Canada balsam mount of dissections was photographed with the Canon R5 with extension rings. Plates were assembled with Photoshop SC6. The endophalli are presented in optimal view, i.e., they are orientated to allow study of the most diagnostic features. Female genitalia are presented in either ventral or lateral view. The female subgenital plate was detached. Female imagoes are not illustrated as they are similar to the males except for somewhat more infuscated hind wings. The female frenulum, typically with several bristles, may occasionally have only one bristle as is always the condition in the male. Genitalia terminology follows Adams (2001). The publication dates of Draudt *in* Seitz have been verified in Griffin (1936).

Abbreviations for collections consulted.

AMNH	American Museum of Natural History, New York, NY, USA
CMNH	Carnegie Museum of Natural History, Pittsburgh, PA, USA
CNC	Canadian National Collections, Ottawa, Canada
CUIC	Cornell University, Department Entomology, Ithaca, NY, USA
MNHU	Museum fur Naturkunde, Berlin, Germany
MZC	Museo Zoológico Cubano, Habana, Cuba
NHMUK	The Natural History Museum United Kingdom, London, UK
NMNH	Smithsonian Institution National Museum of Natural History, Washington DC, USA
NYSM	New York State Museum, Albany, NY, USA
SMF	Naturmuseum Senckenberg, Frankfurt am Main, Germany

Results / Taxonomic Actions

Leucania biforis (Draudt, 1924)
(Figs: 3) imago, 9) valvae, 13) endophallus, 17) bursa copulatrix)

Cirphis biforis Draudt, 1924, *in* Seitz. *Fauna amer., 7*, p. 168, pl. 24, row k., fig. 23 is a painting in Seitz. Holotype female: Mexico, Veracruz, Zacualpan; Misantla [types destroyed], **neotype** designated this publication.

Leucania biforis (Draudt, 1924, *in* Seitz). Poole, 1989, p. 577

Original Description (Seitz, 1924, English edition). [German edition available at https://www.biodiversitylibrary.org]

"*C. biforis* sp. n. (24 k) is similar to the preceding [see comment below]. Forewing light reddish-yellow, the costal part densely dusted and strewn with a lilac grey, the median, subcostal and proximal-marginal vein lilac grey, the end of the median thickly white, the branches from it whitish, finely edged with grayish-brown; the cell is filled up with red-brown in which the yellow maculae are very conspicuous; the ring-macula is horizontally elliptical, the reniform macula below with a black dot; the posterior transverse line is red-brown, intensified by blackish interneural dots and behind it a series of thick black dots on the veins; below the yellowish oblique apical stripe there is a lilac grey marginal triangle. Hindwing diaphanous whitish, the veins and margin broadly darkened. According to 3 specimens from Mexico (Zacualpan, Misantla), obtained from Mr. Robert Muller."

Comment: Draudt did not specify whether he was referring to the preceding species in the text (*Cirphis colorata* Dognin, 1914) or the one illustrated (*L. extincta* Guenée, 1852). However, as *C. biforis* does not resemble *H. colorata*, we assume he meant the illustration of the similar *L. extincta*

Neotype (*biforis*) male: Draudt, 1924, *in* Seitz described *Cirphis biforis* from a female specimen collected in Mexico: Veracruz, Zacualpan, Misantla. The name-bearing specimen was destroyed as detailed in the introduction to this paper. As the characters that differentiate this species are revealed best by dissection of the male genitalia, it is desirable that a dissected male specimen be available for study. Collecting in Mexico is restricted therefore we have chosen to designate as neotype a specimen from neighboring Guatemala. The neotype specimen can be identified by the hook-shaped left antenna and the straight right antenna, in addition to the images (Figs 3, 13), included with this designation. The neotype is labeled "McCabe 6050 male, Guat.: Finca Firmeza, Dept. Izabal, 15.40718 -88.69060, 28 Feb. 2014, T. McCabe 520 m" and is deposited in the New York State Museum, Albany, New York, USA.

Diagnosis: Draudt compared "*Cirphis*" *biforis* to *Leucania extincta* Guenée, 1852. We compare *L. biforis* with *L. extincta* and to the closely related *L. clarescens* Möschler, 1890. The latter two species have ranges that overlap that of *L. biforis*. Draudt noted that *L. biforis* forewing cell is "filled with red brown in which the yellow maculae are very conspicuous". This pattern is absent in *L. extincta* and *L. clarescens*. The genitalia of the three species are similar but differ in detail. *Leucania biforis* has a long, thin, scimitar-shaped cucullus. *Leucania extincta* has a paddle-shaped cucullus. In *L. clarescens* the cucullus is scimitar-shaped but shorter and less attenuated at the tip than in *L. biforis*. *Leucania biforis* lacks any modification of the clavus. This contrasts with the antler shape in *L. extincta* and the sharp-pointed, cone-like structure in *L. clarescens*. The endophallus of *L. biforis* is a simple tube, thickened in its distal third, with a single, thin, retrorse cornutus at the gonopore (distal end of everted endophallus). In *L. extincta* the endophallus has a cluster of short, stiff cornuti at the base and a group of long, whip-like cornuti at the gonopore. In *L. clarescens* the gonopore is preceded by a thickened portion of the tube that has a patch of small cornuti. The ductus bursae of *L. biforis* is short and straight. The ductus bursae of *L. extincta* is long and narrow. The ductus bursae of *L. clarescens* is longer and coiled.

