

# Butterflies (Lepidoptera: Papilionoidea) in a coastal plain area in the state of Paraná, Brazil

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**Abstract:** The coastal plain environments of southern Brazil are neglected and poorly represented in Conservation Units. In view of the importance of sampling these areas, the present study conducted the first butterfly inventory of a coastal area in the state of Paraná. Samples were taken in the Floresta Estadual do Palmito, from February 2014 through January 2015, using insect nets and traps for fruit-feeding butterfly species. A total of 200 species were recorded, in the families HesperIIDae (77), Nymphalidae (73), Riodinidae (20), Lycaenidae (19), Pieridae (7) and Papilionidae (4). Particularly notable records included the rare and vulnerable *Pseudotinea hemis* (Schaus, 1927), representing the lowest elevation record for this species, and *Temenis huebneri korallion* Fruhstorfer, 1912, a new record for Paraná. These results reinforce the need to direct sampling efforts to poorly inventoried areas, to increase knowledge of the distribution and occurrence patterns of butterflies in Brazil.

**Key words:** Atlantic Forest, Biodiversity, conservation, inventory, species richness.

## INTRODUCTION

Faunal inventories are important for providing knowledge about local biodiversity (Brown & Freitas, 2000b; Carneiro *et al.*, 2008a; Dolibaina *et al.*, 2011) thus allowing the selection of priority areas for conservation of natural resources (Lewinsohn *et al.*, 2005). Butterflies are commonly used in faunistic surveys for conservation and management of a specific area because of their high diversity, wide distribution, and sensitivity to different abiotic factors (e.g. Brown & Freitas, 2000b; Illán *et al.*, 2010). In addition, they are excellent bioindicators for the maintenance of natural ecosystems (Brown 1992; Devries & Walla, 2001; Emery *et al.*, 2006).

In south Brazil, the state of Paraná harbors five phytogeographic units: Dense Ombrophilous Forest (Atlantic Forest), Mixed Ombrophilous Forest (Araucaria Forest), Semideciduous Seasonal Forest, Steppe and Cerrado (savanna), showing peculiarities of climate, geomorphology and ecosystems throughout its extent (Roderjan *et al.*, 2002; Maack, 2012). For this reason, studies on the butterfly fauna have been conducted in the different areas of forest remnants in the state, including Mixed Ombrophilous Forest (Biezanko, 1938; Mielke, 1995; Bonfanti *et al.*, 2011; Dolibaina *et al.*, 2011; Beltrami *et al.*, 2014; Pereira *et al.*, 2015), Semideciduous Seasonal Forest (Salik *et al.*, 2014) and Cerrado (Mielke *et al.*, 2012a). Other areas have been sampled, although only HesperIIDae have been inventoried (Biezanko & Mielke, 1973; Mielke, 1968; Casagrande & Mielke, 1993; Mielke *et al.*, 2012b; Carneiro *et al.*, 2014). Up until the present, no significant lists exist for the coastal plain area in Paraná, although this state has been well sampled compared to other Brazilian states (Santos *et al.*, 2008).

Considering the priority of sampling in certain areas and

the importance of inventories to knowledge of the fauna and its conservation, the present study inventoried the species of butterflies of the Floresta Estadual do Palmito. This is the first general survey conducted for the coastal plain of Paraná.

## MATERIAL AND METHODS

### Study site

Collections were carried out in the Floresta Estadual do Palmito (FEP) (25°35'S and 48°32'W), located in Paranaguá municipality, on the coastal plain of Paraná (Figure 1). The FEP is a Sustainable-Use Conservation Unit (SNUC, 2000, law No. 9.985), which has an area of 1,780 ha and is situated at approximately 12 m above sea level. It lies within the Atlantic Forest biome, and is composed of different vegetation formations, including Dense Ombrophilous Lowland Forest, Restinga (coastal dune forest), and Mangrove Forest (IBGE, 2012). The site is traversed by a trail approximately 6,500 m long, and the soil is predominantly sandy (Figure 2). Similarly to other localities on the Paraná coastal plain, the climate is Cfa, humid subtropical with hot summers, in the Köppen classification (Alvares *et al.*, 2013). The annual mean temperature is approximately 21° C and the annual mean precipitation is 2,000 mm, evenly distributed throughout the year (Cavaglione *et al.*, 2000).

