

THE HESPERIOIDEA AND PAPILIONOIDEA (LEPIDOPTERA) OF SÃO LUIZ DO PURUNÃ, BALSANOVA, PARANÁ STATE, BRAZIL

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Abstract - A list of butterflies (Hesperioidea and Papilionoidea) is presented from São Luiz do Purunã, Balsa Nova, Paraná, a locality in south Brazil. This area is especially characterized by a unique landscape in which Araucaria Forest patches are naturally surrounded by grasslands. Including are 185 spp. of HesperIIDae, 14 spp. of Papilionidae, 25 spp. of Pieridae, 40 spp. of Lycaenidae, 38 spp. of Riodinidae and 130 spp. of Nymphalidae. Recorded for the first time in that region were 37 species, including some large and colourful species (e.g. *Eurytides bellerophon* and *Eurytides dolicaon deicoon*) and small inconspicuous skippers. We highlight the presence of characteristic species of Araucarian forest and grasslands, aiming to contribute to the biology and habitat description of butterflies of such altitudinal landscapes. Additionally, the presence and absence of threatened species are individually discussed to better describe their geographical distribution.

Key words: inventory, Araucaria forest, grasslands, high altitude butterflies, threatened species, species distribution.

INTRODUCTION

The Brazilian butterfly fauna is famous worldwide for its great diversity, especially in regard to two of the major tropical rainforests in the world, the Amazon and Atlantic Forests (see Brown Jr. 1996). However, open landscapes have high representativeness and are widespread in Brazil. These can be found predominantly in the central plateau and northeast (Caatinga), but also scattered as enclaves inside both forest ecosystems (Rizinni 1979; IBGE 1992; Safford 1999). Especially in the Atlantic Forest, where the present study was conducted, enclaves of open landscapes such as grasslands are commonly found on plateaus and mountain tops, forming a specific association with the distribution of Araucaria Forest (Behling 1997; Overbeck et al. 2007). The presence of Araucaria forest interspersed by grassland habitats makes a unique mosaic landscape for herbivorous insects, for instance, the butterflies (Mielke et al. 2012).

In southern Brazil, the grasslands are known to be inhabited by some butterfly species particularly associated with those habitats (see Dolibaina et al. 2011; Mielke et al. 2012a; Carneiro et al. 2014). Some of those species are, however, becoming increasingly threatened by the great habitat transformations in this kind of ecosystem, not only in south Brazil (Casagrande & Mielke 1995; Machado et al. 2008) but also in northeast Argentina (Nuñez-Bustos 2010). Grasslands are usually preferred instead of forested regions for human habitation and for growing cattle (White et al. 2000). Therefore, it becomes imperative to record butterfly communities in Neotropical grasslands, in an effort to detect and prevent possible population declines (Mielke et al. 2012a,b). The Araucaria Forest is also a highly transformed habitat in South Brazil (Behling 1997). Although no endemic butterfly species have been associated specifically with this kind of forest, butterfly community composition is quite distinct from either low coastal forest (Floresta Ombrófila Densa, Brown Jr. & Freitas 2000; Iserhard et al. 2010) or the western dry seasonal forest (Floresta Estacional Semidecidual, Dolibaina et al. 2011). However, additional information about butterfly distribution over those ecosystems is still needed.

Given the importance of historical records to conservation programs and monitoring in grassland and Araucaria Forest habitats in the Neotropical region, this study aimed to list the

butterflies collected during 47 years in a location in south Brazil within such a landscape, thus contributing to delimiting species distributions, especially those strictly associated with those kinds of habitats.

METHODS

Study area (Figs. 2-5)

São Luiz do Purunã (SLP) is a small district located at Balsa Nova, Paraná State, Brazil, in South Brazilian plateau. In this locality, two different sites were sampled, the first representing one of the biggest Araucaria Forest remaining within the municipality, including a road which limits the Balsa Nova municipality with Campo Largo (Point 1: -25.4537; -49.7041); the latter represents a grassland area, one of the few last remaining areas of such ecosystems in the region (Point 2: -25.4721; -49.6376). The altitude is about 1100m a.s.l. altitude with Cfb climate according to Köppen classification. Mean annual temperature is around 17.6°C, with and precipitation averaging 1410mm in a year.

Butterflies have been recorded in SLP since the beginning of 1970, for a total of 74 day trips to the region. The samplings were intensified between 2006 and 2007, with monthly survey collections aiming to gather the maximum number of butterfly species present in the region. Most butterflies were collected with entomological nets, although fruit bait traps were also occasionally used. Additionally, puddles, carrion and excreta were frequently inspected for registering the presence of butterflies feeding on non-nectar resources.

All specimens are deposited in the “Coleção Entomológica Pe. Jesus Santiago Moure” (DZUP), located in the Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Paraná, Brazil. The classification and nomenclature used in this study follow Lamas (2004), except for the Morphini species.