Description (imago Fig. 3): The neotype is consistent with the original description and illustration (Draudt, 1924, *in* Seitz) (our Fig. 23). Character states of the dissected genitalia were not described in the original description, so they are given here:

Male genitalia (valvae Fig. 9, endophallus Fig. 13): The cucullus is thin and delicate at its base thus fragile and easily detached and lost during preparation. The holotype valvae have lost the cucullus and a non-type specimen (Fig. 9) illustrates the intact cucullus. The holotype endophallus is illustrated (Fig. 13). Uncus, tegumen, and vinculum unmodified; cucullus long, thin, and scimitar-shaped, with a continuous row non-deciduous marginal setae; pore plate at valvula inconspicuous; ampulla long and thin; digitus stout with sharp point; clasper scoop-shaped with a sharp hook-like point; basal sclerite of clasper approximately as long as digitus; editum simple; clavus unmodified. Phallus long and slender; the endophallus is a simple tube, thicker from midpoint with a single, thin, retrorse cornutus at gonopore.

Female genitalia (bursa copulatrix Fig. 17): Ductus bursae is a long, sclerotized tube. The appendix bursae is directed straight upwards to approximately the middle of the ductus bursae. A rotated view of the bursa copulatrix, not illustrated, would show a gap in sclerotization between the appendix bursae and ductus bursae much like that seen in *L. pyrastis* (Fig. 16).

Distribution: Mexico, Belize, Guatemala (neotype locality), Costa Rica, Venezuela, Ecuador, and French Guiana.

Leucania clarescens Möschler, 1890

Leucania clarescens Möschler, 1890. *Abh. Senck, Ges., 16*, 143. Syntypes 1 male, 2 females, Puerto Rico, Lectotype male (designated by Adams, 2001) (ZMHU, Berlin), genitalia dissection (Franclemont) and photograph of the imago examined. Gundlach, 1891, p. 172; Poole, 1989, p. 578; Adams, 2001, p. 209, Fig. 3C imago, 11C-D male genitalia, 15C female genitalia; Pohl & Nanz, 2023, p. 407.

Cirphis macellaria Draudt, 1924, *in* Seitz, *Fauna amer., 7*, 169, pl. 24, row I (our Fig. 21)

Holotype, Panama: Lino [type destroyed], **syn. nov.**

Taxonomic note: The recognition of *C. macellaria* Draudt, 1924 as a junior subjective synonym of *L. clarescens* Möschler, 1890 is based on the original description and illustration of the Draudt type that has been compared with a photograph of the *L. clarescens* lectotype.

Leucania inconspicua Herrich-Schäffer, 1886

Leucania inconspicua Herrich-Schäffer, 1868. *Corresp. Blatt. zool.-min. Ver. Regensb*., p. 148 Gundlach, 1881, p. 301; Möschler, 1890, p. 141; Gundlach, 1891, p. 172; Poole, 1989, p. 580; Adams, 2001, p. 192, figs 1E, 6A-B, 13E; Becker, 2002, p. 372-373, figs 34-35. Dissection of holotype male by Becker. Illustration of dissection examined. [MZC], "The specimen is in poor condition, almost totally descaled and the hind wings are partially destroyed by museum pests. It is externally unrecognizable, but the genitalia are preserved" (Becker, 2002). Pohl & Nanz (2023, p. 408)

Cirphis inconspicua (Herrich-Schäffer): Hampson, 1905, p. 554, pl. 94, fig. 16; Dyar, 1914, p. 176; Draudt, 1924 *in* Seitz, p. 167, pl. 24, row l; Wolcott, 1936, p. 161; Schaus, 1940, p. 187

Cirphis hildrani Schaus, 1938. *Ann. Mag. n. H.,* (11)*2*, 510
Holotype male Brazil: Santa Catarina, New Teutonia [NMNH]. A junior synonym of *L. inconspicua* (Becker, 2002, p. 373).

Cirphis ezrami Schaus, 1938. *Ann. Mag. n. H.,* (11)*2*, 510
Holotype male Brazil: Rio de Janeiro, Itatiaya. [NMNH]. A junior synonym of *L. inconspicua* (Becker, 2002, p. 373).