### Sampling

Collections were made monthly, from February 2014 through January 2015, each lasting two days, and with a sampling effort of three collectors using insect nets, from 09:00-17:00, totaling 192 hours per collector. Besides the main trail, secondary trails through the entire area of the FEP were traversed. In addition, ten traps for fruit-feeding butterfly

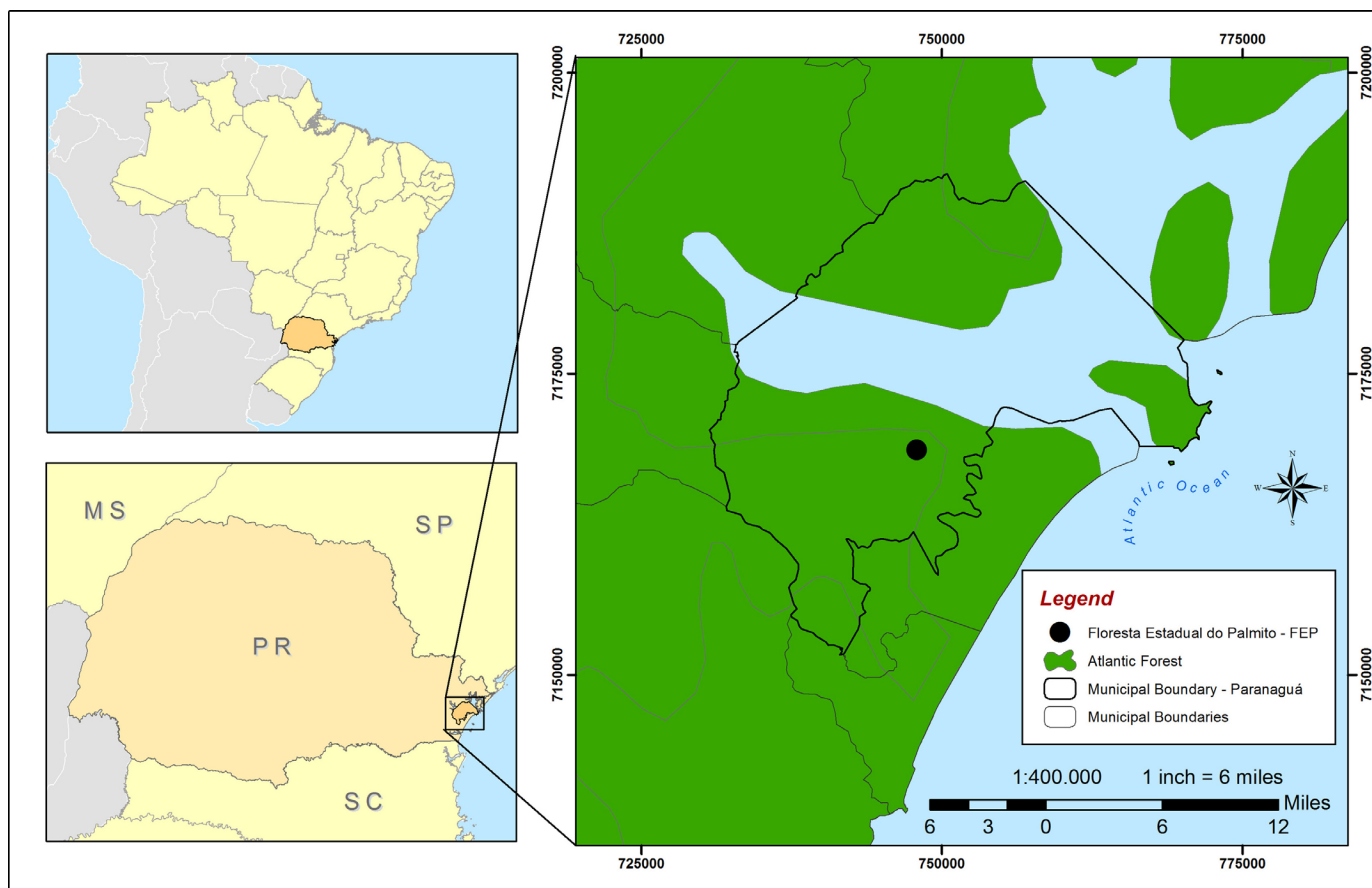


Fig. 1. Location of the Floresta Estadual do Palmito on the coastal plain of the state of Paraná, Brazil.

species, containing baits consisting of bananas fermented in sugar-cane juice, were used over a total of 30 hr per monthly sampling period. The traps were arranged randomly along the edge and inside the forest, at different heights.

