



## **A Survey of the Butterfly Fauna of Jatun Sacha, Ecuador (Lepidoptera: Hesperioidea and Papilionoidea)**

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**Abstract.** The first extensive butterfly survey of the upper Río Napo basin in eastern Ecuador was conducted from 1990 to 1993. A total of 811 species was recorded at Jatun Sacha Biological Reserve. Based on species richness comparisons with a similar site in southern Peru and extrapolations from ithomiine diversity, Jatun Sacha is estimated to have approximately 1300 species of butterflies. Species richness is compared with two other Amazonian sites (Pakitza, Peru, 1300 species and Cacaupallana, Brazil, 843 species). Species and generic compositions are more similar between Pakitza and Jatun Sacha than Cacaupallana. This similarity may be due to environmental factors. A greater percentage of Nymphalidae and a lower percentage of Hesperidae and Lycaenidae occur at the two somewhat disturbed sites (Jatun Sacha and Cacaupallana) than the less disturbed site (Pakitza). Of the 228 species common to all three sites, more nymphalid butterfly species were found than expected based on observed species in each family.

**KEY WORDS:** Butterfly diversity, community similarities, estimations of species richness

### **INTRODUCTION**

The Amazon basin covers an area approximately 6 million square kilometers and houses the world's greatest diversity of plant and animal life (Erwin 1988, Dinerstein et al. 1995). Insects are the most diverse taxon in the neotropics, yet they have been poorly studied in this vast area (National Academy 1992, Lamas 1989 and ref. therein, Raven 1988, Reid & Miller 1989). Even for taxonomically well known insect groups, such as the butterflies, there exist large gaps in our understanding of tropical species richness and factors influencing diversity (DeVries 1994, Ackery 1986). One major hindrance is the lack of basic information available on natural history and species distributions for most Amazonian butterflies (Ackery 1986, DeVries 1994, DeVries et al. 1997). Inventories from specific localities can be useful in investigating changes in species compositions across landscapes, but most of the current faunal information on Amazonian butterfly communities are from Peru (Lamas 1985, 1989, Robbins et al. 1996) and areas in Brazil (Brown 1984, 1991, Emmel & Austin 1990, Mielke 1994). There are few published surveys of butterfly faunas in eastern Ecuador and Co-



lumbia (Lamas 1981). Therefore our understanding of the patterns of butterfly diversity in these areas is very incomplete.

Biologically significant areas, such as along the eastern base of the Andes, offer the opportunity to research factors influencing diversity and are of particular importance to study. The eastern flank is postulated to be an area very diverse in plant, bird, and butterfly life (Dinerstein et al. 1995, Robbins & Opler 1996, Gentry 1988a). Gentry (1988b) found that areas of high rainfall and weakly defined wet and dry seasons correlated with areas of high plant diversity. In Ecuador the only protected area in this zone is Jatun Sacha Biological Station, located in the upper Napo basin. A flora survey at Jatun Sacha found over 200 species of trees in one hectare plots on the reserve (Neill & Palacios 1989). Surveys of the fauna on the reserve have found high species richness as well, including an extensive bird survey, which has recorded over 500 species (B. Bochan, pers. comm.). This diversity at Jatun Sacha suggests the area might be equally rich in butterflies.

Here I report a survey of the Jatun Sacha butterfly fauna, which can serve as a baseline for studies of diversity patterns at Jatun Sacha. It can also be used for comparative studies with other localities in the region (DeVries 1994, 1996). In this paper I compare and contrast the taxonomic compositions at Jatun Sacha with two other sites in the Amazon basin.

### STUDY SITES

Jatun Sacha Biological Station is located 30 km east of the base of the Andes ( $01^{\circ} 04'S$ ;  $77^{\circ} 36'W$ ) and lies between the confluence of the Napo and Arahuno rivers, its natural boundaries. Elevation varies from 400m to 450m. The uplands, typified by steep, low hills and narrow ridges with small streams in the valleys, comprise the majority of the land. There is also a small tract (100 hectares) in the Rio Napo floodplain with alluvial soils and seasonal flooding. The Holdridge system would classify the lowland forests of this area as Tropical Wet Forest (Cañadas 1983). Rainfall data, recorded since 1986, averages 3700mm annually, with no definite dry season. However, April through July are generally the wettest months and December through February the driest months. Major floods of streams and rivers occurs throughout the year but are more common during the wetter months. Soil fertility is relatively rich for tropical wet forests, especially in phosphorous and calcium, when compared to other lowland forest sites (Clinebell et al. 1995). Storms are infrequent in the area but often cause multiple treefalls, leaving the forest in various stages of succession (D. Neill & W. Palacios, unpublished).

The land-use patterns in the vicinity of Jatun Sacha have undergone rapid changes in the last decade. Before the early 1980's the area was sparsely populated by native Quichuans and accessed only by rivers. A road built in 1986 bisected the reserve at its northern end along the Río Napo and greatly increased access to the area. The influx of small scale farmers and portable sawmills resulted in deforestation in areas accessible by the road. Currently, tracts of land owned by farmers adjacent to the road typically have 40 to 70



percent of the land cleared. Tracts in the interior are more pristine, from 50 to 100 percent primary forest. Jatun Sacha continues to expand its reserve and purchases lands in a piecemeal fashion as funds and land become available. Thus the reserve is a patchwork of habitats. Its central core is mostly primary forest (70%), and its edges are a mosaic of primary forest, secondary forest, scrub, and pasture land (D. Neill & W. Palacios, unpublished).

A brief description is presented below of the two comparative sites, Pakitza and Cacaullandia. More complete descriptions are available from Erwin (1991) for Pakitza and Emmel and Austin (1990) for Cacaullandia. Pakitza is a biological station in the Reserved Zone of Parque Nacional Manu. It is located in Madre de Dios drainage basin in Peru along the foothills of the eastern Andes in a similar geographical zone as Jatun Sacha. The butterfly survey for Pakitza was comprehensive and yielded 1300 species (Robbins et al. 1996). The survey from Cacaullandia was conducted on a private ranch in Rondonia, Brazil. Located in the rolling hills and flat plains of the Amazon basin, it has both intact forest and disturbed areas. A total of 843 species of butterflies was recorded by Emmel and Austin (1990), although continued surveys have increased this total number to approximately 1500 species (Austin & Emmel 1996, cited as "unpublished data"). The area of Cacaullandia is ecologically less similar to Jatun Sacha than Pakitza, but faces similar pressures from development.

## MATERIALS AND METHODS

The survey at Jatun Sacha was conducted from August 1990 to October 1993. Hours in the field devoted to collection varied by month but covered all the months of the year, with the exceptions of December 1990 and 1991, and October, 1992, and data was not gathered to quantify collection effort. Collection was concentrated in a 3 km area surrounding the station facilities. As the reserve accumulated more land, a few specimens were taken in a 10 km area around the station. Specimens were captured with hand held nets, butterfly traps baited with rotting fruits (DeVries 1987, 1988), artificial bait (Lamas et al. 1994), and by rearing field collected larvae. Extensive use of butterfly traps at Jatun Sacha was conducted during an ecological study that examined spatial and temporal diversity of the fruit feeding butterfly community (DeVries et al. 1997). Material from that study is included here. The study took place from August, 1992 to October, 1993 and during that time, baited traps were placed in both the canopy and understory for seven days a month, a total of 105 trap days. Additional sources for species included donated specimens or field records offered from various visiting scientists.

