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Harjesia Forster, 1964 and *Pseudeuptychia* Forster, 1964

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Abstract. Seven new euptychiine (Lepidoptera: Nymphalidae: Satyrinae) taxa are described and named herein, namely *Harjesia argentata* Nakahara, *Zacca* and *Lamas*, **n. sp.**, *Orotaygetis* Nakahara and *Zacca*, **n. gen.**, *O. surui* Nakahara, *Zacca* and *Lamas*, **n. sp.**, *Euptychoides sanmarcos* Nakahara and *Lamas*, **n. sp.**, *Pseudeuptychia cuzquenya* Nakahara and *Lamas*, **n. sp.**, *P. languida austrina* Nakahara and *Lamas*, **n. ssp.**, and *Godartiana astronesthes* Lamas and Nakahara, **n. sp.** A revisional note is provided for *Harjesia* Forster, 1964 and *Pseudeuptychia* Forster, 1964, and as a result, *Taygetis vrazi* Kheil, 1896 is removed from *Harjesia* and a new taxonomic arrangement, *Pseudodebis vrazi* **n. comb.**, is proposed based on both morphology and molecular data.

Key words. New combination, new genus, new species, new subspecies, Satyrini, taxonomy.

Introduction

Despite the fact that they are a common component of butterfly communities in the Neotropics, the nymphalid subtribe Euptychiina has remained one of the poorly understood groups of Neotropical butterflies (Papilionoidea) until recently. The poor state of our knowledge regarding Euptychiina was partly due to widespread wing pattern homogeneity and the lack of comprehensive taxonomic study, contributing to the chaotic generic classification of this group. For example, only eight out of 23 euptychiine genera were recovered as monophyletic in the most comprehensive phylogenetic analysis of Euptychiina to date (Peña et al. 2010). Several of those genera have subsequently been proven, with denser taxon sampling, to require generic reorganization (e.g. Freitas et al. 2012, 2013, 2016, 2018; Nakahara et al. 2015a). Our state of knowledge regarding Euptychiina is thus improving, although further investigation is still required to better understand their taxonomy and systematics.

Currently, over 400 described species and 48 genera are recognized within Euptychiina (Lamas 2004; Brévignon 2005; Peña and Lamas 2005; Peña et al. 2010, 2011; Freitas et al. 2011, 2012, 2013, 2015, 2016, 2018; Brévignon and Benmesbah, 2012; Matos-Maraví et al. 2013; Zacca et al. 2013, 2017; Nakahara et al. 2015a, 2015b, 2016; Costa et al. 2016). The Lamas (2004) checklist listed 80 undescribed species for Euptychiina, a remarkable proportion (20%) for butterflies. Moreover, several recent works (e.g. Cong and Grishin 2014; Barbosa et al. 2015; Nakahara et al. 2015b) have shown remarkable discrepancies between perceived and actual species richness of Euptychiina, which turns out to be significantly more speciose than estimated by Lamas (2004). In fact, we estimate the subtribe to contain over 500 species in 70 genera (unpubl. data). Partially in order to provide a baseline for a firmer understanding of spatial variation in species diversity of Euptychiina, many species-rich genera (e.g. *Caeruleuptychia* Forster, 1964, *Euptychia* Hübner, 1818, *Taygetis* Hübner, [1819], *Magneuptychia* Forster, 1964, *Cissia* Doubleday, 1848, *Paryphthimoides* Forster, 1964, *Pareuptychia* Forster, 1964, *Euptychoides* Forster, 1964, *Hermeuptychia* Forster, 1964, *Zischkaia* Forster, 1964, *Chloreuptychia* Forster, 1964, *Forsterinaria* Gray, 1973, *Splendeuptychia* Forster, 1964, *Yphthimoides* Forster, 1964) are the subject of ongoing taxonomic revisionary work by the authors and collaborators (see <http://www.flmnh.ufl.edu/museum-voices/euptychiina/>).

The purpose of this paper is to describe and name undescribed euptychiine taxa that will otherwise not fall into those generic revisions. A new genus, five new species and one new subspecies are described herein, and adults, genitalia illustrations and distribution maps are provided for all species. A brief review and species accounts are provided for *Harjesia* Forster, 1964 and *Pseudeuptychia* Forster, 1964, as an updated classification for these two genera from Lamas (2004). In addition, we remove *Taygetis vrazi* Kheil, 1896 from *Harjesia* and place this taxon in *Pseudodebis* Forster, 1964, based on both morphology and molecular data.

Materials and Methods

Morphological study. External morphological characters were studied by soaking legs, labial palpi, and abdomens in hot 10% KOH solution for 5–10 minutes, dissecting, and storing in glycerine after examination. Genitalia were stained with chlorazol black in order to visualize the membranous structures. Drawings were done using a camera lucida attached to either a Leica MZ 16 stereomicroscope or a Nikon SMZ2800. Terminology for wing venation and wing pattern elements follows Nakahara et al. (2018); nomenclature of genitalia also follows Nakahara et al. (2018). However, we apply the terms “ductus ejaculatorius”, “manica” and “vesica” *sensu* Pierce (1914); “phallus”, “phallobase” and “aedeagus” *sensu* Klots (1956: 102–103) (see Fig. 3). Snodgrass (1935) apparently introduced the term “phallobase”, but since the definition of this term was vaguely defined in terms of Lepidoptera, we follow Klots (1956).

The following collection codens are used throughout the text:

- DZUP** Entomological Collection Padre Jesus Santiago Moure, Universidade Federal do Paraná, Curitiba, Brazil
- MGCL** McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, Gainesville, USA

MNHU	Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung an der Humboldt Universität, Berlin, Germany
MUSM	Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru
NHMUK	Natural History Museum, London, UK
NMPC	National Museum of Prague, Prague, Czech Republic
USNM	National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA
ZSM	Zoologische Staatssammlung München, München, Germany
ZUEC	Museu de Zoologia da Universidade Estadual de Campinas, Unicamp, Campinas, Brazil

The following abbreviations are also used:

DFW – Dorsal forewing
DHW – Dorsal hindwing
VFW – Ventral forewing
VHW – Ventral hindwing

Molecular work. DNA was extracted from leg or thoracic tissue samples that were either dried or stored in 96% ethanol. Voucher specimens are deposited at MGCL, DZUP and ZUEC. DNA extraction methods, PCR conditions and primers used follow Nakahara et al. (2015a) for cytochrome c oxidase I (COI) and Elongation factor 1-alpha (EF1- α), and Nakahara et al. (2018) for GAPDH. Additionally, a 591bp fragment of RPS5 (ribosomal protein S5) was amplified using the primers RPS5degF (5' ATG-GCNGARGARAAAYTGGAAYGA 3') and RPS5degR (5' CGGTTRGAYTTRGCAACACG 3') (Wahlberg and Wheat 2008). Sequences for additional specimens were taken from Peña et al. (2011) and Matos-Maraví et al. (2013) (Table 1). Sequences were assembled using Geneious 10 (Biomatters) and aligned using MAFFT v.7 (Kato and Standley 2013). The genes were partitioned by codon position and partitions and models were selected using ModelFinder (Kalyaanamoorthy et al. 2017) in IQ-TREE 1.6.0 (Nguyen et al. 2015). Thereafter, 200 tree searches were performed in IQ-TREE to find the most likely tree. Support was calculated based on 2000 non-parametric bootstrap replicates. The tree was rooted with *Neonympha mitchellii* French, 1889 based on prior information (Matos-Maraví et al. 2013). The genetic distance was calculated using DNADIST version 3.5c.

Databasing and georeferencing. Specimens and their label data were databased using Microsoft Access. The locality data were subsequently georeferenced with as much detail as possible, unless such information was already available on the label. Locality coordinates are provided in the “Examined specimens” section for each taxon. For holotype and lectotype specimens, information on the labels were written verbatim with labels separated by double forward slashes.

Taxonomy

Taxa are listed in phylogenetic order, following Espeland et al. (in review).

Pseudodebis Forster, 1964

Pseudodebis: Forster 1964: 75.

Type species. *Papilio valentina* Cramer 1779: 82, pl. 242, fig. A. — by original designation.

A revision of *Pseudodebis* is underway by SN, JS and collaborators, but due to the relevance of this particular species to *Harjesia* Forster, 1964, a genus discussed in this article, we decided to treat this species herein in order to contribute to the definition of *Harjesia* and to the forthcoming revision of *Pseudodebis*.

Pseudodebis vrazi (Kheil, 1896), new combination

(Fig. 2, 3, 16)

Taygetis vrazi: Kheil 1896a: 151–152, fig. TL: Río Atabapo [Venezuela] and Rio Negro [Brazil]. D’Abrera 1988: 754–755, fig. [misidentified, represents *Pseudodebis dubiosa* Forster, 1964].

Table 1. GenBank accession numbers for sequences used in this study.

Voucher code	Genus	Species	Genes			
			COI	EF1a	GAPDH	RPS5
MGCL-LOAN-050	<i>Forsterinaria</i>	<i>pronophila</i>	MH592919	MH592940	MH592957	MH592974
NW127-20	<i>Forsterinaria</i>	<i>pronophila</i>	DQ338797	DQ338941	GQ864975	GQ865444
CP02-57	<i>Forsterinaria</i>	<i>pseudinornata</i>	JQ392594	JQ392723	JQ392827	JQ392932
CP14-07	<i>Forsterinaria</i>	<i>quantius</i>	GQ864772	GQ864866	GQ864972	GQ865442
BC-DZ-Willmott-293	<i>Harjesia</i>	<i>argentata</i>	MH592922	MH592927	MH592944	MH592961
CP01-13	<i>Harjesia</i>	<i>blanda</i>	DQ338800	DQ338945	GQ357436	GQ357565
MGCL-LOAN-267	<i>Harjesia</i>	<i>blanda</i>	MH592913	MH592941	MH592958	MH592975
CP23-22	<i>Harjesia</i>	<i>obscura</i>	JQ392610	JQ392737	JQ392839	JQ392946
KW-140718-01	<i>Megeuptychia</i>	<i>antonoe</i>	MH592909	MH592930	MH592947	MH592964
LEP-19590	<i>Neonympha</i>	<i>mitchelli</i>	MH592912	MH592937	MH592954	MH592971
KW-15-001	<i>Orotaygetis</i>	<i>surui</i>	MH592920	MH592932	MH592949	MH592966
LEP-14787	<i>Parataygetis</i>	<i>albinotata</i>	MH592915	MH592935	MH592952	MH592969
CP04-09	<i>Parataygetis</i>	<i>albinotata</i>	JQ392615	JQ392741	JQ392843	JQ392950
CP01-06	<i>Posttaygetis</i>	<i>penelea</i>	JQ392620	JQ392745	—	JQ392955
KW-140708-01	<i>Posttaygetis</i>	<i>penelea</i>	MH592910	MH592928	MH592945	MH592962
CP22-02	<i>Pseudodebis</i>	<i>celia</i>	GU205874	GU205930	GU205988	GU206049
KW-140716-03	<i>Pseudodebis</i>	<i>celia 01</i>	MH592911	MH592929	MH592946	MH592963
PM01-23	<i>Pseudodebis</i>	<i>marpressa</i>	JQ392624	JQ392747	JQ392849	JQ392957
CP22-05	<i>Pseudodebis</i>	<i>puritana</i>	JQ392712	—	—	—
LEP-16938	<i>Pseudodebis</i>	<i>valentina</i>	MH592908	MH592936	MH592953	MH592970
CP01-94	<i>Pseudodebis</i>	<i>valentina</i>	JQ392630	—	—	—
KW-15-003	<i>Pseudodebis</i>	<i>vrazi</i>	MH592918	—	—	—
CP23-21	<i>Sepona</i>	<i>punctata</i>	JQ392607	JQ392734	JQ392838	JQ392943
MGCL-LOAN-490	<i>Sepona</i>	<i>punctata</i>	MH592917	MH592942	MH592959	MH592976
LEP-10084	<i>Taygetina</i>	<i>banghaasi</i>	MH592925	MH592933	MH592950	MH592967
KW-140719-01	<i>Taygetina</i>	<i>gulnare</i>	MH592914	MH592931	MH592948	MH592965
CP02-13	<i>Taygetina</i>	<i>gulnare</i>	JQ392613	JQ392740	JQ392842	JQ392949
MGCL-LOAN-022	<i>Taygetina</i>	<i>kerea</i>	MH592923	MH592939	MH592956	MH592973
PM02-04	<i>Taygetina</i>	<i>kerea</i>	JQ392645	JQ392763	JQ392866	JQ392976
CP22-01	<i>Taygetina</i>	<i>peribaea</i>	JQ392583	JQ392714	JQ392817	JQ392922
PM03-03	<i>Taygetina</i>	<i>weymeri</i>	JQ392708	JQ392814	JQ392918	JQ393027
MGCL-LOAN-003	<i>Taygetina</i>	<i>ypthima</i>	MH592924	MH592938	MH592955	MH592972
NW149-8	<i>Taygetina</i>	<i>ypthima</i>	GU205873	GU205929	GU205987	GU206048
BC-DZ-Willmott-015	<i>Taygetis</i>	<i>chiquitana</i>	MH592921	MH592926	MH592943	MH592960
PM04-12	<i>Taygetis</i>	<i>laches</i>	JQ392658	—	—	—
PM01-07	<i>Taygetis</i>	<i>rufomarginata</i>	JQ392679	—	—	—
LEP-10421	<i>Taygetis</i>	<i>virgilia 01</i>	MH592916	MH592934	MH592951	MH592968
PM01-03	<i>Taygetis</i>	<i>larua</i>	JQ392667	—	—	—

Taygetis Vrázi [sic]: Kheil 1896b: 230.

Taygetis valentina vrazi: Weymer 1910: 191.

Taygetis valentina var. *vrazi*: Gaede 1931: 434.

Taygetis rectifascia: Forster 1964: 65, *nota* [as possible synonym of this species].

Harjesia vrazi: Lamas 1999: 142, figs. 1–2; lectotype designation; Lamas 2004: 220.

Harjesia [n. sp.] Lamas MS (Nymphalidae: Satyrinae 1369); Lamas 2004: 220.

Lectotype male. //LECTOTYPE ♂ *Taygetis vrazi* Kheil, 1896 By G. LAMAS, '99// atabapo [underlined] Tayg. vrázi // Mus. Nat. Pragae Inv. P5p/493/24// Genitalic vial SN-17-21 S. Nakahara// (NMPC) [examined].

Redescription. *Male.* Forewing length: 28mm ($n = 2$).

Head: Eyes with hair-like setae, with whitish scales at base; frons brownish, covered with whitish scales and hair-like scales; post-genal area with greyish hair-like scales and greyish scales; first segment of labial palpi adorned with white long hair-like scales and brown long hair-like scales ventrally, whitish scales laterally and dorsally, second segment in length almost twice as great as eye depth and covered with whitish scales and hair-like scales laterally, dorsally adorned with whitish hair-like scales, ventrally adorned with brown long hair-like scales and long white hair-like scales 3–4× as long as segment width, third segment about one-third of second segment in length and covered with brownish scales, with band of white scales laterally; antennae approximately two-fifths of forewing length, with approximately 36 antennomeres ($n = 1$), distal 9–10 antennomeres composing club, distal 5 antennomeres appear darker, club not prominent.

Thorax: Dorsally and laterally covered with long light greyish hair-like scales and light greyish scales; ventrally adorned with long whitish hair-like scales and whitish scales.

Legs: Foreleg whitish, with tarsus, tibia, and femur similar in length; midleg and hindleg with femur whitish ventrally, tibia and tarsus greyish dorsally, ocher ventrally, tarsus and tibia adorned with spines ventrally, pair of tibial spurs present at distal end of tibia.

Abdomen: Eighth tergite appears as thin sclerotized band at base of eighth abdominal segment; eighth sternite appears as a single plate.

Wing venation: Basal half of forewing subcostal vein swollen; base of cubitus inflated; forewing recurrent vein absent; hindwing humeral vein developed; origin of M_2 nearer M_1 than M_3 .

Male genitalia (Fig. 3a, b): Tegumen subtriangular in lateral view; uncus longer than tegumen in lateral view, narrow, sparsely adorned with hair-like setae at base, slightly curved in lateral view, tapered towards terminal point; brachia reduced, appearing as somewhat “ear-like” projections at posterior margin of tegumen; combination of ventral arms of tegumen and dorsal arms of saccus almost straight, broadens in lateral view near saccus; appendices angulares developed; saccus straight, similar to uncus in length; juxta shallow “V” shaped; in lateral view, narrow apical process of valva approximately one-third of valva length, valva broadens towards terminal point, almost twice in width, distal margin appears straight in lateral view, basal two-thirds of valva appear somewhat as parallelogram in lateral view, ventral margin slightly concave, costa rectangular, distal half of valva with hair-like setae; phallus roughly straight, phallobase about one-third of phallus in length, ductus ejaculatorius visible, manica covering about half of aedeagus, vesica visible.

