

A review of the Neotropical skipper genus *Sodalia* Evans, 1955 (Lepidoptera: Hesperiiidae: Hesperinae) with the description of a new species

FABIAN GUILLERMO GAVIRIA-ORTIZ^{1,3}, DIEGO RODRIGO DOLIBAINA^{1*}, EDUARDO CARNEIRO^{1,4}, ANDREW D. WARREN², OLAF HERMANN HENDRIK MIELKE^{1,5} & MIRNA MARTINS CASAGRANDE^{1,6}

¹Laboratório de Estudos de Lepidoptera Neotropical, Departamento de Zoologia, Universidade Federal do Paraná, P.O. Box 19020, 81.531-980 Curitiba, Paraná, Brazil.

²McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, Gainesville, Florida, U.S.A.

³awhesp@gmail.com;  <https://orcid.org/0000-0002-6730-1938>

⁴fabiango@gmail.com;  <https://orcid.org/0000-0001-8119-6372>

⁵eduardo.carneiro@ufpr.br;  <https://orcid.org/0000-0002-4796-0020>

⁶omhesp@ufpr.br;  <https://orcid.org/0000-0003-3655-4606>

⁶mibras@ufpr.br;  <https://orcid.org/0000-0002-6076-8463>

*Corresponding author. dirodrigo@gmail.com;  <https://orcid.org/0000-0001-5258-3787>

Abstract

The Neotropical skipper genus *Sodalia* Evans, 1955 and its respective species are revised. *Sodalia* includes five species: *S. sodalis* (Butler, 1877) (type species), *S. argyrospila* (Mabille, 1876), *S. coler* (Schaus, 1902), *S. petiti* Gaviria-Ortiz, Dolibaina & A. Warren **sp. nov.** (described from low to mid elevations of the western Andes of Ecuador and from the Cordillera de la Costa in Venezuela), and *Sodalia spangla* (Evans, 1955) **comb. nov.** hitherto combined with *Mnasitheus* Godman, 1900. Lectotypes for *Pamphila sodalis* Butler, 1877 and *Achlyodes argyrospila* Mabille, 1876 are designated. The genus and species are redescribed and illustrations of relevant morphological characters necessary for identification are provided, as well as updated distributional maps.

Key words: morphology, Moncina, skippers, taxonomy

Introduction

The Neotropical fauna of skippers includes an astonishing diversity of small brown species, most of which are included the richest subtribe Moncina (Hesperini) (Warren *et al.* 2008, 2009; Li *et al.* 2019). This group is often overlooked by researchers and therefore underestimated in inventories and poorly represented in collections, mainly due to their generally unattractive colors and the difficulties inherent in their identification at both genus- and species-levels.

Sodalia Evans, 1955 is a typical genus of Moncina which includes three valid species that resemble myriad species belonging to different genera in the subtribe. This genus was proposed by Evans (1955), who characterized it by having the antennae one half the length of the forewing costa, club slender, 1/4 of the length of the shaft, apiculus obtuse, nudum 2/10 (on two segments of the club and on all segments of the apiculus), palpi slender with the third segment cylindrical, slender and protruding; mid tibiae with few spines; male dorsal forewing with two brands above and below CuA₂, the former wide, the latter as a short and thin bar; and male genitalia with the uncus and gnathos broadly divided.

Considering that the latest revision of *Sodalia* was conducted more than two-thirds of a century ago, a current revision is desirable to consider the group from a broader perspective. Thus, this paper aims to revise this skipper genus and to describe a new species from Venezuela, Ecuador, and Peru. Additionally, *Sodalia spangla* (Evans, 1955) **comb. nov.** is here removed from *Mnasitheus* Godman, 1900.

Material and methods

The specimens examined are deposited in the following collections: ADW (Andrew David Warren collection, Castle Pines, Colorado, USA); DZUP (Padre Jesus Santiago Moure Entomological Collection, Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Paraná, Brazil—specimens coded with DZ before voucher number indicates they are deposited at the DZUP); MFN (Museum für Naturkunde der Humboldt-Universität, Berlin, Germany); MGCL (McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, Gainesville, Florida, USA); NHMUK (The Natural History Museum, London, UK); OM (Olaf Hermann Hendrik Mielke, Curitiba, Paraná, Brazil); USNM (National Museum of Natural History, Smithsonian Institution, Washington, DC, USA).

The terminology used in descriptions follows Carneiro *et al.* (2012, 2013). The following abbreviations are used throughout the text: DFW—dorsal forewing; VFW—ventral forewing; DHW—dorsal hind wing; VHW—ventral hind wing. Male and female genitalia were prepared via standard methods (Dolibaina *et al.* 2014), examined using a stereoscopic microscope, and illustrated with the aid of a camera lucida. Dissected specimens are indicated by an asterisk in the examined material sections. Distribution maps were developed using the software Quantum GIS 2.2, based on specimens personally examined, type material and the literature.

Considering the morphological similarity among species and sexes in *Sodalia* species and to avoid the reproduction of repetitive information, the genus and the type species are redescribed in detail based on the male, and only exclusive characters are mentioned for other species and females.

Results and Discussion

Sodalia Evans, 1955

Sodalia Evans, 1955. **Cat. Amer. Hesp.** 4, p. 85, 104; type species: *Pamphila sodalis* Butler, 1877.—Hemming, 1967. **Bull. Brit. Mus. (Nat. Hist.), Ent.**, Suppl. 9: 414.—Hayward, 1973. **Op. Lill.** 23: 69.—Beattie, 1976. **Rhop. Direct.**, p. 56.—Bridges, 1983. **Lep. Hesp.** 2, p. 34.—Bridges, 1988. **Cat. Hesp.** 2, p. 55; **App.** 2, p. 1.—Bridges, 1988. **Cat. Fam.—Group & Gen.—Group Nam.** 4, p. 121; 5, p. 1.—Mielke, 2004. Hesperioidea, p. 10, 80, in Lamas (ed.). **Checklist: Part 4A, Hesperioidea-Papilionoidea**, in Heppner (ed.). **Atlas Neotrop. Lep.** 5A.—Mielke, 2005. **Cat. Amer. Hesperioidea** 5, p. 1283.

Type species. *Pamphila sodalis* Butler, 1877, by original designation.

Diagnosis. *Sodalia* is distinguished from all other genera of Moncina by the combination of the following characters: 1) antennae with nudum 12–14 segments, encompassing all segments of the apiculus and part of the club; 2) labial palpus with the third segment cylindrical and slender, about 55% the length of the second segment, with its proximal 2/3 covered by scales from the second segment; 3) forewing without hyaline spots; 4) ground color of both wings dark brown; 5) male DFW with two brands over and under CuA_2 , the former wider and longer than the latter; 6) male genitalia with the tegumen at least twice wider than long; 7) tegumen with a short median distal projection; 8) fenestra wide; 9) uncus broadly bifid after the short undivided base, with narrow and long arms, markedly projected downward; 10) end of arms of uncus with a short and ventrally projected lateral spine; 11) gnathos bifid and narrow; 12) valva with narrow costa; 13) valva with sacculus triangular, narrowed distally; 14) ampulla and harpe broadly separated distally; 15) ampulla distally curved inward; 16) harpe with a dorso-distal process, bifid or not; 17) futura inferior broadly bifid, with two short antero-ventral projections; 18) aedeagus slender and longer than valva; 19) aedeagus with the portion anterior to the insertion of the manica longer than half its length; 20) cornuti, when present, as several small and narrow spines, sometimes accompanied by a single long and robust spine; 21) female genitalia with lamella postvaginalis medially membranous, distal margin broadly bifid; 22) lamella antevaginalis as a simple or bifid plate ventrally covering the opening of the ostium bursae; 23) bursa copulatrix at least four times longer than sterigma; 24) ductus bursae with a sclerotized portion on its final half, variable in length; 25) corpus bursae short, about 1/3 the length of bursa copulatrix; 26) bursa copulatrix without signum; 27) tergum VIII short, with an incomplete spiracular opening on its antero-inferior margin, constricting the tergum and producing a narrow anterior projection.

Redescription. *Head:* Eyes brown. Labial palpus with first segment short; second segment quadrate and long, 2.5 times longer than first segment; third segment narrow and pointed, half the length of the second segment. Antenna longer than 60% length of forewing costal margin, nudum dark brown, with 12–14 segments, in whole apiculus and part of the club.

Thorax: Mesotibia and metatibia spined, with one and two pairs of spurs, respectively, inner spur shorter than outer. DFW without hyaline spots; male DFW with two brands above and under CuA₂, the former wider and longer than the latter.

Male Genitalia: Tegumen width twice its length, with a short median distal projection. Fenestra wide. Ventral arm of tegumen slightly curved posteriorly. Dorsal arm of saccus long, with a short lateral fold extending from tegumen to base of saccus. Anterior projection of saccus shorter than uncus, triangular. Posterior projection of saccus short. Uncus broadly bifid after the short undivided base, with long, narrow arms, strongly inclined below dorsal margin of tegument and with a short, ventrally projected lateral spine at end. Gnathos bifid and narrow, almost reaching distal margin of uncus. Valva more than two times longer than wide, broadly divided distally; costa small and triangular; sacculus triangular, narrowed distally; ampulla broadly separated from harpe, distally curved inward; harpe with a dorso-distal process, frequently bifid. Fultura inferior bifid, with two short antero-ventral projections. Aedeagus slender and longer than valva; portion anterior to the insertion of manica longer than half aedeagus length; cornuti present as several small spines or as a single small plate.

Female genitalia: Sterigma broad. Lamella antevaginalis as a simple or distally bifid plate, ventrally covering the opening of ostium bursae; narrower and shorter than lamella postvaginalis. Lamella postvaginalis broad, distal margin bifid, producing two short lateral projections; central area just above the membranous ostium bursae. Ostium bursae at base of sterigma. Bursa copulatrix at least seven times longer than sterigma. Ductus bursae from 1/2 to 2/3 length of bursa copulatrix, with a sclerotized zone on final half, variable in size, which constitutes a complete ring around the ductus bursae in some species (*S. sodalia* and *S. argyrospila*). Corpus bursae from 1/2 to 1/3 length of bursa copulatrix, ovoid; signum absent. Papilla analis rectangular, wider than long; posterior apophysis narrow, shorter than sterigma. Tergum VIII short, with an incomplete spiracular opening on its antero-inferior margin, producing a narrow anterior projection.

Key to the species of *Sodalia*

1. Wings dark brown, speckled with large areas of yellow scales (Figs 13–18) 2
- Wings mostly dark brown, almost without yellow scales (Figs 1–12) 3
2. Head and thorax dorsally covered with green scales (Fig. 27); forewing apex rounded; DFW and DHW with yellow speckling restricted to submarginal areas (Figs 13–16) *S. petiti* **sp. nov.**
- Head and thorax dorsally yellowish (Fig. 28); forewing apex pointed; DFW and DHW with yellow speckling over entire wing surface (Figs 17–18) *S. spangla* **comb. nov.**
3. VHW with solid whitish postdiscal spots (Figs 6, 8) *S. argyrospila*
- VHW with faint ochre postdiscal spots (Figs 2, 4, 10, 12) 4
4. Frons covered with opaque, dark brown scales (Fig. 19). VHW postdiscal spots faint and large (Figs 2, 4) *S. sodalis*
- Frons covered with iridescent bluish-green scales (Fig. 21). VHW postdiscal spots better defined and small (Figs 10, 12) *S. coler*

Sodalia sodalis (Butler, 1877)

Figs 1–4, 19, 24, 29, 34, 39, 43

Pamphila sodalis Butler, 1877. **Trans. ent. Soc. London**, p. 150; 18-II-1874, Obidos, Amazonas, [Pará, Brazil], Trail leg.

Metiscus huaynai Lindsey, 1925. **Denis. Univ. Bull., Jour. Sc. Lab.** 21: 101, pl. 28, fig. 10 (male gen.); holotype male, 19-VI-1920, El Campamiento, Col. Perené, Peru, Forbes leg.; CU.—Lindsey, 1928. **Denis. Univ. Bull., Jour. Sc. Lab.** 23: 235.

Euroto saramacca Williams & Bell, 1931. **Trans. Amer. Ent. Soc.** 57: 276, fig. 28 (male gen.), pl. 1 [recte 25], fig. 8 (d, v); [holo]type male, 7-VI-1927, Kwakoe Gron, Surinam, Forbes & Babiý leg.; ANSP.—Bell, 1932. **Amer. Mus. Novit.** 555: 6.—Pallister, 1956. **Amer. Mus. Novit.** 1763: 12, 59.

Sodalia sodalis; Evans, 1955. **Cat. Amer. Hesp.** 4, p. 105, pl. 59 (male gen.); syn.: *saramacca*, *huaynai*.—Pallister, 1956. **Amer. Mus. Novit.** 1763: 69; syn.: *saramacca*.—K. Brown & Mielke, 1967. **Jour. Lep. Soc.** 21: 165.—Mielke, 1973. **Acta biol. paranaense** 2: 33.—Steinhaus, 1975. **Bull. Allyn Mus.** 29: 34.—Lamas, 1983. **Rev. Soc. Mex. Lep.** 8: 23.—de Jong, 1983. **Tijd. Ent.** 126: 244; syn.: *saramacca*.—Bridges, 1983. **Lep. Hesp.** 1, p. 54, 105, 111; 2, p. 34; syn.: *huaynai*, *sara-*

maca.—DeVries, 1983, in Janzen. **Costa Rica Nat. Hist.**, p. 677.—Bridges, 1988. **Cat. Hesp.** 1, p. 86, 167, 175; 2, p. 55; *syn.*: *huaynai*, *saramacca*, *saramaca*.—Th. Emmel & Austin, 1990. **Trop. Lep.** 1: 7.—K. Brown, 1992, in Morellato. **Hist. nat. Japi**, p. 180.—Lamas, 1994, in Foster et al. **RAP Working Papers** 6: 175.—Lamas; Robbins & Harvey, 1996. **Rev. peruana Ent.** 39: 69.—Maes et al., 1999, in Maes. **Cat. Ins. Art. Nicaragua** 3, p. 1274; *syn.*: *huaynai*, *saramacca*.—Murray, 2000. **Jour. Res. Lep.** 35: 53.—Mielke, 2004. *Hesperioidea*, p. 80, in Lamas (ed.). **Checklist: Part 4A, Hesperioidea-Papilionoidea**, in Heppner (ed.). **Atlas Neotrop. Lep.** 5A; *syn.*: *huaynai*, *saramacca*, *saramaca*, *sodalía*.

Sodalia saramacca [sic]; Evans, 1955. **Cat. Amer. Hesp.** 4, p. 105; as synonym of *Sodalia sodalis*.

Sodalia sodalia [sic]; Mielke, 1973. **Acta biol. Paranaense** 2: 33.

(no genus) *sodalis*; Beattie, 1976. **Rhop. Direct.**, p. 261.

(no genus) *huaynai*; Beattie, 1976. **Rhop. Direct.**, p. 163.

(no genus) *saramacca*; Beattie, 1976. **Rhop. Direct.**, p. 253.

Diagnosis. *Sodalia sodalis* has a uniformly dark brown DFW and DHW, with just a small area of the DFW apex with yellow scales, while both wing surfaces are completely or partially speckled with yellow scales in *S. petiti* sp. nov. and *S. spangla* comb. nov., respectively. *Sodalia sodalis* is distinguished from *S. argyrospila* by the absence of solid white discal and postdiscal spots on VHW, and from *S. coler* by the absence of iridescent scales on the frons.

Redescription. Frons covered with short, opaque, dark brown scales; both pairs of chaetosema brown. Nudum with 12–14 segments.

Wings: Forewing length 13–16 mm (n=28). DFW uniformly dark brown, speckled with yellow scales on apical area; brand over CuA₂ triangular, with broad base followed by narrow distal portion touching CuA₁; brand under CuA₂ rectangular, narrow, as long as base of brand over CuA₂. VFW dark brown, reddish along costal margin, apical and subapical areas, extending to outer margin from apex to CuA₁, pale brown along submarginal area and below CuA₂ to anal margin; outer margin speckled with yellow scales. DHW dark brown, without yellow scales. VHW mostly reddish-brown except from inferior half of CuA₂–2A to anal margin which is brown; seven faint pale yellow spots, one discal in the inferior half of discal cell, close to end of cell, six postdiscal arranged as an arch, from Rs to 2A, spot in CuA₂–2A positioned more proximally than others.

Male genitalia: Tegumen three times wider than long, with a triangular median posterior projection almost reaching uncus. Fenestra large, semicircular. Posterior projection of saccus about 33% length of anterior projection. Base of uncus not extending above dorsal margin of tegumen, with a smooth indentation at middle of distal margin; arms of uncus thicker laterally than dorsally, curved at midpoint, with rounded tips and two laterally pointed spines, upper spine proximal; base of uncus and gnathos with broad lateral membranous area. Valva with ampulla wider than half valva's width, broadly disjointed from harpe, spoon-shaped, tip curved inward; harpe shorter than ampulla, bifid at midpoint, producing a wider ventral portion with irregular margin and a narrower dorsal projection, this divided into two branches arranged in a L-shaped aspect, the lateral shorter, the dorsal projected dorso-distally, almost reaching dorsal margin of valva. Aedeagus distal opening extending to manica insertion; distal tip of aedeagus with two small lateral spines; cornuti comprised of several small, thin spines and a broader horn-shaped spine.

Female genitalia: Lamella antevaginalis semicircular, with a short fold along extension of distal margin; half the length of lamella postvaginalis, more than two times wider than long. Lamella postvaginalis with a deep distal indentation about 1/3 length of lamella, with two narrow rounded latero-distal projections; central area of lamella with broad semicircular hyaline area. Bursa copulatrix about nine times longer than sterigma. Ductus bursae slightly longer than 1/2 length of bursa copulatrix, with a small irregular plate in final third and short sclerotized ring extended dorsally to ostium bursae. Corpus bursae slightly shorter than ductus bursae. Papilla analis twice as long as wide; posterior apophysis straight, longer than papilla.