Identifications were conducted by comparison of my material to specimens in the following institutions and museums: Alyn Museum of Entomology of Florida Museum of Natural History, American Museum, Museum of Comparative Zoology, and National Museum of Natural History. Various specialists identified particular taxonomic groups: D. Harvey (Riodinidae), L. Miller (Satyrinae), S. Nicolay (Hesperiidae), and R. Robbins (Lycaenidae). Due to time constraints in the preparation and identification, some specimen determinations are tentative and are des-

Table 1. Taxonomic Compositions of Butterfly Families at Jatun Sacha, Cacaullandia, and Pakitza. Number of species are listed in parenthesis following the percentage of species within each family.

Family	Jatun Sacha	Cacaullandia	Pakitza
Hesperiidae	25% (198)	27% (231)	34% (442)
Papilionidae	3% (26)	2% (18)	2% (26)
Pieridae	3% (27)	4% (29)	2% (26)
Nymphalidae	38% (307)	33% (275)	28% (364)
Riodinidae	24% (194)	24% (203)	20% (260)
Lycaenidae	7% (59)	10% (87)	14% (182)

ignated with question marks. A synoptic collection has been deposited in the Museo de Ecuatoriana Nacional in Quito, Ecuador.

For comparative work among the three sites, the percent of species occurring in each family was tabulated, and a test for homogeneity across the families was calculated using a 2x2 contingency table. To compare similarity in species assemblages between the three sites, coefficient of community indices (Pielou 1974) were calculated in pairwise comparisons between Jatun Sacha and Pakitza, Jatun Sacha and Cacaullandia, and Pakitza and Cacaullandia. Only those identified to species (species similarities) or genus (generic similarities) were used in calculations. Lycaenidae was not used in due to poor taxonomic resolution at the genus level and lack of identifications in the Cacaullandia survey (59 of the 87 species were unidentified). Using these adjusted species numbers, percentages were again calculated for family compositions, which were used in contrasting the expected and observed species common to all three sites.

## RESULTS

A total of 811 species were recorded at the reserve by the end of 1993 (Appendix 1). The taxonomic composition of the butterfly fauna is as follows: Hesperiidae, 198 spp. (25%), Papilionidae, 26 spp. (3%), Pieridae, 27 spp. (3%), Nymphalidae, 307 spp. (38%), Riodinidae, 194 spp. (24%), and Lycaenidae, 59 spp. (7%). Within Nymphalidae, 56 species of Ithomiinae are those reported by Beccaloni (1995), who conducted a thorough study of this group. Temporal variations in richness and abundance were generally noted for the butterfly families, although quantitative data was collected only for the fruit-feeding nymphalids. The fruit-feeders were more common during the wetter months (DeVries et al. 1997), and many specimens collected during this period were fresh, indicating a recent emergence. During this same time period, other families were observed to be much less abundant, although certain species could be common (*Eurybia dardus*, *Urbanus simplicius*, "*Thecla*" *tephraeus* gr). Hesperiidae, Riodinidae, and to some extent, Lycaenidae, were more abundant as the rainfall decreased in August and September. Differences were noted in the abundance of families and individual species from year to year,

Table 2. Coefficient of Community Indices for Jatun Sacha, Pakitza, and Cacaullandia.

	Species similarities	Generic similarities
Jatun Sacha-Pakitza	49	81
Jatun Sacha-Cacaullandia	45	75
Pakitza-Cacaullandia	38	6

especially among Riodinidae and Lycaenidae. Some species abundance patterns were irregular. For example, I did not see *Stalachtis euterpe* until January, 1993, when it was common for several months along the ridges in the primary forest. Other examples include *Metacharis regalis* and *Emesis temesa*.

Family compositions varied significantly among the three sites ( $p > 0.05$ ). Jatun Sacha and Cacaullandia shared a greater similarity in family compositions than any other pairwise comparisons (Table 1). The combination of Riodinidae and Lycaenidae percentages is nearly identical in all three sites (31% to 34%). However, the percentages of Lycaenidae are considerably lower at Jatun Sacha, and to a lesser extent, Cacaullandia, than at Pakitza. In contrast, Jatun Sacha shared a greater number of species and genera with Pakitza rather than Cacaullandia. Coefficient of community values ranked Jatun Sacha and Pakitza with greatest similarity and Pakitza and Cacaullandia with the least similarity (Table 2). Interestingly, only 228 species were common to all three sites. Of those 228 species, Nymphalidae accounted for 53% (121 species) of the total number. Listed in order of abundance, the numbers of species for the other butterfly families were: Hesperidae (56), Riodinidae (32), Papilionidae (12), and Pieridae (7). The number of observed overlapping nymphalid species was greater than expected when calculated using the family percentages (minus unidentified species and Lycaenidae). For example, the adjusted family compositions for Nymphalidae range from 33% (Pakitza) to 43% (Jatun Sacha). Using the higher percentage, 98 species of the total 228 were expected to be nymphalids, although 121 were actually found to be overlapping. In contrast, the number of overlapping hesperiid species was lower than expected.

## DISCUSSION

The survey conducted at Jatun Sacha was aimed at developing a baseline understanding of the butterfly community of the area. A large portion of the fauna undoubtedly remains unsampled. This conclusion is supported by the fact that unrecorded species were collected up to the end of the survey time. In addition, preliminary identifications for certain groups have probably underestimated the number of butterfly species actually collected. Because field collection was not standardized, estimations of the total species richness at Jatun Sacha can not be generated through rigorous statisti-



cal programs (DeVries et al. 1997). Nonetheless, some estimation can be made from comparisons of inventories at similar localities, such as at Pakitza. Pakitza and Jatun Sacha are both located along the eastern edge of the lowland rainforest and share similar elevation, temperature, and annual rainfall, although Jatun Sacha is more aseasonal than Pakitza. Given these similar environmental factors, it is estimated that 1200 to 1300 species potentially occur at Jatun Sacha. This estimate is supported by applying the model proposed by Beccaloni and Gaston (1995), in which total ithomiine richness from an area is used to predict overall species richness. Beccaloni and Gaston found that ithomiines were, on average, 4.5% of the total species for an area. Given 58 species of ithomiines at Jatun Sacha, approximately 1300 species of butterflies are predicted to occur there. This suggests that a third of the fauna has yet to be recorded, illustrating the importance of further survey work.

Comparing faunal lists from different study sites is confounded by differences in sampling methods and climatic and ecological factors (DeVries 1994). Misidentifications of species and nomenclature changes can also yield misleading results. All of these factors could have influenced comparisons of the species assemblages between the Jatun Sacha, Pakitza, and Cacaullandia, however differences in sampling methodologies was probably most influential. Much of the early sampling in Cacaullandia was conducted by participants in tour groups who may have selectively collected colorful butterflies over some of the more drab species. Since the initial list of butterflies was published from Cacaullandia (Emmel & Austin 1990), the authors have continued their sampling effort and have documented many more species (Austin & Emmel 1996). Patterns of diversity reported here may change when compared with the forthcoming update to the survey. Sampling at Jatun Sacha used bait traps more extensively than Pakitza or Cacaullandia. At Jatun Sacha, 189 species were trapped at rotting fruit (23% of the butterfly fauna). At Pakitza, 130 species were trapped (10% of the butterfly fauna) (Robbins et al. 1996). The survey at Pakitza was conducted on a larger scale than the other two, with intense collecting and a greater number of experts available to identify species, although field crews varied with each sampling period. These differences in sampling have influenced the species recorded, and consequently, the compositions of the various groups.

Environmental variables, most notably climatic factors, are most often correlated with species richness and diversity (Wright et al. 1993). In this study the hypothesis is supported by the results of the generic and species similarities. Jatun Sacha and Pakitza had the highest coefficient of community. Pakitza and Cacaullandia, although geographically closest among the three sites were actually the most dissimilar. This underscores the importance of local conditions on determining species compositions.