Cirphis fagani Schaus, 1938. *Ann. Mag. n. H.,* (11)*2*, 511
Holotype male Brazil: Rio [de Janeiro], Itatiaya. [NMNH]. Photograph of holotype and dissection of genitalia examined, **syn. nov.**

Taxonomic note: Our recognition of *C. fagani* Schaus (1938) as a junior subjective synonym of *L. inconspicua* Herrich-Schäffer (1886) is based on comparison of an illustration of the dissected male genitalia of the holotype of *L. inconspicua* with a photograph of the dissected male genitalia of the holotype of *C. fagani.*

Leucania multipunctata Druce, 1889
(Figs: 1-2) imago, 7) valvae, 11) endophallus, 15) bursa copulatrix)

Leucania multipunctata Druce, 1889, *in* Godman & Salvin. *Biol. Centr.-Amer., Lep. Het., I*, 261, pl. 26, fig. 1. Holotype, female. Panama: Volcan de Chiriqui. [MNHU] holotype photograph of imago and dissection examined. Hampson, 1905, p. 611; Poole 1989, p. 583

Cirphis multipunctata: Draudt, 1924, *in* Seitz, 163, pl. 24, row a

Cirphis clara Draudt, 1924, *in* Seitz. *Fauna amer., 7*, 166, pl. 24, row e. Holotype, female. Colombia: [Tolima] Cañón del Monte. [type destroyed], **syn. nov.**

Leucania clara (Draudt, 1924, in Seitz): Poole, 1989, p. 587 (our Fig. 20)

Cirphis tritonia Hampson, 1905. *Cat. Lepid. Phalaenae Br. Mus., 5*, 542, pl. 93, fig. 2 Holotype, female. Brazil: Amazonas, Rio Jurua, [NHMUK] photo of holotype and dissection examined. **Syn. nov.**

Leucania tritonia (Hampson*,* 1905): Poole, 1989, p. 587

Cirphis opalisans Draudt, 1924, *in* Seitz. *Fauna amer., 7*, 164. pl. 24 row c
Holotype, female. Colombia: Tolima, Cañón del Monte, [type destroyed], **syn. nov.**

Leucania opalisans (Draudt, 1924, *in* Seitz): Poole, 1989, p. 583; Dickel, 1991, p. 57 (our Fig. 19)

Cirphis carnea Draudt, 1924, *in* Seitz. *Fauna amer., 7*, 165, pl. 24, row d
Holotype, female. Colombia: Medina, [type destroyed], **syn. nov.**

Leucania carnea (Draudt, 1924, *in* Seitz): Poole, 1989, p. 577 (our Fig. 22)

Leucania lobrega Adams, 2001. *Ann. Carnegie Mus., 70*(3), 189, figs. 1C, 5-B, 13C. Holotype male: Dominican Republic: Pedernales [CMNH] examined, **syn. nov.**

Taxonomic notes: The name-bearing types of three Draudt species, collected in Colombia, were

destroyed. The original descriptions and illustrations (Figs 19, 20, 22) were not sufficient to allow definitive identifications. The three species are determined as objective synonyms of the phenotypically variable *L. multipunctata* Druce, 1889. We based this decision by comparing the original illustrations with a photograph of the holotype of *L. multipunctata* (Figs 2, 15) and with many conspecifics showing the considerable phenotypic variability.

The recognition of *L. lobrega* Adams, 2001 as a junior subjective synonym of *L. multipunctata* Druce, 1889 was based on comparison of a female paratype of *L. lobrega* with photographs of the female holotype of *L. multipunctata* (Figs 2, 15).

The recognition of *C. tritonia* Hampson, 1905 as a junior subjective synonym of *L. multipunctata* Druce, 1889 was based on comparison of a photograph of the female holotype and its dissection with those of holotype of *L. multipunctata* (Figs 2, 15).

There are two related but not congeneric taxa bearing the epithet *multipunctata*: *Leucania multipunctata* Druce, 1889, *in* Godman & Salvin (type locality Panama) and *Cirphis multipunctata* Hampson, 1918 extralimital (type locality Shillong, India). Poole (1989, p. 583) made *Cirphis* a synonym of *Leucania,* recognizing the Hampson name as a junior secondary homonym of *L. multipunctata* Druce. However, in his judgment the two species were, according to ICZN (1999) Article 59.2, secondary homonyms, and did not require a replacement name. We follow M. Hreblay (Hacker et al. 2002, p. 163), where *Cirphis multipunctata* (Hampson) is placed in *Mythimna.*

Leucania pyrastis (Hampson, 1905)
(Figs: 4) imago, 8) valvae, 12) endophallus, 16) bursa copulatrix)

Cirphis pyrastis Hampson, 1905. *Cat. Lepid. Phalaenae Br. Mus., 5*, 518, pl. 92, fig. 19 Two male syntypes, Paraguay, [Sapucai, Paraquari Department], (Foster), Jun 1902. A code NHMUK 010914803 has been added to one specimen. Dissection: Noctuidae BM(NH) slide No. 21539. Photograph of imago and dissection examined. We hereby designate the dissected specimen as **Lectotype** Adams and McCabe**.**