RESULTS AND DISCUSSION

A total of 432 species was recorded for SLP, including 185 HesperIIDae, 14 Papilionidae, 25 Pieridae, 40 Lycaenidae, Riodinidae, and 130 Nymphalidae. This number is equivalent to that recorded in Curitiba, the nearest city with a considerable butterfly collecting effort (C. Mielke 1995), but lower in

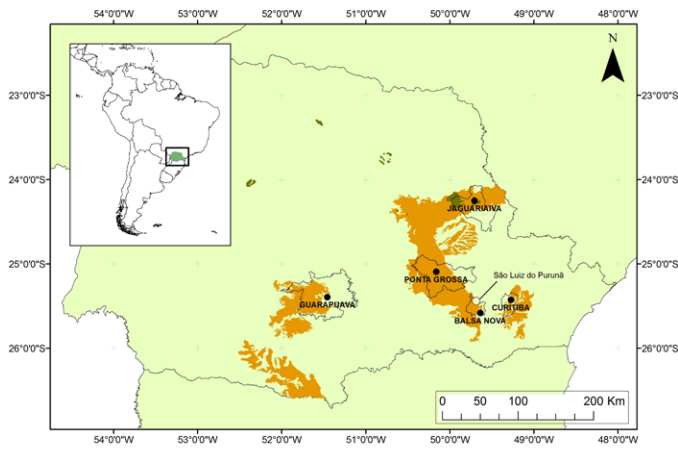


Fig. 1. Map of São Luiz do Purunã compared to other butterfly studies in similar vegetation landscapes. Orange areas indicate the presence of grasslands associated with Araucaria Forest, while dark green represents the Cerrado vegetation.



Fig. 4. View of the grassland area where the butterflies were sampled.



Fig. 2. Typical habitat in São Luiz do Purunã, where grassland habitats are found in a mosaic landscape with forest patches.



Fig. 5. Aggregation of *Tegosa claudina* puddling on mud in São Luiz do Purunã, Balsa Nova, Paraná.

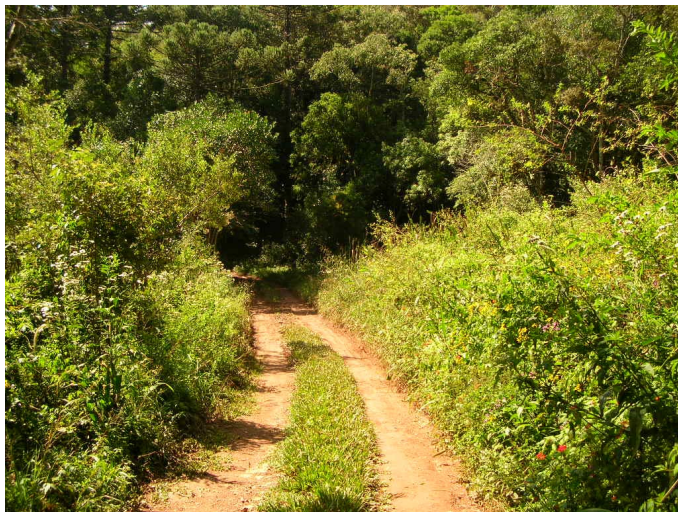


Fig. 3. View of one of the forest location trails where the butterflies were sampled.



Fig. 6. Different butterfly species puddling on mud in São Luiz do Purunã, Balsa Nova, Paraná. *Pyrgus orcynoides* (Giacomelli, 1928), *Eurytides bellerophon* (Dalman, 1823), *Phoebis argente argente* (Fabricius, 1775), *Phoebis philea philea* (Linnaeus, 1763), and *Phoebis sennae marcellina* (Cramer, 1777).



Fig. 7. *Typhedanus azyrus*: Alto da Serra, Morretes, Paraná, 800m, 19-III-1989, Mielke leg., OM 21.489.



Fig. 8. *Copaeodes castanea*: Pilão de Pedra, São José dos Pinhais, Paraná, 850m, 28-III-1977, Mielke leg., DZUP 25.175.



Fig. 9. *Corticea obscura*: (male above) Curitiba, Paraná, 900m, 9-III-1971, O. Mielke leg. DZUP 25.295; (female below) Parque Pedras Brancas, Lages, Santa Catarina, 920m, 13-II-1973, Mielke & Sakakibara leg., DZUP 24.795.



Fig. 10. *Euphyes cherra*: Vila Velha, Ponta Grossa, Paraná, 900m, 1-III-1967, Mielke leg., DZUP 25.005.



Fig. 11. *Gallio carasta*: 16 km NO Bateias, Campo Largo, Paraná, 800m 11-III-2000, Mielke leg., OM 51.646.

Hesperiidae than Ponta Grossa (Mielke et al. 2012a), given the exceptionally sampling effort made in this last municipality. Both locations present a similar vegetation landscape, characterized by the mixture of grasslands with Araucaria Forest; therefore it is expected that the butterfly composition should be similar between Balsa Nova and those localities.

Yet, 37 species were recorded for the first time in the region (based on species lists: C. Mielke 1995 (Curitiba); Dolibaina et al. 2011 (Guarapuava); Mielke et al. 2012b (Jaguariaíva); Mielke et al. 2012a (Ponta Grossa); Carneiro et al. in press. (Serra do Mar), contributing to a more complete knowledge of species richness, composition and distribution on the plateaus of Paraná. For example, *Eurytides bellerophon* and *Eurytides dolicaon deicoon* were still not recorded in our species list, despite their striking size and colour pattern. Moreover, restrictedly distributed species such as those related to open areas habitats (*Appia appia*, *Cymaenes campestris*, *Pheraeus montes*, *Typhedanus aziris*) were not yet recorded in such studies, as well as some apparent rare species of metalmarks and hairstreaks (*Esthemopsis pherephatte teras*, *Mesosemia acuta*, *Ourocnemis archytas*, *Contrafascia catharina*).

Also, *Panca subpunctuli*, known to occur in Argentina (Hayward 1973), Vacaria, Bom Jesus, and Cambará do Sul (Rio Grande do Sul, Brasil), was found in SLP, extending its distribution at least 350 km northward from previous records. Additional data from DZUP also complement the distribution of this species in Brazil to Lages (Santa Catarina). Two subspecies of *Mimoides lysithous* were found flying together, as also registered elsewhere (Dessuy & Morais 2007; Iserhard et al. 2010).