Disturbance is another factor influencing species compositions between the three sites. Forest areas with mild disturbances, such as those that exist in Cacaullandia and Jatun Sacha, can experience increases in butterfly di-



versity in certain groups, such as Nymphalidae (Brown 1982; but see also DeVries et al. 1997). Butterfly species common to open, disturbed areas are rare or absent at Pakitza (Robbins et al. 1996), but are quite common at Jatun Sacha along the road bisecting the reserve. The low species richness of Hesperidae and Lycaenidae recorded at Jatun Sacha and Cacaullandia could also reflect disturbance, especially at Jatun Sacha. A lepidopterist who has been collecting in the Upper Napo area since 1978 has noted a great decrease in the species and abundance of the Hesperidae over the last decade as developmental pressures increased (S. Nicolay, pers. comm.).

From the comparisons of the overlapping species, nymphalid species were most common and found at greater numbers than expected. This suggests broader distributions of nymphalids than other butterfly families. This may be due to the wide dispersing capabilities of many nymphalids, which have been correlated with greater distributions (Hanski et al. 1993). It could also reflect broader hostplant ranges for nymphalids or more specialized, and hence, localized host use by other butterfly families. With our limited knowledge of host use even in well studied areas such as Costa Rica (DeVries 1987, 1996; DeVries et al. 1994), examining these broader biogeographical patterns must await further investigations (but see Ackery 1988).

Human influence outside of Jatun Sacha most likely has impacted the butterfly fauna. Species inventories conducted while the area contains a high percentage of pristine forest could be compared with future inventories in a potentially much more disturbed landscape. Because degradation of the upper Napo basin will continue, there is a critical need for more research. For too many species, little is known beyond their site records. A great deal remains to be discovered to complete our understanding of the butterfly fauna, not only in documentation of the species diversity, but also their ecology, evolution, and population dynamics.

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## APPENDIX 1

The following is a list of the butterflies collected at Jatun Sacha Biological Station. A question mark (?) following a name indicates questionable identification of the species. Species designated as “unknown” could not be identified to genus or species. The list follows the higher taxonomic classification of Evans (1951, 1952, 1953, 1955) for Hesperiidæ, Tyler *et al.* (1994) for Papilionidae, Klots (1933) for Pieridae, Harvey (1991) for Nymphalidae, Forster (1964) for Satyrinae, and Harvey (1987) for Riodinidae.

### Hesperiidæ 198

#### Pyrrhopyginae: 4

- Elbella theseus Bell, 1933  
Passova passova Evans, 1951  
Pyrrhopyge proculus cintra Evans, 1951  
Pyrrhopyge aziza lexos Evans, 1951

**Pyrginae: 107**

- Achylodes thraso thraso (Hübner, 1807)  
 Achylodes busirus heros (Ehrmann, 1909)  
 Aguna coelus (Cramer, 1782)  
 Aguna clina Evans, 1952  
 Aguna arunce (Hewitson, 1867)  
 Anastrus obscurus narva Evans, 1953  
 Anastrus sempiternus simplicior (Möschler, 1876)  
 Anisochoria pedalioidina Butler, 1870  
 Antigonus nearchus (Latreille, 1824)  
 Antigonus mutilatus Hopffer, 1874  
 Antigonus erosus (Hübner, 1812)  
 Astraptes fulgurator azul Reakirt, 1866  
 Astraptes alardus alardus (Stoll, 1790)  
 Astraptes talus (Cramer, 1777)  
 Astraptes fulgor (Hayward, 1938)  
 Astraptes alector hopfferi (Plötz, 1882)  
 Astraptes cretatus cretatus (Hayward, 1939)  
 Astraptes anaphus anaphus (Cramer, 1777)  
 Autochton neis (Plötz, 1882)  
 Autochton longipennis (Geyer, 1832)  
 Bolla mancoi (Lindsey, 1925)  
 Bolla cupreiceps (Mabille, 1889)  
 Bungalotis erythus Cramer, 1775  
 Cabrius procas purda Evans, 1952  
 Calliades zeutus (Möschler, 1879)  
 Camptopleura auxo (Möschler, 1878)  
 Carrhenes fuscescens Mabille, 1891  
 Celaenorrhinus jao (Mabille, 1889)  
 Celaenorrhinus shema shema (Hewitson, 1877)  
 Celaenorrhinus syllius (Felder & Felder, 1862)  
 Charidia lucaria pocus Evans, 1953  
 Chrysoplectrum perniciosus perniciosus (Herrich-Schäffer, 1869)  
 Cycloglypha caeruleonigra Mabille, 1904  
 Cyclosemia pedro Williams & Bell, 1940  
 Cyclosemia lathaea Hewitson, 1878  
 Dyscophellus euribates euribates (Cramer, 1782)  
 Dyscophellus sp.  
 Dyscophellus ramusis Stoll, 1781  
 Ebrietas evanidus (Mabille, 1897)  
 Ebrietas infanda (Butler, 1876)  
 Entheus priassus telemus Mabille, 1898  
 Epargyreus socus dicta Evans, 1952  
 Eracon paulinus (Cramer, 1782)  
 Gorgythion begga plauta (Möschler, 1867)  
 Haemactis sanguinalis (Westwood, 1852)  
 Helias phalaenoides phalaenoides (Hübner, 1812)  
 Heliopetes alana (Reakirt, 1868)  
 Hyalothyris neleus neleus (Linnaeus, 1852)  
 Mictris crispus crispus (Herrich-Schäffer, 1869)  
 Milanion hemes pemba Evans, 1953  
 Morvina morvus Plötz, 1884  
 Mylon cajus (Plötz, 1884)  
 Mylon illineatus illineatus (Mabille & Boulet, 1917)  
 Mylon menippus (Fabricius, 1776)  
 Narcosius mura (Williams, 1927)  
 Narcosius colossus (Herrich-Schäffer, 1869)  
 Nisoniades castolus (Hewitson, 1878)  
 Nisoniades bessus hecales (Hayward, 1940)  
 Ouleus fridericus fridericus (Geyer, 1832)  
 Ouleus calavius calavius (Godman & Salvin, 1895)  
 Ouleus matria Evans, 1953  
 Paches trifasciatus Lindsey, 1925  
 Pellicia dimidiata dimidiata (Herrich-Schäffer, 1870)  
 Phanus vitreus (Cramer, 1782)  
 Phareas coeleste Westwood, 1852  
 Phocides metrodorus metrodorus Bell, 1932  
 Plumbago plumbago (Plötz, 1884)  
 Polycctor polycctor polycctor (Prittwitz, 1868)  
 Polythrix eudoxus (Cramer, 1782)  
 Polythrix ceculus (Herrich-Schäffer, 1869)  
 Porphyrogenes passalus passalus (Herrich-Schäffer, 1869)  
 Potamanaxas hirta hirta (Weeks, 1901)  
 Potamanaxas flavofasciata flavofasciata (Hewitson, 1870)  
 Pyrdalus corbulo (Stoll, 1781)  
 Pyrgus oileus Linnaeus, 1767  
 Pythonides assacla Mabille, 1883  
 Pythonides herrenius Geyer, 1838  
 Pythonides jovianus jovianus (Stoll, 1782)  
 Quadrus deyrollei porta Evans, 1952  
 Quadrus cerialis (Cramer, 1782)  
 Sostrata festiva (Erichson, 1848)  
 Sostrata pusilla pusilla (Godman & Salvin, 1895)  
 Spathilepia clonius (Cramer, 1775)  
 Spioniades artemidas (Cramer, 1782)  
 Staphylus balsa (Bell, 1937)  
 Staphylus lizeri (Hayward, 1938)