Female. Forewing length: 29mm ($n = 1$).

Similar to male except as follows: Foreleg whitish, foretarsus divided into five distinct tarsomeres; ground colour of both wing surface slightly lighter.

Female genitalia (Fig. 3c–e): Lamella antevaginalis sclerotized, appearing as “finger-like” sclerotized plate projecting posteriorly; lateral side of 8th abdominal segment sclerotized, apparently fused to lamella antevaginalis at its anterior margin; posterior one-third of ductus bursae slightly sclerotized, origin of ductus seminalis located at anterior end of this slightly sclerotized region, anterior two-thirds of ductus bursae membranous; corpus bursae roughly oval in dorsal view, together with ductus bursae extending length of entire abdomen, with two signa located in middle, virtually extending length of corpus bursae, parallel to each other.

Specimens examined. (3 ♂, 1 ♀) **Brazil:** *Rondônia:* [Jaru], Santa Cruz da Serra (Vitt, L.), 7 Aug 1985, 1 ♂ [FLMNH-MGCL-281490], (MGCL). **Peru:** *Loreto:* Río Samiria, Estación Biológica Pithecia,

[5°11'S, 74°42'W], 180 m, (Pacheco, V.), 7 Nov 1979, 1 ♀ (Genitalic vial SN-17-97 S. Nakahara) [MUSM-LEP-102415], (MUSM); *Madre de Dios*: Tambopata Research Center, La Colpa, 13°09'S, 69°37'W, 250 m, (Aibar, P.), 15 Nov 1999, 1 ♂ (Genitalic vial SN-16-63 S. Nakahara) [MUSM-LEP-102426], (MUSM). **Venezuela:** *Amazonas*: Atabapo, [4°2'31"N, 67°42'27"W], 1 ♂ (Genitalic vial SN-17-21 S. Nakahara) (NMPC).

Systematic placement and diagnosis. Our molecular phylogeny (Fig. 1) recovered *Pseudodebis* as a monophyletic group with high support (bs = 100), including the type species, *Taygetis valentina* (Cramer, 1779), as sister to the remainder of the sampled *Pseudodebis* taxa. Two species formerly placed in *Taygetomorpha* Miller, 2004 (*P. celia* (Cramer, 1779) and *P. puritana* (Weeks, 1902)) are found to be part of the monophyletic *Pseudodebis*. This is in accordance with Matos-Maraví et al. (2013), where *Taygetomorpha* was synonymized under *Pseudodebis*. *Pseudodebis vrazi* n. comb. is placed as sister to *P. puritana* (Weeks, 1902) with a relatively high support (bs = 91). Its placement in *Pseudodebis* is also supported based on morphology, namely the reduction of the brachia. All other described species of *Pseudodebis* appear to have reduced (or almost absent) brachia, although the degree of reduction varies across species (Forster 1964; SN pers. obs.).

Pseudodebis vrazi n. comb. is readily distinguished from *P. puritana* by the following characters (in addition to others): 1) relatively small size (forewing length of *P. puritana*: 38–40 mm ($n = 3$)); 2) VHW postdiscal band appears as a pair of very close, parallel lines in *P. vrazi* n. comb. (appears as a regular, single band in *P. puritana*); 3) ocellus in VHW cell Cu_1 present with a pupil in a black area, ringed with orange in *P. vrazi* n. comb. (present as a creamy-white smudge in *P. puritana*); 4) apical process of valva broadens at terminal point (in lateral view) in *P. vrazi* n. comb. (rather consistent in width in *P. puritana*); 5) lamella antevaginalis appears as a “finger-like” sclerotized plate projecting posteriorly in *P. vrazi* n. comb. (appears as a broad, rather rectangular plate in *P. puritana*). *Pseudodebis vrazi* n. comb. is also a lowland species, whereas *P. puritana* occurs in cloud forest habitats mostly above 1300 m. Forster (1964) considered *Taygetis rectifascia* Weymer, 1907 to be a possible synonym of *Taygetis vrazi*, although these two species are clearly not conspecific.

Distribution. This species is known to date from four localities scattered across the Amazon basin in Venezuela (*Amazonas*), Brazil (*Rondônia*) and Peru (*Loreto* and *Madre de Dios*).

Remarks. Until the present study, *P. vrazi* n. comb. was a rather enigmatic taxon known only from two specimens, the male lectotype from the Río Atabapo, Venezuela, housed in NMPC, and a female specimen from the Río Samiria, Peru, in the MUSM (Lamas 1999). Kheil (1896a) described *Taygetis vrazi* based on the previously mentioned Venezuelan male lectotype and a paralectotype from Rio Negro, Brazil, although we were unable to locate this Brazilian specimen supposedly housed in MNHU (Lamas 1999). Despite the fact that subsequent authors (e.g. Weymer 1910; Forster 1964) provided differing taxonomic opinions about this species, it remained in *Taygetis* for more than 100 years. Lamas (1999) reviewed its history of classification, designated a lectotype for *T. vrazi*, and reported the aforementioned Peruvian female for the first time. Moreover, Lamas (1999) transferred the species from *Taygetis* to the genus *Harjesia* Forster, 1964, stating that the “male syntype held at NMPC shows conclusively that *T. vrazi* is a member of the genus *Harjesia*”, although no further justification for this taxonomic change was provided. Subsequently, Lamas (2004) retained this systematic placement, and the species remained in *Harjesia* until now (e.g. Warren et al. 2017). Recently, during the course of examining the euptychiine collection at MUSM, SN discovered that one worn male specimen from La Colpa, Peru, identified as “*Harjesia* sp. n. 4” (listed as one of the undescribed *Harjesia* species in Lamas (2004)) actually represents *P. vrazi* n. comb. based on comparison of the male genitalia of this specimen and the male lectotype. This male specimen from La Colpa, Peru, was sequenced (KW_15_003_Pseudodebis_vrazi_01; see Fig. 1) to help clarify its systematic status, and we consequently regard this species as a member of *Pseudodebis* Forster, 1964. Morphology also reinforces removal of the species from *Harjesia* since the type species of that genus, *H. blanda* (Möschler, 1877), does have a rather developed brachia unlike *P. vrazi* n. comb. and other *Pseudodebis*. In addition, a male specimen from Rondônia, Brazil, in MGCL was discovered as the only known specimen of *P. vrazi* n. comb. from that country, increasing the number of known specimens for this species to four.

Harjesia Forster, 1964*Harjesia*: Forster 1964: 78.**Type species.** *Taygetis blanda* Möschler 1877: 325, pl. 3, fig. 12. — by original designation.

Forster (1964) erected *Harjesia* to accommodate two species, *Taygetis blanda* Möschler, 1877 and *Euptychia obscura* Butler, 1867, and designated *T. blanda* as the type species of the genus, even though *T. blanda* was considered a subspecies of *Taygetis sylvia* Bates, 1866 by Weymer (1910). Concerning *Harjesia*, Forster (1964) stated “Characteristic for this genus is mainly the male genitalia with the narrow tip of the valva”, providing no comparison with other genera. Subsequently, Lamas (2004) followed this classification and also included *Euptychia oreba* Butler, 1870 (regarding *Euptychia gulnare* Butler, 1870 and *Euptychia civica* Weymer, 1911 (*nomen nudum*) as junior subjective synonyms of this species), *Euptychia griseola* Weymer, 1911 and *Taygetis vrazi* Kheil, 1896 as members of *Harjesia*, in addition to proposing *Euptychia eremita* Weymer, 1911 and *Taygetis indecisa* Ribeiro, 1931 as junior subjective synonyms of *E. obscura* and *E. gulnare*, respectively. Lamas (2004) also listed four undescribed species of *Harjesia*, of which two (*H. argentata* **n. sp.** and *Orotaygetis surui* **n. gen. et n. sp.**) are described below.

Freitas et al. (2016) recently treated *E. griseola* as a synonym of *E. punctata* Weymer, 1911 and moved this taxon out of *Harjesia* by placing it in its own monotypic genus, *Sepona* Freitas and Barbosa, 2016, based on molecular and morphological data. As discussed above, *Pseudodebis vrazi* **n. comb.** is removed from *Harjesia* and considered conspecific with one of the new species of *Harjesia* listed by Lamas (2004). Three species, namely *Harjesia blanda*, *H. obscura* and *H. argentata* **n. sp.**, do form a monophyletic group with a high support (bs = 99, see Fig. 1), and we regard *Harjesia* as a small monophyletic genus to accommodate these three species. Finally, the remaining species in *Harjesia* (*sensu* Lamas 2004) appear not to belong in the clade containing the type for the genus (see statement above), and thus will need to be transferred to another genus (Espeland et al. unpubl. data).

Systematic placement and diagnosis. *Harjesia* appears to be a member of a clade consisting of *Forsterinaria* Gray, 1973, *Posttaygetis* Forster, 1964, and *Parataygetis* Forster, 1964 (Fig. 1), but support in this part of the tree is low. *Harjesia* is distinguished from *Forsterinaria* by having a ringed ocellus with white pupil in VFW cell M_1 and often in adjacent cells, whereas these ocelli appear just as white pupils or a white patch in *Forsterinaria*; ocelli in VHW cells M_2 and M_3 are ringed, and in *Harjesia* these are large, whereas in *Forsterinaria* they are small or appear just as simple white pupils; the brachia are about half the length of the uncus in *Harjesia* (except for *H. obscura*, in which the brachia are reduced), whereas the brachia are absent or reduced in *Forsterinaria*. *Harjesia* is distinguished from *Posttaygetis* by the absence of a horizontal creamy band in the VHW discal cell that also extends along M_3 , in addition to the absence of a reduced and basally placed ocellus in VHW cell M_2 , whereas these characters are present in *Posttaygetis*. As mentioned above, the brachia are about half the length of the uncus in *Harjesia* (except for *H. obscura*), whereas the brachia are absent or reduced in *Posttaygetis*. Among other characters, *Harjesia* is distinguished from *Parataygetis* by having a narrow, rounded apical process of the valva, whereas the distal side is broad and serrated in *Parataygetis*.

Species account*Harjesia* Forster, 1964*argentata* Nakahara, Zacca and Lamas, **n. sp.***blanda* (Möschler, 1877)*obscura* (Butler, 1867) (= *eremita* Weymer, 1911)***Harjesia argentata* Nakahara, Zacca and Lamas, new species**

(Fig. 4–6, 16)

Harjesia [n. sp.] Lamas, MS (Nymphalidae: Satyrinae 1367); Lamas 2004: 220.**Description.** *Male.* Forewing length: 29–30mm ($n = 3$).

Head: Eyes sparsely hairy, with white scales at base; first segment of labial palpi similar to second segment in width, similar in length to third segment, adorned with white long hair-like scales and

brownish long hair-like scales, second segment length almost twice as great as eye depth and covered with white hair-like scales and white scales laterally, and with black scales along edge of distal two-thirds of dorsal surface, ventrally adorned with black hair-like scales about 3–4× as long as segment width, third segment roughly one-third of second segment in length and covered with black scales dorsally and ventrally, with creamy-white scales laterally; antennae approximately two-fifths of forewing length, with approximately 36 antennomeres ($n = 1$), distal 12–13 antennomeres composing club.

Thorax: Dorsally and laterally covered with dense long sparse light brownish hair-like scales; ventrally covered with long creamy whitish hair-like scales.

Legs: Foreleg whitish, tarsus, tibia and femur almost same in length; midleg and hindleg with femur whitish ventrally, tibia and tarsus dorsally greyish, tibia ventrally lighter, tarsus ventrally slightly paler, tarsus and tibia adorned with spines ventrally, tibial spurs present at distal end of tibia.

Abdomen: Eighth tergite appears as a thin sclerotized band at base of eighth abdominal segment; eighth sternite appears as a single plate.

Wing venation (Fig. 6): Basal half of forewing subcostal vein swollen; base of cubitus swollen; forewing recurrent vein absent; hindwing humeral vein developed; origin of M_2 slightly nearer M_1 than M_3 .

Wing shape: Forewing subtriangular, apex slightly angular, costal margin slightly convex, outer margin almost straight, inner margin almost straight, but rounded towards thorax near base; hindwing slightly elongate, rounded, costal margin slightly convex, outer margin undulating, inner margin slightly concave near tornus, anal lobe convex, slightly round.

DFW: Ground colour light brown, androconial scales present roughly between origin of M_1 and inner margin.

DHW: Ground colour similar to forewing, submarginal and marginal bands appear darker, margin darker, androconial scales present in discal cell and adjacent area.

VFW: Ground colour dark greyish; reddish-brown discal band extends from radial vein to cell Cu_2 , crossing discal cell in a slightly outward diagonal direction, bent inwards below cubital vein, and fading away before reaching 2A; reddish-brown band present along discocellular veins m_1 - m_2 and m_2 - m_3 ; reddish-brown postdiscal band extending from radial vein towards inner margin until reaching vein 2A, crossing wing vertically, somewhat jagged below Cu_2 ; broad, faint, indistinct dark shading covering middle of area in between postdiscal and submarginal band, this area in between postdiscal band and submarginal band silverish, more prominent close to submarginal band; submarginal band brownish, jagged above Cu_1 , straight below this vein; area distal to submarginal band light brownish; marginal band traversing from apex towards tornus; fringe brownish; five submarginal ocelli in cells R_5 , M_1 , M_2 , M_3 , and Cu_1 , white pupil in center ringed with yellow, ocellus in cell M_1 appears black inside yellow ring, ocellus in Cu_1 often appears as a trace or is even absent in some specimens.

VHW: Ground colour similar to forewing; general wing pattern similar to forewing except as follows: discal band extends across wing; post discal band broader, bent outwards at origin of M_3 (variable character); submarginal band jagged after Cu_1 ; marginal band undulating; submarginal ocelli in cells M_1 and Cu_1 black with white pupil in center ringed with yellow, ocelli in cells M_2 and M_3 somewhat elongate, white pupil located slightly nearer wing base, whitish scales scattered around and ringed with yellow, ocellus in cell R_5 black with whitish smudge-like pupil in center, ringed with yellow.

Male genitalia (Fig. 5a–d): Tegumen appears somewhat rectangular in lateral view, relatively small, dorsally flattened, anterior margin convex, uncus broad, appears as about twice as long as tegumen in lateral view, without setae, tapered posteriorly, ventral margin longer than dorsal margin; brachia about two-thirds of uncus in length, apical point below uncus in lateral view; combination of ventral arms from tegumen and dorsal arms from saccus straight; appendices angulares present (short and curved inwards); saccus similar in length of uncus plus tegumen; juxta present; valvae distally setose, valva appears roughly rhomboid in lateral view, ventral margin convex, dorsal margin slightly convex around costa (slight projection visible inside in dorsal view) close to the dorsal margin, distal one-fourth narrow with rounded apex; phallus roughly straight, slightly longer than valva, phallobase consists of anterior $3/8$, posterior $5/8$ aedeagus with vesica coming out disto-ventrally, cornuti apparently absent; sclerotized region of ventral surface of anal tube not examined.

Female. Forewing length 29 mm ($n = 1$).

Similar to male except as follows: Female foretarsus divided into five distinct tarsomeres; androconial scales absent on dorsal surface of wings.

Female genitalia (Fig. 5e, f): Eighth tergite weakly sclerotized; lamella antevaginalis apparently weakly sclerotized; lateral side of 8th abdominal segment sclerotized, apparently fused to lamella antevaginalis at its anterior margin; papilla analis oblong and strongly sclerotized at base; ductus bursae membranous, origin of ductus seminalis located at one-third distance from ostium bursae to corpus bursae; corpus bursae membranous and elongated, with two signa located latero-ventrally, parallel to each other, extending almost entire length of corpus bursae.

Types. *Holotype*. MALE: 6–8-VIII-2008, 9.2 km SE Santa Rosa do Purus Acre Mielke and Carneiro leg.// DZ 36.563// BC-DZ Willmott 293// *Holotype*// *Harjesia argentata* Nakahara, Zacca and Lamas det. 2018// (DZUP).