Type material. *Pamphila sodalis* Butler, 1877 was described from an unstated number of specimens from Óbidos, Pará, Brazil, collected on February 18th, 1874, by James W. H. Trail. A single male found in the collection of the NHMUK agrees with this data and has the following labels: / Type / Type / Obydos 18/2/74. / Obydos 18.II.74 Trail coll. 77. 65 / *sodalis* But / *P. sodalis* Butler type / 77-65 Trail / [genitalia glued on a small card]/. This specimen was mentioned by Evans (1955) as the type of *P. sodalis* (but is best considered a syntype) and is here designated lectotype in order to ensure its identity and avoid future misinterpretations with other similar species. The following labels will be added to this specimen: / LECTOTYPUS / Lectotypus of *Pamphila sodalis* Butler, 1877 Gaviria-Ortiz, Dolibaina, A. Warren, O. Mielke & Casagrande det. 2019 /.

A second name for this species, *Metiscus huaynai* Lindsey, 1925, was proposed based on a male holotype deposited at the CUIC with the following labels: / HOLOTYPE Cornell U. No. 716 / Cornell Univ. Expedition Lot 607 Sub 103 / El Campamiento Col. Perene PERU 19 June '20 / Slide 48 A. W. L. / *Metiscus* ? *huaynai* Holotype Lindsey ♂ /.

Finally, *Euroto saramacca* R. Williams & Bell, 1931 was described based on a male holotype, a female allotype and a male paratype from Surinam, all deposited at the AMNH. The holotype has the following labels: / Type *Euroto saramacca* R. C. Williams, Jr, & Bell 7677 / Kwakkoeogron Saramacoa R[iver] SURINAM June / 7 '27 / Genitalia Slide No. 1907 / A. N. S. Lot 66 / 94 / 1052 / ♂ /.

Distribution. *Sodalia sodalis* has the widest geographical range of any species in the genus and occurs throughout lowland tropical forests in Central and South America, from Costa Rica, Guianas and south to Bolivia and Brazil (Fig. 43). Specimens of *S. sodalis* from above 3000 m in Ecuador, mentioned below, are probably mislabeled.

Comments. This is the most widespread species in the genus, occurring in most of tropical South America, and extending at least as far north as Costa Rica in Central America. *Sodalia sodalis* is externally very similar to *S. coler*, with which it is sympatric in a narrow zone of the Brazilian Atlantic Forest. *Sodalia sodalis* is readily distinguished from *S. coler* by the absence of iridescent scales on the frons, the shorter brand over CuA₂, the ampulla as wide as half the valva's width, the harpe shorter than ampulla, the distal portion of the aedeagus with lateral spines, and the wider lamella antevaginalis and papilla analis. Most of the characters differentiating *S. sodalis* from *S. coler* are shared between *S. sodalis* and *S. argyrospila*, suggesting a close relationship between them (see comments under *S. argyrospila*).

Examined material. **COSTA RICA:** *Alajuela*—**Socorro de la Virgen**, 13.II.1988, D. L. Lindsley leg 1 ♂* (MGCL). *Cartago*—**Rio Chitaria** (Ruta 10), 11.III. 1986, G. & A. Austin leg. 1 ♀* (MGCL). *Heredia*—**Finca El Bejuco** (nr. Finca Selva Verde), 26.IX.1986, G. & A. Austin leg. 1 ♂* (MGCL). *Limon*—**Germania**, 12.IX.1986, G. & A. Austin leg. 1 ♂, 1 ♀* (MGCL). **VENEZUELA:** *Amazonas*—**Yavita**, 120 m, 26.VIII.1947, 1 ♂ (OM 39.809), 7.IX.1947, 1 ♂ (OM 39.611), Lichy leg. *Aragua*—**Choroni** (La Estela), 200 m, III.1974, 1 ♂ (DZ 35.527), V.1974, 1 ♂ (DZ 35.640), Romero leg. **SURINAME:** *Sipaliwini*—**Kabalebo River**, IV.2005, [no collector] 1 ♂ (MGCL). **FRENCH GUIANA:** *Cayenne*—**Kaw** (Kaw Mountains), 300 m, 7.III.1998, D. & J. Lindsley leg. 1 ♂* (MGCL), (Marsh at southern end of Kaw Mountains Rd.), 100 m, 10.III.1998, D. & J. Lindsley leg. 3 ♂ [1 ♂*], 1 ♀ (MGCL). **Regina** (Saut Athanase), D. Thomas leg. 1 ♀* (MGCL), (Saut Athanase, Appruage River) 120 m 12.III.1998, D. & J. Lindsley leg. 4 ♂ [1 ♂*], 1 ♀ (MGCL). **Roura** (31 km E, Utrecht Trail), 16.XII.1997, W. H. Russell leg. 2 ♂ (MGCL). *Saint Laurent du Maroni*—**Maroni River**, VI.1903, LeMoult leg. 1 ♂ (MGCL). **COLOMBIA:** *Tolima*—**Chaparral**, 800 m, 9.XI.1974, S. & L. Steinhauser leg. 1 ♀* (MGCL). **Playa Rica** (Rio Cucuana), 1200 m, 10.III.1974, S. & L. Steinhauser leg. 4 ♂ (MGCL); **Rovira** (Rio Chili) 700–800 m, 8.II.1976, S. & L. Steinhauser leg. 1 ♂ (MGCL). **ECUADOR:** *Chimborazo*—**Pallatanga**, 3200 m, VIII.1979, Lafebre leg., 1 ♀ (DZ 35.285). *El oro*—**Los Monos**, 1550 m, II.1973, R. de Lafebre leg. 2 ♂ (MGCL). *Napo*—**Puerto Misahualli** (Rio Napo), 11.IX.1996, D. & J. Lindsley leg. 1 ♂* (MGCL), 12.IX.1996, D. & J. Lindsley leg. 1 ♀ (MGCL). **Via Venesia**, 550 m, II.1971, R. de Lafebre leg. 1 ♂* (MGCL). **Yasuni Research Station** (vic. jct. Rios Tivacuno & Tiputini), 250 m, 18.X.1998, D. & J. Lindsley leg. 1 ♂ (MGCL), 350 m, 9.IX.1999, 1 ♀, 10.IX.1999, 3 ♂, 1 ♀, A. D. Warren leg. (ADW). *Santo Domingo de los Tsáchilas*—**Santo Domingo de los Colorados**, XII.1968, R. de Lafebre leg. 1 ♂*, 1 ♀* (MGCL), (12 km E, Hotel Tinalandia), 750–850 m, 9.V.1988, 2 ♂, 14.V.1988, 2 ♂ [1 ♂*], G. & A. Austin (MGCL), 667–688 m, 18.V.1997, A. D. Warren leg. 1 ♂ (ADW). *Sucumbios*—La Seva Biological Station (75 km ESE Coca), 14.XII.1997, H. F. Greeney leg. 1 ♂, 1 ♀ (ADW). *Pichincha*—**Alluriquin** (La Palma), 1000 m, 20.VII.1981, Mielke & Casagrande leg., 1 ♂ (DZ 35.851*). **Nanegal**, 1250 m VIII.1970, R. de Lafebre leg. 1 ♂* (MGCL). **San Juan**, 3200 m, V.1980, Lafebre leg., 1 ♂ (DZ 35.295). **PERU:** *Amazonas*—**Jorge Chavez**, 1700 m, 25.III.2003, 1 ♀ (OM 63.816). *Huánuco:* **Parque Nacional Cuevas de Lechuzas**, 600 m, 24.VIII.1981, L. D. Miller leg. 2 ♂ [1 ♂*] (MGCL). **Tingo Maria** (Rondos), 650 m, 23.VII.1981, Mielke & Casagrande leg., 2 ♂ (DZ 31.575*, DZ 35.545) 2 ♀ (DZ 31.675*, DZ 35.555). **Loreto—**Rio Ampiacu**, 13.XI.1971, M. Simon leg. 1 ♂* (MGCL). *Madre de Dios*—**Puerto Maldonado** (0–2 km W), 250 m, 6.VIII.1981, L. D. Miller leg. 1 ♂ (MGCL). *Ucayali*—**Pucallpa**, X.1981, Schunke leg., 1 ♂ (DZ 35.535). **BOLIVIA:** *La Paz*—**Caranavi**, 1000 m, 9.X.1988, C. Tello leg., 1 ♂ (OM 20.050), 5.VI.1989, C. Tello leg., 1 ♀ (OM 24.710). **BRAZIL:** *Acre*—**Bujari** (50 Km NW), 200 m, 18–20.IX.2003, Mielke & Casagrande leg., 2 ♂ (DZ 35.660, DZ 35.437). **Cruzeiro do Sul** (Alto Juruá), 200 m, 18–31.III.1979, H. Ebert leg., 1 ♂ (DZ 35.730), 3.VII.1985, H. Ebert leg., 1 ♀ (DZ 35.570). **Tarauacá**, 250 m, 29–30.VI.1975, H. Ebert leg., 2 ♂ (DZ 35.670, DZ 35.620). *Alagoas*—**Maceió**, 14.VII.1973, O. Mielke leg., 1 ♂ (DZ 35.679) 1 ♀ (DZ 35.710). *Amapá*—**Serra do Navio**, 23–25.VII.2007, 1 ♂ (DZ 40.281), 28.VII.2007, 3 ♂ (DZ 40.201, DZ 40.221, DZ 40.231) 1 ♀ (DZ 40.211), 29.VII.2007, 1 ♂ (DZ 40.241), 31.VII.2007, 3 ♂ (DZ 40.251, DZ 40.261, DZ 40.271), O. Mielke & Casagrande leg. *Amazonas*—**no locality**, 1 ♂ (OM 11.174). **Fonte Boa**, 80 m, 11–23.VIII.2011, E. Emery leg., 1 ♂ (DZ 40.081). **Manacapuru** (10 Km NW), 26.VIII.2010, Dias & Bonfantti leg.,**

2 ♂ (DZ 35.729, DZ 35.749). **Humaitá** (40 Km from Humaitá), 3.VII.2001, O. Mielke leg., 1 ♂ (OM 53.401). **Canutama** (road Porto Velho to Humaitá), 2.VII.2001, O. Mielke leg., 1 ♀ (OM 53.549). **Manaus**, 14.I.1961, D. L. Lindsley leg. 1 ♀ (MGCL). **Manicoré**, 17.VIII.1976, C. Callaghan leg. 1 ♂* (MGCL). **Bahia—Itabuna** (Ceplac), 19–20.X.1998, Mielke & Casagrande leg., 3 ♂ (OM 49.286, OM 49.454, OM 49.488). **Itanagra** (Lontra), 29.IV.2012, Paluch & Linhares leg., 1 ♂ (DZ 25.016*). **Distrito Federal—Brasília** (Cabeça do Veado), 1000 m, 13.IV.1993, Mielke & Becker leg., 1 ♂ (OM 34.777), (Fazenda Água Limpa), 12.III.1977, Gifford leg., 1 ♀ (DZ 35.397), (Jardim Zoológico), 1000 m, 21.II.1966, O. Mielke leg., 1 ♀ (OM 9.029), 19.VI.1972, Mielke & Brown leg., 1 ♂ (DZ 35.427) 1 ♀ (DZ 35.407), 9.II.1977, Gifford leg., 2 ♂ (DZ 35.387, DZ 8.838*), 1.IX.1980, Ferreira leg., 1 ♂ (OM 66.035), 7.III.2003, E. Emery leg., 1 ♂ (DZ 40.111), 28.V.2011, E. Emery leg., 1 ♂ (DZ 40.101), (Parque do Gama), 1000 m, 17.VI.1972, Mielke & Brown leg., 1 ♂ (DZ 35.417), (Acampamento Telebrasil), 2.IV.2003, E. Emery leg., 1 ♀ (DZ 40.091), (Vila Telebrasil, Floresta de Galeria), 15.XII.2003, E. Emery leg., 1 ♂ (DZ 40.151), 27.II.2004, E. Emery leg., 4 ♂ (DZ 40.161, DZ 40.171, DZ 40.181, DZ 40.191), 27.III.2004, E. Emery leg., 2 ♂ (DZ 40.131, DZ 40.520), 5.V.2004, E. Emery leg., 1 ♂ (DZ 40.141), 18.IV.2006, E. Emery leg., 1 ♂ (DZ 40.121). **Espírito Santo—Baixo Guandu**, 16.IX.1966, C. Elias leg., 2 ♂ (DZ 35.677, DZ 35.850), 17.X.1971, C. & C. T. Elias leg., 1 ♀ (DZ 35.567). **Conceição da Barra**, 12.IV.1969, C. & C. T. Elias leg., 1 ♂ (DZ 35.689). **Linhares**, 22–30.IV.1974, 1 ♂ (DZ 35.709), 4.III.1972, 1 ♀ (DZ 35.507), 11.III.1972, 2 ♂ (DZ 35.707, DZ 35.740), 4.VIII.1972, 1 ♂ (DZ 35.767), 14.IX.1972, 1 ♀ (DZ 35.610), 15.IV.1973, 1 ♀ (DZ 35.797), 11–16.VI.1973, 1 ♂ (DZ 35.739) 1 ♀ (DZ 35.727), 5.III.1974, 1 ♂ (DZ 35.760), 10–15.VI.1974, 1 ♂ (DZ 35.577), 17–22.VI.1974, 1 ♂ (DZ 35.637), II.1978, 1 ♂ (DZ 35.587), VIII.1980, 1 ♂ (DZ 35.759) 1 ♀ (DZ 35.477), IX.1980, 2 ♂ (DZ 35.789, DZ 35.699) 1 ♀ (DZ 31.355*), I.1981, 1 ♂ (DZ 35.617), V.1981, 1 ♂ (DZ 35.669), VII.1981, 1 ♂ (DZ 35.830) 1 ♀ (DZ 35.847), XI.1982, 1 ♀ (DZ 35.820), C. Elias leg., 21.V.1972, C. Callaghan leg. 1 ♂ (MGCL). **Santa Leopoldina**, 25.VII.1966, 1 ♀ (DZ 35.590), 26.VII.1966, Mielke, Brown & Elias leg., 3 ♂ (DZ 35.697, DZ 35.580, DZ 35.600) 1 ♀ (DZ 35.630). **Santa Teresa**, 14.III.1967, 1 ♂ (DZ 35.769), 19.VIII.1972, 1 ♂ (DZ 35.837), C. & C. T. Elias leg., (São João de Petrópolis), 27.VII.1966, Mielke & Brown leg., 1 ♀ (DZ 35.717), 19–22.VIII.1996, C. Elias leg., 2 ♂ (DZ 35.667, DZ 35.840). **Goiás—Vianópolis** (Ponte Funda), 22.I.1981, Tangerini leg., 1 ♀ (DZ 35.779). **Maranhão—Imperatriz**, 2.VII.1974, 1 ♀ (DZ 35.607), 12.VII.1974, 1 ♂ (DZ 35.810), 15.VII.1974, 1 ♂ (DZ 35.827), 9.VIII.1974, 2 ♂ (DZ 35.597, DZ 35.627), 27.VIII.1974, 1 ♂ (DZ 35.817), Exc. Depto. Zool. leg. **Mato Grosso—Diamantino** (Alto rio Arinos, Fazenda São João), 6.IX.1978, Mielke & Furtado leg., 1 ♀ (DZ 35.467). **Chapada dos Guimarães**, 8.I.1987, C. Elias leg., 1 ♂ (DZ 35.800) 1 ♀ (DZ 35.680). **Minas Gerais—Corinto**, 2–14.IV.1979, 1 ♂ (DZ 35.807), 16–31.VIII.1979, 1 ♂ (DZ 35.719), C. Elias leg. **Curvelo**, IX.1979, C. Elias leg., 1 ♀ (DZ 35.687). **Itueta**, 5.VI.1970, C. Elias leg., 1 ♂ (DZ 35.757). **Paraopeba**, 19.II.1966, 1 ♂ (OM 9.028*), 27.II.1966, 1 ♀ (OM 9.027), O. Mielke leg. **Pará—Belém**, 11.I.1961, D. L. Lindsley leg. 1m*, 1 ♀ (MGCL), 20 m, 10–15.XI.1984, V. O. Becker leg., 1 ♂ (OM 50.961). **Benevides** (Neópolis), 1–4.VIII.1992, Mielke & Casagrande leg., 1 ♀ (OM 32.514), 18–19.IV.1993, O. Mielke leg., 3 ♂ (OM 34.385, OM 34.379, OM 34.482), 2.II.2010, Carneiro, Dolibaina, Dias & Moreira leg., 1 ♂ (DZ 35.517). **Parauapebas**, 18.VIII.1968, H. Ebert leg., 1 ♂ (DZ 35.750). **Santo Antônio do Tauá**, 22.II.2005, 1 ♂ (DZ 35.547), 3.III.2005, 1 ♂ (DZ 35.317), 5.IV.2005, 1 ♀ (DZ 35.799), 23.VI.2007, 1 ♂ (DZ 35.357), (Reserva Sonho Azul), 14.XII.2004, 2 ♂ (DZ 35.277, DZ 35.457), 16.XII.2004, 1 ♂ (DZ 35.337), 22.XII.2004, 1 ♂ (DZ 35.327), 30.XII.2004, 1 ♂ (DZ 35.367), 16.II.2005, 1 ♂ (DZ 35.447), 5.III.2005, 1 ♂ (DZ 35.377), 7.III.2005, 1 ♂ (DZ 31.331), 15.III.2005, 1 ♂ (DZ 35.497), 1.IV.2005, 1 ♂ (DZ 35.537), 25.VI.2005, 1 ♀ (DZ 35.557), 30.VI.2005, 1 ♂ (DZ 35.297), 6.VII.2005, 1 ♂ (DZ 35.347), 14.VII.2005, 1 ♂ (DZ 35.307), 28.X.2005, 1 ♀ (DZ 35.487), 20.XII.2005, 1 ♀ (DZ 35.287), P. Jauffret leg. **Paraíba—João Pessoa**, 3.X.1965, Kesselring leg., 1 ♂ (OM 7.733). **Paraná—Paranaguá** (Alexandra), 10 m, 4.X.1968, O. Mielke leg., 1 ♂ (DZ 35.787). **Pernambuco—Camaragibe**, 13.VII.1958, H. Ebert leg., 1 ♂ (DZ 35.780), 16.V.1959, 1 ♂ (DZ 35.700), 7.IX.1959, 1 ♀ (DZ 35.790), 21.IV.1968, 1 ♀ (DZ 35.747), H. Ebert leg. **Rondônia—Ariquemes**, 180 m, 13–16.IV.1989, V. O. Becker leg., 1 ♀ (OM 50.848). **Cacaulândia** (60 Km S of Ariquemes), 17–20.III.1989, 3 ♂ (OM 20.451, OM 21.488, OM 20.579) 4 ♀ (OM 22.141, OM 20.801, OM 21.480, OM 21.494), 8–19.XI.1994, O. Mielke leg., 1 ♂ (OM 38.570) 2 ♀ (OM 36.478, OM 38.500), (Fazenda Rancho Grande), 17.XI.1991, 2 ♂ (OM 28.327, OM 28.106) 1 ♀ (OM 28.333), 21.XI.1991, 1 ♂ (OM 27.852) 1 ♀ (OM 27.834), all O. Mielke leg., 13.VIII.1993, 1 ♂, 18.VIII.1993, 2 ♂, all A. D. Warren leg. (ADW), (Fazenda Rancho Grande, linea C-20, 7 km E B-65, 62 km S Ariquemes), 22.X.1989, 1 ♂*, 1 ♀, 29.X.1990, 2 ♂, all J. Brock leg. (MGCL), 7.XI.1990, G. T. Austin leg. 1 ♂* (MGCL), 10.XI.1990, J. Brock leg. 1 ♂* (MGCL), 18.III.1991, 1 ♂, 20.IV.1991, 1 ♀, 12.XI.1991, 2 ♂*, all G. T. Austin leg. (MGCL), 18.XI.1991, J. & F. Preston leg. 3 ♂ (MGCL), 28.XI.1991, 1 ♂, 29.XI.1991, 1 ♂*, 14.IV.1992,