Leucania pyrastis (Hampson, 1905): Poole 1989, p. 585

Cirphis velva Schaus, 1921. *Proc. U. S. Nat. Mus., 59*, 360 Holotype male, Chejel, Guatemala. August. Type number NMNH 23379. Photograph examined. Dissection: MS Adams USNM 50179. A code USNM ENT 00973506 has been added to the specimen. Draudt, 1924, *in* Seitz, *7*, 164, plate 24, row b. **Syn. nov.**

Leucania velva (Schaus, 1921): Poole, 1989, p. 587

A lectotype is designated to establish nomenclatorial stability in the genus as a dissected specimen is necessary to accurately differentiate this species from *L. rawlinsi* Adams (2001). The specimen selected as lectotype bears a rectangular white label with hand-written "pyrastis type ♂ Hmpsn." by an unknown hand. There is also a circular, white, blue-bordered syntype label. This specimen is hereby selected as lectotype. The lectotype specimen also can be identified by the absent left antenna and associated dissection.

The *L. pyrastis* dissection (Fig. 8) shows an angled valve margin. This is an artifact of preparation. The *L. pyrastis* valve is unusually thin and tends to curl back on itself at the margins after being subjected to the clearing agent during preparation.

Taxonomic note: It would have been desirable to have examined a dissection of the lectotype of *L. pyrastis*, however Dr. Diego Dolibaina (in litt. October 2017) was unable to locate the dissection on a recent visit to the NHMUK.

The recognition of *C. velva* Schaus, 1921 as a junior subjective synonym of *C. pyrastis* Hampson, 1905 is based on comparison of photographs of the imago and dissected male genitalia of the lectotype of *Cirphis pyrastis* with a photograph of the dissected male genitalia of the holotype of *C. velva*.

Leucania seteci (Dyar, 1914)

Cirphis seteci Dyar, 1914. *Proc. U. S. nat. Mus., 47*, 176. Was described from 5 co[syn]types, 2 males and 3 females from PANAMA: Alhajuela; Cabima; La Chorrera; Corozal, Canal Zone, (NMNH, Washington, D.C.) examined. A well-marked male specimen, Adams dissection USNM 50177 is hereby designated

and labeled as Lectotype Adams and McCabe.

Leucania seteci (Dyar): Poole, 1989, p. 586.

Cirphis incognita Barnes & McDunnough, 1918, *Contr., 4*, 99, pl. 17, figs 6 and 9

In the original description a holotype was not designated, however J. F. Gates-Clarke dissected a male NMNH JFGC 615 and labeled it Holotype. [NMNH] USA: Texas, Brownsville, [examined], **syn. nov.**

Leucania incognita (Barnes & McDunnough): Franclemont & Todd, 1983, p. 150; Poole, 1989, p. 580; Adams, 2001, pp. 211-113, figs. 3D, 12A-B, 15D; Lafontaine & Schmidt, 2010, p. 91; Pohl et al. 2016, p. 681.

A lectotype of *L. seteci* is designated to establish nomenclatorial stability in the genus as a dissected specimen is necessary to accurately differentiate this species from *L. cinereicollis* Hampson, 1905. Dyar (1914) did not indicate a holotype from among his *L. seteci* syntypes. We have chosen a well-marked male, Adams dissection USMN 50177, and provided a lectotype label. The specimen can be uniquely identified by the following characters: right antenna with a hook and right hind wing split. Dyar (1914) recognized that *L. seteci* was superficially similar but less contrasting than *L. cinereicollis*. Likewise, Barnes & McDunnough (1918), pointed out that *L. incognita* "bears quite a resemblance to the figure of *cinereicollis* Wlk. given by Hampson (Cat. Lep. Phal. B.M., V, Pl. 93, Fig. 18) but lacks the black streak below base of cell of this species." Barnes and McDunnough were apparently unfamiliar with the Dyar description when they described a short series of unidentified moths from south Texas as *L. incognita*.

Taxonomic note: The recognition of *C. incognita* Barnes & McDunnough, 1918 as a junior subjective synonym of *C. seteci* Dyar, 1914 is based on comparison of the J. F. Gates-Clarke dissection of the holotype of *C. incognita* with the Adams (2005) dissection of the lectotype of *C. seteci*. The two taxa are conspecific, sharing a similar shaped cucullus that is diagnostic. This synonymy was proposed by Dr. Albert Legrain and included on the website of Mr. Savela. (https://ftp.funet.fi/pub/sci/bio/life/insecta/lepidoptera/ditrysia/noctuoidea/noctuidae/hadeninae/leucania/#seteci)

Leucania sarcistis (Hampson, 1905)
(Figs: 5-6) imago, 10) valvae, 14) endophallus, 18) bursa copulatrix)

Cirphis sarcistis Hampson, 1905. *Cat. Lepid. Phalaenae Br. Mus., 5*, 527, pl. 93, fig. 2. Holotype male, Costa Rica, [NHMUK, London]. Not dissected. Photograph examined. Draudt, 1924, *in* Seitz, *7*, p.165, Plate 24, row d.