Paratypes. (9 ♂, 1 ♀) **Brazil**: Acre: 14.2 km SE Santa Rosa do Purus, [9°31'22"S, 70°26'6"W], (Mielke, O. H. H. [and Carneiro, E.]), 12 Aug 2008, 1 ♂ [DZ-36543], 1 ♀ (dissected) [DZ-36523], (DZUP); 6.4 km E Santa Rosa do Purus, [9°28'39"S, 70°26'58"W], (Mielke, O. H. H., Carneiro, E.), 5 Aug 2008, 1 ♂ [DZ-36553], (DZUP); 9.2 km SE Santa Rosa do Purus, [9°29'28"S, 70°26'18"W], (Mielke, O. H. H., Carneiro, E.), 6–8 Aug 2008, 1 ♂ (dissected), [DZ-36513], (DZUP); Marechal Thaumaturgo, Alegria, Reserva Extrativista Alto Juruá, (Brown, K.S.), 15 Sep 1994, 1 ♂, (ZUEC); Reserva Extrativista Alto Juruá, Tabocal do Nonato, caminho para Rio Arara, (Brown, K.S., Freitas, A.V.L.), 12 Sep 1997, 1 ♂, (ZUEC); Rio Juruá, Cruzeiro do Sul, [7°37'S, 72°40'W], 200 m, (Ebert, H.), 1 Oct 1973, 1 ♂ [DZ-36573], (DZUP). **Peru**: Cuzco: Pilcopata, Villa Carmen, [12°54'S, 71°24'W], 540 m, (Gibson, L.), 2 May 2015, 1 ♂ [MUSM-LEP-102422], (MUSM); *Madre de Dios*: Río de Las Piedras, [12°31'S, 69°15'W, 200 m], (Luscombe, A.), 27 Sep 1974, 1 ♂ (dissected, vial pinned), [MUSM-LEP-102423], (MUSM); Puerto Maldonado, [12°36'S, 69°11'W, 200m], (Schunke, J. M.), 25 May 1975, 1 ♂ [MUSM-LEP-102424], (MUSM).

Other records. **Peru**: *Madre de Dios*: Parque Nacional Manu, Cocha Cashu, [11°53'S, 71°25'W], 350 m, (Lilleengen, P.), 1 ♂, (collection unknown) (P. Lilleengen, pers. comm. (email to KRW 29 Sep 2016)).

Etymology. This species name is based on the feminine Latin adjective ‘*argentata*’, meaning ‘silvered’, in reference to the distinctive silvery ventral coloration of this species.

Distribution. This species is known from the southwestern Amazon basin (Cuzco and Madre de Dios, Peru; Acre, Brazil).

Systematic placement and diagnosis. This species is well-supported as sister to *Harjesia blanda* (type species of *Harjesia*) + *H. obscurain* our molecular phylogeny (Fig. 1), thus, our placement of this species in *Harjesia* is justified. *Harjesia argentata* **n. sp.** is distinguished from *H. blanda* by its relatively broad and prominent ventral discal and postdiscal bands, in addition to the less jagged VHW discal band. There is a whitish shading (in the silvery area between the postdiscal and submarginal bands) just distal of the ventral postdiscal band in *H. blanda*, which is absent in *H. argentata* **n. sp.** The ground colour of the ventral surface is more greyish in *H. argentata* **n. sp.**, whereas more brownish in *H. blanda*. The forewing apex appears angular in *H. argentata* **n. sp.**, whereas more rounded in *H. blanda*. The male genitalia of *H. argentata* **n. sp.** differs from that of *H. blanda* by having a gradually tapering apical process of the valva, whereas there is an indentation at both dorsal and ventral margins where the apical process begins in *H. blanda*. Also, the uncus appears rather broad and straight in *H. argentata* **n. sp.**, whereas it is curved in *H. blanda*. The female genitalia of *H. argentata* **n. sp.** is distinguished from *H. blanda* by the lamella antevaginalis apparently being more weakly sclerotized and not connected to the lateral sclerotized plate of the 8th abdominal segment. *Harjesia argentata* **n. sp.** is distinguished from *H. obscura* by its less curved ventral discal band and less jagged ventral post discal band. In addition, the ventral coloration distal to the VHW submarginal band is more buffish in *H. obscura*, whereas it appears silvery in *H. argentata*. The male genitalia of *H. argentata* **n. sp.** are distinguished from *H. obscura* by the developed brachia and the broad uncus, whereas the brachia are reduced and the uncus is narrow, gradually tapering in *H. obscura*. The female genitalia of *H. argentata* **n. sp.** are distinguished from *H. blanda* by the lamella antevaginalis apparently being more weakly sclerotized and not connected to the lateral sclerotized plate of the 8th abdominal segment.

***Orotaygetis* Nakahara and Zacca, new genus**

(Fig. 7–9, 16)

Type species. *Orotaygetis surui* Nakahara, Zacca and Lamas, **n. sp.**, by present designation.**Description.** *Male.* Forewing length: 29–30 mm ($n = 3$)**Head:** Eyes sparsely hairy, with white scales at base; first segment of labial palpi wider than second segment, similar in length to third segment, adorned with white long hair-like scales and brownish long hair-like scales, second segment length almost twice as great as eye depth and covered with white hair-like scales and white scales laterally, and with black scales along edge of distal two-thirds of dorsal surface, ventrally adorned with black hair-like scales about 3–4× as long as segment width, third segment roughly one-third of second segment in length and covered with black scales dorsally and ventrally, with creamy-white scales laterally; antennae approximately two-fifths of forewing length, with approximately 41 antennomeres ($n = 1$), distal 14–15 antennomeres composing club.**Thorax:** Dorsally and laterally covered with dense long sparse light brownish hair-like scales; ventrally covered with long creamy whitish hair-like scales.**Legs:** Foreleg whitish, tarsus, tibia and femur almost same in length; midleg and hindleg with femur whitish ventrally, tibia and tarsus dorsally greyish, tibia ventrally lighter, tarsus ventrally slightly paler, tarsus and tibia adorned with spines ventrally, tibial spurs present at distal end of tibia.**Abdomen:** Eighth tergite appears as a thin sclerotized band at base of eighth abdominal segment; eighth sternite appears as a single plate.**Wing venation** (Fig. 9): Most of forewing subcostal vein swollen; base of cubitus swollen; forewing recurrent vein absent; hindwing humeral vein developed; origin of M_2 slightly nearer M_1 than M_3 .**Wing shape:** Forewing subtriangular, apex slightly angular, costal margin slightly convex, outer margin almost straight, inner margin almost straight, but rounded towards thorax near base; hindwing slightly elongate, rounded, costal margin slightly convex, outer margin undulating, inner margin slightly concave near tornus, anal lobe convex, slightly round.**DFW:** Ground colour brownish; androconial scales visible in MUSM-LEP 102416, but invisible in all DZUP specimens; brownish jagged submarginal band visible; marginal band appearing as darker narrow line; area distal to marginal band paler.**DHW:** Similar to forewing.**VFW:** Ground colour brownish, but somewhat variable; rather straight reddish-brown discal band extends from radial vein to 2A, passing origin of Cu_2 ; reddish-brown band present along discocellular veins m_1 - m_2 and m_2 - m_3 ; reddish-brown postdiscal band extending from radial vein towards inner margin until reaching vein 2A, broader than discal band, almost parallel to discal band, somewhat faded in Cu_2 ; umbra appear as indistinct darker shading covering middle of area in between postdiscal and submarginal band; submarginal band brownish, jagged, especially above Cu_1 ; marginal band traversing from apex towards tornus; fringe brownish; four submarginal ocelli in cells R_5 , M_1 , M_2 and M_3 , white pupil in center ringed with yellow, ocellus in cell M_1 appears black inside yellow ring, ocellus in M_3 appears as a yellowish smudge without pupil (these four ocelli are somewhat variable, and the description may not apply to some specimens).**VHW:** Ground colour similar to forewing; general wing pattern similar to forewing except as follows: discal band extends across wing passing origin of M_1 ; reddish-brown scaling just below origin of M_2 ; postdiscal band bent inwards at posterior end; submarginal band jagged after Cu_1 , anterior end and posterior end occasionally fused with postdiscal band; marginal band undulating; submarginal ocelli in cells M_1 and Cu_1 black with white pupil in center ringed with yellow, ocelli in cells M_2 and M_3 often lacking black central area, white pupil indistinct in some specimens; ocellus in cell R_5 with whitish smudge-like pupil in center, ringed with yellow.**Male genitalia** (Fig. 8a, b): Tegumen appears somewhat semi-circular in lateral view, semi-circular in dorsal view, anteriorly and dorsally convex, ventral margin straight; uncus slightly longer than tegumen in lateral view, without setae, somewhat tapered posteriorly, middle section broadens in dorsal view; brachia tapering towards apex, apical half positioned above uncus in lateral view, parallel to uncus with apical edge curving inwards in dorsal view; combination of ventral arms from tegumen and dorsal arms from saccus straight; appendices angulares present; saccus broad, anteriorly rounded, similar to

uncus in length; juxta apparently present as narrow stripe; valvae distally setose, basal half of valva appears roughly trapezoidal in lateral view, ventral margin convex, dorsal margin indented where costa projecting towards appendices angulares, apical process about one-third of valva in length, narrow with rounded apex; phallus roughly straight, similar in length with valve plus saccus, phallobase about one-fourth of phallus, posterior portion of aedeagus somewhat curved upwards with vesica visible, manica covering about half of aedeagus, cornuti absent.

Female. Forewing length: 32 mm ($n = 1$)

Similar to male except as follows: Female foretarsus first and second tarsomeres partially fused, second and third tarsomeres apparently partially fused at anterior side in MUSM-LEP 102418; Female foretarsus divided into five tarsomeres in DZ 38220; forewing appears somewhat rounded and broad; ground colour of ventral surface paler.

Female genitalia (Fig. 8c–e): Lamella antevaginalis sclerotized, appears somewhat isosceles trapezoid in ventral view, with distal margin having two small projection; lateral side of 8th abdominal segment sclerotized, this sclerotized plate fused to lamella antevaginalis at anterior margin; ductus bursae membranous, origin of ductus seminalis somewhat inflated, located at approximately one-fifth distance from ostium bursae to corpus bursae; ductus bursae somewhat sclerotized at region posterior to origin of ductus seminalis; corpus bursae roughly oval in dorsal view, with two signa extending across corpus bursae, together with ductus bursae extending across entire abdomen.

Etymology. The new generic name is a combination of the prefix ‘Oro’ appended to the existing generic name ‘*Taygetis*’. The prefix ‘Oro’ means ‘gold’ in Spanish, in reference to the golden-coloured ocelli in the VHW cells M_2 and M_3 . This generic name is treated as masculine.

Systematic placement and diagnosis. Our molecular phylogeny indicates *Orotaygetis* n. gen. is a distinct lineage related to *Pseudodebis*, *Taygetina*, and *Taygetis*, although it does not appear to belong to any of these three genera (Fig. 1). Both *Pseudodebis* and *Taygetina* are recovered as well-supported clades including the type species, but *Taygetis* is recovered as paraphyletic, in accordance with Matos-Maraví et al. (2013). In terms of male genitalia, *Orotaygetis* n. gen. is distinguished from *Pseudodebis* by its rather developed brachia, whereas brachia are reduced or almost absent in many *Pseudodebis* species. *Orotaygetis* n. gen. is distinguished from *Taygetis* by the elongated, narrow apical process of the valva, whereas the apical process of the valva is broad in many *Taygetis* species, often terminating in a concave or serrated distal margin. However, the male genitalia of *Taygetis leuctra* Butler, 1870, is somewhat similar to *Orotaygetis* n. gen., but is distinguished by having a dorsal hump along the apical process of the valva (lacking in *Orotaygetis* n. gen.); apical process of valva rather straight (curved in *Orotaygetis* n. gen.); brachia being narrower compared to those of *Orotaygetis*. *Orotaygetis* n. gen. is distinguished from *Taygetina* by the elongated narrow apical process of the valva, whereas the distal side of the valva of *Taygetina* species is somewhat similar to *Taygetis* species. Only *Taygetina weymeri* (Draudt, 1912) can be considered to have a narrow apical process of the valva, but there is a plate-like projection between this apical process and the costa in *T. weymeri*, whereas there is no projection in *Orotaygetis* n. gen. The fused female foretarsomeres of *Orotaygetis* n. gen. seen in one female (MUSM-LEP 102418) are also distinctive, however, given the presence of five tarsomeres in another female (DZ 38.220), further examination is necessary to assess how variable this character is within the species. Despite its distant relatedness, this new genus is phenotypically somewhat similar to *Satyrotaygetis*, but is distinguished by the absence of an ocellus on DHW, whereas it is present in *Satyrotaygetis*.

***Orotaygetis surui* Nakahara, Zacca and Lamas, new species**

Magneuptychia sp. n. 5: Robbins et al. 1996: 231.

Harjesia [n. sp.] Lamas MS (Nymphalidae: Satyrinae 1366): Lamas 2004: 220.

Description. See above description for the genus.

Types. *Holotype*. MALE: PERU: Madre de Dios Manu, Pakitza, 340 m 11°55'48"S 71°15'18"W 11 May 1991 leg. D. J. Harvey// MUSM-LEP 102416// Photographed By K. Willmott June 2015// [genitalia vial associated with specimen] (MUSM).

Paratypes. (7 ♂, 6 ♀) **Brazil:** *Mato Grosso:* Diamantino, Alto Rio Arinos, [14°10'S, 56°4'W], 300–400 m, (H. Ebert and H.D. Ebert), 1–8 Aug 1974, 1 ♀ (dissected) [DZ-38931], (DZUP); *Rondônia:* Ouro Prêto do Oeste, [10°40'S, 62°18'W], (Elias, C.), 16–23 Dec 1987, 1 ♂ [DZ-39531], (DZUP), 17–31 Aug 1987, 1 ♂ (dissected) [DZ-38220], 1 ♂ [DZ-38242], 1 ♂ [DZ-39532], 1 ♂ [DZ-39534], 1 ♂ [DZ-39536], (DZUP). **Peru:** *Cuzco:* above Chontachaca, [13°2'S, 71°28'W], 972 m, (Faynel, C.), 24 Oct 2014, 1 ♂ [MUSM-LEP-102417], (MUSM); *Madre de Dios:* Parque Manu, Pakitza, [11°55'48"S, 71°15'18"W], 340 m, (Clarke, N. L.), 14 May 1991, 1 ♀ (Genitalia vial SN-16-60 S. Nakahara) [MUSM-LEP-102418], (MUSM); (Harvey, D. J.), 20 Apr 1991, 1 ♀ [MUSM-LEP-102420], (MUSM); 1 ♀ (Genitalia vial SN-16-58 S. Nakahara) [MUSM-LEP-102421], (MUSM); Parque Manu, Pakitza, [“12°07”S, 70°58’W”], “400 m”, (Harvey, D.), 16 Sep 1989, 1 ♀, (USNM); 8 Sep 1989, 1 ♀ [MUSM-LEP-102419], (MUSM).

Etymology. This specific epithet is based on the name of the Suruí tribe, an indigenous people inhabiting the known range of the Brazilian population of this new species. This specific epithet is treated as a latinized masculine noun in apposition.

Distribution. This species is known from the southwestern Amazon basin (Madre de Dios and Cuzco, Peru; Rondônia and Mato Grosso, Brazil).

Systematic placement and diagnosis. The systematic placement of this species is discussed above. Although not closely related, this species is phenotypically similar to *H. argentata*, which is distinguishable by the ventral submarginal band being more jagged in *Orotaygetis surui* **n. gen. et n. sp.**, in addition to several genitalic characters, including: brachia pointing upwards in lateral view in *O. surui* **n. gen. et n. sp.**, whereas almost parallel to uncus in lateral view in *H. argentata*; apical process of valva narrow in *O. surui* **n. gen. et n. sp.**, whereas rather broad in *H. argentata*; saccus appearing somewhat broad in *O. surui* **n. gen. et n. sp.**, whereas rather narrow in *H. argentata*; phallus longer than valva plus saccus in *O. surui* **n. gen. et n. sp.**, whereas slightly longer than valva in *H. argentata*.

***Euptychoides* Forster, 1964**

Euptychoides: Forster 1964: 97.

Type species. *Euptychia saturnus* Butler, 1867: 479, pl. 39, fig. 19. — by original designation.

Euptychoides Forster, 1964 is a subject of a taxonomic revision by the authors and collaborators, however, given the fact that *Euptychoides* appears to be a highly polyphyletic genus (see Nakahara et al. 2016), we decided to describe this rather distinctive species herein.

***Euptychoides sanmarcos* Nakahara and Lamas, new species**

(Fig. 10, 11, 16)

Magneuptychia sp. n.: Lamas and Grados [1997]: 58.

Magneuptychia [n. sp.] Lamas MS (Nymphalidae, Satyrinae 1421): Lamas 2004: 220.