Although butterfly species have been constantly associated with altitude locations, such as Andean butterflies (e.g. Shapiro 1992; Pyrcz et al. 2009), only recently have certain taxa been associated with altitude grassland habitats in south Brazil (Dolibaina et al. 2011; Mielke et al. 2012a; Carneiro et al. 2014). Still, Araucarian forest was not yet mentioned as being the habitat of any endemic species of butterflies, nor to influence the structure and composition of butterfly assemblages compared to other Atlantic Forest types. Therefore, we emphasize the presence and high abundance of *Cymaenes tripunctata tripunctata*, *Lucida ranesus*, *Oechydrus chersis evelinda* and *Vehilius clavícula* in the present study, as well as in all studies cited for the region. These species are geographically restricted to Atlantic Forest, although more common in high altitude and mountain habitats (a few exceptions occur in Espírito Santo and Paraná coast). Other, more uncommon butterfly species are also found in specific sites of Araucaria forest, such as *Dardarina rana*.

As pointed out in other studies (Dolibaina et al. 2011; Mielke et al. 2012a), the presence of a grassland vegetation in high altitude habitats interspersed with Atlantic Forest patches reveals a unique butterfly assemblage, including threatened species (Casagrande & Mielke 1995; Dolibaina et al. 2010), with restricted geographical distribution and a considerable number of undescribed taxa (e.g. Mielke et al. 2012a). The genus *Vidius* is a remarkable example of species related to open vegetation ecosystems. In Paraná, 8 species were already registered (some are still undescribed); *Vidius anna* and *Vidius felus* are found exclusively in Cerrado vegetation (Mielke et al. 2012b), while others are restricted to high altitude grassland habitats or spread over open habitats (Mielke et al. 2012a). SLP presents until now only *Vidius mictra* and *Vidius fido* as species endemic to grassland

habitats, while *Vidius similis* Mielke, 1980 and *Vidius vidius* (Mabille, 1891) extend their distribution also to the Cerrado.

Two particular species cited on the Parana Red List (Casagrande & Mielke 1995) were recorded in SLP: *Pampasatyrys glaucope glaucope* and *Symmachia arion*. The first, however, was registered in 1972 and never seen thereafter on later expeditions. The newest record for that species was noted in 1987 in Colonia Witmarsum, Palmeira (Dolibaina et al. 2010), a locality only 10 km far from SLP. The absence of this species throughout those years indicates a special concern in conserving grassland ecosystems in south Brazil, which is still poorly known in terms of invertebrate biodiversity. Thus, many other species associated with grassland habitats might also suffer from population declines without proper scientific monitoring. Two threatened species cited in Red Lists were not recorded in SLP, but are present in nearby locations. While the absence of *Cyanophrys berthia* (Jones, 1912) might be explained by its rarity, not only in butterfly inventories but also in museum collections (Dolibaina et al. 2010; Kaminski et al. 2010), the presence of *Euryades corethrus* (Boisduval, 1836) could be explained by its natural distribution limits. Even with 70 years of historical collecting in Paraná state (Dolibaina et al. 2011; Mielke et al. 2012a), this species was never recorded on the second plateau of Paraná, although it was found in great abundance in a small grassland patch 200 km W of SLP on the third plateau (Guarapuava). Therefore, the absence of such a common, considerably large and striking butterfly not only in SLP but also in whole grasslands patches on the second plateau of Paraná is more likely to result from a natural limited geographical distribution of those species independent of any kind of human impact.



Fig. 12. *Lerema duroca lenta*: (male above) Pilão de Pedra, São José dos Pinhais, Paraná, 850m, 11-II-1993, O & C. Mielke leg., OM 34.799; (female below) São Luiz do Purunã, Balsa Nova, Paraná, 950m, 9-II-1981, Mielke & Casagrande, DZUP 25.115.



Fig. 13. *Thespieus homocromus*: Serra do Itararé, Guaratuba, Paraná, 1200-1400m, 28-II-1987, O.-C. Mielke leg. DZUP 13.415.



Fig. 14. Species of *Vidius* (from above to below). *Vidius vidius*: Curitiba, Paraná, 900m, 13-II-1975, O. Mielke leg., DZUP 1.682; *Vidius fido*: Vila Velha, Ponta Grossa, Paraná, 900m, 8-III-1971, Mielke leg., DZUP 25.035; *Vidius similis*: Pilão de Pedra, São José dos Pinhais, Paraná, 18-II-1982, Mielke & Casagrande leg., DZUP 25.275; *Vidius mictra*: 30 km L Tibagi, Tibagi, Paraná, 1050m, 14-XII-2008, O.-C. Mielke leg. DZUP 25.285.



Fig. 15. *Dardarina rana*: Vossorooca, Tijucas do Sul, Paraná, 22-XI-1981, Mielke leg., DZUP 24.805.



Fig. 16. *Panca subpunctuli*: Arroio Tiririca, Bom Jesus, Rio Grande do Sul, 1000m, 27-II-1973, Mielke leg., DZUP 24.775.



Fig. 17. *Symmachia aconia*: (male above) Morro do Anhangava, Quatro Barras, Paraná, 1435m, 11-III-2010, E. Carneiro leg., DZUP 25.235; (female below) Britador, Turvo, Paraná, 1000m, 19-II-2010, D.R. Dolibaina, leg., DZUP 25.195

Table 1. A list of 432 Hesperioidea and Papilionoidea species recorded at São Luiz do Purunã, Balsa Nova, Paraná, Brazil. * indicates two subspecies of the same species.