Specimens were prepared, labeled, identified, and incorporated into the Coleção Entomológica Padre Jesus Santiago Moure of the Universidade Federal do Paraná, Curitiba, Paraná, Brazil (DZUP). The compendia of Lamas (2004) and Mielke (2005) were used for the taxonomic classification of species, and higher classification followed Wahlberg *et al.* (2009) and van Nieukerken (2011).

#### Data analysis

Species accumulation curves for the total butterfly assemblage were plotted based on Mao Tau values (Colwell, 2013). Richness of butterflies was estimated by non-parametric estimators Chao 2 and Jackknife 2. According to Colwell & Coddington (1994), these two estimators are incidence-based and best suited for a small number of samples. The analyses were made using the software EstimateS 9.0 (Colwell, 2013).

### RESULTS AND DISCUSSION

After 576 net-hours and 3600 trap-hours of sampling effort, a total of 200 species of butterflies was recorded (Table 2). The best represented family was Hesperidae (77 species, 38.5%), followed by Nymphalidae (73 spp., 36.5%), Riodinidae (20 spp., 10%), Lycaenidae (19 spp., 9.5%), Pieridae (7 spp.,

3.5%) and Papilionidae (4 spp., 2%). The species accumulation curve (Figure 3) did not reach an asymptote, suggesting that additional species will likely be recorded with more sampling effort. Chao 2 and Jackknife 2 estimated a richness of 233 to 289 species, respectively, indicating that about 69 to 85% of butterfly species present in the study site were recorded.

Among the more notable species recorded was *Pseudotinea hemis* (Schaus, 1927) (Riodinidae) (Figure 4), which is considered rare and vulnerable due to destruction of its habitat (Hall & Callaghan, 2003). This species is found on the Red List of threatened species for the state of Rio Grande do Sul, and until the present study had been recorded only in areas located at altitudes between 600 and 2100 m (Hall & Callaghan, 2003). This is the first occurrence of *P. hemis* at a site 0-20 m above sea level.

*Temenis huebneri korallion* Fruhstorfer, 1912 (Nymphalidae: Biblidinae) (Figure 4) was collected in a bait trap and represents a new record for Paraná. It was previously only known to occur in the Distrito Federal (Brown & Mielke, 1967; Emery *et al.*, 2006; Pinheiro & Emery, 2006; Pinheiro & Emery, 2007), Goiás (Brown & Mielke, 1967), Mato Grosso (Brown, 1987) and Minas Gerais and São Paulo (Salik, pers. comm.).

Recently, *Adelpha melona pseudarete* Fruhstorfer, 1915 (Nymphalidae: Limenitidinae) was recorded for the first time in southern Brazil, in the states of Paraná (including the FEP), Santa Catarina and Rio Grande do Sul (Leviski *et al.*, 2015). Another subspecies recorded in the FEP was *Adelpha radiata*



Fig. 2. Trails of the Floresta Estadual do Palmito, Paranaguá, Paraná, Brazil.

*radiata* Fruhstorfer, 1915 (Figure 4), considered rare, with a geographical distribution in southern and southeastern Brazil, from Rio de Janeiro to Santa Catarina and possibly extending to Argentina (Willmott, 2003).

The richness of butterfly species recorded in FEP was similar when compared with some inventories carried out in coastal regions of Brazil (Table 1), such as in Swamp and Restinga forests (Rio Grande do Sul and Santa Catarina) (Bellaver *et al.*, 2012), and Florianópolis (Santa Catarina) (Carneiro *et al.*, 2008). However, the richness recorded in FEP was lower when compared with Maquiné (Rio Grande do Sul) (Iserhard & Romanowski, 2004) and Reserva Particular do Patrimônio Natural Fazenda Lontra/Saudade (Bahia) (Paluch *et al.*, 2016). In Parque Metropolitan de Pituacu (Bahia) (Vasconcelos *et al.*, 2009), the richness of species and the sampling effort were lower than other inventories.