Tarsoctenus praecia plutia (Hewitson, 1857)  
 Tarsoctenus papias Hewitson, 1857  
 Tarsoctenus corytus corba Evans, 1952  
 Telemiades epicalus sila Evans, 1953  
 Telemiades centrides Hewitson, 1870  
 Telemiades amphion misitheus (Mabille, 1888)  
 Telemiades penidas (Hewitson, 1867)  
 Typhedanus undulatus (Hewitson, 1867)  
 Typhedanus orion (Cramer, 1779)  
 Urbanus teleus (Hübner, 1821)  
 Urbanus simplicius (Stoll, 1791)  
 Urbanus pronus Evans, 1952  
 Urbanus virescens (Mabille, 1877)  
 Urbanus viterboana viterboana (Ehrmann, 1907)  
 Urbanus pronta Evans, 1952  
 Urbanus esta Evans, 1952  
 Urbanus doryssus doryssus (Swainson, 1831)  
 Urbanus dorantes dorantes (Stoll, 1791)  
 Urbanus albimargo takuta Evans, 1952  
 Urbanus procne (Plötz, 1881)  
 Xenophanes tryxus (Cramer, 1782)

**Hesperinae: 87**

Anatrytone sarah (Burnes, 1994)  
 Anthoptus epictetus (Fabricius, 1793)  
 Arita arita (Schaus, 1902)  
 Aroma aroma Hewitson, 1867  
 Artines aepitus (Geyer, 1832)  
 Callimormus radiola radiola (Mabille, 1897)  
 Carystina lysiteles Mabille, 1891  
 Carystoides sicania orbis (Godman, 1901)  
 Carystoides lila Evans, 1955  
 Chloeria psittacina Felder, 1867  
 Cobalopsis potaro (William & Bell, 1931)  
 Cobalopsis nero (Herrich-Schäffer, 1869)  
 Cobalus virbius virbius (Cramer, 1777)  
 Conga chydea (Butler, 1870)  
 Corticea corticea corticea (Plötz, 1883)  
 Cymaenes tripunctata alumna (Butler, 1877)  
 Cymaenes cavalla Evans, 1955  
 Cynea megalops (Godman, 1900)  
 Damas clavus (Herrich-Schäffer, 1869)  
 Decinea perciosus (Godman, 1900)  
 Decinea sp.  
 Decinea derisor (Mabille, 1891)  
 Ebusus ebusus (Cramer, 1782)  
 Eutocus quichua Lindsey, 1925

Eutychide subcordata subcordata (Herrich-Schäffer, 1869)  
 Eutychide complana (Herrich-Schäffer, 1869)  
 Flaccilla aecas Stoll, 1781  
 Hylephila phylaeus phylaeus (Drury, 1773)  
 Justinia phaetusa phaetusa (Hewitson, 1866)  
 Lento lento Mabille, 1878  
 Lycas boisduvalii Ehrmann, 1909  
 Metron nr. chrysogastra  
 Mnasilus allubita Butler, 1877  
 Moeris vopiscus vopiscus (Herrich-Schäffer, 1869)  
 Moeris striga Geyer, 1832  
 Molo mango mango (Guenee, 1865)  
 Molo petra Evans, 1955  
 Morys geisa geisa (Möschler, 1878)  
 Mucia sp.  
 Nastra insignis (Plötz, 1882)  
 Niconiades nikko Hayward, 1948  
 Nyctelius nyctelius (Latreille, 1824)  
 Orses cynisca (Swainson, 1821)  
 Oxynthes corusca (Herrich-Schäffer, 1869)  
 Panoquina fusina fusina (Hewitson, 1868)  
 Panoquina evadnes (Stoll, 1781)  
 Papias proximus (Bell, 1934)  
 Papias integra Mabille, 1891  
 Paracarystus menestries rona (Hewitson, 1866)  
 Parphorus decora (Herrich-Schäffer, 1869)  
 Parphorus storax storax (Mabille, 1891)  
 Penicula crista Evans, 1955  
 Penicula criska jon Nicolay, 1980  
 Penicula bryanti (Weeks, 1906)  
 Perichares philetes dolores (Reakirt, 1868)  
 Phanes almoda (Hewitson, 1866)  
 Pompeius pompeius (Latreille, 1824)  
 Quinta cannae (Herrich-Schäffer, 1869)  
 Racta sp.  
 Saliana salius (Cramer, 1776)  
 Saliana esperi Evans, 1955  
 Saliana antoninus Latrielle, 1824  
 Saliana triangularis (Kaye, 1913)  
 Saturnus tiberius suffuscus (Hayward, 1940)  
 Sodalia sodalis Butler, 1877  
 Talides sergestus Cramer, 1775)  
 Talides sinois sinois Hübner, 1819  
 Telles arcalaus (Cramer, 1782)  
 Thargella caura caura (Plötz, 1882)  
 Thespias dalman Latreille, 1824



Thoon sp.  
 Thoon ponka Evans, 1955  
 Thoon taxes (Godman, 1900)  
 Thoon modius (Mabille, 1889)  
 Thracides phidon (Cramer, 1779)  
 Thracides smaragdulus (Herrich-Schäffer, 1869)  
 Vehilius stictomenes stictomenes Butler, 1877  
 Vehilius illudens Mabille, 1891  
 Vehilius vetula (Mabille, 1878)  
 Vehilius inca (Scudder, 1872)  
 Venas caeruleans (Mabille, 1828)  
 Vettius phyllus phyllus (Cramer, 1777)  
 Vettius richardi (Weeks, 1906)  
 Vettius artona (Hewitson, 1868)  
 Vettius marcus marcus (Fabricius, 1787)  
 Xeniaes orchamus orchamus (Cramer, 1777)  
 Zenis jebus melaleuca (Plötz, 1882)

#### **Papilionidae: 26**

Battus crassus crassus (Cramer, 1777)  
 Battus polydamas polydamas (Linnaeus, 1758)  
 Battus belus varus (Kollar, 1850)  
 Eurytides dolicaon ?  
 Heraclides torquatus torquatus (Cramer, 1777)  
 Heraclides thoas cinyras (Ménétriés, 1857)  
 Heraclides isidorus flavescens (Oberthür, 1880)  
 Heraclides hyppason hyppason (Cramer, 1776)  
 Heraclides chiansiades chiansiades (Westwood, 1872)  
 Heraclides astyalus phanias (Rothschild & Jordan, 1906)  
 Heraclides androgeus androgeus (Cramer, 1776)  
 Mimoides ariarathes gayi (Lucas, 1852)  
 Mimoides xynias (Hewitson, 1867)  
 Mimoides pausanius pausanius (Hewitson, 1852)  
 Parides anchises drucei (Butler, 1874)  
 Parides aeneas bolivar (Hewitson, 1850)  
 Parides vertumnus bogotanus (Felder & Felder, 1864)  
 Parides neophilus olivencius (Bates, 1861)  
 Parides erithalion guillerminae (Pischedda & Racheli, 1986)  
 Parides sesostris sesostris (Cramer, 1780)  
 Parides lysander brissonius (Hübner, 1819)

Parides chabrias chabrias (Hewitson, 1852)  
 Protesilaus telesilaus telesilaus (Felder & Felder, 1864)  
 Protographium agesilaus autosilaus (Bates, 1861)  
 Protographium thyastes thyastinus (Oberthür, 1880)  
 Pterourus zagreus neyi (Niepelt, 1909)