Leucania sarcistis (Hampson, 1905): Poole, 1989, p. 585

Cirphis microsticha Hampson, 1905. *Cat. Lepid. Phalaenae Br. Mus., 5*, 529, pl. 93, fig. 7. Holotype male, Costa Rica, Candelaria Mountains [NHMUK, London]. Dissection: No. 10278, photographs of imago and dissection examined. Dyar, 1914, p. 176. Draudt, 1924, *in* Seitz, *7*, p. 166, Plate 24, row L, **syn. nov.**

Leucania microsticha: (Hampson, 1905): Poole, 1989, p. 582

Taxonomic note: The recognition of *C. microsticha* Hampson, 1905 as a junior subjective synonym of *L. sarcistis* is based on examination of photographs of the holotypes of the imagoes of both species. Both are within the range of variation of *L. sarcistis.* The description of *C. sarcistis* has page priority over *C. microsticha*. To evaluate the phenotypic variation of this species we have dissected slightly less striated specimens that match the condition found in the undissected *L. sarcistis* holotype. The eversion of the endophallus of the holotype of *C. microsticha* was unsuccessful. We have provided, in its place, an image of a completely everted endophallus of a topotypical specimen of *L. sarcistis* (Fig. 14). *Cirphis microsticha*: Wolcott (1936), Schaus (1940), and Costa Lima & Silva (1968) (not Hampson, 1905) are misidentifications. *Leucania sarcistis* is not known in the Antilles.

Leucania extenuata Guenée, 1852 (Fig. 24, imago)

Leucania extenuata Guenée, 1852, *in* Boisduval & Guenée. *Hist. nat. Ins., Spec. gén. Lépid.,* (Noct. 1), *1*, 90. Holotype male, Brazil. dissection BM NOCT 5769. Photographs of imago (Fig. 24) and dissection examined. Walker, 1856, p. 100

Leucania infatuans Franclemont, 1972. *Proc. ent. Soc. Wash., 74*(2), 143. Holotype, male USA: Florida

[CUIC] (Fig. 25). Examined. Franclemont & Todd, 1983, p. 150; Poole, 1989, p. 580; Adams, 2001, p. 214 figs. 3E, 12 C-D, 15E; Lafontaine & Schmidt, 2010, p. 92; Pohl et al. 2016, p. 681. **syn. nov.**

Taxonomic note: Butler (1890, p. 658) mistakenly made *L. extenuata* and *L. dorsalis* Walker, 1856 junior synonyms of *L. humidicola. Leucania extenuata, L. dorsalis* and *L. humidicola* are all valid species. Franclemont (1972) misidentified *L. extenuata* as *L. humidicola,* which resulted in confusion regarding the identification of both species. In the original description of *L. infatuans* [etymology: "the fooler"]. Franclemont (1972) noted the similarity of *L. infatuans* (Fig. 25) to *L. extenuata* (Fig. 24) but did not recognize the intraspecific variation over the entire range of the species, as he confined his description solely to the population of south Florida, USA, which is at the northern extent of its distribution. The recognition of *L. infatuans* as a junior subjective synonym of *L. extenuata* is based on comparison of the dissections of the male genitalia of the holotypes of both species, which are within the range of variation of *L. extenuata*. We have examined 63 additional dissections of specimens of this taxon from throughout its range including specimens from Bolivia, Brazil, Ecuador, French Guiana, Panama, Costa Rica, Belize, Guatemala, Mexico, and USA: Texas, Mississippi, Florida.

List of Proposed Nomenclatorial Changes

Leucania biforis (Draudt, 1924, *in* Seitz), **neotype**
Leucania clarescens Möschler, 1890
    Cirphis macellaria Draudt, 1924, *in* Seitz, **syn. nov.**
Leucania extenuata Guenée, 1852
    Leucania infatuans Franclemont, 1972, **syn. nov.**
Leucania inconspicua Herrich-Schäffer, 1868
    Cirphis fagani Schaus, 1938, **syn. nov.**
Leucania multipunctata Druce, 1889, *in* Godman & Salvin
    Cirphis tritonia Hampson, 1905, **syn. nov.**
    Cirphis clara Draudt, 1924, *in* Seitz, **syn. nov.**
    Cirphis opalisans Draudt, 1924, *in* Seitz, **syn. nov.**
    Cirphis carnea Draudt, 1924, *in* Seitz, **syn. nov.**
    Leucania lobrega Adams, 2001, **syn. nov.**
Leucania pyrastis (Hampson, 1905), **lectotype**
    Cirphis velva Schaus, 1921, **syn. nov.**
Leucania seteci (Dyar, 1914), **lectotype**
    Cirphis incognita Barnes & McDunnough, 1918, **syn. nov.**
Leucania sarcistis (Hampson, 1905)
    Cirphis microsticha Hampson, 1905, **syn. nov.**

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Conflict of Interest

The authors declare that they have no financial interest or personal relationship that could influence the work presented in this article.