**Table 1.** Number of butterfly species, by family, recorded on the coastal plain of Brazil. Only inventories that reported the sampling effort were used for comparison. Paraná (PR): Floresta Estadual do Palmito (FEP) (present study); Rio Grande do Sul (RS): Maquiné (Iserhard & Romanowski, 2004); Rio Grande do Sul (RS) and Santa Catarina (SC): Swamp and Restinga forests (SRF) (Bellaver *et al.*, 2012); Santa Catarina (SC): Florianópolis (south) (Carneiro *et al.*, 2008); Bahia (BA): Parque Metropolitan de Pituacu (PMP) (Vasconcelos *et al.*, 2009), Reserva Particular do Patrimônio Natural Fazenda Lontra/Saudade (FLS) (Paluch *et al.*, 2016).

Region	State	Locality	Total net-hours	Total trap-hours	Hesperiidae	Nymphalidae	Riodinidae	Lycaenidae	Pieridae	Papilionidae	Total richness
South	PR	FEP (present study)	576h	3.600h	77	73	20	19	7	4	200
	RS	Maquiné	238h	-	97	104	19	35	24	13	292
	RS/SC	SRF	360h	10.920h	66	85	15	35	14	10	225
	SC	Florianópolis (south)	576h	-	107	74	14	15	16	10	236
Northeast	BA	PMP	144h	180h	12	39	4	4	8	3	70
	BA	FLS	288h	-	83	87	41	29	4	16	260

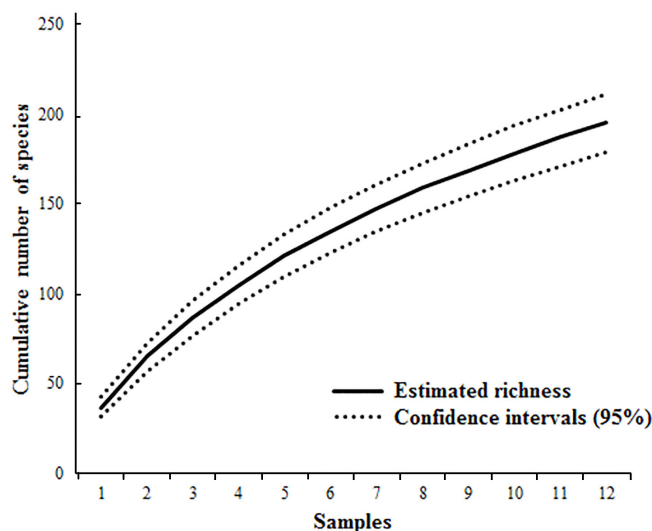
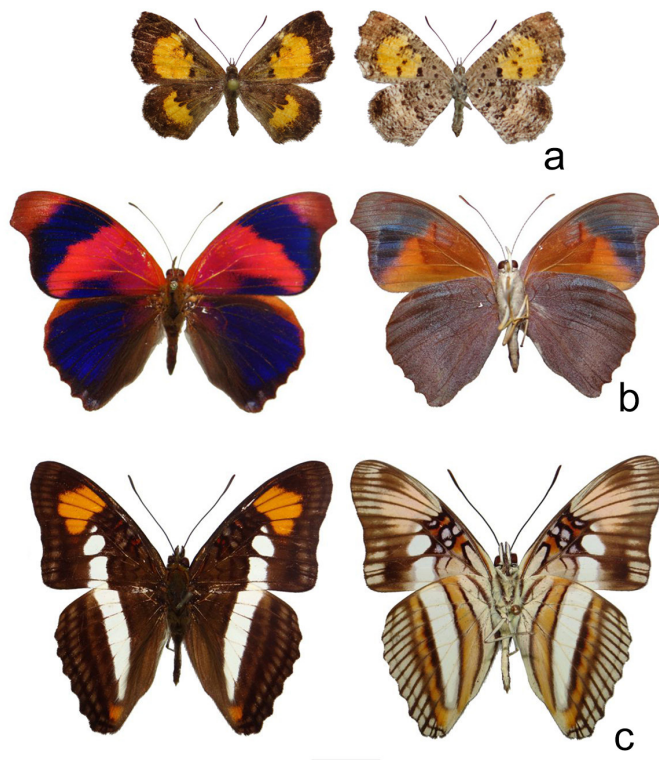


Fig. 3. Cumulative number of butterfly species recorded after 12 sampling occasions in Floresta Estadual do Palmito, Paranaguá, Paraná, Brazil, from February 2014 to January 2015.