#### **Pieridae 27**

Aphrissa statira (Cramer, 1777)  
 Archonias bellona (Cramer, 1776)  
 Charonias eurytele (Hewitson, 1853)  
 Cunizza hirlanda (Stoll, 1791)  
 Dismorphia theucharila (Doubleday, 1848)  
 Dismorphia amphiona Cramer, 1780  
 Enantia melite (Linnaeus, 1763)  
 Enantia lina (Herbst, 1792)  
 Eurema दौर (Godart, 1819)  
 Eurema sp.  
 Eurema albula (Cramer, 1776)  
 Eurema xanthochlora (Kollar, 1850)  
 Itaballia pisonis (Hewitson, 1861)  
 Itaballia demophile (Linnaeus, 1763)  
 Leptophobia aripa (Boisduval, 1836)  
 Leucidia brephos (Hübner, 1809)  
 Moschoneura pinthaeus (Linnaeus, 1758)  
 Patia oresis (Boisduval, 1836)  
 Perrhybis pyrria (Cramer, 1782)  
 Perrhybis lorena (Hewitson, 1852)  
 Phoebis rurina (Felder & Felder, 1861)  
 Phoebis philea (Linnaeus, 1763)  
 Phoebis argante (Fabricius, 1775)  
 Phoebis trite (Linnaeus, 1758)  
 Pieriballia mandella (Felder & Felder, 1861)  
 Pyrisitia venusta (Boisduval, 1836)  
 Pyrisitia nise (Cramer, 1776)

#### **Nymphalidae 307**

##### **Heliconiinae 22**

Actinote sp.  
 Actinote pellenea Hübner, 1821  
 Agraulis vanillae (Linnaeus, 1763)  
 Dione junio (Cramer, 1780)  
 Dryadula phaetusa (Linnaeus, 1758)  
 Dryas iulia (Fabricius, 1775)  
 Eueides tales (Cramer, 1776)  
 Eueides aliphera (Godart, 1819)  
 Eueides isabella isabella (Cramer, 1782)  
 Eueides lampeto acacetes Hewitson, 1869  
 Eueides lybia (Fabricius, 1775)



*Eueides vibilia* (Godart, 1819)  
*Heliconius erato lativitta* Butler, 1877  
*Heliconius hecale quitalena* Hewitson, 1853  
*Heliconius elevatus elevatus* Nöldner, 1901  
*Heliconius wallacei* Reakirt, 1866  
*Heliconius sara* (Fabricius, 1793)  
*Heliconius melpomene aglaope* Felder & Felder, 1862  
*Heliconius numata euphone* Felder & Felder, 1862  
*Laparus doris* (Linnaeus, 1771)  
*Neruda aoede bartletti* Druce, 1876  
*Philaethria dido* (Linnaeus, 1763)

**Nymphalinae 20**

*Anartia amathea* (Linnaeus, 1758)  
*Anartia jatrophae* (Linnaeus, 1763)  
*Anthanassa drusilla* (Felder & Felder, 1861)  
*Castilia perilla* (Hewitson, 1852)  
*Castilia angusta* (Hewitson, 1868)  
*Castilia ofella* (Hewitson, 1864)  
*Eresia clara clara* Bates, 1864  
*Eresia eunice eunice* (Hübner, 1807)  
*Eresia nauplius* (Linnaeus, 1758)  
*Eresia* sp.  
*Eresia perna* Hewitson, 1852  
*Eresia pelonia pelonia* Hewitson, 1852  
*Hypanartia lethe* (Fabricius, 1793)  
*Junonia evarete* (Cramer, 1870)  
*Metamorpha elissa* Hübner, 1819  
*Phyciodes* sp.  
*Phyciodes aveyrana* (Bates, 1864)  
*Siproeta stelenes* Linnaeus, 1758  
*Tegosa claudina* (Eschscholtz, 1821)  
*Telenassa burchelli* (Moulton, 1909)

**Limenitidinae 78**

*Adelpha boeotia* (Felder & Felder, 1867)  
*Adelpha delinita* (Fruhstorfer, 1913)  
*Adelpha iphiclus* (Linnaeus, 1758)  
*Adelpha erotica* (Hewitson, 1847)  
*Adelpha cytherea* (Linnaeus, 1758)  
*Adelpha celerio* (Bates, 1864)  
*Adelpha boreas* (Butler, 1866)  
*Adelpha* sp. 3  
*Adelpha* sp. 2  
*Adelpha lerna* (Hewitson, 1847)  
*Adelpha melanthe* (Bates, 1864)  
*Adelpha* sp. 1  
*Asterope degandii* (Hewitson, 1850)  
*Baeotus japetus* (Staudinger, 1885)  
*Baeotus deucalion* (Felder & Felder, 1860)

*Baeotus amazonicus* (Riley, 1919)  
*Batesia hypochlora* (Felder & Felder, 1862)  
*Biblis hyperia* (Cramer, 1780)  
*Callicore cynosura* (Doubleday, 1847)  
*Callicore lyca* (Doubleday, 1847)  
*Callicore hystaspes* (Fabricius, 1782)  
*Callicore hesperis* (Guérin, 1844)  
*Callicore eunomia* (Hewitson, 1853)  
*Callicore cyllene* (Doubleday, 1847)  
*Catacore kolyma* (Hewitson, 1852)  
*Catonephele acontius acontius* (Linnaeus, 1758)  
*Catonephele numilia numilia* (Cramer, 1776)  
*Colobura dirce* (Linnaeus, 1758)  
*Diaethria clymena* (Cramer, 1776)  
*Dynamine geta* (Godman & Salvin, 1878)  
*Dynamine racidula* (Hewitson, 1852)  
*Dynamine zenobia* (Bates, 1865)  
*Dynamine glauce* (Bates, 1865)  
*Dynamine gisella* (Hewitson, 1852)  
*Dynamine athemon* (Linnaeus, 1758)  
*Dynamine artemisia* (Fabricius, 1793)  
*Dynamine anubis* (Hewitson, 1859)  
*Ectima iona* (Doubleday, 1848)  
*Ectima lirides* (Staudinger, 1885)  
*Eunica eurota eurota* (Cramer, 1776)  
*Eunica sophonisba agele* Seitz, 1915  
*Eunica norica occia* Fruhstorfer, 1909  
*Eunica alpais alpais* (Godart, 1824)  
*Eunica mygdonia mygdonia* (Godart, 1824)  
*Eunica marsolia fasula* Fruhstorfer, 1909  
*Eunica amelia erroneata* Oberthür, 1916  
*Eunica clytia* (Hewitson, 1852)  
*Haematera pyramus* (Fabricius, 1782)  
*Hamadryas laodamia laodamia* (Cramer, 1777)  
*Hamadryas arinome arinome* (Lucas, 1853)  
*Hamadryas amphinome amphinome* (Linnaeus, 1767)  
*Hamadryas feronia feronia* (Linnaeus, 1758)  
*Hamadryas chloe chloe* (Stoll, 1791)  
*Historis acheronta* (Fabricius, 1775)  
*Historis odius* (Fabricius, 1775)  
*Marpesia furcula* (Fabricius, 1793)  
*Marpesia iole* (Drury, 1782)  
*Marpesia chiron* (Fabricius, 1775)  
*Marpesia berania* (Hewitson, 1852)  
*Marpesia crethon* (Fabricius, 1776)  
*Marpesia petreus* (Cramer, 1776)  
*Marpesia themistocles* (Fabricius, 1793)

Nessaea obrina lesoudieri Le Mout, 1933  
 Nessaea hewitsonii hewitsonii (Felder & Felder, 1859)  
 Nica flavilla (Godart, 1824)  
 Panacea prola (Doubleday, 1848)  
 Panacea procilla (Hewitson, 1854)  
 Panacea regina (Bates, 1864)  
 Paulogramma pyracmon (Godart, 1824)  
 Peria lamis (Cramer, 1780)  
 Pyrrhogyra neaerea (Linnaeus, 1758)  
 Pyrrhogyra otolais (Bates, 1864)  
 Pyrrhogyra crameri (Aurivillius, 1882)  
 Smyrna blomfieldia (Fabricius, 1782)  
 Temenis pulchra (Hewitson, 1861)  
 Temenis laothoe (Cramer, 1777)  
 Tigridia aesta (Linnaeus, 1758)  
 Vila azeca (Doubleday, 1848)