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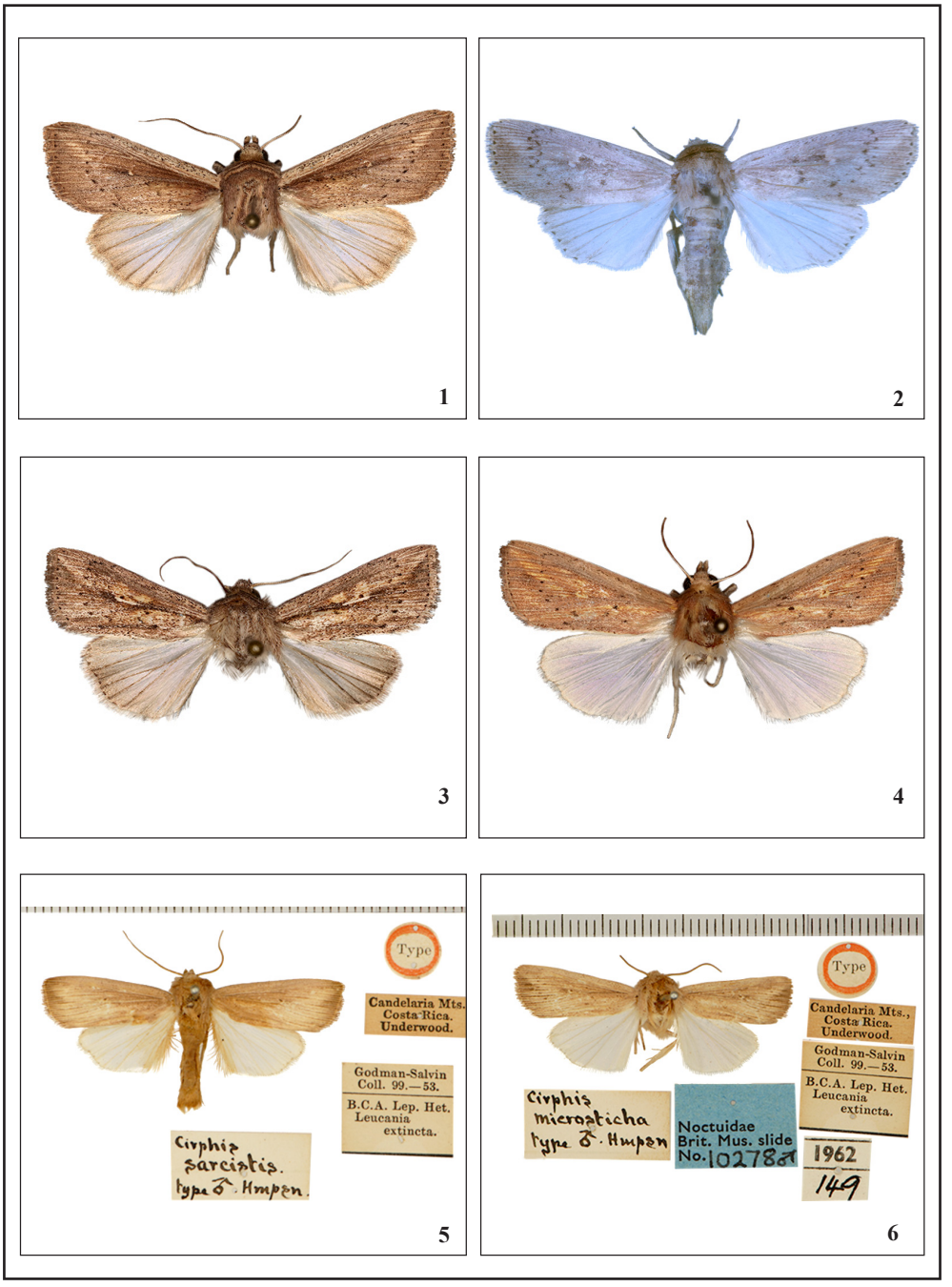
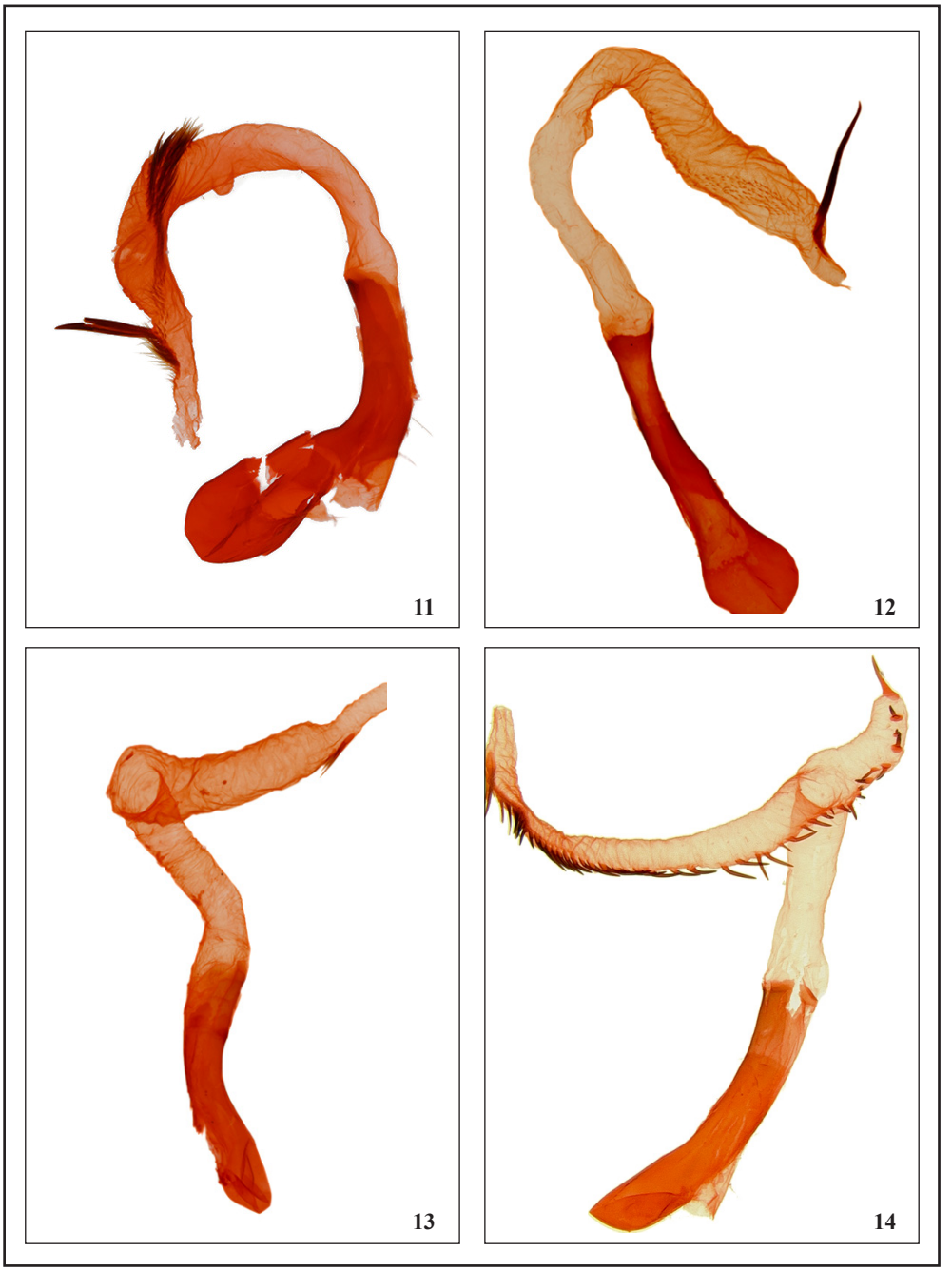
Figures 1-6. Imagos: **1.** *L. multipunctata* ex Belize, TLM 6273 ♂. **2.** *L. multipunctata* ex Panama, Holotype, relatively enlarged, wingspan 44 mm. **3.** *L. biforis* ex Guatemala, Neotype TLM 60508 ♂. **4.** *L. pyrastis* ex Argentina, TLM 4133 ♂. **5.** *L. sarcistis* ex Costa Rica, Holotype. **6.** *L. sarcistis* ex Costa Rica (Holotype of *L. microsticha*, jr. syn.).