The foregoing comparison included only inventories that provided information about sampling effort and that excluded records from specimens deposited in collections (e.g. Kesselring & Ebert, 1979; Brown & Freitas, 2000a,b; Duarte *et al.*, 2010; Monteiro *et al.*, 2010; Francini *et al.*, 2011). Our analysis clearly indicated that the butterfly assemblage in FEP was not fully sampled, and highlights the fact that its richness should increase as other samples are performed in the study area.

No region of the Paraná coast has been sampled previously, and the records from the present study comprise the only available information on the composition of the butterflies of the region. This being the case, the discovery of new records for Paraná and southern Brazil, together with the occurrence of rare and threatened species in the present study, merit attention because of the growing human pressure, real-estate speculation and the consequent environmental degradation in the localities sampled. The results generated through this study reinforce the need to direct sampling efforts toward little-explored regions, since the coastal plain environments of southern Brazil are still relatively neglected and are poorly represented in Conservation Units.



**Fig. 4.** Notable butterfly species collected in Floresta Estadual do Palmito, Paranaguá, Paraná, Brazil: **a)** *Pseudotinea hemis*; **b)** *Temenis huebneri korallion*; **c)** *Adelpha radiata radiata*. Scale bar = 1 cm.

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**Table 2.** List of butterflies (Papilionoidea) recorded in the Floresta Estadual do Palmito, Paraná, Brazil.