Hesperioidea (185)	<i>Callimormus rivera</i> (Plötz, 1882)	<i>Thespieus xarina</i> Hayward, 1948
Hesperiidae (184)	<i>Calpodus ethlius</i> (Stoll, 1782)	<i>Thoon circellata</i> (Plötz, 1882)
Pyrrhopyginae (5)	<i>Chalcidone briquenyan australis</i> Mielke, 1980	<i>Thracides cleantes cleantes</i> (Latreille, [1824])
Passovini (1)	<i>Chalcidone santarus</i> (Bell, 1940)	<i>Tigasis fusca</i> (Hayward, 1940)
<i>Myscelus amystis epigona</i> Herrich-Schäffer, 1869	<i>Chalcidone tania</i> (Schaus, 1902)	<i>Tisias lesueur lesueur</i> (Latreille, [1824])
Pyrrhopygini (4)	<i>Cobalopsis hazarma</i> (Hewitson, 1877)	<i>Vehilius clavicularia</i> (Plötz, 1884)
<i>Elbella mariae mariae</i> (Bell, 1931)	<i>Cobalopsis miaba</i> (Schaus, 1902)	<i>Vehilius inca</i> (Scudder, 1872)
<i>Elbella adonis</i> (Bell, 1931)	<i>Cobalopsis nero</i> (Herrich-Schäffer, 1869)	<i>Vettius artona</i> (Heitson, 1868)
<i>Pseudocroniades machaon machaon</i> (Westwood, 1852)	<i>Cobalopsis vorgia</i> (Schaus, 1902)	<i>Vettius diversa diversa</i> (Herrich-Schäffer, 1869)
<i>Sarbia xanthippe spixii</i> (Plötz, 1879)	<i>Conga chydrea</i> (Butler, 1870)	<i>Vettius umbrata</i> (Erschoff, 1876)
Pyrginae (64)	<i>Conga iheringii</i> (Mabille, 1891)	<i>Vidius fido</i> Evans, 1955 (Fig. 14)
Eudamini (26)	<i>Conga immaculata</i> (Bell, 1930)	<i>Vidius mictra</i> Evans, 1955 (Fig. 14)
<i>Astraptes aulus</i> (Plötz, 1881)	<i>Conga urqua</i> (Schaus, 1902)	<i>Vidius vidius</i> (Mabille, 1891) (Fig. 14)
<i>Astraptes elorus</i> (Hewitson, 1867)	<i>Conga zela</i> (Plötz, 1883)	<i>Vidius similis</i> Mielke, 1980 (Fig. 14)
<i>Astraptes erycina</i> (Plötz, 1881)	<i>Copaeodes castanea</i> Mielke, 1969 (Fig. 8)	<i>Vinius letis</i> (Plötz, 1883)
<i>Astraptes fulgerator fulgerator</i> (Walch, 1775)	<i>Copaeodes jean favor</i> Evans, 1955	<i>Vinius pulcherrimus</i> Hayward, 1934
<i>Astraptes naxos</i> (Hewitson, 1867)	<i>Corticea</i> sp.	<i>Virga austrinus</i> (Hayward, 1934)
<i>Autochton integrifascia</i> (Mabille, 1891)	<i>Corticea obscura</i> Mielke, 1969 (Fig. 9)	<i>Xeniades orchamus orchamus</i> (Cramer, 1777)
<i>Autochton zarez</i> (Hübner, 1818)	<i>Cumbre</i> sp.	<i>Zenis jebus jebus</i> (Plötz, 1882)
<i>Celaenorrhinus eligius punctiger</i> (Burmeister, 1878)	<i>Cumbre cumbre</i> (Schaus, 1902)	<i>Zariaspes mys</i> (Hübner, [1808])
<i>Chionides catillus catillus</i> (Cramer, 1779)	<i>Cymaenes campestris</i> Mielke, 1980	Heteropterinae (1)
<i>Epargyreus exadeus exadeus</i> (Cramer, 1779)	<i>Cymaenes gisca</i> Evans, 1955	<i>Dardarina rana</i> Evans, 1955 (Fig. 15)
<i>Epargyreus socus pseudexadeus</i> Westwood, 1852	<i>Cymaenes lepta</i> (Hayward, 1939)	
<i>Phamus australis</i> L. Miller, 1965	<i>Cymaenes odilia odilia</i> (Burmeister, 1878)	Papilionoidea (247)
<i>Phocides pialia pialia</i> (Hewitson, 1857)	<i>Cymaenes perlouides</i> (Plötz, 1882)	Papilionidae (14)
<i>Phocides polybius phanias</i> (Burmeister, 1880)	<i>Cymaenes tripunctata tripunctata</i> (Latreille, [1824])	Papilioninae (14)
<i>Polygonus savigny savigny</i> (Latreille, [1824])	<i>Cymaenes tripunctus theogenis</i> (Herrich-Schäffer, 1865)	Leptocircini (3)
<i>Ridens fulima</i> Evans, 1952	<i>Cynea melius</i> (Geyer, 1832)	<i>Eurytides bellerophon</i> (Dalman, 1823)
<i>Salatis cebrenus</i> (Cramer, 1777)	<i>Decynea percostus</i> (Godman, 1900)	<i>Eurytides delicoon delicoon</i> (C. Felder & R. Felder, 1864)
<i>Typhedanus aziris</i> (Hewitson, 1867) (Fig. 7)	<i>Euphyes cherra</i> Evans, 1955 (Fig. 10)	<i>*Mimoides lysithous lysithous</i> (Hübner, [1821])