Description. *Male.* Forewing length: 24 mm ($n = 1$)

Head: Eyes with relatively short sparse golden hairs, with white scales at base; first segment of labial palpi white, adorned with white long hair-like scales and brownish long hair-like scales, second segment length almost twice as great as eye depth and covered with white hair-like scales and white scales laterally, and with black scales along edge of distal two-thirds of dorsal surface, ventrally adorned with black hair-like scales about 3–4× as long as segment width, third segment about one-third of second segment in length and covered with black scales dorsally and ventrally, with creamy-white scales laterally; antennae approximately two-fifths of forewing length, with approximately 39 antennomeres ($n = 1$), distal 14–15 antennomeres composing club.

Thorax: Dorsally and laterally covered with sparse greyish scales and with additional long, sparse multi-colored hair-like scales dorsally; ventrally scattered with greyish scales and with long greyish hair-like scales.

Legs: Foreleg brown, tarsus and tibia almost same in length, femur not examined; midleg and hindleg with femur greyish, basal two-thirds adorned with long greyish hair-like scales, tibia and tarsus dusty

white, dorsally darker, tarsus and tibia adorned with spines ventrally, tibial spurs present at distal end of tibia.

Abdomen: Eighth tergite reduced, appearing only along basal margin of dorsal surface of eighth abdominal segment; eighth sternite apparently reduced.

Wing venation: Basal half of forewing subcostal vein swollen; base of cubitus swollen; forewing recurrent vein absent; hindwing humeral vein developed; origin of M_2 slightly nearer M_1 than M_3 .

Wing shape: Forewing subtriangular, apex somewhat angular, costal margin convex, outer margin almost straight in slightly inward direction, inner margin very slightly convex, but rounded towards thorax near base; hindwing slightly elongate, rounded, costal margin slightly convex, but bent at right-angle at base, apex angular, outer margin very slightly undulating, tornus somewhat rounded, inner margin slightly concave near tornus, anal lobe convex, slightly round.

DFW: Ground colour brownish, dark submarginal band appears as a dark trace, extending from apex to tornus; concolorous marginal band, narrower, extending from apex to tornus.

DHW: Ground colour and general wing pattern similar to DFW, except for submarginal and marginal band somewhat prominent.

VFW: Ground colour light chestnut brown; dark brownish thin discal band extends from radial vein to cell Cu_2 , crossing discal cell in a slightly outward diagonal direction, fades away before reaching 2A; concolorous postdiscal band, broader than discal band, somewhat sinuate, extending from radial vein towards inner margin until reaching 2A, very slightly curved basally; faint, indistinct dark shading covering middle of post medial area (around submarginal ocelli); submarginal band similar to postdiscal band in terms of colour and width, undulating until Cu_1 , straight below this vein; concolorous marginal band, slightly broader, less undulating, traversing from apex towards tornus; fringe brownish; three submarginal ocelli in cells M_1 , M_2 , and M_3 , ocelli in cell M_1 black spot with silver pupil in center ringed with orange, ocellus in cell M_2 smaller, black spot and orange ring somewhat indistinct, ocellus in cell M_3 appears as a trace.

VHW: Ground colour similar to forewing; general wing pattern similar to forewing except as follows: discal and postdiscal band broader, both bands extends across wing; postdiscal band bent inwards in cell 2A; submarginal band strongly undulating, especially in cells M_2 and M_3 ; area distal to submarginal band slightly paler; marginal band broadens at tornus; six submarginal ocelli in cells Rs, M_1 , M_2 , M_3 , Cu_1 and Cu_2 , those in cells M_1 and Cu_1 large, ocellus touching anterior and posterior veins, black spot with silver pupil in center ringed with orange, ocelli in cells M_2 and M_3 , smaller than previous two ocelli, otherwise similar, ocelli in cells Rs and Cu_2 , smaller than those ocelli in cells M_2 and M_3 , otherwise similar.

Male genitalia (Fig. 11a, b): Tegumen relatively small, appears somewhat circular in lateral view, dorsally concave, anterior margin straight; uncus curved, with some setae at base, twice as long as tegumen in length, based of uncus forked in lateral view thus creating a hole between tegumen, slightly hooked at posterior end, tapered posteriorly; gnathos absent; brachia slightly longer than uncus in length, basally broad, tapered posteriorly, posterior one-fifth bent and almost parallel to uncus in lateral view; combination of ventral arms from tegumen and dorsal arms from saccus curved in middle, top half extending horizontally until middle of anterior margin of tegumen, forming somewhat like plate along anterior margin of tegumen; appendices angulares absent; saccus similar to tegumen in length; juxta present; distal half of valvae sparsely setose, basal two-thirds of valva appear roughly elliptical in lateral view, ventral margin convex, dorsal margin curved distally with subtriangular costa projecting towards combined ventral arms from tegumen and dorsal arms from saccus, distal one-third narrow with angular apex; phallus roughly straight, slightly longer than valva in length, phallobase about half of phallus, anterodorsal opening large, aedeagus slightly curved upwards at posterior end, manica covering about half of aedeagus, sclerotized region present in manica antero-dorsally, apparently as continuation from phallobase, cornuti appear as small spines on vesica coming out from distal end of aedeagus.

Female. Forewing length: 26–27 mm ($n = 3$)

Similar to male except as follows: Female foretarsus divided into five distinct tarsomeres; forewing appears more rounded and broad; ground colour of both wing surface slightly lighter. **Female Genitalia** (Fig. 11c, d): Lamella antevaginalis sclerotized, forming somewhat like oval spoon-like plate with concave posterior margin, anterior margin connected to lateral sclerotized region of 8th abdominal segment; lateral portion of 8th abdominal segment sclerotized forming somewhat like plate; ductus

bursae membranous, origin of ductus seminalis located at one-fifth distance from ostium bursae to corpus bursae, ductus bursae posterior to origin of ductus seminalis apparently slightly sclerotized; corpus bursae roughly oval in dorsal view, extending to third abdominal segment, with two signa parallel to each other located posteriorly.

Types. *Holotype.* MALE: PERU: MADRE de DIOS Cerro Pantiacolla, E slope nr. Summit, ca. 4 km. ENE Shintuya; 960–1030 m. 25.vii.1980 J. F. Douglass 1342// Allyn Museum Acc. 1980 – 14// Genitalia vial SN-14-149 S. Nakahara// (MGCL, to be deposited in MUSM).

Paratypes. (2 ♂, 7 ♀) **Bolivia:** *La Paz:* Río Zongo, [16°3'40"S,68°1'2"W], 1200 m, (Garlepp), 1895-1896, 1 ♂, (MNHU). **Peru:** *Cuzco:* Cosñipata Valley, Quebrada Quitacalzón, [13°01'13"S,71°29'50"W], 1050 m, (Harris, B.), 12 Aug 2009, 1 ♀ (Genitalic vial SN-14-18, MUSM) ([MUSM-LEP-103661], (MUSM); (Kinyon, S.), 25 Sep 2011, 1 ♀ [MUSM-LEP-103662], (MUSM); Quebrada Quitacalzón, [13°1'S,71°30'W], 1100 m, (Gibson, L.), 10 May 2012, 1 ♀ [MUSM-LEP-103663], (MUSM); (Kinyon, S.), 22 Sep 2014, 1 ♀ [MUSM-LEP-103666], (MUSM); (Lamas, G.), 22 Sep 2014, 1 ♀ (Genitalic vial SN-16-17) [MUSM-LEP-103664], (MUSM); (Lamas, G.), 23 Oct 2010, 1 ♂ [MUSM-LEP-103667], (MUSM); *Huánuco:* Cordillera del Sira, ca. [9°25'S,74°45'W], 1380 m, (Exp. Universidad Viena), Sep 1987–Aug 1988, 1 ♀ [MUSM-LEP-103660], (MUSM); *Puno:* Tambopata - Candamo, Río Távara, [13°25'–27'S,69°38'W], 1000 m, (Baynes, H.), 1 Aug 1995, Expedition Cambridge Peru '95, 1 ♂ [MUSM-LEP-103659], (MUSM); (Grados, J.), 8 Aug 1995, 1 ♀ [MUSM-LEP-103665], (MUSM).

Etymology. This species is named after the Peruvian institution Universidad Nacional Mayor de San Marcos, the oldest university on the American continent. The majority of the type series are deposited in the museum (MUSM) belonging to this university. The specific epithet is treated as a latinized masculine noun in apposition.

Distribution. This species is known from the eastern foothills of the central Peruvian Andes to Bolivia, where it is likely sympatric with *E. fida*.

Systematic placement and diagnosis. This species is placed as sister to Ecuadorian specimens phenotypically similar to *Euptychoides fida* (Weymer, 1911) based on molecular data (unpublished). Although there are some slight wing pattern differences between Ecuadorian specimens and the syntypes of *E. fida* from Bolivia, they appear to be conspecific or at least sister taxa, and we thus describe this new species provisionally in *Euptychoides*. *Euptychoides sanmarcos* n. sp. is distinguished from syntypes of *Euptychoides fida* in MNHU (two males and one female, examined) by having a relatively straight VHW postdiscal band and lacking the whitish coloration distal to VHW postdiscal band. The VHW postdiscal band appears somewhat jagged in syntypes of *E. fida*, and there is a whitish coloration distal of this band, which also extends along the VHW inner margin. In addition, the VFW postdiscal band seems to terminate close to 2A in *E. sanmarcos* n. sp., whereas this band terminates half way between Cu₂ and 2A in those syntypes of *E. fida*. Based on the female genitalia of one of the syntypes of *E. fida* dissected by Lee D. Miller (genitalia vial M-9151), the female genitalia of *E. fida* and this species appear to be similar. The genitalia vial number (M-9051) associated with this female syntype does not correspond to the genitalia of this *E. fida*, and the correct vial (M-9151) was determined by the genitalia dissection list prepared by Lee D. Miller, with Jacqueline Y. Miller's assistance. It should also be noted that this female syntype has been erroneously identified as a male and is indicated as such on labels pinned with the specimen.

***Pseudeuptychia* Forster, 1964**

Pseudeuptychia: Forster 1964: 86.

Type species: *Euptychia languida* Butler, 1871: 282 — by original designation.

Forster (1964) described *Pseudeuptychia* to contain two species, namely *Euptychia languida* Butler, 1871 and *E. hemileuca* Staudinger, [1886], and designated the former as the type species of the genus. *Pseudeuptychia* was regarded as a somewhat 'isolated and distinctive genus' by Forster, in regard to its DHW black ocelli and distinctive male genitalia. Presumably based on its overall appearance, *Pseudeuptychia* was associated with *Euptychia* Hübner, 1818 and *Pareuptychia* Forster, 1964 in the

original description of the genus, but the genitalia do not show any strong affinities to support a close relationship to these two genera, and our molecular data show that these three genera are not closely related (unpublished data). Lamas (2004) retained Forster's (1964) classification and listed two additional undescribed species in the genus. We here describe one of them, in addition to describing a new subspecies of *Pseudeuptychia languida*. In addition to describing these two new taxa, we also figure the female genitalia of *P. hemileuca* (Fig. 13a, b), a poorly known *Pseudeuptychia* species known only from the single female syntype in the MNHU (Fig. 12a). The new species described and named below, *Pseudeuptychia cuzquenya* n. sp., is also known only from a single female specimen, and clearly a discovery of the male, as well as any data regarding these taxa, would be extremely valuable in improving our understanding of these rare Neotropical butterflies.

Systematic placement and diagnosis. Our molecular data suggest that *Pseudeuptychia* is sister to *Chloreuptychia herseis* (Godart, [1824]) (unpublished data), which affinity is also supported by the form of lamella antevaginalis, but a comprehensive phylogenetic study of Euptychiina, to confirm the most appropriate generic classification, is still underway. *Pseudeuptychia* is distinguished from *Chloreuptychia herseis* by having a whitish coloration on the dorsal wing surface(s), which is absent in *C. herseis*, in addition to having the ocelli in VHW cells M_2 and M_3 more rounded (the ocelli in VHW cells M_2 and M_3 are elongated in *C. herseis*).

Species account

Pseudeuptychia Forster, 1964

cuzquenya Nakahara and Lamas, n. sp.

hemileuca (Staudinger, [1886])

languida languida (Butler, 1871)

languida austrina Nakahara and Lamas, n. ssp.

languida [undescribed ssp.] Nakahara et al., MS

Pseudeuptychia cuzquenya Nakahara and Lamas, new species

(Fig. 12b, 13, 16)

Pseudeuptychia [n. sp.] Lamas MS (Nymphalidae: Satyrinae 1475): Lamas 2004: 221.

Description. *Male.* unknown or unrecognized.

Female. Forewing length: 21 mm ($n = 1$)

Head: Eyes naked, with white scales at base; first segment of labial palpi white, adorned with white long hair-like scales and brownish long hair-like scales, second segment length almost twice as great as eye depth and covered with white hair-like scales and white scales laterally, and with black hair-like scales along edge of distal two-thirds of dorsal surface, ventrally adorned with black hair-like scales and some white hair-like scales about 3-4× as long as segment width, third segment about one-third of second segment in length and covered with black scales dorsally and ventrally, with creamy-white scales laterally; antennae approximately two-fifths of forewing length, with ca. 35 antennomeres ($n = 1$), distal 13–14 antennomeres composing club.

Thorax: Dorsally scattered with white scales and brown scales, greenish long hair-like scales present anteriorly, meso- and metathorax covered with sparse white hair-like scales; ventrally scattered with white scales and brown scales.

Legs: Foreleg whitish, first, second and third segments appear as distinct tarsomeres, fourth and fifth tarsomeres fused; midleg with femur white ventrally, tibia and tarsus greyish dorsally, tarsus ventrally ocher and tibia adorned with spines ventrally, pair of tibial spurs present at distal end of tibia.

Abdomen: See genitalia description below.

Wing venation: Basal half of forewing subcostal vein swollen; base of cubitus swollen; forewing recurrent vein absent; hindwing humeral vein developed; origin of M_2 slightly nearer M_1 than M_3 .

Wing shape: Forewing triangular, apex rounded, costal margin slightly convex, outer margin almost straight, inner margin almost straight, but rounded towards thorax near base; hindwing slightly

elongate, rounded, costal margin almost straight, angles inwards at base, outer margin convex, inner margin slightly concave near tornus, anal lobe convex, slightly round.

DFW: Ground colour light brown, distally darker, white coloration extending from base towards half way through discal cell, cells Cu_1 , Cu_2 , and 2A, slightly translucent, thus subtly revealing ventral ocelli in cell M_1 .

DHW: Ground colour white, similar to white coloration on DFW, marginal area light brown, slightly translucent, thus subtly revealing ventral submarginal and marginal bands and ocelli in cells M_1 and Cu_1 , distal side of ocelli marked with rufous tint.

VFW: Ground colour pale brown; pale reddish-brown discal band extends from radial vein, crossing discal cell, narrower below cubital vein, bent inwards and fading away before reaching 2A; whitish coloration along inner margin, extending up to origin of Cu ; pale reddish-brown postdiscal band extending from radial vein towards inner margin until reaching vein 2A, slightly narrowing towards posterior end, bent outwards below Cu_2 ; broad, faint, indistinct dark shading covering middle of cells R_5 , M_1 , M_2 , M_3 , Cu_1 , and Cu_2 (around submarginal ocelli); sinuate submarginal band, almost concolorous, extending from apex towards tornus, jagged above Cu_1 , straight below this vein; concolorous marginal band, traversing along marginal area from apex to tornus; fringe brownish; ocellus in cell M_1 , spilling out from veins M_1 and M_2 , black with two slate grey pupils in center, ringed with orange, tiny satellite ocellus present in cell M_2 , appears as slate grey patch surrounded by indistinct orange ring, small ocellus in cell M_3 , similar to ocellus in cell M_1 .

VHW: Ground colour similar to forewing; general wing pattern similar to forewing except as follows: discal and post discal band broader, postdiscal band inflated distally when traversing along discal cell; submarginal band jagged after Cu_1 and broadens towards tornus; five submarginal ocelli, those in cells M_1 and Cu_1 similar to that in VFW cell M_1 , those in cells M_2 and M_3 similar to those in VFW cells M_2 and M_3 , ocellus in cell Rs black with slate grey smudge-like pupil in center, ringed with orange.

Female genitalia (Fig. 13c): Lamella antevaginalis appears as a slightly sclerotized region surrounded by a membranous area, somewhat semi-circular in ventral view; lateral sclerotized plate of 8th abdominal segment not fused with lamella antevaginalis at anterior margin; weakly sclerotized region present in ventral surface of intersegmental membrane of seventh and eighth abdominal segments; bursa copulatrix not examined due to damage in the abdomen.