1 ♂*, 21.IV.1992, 1 ♂, G. T. Austin leg. (MGCL), 27.VI.1992, 1 ♂, 30.VIII.1992, 1 ♂, all G. Bongiollo leg. (MGCL), 17.IX.1992, R. Albright leg. 1 ♂ (MGCL), 13.XI.1992, D. L. Eiler leg. 1 ♀ (MGCL), 10.VI.1993, 1 ♂, 12.VIII.1993, 1 ♂, 6.X.1993, 1 ♂*, 11.X.1993, 1 ♂, 23.VII.1994, 1 ♂, 15.IV.1995, 1 ♂, 19.VII.1996, 1 ♂, all G. T. Austin leg. (MGCL), (5 km S, Linea C-10, at Rio Pardo, off B-65), 27.X.1990, 1 ♂, 20.III.1991, 1 ♂*, all G. T. Austin leg. (MGCL), 20.VI.1993, 1 ♂, 9.X.1993, 1 ♂, 8.I.1994, 1 ♂, 16.I.1994, 1 ♂, 29.I.1994, 1 ♂, 22.II.1994, 1 ♂, 5.III.1994, 1 ♂, 19.III.1994, 1 ♂, 9.IV.1994, 1 ♂, 16.IV.1994, 1 ♀, 28.V.1994, 1 ♀, 16.VII.1994, 1 ♂, 31.XII.1994, 1 ♀, 7.I.1995, 1 ♀, 14.I.1995, 1 ♂, 22.III.1995, 4 ♂, 14.IV.1995, 1 ♂, 15.IV.1995, 1 ♀, 19.IV.1995, 1 ♀, 20.IV.1995, 3 ♂, 28.IV.1995, 1 ♂, 3.V.1995, 1 ♂, 13.V.1995, 1 ♂, 27.V.1995, 2 ♂, 3.VI.1995, 2 ♂, 10.VI.1995, 1 ♂, 1.VII.1995, 1 ♂, 8.VII.1995, 1 ♂, 15.VII.1995, 1 ♂, 1 ♀, 30.VII.1995, 1 ♀, 5.VIII.1995, 1 ♂, 25.II.1996, 1 ♀, 13.IV.1996, 1 ♂*, 20.IV.1996, 1 ♂, 17.VII.1996, 1 ♂, 17.XI.1996, 1 ♂, 20.XI.1996, 1 ♂, 29.XI.1996, 1 ♂*, 30.XI.1996, 1 ♂, 7.XII.1996, 1 ♂*, 2.III.1997, 1 ♀, 29.III.1997, 1 ♂, all O. Gomes leg. (MGCL), (ca. 70 km S Ariquemes, B-80, between lineas C-10 & C-15), 19.XI.1991, G. T. Austin leg. 1 ♀ (MGCL), 19.IV.1992, T. Schmitz leg. 1 ♂ (MGCL), 22.IV.1992, G. T. Austin leg. 1 ♂ (MGCL), 23.IV.1992, L. Harris leg. 1 ♂ (MGCL), 20.XI.1992, T. Schmitz leg. 1 ♂ (MGCL), (vic. Fazenda Rancho Grande, off B-65, 62 km S Ariquemes), 17.III.1989, 1m*, 2 ♀, 18.III.1989, 2 ♀, 21.III.1989, leg. 1 ♂*, 23.III.1989, 1 ♀, 24.III.1989, 1 ♀, 21.X.1989, 1 ♀, 22.X.1989, 1 ♀, 23.X.1989, 6 ♂ [3 ♂*], 4 ♀, 29.X.1989, 1 ♂*, 26.X.1990, 1 ♂, 30.X.1989, 1 ♂, all G. T. Austin leg. (MGCL), 11.XI.1990, 1 ♀, 13.XI.1990, 1 ♂*, 14.XI.1990, 1 ♂*, all D. & J. Lindsley leg. (MGCL), 12.XI.1991, G. T. Austin leg. 1 ♀ (MGCL), 15.XI.1991, J. & F. Preston leg. 1 ♀ (MGCL), 29.XI.1991, R. Albright leg. 1 ♀ (MGCL), 10.VI.1993, G. T. Austin leg. 1 ♀* (MGCL), (Fernandes Trail leg. linea C-14, off B-65, 1 km N Cacaulandia), 19.III.1989, T. C. Emmel leg. 1 ♀ (MGCL), 5.XI.1990, G. T. Austin leg. 1 ♂ (MGCL), ("Big Rock" trail, 3 km E Fazenda Rancho Grande on linea C-20), 29.X.1990, G. T. Austin leg. 2 ♂ (MGCL), (linea C-2.5, off B1965, 12.5 mi S Cacaulandia), 2.XI.1990, 1 ♂, 9.XII.1990, 1 ♀, all G. T. Austin leg. (MGCL), (B-65, 3 km N C-20, 8 km N Cacaulandia), 1.XI.1990, G. T. Austin leg. 1 ♀ (MGCL), ("Dry Trail", leg. linea C-12, off B-65, 2 km N Cacaulandia), 22.II.1991, G. T. Austin leg. 1 ♀ (MGCL), (C-0 off B-65, 15 km S Cacaulandia), 22.IV.1991, G. T. Austin leg. 1 ♀ (MGCL). **Candeias do Jamari** (Fazenda Urupá), 10–14.VII.1996, 2 ♂ (OM 42.138, OM 42.050), 1–5.VII.1996, 3 ♂ (OM 42.315, OM 42.115, OM 42.471) 1 ♀ (OM 42.059), Mielke & Miers leg., 7.VII.2001, O. Mielke leg., 2 ♂ (OM 53.597, OM 53.688) 1 ♀ (OM 53.821). **Pimenta Bueno**, 200 m, 8.VII.1972, Mielke & Brown leg., 1 ♂ (DZ 35.659). **Porto Velho**, 16.VI.1978, Gifford leg., 1 ♂ (DZ 35.777). **Vilhena**, 10.VII.1972, O. Mielke leg., 1 ♀ (DZ 35.770), 20.VI.1978, Gifford leg., 1 ♂ (DZ 35.737), 19.XI.1986, C. Elias leg., 1 ♀ (DZ 35.720). **Roraima—Pacaraima**, 800 m, 1–2.II.1988, Mielke & Casagrande leg., 1 ♂ (DZ 35.650), **Amajari** (Tepui Tepequém), 900 m, 17.VII.2009, Mielke & Casagrande leg., 1 ♂ (DZ 35.275). **Santa Catarina—Joinville**, 200 m, 23.I.1984, Mielke & Miers leg., 1 ♂ (DZ 35.647). **São Paulo—Pereira Barreto** (Alto rio Paraná), 300 m, 1.V.1973, H. Ebert leg., 1 ♂ (DZ 35690).

Sodalia argyrospila (Mabille, 1876)

Figs 5–8, 20, 25, 30, 35, 40, 44

- Achlyodes argyrospila* Mabille, 30-XI-1876. **Bull. Séances Soc. ent. France 1876**(22): 227; male, Pará, [Brazil].—Mabille, 9-V-1877. **Ann. Soc. ent. France** (5)6, **Bull. ent.**, p. CC.—Kirby, 1877. **Syn. Cat. Diurn. Lep., Suppl.**, p. 862.
- Hesperia dimassa* Hewitson, 1-XII-1876. **Ann. & Mag. Nat. Hist.** (4)18: 454; Brazil; collection Hewitson.
- Pamphila dimassa*; Kirby, 1877. **Syn. Cat. Diurn. Lep., Suppl.**, p. 826.
- Isoteinon dimassa*; Kirby, 1879. **Cat. Coll. Diurn. Lep. Hewitson**, p. 225.
- Hesperia gabinus* Plötz, 1882. **Stett. ent. Ztg.** 43: 318; n° 5.269, Rio [de Janeiro, Brazil]; Mus. Berol.—Godman, 1907. **Ann. & Mag. Nat. Hist.** (7)20: 138.
- Euroto purgis* Schaus, 1902. **Proc. U. S. Nat. Mus.** 24: 443; type male, n° 6.018, Petropolis, [Rio de Janeiro State], Brazil; USNM.—Draudt, 1923, in Seitz. **Gross-Schmett. Erde** 5, p. 966.—J. Zikán & W. Zikán, 1968. **Pesq. agropec. bras.** 3: 59.
- Cobalus gabinus*; Draudt, 1923, in Seitz. **Gross-Schmett. Erde** 5, p. 958, pl. 185i (d, v).—Spitz, 1932. **Rev. Mus. Paulista** 17: 876.—Bell, 1932. **Bull. Brooklyn Ent. Soc.** 27: 138; *syn.*: *purgis*.—F. Hoffmann, 1934. **Ent. Rdsch.**, Stuttgart, 51: 71.—Hayward, 1939. **Physis** 17: 295, fig. 7 (male gen.).
- Euroto gabina* [sic]; Hayward, 1941. **Rev. Mus. La Plata, n. s., Zool.** 2: 312; *syn.*: *gabinus*, *purgis*.
- Euroto dimassa*; Hayward, 1947. **Acta zool. Lill.** 4: 140; *syn.*: *gabina*, *purgis*.—Hayward, 1950. **Gen. Sp. Anim. Arg.** 2, p. 195, 198, pls 8, fig. 15 (male gen.), 21, fig. 10 (v); *syn.*: *gabina*, *purgis*.
- Sodalia dimassa*; Evans, 1955. **Cat. Amer. Hesp.** 4, p. 104, pl. 59 (male gen.); *syn.*: *argyrospila*, *gabinus*, *purgis*.—Biezanko, 1963. **Arq. Ent., ser. A**, Pelotas, p. 16.—Hayward, 1973. **Op. Lill.** 23: 69; *syn.*: *argyrospila*, *gabinus*, *purgis*.—Biezanko

& Mielke, 1973. *Acta biol. paranaense* 2: 77.—Bridges, 1983. *Lep. Hesp.* 1, p. 10, 34, 47, 99; 2, p. 34; *syn.*: *argyrospila*, *gabinus*, *purgis*.—Bridges, 1988. *Cat. Hesp.* 1, p. 15, 54, 74, 157; 2, p. 55; *syn.*: *argyrospila*, *gabinus*, *purgis*.—K. Brown, 1992, in Morellato. *Hist. nat. Japi*, p. 179, fig. 17 (v).—Canals, 2003. *Marip. Misiones*, p. 461.—Mielke, 2004. *Hesperioidea*, p. 80, in Lamas (ed.). **Checklist: Part 4A, Hesperioidea- Papilionoidea**, in Heppner (ed.). *Atlas Neotrop. Lep.* 5A; *syn.*: *argyrospila*, *gabinus*, *purgis*.

(no genus) *dimassa*; Beattie, 1976. *Rhop. Direct.*, p. 128.

(no genus) *argyrospila*; Beattie, 1976. *Rhop. Direct.*, p. 84.

(no genus) *gabinus*; Beattie, 1976. *Rhop. Direct.*, p. 149.

(no genus) *purgis*; Beattie, 1976. *Rhop. Direct.*, p. 243.

Diagnosis. *Sodalia argyrospila* is the only species in the genus with solid white discal and postdiscal spots on the VHW.

Redescription. *Head*: Frons covered with two circular areas of short, iridescent blue scales, separated at center by a narrow area of opaque scales. Nudum of 12 segments.

Wings: Forewing length 12–14 mm. DFW brand over CuA₂ with base longer than portion touching CuA₁; brand under CuA₂ as long as base of the above brand. VHW with seven solid white spots, one discal in the inferior half of discal cell, close to end of cell, six postdiscal spots, from Rs to 2A, arranged as an arch, between M₁–M₃ fused, twice as long as wide.

Male genitalia: Median posterior projection of tegumen very short. Fenestra large, triangular. Base of uncus with distal margin straight; arms of uncus of same thickness laterally and dorsally. Valva as in *S. sodalis*, except lateral branch of dorsal projection of harpe shorter. Aedeagus with distal opening not extending to insertion of manica; tip of aedeagus with two small lateral spines; cornuti comprised of several small, thin spines and a longer and wider horn-like spine.

Female genitalia: Lamella antevaginalis semicircular, twice as wide as long. Lamella postvaginalis with a shallower distal indentation and two large, rounded latero-distal projections; central area with broad rectangular membranous area. Bursa copulatrix about eight times longer than sterigma. Ductus bursae about 1/3 length of bursa copulatrix, with a short sclerotized ring near sterigma, extending to ostium bursae. Papilla analis less than twice as long as wide; apophysis posterior curved, as long as papilla.

Type material. The description of *Achlyodes argyrospila* Mabilie, 1876 was based on an unstated number of males from Pará, Brazil, with a wingspan of 27 mm. This material should be deposited at MNHN, where no syntype belonging to this taxon was found despite careful search. Thus, in order to ensure the identity of the species and to permit its correct identification, a male with the following labels is here designated neotype: / NEOTYPUS / Neotypus *Achlyodes argyrospila* Mabilie, 1876 / Morretes—Paraná, [Brazil] 19-IV-1997 10m. Mielke [leg.] / OM 45.715 /. DZUP.

Hesperia dimassa Hewitson, 1876 was described based on a single specimen [holotype] from Brazil. At the NHMUK there is a male mentioned by Evans (1955) as the type specimen. This specimen is here considered the holotype of *H. dimassa* and has the following labels: / 208 / Type / Type / *Dimassa* / Rio Hewitson Coll. 79-69. *Isoteinon dimassa*. 1. / PHOTO AA /.

Hesperia gabinus Plötz, 1882 was described based on a single specimen [holotype] from Rio de Janeiro having the number 5.269. The holotype is a male deposited at the MfN with the following labels: / Typus / 5269 / Rio [de Janeiro, Brazil] v. Lgsd [Langsdorf] / *gabinus* Pl. 5269 type /.

Euroto purgis Schaus, 1902 was described based on a single male specimen [holotype] from Petrópolis, Rio de Janeiro, Brazil, with a wingspan of 27 mm and number 6018. The holotype is deposited at the USNM with the following labels: / Petropolis, Brazil. / Collection W. Schaus / *Euroto purgis* type Schs / Type No. 6018 U.S.N.M. /.

Distribution. This species is distributed in lowland areas of the Atlantic Forest in southeastern Brazil and northeastern Argentina (Fig. 44). It almost certainly occurs in eastern Paraguay and Uruguay as well, although we currently lack records from these countries. The type locality (Pará) of *Achlyodes argyrospila* is probably wrong and perhaps a mistake of Paraná, in southern Brazil where the species occurs.

Comments. This is the most conspicuous species in the genus, being the only one with pure white discal and postdiscal spots on VHW. Despite this, *S. argyrospila* is the species with the longest synonymic list in *Sodalia*. The absence of illustrations in the descriptions and the simultaneous proposition of names contributed to this. The description of *A. argyrospila* by Mabilie precedes Hewitson's description of *H. dimassa* by just one day (30/11/1876 and 01/12/1876, respectively).

Sodalia argyrospila is endemic to the Atlantic Forest Biome, typically occurring at low elevations in the dense

ombrophylous forest in southeastern Brazil, extending to the west through the seasonal forest of the Paraná River drainage. It is sympatric in most of its distribution with *S. coler*, also an Atlantic Forest endemic, however, the latter also inhabits the Araucaria Plateau of southern Brazil, where *S. argyrospila* is rare to absent. While its occurrence is restricted to the Southern Cone of South America, the original description of *S. argyrospila* noted a type locality of Pará, Brazil (Mabille 1876), which we believe is either a result of mislabeling of the material used by Mabille or a lapse of the author.

The following characters are shared between *S. argyrospila* and *S. sodalis*, suggesting they are closely related: the presence of opaque scales on the frons; the spoon-shaped ampulla, wider than half valva's width; the harpe shorter than ampulla, bifid at the middle, producing a wider ventral portion and a narrower dorsal projection, this divided in two branches arranged in a L-shaped aspect; the anterior and ventral projections of the fultura inferior are pronounced; the distal portion of the aedeagus with two lateral spines; and the cornuti formed by several small and thin spines, and a longer and wider horn-like spine.