<b>HESPERIIDAE (77)</b>	<i>Sostrata cronion</i> (C. Felder & R. Felder, 1867)	<i>Adelpha thesprotia</i> (C. Felder & R. Felder, 1867)
<b>Eudaminae (11)</b>	<i>Xenophanes tryxus</i> (Stoll, 1780)	<i>Adelpha thessalia indefecta</i> Fruhstorfer, 1913
<i>Astrartes creteus siges</i> (Mabille, 1903)	<b>Pyrrhopyginae (2)</b>	<b>Nymphalinae (9)</b>
<i>Astrartes enotrus</i> (Stoll, 1781)	<i>Elbella lamprus albociliata</i> Mielke, 1995	<i>Anartia amathea roeselia</i> (Eschscholtz, 1821)
<i>Astrartes fulgerator fulgerator</i> (Walch, 1775)	<i>Myscelus santhilarius</i> (Latreille, [1824])	<i>Anartia jatrophae jatrophae</i> (Linnaeus, 1763)
<i>Epargyreus clavicornis clavicornis</i> (Herrich-Schäffer, 1869)	<b>LYCAENIDAE (19)</b>	<i>Colobura dirce dirce</i> (Linnaeus, 1758)
<i>Phocides</i> sp.	<b>Polyommatae (2)</b>	<i>Eresia lansdorfi</i> (Godart, 1819)
<i>Polygonus savigny savigny</i> (Latreille, [1824])	<i>Hemiargus hanno</i> (Stoll, 1790)	<i>Hypanartia bella</i> (Fabricius, 1793)
<i>Urbanus dorantes dorantes</i> (Stoll, 1790)	<i>Leptotes cassius cassius</i> (Cramer, 1775)	<i>Junonia evarete evarete</i> (Cramer, 1779)
<i>Urbanus doryssus albicuspis</i> (Herrich-Schäffer, 1869)	<b>Theclinae (17)</b>	<i>Ortilia velica durnfordi</i> (Godman & Salvin, 1878)
<i>Urbanus proce</i> (Plötz, 1881)	<i>Arcas imperialis</i> (Cramer, 1775)	<i>Tegosa claudina</i> (Eschscholtz, 1821)
<i>Urbanus simplicius</i> (Stoll, 1790)	<i>Arzecla calatia</i> (Hewitson, 1873)	<i>Vanessa braziliensis</i> (Moore, 1883)
<i>Urbanus teleus</i> (Hübner, 1821)	<i>Calycopis bellera</i> (Hewitson, 1877)	<b>Satyrinae (20)</b>
<b>Hesperiinae (49)</b>	<i>Calycopis caulonia</i> (Hewitson, 1877)	<i>Antirrhoea archaea</i> Hübner, [1822]
<i>Anthoptus epictetus</i> (Fabricius, 1793)	<i>Calycopis janeirica</i> (C. Felder, 1862)	<i>Caligo beltrao</i> (Illiger, 1801)
<i>Arita arita</i> (Schaus, 1902)	<i>Celmia celmus</i> (Cramer, 1775)	<i>Caligo brasiliensis brasiliensis</i> (C. Felder, 1862)
<i>Arita mubevensis</i> (Bell, 1932)	<i>Cyanophrys herodotus</i> (Fabricius, 1793)	<i>Caligo idomeneus ariphron</i> Fruhstorfer, 1910
<i>Carystoides basoches</i> (Latreille, [1824])	<i>Janthecla aurora</i> (Druce, 1907)	<i>Catoblepia amphirhoe</i> (Hübner, [1825])
<i>Carystoides sicania sicania</i> (Hewitson, 1876)	<i>Kolana ligurina</i> (Hewitson, 1874)	<i>Dasyophthalma creusa creusa</i> (Hübner, [1821])
<i>Carystus phorcus claudianus</i> (Latreille, [1824])	<i>Ocaria thales</i> (Fabricius, 1793)	<i>Dynastor darius faenius</i> Fruhstorfer, 1912
<i>Conga chydæa</i> (Butler, 1877)	<i>Rekoa meton</i> (Cramer, 1779)	<i>Eryphanis automedon amphimedon</i> (C. Felder & R. Felder, 1867)
<i>Corticea</i> sp.	<i>Rekoa palegon</i> (Cramer, 1780)	<i>Hermeuptychia atalanta</i> (Butler, 1867)
<i>Cymaenes uruba uruba</i> (Plötz, 1886)	<i>Strymon megarus</i> (Godart, [1824])	<i>Moneuptychia paeon</i> (Godart, [1824])
<i>Cynea</i> sp.	<i>Thepytus thyrea</i> (Hewitson, 1867)	<i>Moneuptychia soter</i> (Butler, 1877)
<i>Damas clavus</i> (Herrich-Schäffer, 1869)	<i>Theritas hemon</i> (Cramer, 1775)	<i>Morpho egestrophus catenaria</i> Perry, 1811
<i>Euphyes peneia</i> (Godman, 1900)	<i>Theritas phegeus</i> (Hewitson, 1865)	<i>Morpho helenor violaceus</i> Fruhstorfer, 1912