Types. *Holotype*. FEMALE: PERU, CU[ZCO] VALLE DE MARCAPATA// MUSM-LEP 104263// Photographed By K. Willmott June 2015// Genitalia vial SN-16-65 S. Nakahara// (MUSM).

Etymology. The specific epithet is derived from the Spanish word ‘cuzqueña’, meaning ‘a woman from Cuzco’, in reference to the fact that this species is represented by a single female from Cuzco department. This specific epithet is treated as a latinized feminine noun in apposition.

Distribution. To date, this species is known only from the type locality, Valle de Marcapata, Cuzco, Peru.

Systematic placement and diagnosis. Although we do not have DNA data to justify the placement of this species in *Pseudeuptychia*, we describe this species in this genus due to its morphological resemblance to the other two other species placed in this genus, namely *P. languida* (Butler, 1871) (type species) and *P. hemileuca* Staudinger, [1886]. All three species share a similar lamella antevaginalis which appears as a simple rounded plate surrounded by a membranous area. The female of *Pseudeuptychia cuzquena* **n. sp.** is distinguished from the female of *P. languida* by lacking the prominent white area between the VHW discal band and postdiscal band, in addition to having the postdiscal band crossing the origin of Cu_1 , whereas the postdiscal band is located distal to the origin of Cu_1 in *P. languida*. The lamella antevaginalis is similar to that of *P. languida*, but is distinguished by being semi-circular in ventral view, whereas this structure is somewhat oval in ventral view in *P. languida*. The male of *P. cuzquena* **n. sp.** is unknown.

Pseudeuptychia languida austrina Nakahara and Lamas, new subspecies

(Fig. 12c–d, 13d–g, 16)

Description and diagnosis. The male description below is based on Bolivian specimens, since no definitive southern Peruvian males of this taxon are known to us.

Male. Forewing length 22 mm ($n = 1$): Differs from the nominotypical subspecies in the following respects: curved portion of VHW postdiscal band in cells M_2 and M_3 less undulating, not reaching the ocelli in cells M_2 and M_3 .

Female. Forewing length 21–22 mm ($n = 2$): Differs from the nominotypical subspecies in the following respects: white area of DFW does not extend above origin of Cu_1 , and only slightly extends into discal cell or does not extend beyond cubital vein, this white area also does not extend beyond origin of Cu_2 where the discal band is located; white area of VFW same as that of DFW; VFW discal band crossing origin of Cu_2 ; curved portion of VHW postdiscal band in cells M_2 and M_3 less undulating, crossing origin of M_3 (two Bolivian females possess VHW postdiscal band passing distal of origin of M_3).

Types. *Holotype.* FEMALE: //PERU: MADRE de DIOS Cerro Pantiacolla, E slope nr. summit, ca. 4 km. ENE Shintuya; 960–1030 m. 25.vii.1980 J. F. Douglass 1346// Allyn Museum Acc. 1980-19// (MGCL, to be deposited in MUSM).

Paratypes. (7 ♀) **Peru:** *Cuzco:* Cosñipata Valley, Quebrada Quitacalzón, [13°1'S, 71°30'W], 1050 m, (Gibson, L.), 2 Feb 2010, 1 ♀ [MUSM-LEP-104270], (MUSM); Quebrada Quitacalzón, [13°1'S, 71°30'W], 1100 m, (Kinyon, S.), 10 May 2012, 1 ♀ [MUSM-LEP-104271], (MUSM); 31 Jan 2010, 1 ♀ [MUSM-LEP-104267], (MUSM); (Lamas, G.), 2 Feb 2010, 1 ♀ [MUSM-LEP-104268], (MUSM); 1 ♀ (Genitalia vial SN-16-67) [MUSM-LEP-104269], (MUSM); 8 Nov 2007, 1 ♀ [MUSM-LEP-104266], (MUSM); 24 Oct 2016, 1 ♀, (MUSM).

Other specimens examined. **Bolivia:** *Cochabamba:* Ipiri, Bosque Amazónico, [16°03'26"S, 66°40'45"W], (Vidaurre, T.), 18 Sep 2004, 1 ♂ [MUSM-LEP-104265], (MUSM); Yungas, Bosque Amazónico, [16°02'27"S, 66°38'54"W], (Vidaurre, T.), 23 Sep 2004, 1 ♂ (Genitalia vial SN-16-66 S. Nakahara) [MUSM-LEP-104264], (MUSM); *La Paz:* Río Zongo, [16°3'40"S, 68°1'2"W], (Garlepp), 1 ♀, (MNHU); Río Zongo, [16°3'40"S, 68°1'2"W], 1200 m, (Garlepp), 1895–1896, 1 ♀, (MNHU).

Etymology. The subspecific epithet is based on the feminine Latin adjective 'austrina', meaning southern, in reference to the southern distribution of this taxon compared to related taxa.

Distribution. This subspecies is known to date from Peru (Cuzco and Madre de Dios) and Bolivia (La Paz and Cochabamba).

Systematic placement and remarks. Based on existing museum specimens, we currently regard *P. languida* as likely representing three subspecies (but see discussion below): the nominate race of *P. languida* known from Colombia, with a large white patch on the DFW in the female and a strongly undulating VHW postdiscal band; an undescribed subspecies of *P. languida* from Ecuador to north-central Peru (Huánuco), with an almost entirely dark DFW in the female and a strongly undulating VHW postdiscal band; and *P. languida austrina* n. ssp., from central Peru (Junín) to Bolivia (Cochabamba), with a white patch on the DFW in the female and less undulating VHW postdiscal band. However, given that we are not aware of any Ecuadorian females nor Colombian males of this species, we are unable to assess the range of the nominate race and the neighboring undescribed subspecies. Thus, here we limit the discussion to the southernmost subspecies, which is named and described herein, and wait to draw a conclusion regarding the taxonomic status of the aforementioned *P. languida* populations in the future.

Although *P. languida austrina* n. ssp. was initially regarded as a distinct species by GL, based on the less undulating VHW postdiscal band, the sequenced specimen (MUSM-LEP-104271; DNA voucher: KW-15-034) grouped with Ecuadorian *P. languida* (DNA voucher: LEP-10517) with trivial COI sequence difference (0.0018) (unpubl. data). In addition, the female and putative male genitalia (Fig. 13d–g) of this subspecies are identical to those of specimens from further north in Peru (Huánuco), with similar VHW postdiscal bands to the nominate subspecies. These facts influenced our decision regarding the taxonomic status of this taxon. However, one of the known Bolivian females from Río Zongo (in MNHU, with the label "Euptychia languida Btl. det. T.G. Howarth. 1961.") exhibits slight phenotypic differences in comparison with Peruvian females, especially in terms of the position of VHW postdiscal band, which reaches the ocelli in cells M_2 and M_3 . The other female from the same site is similar to southern Peruvian females in that the VHW postdiscal band passes an area just distal of the origin of M_3 . The phenotype of

the former specimen corresponds with two Bolivian males in the MUSM from Cochabamba. However, given that males and females of Bolivian specimens are not from the same site, combined with the lack of known southern Peruvian male specimens, we are unable to confidently evaluate differences between the Peruvian population and the Bolivian population, and also the phenotypic stability of the Bolivian population. Therefore, we restricted the type series to southern Peru, but given the small phenotypic difference, which could simply be broadly clinal, we currently consider the Bolivian specimens to represent the same taxon as that found in southern Peru. It should also be noted that two male specimens figured in D'Abrera (1988: 759) from the NHMUK, one from Chanchamayo, Peru and the other from Bolivia, possess a white patch on the DFW, in contrast to the Bolivian males in the MUSM. Based on the less undulating VHW postdiscal band, we tentatively identify both specimens figured by D'Abrera (1988) as also representing *P. l. austrina* n. ssp. It remains to be determined whether the presence of white on the DFW is variable within or between populations. Clearly, a number of taxonomic questions remain in this genus, which can only be answered once new material and DNA sequence data become available.

***Godartiana* Forster, 1964**

Godartiana Forster 1964: 118, *nota*.

Type species. *Satyrus byses* Godart, [1824]: 466 — by original designation.

Zacca et al. (2017) recently revised the classification of *Godartiana*, recognising five species (*G. byses* (Godart, [1824]), *G. muscosa* (Butler, 1870), *G. amadoi* Paluch, Zacca and Freitas, 2017, *G. armilla* (Butler, 1867) and *G. luederwaldti* (Spitz, 1931)) in the genus. An additional, undescribed species of *Godartiana*, in MUSM, is described and named here, increasing the number of species in the genus to six.

***Godartiana astronesthes* Lamas and Nakahara, new species**

(Fig. 14–16)

Praefaunula sp. n.: Lamas 1994: 180.

Praefaunula [n. sp.] Lamas MS (Nymphalidae: Satyrinae 1471): Lamas 2004: 221.

Description. *Male.* Forewing length: 14.0–14.5 mm ($n = 3$)

Head: Eyes naked, with golden scales at base; first segment of labial palpi about half of third segment in length, whitish, adorned with golden long hair-like scales, second segment length almost twice as great as eye depth and covered with golden scales and white scales laterally, and with somewhat brownish hair-like scales along dorsal surface, ventrally adorned with long golden hair-like scales and some white long hair-like scales, about 3–4× as long as segment width, third segment about one-third of second segment in length and covered with golden scales; antennae approximately two-fifths of forewing length, with approximately 35 antennomeres ($n = 1$), distal 13–14 antennomeres composing club.

Thorax: Dorsally and laterally covered with golden scales and long golden hair-like scales; ventrally scattered with greyish scales.

Legs: Foreleg greyish, tarsus, tibia and femur almost same in length; midleg and hindleg with femur creamy, slightly paler than tarsus and tibia, tibia and tarsus dorsally greyish, ventrally brownish, tarsus and tibia adorned with spines ventrally, tibial spurs present at distal end of tibia.

Abdomen: Eighth tergite reduced, apparent only along basal margin of dorsal surface of eighth abdominal segment; eighth sternite appearing as two sclerotized regions.

Wing venation: Basal half of forewing subcostal vein swollen; base of cubitus swollen; forewing recurrent vein absent; hindwing humeral vein developed; origin of M_2 slightly nearer M_1 than M_3 .

Wing shape: Forewing subtriangular, apex rounded, costal margin slightly convex, outer margin convex, inner margin straight, but rounded towards thorax near base; hindwing slightly elongate, rounded, costa slightly convex, angular near base towards thorax, outer margin very slightly undulating, inner margin slightly concave near tornus, anal lobe convex, slightly round.

DFW: Ground colour chocolate-brown, slightly translucent, thus subtly revealing ventral ocelli.

DHW: Ground colour similar to forewing, slightly translucent, thus subtly revealing ocelli.

VFW: Ground colour chestnut brown; area basal to postdiscal band mottled with dark brown patches; narrow sinuate dark-brown postdiscal band extending from radial vein towards inner margin until

reaching vein 2A, curved outwards, traversing area distal to discal cell; concolorous sinuate submarginal band extending from apex towards tornus, terminating at 2A-Cu₂ (apparently variable), area distal to submarginal band somewhat ochre; concolorous marginal band, extending from apex towards tornus, almost parallel to submarginal band, area distal to marginal band somewhat greyish; fringe light brownish; five submarginal ocelli in cells R₅, M₁, M₂, M₃, and Cu₁ (ocellus in cell Cu₁ absent in three males: MUSM-LEP 104242, 104243, 104252), those in cells M₁ and M₂ white-pupilled black spot ringed with orangish, remaining ocelli sometimes lack black spot and ring somewhat indistinct.

VHW: Ground colour similar to forewing; general wing pattern similar to forewing, except as follows: postdiscal and submarginal bands occasionally appear fused to each other at anterior and posterior ends; six submarginal ocelli in cells Rs, M₁, M₂, M₃, Cu₁, and Cu₂, those in cells M₁ to Cu₁ white-pupilled black spot ringed with orangish, ocelli in Rs sometimes lack black spot and ring somewhat indistinct, ocelli in Cu₂ sometimes very small.

Male genitalia (Fig. 15a–c): Tegumen appears somewhat semi-circular in lateral view, dorsally curved in lateral view, ventrally almost straight in lateral view; uncus about twice as long as tegumen in length, posterior half curved downwards, posterior end appears as downwardly projecting flange, sparse hairs visible on dorsal surface; brachia long, about 1.5× longer than uncus, apical point higher than uncus in lateral view, slightly curved inwards in dorsal view; combination of ventral arms from tegumen and dorsal arms from saccus curved near appendices angulares; appendices angulares present; saccus similar to uncus in terms of length; juxta present; valvae setose; bristle-like hairs present on distal side of valvae; distal margin concave, ventral margin longer than dorsal margin, ventral margin convex, dorsal margin basal to costa concave; phallus roughly straight, similar in length with tegumen plus uncus, distinction between phallobase and aedeagus unclear, cornuti absent; ventral surface of anal tube apparently not sclerotized.

Female. Forewing length: 14.5 mm ($n = 1$).

Similar to male except as follows: female foretarsus divided into five distinct tarsomeres; forewing appears somewhat broader; ground colour somewhat paler.

Female genitalia (Fig. 15d, e): Lamella antevaginalis sclerotized, appearing as elongated subtriangular plate in ventral view; lateral plate of 8th abdominal segment sclerotized at posterior edge, anteriorly less sclerotized, fused with lamella antevaginalis at anterior margin; ductus bursae membranous, origin of ductus seminalis located at one-third distance from ostium bursae to corpus bursae, ductus bursae slightly sclerotized around origin of ductus seminalis; corpus bursae roughly circular in dorsal view, extending to fourth abdominal segment, with two signa located in middle, parallel to each other.

Types. *Holotype.* MALE: PERU, MD, S.N. Pampas del Heath, Refugio Juliaca 220 m 1257/6853 14.vi.92 G. Lamas// PAMPAS// Photographed By K. Willmott June 2015// MUSM-LEP 104245// (MUSM).

Paratypes. (11 ♂, 1 ♀) **Peru:** *Madre de Dios:* Río Heath, Pampas del Heath, [12°57'S, 68°53'W], 220 m, (Bohórquez, I.), 25 Jun 1987, 1 ♂ [MUSM-LEP-104242], (MUSM); Refugio Juliaca, [12°57'S, 68°53'W], 220 m, (Lamas, G.), 14 Jun 1992, 1 ♂ [MUSM-LEP-104244], 1 ♂ [MUSM-LEP-104246], (MUSM); 15 Jun 1992, 1 ♂ [MUSM-LEP-104249], (MUSM); 1 ♂ [MUSM-LEP-104251], (MUSM); 1 ♂ (GENITALIA # MM-13, MUSM) [MUSM-LEP-104253], (MUSM); 18 Jun 1992, 1 ♂ [MUSM-LEP-104243], (MUSM); 19 Jun 1992, 1 ♂ [MUSM-LEP-104247], (MUSM); 1 ♂ [MUSM-LEP-104248], (MUSM); 1 ♂ [MUSM-LEP-104250], (MUSM); 1 ♂ (Genitalia vial SN-16-70 S. Nakahara) [MUSM-LEP-104252]; 1 ♀ (Genitalia vial SN-16-68 S. Nakahara) [MUSM-LEP-104254], (MUSM).

Etymology. The specific epithet is a combination of the Greek neuter noun *astron*, meaning 'star', and the Greek feminine noun *esthes*, meaning 'attire', alluding to the ventral ocelli that are reminiscent of a starry sky, or 'clothed with stars'. This specific epithet is treated as a latinized feminine noun in apposition.

Distribution. This species is so far only known from Pampas del Heath, Madre de Dios, Peru.

Systematic placement and diagnosis. *Godartiana* appears to be a distinctive lineage within Euptychiina, being sister to a large clade containing many species-rich genera such as *Caeruleuptychia*, *Cissia*, *Taygetis*, etc. (Espeland et al. in review). *Godartiana astronesthes* n. sp. can be confidently placed in *Godartiana* based on its rippled/mottled ventral wing pattern and well-developed brachia (brachia longer than uncus). *Godartiana astronesthes* n. sp. is similar to *G. armilla* but is distinguished by the

combination of following characters: 1) relatively small adult size; 2) DFW androconial patch absent or indistinct; 3) presence of rather prominent ocellus in VFW cell M_2 , in addition to variable presence of ocellus in cell Cu_1 ; 4) presence of prominent pupil in submarginal ocelli of VFW and VHW; 5) presence of ocher area distal to VFW and VHW submarginal band.