Examined material. **ARGENTINA:** *Entre Rios*—**Colon** (Liebig), 17.I.1992, A. Varga leg., 1 ♂ (OM 29.483). **BRAZIL:** *Espírito Santo*—Linhares, 25.I.1967, C. Elias leg. 1 ♀ (MGCL). **Santa Teresa** (Reserva Lombardia), 1.VIII.1966, Mielke, Elias & Brown leg., 1 ♀ (DZ 35.304), 750 m, 13.IX.1966, C. T. Elias leg., 1 # (DZ 35.813), 25.VIII.1966, 1 ♂ (DZ 35.614), 5.IV.1967, 1 ♂ (DZ 31.480*), 13.IX.1967, 2 ♂ (DZ 35.744, DZ 35.753), 5.IX.1967, 1 ♂ (DZ 35.773), 9.IX.1967, 1 ♀ (DZ 35.524), 10.V.1967, 1 ♂ (DZ 35.604), 26.VI.1967, 1 ♂ (DZ 35.794), 1.VII.1967, 1 ♂ (DZ 35.824), 15.XI.1967, 1 ♀ (DZ 31.697*), C. & C. T. Elias leg., 18.I.1968, C. T. Elias leg., 1 ♂ (DZ 35.294), 5.X.1968, C. & C. T. Elias leg., 1 ♀ (DZ 35.534), 29.III.1970, H. Ebert leg., 1 ♂ (DZ 35.494). *Minas Gerais*—**Barbacena**, 27.I.1967, Tangerini leg., 3 ♂ (DZ 35.783, DZ 35.743*, DZ 35.643) 1 ♀ (DZ 35.504), 1100 m, 22.IX.1952, 1 ♂ (DZ 35.454), 24.VIII.1952, 1 ♂ (DZ 35.833), 12.X.1952, 1 ♂ (DZ 35.444), H. Ebert leg. **Itaipé**, 650 m, 29.III.1969, H. Ebert leg., 1 ♂ (DZ 35.404). **Lambari**, 850 m, 8.VIII.1967, H. Ebert leg., 1 ♂ (DZ 35.324). *Paraná*—**Antonina** (Cedro), 14.IV.2013, Mielke & Callaghan leg., 1 ♂ (DZ 35.653), 18.IV.2013, Mielke, Siewert & Zacca leg., 1 ♀ (DZ 35.314), (Cacatu), 20 m, 16.IV.1977, 1 ♂ (DZ 35.734), 9.IV.1982, 1 ♂ (DZ 35.764), 20.IV.1987, 2 ♀ (OM 14.061, OM 52.141), 25.IV.1987, 1 ♂ (OM 14.223), 28.IV.1994, 1 ♀ (OM 38.059), 3.IV.1999, 1 ♀ (OM 49.726), O. Mielke leg. **Campo Largo** (Três Córregos), 700 m, 7.III.1998, Mielke & Bizarro leg., 1 ♂ (OM 48.328). **Cândido de Abreu**, 10.XII.1994, Mielke & Casagrande leg., 1 ♀ (OM 40.819). **Curitiba** (Uberaba—Tirol das Torres), 6.IV.2011, O. Mielke leg., 1 ♂ (DZ 35.633). **Fênix**, 26.X.1985, Mielke & Casagrande leg., 1 ♀ (DZ 35.723*). **Foz do Iguaçu** (Parque Nacional Iguaçu), 21.IV.1995, 1 ♂ (DZ 35.623), 24.IV.1995, 1 ♂ (DZ 35.823), Mielke & Casagrande leg. **Guaratuba** (Pontal de Itararé), 800 m, 8.XI.1968, Brown & Laroca leg., 1 ♂ (DZ 35.514), (Limeira), 10 m, 15.IV.2000, O. Mielke leg., 1 ♂ (OM 51.874). **Londrina**, 10.X.1982, O. Mielke leg., 2 ♂ (DZ 35.814, DZ 35.713*) 1 ♀ (DZ 35.804). **Morretes**, 10 m, 6.IV.1995, 1 ♂ (OM 40.424), 19.IV.1997, 2 ♂ (OM 45.707, OM 45.715), O. Mielke leg., (Alto da Serra), 1.II.1991, O. Mielke leg., 1 ♀ (OM 26.995), (Morro Alto), 400 m, 11.IV.2000, O. Mielke leg., 1 ♀ (OM 51.578). **Paranaguá**, 17.X.1987, O. Mielke leg., 1 ♀ (OM 15.992), (Alexandra), 27.IV.1968, 1 ♀ (DZ 35.684), 6.IX.1968, 1 ♂ (DZ 35.554), 4.X.1968, 2 ♂ (DZ 35.593, DZ 35.803) 1 ♀ (DZ 35.774), 3.IX.1969, 2 ♂ (DZ 35.284, DZ 35.544), 10.X.1970, 1 ♂ (DZ 35.843), 28.III.1971, 1 ♀ (DZ 35.664), 29.III.1971, 3 ♀ (DZ 35.853, DZ 35.573, DZ 35.613), 29.III.1981, 1 ♂ (DZ 31.341), O. Mielke leg., 11.II.1969, [no collector] 1 ♂ (MGCL). **Pontal do Paraná**, 28.VI.1990, O. Mielke leg., 1 ♀ (OM 25.358). **Tibagi** (Estiva), 21.XII.2008, O. Mielke leg., 1 ♂ (DZ 35.703*). *Rio de Janeiro*—**Cachoeiras de Macacu** (Boca do Mato), 13.IV.2006, 1 ♂ (DZ 35.763), 14.IV.2006, 1 ♂ (DZ 35.683), 16.IV.2006, 2 ♀ (DZ 35.673, DZ 35.693), Tangerini leg. **Duque de Caxias** (Imbariê), 25 m, 21.VII.1957, 1 ♂ (DZ 35.844), 5.VIII.1977, 1 ♂ (DZ 35.464), 18.V.1980, 1 ♂ (DZ 35.424), H. Ebert leg., (Xerém), 50 m, 30.VII.1968, H. Ebert leg., 1 ♂ (DZ 35.334). **Guapi-mirim**, 22.VIII.1971, 1 ♂, 8.IX.1971, 1 ♂, C. Callaghan leg. (MGCL). **Rio Claro**, [no date], C. Callaghan leg. 1 ♂ (MGCL). **Itatiaia** (Parque Nacional do Itatiaia), 800 m, 27.III.1962, H. Ebert leg., 1 ♀ (DZ 35.733*), 1000 m, 1.V.1965, O. Mielke leg., 2 ♂ (OM 6.881, OM 6.882), (bamboo forest), 300–700 m, 13–14.I.1973, C. Callaghan leg. 1 ♂ (MGCL). **Magé**, 3.VII.1968, Brown leg., 1 ♂ (DZ 35.414). **Nova Iguaçu** (Tinguá), 18.IV.1970, Tangerini leg., 1 ♂ (DZ 35.663). **Passa Três**, 450 m, 28.II.1966, H. Ebert leg., 1 ♀ (DZ 35.364), **Rio de Janeiro** (Jacarepaguá—Chácara Acácia—Estrada dos Bandeirantes), 20.IX.1990, Tangerini leg., 1 ♀ (DZ 35.793), (Jacarepaguá), 10.VII.1935, Gagarin leg., 1 ♂ (OM 4.915). *Rio Grande do Sul*—**Torres**, 10 m, 30.I.1983, H. Ebert leg., 1 ♀ (DZ 35.344). *Santa Catarina*—**Brusque**, 30 m, 22.XII.1967, 1 ♂ (DZ 35.674), 28.XII.1967, 1 ♂ (DZ 35.704), 8.I.1968, 1 ♀ (DZ 35.714), 28.XII.1969, 1 ♀ (DZ 35.583), V. O. Becker leg., 19.VII.1966, 1 ♂, 1 ♀, 18.VII.1966, 1 ♂, 2.VII.1967, 2 ♂, 1 ♀, V. O. Becker leg. (MGCL). **Joinville** (Serrinha) 10–200 m, 29.VI.1967, H. Miers leg., 1 ♀ (DZ

35.274), 19.IX.1970, O. Mielke leg., 1 ♀ (DZ 35.754), 27.VI.1971, 1 ♂ (DZ 35.584), 8.VIII.1971, 1 ♂ (DZ 35.603), 22.I.1977, 1 ♂ (DZ 35.724), H. Miers leg., 8.IX.1977, Mielke & Miers leg., 1 ♂ (DZ 35.654), 3.III.1979, 1 ♀ (DZ 35.634), 15.X.1979, 1 ♂ (DZ 35.784), 1.XI.1981, 1 ♂ (DZ 35.594), H. Miers leg., 23.I.1984, Mielke & Miers leg., 1 ♂ (DZ 35.834), 25.I.1985, H. Miers leg., 1 ♀ (DZ 35.574), 27.IX.1986, Mielke & Miers leg., 1 ♀ (OM 52.036). **São Francisco do Sul** (Enseada), 27–30.I.1988, O. Mielke leg., 1 ♂ (OM 17.432), (Vila da Glória), 21.I.1982, Mielke & Casagrande leg., 1 ♂ (DZ 35.624). **São Paulo—Campinas**, 700 m, 15.I.1977, H. Ebert leg., 1 ♂ (DZ 35.434). **Caraguatatuba**, 20 m, 5.IX.1963, 1 ♂ (DZ 35.474), 30.VII.1963, 1 ♂ (DZ 35.484), 12.XII.1963, 1 ♂ (DZ 35.354), H. Ebert leg. **Cordeirópolis**, 600 m, 4.I.1966, H. Ebert leg., 1 ♀ (DZ 35.394). **Guaratinguetá**, 600 m, 6.VI.1965, H. Ebert leg., 1 ♂ (OM 10.172) 1 ♀ (DZ 35.564). **Mogi das Cruzes**, 28.VIII.1960, D. L. Lindsley leg. 2 ♀ (MGCL). **Rio Claro**, 600 m, 11.XI.1962, 1 ♀ (DZ 35.384), 15.XI.1962, 1 ♂ (OM 10.329), 9.XII.1962, 1 ♀ (DZ 35.374), H. Ebert leg., 27.IV.1971, O. Mielke leg., 1 ♂ (DZ 35.644). **São Paulo** 22.VII.1960, 2 ♂, 13.VIII.1960, 2 ♂; 17.IX.1960, 1 ♂, D. L. Lindsley leg. (MGCL), (Butantan), 16.VII.1971, O. Cruz leg., 1 ♂ (DZ 35.694).

Sodalia coler (Schaus, 1902)

Figs 9–12, 21, 26, 31, 36, 41, 43

Euroto coler Schaus, 1902. **Proc. U. S. Nat. Mus.** 24: 443; type male, n° 6.019, Nova Friburgo, [Rio de Janeiro State], Brazil; USNM.—Draudt, 1923, *in* Seitz. **Gross-Schmett Erde** 5, p. 965.—J. Zikán, 1928. **Ent. Rdsch.**, Stuttgart, 45: 32.—C. Hoffmann, 1934. **Ent. Rdsch.**, Stuttgart, 51: 72.—Hayward, 1940. **An. Soc. cient. arg.** 130: 94.—Hayward, 1940. **Rev. Soc. ent. arg.** 10: 291, fig. 12 (male gen.).—Hayward, 1941. **Rev. Mus. La Plata, n. s., Zool.** 2: 312.—Williams & Hayward, 1944. **Acta zool. Lill.** 2: 204.—Hayward, 1950. **Gen. Sp. Anim. Arg.** 2, p. 195, 196, pls 8, fig. 13 (male gen.), 21, fig. 9 (d).—J. Zikán & W. Zikán, 1968. **Pesq. agropec. bras.** 3: 59.

Sodalia coler; Evans, 1955. **Cat. Amer. Hesp.** 4, p. 105, pl. 59 (male gen.).—Biezanko, 1963. **Arq. Ent.**, sér. A, Pelotas, p. 16.—Mielke, 1968. **Atas Soc. Biol. Rio de Janeiro** 12: 76.—Hayward, 1973. **Op. Lill.** 23: 69.—Biezanko & Mielke, 1973. **Acta biol. paranaense** 2: 77.—Mielke, 1980. **Acta biol. paranaense** 8-9: 131.—Bridges, 1983. **Lep. Hesp.** 1, p. 27; 2, p. 34.—Bridges, 1988. **Cat. Hesp.** 1, p. 43; 2, p. 55.—K. Brown, 1992, *in* Morellato. **Hist. nat. Japi**, p. 179, fig. 17 (v).—C. Mielke, 1995. **Revta bras. Zool.** 11: 763.—Mielke & Casagrande, 1998. **Revta bras. Zool.** 14: 994.—K. Brown & Freitas, 2000. **Bol. Mus. Biol. Mello Leitão, n. s., Sta. Teresa**, 11/12: 112.—Canals, 2003. **Marip. Misiones**, p. 110, 461, figs (d, v).—Mielke, 2004. *Hesperioidea*, p. 80, *in* Lamas (ed.). **Checklist: Part 4A, Hesperioidea-Papilionoidea**, *in* Heppner (ed.). **Atlas Neotrop. Lep.** 5A.

(no genus) *coler*; Beattie, 1976. **Rhop. Direct.**, p. 115.

Diagnosis. This species is distinguished from all species in the genus by the longer brand over CuA₂ on the male DFW. Additionally, *S. coler* is distinguished from *S. spangla* **comb. nov.** and *S. petiti* by the absence of yellow scales on DFW and DHW; from *S. argyrospila* by the absence of pure white discal and postdiscal spots on VHW; and from *S. sodalis* by the presence of two circular areas of iridescent bluish-green scales on the frons.

Redescription. *Head*: frons with two circular areas of compact, short, iridescent bluish-green scales separated ventro-medially by a narrow area of opaque scales; anterior chaetosema yellow. Nudum 13–14 segments.

Wings: Forewing length 12–14 mm (n=30). DFW uniformly dark brown, sometimes with faint yellow postdiscal spots in R₃–M₁ and M₃–CuA₂; two brands, one above and other below CuA₂, the first somewhat rectangular and well-developed, much longer than in other species of the genus, almost reaching the end of discal cell, the second thin and shorter than the first. VFW ground color dark brown, reddish along costal margin, apical and subapical areas, extending to CuA₂ at the external margin. DHW uniformly dark brown. VHW mostly reddish-brown, except from the inferior half of CuA₂–2A to 3A brown; six faint spots of sparse pale yellow scales, one discal in the inferior half of discal cell, close to end of cell (almost undetectable), and five postdiscal, from Rs to CuA₂, in an arch-shaped arrangement.

Male genitalia: Tegumen about two times wider than long in dorsal view, proximal margin with a moderate indentation, median posterior projection very short. Fenestra reduced, triangular. Saccus two times longer than tegumen. Uncus about twice as long as tegumen; base slightly projected above tegumen and distal margin with a short indentation at middle; arms about same thickness, divergent, with a lateral spine at tip. Gnathos arms almost reaching distal margin of uncus. Ampulla as wide as 1/3 valva, broadly disjointed from harpe, slightly narrowing distally, but aligned with dorsal margin of costa, tip curved inward; harpe as long as ampulla, bifid, ventral portion wider than ampulla, dorsal portion narrower, bifid and L-shaped, barely exceeding dorsal margin of ampulla, with short inferior branch. Futura inferior wide, anterior and ventral projections unpronounced laterally. Aedeagus about

straight; distal opening extending to manica insertion; distal portion pointed, narrowed to the right, without spines on lateral margin; cornuti as several short, thin spines.

Female genitalia: Lamella antevaginalis somewhat rectangular, short, narrow, length 1/4 and width 1/3 of lamella postvaginalis. Lamella postvaginalis with a large M-shaped membranous area at center; distal margin with a deep, wide indentation, and two rounded lateral-distal projections, as long as half remaining lamella. Bursa copulatrix about ten times longer than sterigma. Ductus bursae about half bursa copulatrix length, membranous, with a ventral fold near ostium bursae ventrally covered by a sclerotized plate. Papilla analis rectangular, slightly wider than long; apophysis posterior shorter than papilla. Tergum VIII narrow laterally, area before spiracular opening longer than in remaining species.

Type material. *Euroto coler* Schaus, 1902 was described based on the [holo]type male from Nova Friburgo, Rio de Janeiro State, Brazil with wingspan of 25 mm and code number 6019. A male deposited at the USNM has the above data and is here considered the holotype of the species. This specimen has the following labels: / Nova Friburgo, [Rio de Janeiro,] Brazil. / Collection W. Schaus / *Euroto coler* type Sch[aus] / Type No. 6019 U.S.N.M. / USNM.

Distribution. This species is distributed in the Atlantic Forest biome of southeastern and southern Brazil, Paraguay and Argentina (Fig. 43).

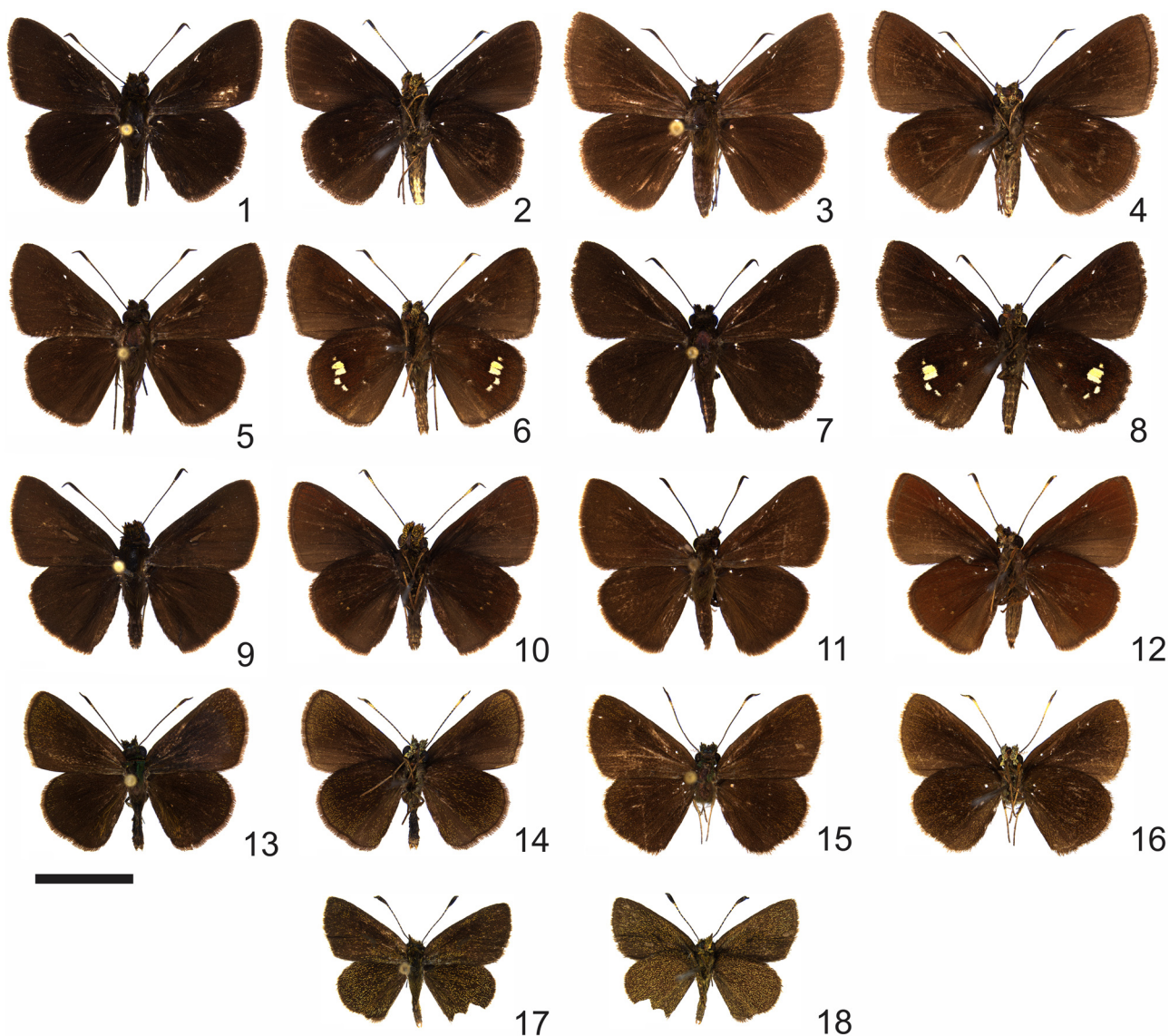
Comments. *Sodalia coler* is one of the commonest skipper species in the Atlantic Forest biome of southeastern and southern Brazil, in low-elevation areas of the Brazilian Atlantic coast and in the Paraná River drainage to up to 1200 m in the Araucaria Plateau. Records also exist from the Cerrado Biome of São Paulo State and Distrito Federal, Brazil, although it is uncommon in these regions. The distributional range of *S. coler* in the Atlantic Forest matches that of *S. argyrospila*, where both species are sympatric with *S. sodalis* in a narrow zone along the Brazilian Atlantic coast.