<i>Eutocus matildæ maltidæ</i> (Hayward, 1941)	<i>Theritas triquetra</i> (Hewitson, 1865)	<i>Morpho menelaus coeruleus</i> (Perry, 1810)
<i>Hylephila phyleus phyleus</i> (Drury, 1773)	<b>Nymphalidae (73)</b>	<i>Opsiphanes quiteria meridionalis</i> Staudinger, 1887
<i>Justinia justinianus justinianus</i> (Latreille, [1824])	<b>Biblidinae (8)</b>	<i>Pareuptychia summandosa</i> (Gosse, 1880)
<i>Lento lento</i> (Mabille, 1878)	<i>Catonephele acontius caeruleus</i> Jenkins, 1985	<i>Paryphthimoides eous</i> (Butler, 1867)
<i>Lindra brasus huxleyi</i> O. Mielke, 1978	<i>Catonephele numilia penthia</i> (Hewitson, 1872)	<i>Paryphthimoides grimon</i> (Godart, [1824])
<i>Ludens petrovna</i> (Schaus, 1902)	<i>Epiphile orea orea</i> (Hübner, [1823])	<i>Splendeuptychia hygina</i> (Butler, 1877)
<i>Lycas argentea</i> (Hewitson, 1866)	<i>Eunica volumna volumna</i> (Godart, [1824])	<i>Taygetis rufomarginata</i> Staudinger, 1888
<i>Lychnuchus celsus</i> (Fabricius, 1793)	<i>Hamadryas amphinome amphinome</i> (Linnaeus, 1767)	<b>PAPILIONIDAE (4)</b>
<i>Methionopsis ina</i> (Plötz, 1882)	<i>Hamadryas epinome</i> (C. Felder & R. Felder, 1867)	<b>Papilioninae (4)</b>
<i>Metron chrysogastra hypodesma</i> (Plötz, 1882)	<i>Pyrrhogyra neareea ophni</i> Butler, 1870	<i>Eurytides dolicaon deicoon</i> (C. Felder & R. Felder, 1864)
<i>Miltoniges cinnamomea</i> (Herrich-Schäffer, 1869)	<i>Temenis huebneri korallion</i> Fruhstorfer, 1912	<i>Heraclides thoas brasiliensis</i> (Rothschild & Jordan, 1906)
<i>Mnasilus allubita</i> (Butler, 1877)	<b>Charaxinae (9)</b>	<i>Parides zacyanthus zacyanthus</i> (Fabricius, 1793)
<i>Morys geisa geisa</i> (Möschler, 1879)	<i>Archaeoprepona amphinome pseudomeander</i> (Fruhstorfer, 1906)	<i>Protesilaus protesilaus nigricornis</i> (Staudinger, 1884)
<i>Mucia gulala</i> (Schaus, 1902)	<i>Archaeoprepona demophon thalpius</i> (Hübner, [1814])	<b>PIERIDAE (7)</b>
<i>Nyctelius nyctelius nyctelius</i> (Latreille, [1824])	<i>Archaeoprepona demophoon demophoon</i> (Hübner, [1814])	<b>Coliadinae (3)</b>
<i>Onophas columbaria distigma</i> Bell, 1930	<i>Archaeoprepona meander castorina</i> (E. May, 1932)	<i>Anteos menippe</i> (Hübner, [1818])
<i>Panoquina ocola ocola</i> (Edwards, 1863)	<i>Consul fabius drurii</i> (Butler, 1874)	<i>Eurema albula sinoe</i> (Godart, 1819)
<i>Penicula cristatus</i> (Bell, 1930)	<i>Fountainea ryphea phidile</i> (Geyer, 1837)	<i>Leucidia elvina</i> (Godart, 1819)
<i>Perichares philetus aurina</i> Evans, 1955	<i>Memphis edita</i> (Comstock, 1961)	<b>Dismorphiinae (1)</b>
<i>Pheraeus fastus</i> (Hayward, 1939)	<i>Memphis philumena corita</i> (Fruhstorfer, 1916)	<i>Dismorphia amphione astynome</i> (Dalman, 1823)
<i>Pompeius pompeius</i> (Latreille, [1824])	<i>Prepona pylene pylene</i> Hewitson, [1854]	<b>Pierinae (3)</b>
<i>Quinta lucutia</i> (Hewitson, 1876)	<b>Cyrestinae (1)</b>	<i>Archonias brassolis tereas</i> (Godart, 1819)
<i>Saliana saladin catha</i> Evans, 1955	<i>Marpesia petreus petreus</i> (Cramer, 1776)	<i>Glutophrissa drusilla drusilla</i> (Cramer, 1777)
<i>Saliana</i> sp.	<b>Danainae (7)</b>	<i>Melete lycimnia petronia</i> Fruhstorfer, 1907