#### Charaxinae 26

Agrias claudina (Godart, 1824)  
 Agrias hewitsonius Bates, 1860  
 Agrias amydon Hewitson, 1854  
 Archaeoprepona licomedes (Cramer, 1777)  
 Archaeoprepona demophoon (Hübner, 1814)  
 Archaeoprepona demophon (Linnaeus, 1758)  
 Archaeoprepona amphimachus (Fabricius, 1775)  
 Coenophlebia archidona Felder & Felder, 1862  
 Consul fabius aequatorialis (Butler, 1875)  
 Fountainea ryphea ryphea (Cramer, 1776)  
 Fountainea euryppyle (Felder & Felder, 1862)  
 Hypna clytemnestra (Cramer, 1777)  
 Memphis morvus (Fabricius, 1775)  
 Memphis florita (Druce, 1877)  
 Memphis sp.  
 Memphis philumena philumena (Doubleday, 1849)  
 Memphis arachne (Cramer, 1776)  
 Memphis xenocles (Westwood, 1850)  
 Memphis offa (Druce, 1877)  
 Memphis oenomais (Boisduval, 1870)  
 Memphis polycarmes (Fabricius, 1775)  
 Prepona pheridamas (Cramer, 1777)  
 Prepona laertes (Hübner, 1814)  
 Prepona pylene Hewitson, 1854  
 Siderone marthesia (Cramer, 1777)  
 Zaretis itys (Cramer, 1777)

#### Apaturinae 8

Doxocopa cherubina (Felder & Felder, 1867)  
 Doxocopa clothilda (Felder & Felder, 1867)  
 Doxocopa cyane (Latreille, 1813)  
 Doxocopa felderi (Godman & Salvin, 1884)  
 Doxocopa laure (Drury, 1773)  
 Doxocopa pavon (Latreille, 1809)  
 Doxocopa sp.  
 Doxocopa agathina (Cramer, 1777)

#### Morphinae 8

Antirrhea avernus (Hopffer, 1874)  
 Antirrhea sp.  
 Morpho achilles (Linnaeus, 1758)  
 Morpho adonis (Cramer, 1776)  
 Morpho deidamia (Hübner, 1819)  
 Morpho hecuba (Linnaeus, 1771)  
 Morpho menelaus (Linnaeus, 1758)  
 Morpho rhetenor (Cramer, 1776)

#### Brassolinae 15

Brassolis sophorae (Linnaeus, 1758)  
 Caligo illioneus (Cramer, 1776)  
 Caligo idomeneus (Linnaeus, 1758)  
 Caligo eurilochus (Cramer, 1776)  
 Caligo placidianus (Staudinger, 1887)  
 Caligo euphorbus (Felder & Felder, 1862)  
 Catoblepia xanthicles (Godman & Salvin, 1881)  
 Catoblepia berecynthia (Cramer, 1777)  
 Catoblepia xanthus (Linnaeus, 1758)  
 Eryphanis polyxena (Meerburgh, 1780)  
 Ooptera aorsa (Godart, 1824)  
 Opsiphanes quiteria (Cramer, 1782)  
 Opsiphanes invirae (Hübner, 1808)  
 Opsiphanes cassiae (Linnaeus, 1758)  
 Selenophanes cassiope (Cramer, 1776)

#### Satyrinae 68

Amphidecta calliomma (Felder & Felder, 1862)  
 Amphidecta pignerator (Butler, 1867)  
 Bia actorion (Linnaeus, 1763)  
 Caeruleuptychia coelica (Hewitson, 1869)  
 Caeruleuptychia nr. pencillata  
 Caeruleuptychia sp. 2  
 Caeruleuptychia aegrota (Butler 1867)  
 Caeruleuptychia pilata (Butler, 1867)  
 Caeruleuptychia sp. 1  
 Cepheuptychia cephus (Fabricius, 1775)  
 Chloreuptychia herseis (Godart, 1824)  
 Chloreuptychia chloris (Cramer, 1782)



*Chloreuptychia toolumnia* (Cramer, 1777)  
*Chloreuptychia arnaca* (Fabricius, 1776)  
*Chloreuptychia agatha* (Butler, 1867)  
*Cissia proba* (Weymer, 1911)  
*Cissia terrestris* (Butler, 1867)  
*Cissia penelope* (Fabricius, 1775)  
*Cissia* sp. 2  
*Cissia myncea* (Cramer, 1782)  
*Cissia* sp. 1  
*Cithaerias aurora* (Felder & Felder, 1862)  
*Erichthodes erichtho* (Butler, 1867)  
*Euptychia* sp. 3  
*Euptychia* sp. 4  
*Euptychia* sp. 1  
*Euptychia picea* (Butler, 1867)  
*Euptychia* sp. 2  
*Haetera piera* (Linnaeus, 1758)  
*Hermeuptychia hermes* (Fabricius, 1775)  
*Magneuptychia analis* (Godman, 1905)  
*Magneuptychia tricolor* (Hewitson, 1850)  
*Magneuptychia modesta* (Butler, 1867)  
*Magneuptychia alcinoe* (Felder & Felder, 1867)  
*Magneuptychia ocypete* (Fabricius, 1776)  
*Magneuptychia ayaya* (Butler, 1867)  
*Magneuptychia* nr. helle 1  
*Magneuptychia* nr. helle 2  
*Magneuptychia* nr. inani  
*Magneuptychia libye* (Linnaeus, 1767)  
*Magneuptychia* sp.  
*Manataria hyrnethia* (Fruhstorfer, 1912)  
*Megeuptychia antonoe* (Cramer, 1776)  
*Pareuptychia hesionides* (Forster, 1964)  
*Pareuptychia ocirrhoe* (Fabricius, 1776)  
*Pareuptychia* sp.  
*Pierella lena* (Linnaeus, 1767)  
*Pierella lamia* (Sulzer, 1776)  
*Pierella hortona* (Hewitson, 1854)  
*Pierella astyoche* (Erichson, 1848)  
*Posttaygetis penelea* (Cramer, 1777)  
*Pseudodebis* sp.  
*Pseudodebis valentina* (Cramer, 1780)  
*Pseudodebis marpessa* (Hewitson, 1862)  
*Splendeuptychia* nr. itonis  
*Splendeuptychia itonis* (Hewitson, 1862)  
*Splendeuptychia* sp. 1  
*Taygetis celia* (Cramer, 1780)  
*Taygetis armillata* (Butler, 1868)  
*Taygetis sosis* (Hopffer, 1874)  
*Taygetis cleopatra* (Felder & Felder, 1867)

*Taygetis virgilia* (Cramer, 1776)  
*Taygetis rufomarginata* (Staudinger, 1888)  
*Taygetis thamyra* (Cramer, 1779)  
*Taygetis laches* (Fabricius, 1793)  
*Taygetis mermeria* (Cramer, 1776)  
*Yphthimoides erigone* (Butler, 1867)  
*Yphthimoides renata* (Cramer, 1782)

**Danainae 4**

*Danaus plexippus* (Linnaeus, 1758)  
*Lycorea ilione* (Cramer, 1776)  
*Lycorea pasinuntia brunnea* Riley, 1919  
*Lycorea cleobaea atergatis* Doubleday, 1847