Despite the similarities in the wing color pattern with *S. sodalis*, *S. coler* shares several characters with *S. petiti* **sp. nov.**: the head with two circular areas of compact, iridescent bluish-green scales on frons, separated from each other ventro-medially (these areas are also present on *S. spangla*, **comb. nov.** where they are separated dorso-medially); the base of the uncus is slightly projected above the tegumen; the ampulla is as wide as 1/3 of valva's width, narrowed distally and with an inward curved tip; the harpe is bifid and as long as ampulla, with the ventral portion wider than ampulla and the dorsal portion narrower, bifid and L-shaped, exceeding the dorsal margin of ampulla; the fultura inferior with the anterior and ventral projections unpronounced laterally; and the distal portion of the aedeagus is without lateral spines (as in *S. spangla*, **comb. nov.**), and the cornuti are comprised of a multitude of short, thin spines.

Examined material. ARGENTINA: 1 ♂ (OM 11.832). *Misiones*—**Almirante Brown** (Reserva Yacutinga), 2–5.III.2007, Mielke & Casagrande leg., 10 ♂ (DZ 35.293, DZ 35.752, DZ 35.742, DZ 35.732, DZ 35.363, DZ 35.353, DZ 35.343, DZ 35.323, DZ 35.313, DZ 10.451*) 3 ♀ (DZ 35.283, DZ 35.303, DZ 35.333), 26.II.2008, Nuñez-Bustos, 1 ♂ (DZ 15.672). *Iguazu*, 10.I.2001, Klimaitis leg., 1 ♂ (DZ 35.702), (Parque Nacional Iguazu), 3.XI.2002, D. & J. Lindsley leg. 4 ♂, 2 ♀ (MGCL). *Monte Carlo*, I.1940, 1 ♂ (DZ 35.668). BRAZIL: *Distrito Federal*—**Brasília**, H. Ebert leg., 1 ♀ (DZ 35.566), (Rio Maranhão), 3.VIII.2001, E. Emery leg., 1 ♂ (DZ 40.071), 23.VII.2002, E. Emery leg., 1 ♂ (DZ 40.061), (Parque do Gama), 19.IV.1973, C. Callaghan leg. 2 ♂ (MGCL). *Espírito Santo*—**Baixo Guandu**, 4.V.1970, C. & C. T. Elias leg., 1 ♂ (DZ 35.459), 20.VIII.1970, 1 ♂ (DZ 35.430), 4.X.1971, 1 ♂ (DZ 35.521), C. & C. T. Elias leg. **Santa Teresa**, 10.IX.1966, C. & C. T. Elias leg., 1 ♂ (DZ 35.788), 26.IX.1966, C. T. Elias leg., 1 ♂ (DZ 35.618), 9.V.1967, 1 ♂ (DZ 35.289), 5.VI.1967, 1 ♂ (DZ 35.748), 15.I.1968, 1 ♂ (DZ 35.738), C. & C. T. Elias leg., 18.I.1968, C. T. Elias leg., 1 ♂ (DZ 35.598). *Minas Gerais*—**Aimorés**, 1.IV.1970, Elias leg., 1 ♂ (DZ 35.329). **Poços de Caldas**, 27.V.1969, H. Ebert leg., 1 ♂ (DZ 35.848). **Paracatu** (hilltop S of Paracatu), 18.IV.1973, C. Callaghan leg. 1 ♂ (MGCL). **Simão Pereira**, 14.IV.1972, Mielke & Brown leg., 5 ♀ (DZ 35.291, DZ 35.350, DZ 35.369, DZ 35.359, DZ 35.301). *Paraná*—**Campo Largo** (Bateias), 4.III.2000, O. Mielke leg., 1 ♂ (OM 51.087) 1 ♀ (OM 51.220). **Campo Mourão** (Parque Estadual do Lago Azul), 600 m, 9–10.X.2010, Mielke, Dolibaina, Carneiro & Maia leg., 4 ♂ (DZ 35.543, DZ 35.413, DZ 35.403, DZ 35.373) 1 ♀ (DZ 35.433). **Cândido de Abreu**, 10.XII.1994, Mielke & Casagrande leg., 1 ♂ (OM 40.843) 1 ♀ (OM 40.827). **Candói** (Parque Estadual de Santa Clara), 650 m, 27.IV.1987, 2 ♂ (DZ 35.461, DZ 35.491) 1 ♀ (DZ 35.471), 28.IV.1987, 4 ♂ (DZ 35.438, DZ 35.498, DZ 35.458, DZ 35.448), 1.X.1987, 1 ♂ (DZ 35.531), 2.X.1987, 1 ♂ (DZ 35.431), Mielke & Casagrande leg. **Cascavel**, IX.1985, Mielke & Casagrande leg., 2 ♂ (DZ 35.836, DZ 35.468) 1 ♀ (DZ 35.381). **Cerro Azul**, 600 m, 28.IX.1985, O. Mielke leg., 1 ♂ (DZ 35.490). **Cianorte**, 600 m, 9.XII.1975, Moure,

Mielke & Wedderhoff leg., 1 ♂ (DZ 35.455), 9.X.1982, O. Mielke leg., 1 ♂ (DZ 35.588) 1 ♀ (DZ 35.551). **Curitiba**, 900 m, 24.II.1971, O. Mielke leg., 1 ♂ (DZ 27.417), (Uberaba—Tirol das Torres), 900 m, 2.III.2001, O. Mielke leg., 1 ♂ (OM 53.365). **Fênix**, 300 m, 29.IV.1987, 3 ♂ (DZ 35.376, DZ 35.518, DZ 35.336), 3.X.1987, 2 ♀ (DZ 35.511, DZ 35.541), 4.X.1987, 1 ♂ (DZ 35.441), Mielke & Casagrande leg. **Foz de Iguaçu**, 250 m, 4.XII.1966, DZUP leg., 1 ♀ (DZ 35.312), 7.XII.1966, DZUP leg., 2 ♂ (DZ 35.322, DZ 35.292) 1 ♀ (DZ 35.505), 7.XII.1966, 1 ♂ (DZ 35.421), O. Mielke leg., 8.XII.1966, DZUP leg., 1 ♂ (DZ 36*), 9.XII.1966, O. Mielke leg., 1 ♀ (DZ 35.470), 10.XII.1966, 2 ♂ (DZ 35.515, DZ 35.485), 19.XII.1966, 1 ♂ (DZ 34*), DZUP leg., 17.II.1969, Moure & Mielke leg., 6 ♂ (DZ 35.466, DZ 35.816, DZ 35.706, DZ 35.666, DZ 35.826, DZ 35.426) 6 ♀ (DZ 35.526, DZ 35.656, DZ 35.436, DZ 35.446, DZ 35.476, DZ 35.516), 21.VIII.1971, M. Lauterjung leg., 1 ♀ (DZ 35.390), 17.II.1978, Mielke & Miers leg., 1 ♂ (DZ 35.796), 6.IX.1985, Mielke & Casagrande leg., 8 ♂ (DZ 35.346, DZ 35.386, DZ 35.552, DZ 35.562, DZ 35.320, DZ 35.300, DZ 35.488, DZ 35.349) 3 ♀ (DZ 35.330, DZ 35.480, DZ 35.560), (Parque Nacional Iguaçu), 21–24.IV.1995, Mielke & Casagrande leg., 15 ♂ (DZ 35.503, DZ 35.692, DZ 35.682, DZ 35.822, DZ 35.832, DZ 35.652, DZ 35.632, DZ 35.622, DZ 35.612, DZ 35.602, DZ 35.582, DZ 35.572, DZ 35.483, DZ 35.473, DZ 35.463) 3 ♀ (DZ 35.493, DZ 35.812, DZ 35.642), 20–26.VIII.2000, O. Mielke leg., 1 ♀ (DZ 35.662). **Guaira**, 25.III.1981, Mielke & Casagrande leg., 1 ♀ (DZ 35.311), 8.X.1982, O. Mielke leg., 3 ♂ (DZ 35.568, DZ 35.768, DZ 35.638) 3 ♀ (DZ 35.578, DZ 35.658, DZ 35.628), (Parque Nacional de 7 Quedas), 14.II.1978, 4 ♂ (DZ 35.556, DZ 35.786, DZ 35.806, DZ 35.726) 1 ♀ (DZ 35.798), 15.II.1978, 5 ♂ (DZ 35.501, DZ 35.288, DZ 35.756, DZ 35.746, DZ 35.456) 2 ♀ (DZ 35.736, DZ 35.278), Mielke & Miers leg. **Jundiá do Sul**, 1.V.1987, Mielke & Casagrande leg., 1 ♂ (DZ 35.481). **Jussara** (Horto—Companhia Melhoramentos do Paraná), 500 m, 12.XII.1975, 4 ♂ (DZ 35.385, DZ 35.489, DZ 35.286, DZ 35.276) 1 ♀ (DZ 35.475), 16.XII.1975, 1 ♂ (DZ 35.445) 1 ♀ (DZ 35.405), Moure, Mielke & Wedderhoff leg. **Londrina**, 600 m, 10.X.1982, O. Mielke leg., 1 ♂ (DZ 35.718) 1 ♀ (DZ 35.778), 30.IX.1983, Mielke & Casagrande leg., 2 ♂ (DZ 35.678, DZ 35.818), 3.I.1985, O. Mielke leg., 1 ♂ (DZ 35.339) 1 ♀ (DZ 35.309), 10.IX.1985, 1 ♂ (DZ 35.326), 25.X.1985, 2 ♂ (DZ 35.500, DZ 35.510), Mielke & Casagrande leg. **Maringá**, 23.I.1971, Becker leg., 3 ♂ (DZ 35.368, DZ 35.428, DZ 35.418) 4 ♀ (DZ 35.348, DZ 35.408, DZ 35.378, DZ 35.358). **Morretes** (Alto da Serra), 800 m, 28.I.1993, 1 ♂ (OM 33.761) 1 ♀ (OM 33.736), (Morro Alto), 400 m, 11.IV.2000, 1 ♂ (OM 51.648), 14.IV.2000, 1 ♂ (OM 51.644), 9.IV.2005, 3 ♂ (DZ 35.672, DZ 35.722, DZ 35.712), O. Mielke leg. **Paranaguá** (Alexandra), 10 m, 6.IX.1968, 1 ♂ (DZ 35.469), 12.XII.1968, 2 ♂ (DZ 35.496, DZ 35.486), 12.IV.1969, 1 ♀ (DZ 35.379), 19.IX.1970, 1 ♂ (DZ 35.380), 15.V.1980, 1 ♂ (DZ 35.460), O. Mielke leg. **Planaltina do Paraná** (RPPN Duas Barras), 250 m, 10.X.2009, Carneiro, Leite, Dias & Dolibaina leg., 1 ♂ (DZ 35.302). **Ponta Grossa** (Piriquitos), 850 m, 31.I.1990, 2 ♂ (OM 25.019, OM 25.025), (Vila Velha), 900 m, 6.II.1968, 1 ♂ (DZ 387*), 21.III.2002, 2 ♂ (DZ 35.625, DZ 35.645), 25.IV.2002, 1 ♀ (DZ 35.605), O. Mielke leg. **Pontal do Paraná** (Atami), 10 m, 4.III.1995, 1 ♂ (OM 40.366), 26.III.1995, 1 ♂ (OM 40.521), 2.I.1999, 1 ♂ (OM 49.844), 26–31.XII.2004, 3 ♂ (DZ 35.852, DZ 35.762, DZ 35.842) 1 ♀ (DZ 35.802), 1.I.2006, 1 ♀ (OM 67.302), 5.II.2008, 1 ♂ (DZ 35.772), 4.I.2017, 1 ♂ (DZ 40.450), 26.II.2017, 2 ♂ (DZ 40.430, DZ 40.440), O. Mielke leg. **Roncador** (15 Km SW), 600 m, 11.X.2010, 2 ♂ (DZ 35.523, DZ 35.393) 1 ♀ (DZ 35.383), (Unidade de Conservação São Domingos), 700 m, 11.X.2010, 1 ♂ (DZ 35.513), Mielke, Dolibaina, Carneiro & Maia leg. **São Jorge de Ivaí**, 1.XII.1973, 1 ♂ (DZ 35.341), (Copacabana), 25.I.1971, 1 ♂ (DZ 35.419), 16.IX.1978, 1 ♂ (DZ 35.561), Furtado leg. **São Pedro do Ivaí** (RPPN Barbacena), 300 m, 8.X.2010, Mielke, Dolibaina, Carneiro & Maia leg., 10 ♂ (DZ 35.533, DZ 35.835, DZ 35.595, DZ 35.585, DZ 35.575, DZ 35.845, DZ 35.565, DZ 35.782, DZ 35.792, DZ 35.423), 2.X.2012, Lablep leg., 1 ♂ (DZ 35.839) 2 ♀ (DZ 35.705, DZ 35.849) 1 ♂ (DZ 35.805), 9–10.X.2012, Lablep leg., 1 ♂ (DZ 35.569). **Telêmaco Borba** (Reserva Samuel Klabin), 6.X.1986, PROFAUPAR leg., 2 ♂ (DZ 35.280, DZ 35.340) 1 ♀ (DZ 35.371), (Lagoa), 6.II.1994, Mielke & Casagrande leg., 1 ♂ (OM 40.627) 1 ♀ (OM 40.571). **Terra Boa** (Horto—Companhia Melhoramentos do Paraná), 650 m, 10.XII.1975, Moure, Mielke & Wedderhoff leg., 3 ♂ (DZ 35.465, DZ 35.415, DZ 35.395). **Três Barras do Paraná** (Parque Estadual do Rio Guarani), 9–10.X.2012, Lablep leg., 13 ♂ (DZ 35.775, DZ 35.649, DZ 35.599, DZ 35.589, DZ 35.579, DZ 35.715, DZ 35.685, DZ 35.735, DZ 35.725, DZ 35.765, DZ 35.755, DZ 35.795, DZ 35.785), 7 ♀ (DZ 35.745, DZ 35.839, DZ 35.639, DZ 35.629, DZ 35.619, DZ 35.609, DZ 35.695). **Tuneiras do Oeste** (Rebio das Perobas), 8.X.2012, Lablep leg., 1 ♂ (DZ 35.815). **União da Vitória**, 750 m, 7.XI.1985, Mielke & Casagrande leg., 2 ♂ (DZ 35.549, DZ 35.539) 1 ♀ (DZ 35.519). **Ventania** (8 Km N), 1000 m, 8.IX.2007, 1 ♂ (DZ 35.563), (12 Km NW), 1000 m, 30.XI.2008, 1 ♀ (DZ 35.665), (12.5 Km N), 1000 m, 21–22.I.2006, 2 ♀ (DZ 35.443, DZ 35.615), 29–30.I.2006, 2 ♂ (DZ 35.453, DZ 35.635) 2 ♀ (DZ 35.592, DZ 35.655), 30.XI.2008, 1 ♂ (DZ 35.825), O. Mielke leg. **Rio de Janeiro**—1 ♀ (DZ 35449). **Cachoeiras de Macacu**, 550 m, 21.I.1996, Mielke & Miers leg., 1 ♀ (OM 41.966), (Boca