<i>Typhedanus stylites</i> (Herrich-Schäffer, 1869)	<i>Euphyes leptosema</i> (Mabille, 1891)	<i>*Mimoides lysithous rurik</i> (Eschscholtz, 1821)
<i>Urbanus albimargo rica</i> Evans, 1952	<i>Evansiella cordela</i> (Plötz, 1882)	<i>Protesilaus protesilaus nigricornis</i> (Staudinger, 1884)
<i>Urbanus dorantes dorantes</i> (Stoll, 1790)	<i>Gallio carasta</i> (Schaus, 1902) (Fig. 11)	Troidini (5)
<i>Urbanus doryssus albicuspis</i> (Herrich-Schäffer, 1869)	<i>Hansa devergens hydra</i> Evans, 1955	<i>Battus polystictus polystictus</i> (Butler, 1874)
<i>Urbanus esta</i> Evans, 1952	<i>Hylephila ancora</i> (Plötz, 1883)	<i>Battus polydamas polydamas</i> (Linnaeus, 1758)
<i>Urbanus proce</i> (Plötz, 1880)	<i>Hylephila phyleus phyleus</i> (Drury, 1773)	<i>Parides agavus</i> (Drury, 1793)
<i>Urbanus teleus</i> (Hübner, 1821)	<i>Lamponia lamponia</i> (Hewitson, 1876)	<i>Parides anchises nephalion</i> (Godart, 1819)
<i>Urbanus zagorus</i> (Plötz, 1880)	<i>Lento krexoides</i> (Hayward, 1940)	<i>Parides bunichus bunichus</i> (Hübner, [1821])
Pyrgini (38)	<i>Lerema duroca lenta</i> (Plötz, 1882) (Fig. 12)	Papilionini (6)
<i>Achlyodes busirus rioja</i> Evans, 1953	<i>Lerodea eufala eufala</i> (W. H. Edwards, 1869)	<i>Heraclides anchisiades capys</i> (Hübner, 1809)
<i>Achlyodes mithridates thraso</i> (Hübner, [1807])	<i>Levina levina</i> (Plötz, 1884)	<i>Heraclides astyalus astyalus</i> (Godart, 1819)
<i>Anisochoria subpicta</i> Schaus, 1902	<i>Libra aligula decia</i> (Hayward, 1948)	<i>Heraclides hectorides</i> (Esper, 1794)
<i>Bolla catharina</i> (Bell, 1937)	<i>Libra anatolica</i> (Plötz, 1883)	<i>Heraclides thoas brasiliensis</i> (Rothschild & Jordan, 1906)
<i>Camptopleura auxo</i> (Möschler, 1879)	<i>Lucida lucia lucia</i> (Capronnier, 1874)	<i>Pterourus menatus cleotas</i> (Gray, 1832)
<i>Carrhenes canescens pallida</i> Röber, 1925	<i>Lucida ranesus</i> (Schaus, 1902)	<i>Pterourus scamander grayi</i> (Boisduval, 1836)
<i>Chiomara mithrax</i> (Möschler, 1879)	<i>Lucida schmithi</i> (Bell, 1930)	
<i>Cogia calchas</i> (Herrich-Schäffer, 1869)	<i>Lucida</i> sp. n.	Pieridae (25)
<i>Cogia hassan evansi</i> Bell, 1937	<i>Lychnuchoides ozias ozias</i> (Hewitson, 1878)	Dismorphiinae (5)
<i>Cycloglypha caeruleonigra</i> Mabille, 1903	<i>Lychnuchus celsus</i> (Fabricius, 1793)	<i>Dismorphia aspycha</i> Hübner, [1831]
<i>Diaeus lacaena lacaena</i> (Hewitson, 1869)	<i>Metron oropa</i> (Hewitson, 1877)	<i>Dismorphia melia</i> (Godart, [1824])
<i>Gesta heteropterus</i> (Plötz, 1884)	<i>Miltomiges cinnamomea</i> (Herrich-Schäffer, 1869)	<i>Dismorpha thermesia thermesia</i> (Godart, 1819)
<i>Gindanes brebisson brebisson</i> (Latreille, [1824])	<i>Mnasitheus nella</i> Evans, 1955	<i>Enantia clarissa</i> (Weymer, 1895)
<i>Gorgopas petale</i> (Mabille, 1888)	<i>Mnasitheus ritans</i> (Schaus, 1902)	<i>Pseudopieris nehemia nehemia</i> (Boisduval, 1836)
<i>Gorgythion begga begga</i> (Prittwitz, 1868)	<i>Nastra</i> sp.	Coliadinae (13)
<i>Helias phalaenoides palpalis</i> (Latreille, [1824])	<i>Nastra lurida</i> (Herrich-Schäffer, 1869)	<i>Colias lesbia lesbia</i> (Fabricius, 1775)
<i>Heliopterus alana</i> (Reakirt, 1868)	<i>Neoxeniades scipio scipio</i> (Fabricius, 1793)	<i>Eurema albula sinoe</i> (Godart, 1819)
<i>Heliopterus arsate</i> (Linnaeus, 1758)	<i>Nyctelius nyctelius nyctelius</i> (Latreille, [1824])	<i>Eurema arbela arbela</i> Geyer, 1832
<i>Heliopterus leucola</i> (Hewitson, 1868)	<i>Orses itea</i> (Swainson, 1821)	<i>Eurema deva deva</i> (Doubleday, 1847)