**Ithomiinae 58**

“*Hypoleria*” *orolina orolina* (Hewitson, 1861)  
“*Hypoleria*” *seba oculata* Haensch, 1903  
“*Pseudoscada*” *florula aureola* (Hewitson, 1855)  
*Aeria eurimedea negricola* (Felder & Felder, 1865)  
*Callithomia lenea zelie* Guérin, 1844  
*Callithomia alexirrhoe butes* Godman & Salvin, 1898  
*Ceratinia tutia poecila* (Bates, 1862)  
*Ceraticada hymen* (Haensch, 1905)  
*Dircenna loreta loreta* Haensch, 1903  
*Forbestra equicola equicoloides* (Godman & Salvin, 1898)  
*Forbestra olivencia juntana* (Haensch, 1903)  
*Godyris zavaleta matronalis* (Weymer, 1883)  
*Godyris dircenna dircenna* (Felder & Felder, 1862)  
*Heterosais nephele nephele* (Bates, 1862)  
*Hyaliris coeno norellana* (Haensch, 1903)  
*Hypoleria lavinia chrysodonia* (Bates, 1862)  
*Hypoleria sarepta aureliana* (Bates, 1862)  
*Hyposcada anchiala ecuadorina* Bryk, 1953  
*Hyposcada illinissa ida* Haensch, 1903  
*Hyposcada kena kena* (Hewitson, 1872)  
*Hypothyris moebiusi unicolora* (Tessmann, 1928)  
*Hypothyris mamercus mamercus* (Hewitson, 1869)  
*Hypothyris euclea intermedia* (Butler, 1873)  
*Hypothyris anastasia honesta* (Weymer,





- 1883)  
*Hypothyris moebiusi moebiusi* (Haensch, 1903)  
*Hypothyris semifluva satura* (Haensch, 1903)  
*Hypothyris anastasia bicolor* (Haensch, 1903)  
*Hypothyris fluonia berna* (Haensch, 1903)  
*Ithomia salapia salapia* Hewitson, 1853  
*Ithomia salapia travella* Haensch, 1903  
*Ithomia amarilla amarilla* Haensch, 1903  
*Ithomia agnosia agonsia* Hewitson, 1855  
*Mechanitis mazaecus mazaecus* Hewitson, 1860  
*Mechanitis mazaecus fallax* Butler, 1873  
*Mechanitis mazaecus visenda* Butler, 1877  
*Mechanitis messenoides messenoides* Felder & Felder, 1865  
*Mechanitis polymnia dorissides* Staudinger, 1844  
*Mechanitis lysimnia elisa* (Guérin, 1844)  
*Melinaea mnasia abtigua* Brown, 1977  
*Melinaea menophilus cocana* Haensch, 1903  
*Melinaea marsaus monthone* Hewitson, 1860  
*Melinaea maelus maenoides* Hewitson, 1869  
*Methona curvifascia curvifascia* Weymer, 1883  
*Methona confusa psamathe* Godman & Salvin, 1898  
*Napeogenes achaea achaea* (Hewitson, 1869)  
*Napeogenes aethra aethra* (Hewitson, 1869)  
*Napeogenes inachia avila* Haensch, 1903  
*Napeogenes stella* (Hewitson, 1855)  
*Napeogenes sylphis caucayaensis* Fox & Real, 1971  
*Napeogenes pharo pharo* (Felder & Felder, 1862)  
*Oleria gunilla lota* (Hewitson, 1872)  
*Oleria tigilla tigilla* (Weymer, 1899)  
*Oleria sexmaculata sexmaculata* (Haensch, 1903)  
*Oleria lerda lerda* (Haensch, 1909)  
*Oleria agarista agarista* (Felder & Felder, 1862)  
*Oleria assimilis assimilis* (Haensch, 1903)  
*Pseudoscada timna timna* (Hewitson, 1855)  
*Pteronymia vestilla sparsa* Haensch, 1903  
*Scada reckia ethica* (Hewitson, 1861)  
*Thyridia psidii ino* Felder & Felder, 1862  
*Tithorea harmonia hermias* Godman & Salvin, 1898
- Riodinidae 194**  
*Adelotypa amasis* (Hewitson, 1870)  
*Adelotypa alector* Butler, 1867  
*Adelotypa senta* (Hewitson, 1853)  
*Adelotypa* sp. 1  
*Adelotypa* sp. 2  
*Adelotypa* sp. 3  
*Adelotypa* sp. 4  
*Alesa amesis* (Cramer, 1777)
- Alesa* sp.  
*Alesa telephae* (Boisduval, 1836)  
*Amarynthis meneria* (Cramer, 1776)  
*Ancyluris aulestes* (Cramer, 1777)  
*Ancyluris meliboeus* (Fabricius, 1777)  
*Anteros acheus* (Stoll, 1781)  
*Anteros allectus* Westwood, 1851  
*Argyrogrammana* sp. 3  
*Argyrogrammana* sp. 1  
*Argyrogrammana* sp. 2  
*Argyrogrammana trochilia* Westwood, 1851  
*Calospila trinitatis* (Lathy, 1932)  
*Calospila parthaon* (Dalman, 1823)  
*Calospila* sp.  
*Calospila maeonides* ?  
*Calospila rhodope* (Hewitson, 1853)  
*Calospila emylius* (Cramer, 1775)  
*Calydna punctata* Felder & Felder, 1861  
*Caria trochilus* Erichson, 1818  
*Caria sponsa* Staudinger, 1888  
*Caria mantinea* (Felder & Felder, 1861)  
*Caria nr. mantinea*  
*Chalodeta theodora* (Felder & Felder, 1862)  
*Chalodeta chaonitis* (Hewitson, 1866)  
*Chalodeta lypera* (Bates, 1868)  
*Chamaelimnas briola* Bates, 1868  
*Charis nr. anius*  
*Charis cleonus* (Stoll, 1782)  
*Charis anius* (Cramer, 1776)  
*Charis* sp.  
*Cremna actoris* (Cramer, 1776)  
*Crocozona caecias* (Hewitson, 1866)  
*Cyrenia martia* Westwood, 1851  
*Emesis ocy pore* (Geyer, 1837)  
*Emesis nr. lucinda* 1  
*Emesis nr. lucinda* 2  
*Emesis* sp.  
*Emesis temesa* (Hewitson, 1877)  
*Emesis fatima* (Cramer, 1780)  
*Emesis lucinda* (Cramer, 1775)  
*Esstemopsis celina* Bates, 1868  
*Eunogyra satyrus* Westwood, 1851  
*Eurybia silaceana* Stichel, 1924  
*Eurybia latifasciata* Hewitson, 1869  
*Eurybia lamia* (Cramer, 1777)  
*Eurybia nicaeas* Fabricius, 1775  
*Eurybia* sp.  
*Eurybia jemima* Hewitson, 1869  
*Eurybia dardus* Fabricius, 1787  
*Eurybia cyclopia* Stichel, 1910  
*Euselasia uria* (Hewitson, 1855)  
*Euselasia urites* gr.  
*Euselasia mirania* (Bates, 1868)  
*Euselasia* sp. 1  
*Euselasia* sp. 4