do Mato), 16.VI.2006, 1 ♀ (DZ 35.675), 20.III.2009, 1 ♂ (DZ 35.819), Tangerini leg. **Duque de Caxias** (Imbariê), 25 m, 17.XI.1979, H. Ebert leg., 1 ♂ (DZ 35.366). **Itatiaia** (Parque Nacional do Itatiaia), 900 m, 18.VII.1963, O. Mielke leg., 1 ♀ (OM 5.141), (bamboo forest), 13–14.I.1973, C. Callaghan leg. 1 ♂ (MGCL). **Maje** (km 20 Rio-Petrópolis Hwy.), 2.V.1971, C. Callaghan leg. 1 ♂ (MGCL). **Niterói** (São Francisco), 150 m, 1.III.1952, H. Ebert leg., 1 ♂ (DZ 35.319). **Petrópolis** (Alto da Serra), 18.II.1962, 1 ♂ (OM 329), 28.IX.1965, 1 ♂ (OM 7.587*), O. Mielke leg. **Rio de Janeiro** 8.III.1971, 1 ♂, 27.III.1971, 1 ♂, all C. Callaghan (MGCL), (Gávea), 1 ♀ (OM 9.130), (Leblon), 17.II.1971, 2 ♂, 5.III.1971, 1 ♂, 28.IV.1971, C. Callaghan leg. 1 ♂; C. Callaghan leg. (MGCL), (Morro do Sumaré), 9.VII.1968, Brown leg., 1 ♀ (DZ 35.391), (Pão de Açúcar), 150 m, 3.III.1952, 1 ♀ (DZ 35.728), 8.III.1952, 1 ♂ (DZ 35.808), 5.VI.1952, 1 ♂ (DZ 35.279), H. Ebert leg. **Rio Grande do Sul**—**Campo Novo**, 9.XI.1985, Mielke, Araujo & Casagrande leg., 2 ♂ (DZ 35.509, DZ 35.310) 1 ♀ (DZ 35.499). **Candelaria**, 160 m, 11.II.1976, Mielke & Buzzi leg., 3 ♂ (DZ 35.296, DZ 35.676, DZ 35.316). **Derrubadas** (Floresta Estadual do Turvo), 10.XI.1985, Mielke, Araujo & Casagrande leg., 3 ♂ (DZ 35.396, DZ 35.576, DZ 35.540) 5 ♀ (DZ 35.846, DZ 35.520, DZ 35.450, DZ 35.290, DZ 35.529). **Erechim**, 700 m, 8.XI.1985, Mielke & Casagrande leg., 1 ♂ (DZ 35.559). **Erval Seco** (Rio Guarita), V.1961, Schaal leg., 1 ♂ (DZ 35.425). **Irai**, 25.XI.1969, Schaal leg., 1 ♂ (DZ 35.299). **Pelotas**, 27.II.1961, 1 ♀ (DZ 31.640*), 13.IV.1961, 1 ♂ (DZ 35.525), 29.IV.1961, 1 ♀ (DZ 35.495), Biezanko leg., 8.IV.1965, Mantovani leg., 1 ♂ (DZ 396*). **Porto Alegre** (Morro Santana), 9.VI.2004, Iserhard leg., 1 ♂ (DZ 35.553). **Santa Maria** (Cerrito), 200 m, 10.II.1976, Mielke & Buzzi leg., 1 ♂ (DZ 35.626) 2 ♀ (DZ 35.586, DZ 35.708). **Santa Catarina**—**Agrolândia**, 23.I.1982, O. Mielke leg., 4 ♂ (DZ 35.538, DZ 35.352, DZ 35.338, DZ 35.479). **Blumenau**, 2.III.1973, M. Lauterjung leg., 1 ♂ (DZ 35.389). **Brusque**, 2.I.1968, Becker leg., 1 ♂ (DZ 35.398), 28.XII.1969, 2 ♂ (DZ 35.546, DZ 35.766), 12.IV.1971, 1 ♂ (DZ 35.400), Becker leg. **Camboriú**, 27.I.1984, O. Mielke leg., 1 ♀ (DZ 35.688). **Enseada**, 5.II.1987, O. Mielke leg., 1 ♂ (OM 51.952). **Joinville** (Rio do Julio), 600 m, 15.III.1987, O. Mielke leg., 2 ♂ (OM 14.376, OM 14.377), (Serrinha), 10–200 m, 27.III.1970, 1 ♂ (DZ 35.506), 20.XI.1970, 1 ♂ (DZ 35.536), O. Mielke leg., 9.X.1971, 2 ♂ (DZ 35.508, DZ 35.281), 31.I.1974, 1 ♀ (DZ 35.478), 28.IV.1974, 1 ♀ (DZ 35.321), 8.IX.1977, 1 ♂ (DZ 35.298), 27.V.1978, 1 ♂ (DZ 35.698), Mielke & Miers leg., 10.X.1982, Miers leg., 1 ♂ (DZ 35.758), 23.I.1984, 1 ♂ (DZ 35.608), 24.I.1984, 1 ♂ (DZ 35.648), 8.X.1988, 1 ♂ (OM 18.831), 8.X.1988, 2 ♀ (OM 18.832, OM 18.830), Miers & Mielke leg. **Florianópolis** (Lagoa do Peri), 8.IV.2004, E. Santos leg., 1 ♂ (DZ 35.809). **Joaçaba** (Parque Municipal do Rio do Peixe), 6.XII.2016, 1 ♂ E. Orlandin leg (DZ 40.460), 8.II.2017, 1 ♂ E. Orlandin leg (DZ 40.510), 15.II.2017, 2 ♂ E. Orlandin leg (DZ 40.490, DZ 40.500), 22.III.2017, 2 ♂ E. Orlandin leg (DZ 40.470, DZ 40.480). **Rio dos Cedros** (Alto Rio dos Cedros), 650 m, 4.II.1972, Lauterjung leg., 1 ♂ (DZ 35.716). **Seara** (Nova Teutônia), 700 m, II.1969, 1 ♂ (DZ 35.616), I.1971, 1 ♀ (DZ 35.776), III.1971, 1 ♂ (DZ 35.558), IV.1971, 1 ♂ (DZ 35.548), IX.1971, 1 ♂ (DZ 35.606), IX.1971, 1 ♀ (DZ 35.696), 31.I.1972, 2 ♂ (DZ 35.596, DZ 35.686), III.1973, 2 ♂ (DZ 35.636, DZ 35.646), VI.1975, 1 ♀ (DZ 35.306), II.1976, 1 ♂ (DZ 35.435), Plaumann leg. **Taió**, 28.I.1966, O. Mielke leg., 2 ♂ (OM 9.435, DZ 35.429) 1 ♀ (OM 8.157). **São Paulo**—**Amparo**, 650 m, 20.V.1968, H. Ebert leg., 1 ♂ (DZ 35.542). **Araras**, 600 m, 4.I.1966, 1 ♂ (DZ 35.416), 16.I.1966, 1 ♀ (DZ 35.282), 21.IV.1966, 1 ♀ (DZ 16.739*), 19.VI.1966, 1 ♂ (DZ 35.532), H. Ebert leg., 700 m, 30.V.1975, C. Callaghan leg. 3 ♂ (MGCL). **Campinas**, 700 m, 15.I.1977, H. Ebert leg., 1 ♂ (DZ 35.356), 7.II.1998, Brown leg., 1 ♂ (OM 49.002). **Cordeirópolis**, 11.VIII.1963, H. Ebert leg., 1 ♂ (DZ 35.399). **Jundiá** (Serra do Japi), 9.III.1990, 1 ♂ (OM 24.805), 5.V.1990, 1 ♀ (OM 25.694), Brown leg. **Lins**, 21.V.1941, G. Haibinol leg., 1 ♂ (OM 12.089). **Paraibuna**, 650 m, 9.VII.1965, H. Ebert leg., 2 ♂ (DZ 35.550, DZ 35.512). **Teodoro Sampaio** (Parque Estadual do Morro do Diabo), 600 m, 22–25.X.1987, 1 ♀ (OM 18.070*), 25.X.1987, 1 ♂ (OM 18.071), 17.VIII.1989, 2 ♂ (DZ 35.442, DZ 35.332), 19.VIII.1989, 2 ♂ (DZ 35.432, DZ 35.382), 5.XII.1989, 1 ♂ (DZ 35.422) 1 ♀ (DZ 27.577), 6.XII.1989, 1 ♂ (DZ 35.362), 7.XII.1989, 1 ♂ (DZ 35.412), 8.XII.1989, 1 ♂ (DZ 35.452), 20.II.1990, 1 ♀ (DZ 31.371), 21.II.1990, 1 ♂ (DZ 35.472), 22.II.1990, 1 ♂ (DZ 35.492), 23.II.1990, 1 ♂ (DZ 35.482) 2 ♀ (DZ 35.392, DZ 35.372), 5.V.1990, 1 ♂ (DZ 35.462), 18.III.1991, 1 ♂ (DZ 35.402) 1 ♀ (DZ 35.342), Mielke & Casagrande leg. **Rio Claro**, 600 m, 11.II.1962, 1 ♀ (DZ 35.828), 28.X.1962, 1 ♂ (DZ 35.406), 26.V.1963, 1 ♂ (DZ 35.522), 23.VI.1963, 1 ♂ (DZ 35.409), 27.VIII.1963, 1 ♂ (DZ 35.530), H. Ebert leg. **PARAGUAY**: **Alto Paraná**—**Ciudad del Este** (50 Km W), 14.I.1982, O. Mielke leg., 1 ♂ (DZ 35.439). **Itakyry**—**General Dias**, 400 m, 15.I.1980, 1 ♂ (DZ 35.401) 3 ♀ (DZ 35.528, DZ 35.502, DZ 35.388), 16.I.1980, 2 ♂ (DZ 35.318, DZ 35.360), 17.I.1980, 2 ♂ (DZ 35.351, DZ 35.370), 18.I.1980, 2 ♂ (DZ 35.328, DZ 35.361), 19.I.1980, 1 ♂ (DZ 35.410) 1 ♀ (DZ 35.331), 20.I.1980, 4 ♂ (DZ 35.308, DZ 35.420, DZ 35.838, DZ 35.451) 1 ♀ (DZ 35.440), Mielke & Miers leg.



FIGURES 1–18. Habitus of species of *Sodalía*, males (left) and females (right). 1–4. *S. sodalis*, 1–2. Male from Santo Antônio do Tauá, Pará, Brazil (DZ 35.537), 3–4. Female from Cacaúlândia, Rôndonia, Brazil (OM 21.494). 5–8. *S. argyropsila*, 5–6. Male from Antonina, Paraná, Brazil (OM 14.223), 7–8. Female from Pontal do Paraná, Paraná, Brazil (OM 25.358). 9–12. *S. coler*, 9–10. Male from Pontal do Paraná, Paraná, Brazil (DZ 35.842), 11–12. Female from Seara, Santa Catarina, Brazil (DZ 35.696). 13–16. *S. petiti* **sp. nov.**, 13–14. Male holotype from Alluriquin, Ecuador (OM 52.619). 15–16. Female allotype from Alluriquin, Ecuador (DZ 31.487). 17–18. *S. spangla* **comb. nov.**, male from Oso Perdido, Amazonas, Peru (OM 83.945). Scale bar: 1 cm.

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<http://zoobank.org/urn:lsid:zoobank.org:act:9C4CBA37-379D-411F-A2B4-7EDD7548B538>

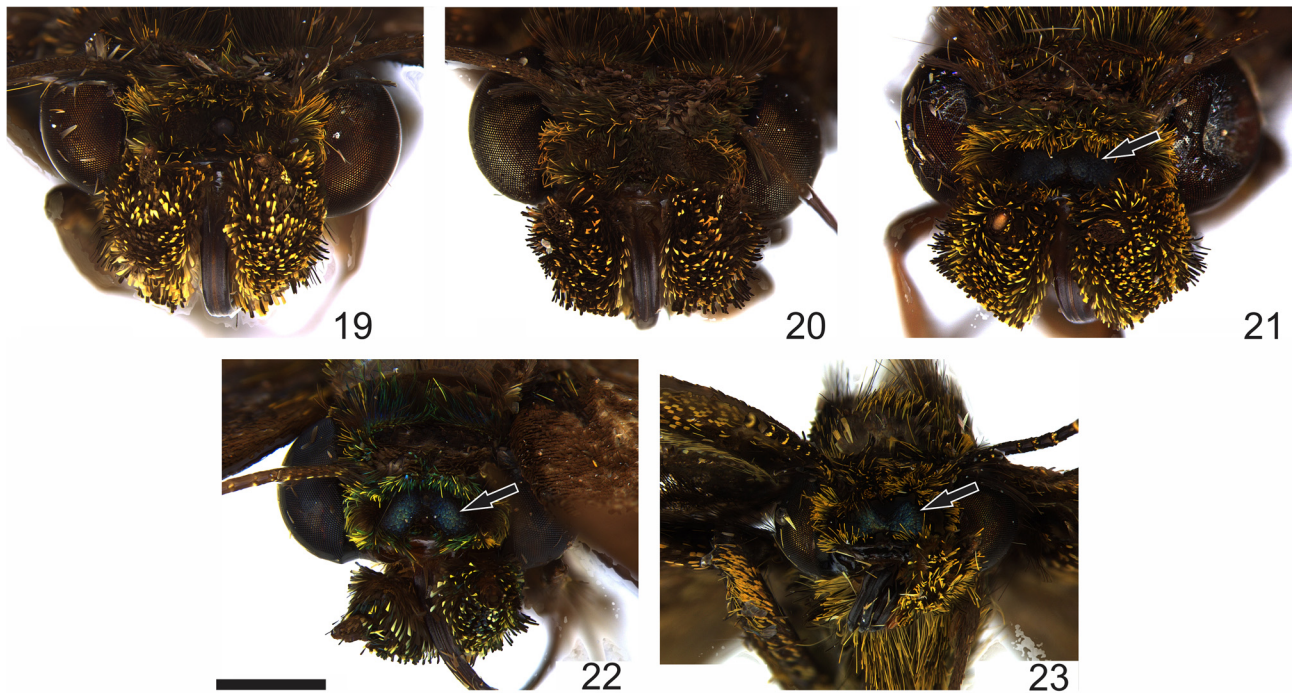
Figs 13–16, 22, 27, 32, 37, 42, 45

Diagnosis. *Sodalía petiti* **sp. nov.** is differentiated from other species in the genus by the following characters: green head, patagia and tegula; DFW and DHW speckled with yellow scales mostly in the marginal areas; male DFW with a very reduced brand; male genitalia with a narrower ampulla and longer aedeagus (relative to valva's length); female genitalia with the lamella antevaginalis bearing two long lateral projections and the ductus bursae with a long, sclerotized ventral plate.

Description. *Head:* Mostly brown mixed with yellow and green scales, transfrontal suture and area around

posterior chaetosema mostly green; frons with two rounded areas of short, iridescent bluish-green scales. Labial palpus mostly dark brown mixed with yellow and green scales; first segment short; second segment three times longer than first; third segment 1/3 length of second segment, slender, and projected beyond the clothing of the second segment. Antenna brown, ventrally yellow at base of segments; club brown, with a yellow ring at base; apiculus as long as club, ventrally with a yellow line; nudum of 13–14 segments, dark brown, restricted to apiculus. Female as in male.

Thorax: Brown with green dorsally, brown with yellow ventrally. Patagia and tegula green. Legs brown, ventrally yellowish. Female as in male.



FIGURES 19–23. Head of species of *Sodalia* in antero-dorsal view. 19. *S. sodalis*, male from Santo Antônio do Tauá, Pará, Brazil (DZ 31.331). 20. *S. argyropsila*, male from Antonina, Paraná, Brazil (OM 14.223). 21. *S. coler*, male from Agrolândia, Santa Catarina, Brazil (DZ 35.352). 22. *S. petiti* **sp. nov.**, male holotype. 23. *S. spangla* **comb. nov.**, male from Oso Perdido, Amazonas, Peru (OM 83.945). Arrows indicate areas of frons with iridescent bluish-green. Scale bar: 1 mm.



FIGURES 24–28. Head and thorax of species of *Sodalia* in dorsal view. 24. *S. sodalis*, male from Yavita, Amazonas, Venezuela (OM 39.809). 25. *S. argyropsila*, male from Joinville, Santa Catarina, Brazil (DZ 35.654). 26. *S. coler*, male from Pontal do Paraná, Paraná, Brazil (DZ 35.842). 27. *S. petiti* **sp. nov.**, male holotype. 28. *S. spangla* **comb. nov.**, male from Oso Perdido, Amazonas, Peru (OM 83.945). Scale bar: 1 mm.

Wings: Forewing length 10–11 mm, apex obtuse, outer margin convex. DFW and DHW dark brown, speckled with yellow scales along margins; DFW with two brands over and under CuA₂, covered by tiny brown scales; the former narrow, slightly longer than the latter, bordering CuA, the latter narrower than former, bordering CuA₂. VFW dark brown, fainter below CuA₂, speckled with yellow scales along apex and outer margin; VHW as VFW but with yellow scales along the wing, more concentrated on outer margin. Fringe of both wings brown, paler than ground color. Female as in male except in the absence of DFW brand.

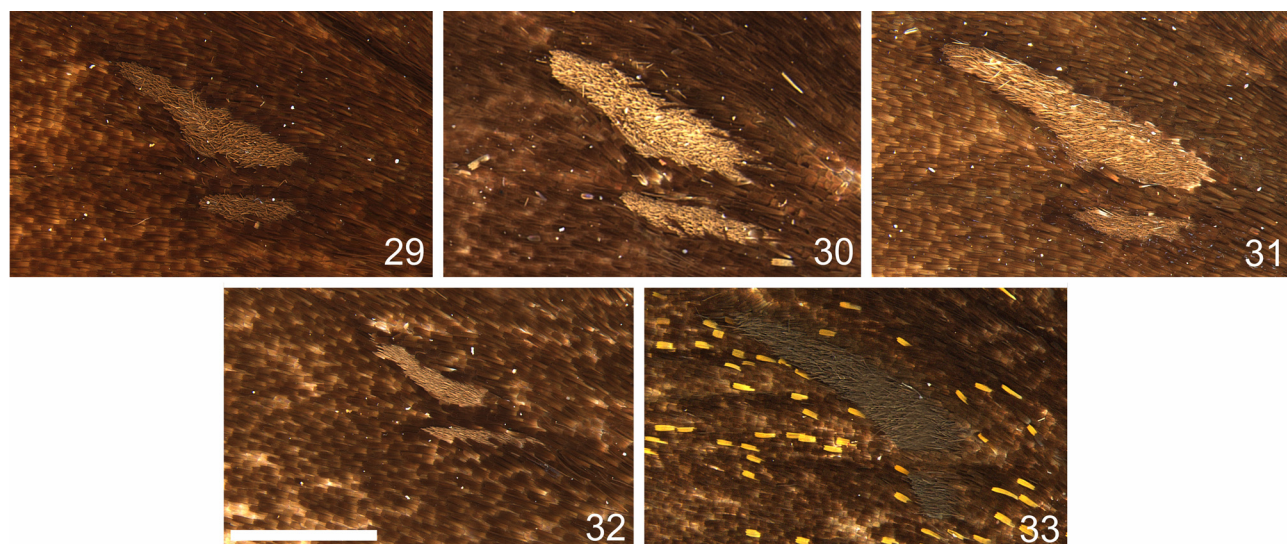
Abdomen: Dorsally dark brown with sparse, long, yellow scales; ventrally as dorsally, last segments lighter, with a central dark brown line at middle. Female as in male.