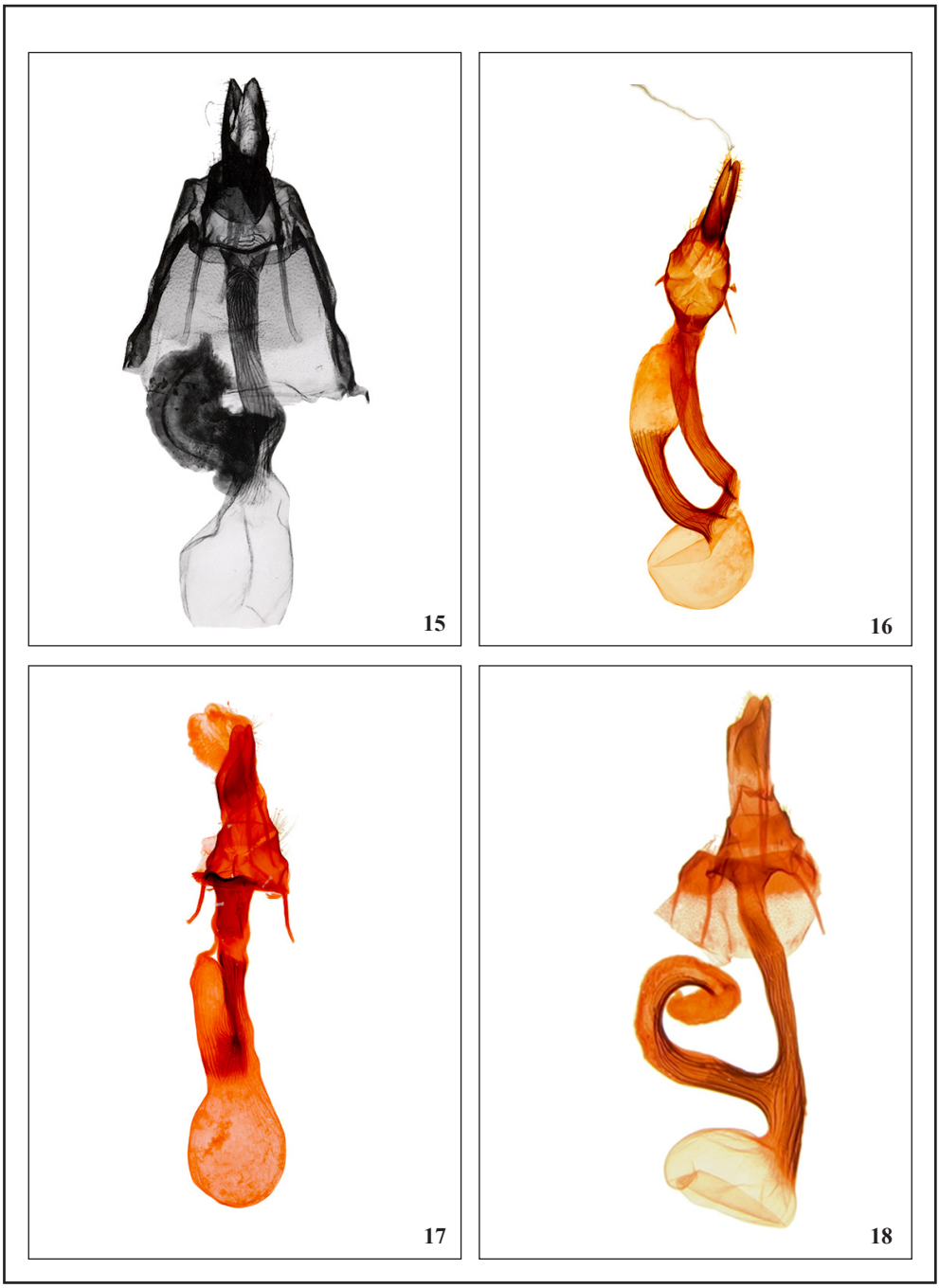


Figures 7-10. Valves: **7.** *L. multipunctata*, ex Belize, TLM 6273 ♂. **8.** *L. pyrastis*, ex Argentina, TLM 4133 ♂. **9.** *L. biforis*, ex Guatemala, TLM 6050 ♂. **10.** *L. sarcistis* ex Costa Rica, Holotype slide of *microsticha,* BM Noct slide 10278 ♂ (prep by Tams).

Figures 11-14. Vesicae: **11**. *L. multipunctata*, ex Panama, Holotype. **12**. *L. pyrastis*, ex Argentina, TLM 4133 ♂. **13**. *L. biforis*, ex Guatemala, TLM 6050 ♂. **14**. *L. sarcistis*, ex Costa Rica, TLM 6015 ♂ [in USNM].



Figures 15-18. Corpora bursa: **15.** *L. multipunctata*, ex Panama, Holotype. **16.** *L. pyrastis* ex French Guiana, TLM 4582 ♀**.** **17.** *L. biforis*, ex Guatemala, TLM 6543 ♀**. 18.** *L. sarcistis*, ex Costa Rica, TLM 6016 ♀.



Figures. 19-25. 19-23. Paintings in Seitz of Draudt's destroyed types placed in synonymy with the exception of *L. biforis* (the painting of *L. biforis* had features that allowed it to be associated with modern, extant specimens). **19.** *L. opalisans*, Plate 24, row c of Seitz. **20.** *L. clara*, Plate 24, row e of Seitz. **21.** *L. macellaria*, Plate 24, row i of Seitz. **22.** *L. carnea*, Plate 24, row d of Seitz; **23.** *L. biforis* Plate 24, row k of Seitz. **24-25.** Types: **24.** *L. extenuata* holotype (in NHMUK). **25.** *L. infatuans* holotype (in CU) black and white image from Franclemont, 1972.