- Euselasia sp. 2  
Euselasia sp. 3  
Euselasia pellonia Stichel, 1919  
Euselasia orfita (Cramer, 1777)  
Euselasia opalescens (Hewitson, 1855)  
Euselasia sp. 8  
Euselasia lysias gr.  
Euselasia melaphaea (Hübner, 1823)  
Euselasia lysimachus (Staudinger, 1888)  
Euselasia sp. 5  
Euselasia sp. 6  
Euselasia euriteus (Cramer, 1777)  
Euselasia issoria Hewitson, 1869  
Euselasia hygenius gr.  
Euselasia hahneli Butler, 1874  
Euselasia gelanor (Stoll, 1780)  
Euselasia sp. 7  
Euselasia fabia?  
Euselasia everitus (Hewitson, 1855)  
Euselasia euryone (Hewitson, 1856)  
Euselasia nr. euriteus  
Euselasia crotopus gr. 2  
Euselasia euoras (Hewitson, 1856)  
Euselasia eumenes (Hewitson, 1855)  
Euselasia eumedia (Hewitson, 1855)  
Euselasia eulione (Hewitson, 1856)  
Euselasia crotopus gr. 1  
Euselasia crinon Stizhel, 1919  
Euselasia arbas (Stoll, 1782)  
Euselasia anica gr.  
Hyphilaria parthenis (Westwood, 1851)  
Hyphilaria nicia (Hübner, 1819)  
Ithomiola cascella (Hewitson, 1870)  
Juditha molpe (Hübner, 1808)  
Lasaia agesilas (Latreille, 1813)  
Lasaia sp.  
Lasaia pseudomeris Clench, 1972  
Leucochimona nr. philemon  
Leucochimona hyphea (Cramer, 1776)  
Lyropteryx apollonia Westwood, 1851  
Melanis xarifa (Hewitson, 1853)  
Mesene nola Herrich-Schäffer, 1893  
Mesene hya Westwood, 1851  
Mesophthalma idotea (Westwood, 1851)  
Mesosemia sp. 3  
Mesosemia steli Hewitson, 1858  
Mesosemia philocles Linnaeus, 1758  
Mesosemia sp. 2  
Mesosemia judicialis Butler, 1874  
Mesosemia sp. 1  
Mesosemia eumene (Cramer, 1776)  
Mesosemia nr. judicialis  
Mesosemia loruhama Hewitson, 1869  
Mesosemia cippus (Hewitson, 1859)  
Mesosemia nr. cyanira  
Mesosemia nr. ephyne  
Mesosemia sp. 5  
Mesosemia sp. 4  
Mesosemia melpia (Hewitson, 1869)  
Mesosemia gertraudis Stichel, 1910  
Mesosemia ulrica (Cramer, 1777)  
Mesosemia nr. thetys  
Mesosemia nr. tenebricosa  
Mesosemia magate?  
Mesosemia nina (Herbst, 1793)  
Metacharis lucius (Fabricius, 1793)  
Metacharis nr. regalis  
Metacharis regalis Butler, 1867  
Methone cecilia (Cramer, 1777)  
Monethe albertus Felder & Felder, 1862  
Mycastor nealces (Hewitson, 1871)  
Napaea melampia (Bates, 1867)  
Notheme eumeus (Fabricius, 1781)  
Nymphidium baoetia (Hewitson, 1853)  
Nymphidium cachrus (Fabricius, 1787)  
Nymphidium caricae (Linnaeus, 1758)  
Nymphidium leucosia (Hübner, 1806)  
Nymphidium nr. derufata  
Nymphidium nr. lisimon  
Nymphidium sp.  
Nymphidium mantus (Cramer, 1775)  
Nymphidium minuta gr.  
Nymphidium omois Hewitson, 1865  
Pandemos pasiphae (Cramer, 1775)  
Parcella amarynthina (Felder & Felder, 1865)  
Parnes philotes Westwood, 1851  
Parnes nycteis Westwood, 1851  
Perophtalma tullius Fabricius, 1787  
Rhetus periander (Cramer, 1777)  
Riodina lysippus (Linnaeus, 1798)  
Sarota sp. 2  
Sarota acantus (Stoll, 1782)  
Sarota chrysus (Stoll, 1782)  
Sarota sp. 3  
Sarota sp. 1  
Semomesia sp.  
Setabis sp.  
Setabis epitus (Cramer, 1780)  
Setabis salvini?  
Setabis buckleyi (Grose-Smith, 1898)  
Stalachtis euterpe (Linnaeus, 1758)  
Stalachtis calliope (Linnaeus, 1758)  
Symmachia probetor (Stoll, 1782)  
Symmachia sp.  
Symmachia calligraphia (Hewitson, 1867)  
Symmachia accusatrix Westwood, 1851  
Symmachia asclepia Hewitson, 1870  
Synargis gela (Hewitson, 1853)  
Synargis sp.  
Synargis abaris (Cramer, 1776)  
Synargis chaonia (Hewitson, 1853)  
Synargis orestesa (Cramer, 1780)



Syngaris ochra (Bates, 1868)  
Syrmatia aethiops Staudinger, 1888  
Teratophthalma phelina (Felder & Felder, 1862)  
Themone pais (Hübner, 1820)  
Theope sp.  
Theope eudocia Westwood, 1851  
Theope lycaenina Bates, 1868  
Theope nr. thootes  
Theope virgilius (Fabricius, 1793)  
Thisbe fenestrella Lathy, 1932  
Xynias christalla Grose-Smith, 1902  
unknown (8)

**Lycaenidae 59**

“Thecla” hemon (Cramer, 1775)  
“Thecla” bosora Hewitson, 1870  
“Thecla” orobia (Hewitson, 1867)  
“Thecla” gigantea Hewitson, 1867  
“Thecla” maculata (Lathy, 1936)  
“Thecla” cupentus (Stoll, 1781)  
“Thecla” gibberosa (Hewitson, 1867)  
“Thecla” tephraeus gr.  
“Thecla” ophia Hewitson, 1868  
“Thecla” tephraeus (Geyer, 1837)  
“Thecla” phegeus (Hewitson, 1865)  
“Thecla” nr. gadira  
“Thecla” nr. augustinula  
“Thecla” carteia Hewitson, 1870  
“Thecla” ergina or ligurina  
“Thecla” aruma (Hewitson, 1877)  
“Thecla” nr. mycon  
“Thecla” nr. empusa  
“Thecla” hesperitis (Butler and Druce, 1877)  
Arawacus dolyas (Cramer, 1776)  
Arawacus aetolus (Sulzer, 1776)  
Arcas imperialis (Cramer, 1775)  
Calycopis anapa Field, 1967  
Calycopis indigo (Druce, 1907)  
Calycopis isobeaon complex  
Calycopis cerata (Hewitson, 1877)  
Calycopis xenata (Hewitson, 1877)  
Calycopis pisis complex 3  
Calycopis pisis complex 2  
Calycopis atnius complex  
Calycopis calus (Godart, 1824)  
Calycopis centoripa Hewitson, 1868  
Calycopis pisis complex 1  
Celmia celmus (Cramer, 1775)  
Chalybs jantias (Cramer, 1779)  
Contrafacia imma Prittwitz, 1865  
Cyanophrys amyntor ?  
Electrostrymon ecbatana Hewitson, 1868  
Eumaeus minijas (Hübner, 1809)  
Evenus gabriela (Cramer, 1775)  
Hypostrymon asa Hewitson, 1873

Janthecla leea Venables & Robbins, 1991  
Janthecla sista Hewitson, 1867  
Lamprospilus orcidia (Hewitson, 1874)  
Mithras nautes (Cramer, 1779)  
Ocaria ocrisia (Hewitson, 1869)  
Ocaria thales (Fabricius, 1793)  
Panthiades bitias (Cramer, 1777)  
Panthiades aeolus (=pelion) (Fabricius, 1775)  
Pseudolycaena marsyas (Linnaeus, 1758)  
Rekoa palegon (Cramer, 1780)  
Siderus leucophaeus (Hübner, 1818)  
Strymon ziba (Hewitson, 1868)  
Theclopsis lydus (Hübner, 1819)  
Theclopsis gargara Hewitson, 1868  
Theritas mavors (Hübner, 1818)  
Thestius pholeus (Cramer, 1777)  
Tmolus echion (Linnaeus, 1767)  
Zizula cyna (Edwards, 1881)