<i>Heliopterus omrina</i> (Butler, 1870)	<i>Panca subpunctuli</i> (Hayward, 1934)	<i>Eurema elathea flavescens</i> (Chavannes, 1850)
<i>Milanon leucaspis</i> (Mabille, 1878)	<i>Papias phainis</i> Godman, 1900	<i>Eurema phiale paula</i> (Röber, 1909)
<i>Morvina fissimacula fissimacula</i> (Mabille, 1878)	<i>Papias</i> sp. n.	<i>Phoebis argante argante</i> (Fabricius, 1775)
<i>Mylon maimon</i> (Fabricius, 1775)	<i>Parphorus fartuga</i> (Schaus, 1902)	<i>Phoebis neocypris neocypris</i> (Hübner, [1823])
<i>Nisoniades bipuncta</i> (Schaus, 1902)	<i>Parphorus pseudocorus</i> (Hayward, 1934)	<i>Phoebis philea philea</i> (Linnaeus, 1763)
<i>Ocella monophthalma</i> (Plötz, 1884)	<i>Perichares philetes aurina</i> Evans, 1955	<i>Phoebis sennae marcellina</i> (Cramer, 1777)
<i>Oechydrys chersis evelinda</i> (Butler, 1870)	<i>Phanes tavola</i> (Schaus, 1902)	<i>Pyrisitia leuce leuce</i> (Boisduval, 1836)
<i>Pyrgus orcus</i> (Stoll, 1780)	<i>Phemiades pohli</i> (Bell, 1932)	<i>Pyrisitia nise tenella</i> (Boisduval, 1836)
<i>Pyrgus orcynoides</i> (Giacomelli, 1928)	<i>Pheraues argynnis</i> (Plötz, 1884)	<i>Rhabdodryas trite banksi</i> (Breyer, 1939)
<i>Pythonides lancea</i> (Hewitson, 1868)	<i>Pheraues odilia odilia</i> (Plötz, 1884)	Pierinae (7)
<i>Sophista aristoteles plinius</i> Plötz, 1832	<i>Polites vibex catilina</i> (Geyer, 1832)	<i>Catasticta bithys</i> (Hübner, [1831])
<i>Sostrata bifasciata bifasciata</i> (Ménétriés, 1829)	<i>Pompeius amblyspila</i> (Mabille, 1898)	<i>Glutophrissa drusilla drusilla</i> (Cramer, 1777)
<i>Spathilepia clonius</i> (Cramer, 1775)	<i>Pompeius dares</i> (Plötz, 1883)	<i>Hesperocharis erota</i> (Lucas, 1852)
<i>Staphylus incisus</i> (Mabille, 1878)	<i>Pompeius pompeius</i> (Latreille, [1824])	<i>Leptophobia aripa elodina</i> (Röber, 1908)
<i>Telemiades vespasius</i> (Fabricius, 1793)	<i>Psoralis stacara</i> (Schaus, 1902)	<i>Pereute swainsoni</i> (Gray, 1832)
<i>Theagenes dichorus</i> (Mabille, 1878)	<i>Pyrrhopygopsis socrates socrates</i> (Ménétriés, 1855)	<i>Tatochila autodice autodice</i> (Hübner, 1818)
<i>Trina geometrina geometrina</i> (C. Felder & R. Felder, 1867)	<i>Quinta cannae</i> (Herrich-Schäffer, 1869)	<i>Tatochila maenacte maenacte</i> (Boisduval, 1836)
<i>Xenophanes tryxus</i> (Stoll, 1780)	<i>Quinta locutia</i> (Hewitson, 1876)	
<i>Zera hyacinthinus servius</i> (Plötz, 1884)	<i>Remella remus</i> (Fabricius, 1798)	Lycaenidae (40)
Hesperiinae (115)	<i>Saliana saladin catha</i> Evans, 1955	Theclinae (36)
<i>Alera furcata</i> Mabille, 1891	<i>Saliana triangularis</i> (Kaye, 1914)	Eumaeini (36)
<i>Anthoptus epictetus</i> (Fabricius, 1793)	<i>Saniba sabina</i> (Plötz, 1882)	<i>Allosmaitia strophius</i> (Godart, [1824])
<i>Appia appia</i> Evans, 1955	<i>Saturnus reticulata conspicuus</i> (Bell, 1941)	<i>Aravacus binangula</i> (Schaus, 1902)
<i>Arita mubevensis</i> (Bell, 1932)	<i>Saturnus saturnus servus</i> Evans, 1955	<i>Aravacus ellida</i> (Hewitson, 1867)
<i>Arita polistion</i> (Schaus, 1902)	<i>Sucova sucova</i> (Schaus, 1902)	<i>Aravacus meliboeus</i> (Fabricius, 1793)
<i>Arotis sirene</i> Mabille, 1904	<i>Thespieus ethemides</i> (Burmeister, 1878)	<i>Arcas ducalis</i> (Westwood, 1852)
<i>Caligulana caligula</i> (Schaus, 1902)	<i>Thespieus himella</i> (Hewitson, 1868)	<i>Atides cosa</i> (Hewitson, 1867)
<i>Callimormus interpunctata</i> (Plötz, 1884)	<i>Thespieus homocromus</i> Mielke, 1978 (Fig. 13)	<i>Aubergina vanessoides</i> (Prittwitz, 1865)