Male genitalia: Tegumen two times wider than long in dorsal view, proximal margin with a deep indentation, median posterior projection very short. Fenestra triangular, narrowed. Saccus about two times longer than tegumen. Uncus more than twice as long as tegumen; base with distal margin straight and a short indentation at middle; arms about same thickness laterally and dorsally with a small lateral spine at tip. Gnathos arms almost reaching distal margin of uncus. Valva with ampulla 1/3 width of valva, broadly disjointed from harpe, narrowing distally below dorsal margin of costa, tip curved inward; harpe shorter than ampulla, bifid, ventral portion wider than ampulla, dorsal portion narrower, bifid and L-shaped, exceeding dorsal margin of ampulla. Fultura inferior short, wide, anterior and ventral projections very short. Aedeagus longer than in other members of the genus, nearly straight in dorsal and slightly concave in lateral view; distal opening not extending to manica insertion; aedeagus tip with smooth lateral margins; cornuti as several short, thin spines.

Female genitalia: Sterigma broad, wider than long. Lamella antevaginalis developed as two long, divergent distal projections, each bearing a spine on inner margin, near base. Lamella postvaginalis about 1.5 wider than long, with a broad median indentation and two rounded, lateral projections. Ostium bursae narrower than in the remaining species, placed at base of sterigma. Bursa copulatrix about 10 times longer than lamella postvaginalis; ductus bursae narrow, about 2/5 length of bursa copulatrix, mostly membranous except with a sclerotized ring about 2/3 length of ductus; corpus bursae completely membranous, narrow, last 1/3 ovoid. Papila analis rectangular, 2/3 as wide as long, with a short, rounded dorsal projection near distal margin; apophysis posterior thin, slightly longer than papilla and curved upward after base.

Etymology. This species is named for Jean-Claude Petit in honor of his initiative in cataloguing the butterfly fauna of Sangay National Park, Ecuador, and making the information available at the following website: <http://www.sangay.eu/en/>.

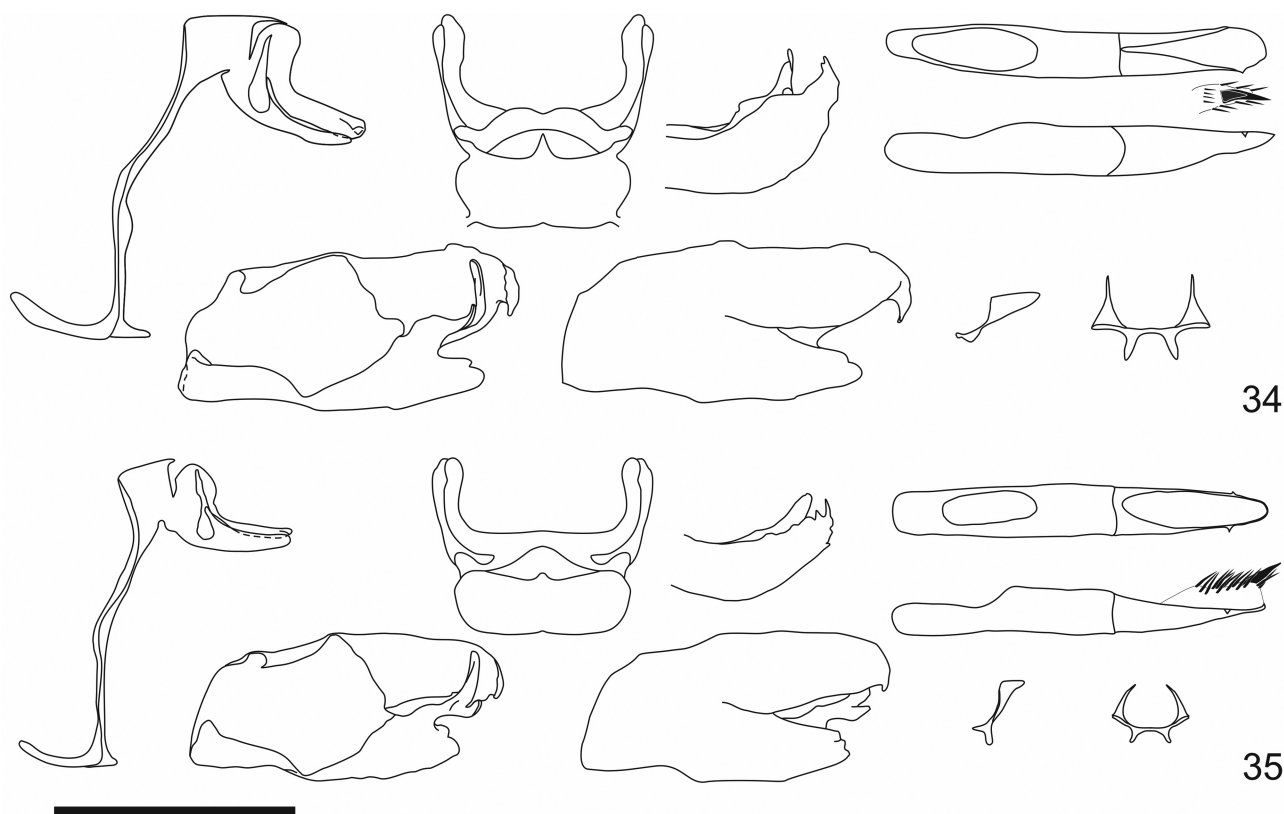
Type material. Holotype male with the following labels: / HOLOTYPE / 8-II-2011, Tinalandia, Alluriquin, Pichincha [recte Santo Domingo de los Tsáchilas, Alluriquin], Ecuador 800m, Mielke & Casagrande leg./ Holotypus *Sodalia petiti* Gaviria-Ortiz, Dolibaina & A. Warren, 2020 /. OM 52.619/. DZUP



FIGURES 29–33. Forewing brands of male *Sodalia*. 29. *S. sodalis*, from Yavita, Amazonas, Venezuela (OM 39.809). 30. *S. argyrospila*, from Joinville, Santa Catarina, Brazil (DZ 35.654). 31. *S. coler*, from Pontal do Paraná, Paraná, Brazil (DZ 35.842). 32. *S. petiti* sp. nov., paratype from Tinalandia, Alluriquin, Santo Domingo de los Tsáchilas, Ecuador (OM 52.619). 33. *S. spangla* comb. nov., from Oso Perdido, Amazonas, Peru (OM 83.945). Scale bar: 1 mm.

Allotype female with the following labels: / ALLOTYPUS / La Palma, Alluriquin, Pichincha, Ecuador, 1000m, 20-VII-1981, Mielke & Casagrande [leg.]/ Allotypus *Sodalia petiti* Gaviria-Ortiz, Dolibaina & A. Warren, 2020/ Gen. prep. E. Carneiro 2014 / DZ 31.487/. DZUP

Paratypes. **ECUADOR**: *Pichincha*—Rio Toachi, V.1969, 1 ♂*, 1 ♀*, VI.1969, 1 ♂*, 1 ♀*, XII.1968, 3 ♂[1 ♂*], all R. de Lafébre leg. (MGCL). *Santo Domingo de los Tsáchilas*—**Alluriquín** (Rio Toachi), 650 m, IV.1964, R. de Lafébre leg., 1 ♂ (MGCL), 1 ♀ (MGCL); (La Palma), 1000 m, 20.VII.1981, Mielke & Casagrande leg., 10 ♂ (DZ 31.557*, DZ 31.391, DZ 35.305, DZ 35.315, DZ 27.352, DZ 35.325, DZ 35.335, DZ 35.345, DZ 35.365, DZ 35.355) 2 ♀ “(DZ 31.487*, DZ 35.375*); **(12 km E Hotel Tinalandia)**, 22.V.1985, O. Mielke leg. 1 ♂ (OM 33.708*); 750–850 m, 8.V.1988, 4 ♂ [3*♂], 9.V.1988, 1 ♂*, 10.V.1988, 2 ♂, 3 ♀, 12.V.1988, 1 ♂*, 1 ♀*, 13.V.1988, 1 ♂, 14.V.1988, 1 ♂, all G. & A. Austin leg. (MGCL); 667–688 m, 18.V.1997, 12 ♂, 6 ♀, 20.V.1997, 1 ♂, 21.V.1997, 1 ♂, 22.V.1997, 1 ♂, 1 ♀, 24.V.1997, 4♂, 3♀, all A. D. Warren leg. (ADW). *Santo Domingo de los Colorados*, 7.IV.1973, N. Venedictoff leg. 1 ♂ (MGCL).”

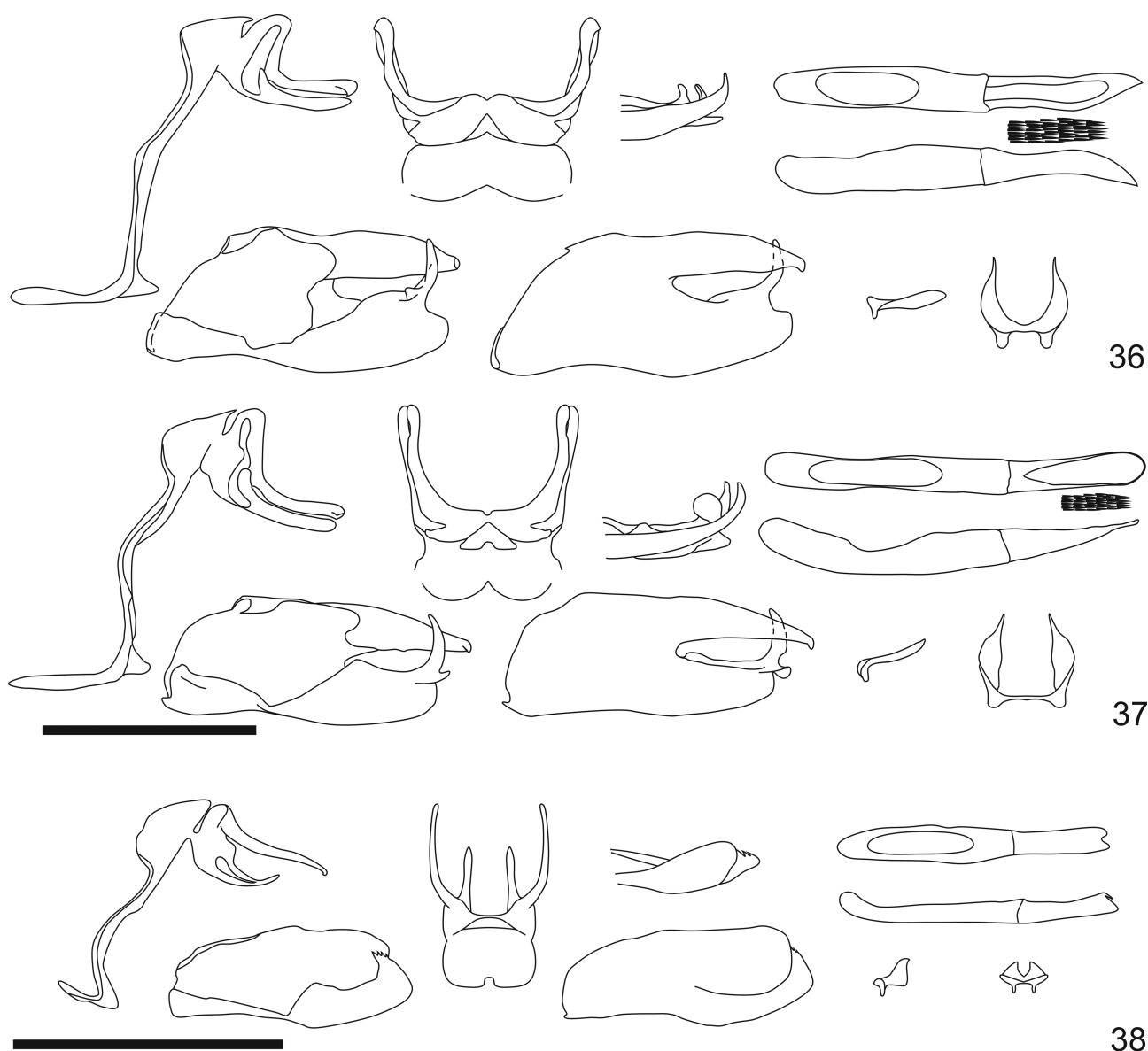


FIGURES 34–35. Male genitalia of *Sodalia*. 34. *S. sodalis*, from Santo Antônio do Tauá, Pará, Brazil (DZ 35.547). 35. *S. argyropsila*, from Santa Teresa, Espírito Santo, Brazil (DZ 31.480). Left to right: lateral view of tegumen, ventral tegumen arm, dorsal projection of saccus and saccus; uncus and gnathos; dorsal view of tegumen, uncus and gnathos (partial); dorsal view of the distal half of the left valva; aedeagus in dorsal and left lateral views and cornuti; left lateral view of the right valva; right lateral view of the right valva; fultura inferior in lateral and ventral views. Scale bar: 1 mm.

Additional material. **VENEZUELA**: *Distrito Federal*—Hotel Hilton, 1.II.1977, J. T. McBurney leg., 1 ♂ (MCGL).

Distribution. This species is distributed at low to mid elevations of the western Andes of Ecuador and Venezuela (Fig. 45).

Comments. *Sodalia petiti* is one of the most easily recognizable species of *Sodalia* due to its unique pattern of green scales covering parts of the head and most of the patagia and tegulae. This is the only species of the genus geographically restricted to habitats of low to mid elevations of the western Andes of Ecuador and in the Cordillera de la Costa in Venezuela. This wide disjunct distribution implies that *S. petiti* likely occurs in similar habitats in the western Colombian Andes.



FIGURES 36–38. Male genitalia of *Sodalina*. 36. *S. coler*, from Pelotas, Rio Grande do Sul, Brazil (DZ 396). 37. *S. petiti* **sp. nov.**, paratype from Santo Domingo de los Colorados, Santo Domingo de los Tsáchilas, Ecuador (OM 33.708). 38. *S. spangla* **comb. nov.**, from Oso Perdido, Amazonas, Peru (OM 83.645). Structures and views as described in the legend of figures 34–35. Scale bar: 1 mm.

***Sodalina spangla* (Evans, 1955) comb. nov.**

Figs 17–18, 23, 28, 33, 38, 45

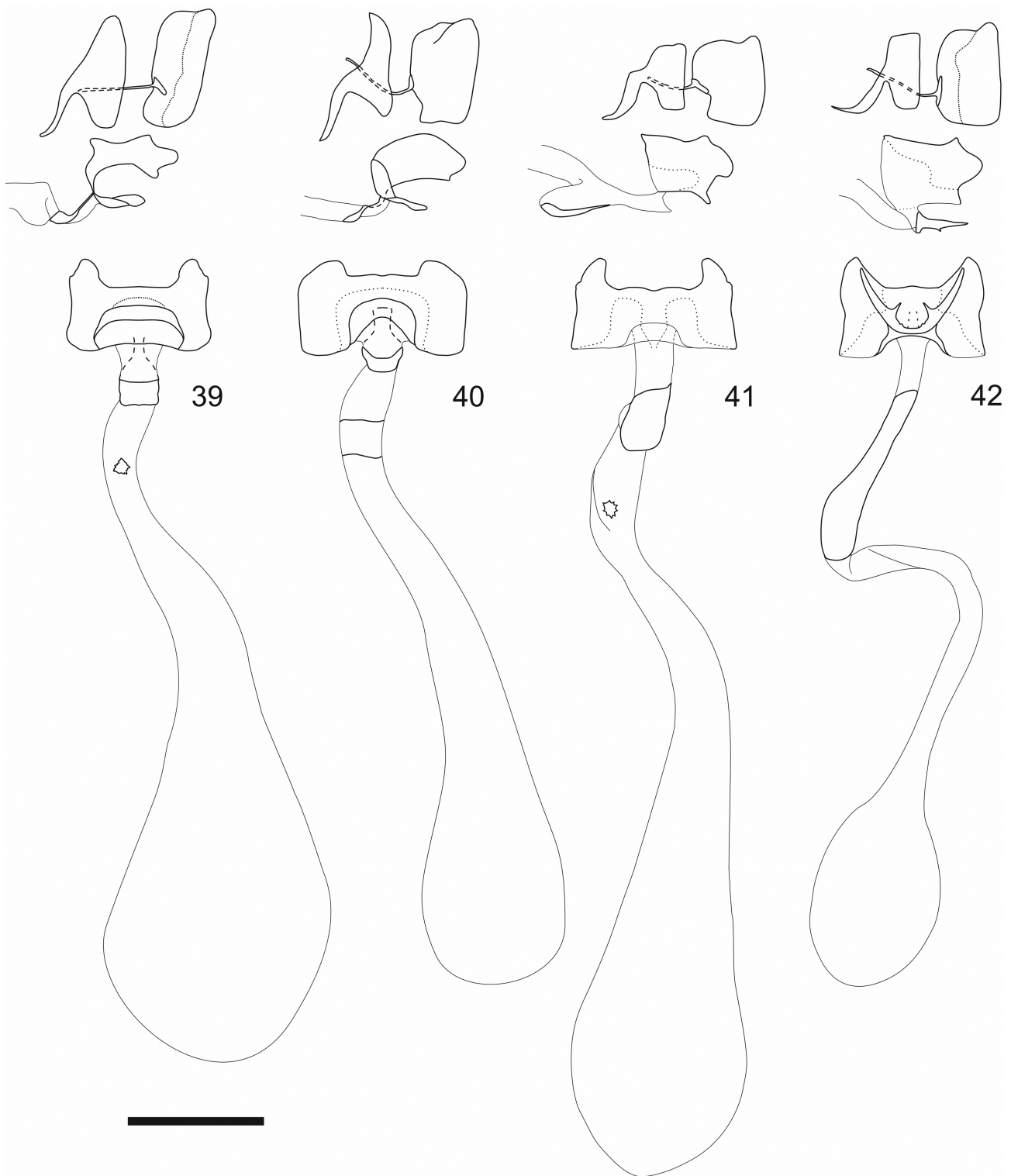
Mnasitheus spangla Evans, 1955. **Cat. Amer. Hesp.** 4, p. 146, pl. 63 (male gen.); [holo]type male, Rio Blanco, [Morona Santiago,] Ecuador, 1700 m, F. M. Brown leg.; BM(NH).—Bridges, 1983. **Lep. Hesp.** 1, p. 111; 2, p. 21.—Bridges, 1988. **Cat. Hesp.** 1, p. 176; 2, p. 34.—Lamas, 2003. **Marip. Machu Picchu**, p. 190.—Mielke, 2004. *Hesperioidea*, p. 72, **in** Lamas (ed.). **Checklist: Part 4A, Hesperioidea-Papilionoidea**, *in* Heppner (ed.). **Atlas Neotrop. Lep.** 5A. (no genus) *spangla*; Beattie, 1976. **Rhop. Direct.**, p. 262.