<i>Saliana triangularis</i> (Kaye, 1914)	<i>Callithomia lenea methonella</i> (Weymer, 1875)	<b>RIODINIDAE (20)</b>
<i>Saturnus metonidia</i> (Schaus, 1902)	<i>Dircenna dero dero</i> (Hübner, 1823)	<b>Euselasiinae (2)</b>
<i>Sodalia argyrospila</i> (Mabille, 1877)	<i>Episcada carcinia</i> (Godart, [1824])	<i>Euselasia hygenius occulta</i> Stichel, 1919
<i>Sodalia coler</i> (Schaus, 1902)	<i>Ithomia agnosia zikani</i> d'Almeida, 1940	<i>Euselasia thucydides thucydides</i> (Fabricius, 1793)
<i>Thoon</i> sp.	<i>Ithomia drymo</i> Hübner, 1816	<b>Riodininae (18)</b>
<i>Tirynthia conflua</i> (Herrich-Schäffer, 1869)	<i>Mechanitis lysimnia lysimnia</i> (Fabricius, 1793)	<i>Emesis fatimella fatimella</i> Westwood, 1851
<i>Vehilius inca</i> (Scudder, 1872)	<i>Melinaea ludovica paraiya</i> Reakirt, 1866	<i>Eurybia molochina molochina</i> Stichel, 1910
<i>Vehilius seriatus danius</i> Bell, 1941	<b>Heliconinae (8)</b>	<i>Eurybia pergaea</i> (Geyer, 1832)
<i>Vehilius stictomenes stictomenes</i> (Butler, 1870)	<i>Actinote melanisans</i> Oberthür, 1917	<i>Harveyope zerna</i> (Hewitson, 1872)
<i>Vertica verticalis verticalis</i> (Plötz, 1882)	<i>Dione junio junio</i> (Cramer, 1779)	<i>Ionotus alector</i> (Geyer, 1837)
<i>Vettius fuldai</i> (Bell, 1930)	<i>Dryas iulia alcionea</i> (Cramer, 1779)	<i>Ithomiola nepos</i> (Fabricius, 1793)
<i>Vettius phyllus prona</i> Evans, 1955	<i>Heliconius besckei</i> (Ménétriés, 1857)	<i>Leucochimona icare matatha</i> (Hewitson, 1873)
<i>Vinius letis</i> (Plötz, 1882)	<i>Heliconius erato phyllis</i> (Fabricius, 1775)	<i>Lyropteryx</i> sp.
<b>Pyrginae (15)</b>	<i>Heliconius ethilla narcaea</i> (Godart, 1819)	<i>Menander felsina</i> (Hewitson, 1863)
<i>Achlyodes mithridates thraso</i> (Hübner, [1807])	<i>Heliconius sara apseudes</i> (Hübner, [1813])	<i>Menander menander nitida</i> (Butler, 1867)
<i>Anastrus obliqua</i> (Plötz, 1884)	<i>Philaethria wernickei</i> (Röber, 1906)	<i>Mesosemia odice</i> (Godart, [1824])
<i>Anastrus sempiternus simplicior</i> (Möschler, 1877)	<b>Limnitiidinae (11)</b>	<i>Metacharis polomaeus</i> (Fabricius, 1793)
<i>Cycloglypha stellita</i> J. Zikán, 1938	<i>Adelpha cocala caninia</i> Fruhstorfer, 1915	<i>Napaea joinvileae</i> Hall & Harvey, 2005
<i>Cycloglypha tisis</i> (Godman & Salvin, 1896)	<i>Adelpha falcipennis</i> Fruhstorfer, 1915	<i>Panara aureizona</i> Butler, 1874
<i>Gorgythion</i> sp.	<i>Adelpha gavina</i> Fruhstorfer, 1915	<i>Pseudotinea hemis</i> (Schaus, 1927)
<i>Helias phalaenoides palpalis</i> (Latreille, [1824])	<i>Adelpha lycorias lycorias</i> (Godart, [1824])	<i>Symmachia menetas eurina</i> Schaus, 1902
<i>Heliopetes arsalte</i> (Linnaeus, 1758)	<i>Adelpha malea goyama</i> Schaus, 1902	<i>Syrmatia nyx</i> (Hübner, [1817])
<i>Nisoniades maura</i> (Mabille & Boulet, 1917)	<i>Adelpha melona pseudarete</i> Fruhstorfer, 1915	<i>Voltinia cebrenea</i> (Hewitson, [1871])
<i>Pachyneuria inops</i> (Mabille, 1877)	<i>Adelpha plesauere pleasure</i> Hübner, 1823	
<i>Pyrgus orcus</i> (Stoll, 1780)	<i>Adelpha radiata radiata</i> Fruhstorfer, 1915	
<i>Pythonides lima</i> (Hewitson, 1868)	<i>Adelpha serpa serpa</i> (Boisduval, 1836)	
<i>Quadrus cerialis</i> (Stoll, 1782)		

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