Remarks. Zacca et al. (2017) illustrated high intraspecific variation in several *Godartiana* species, especially in apparent association with seasonally varying precipitation. *Godartiana astronesthes* n. sp. has only been sampled in June (all known specimens were collected from 14–19 June 1992, except for a single specimen from 25 June 1987), which is the driest month of the year at the type locality (Cañas and Waylen 2012). Given the absence of sampled specimens from wetter months of the year, it is impossible to assess whether seasonally induced phenotypic variation exists in this species, and if such variation is found it may well influence the diagnostic characters provided above.

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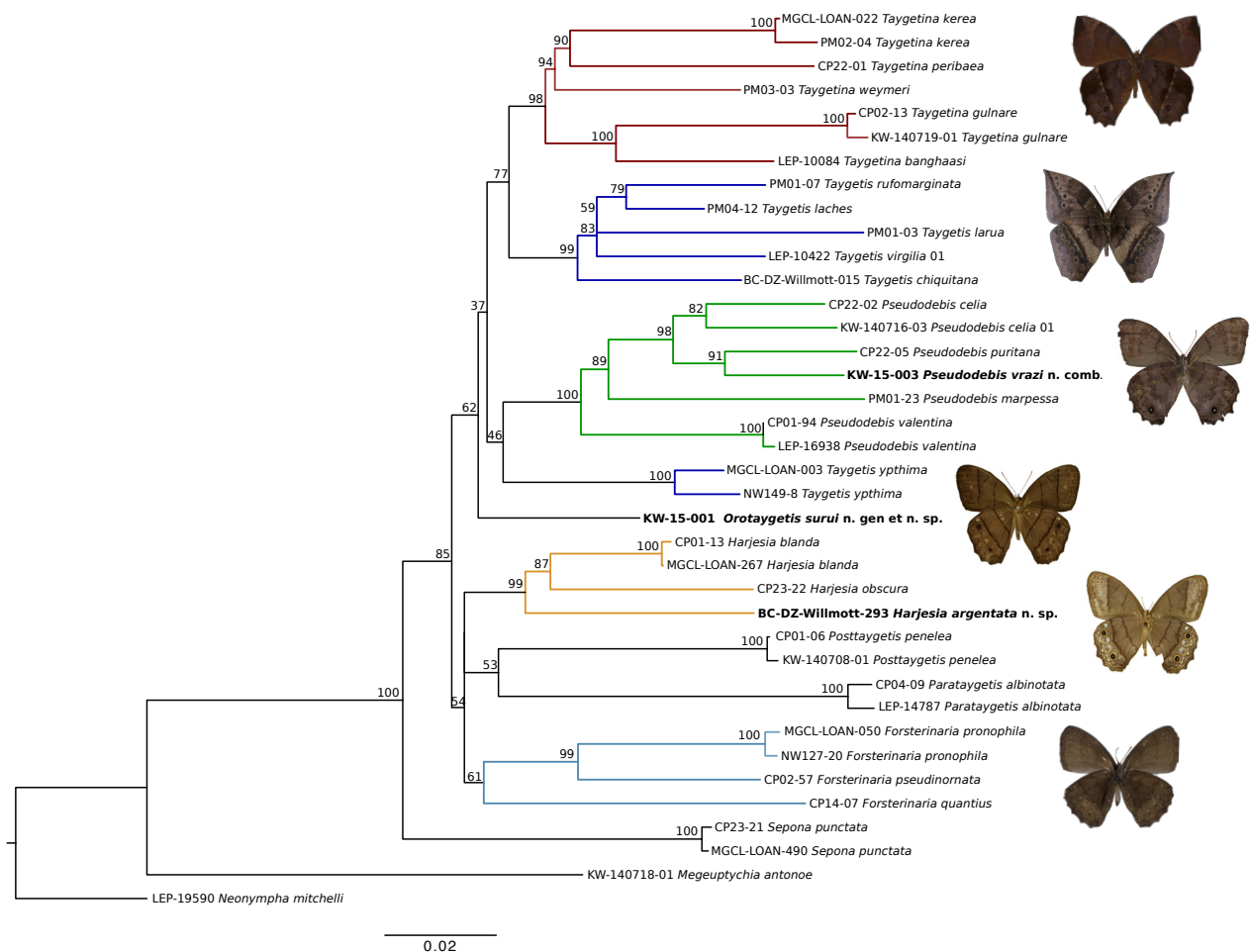


Figure 1. Phylogeny of selected taxa of the “*Taygetis* clade” *sensu* Peña et al. (2010) based on maximum likelihood with support shown as non-parametric bootstrap. Taxa discussed or described in this paper are highlighted in bold.



Figure 2. *Pseudodebis vrazi* n. comb., adults. Top row, lectotype male, dorsal on left, ventral on right; bottom row, female (MUSM-LEP 102415), dorsal on left, ventral on right.

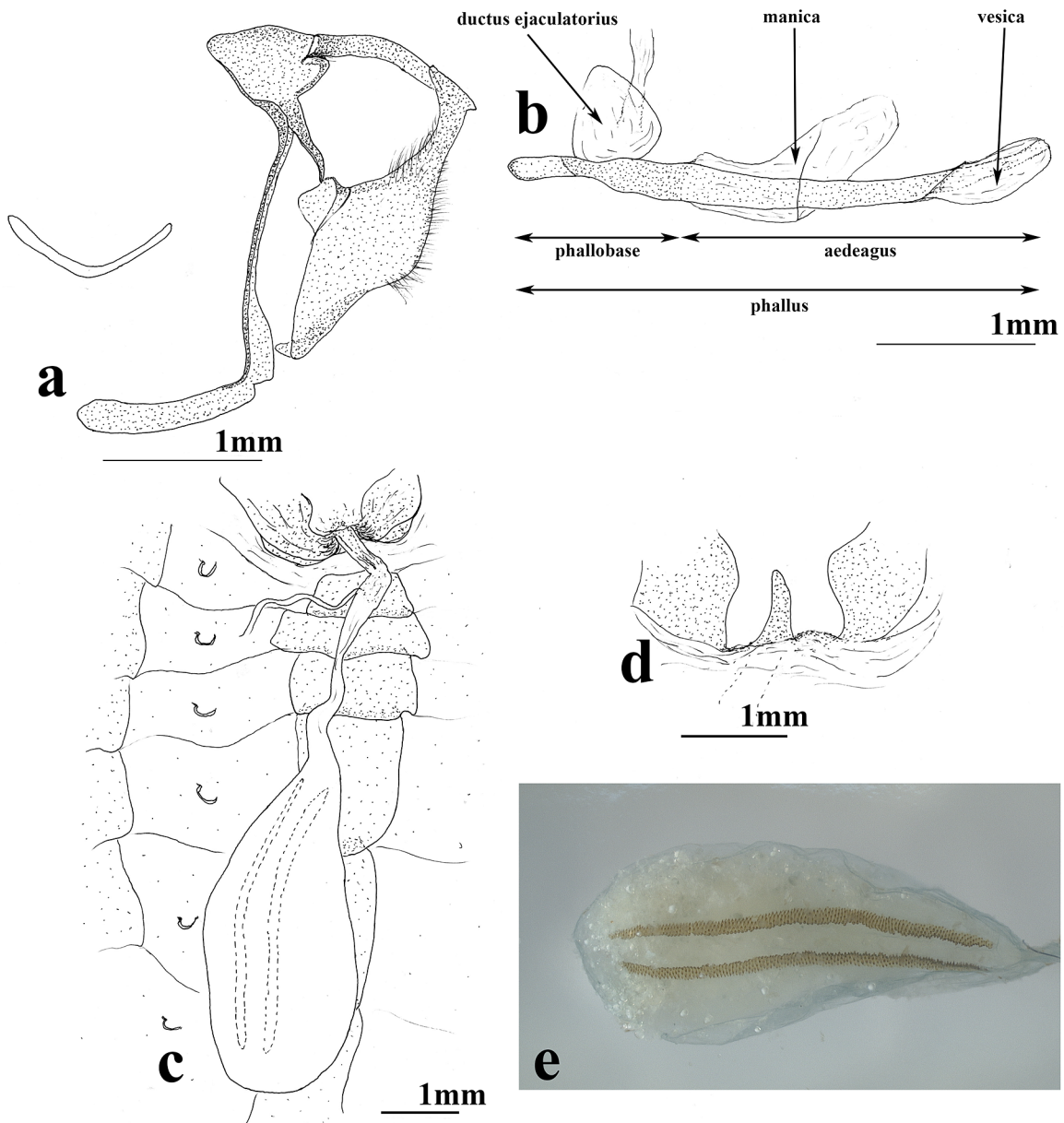


Figure 3. *Pseudodebis vrazi* n. comb., genitalia. **a)** Male genitalia in lateral view with juxta in posterior view on the left. **b)** Phallus in lateral view. **c)** Female genitalia and abdomen in dorsal view. **d)** Lamella antevaginalis in ventral view. **e)** Corpus bursae with focus on signa (illustrated genitalia: SN-17-21 for male; SN-17-97 for female).

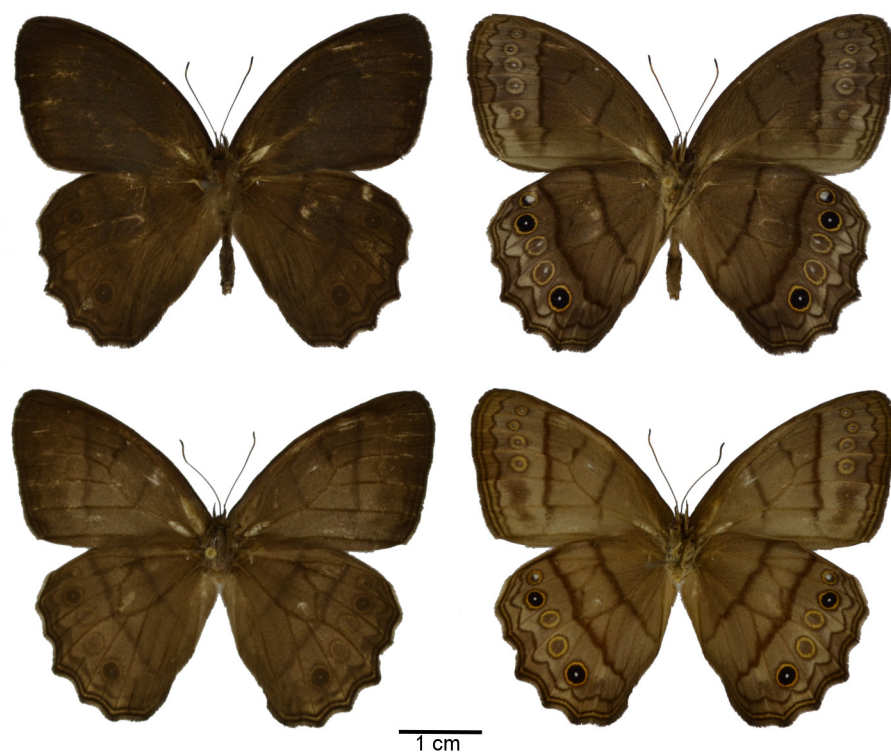


Figure 4. *Harjesia argentata* n. sp., adults. Top row, paratype male (MUSM-LEP 102422), dorsal on left, ventral on right; bottom row, paratype female (DZ 36.523), dorsal on left, ventral on right.

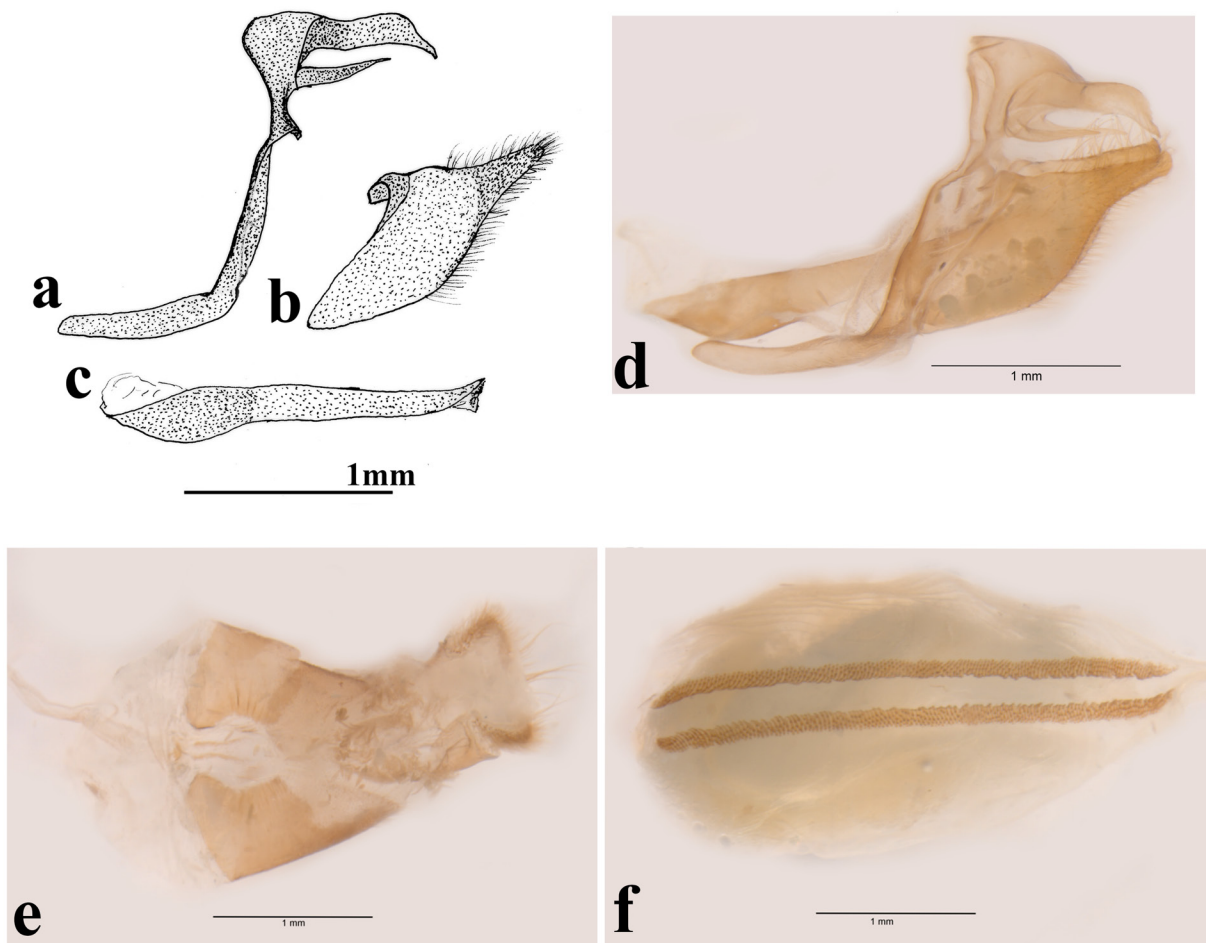


Figure 5. *Harjesia argentata* n. sp., genitalia. **a)** Male genitalia in lateral view. **b)** Valva in lateral view. **c)** Phallus in lateral view. **d)** Male genitalia of DZ 36513 in lateral view. **e)** Female genitalia in ventral view. **f)** Corpus bursae with focus on signa (illustrated genitalia: MUSM-LEP-102423 for male, unless indicated otherwise; DZ 36523 for female).

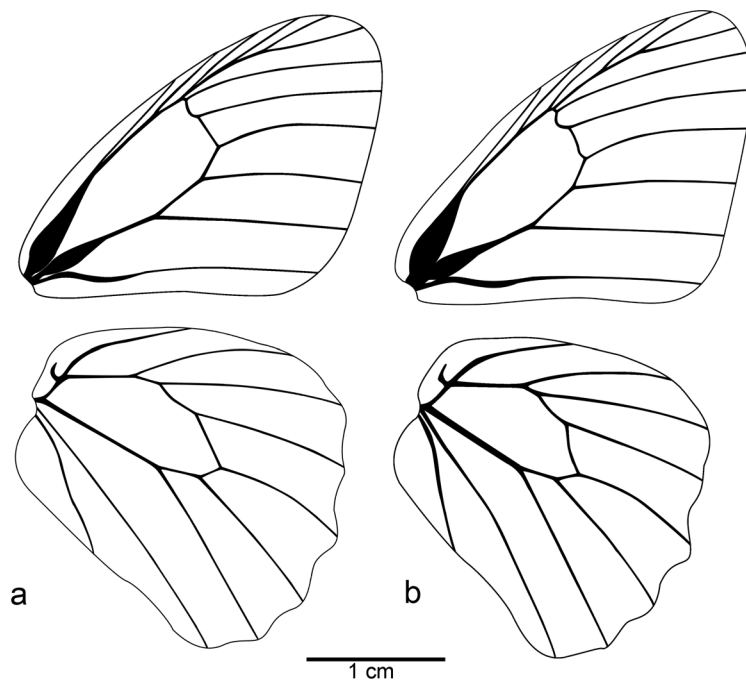


Figure 6. *Harjesia argentata* n. sp., wing venation. **a)** Male forewing and hindwing. **b)** Female forewing and hindwing.