Diagnosis. *Sodalina spangla* is the smallest species of *Sodalina* and the only one with the dorsal and ventral wing surfaces completely speckled with yellow scales.

Redescription. *Head*: Mostly brown mixed with yellow, frons with a patch of short, compact, iridescent bluish-green scales. Labial palpus mostly dark brown and yellow. Antenna brown, ventrally yellow at base of segments;

club brown, with yellow ring at base; apiculus shorter than club, ventrally with a yellow line; nudum of 11 segments, dark brown, restricted to apiculus.

Thorax: Entirely brown and yellow including patagia, tegula and legs.



FIGURES 39–42. Female genitalia of *Sodalia*. 39. *S. sodalis*, from Tingo Maria, Huánuco, Peru (DZ 31.675). 40. *S. argyropila*, from Paranaguá, Paraná, Brazil (OM 15.992). 41. *S. coler*, from Seara, Santa Catarina, Brazil (DZ 35.306). 42. *S. petiti* **sp. nov.**, paratype from La Palma, Alluriquin, Santo Domingo de los Tsáchilas, Ecuador (DZ 35.375). Top to bottom: lateral view of tergum VIII, posterior apophysis, stergima, papilla analis and part of the ductus bursae; ventral view of the sterigma and bursa copulatrix. Scale bar: 1 mm.

Wings: Forewing length 9–10 mm. DFW and DHW dark brown speckled with yellow; DFW with two brands over and under CuA_2 , covered by dark brown scales, the former longer than in all other species of the genus, with base only slightly wider than tip, bordering CuA , the latter brand narrower and shorter than former, bordering CuA_2 . VFW dark brown, yellow speckling denser than on DFW; VHW as VFW but yellow speckling denser. Fringe of both wings yellowish brown.

Abdomen: Dorsally dark brown, densely speckled with yellow scales; ventrally as dorsally but paler.

Male genitalia: Tegumen more than two times wider than long in dorsal view, proximal margin with a short indentation. Fenestra semicircular, almost reaching distal margin of uncus in dorsal view. Saccus slightly longer than tegumen. Uncus more than twice as long as tegumen; distal margin of base with a wide, shallow indentation; arms parallel to tegumen, about six times longer than base, narrowed distally to a sharp ventrally bent tip. Gnathos arms about 2/3 length of uncus, markedly narrowed distally to an upturned tip. Valva 2.5 longer than wide, base narrow, widening distally; ampulla 2/3 width of valva, wider distally, distal margin rounded; harpe longer than ampulla, with a sharp, serrated and upcurved distal projection, slightly curved anteriorly. Fultura inferior the smallest of the genus, lateral sides dorsally projected, base with an anterior and another, short, ventral rounded projection. Aedeagus about 90% as long as valva, straight in dorsal and slightly concave in lateral view; distal opening restricted to tip; aedeagus distal margin with a short median dorsal indentation; no cornutus.

Type material. *Mnasitheus spangla* Evans, 1955 was described based on the [holo]type male from Rio Blanco, Ecuador. This specimen is deposited at the NHMUK bearing the following labels: / Type / 432 / ECUADOR: Cord. Oriental E. Foothills [, Morona Santinado,] Rio Blanco 1700 m. May 1949 F. M. Brown / Brit. Mus. 1950-369. / accidentally damaged after description / PHOTO AA / BMNH(E)# 806018 / NHMUK.

Distribution. This species is distributed at mid to high elevations of the eastern Andes of Ecuador and Peru (Fig. 45).

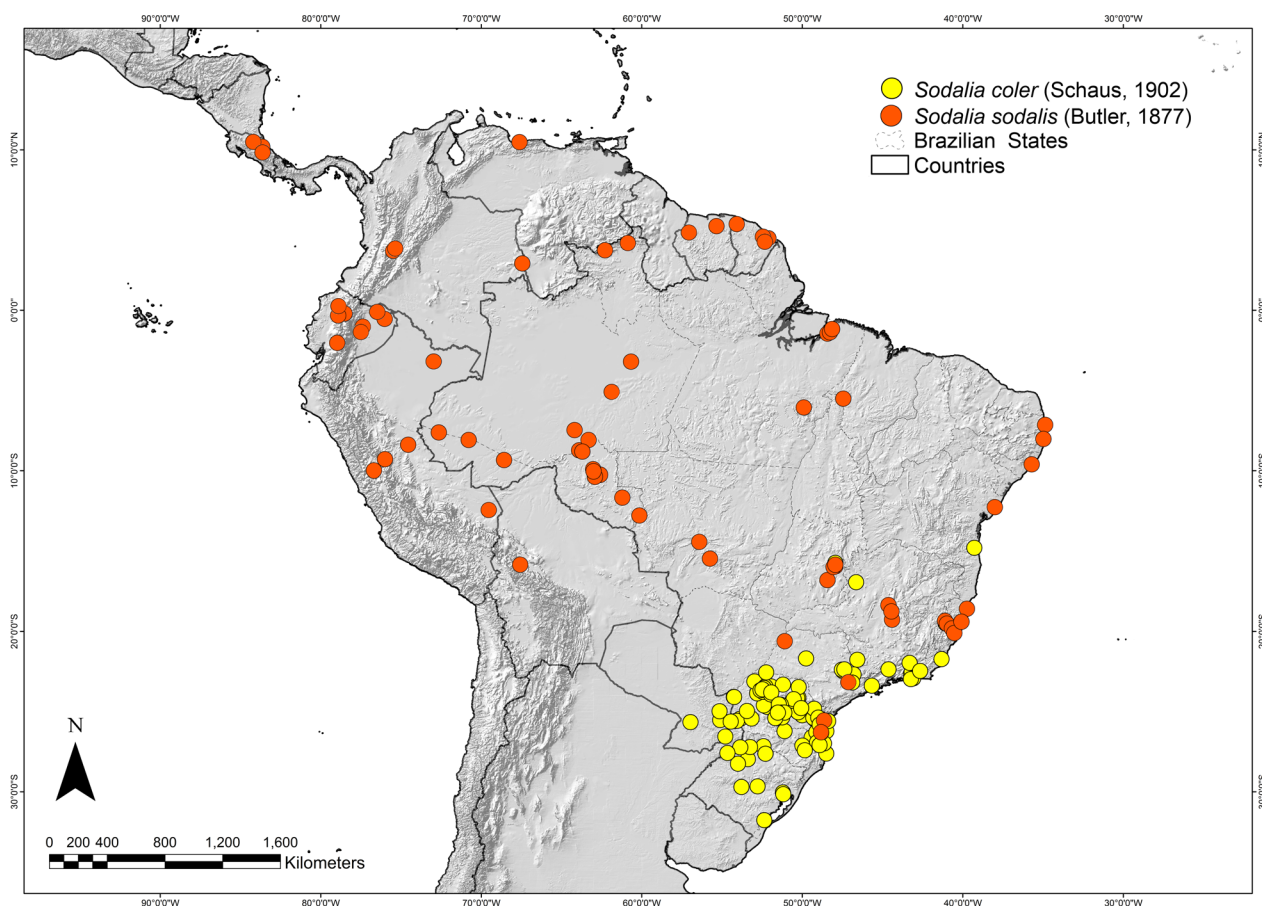


FIGURE 43. Geographic distribution of *Sodalina sodalis* and *Sodalina coler*.

Comments. *Sodalina spangla* is the smallest species of the genus and the only one with wings densely speckled with yellow scales, an atypical pattern among skippers. This color pattern is also found, albeit to a lesser extent, in

the Andean endemic *S. petiti* **sp. nov.**. The range of *S. spangla* extends along a narrow zone of elfin forest in the Andes of Ecuador, Peru and possibly Colombia (which needs further confirmation), where it is believed to be endemic, in areas at least between 2200–3000 m elevation, although two specimens are known from the type locality at 1700 m. At the MGCL there are seven males from Ecuador labeled by Lafebre from the NW slope of Volcan Pichincha (Pichincha Province) at 3500 m, and a male labeled from the Cordillera Cotacachi (Imbabura Province) at 3750 m. Given that various Lafebre specimens from Ecuador are known to be mislabeled, the occurrence of *S. spangla* as high as 3750 m requires verification.

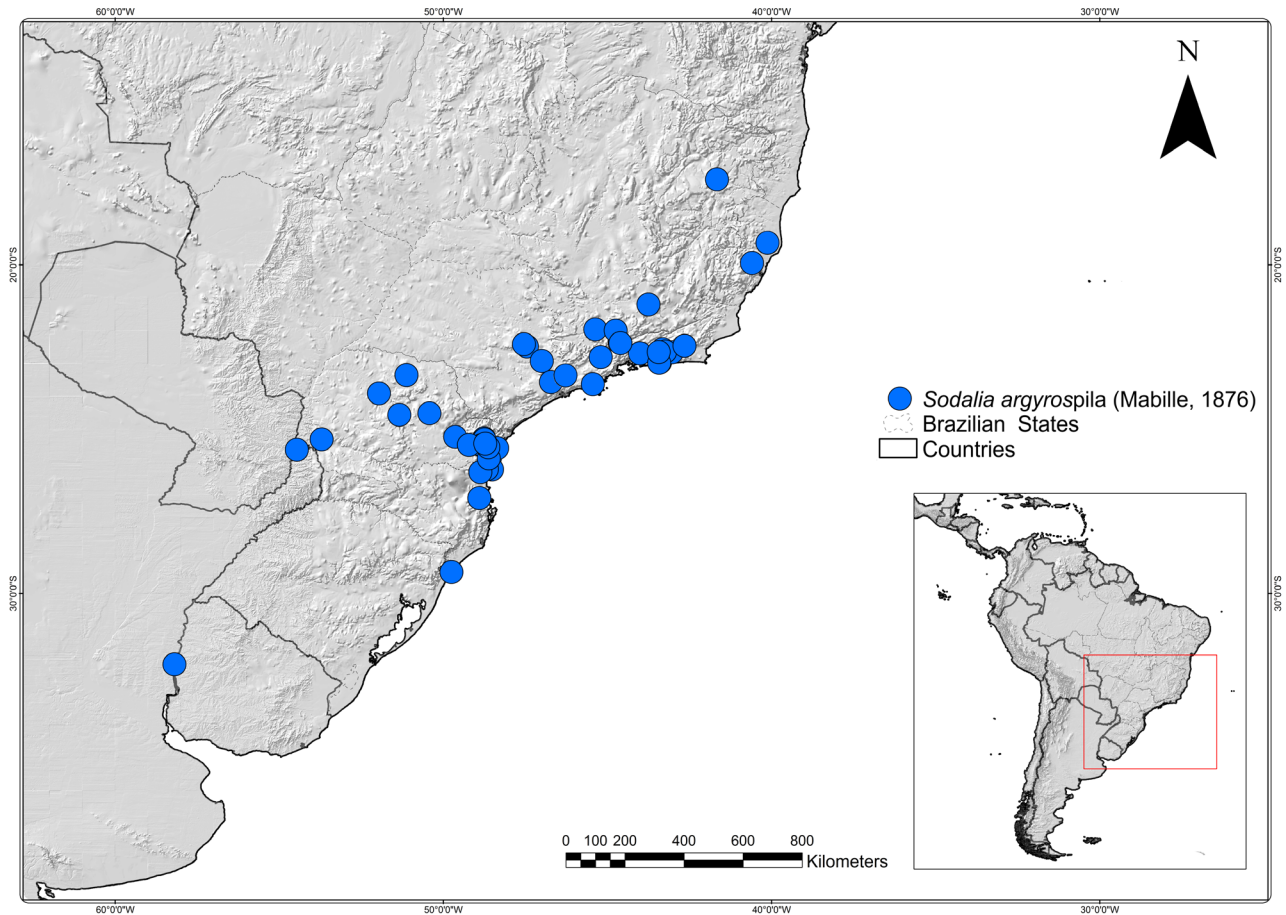


FIGURE 44. Geographic distribution of *Sodalía argyropsila*.

This species was originally placed by Evans (1955) in the genus *Mnasitheus*. However, *S. spangla* differs from most of the species included in that genus by the presence of a transverse brand over CuA_2 , the broadly divided uncus, and coecum of the aedeagus of similar thickness as the rest of the structure, with the opening of the ejaculatory bulb almost as long as half the length of the aedeagus. Most of the species included in *Mnasitheus* have a longitudinal or sagittated brand over CuA_2 , a slightly divided uncus, and the coecum of the aedeagus is distinctly thinner than the rest of the structure. Therefore, the characters above support the combination of *Sodalía spangla* (**comb. nov.**). Although the female of *S. spangla* remains unknown, it is expected that the morphology of its genitalia will reinforce the new combination proposed here.

Examined material. **ECUADOR:** *Imbabura*—**Cordillera Cotacachi**, 3750 m, XI.1971, R. de Lafebre leg., 1 ♂ (MCGL). *Pichincha*—old road from Quito to coast, 2713–2957 m, 00°18′03.4″S 78°38′55.0″W, 15.X.2005, J. D. Turner leg., 1 ♂ (MCGL*). *Niebli* (NW Slope, Vol. Pichincha), 3500 m, 1.VIII.1971, R. de Lafebre leg., 7 ♂ (MCGL). *Tugurahua*—**Rio Blanco**, 1700 m, VIII.1971, R. de Lafebre leg., 1 ♂ (MGCL*). *Loja*—**Podocarpus National Park** (Cajanuma Ranger Station), 2823 m, 04°06′58.2″S 79°10′19.3″W, 15.XI.2009, C. V. Covell Jr. leg., 1 ♂ (MCGL). **PERU**—*Amazonas*—**Oso Perdido**, 2200 m, 05°43′S, 77°50′W, XI.2016, J. Pintado leg., 1 ♂ (OM 83.645*), IV.2017, J. Pintado leg. 2 ♂ (OM 83.945, OM 83.985).

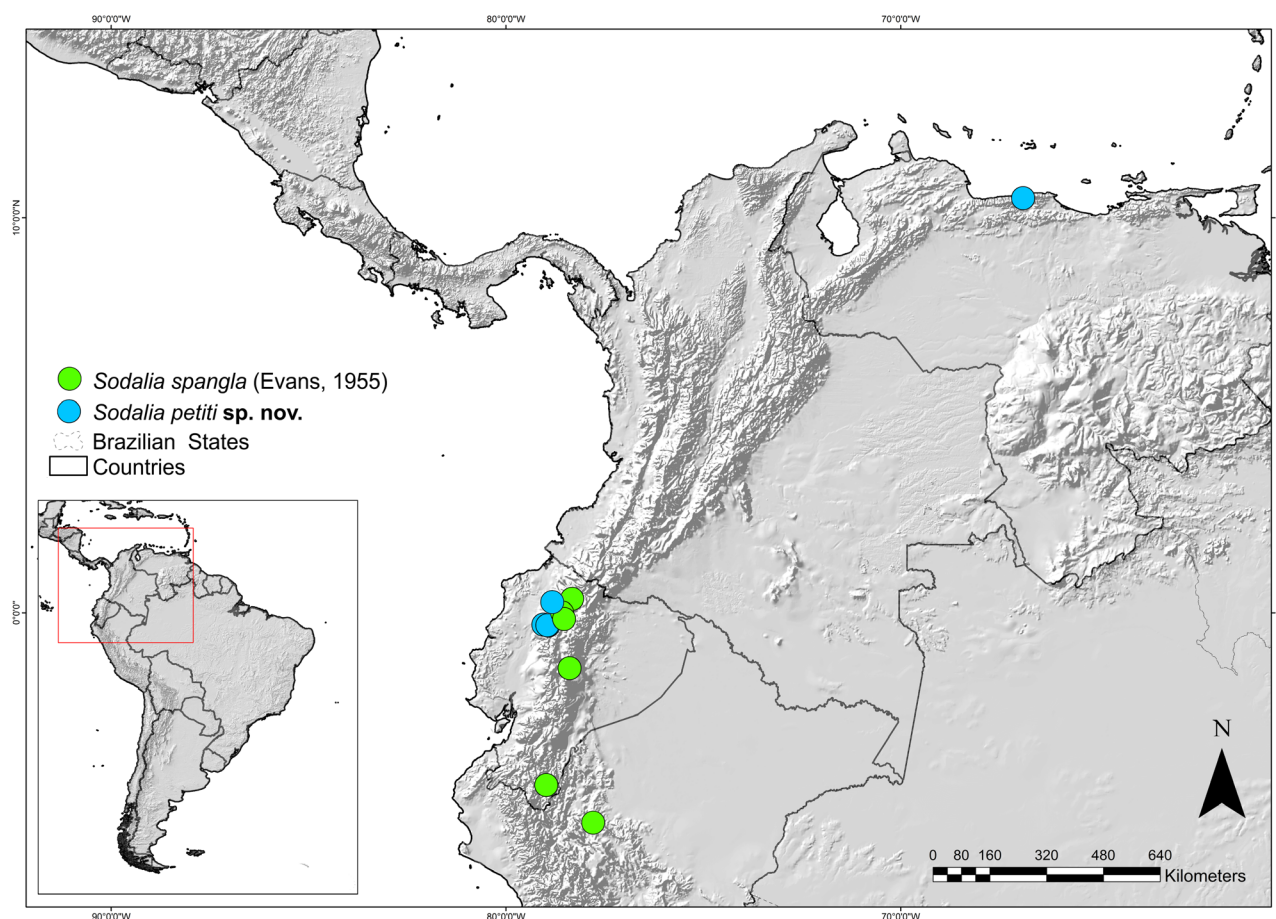


FIGURE 45. Geographic distribution of *Sodalina petiti* **sp. nov.** and *Sodalina spangla* **comb. nov.**

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We thank all members of the Laboratório de Estudos em Lepidoptera Neotropical for their help; the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) for the following research fellowships: DRD (406172/2017-0), OHHM (304639/2014-7) and MMC (302084/2017-7).

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