- Brangas silumena* (Hewitson, 1867)
Calycopis caulonia (Hewitson, 1877)
Chalybs chloris (Hewitson, 1877)
Contrafacia catharina (Draudt, 1920)
Contrafacia imma (Prittowitz, 1865)
Contrafacia muattina (Schaus, 1902)
Cyanophrys acaste (Prittowitz, 1865)
Cyanophrys remus (Hewitson, 1879)
Dycia carnica (Hewitson, 1873)
Erora tella (Schaus, 1902)
Lamprospilus nubilum (H. H. Druce, 1907)
Laotus phydela (Hewitson, 1867)
Ministrymon azia (Hewitson, 1873)
Ocaria ocrisia (Hewitson, 1868)
Ocaria thales (Hewitson, 1868)
Panthiades hebraeus (Hewitson, 1867)
Parrhasius orgia (Hewitson, 1867)
Rekoa malina (Hewitson, 1867)
Strephnota elika (Hewitson, 1867)
Strymon eremica (Hayward, 1949)
Strymon bazochii (Godart, [1824])
Strymon eurytulus (Hübner, [1819])
Strymon mulucha (Hewitson, 1867)
Strymon oreala (Hewitson, 1868)
Strymon rana (Schaus, 1902)
Strymon yojoa (Reakirt, [1867])
Thepytus thyrea (Hewitson, 1867)
Theritas triquetra (Hewitson, 1865)
Tmolus echion (Linnaeus, 1767)
- Polyommatae (4)**
Polyommataini (4)
Elkalice cogina (Schaus, 1902)
Hemiargus hamo (Stoll, 1790)
Leptotes cassius (Cramer, 1775)
Zizula cyna (W. H. Edwards, 1881)
- Riodinidae (38)**
Euselasiinae (1)
Euselasiini (1)
Euselasia hygenius occulta Stichel, 1919
- Riodininae (37)**
Mesosemiini (6)
Ithomiola nepos (Fabricius, 1793)
Leucochimona icare matatha (Hewitson, 1873)
Mesosemia acuta Hewitson, 1873
Mesosemia friburgensis Schaus, 1902
Mesosemia odice (Godart, [1824])
Mesosemia rhodia (Godart, [1824])
- Eurybiini (1)**
Eurybia pergaea (Geyer, 1832)
- Helicopini (2)**
Anteros lectabilis Stichel, 1909
Ourocnemis axiochus (Hewitson, 1867)
- Nymphidiini (6)**
Adelotypa bolena (Butler, 1867)
Harveyope sejuncta (Stichel, 1910)
Synargis sp.
Synargis paulistina (Stichel, 1910)
Synargis phliasus (Clerk, 1764)
Synargis regulus (Fabricius, 1793)
- Riodiniini (11)**
Brachyglenis drymo (Godman & Salvin, 1886)
Calephelis braziliensis McAlpine, 1971
Chalodeta theodora (C. Felder & R. Felder, 1862)
Charis cadytis Hewitson, 1866
Chorinea licursis (Fabricius, 1775)
Lasaia agesilas agesilas (Latreille, 1809)
Lasaia incoides (Schaus, 1902)
Melanis smithiae smithiae (Westwood, [1851])
Melanis xenia xenia (Hewitson, [1853])
Monethe alphonsus (Fabricius, 1793)
Panara soana trabalis (Stichel, 1916)
- Symmachiini (6)**
Esthemopsis pherephatte teras (Stichel, 1910)
Pirascia arbuscula mandosa (H. Druce, 1904)
Pirascia sagaris phrygiana (Stichel, 1916)
Stichelia bocchoris (Hewitson, 1876)
Symmachia aconia Hewitson, 1876 (Fig. 16)
Symmachia arion (C. Felder & R. Felder, 1865)
- Tribe Incertae sedis (5)**
Emesis diogenia Prittowitz, 1865
Emesis fatimella fatimella Westwood, 1851
Emesis ocyptore zelotes Hewitson, 1872
Emesis russula Stichel, 1910
Emesis satema (Schaus, 1902)
- Nymphalidae (130)**
- Limnitiidae (9)**
Limnitiidini (9)
Adelpha falcipennis Fruhstorfer, 1915
Adelpha gavina Fruhstorfer, 1915
Adelpha hyas hyas (Doyère, [1840])
Adelpha mythra (Godart, [1824])
Adelpha poltius A. Hall, 1938
Adelpha serpa serpa (Boisduval, 1836)
Adelpha syma (Godart, [1824])
Adelpha thessalia indefecta Fruhstorfer, 1913
Adelpha zea (Hewitson, 1850)
- Apaturinae (3)**
Apaturini (3)
Doxocopa kallina (Staudinger, 1886)
Doxocopa laurentia laurentia (Godart, [1824])
Doxocopa zunilda zunilda (Godart, [1824])
- Biblidinae (26)**
Biblidini (26)
Biblis hyperia nectanabis (Fruhstorfer, 1909)
Paulogramma pygas eucale (Fruhstorfer, 1916)
Catonephele numilia penthia (Hewitson, 1852)
Catonephele sabrina (Boisduval, 1852)
Cybdelis phaesyala (Hübner, [1831])
Diaethria candrena (Godart, [1824])
Diaethria clymena meridionalis (H. W. Bates, 1864)
Diaethria eluina eluina (Hewitson, [1855])
Dynamine agacles agacles (Dalman, 1823)
Dynamine athemon athemaena (Hübner, [1824])
Dynamine myrrhina (Doubleday, [1849])
Dynamine postverta postverta (Cramer, 1779)
Dynamine tithia tithia (Hübner, 1823)
Ectima thecla thecla (Fabricius, 1796)
Epiphile huebneri Hewitson 1861
Epiphile orea orea (Hübner, [1823])
Eunica caelina caelina (Godart, [1824])
Eunica eburnea Fruhstorfer, 1907
Haematera pyraxe pyraxe (Hübner, [1819])
Hamadryas amphinome amphinome (Linnaeus, 1767)
Hamadryas epinome (C. Felder & R. Felder, 1867)
Hamadryas februa februa (Hübner, [1823])
Hamadryas feronia feronia (Linnaeus, 1758)
Hamadryas fornax fornax (Hübner, [1823])
Myscelia orsis (Drury, 1782)
Temenis laothe meridionalis Ebert, 1965