Figure 7. *Orotaygetis surui* n. sp., adults. Top row, paratype male (DZ 39.531), dorsal on left, ventral on right; bottom row, paratype female (MUSM-LEP 102421), dorsal on left, ventral on right.

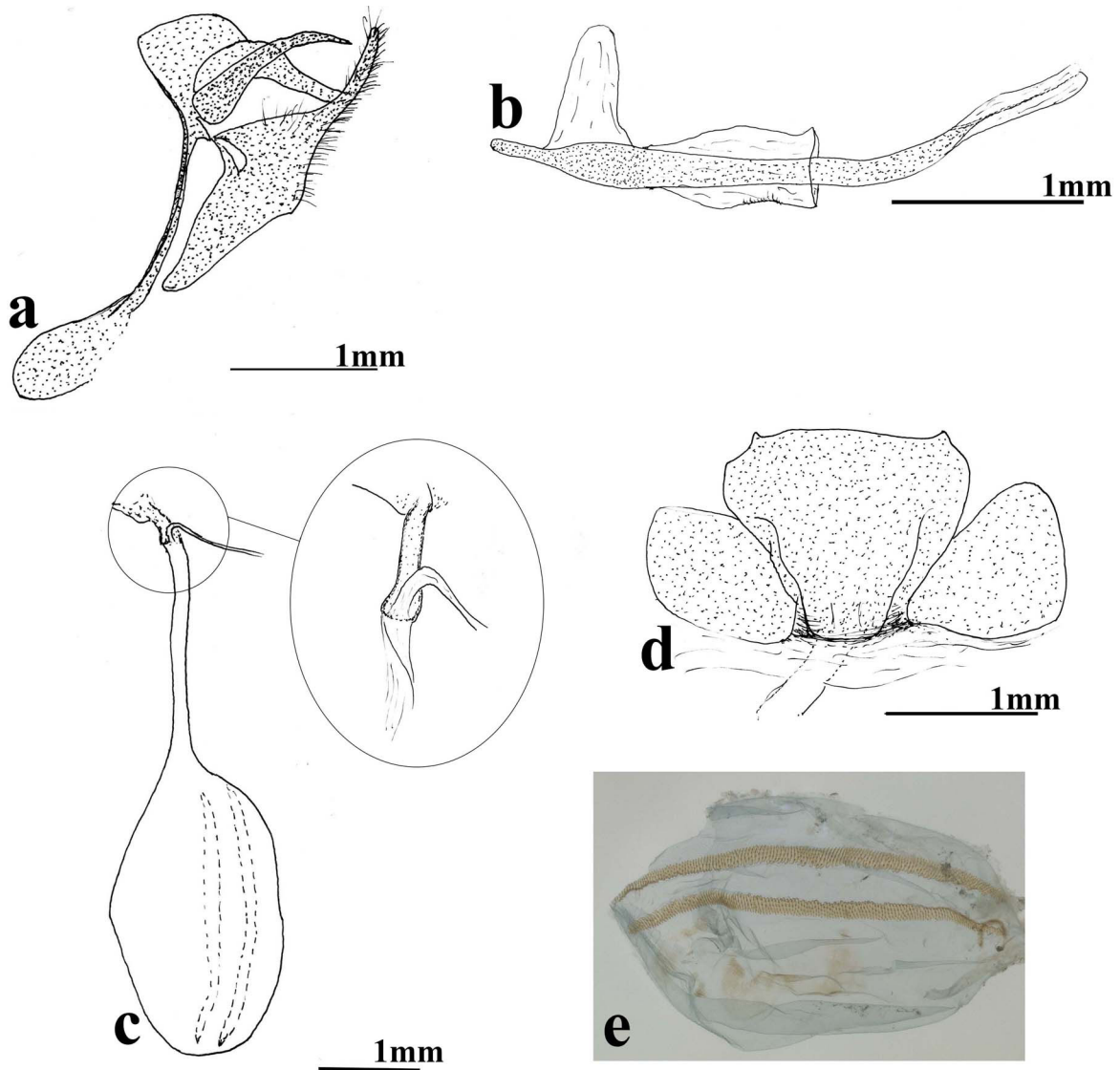


Figure 8. *Orotaygetis surui* n. sp., genitalia. **a)** Male genitalia in lateral view. **b)** Phallus in lateral view. **c)** Female genitalia with posterior portion enlarged. **d)** Lamella antevaginalis in ventral view. **e)** Corpus bursae with focus on signa (illustrated genitalia: MUSM-LEP 102416 for male; SN-16-60 for female).

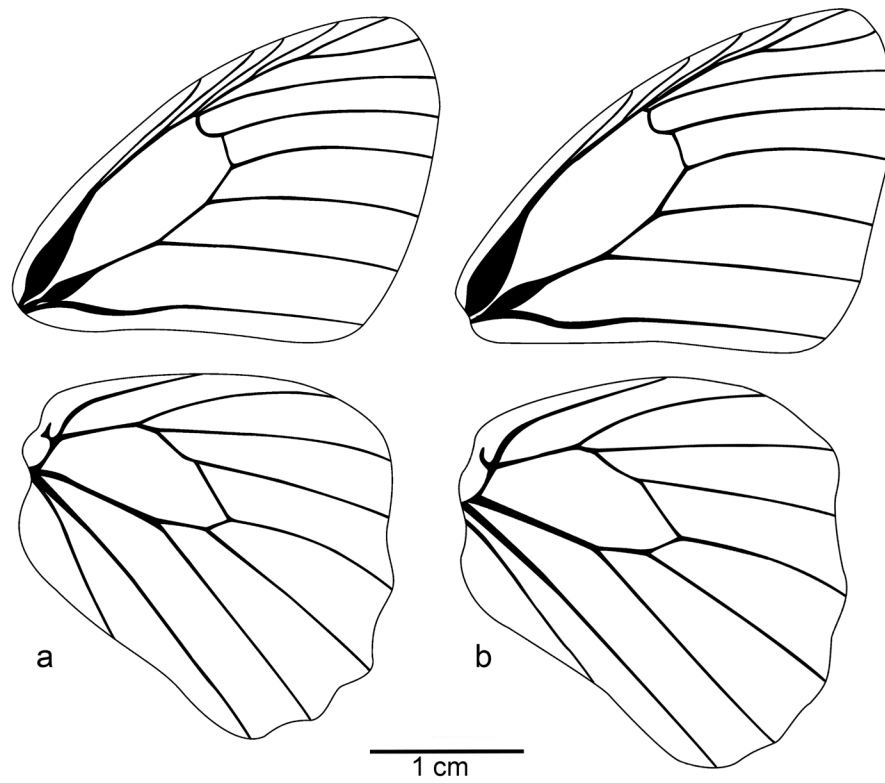


Figure 9. *Orotaygetis surui* n. sp., wing venation. **a)** Male forewing and hindwing. **b)** Female forewing and hindwing.

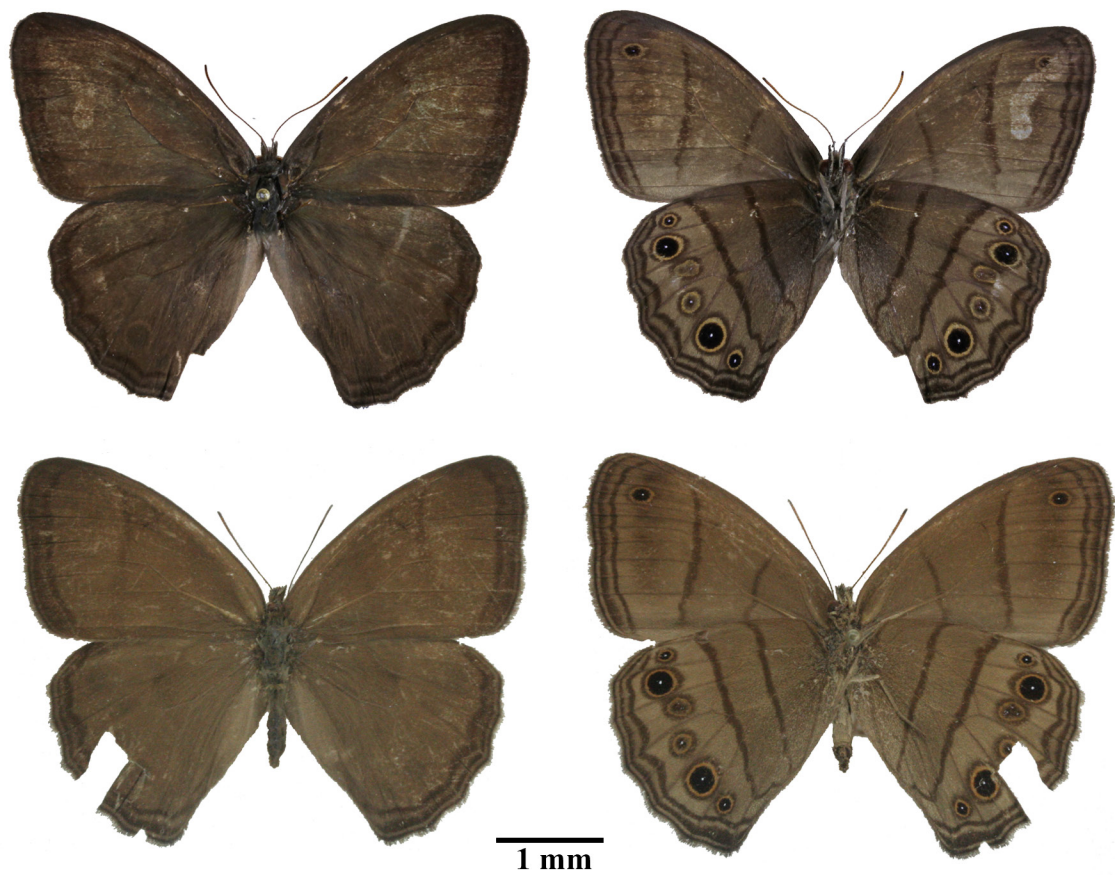


Figure 10. *Euptychoides sanmarcos* n. sp., adults. Top row, holotype male, dorsal on left, ventral on right; bottom row, paratype female (MUSM-LEP 103661), dorsal on left, ventral on right.

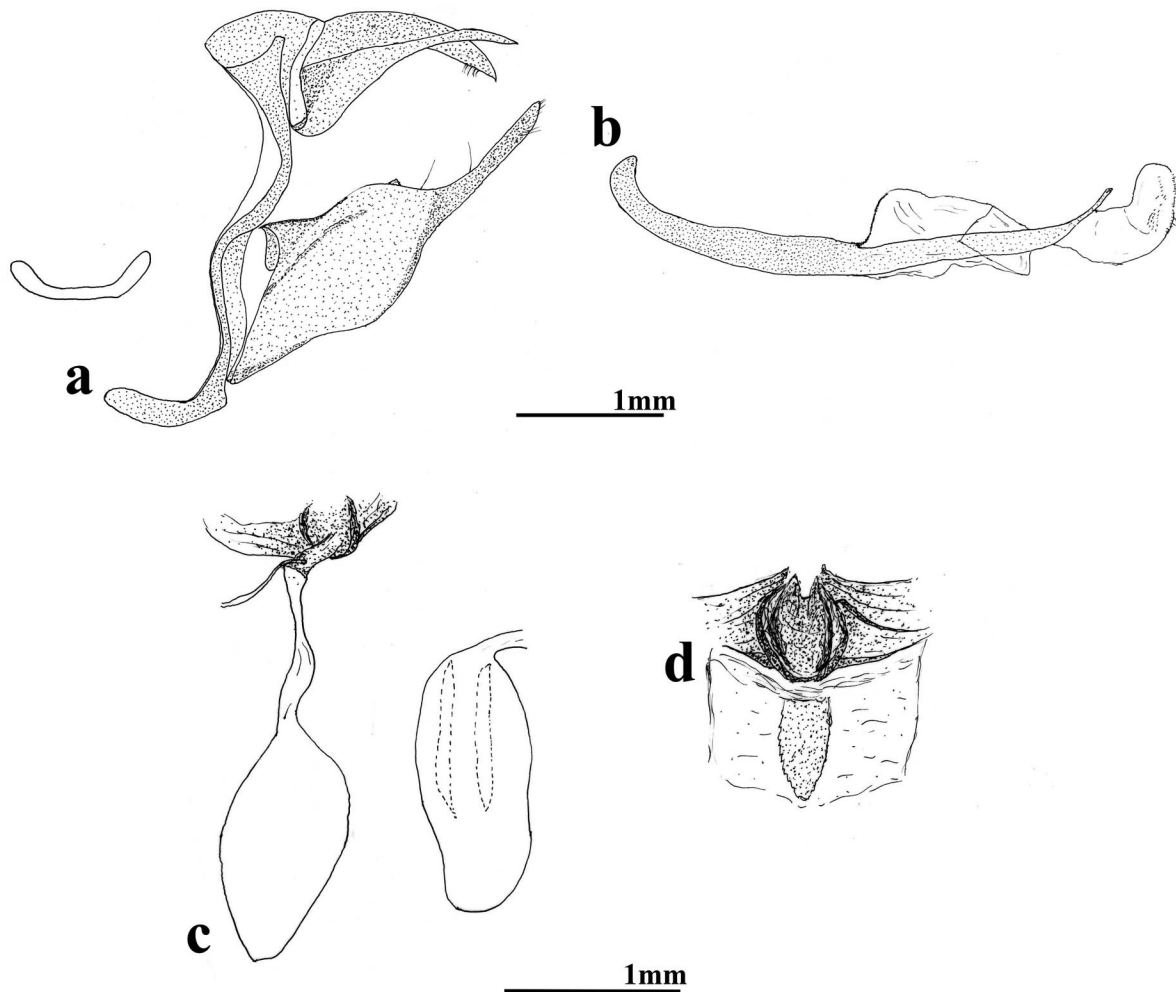


Figure 11. *Euptychoides sanmarcos* n. sp., genitalia. **a)** Male genitalia in lateral view with juxta in posterior view on the left. **b)** Phallus in lateral view. **c)** Female genitalia with location of signa indicated on the right. **d)** Lamella antevaginalis in ventral view with intersegmental membrane (illustrated genitalia: SN-14-149 for male; SN-16-17 for female).

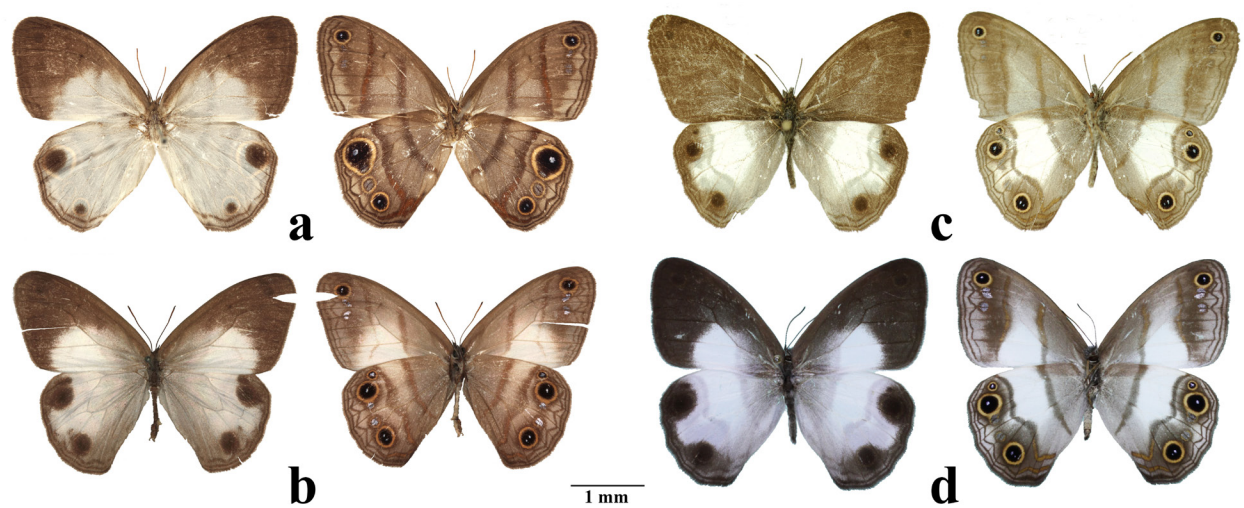


Figure 12. *Pseudeuptychia* specimens (dorsal on left, ventral on right). **a)** *Pseudeuptychia hemileuca* syntype female. **b)** *Pseudeuptychia cuzquenya* **n. sp.** holotype female. **c)** *Pseudeuptychia languida austrina* **n. ssp.** (MUSM-LEP 104264). **d)** *Pseudeuptychia languida austrina* **n. ssp.** holotype female.