- Charaxinae (7)**
Anaeini (3)
Memphis moruus stheno (Prittowitz, 1865)
Memphis otrere (Hübner, [1825])
Zaretis sp.
- Preponini (4)**
Archaeoprepona amphinome pseudomeander (Fruhstorfer, 1906)
Archaeoprepona chalciope (Hübner, [1823])
Archaeoprepona demophon thalpius (Hübner, [1814])
Prepona pylene pylene Hewitson, [1854]
- Nymphalidae (15)**
Coeini (1)
Smyrna blomfieldia blomfieldia (Fabricius, 1781)
- Nymphalini (4)**
Hypanartia bella (Fabricius, 1793)
Hypanartia lethe (Fabricius, 1793)
Vanessa myrina (Doubleday, 1849)
Vanessa braziliensis (Moore, 1883)
- Kallimini (3)**
Anartia amathea roeselia (Eschscholtz, 1821)
Junonia evarete (Cramer, 1779)
Siproeta epaphus trayja Hübner, [1823]
- Melitaeini (7)**
Chlosyne lacinia saundersi (Doubleday, [1847])
Eresia lansdorfi (Godart, 1819)
Tegosa claudina (Eschscholtz, 1821)
Tegosa orobia (Hewitson, 1864)
Telenassa teletusa (Godart, [1824])
Ortilia ithra (W. F. Kirby, 1900)
Ortilia orthia (Hewitson, 1864)
- Danainae (4)**
Danaini (4)
Danaus erippus (Cramer, 1775)
Danaus gilippus gilippus (Cramer, 1775)
Danaus eresimus plexaure (Godart, 1819)
Lycorea ilione ilione (Cramer, 1775)
- Ithomiinae (13)**
Dircennini (6)
Dircenna dero rhoeo C. Felder & R. Felder, 1860
Episcada carcinia Schaus, 1902
Episcada hymenaea hymenaea (Prittowitz, 1865)
Episcada philoclea (Hewitson, [1855])
- Hyalenna pascua* (Schaus, 1902)
Pteronymia sylvo (Geyer, 1832)
- Godyridini (1)**
Pseudoscada erruca (Hewitson, 1855)
- Ithomiini (2)**
Placidina euryanassa (C. Felder & R. Felder, 1860)
- Ithomia drymo** Hübner, 1816
- Mechanitiini (2)**
Mechanitis lysimnia lysimnia (Fabricius, 1793)
Methona themisto (Hübner, 1818)
- Napeogenini (1)**
Eptyches eupompe (Geyer, 1832)
- Tithoreini (1)**
Aeria olenia Weymer, 1875
- Heliconiinae (17)**
Acraeini (6)
Actinote carycina Jordan, 1913
Actinote dalmeidai Francini, 1996
Actinote melanisans Oberthür, 1917
Actinote pellenea pellenea Hübner, [1821]
Actinote rhodope d'Almeida, 1923
Actinote surima surima (Schaus, 1902)
- Heliconiini (11)**
Agraulis vanillae maculosa (Stichel, 1907)
Dione junio junio (Cramer, 1779)
Dryadula phaetusa (Linnaeus, 1758)
Dryas iulia alcionea (Cramer, 1779)
Eueides aliphera aliphera (Godart, 1819)
Euptoieta hegesia meridiana Stichel, 1938
Heliconius besckei Ménétries, 1857
Heliconius erato phyllis (Fabricius, 1775)
Heliconius ethilla narcaea Godart, 1819
Heliconius sara apseudes (Hübner, [1813])
Philaethria wernickei (Röber, 1906)
- Morphinae (11)**
Morphini (4)
Cytheritis aega aega (Hübner, [1822])
Cytheritis portis portis (Hübner, [1821])
Iphixibia anaxibia (Esper, [1801])
Pessonia epistrophus catenaria (Perry, 1811)
- Brassolini (7)**
Caligo arisbe Hübner, [1822]
Blepholennis batea didymaon (C. Felder & R. Felder, 1867)
Blepholennis bassus (C. Felder & R. Felder, 1867)
Dasyophthalma creusa creusa (Hübner, [1821])
Eryphanis reevesii (Doubleday, [1849])
Narope cyllene (C. Felder & R. Felder, 1867)
Opoptera sulcius (Staudinger, 1887)
- Satyriinae (25)**
Haeterini (1)
Pierella nereis (Drury, 1782)
- Satyriini (24)**
Capronniera galesus (Godart, [1824])
Carminda griseldis (Weymer, 1911)
Carminda paeon (Godart, [1824])
Moneuptychia soter (Schaus, 1902)
Eteona tisiphone (Boisduval, 1936)
Euptychoides castrensis (Schaus, 1902)
Forsterinaria necys (Godart, [1824])
Forsterinaria quantius (Godart, [1824])
Godartiana muscosa (Butler, 1870)
Guaianaza pronophila (Butler, 1867)
Hermeuptychia hermes (Fabricius, 1775)
Pampasatyrus glaucope glaucope (C. Felder & R. Felder, 1867)
Paryphthimoides phronius (Godart, [1824])
Paryphthimoides polytus (Prittowitz, 1865)
Præpedaliodes sp.
Prenda clarissa Freitas & Mielke, 2011
Splendeuptychia ambra (Weymer, [1911])
Splendeuptychia cosmophila (Hübner, 1823)
Siegosatyrus periphias (Godart, [1824])
Taydebis peculiaris (Butler, 1874)
Taygetis acuta Weymer, 1910
Taygetis ypthima Huebner, [1821]
Ypthimoides straminea (Butler, 1867)
Zischkaia pacarus (Godart, [1824])

ACKNOWLEDGEMENTS

The authors are thankful to Roberto Kulig, who allowed the butterfly collecting on his farm, one of the localities sampled. Fernando M.S. Dias and Marlon Selusniak helped with butterfly collecting, adding important records to the final list. Also, Ezequiel O. Núñez Bustos provided valuable contributions to this manuscript. EC, OHHM and MMC are funded by CNPq fellowships.

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