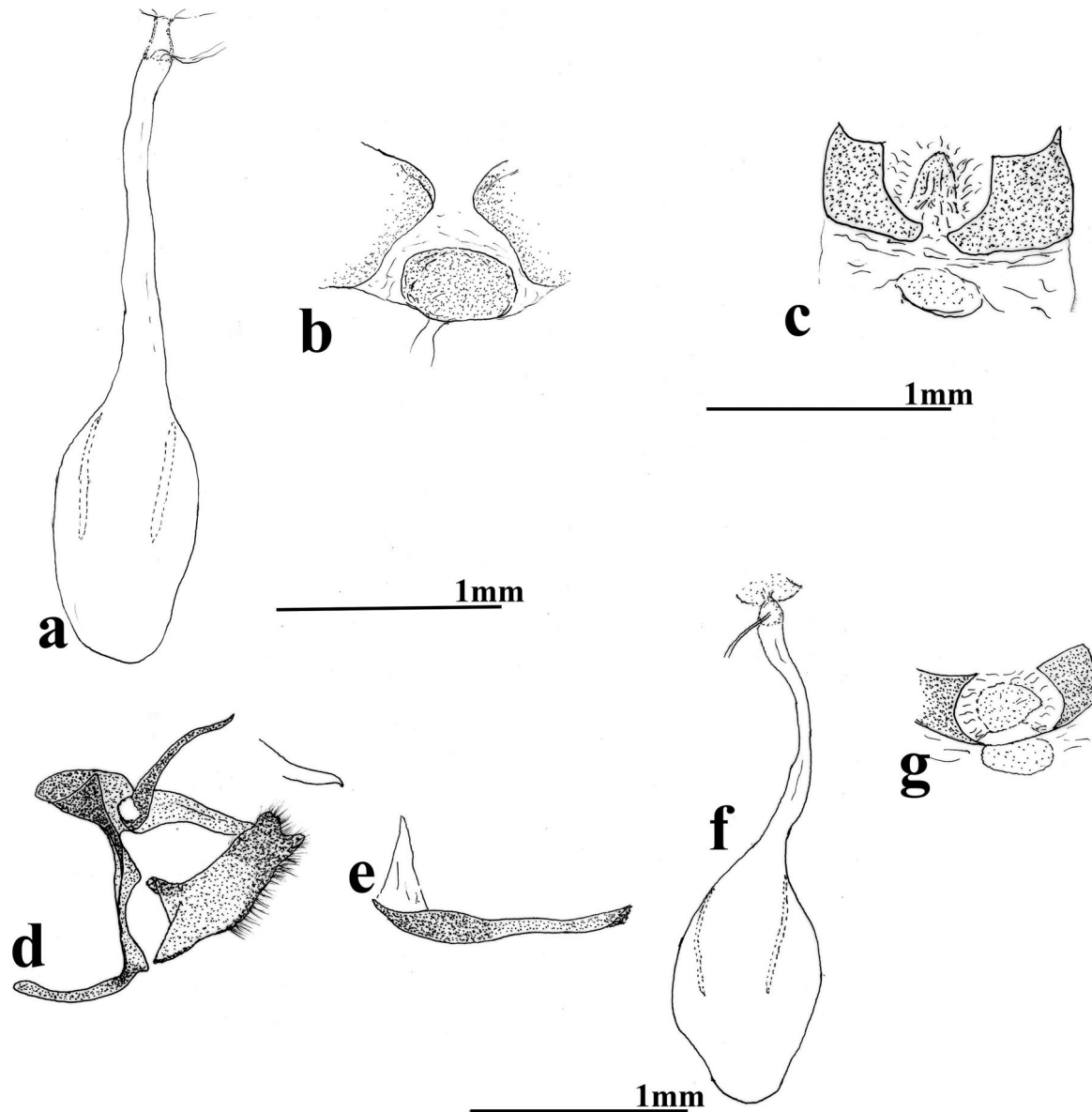


Figure 13. *Pseudeuptychia* genitalia. **a)** Female genitalia of *Pseudeuptychia hemileuca* syntype. **b)** Lamella antevaginalis in ventral view of *P. hemileuca* syntype. **c)** Lamella antevaginalis in ventral view of *P. cuzquenya* n. sp. **d)** Male genitalia in lateral view of *P. languida austrina* n. ssp., with tip of uncus shown above. **e)** Phallus in lateral view of *P. languida austrina* n. ssp. **f)** Female genitalia of *P. languida austrina* n. ssp. **g)** Lamella antevaginalis in ventral view of *P. languida austrina* n. ssp. (illustrated genitalia: Lee D. Miller M-9056 for *P. hemileuca*; SN-16-65 for *P. cuzquenya* n. sp.; SN-16-66 and SN-16-67 for *P. languida* austrina n. ssp.).

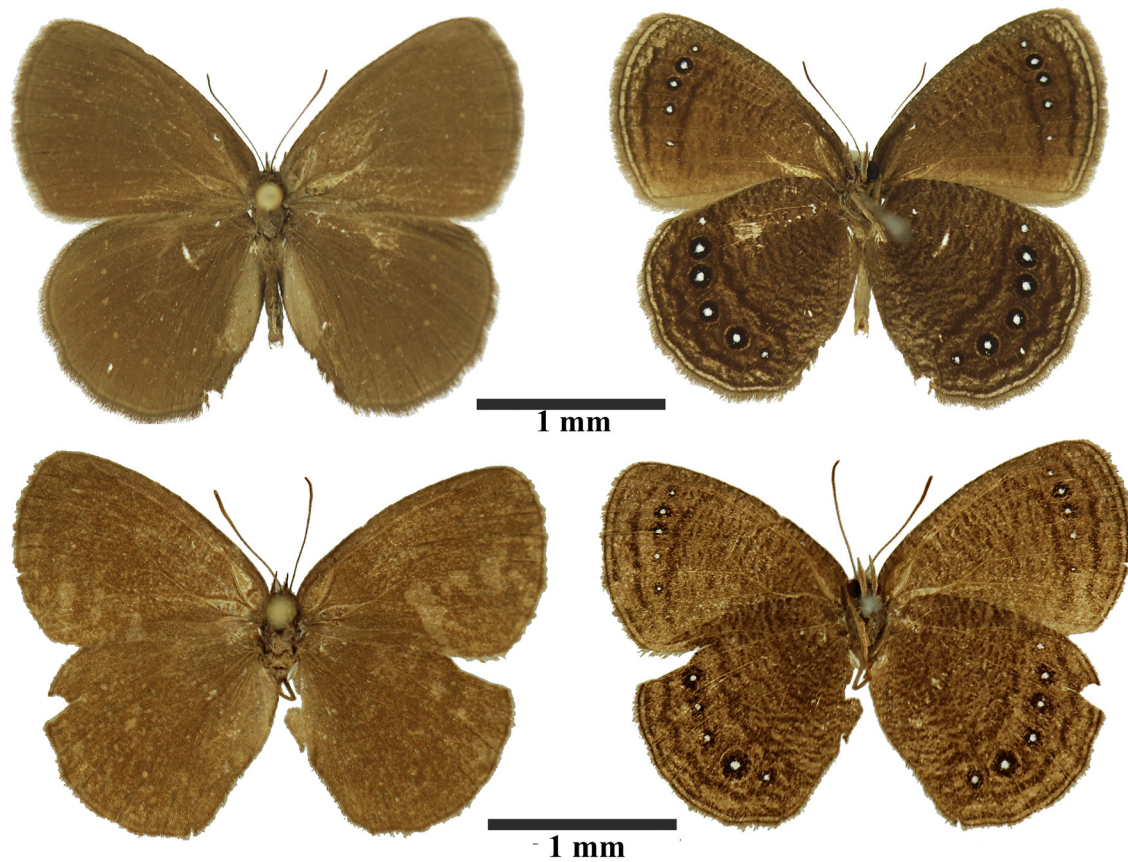


Figure 14. *Godartiana astronesthes* n. sp., adults. Top row, holotype male (MUSM-LEP 104245), dorsal on left, ventral on right; bottom row, paratype female (MUSM-LEP 104254), dorsal on left, ventral on right.

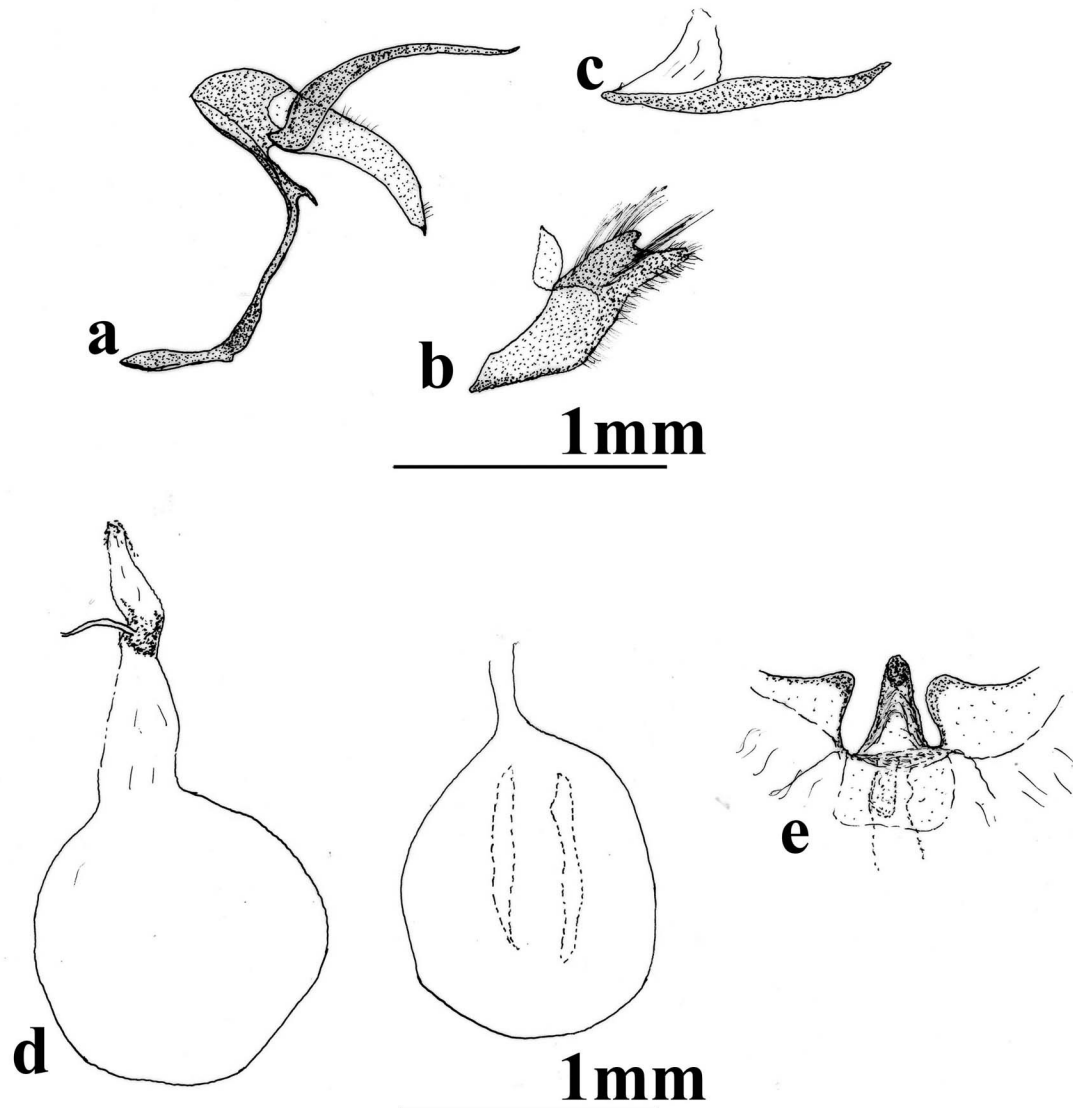


Figure 15. *Godartiana astronesthes* n. sp., genitalia. **a)** Male genitalia in lateral view. **b)** Valva in lateral view. **c)** Phallus in lateral view. **d)** Female genitalia with location of signa indicated on the right. **e)** Lamella antevaginalis in ventral view with intersegmental membrane (illustrated genitalia: SN-16-70 for male; SN-16-68 for female).

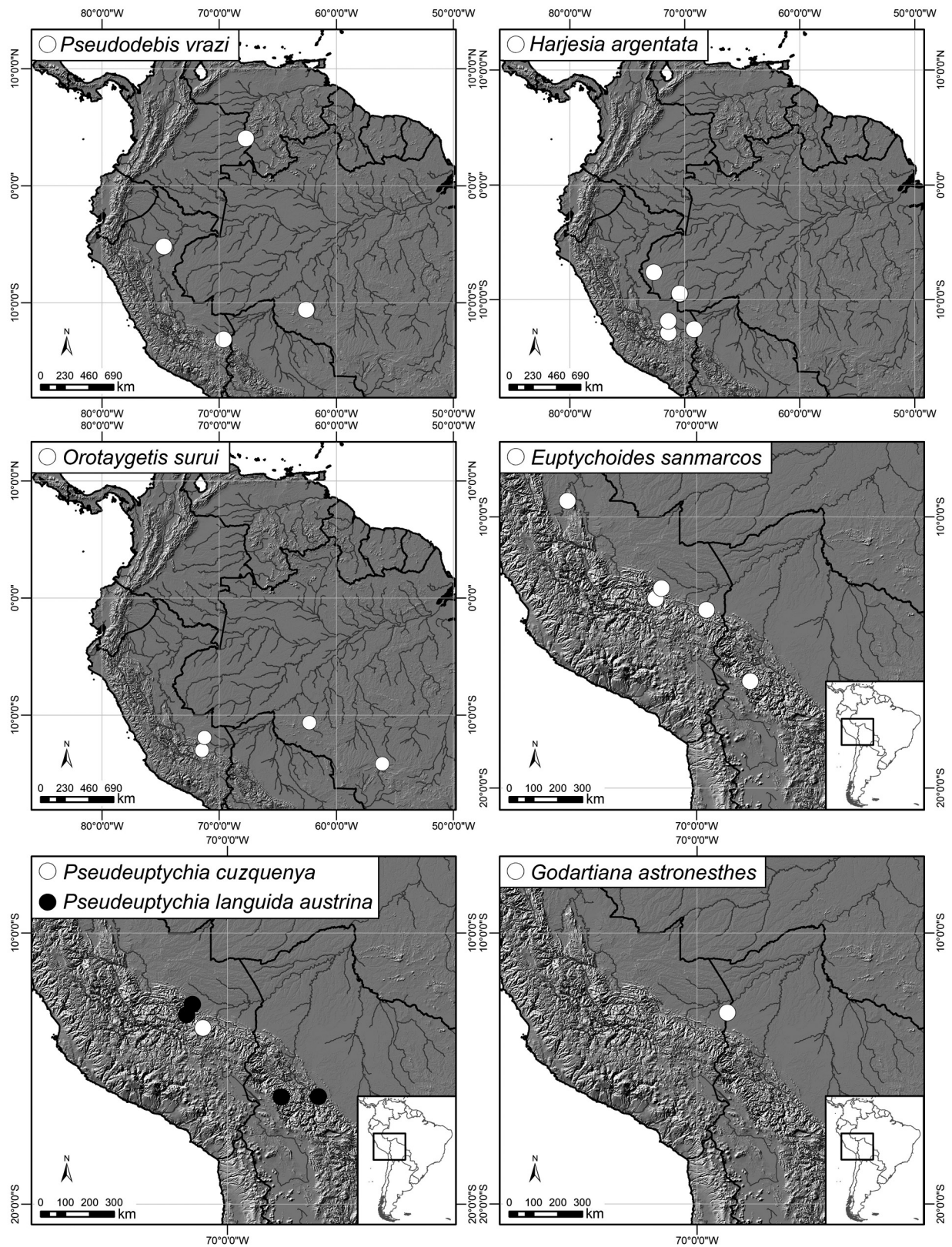


Figure 16. Distribution maps of the euptychiine taxa discussed herein.