

**An updated list to the Butterflies of Hispaniola, with notes on the
classification of *Calisto* HÜBNER, 1823
(Lepidoptera, Hesperioidea, Papilionoidea)**

TOMMASO RACHELI

Anetia jaegeri (MÉNÉTRIÉS, 1832)



This paper is dedicated to two eminent biologists who spent most of their life discovering natural history novelties in Hispaniola: ALBERT SCHWARTZ and DAVID KENNETH WETHERBEE.

Summary: Field trips conducted in the island of Hispaniola from 2009 to 2018, an annotated and updated list of Papilionoidea and Hesperioidea is presented herein. Each taxon is discussed according to modern nomenclature, taxonomy, and ecology of the some 200 species inhabiting the island. Particularly, comparisons are proposed on the biological and molecular results obtained in the genus *Calisto* by several authors. *Papilio thoas nealces* (ROTHSCHILD & JORDAN, 1906) (see Fig.105, 106 on page 19) is reported as a stray for the first time in Hispaniola.

Zusammenfassung: Nach mehreren Forschungsreisen auf die Insel Hispaniola von 2009 bis 2018, wird hier eine kommentierte Liste von Papilionoidea und Hesperioidea vorgestellt. Anmerkungen zur Nomenklatur, Taxonomie und Ökologie der rund 200 Arten, die die Insel bewohnen, werden in der vorliegenden Arbeit behandelt. Besonders werden Vergleiche auf biologischen und molekularen Ergebnisse der Gattung *Calisto* von mehreren Autoren vorgeschlagen. *Papilio thoas nealces* (ROTHSCHILD & JORDAN, 1906) (siehe Fig.105, 106, Seite 19) wird zum ersten Mal in Hispaniola als Streuner gemeldet.

Resumen: Como resultado de los viajes de investigación realizados a la isla de La Española desde el año 2009 al 2018 se presenta el listado de especies de Papilionoidea y Hesperioidea con notas sobre nomenclatura, taxonomía y ecología de las cerca de 200 especies que habitan la isla. En particular, se discuten las comparaciones biológicas y moleculares en los resultados obtenidos en el Género *Calisto* por varios autores. Se reporta una cita de *Papilio thoas nealces* (ROTHSCHILD & JORDAN, 1906) (Fig.105, 106, pagina 19) como migrante ocasional por primera vez en Hispaniola.

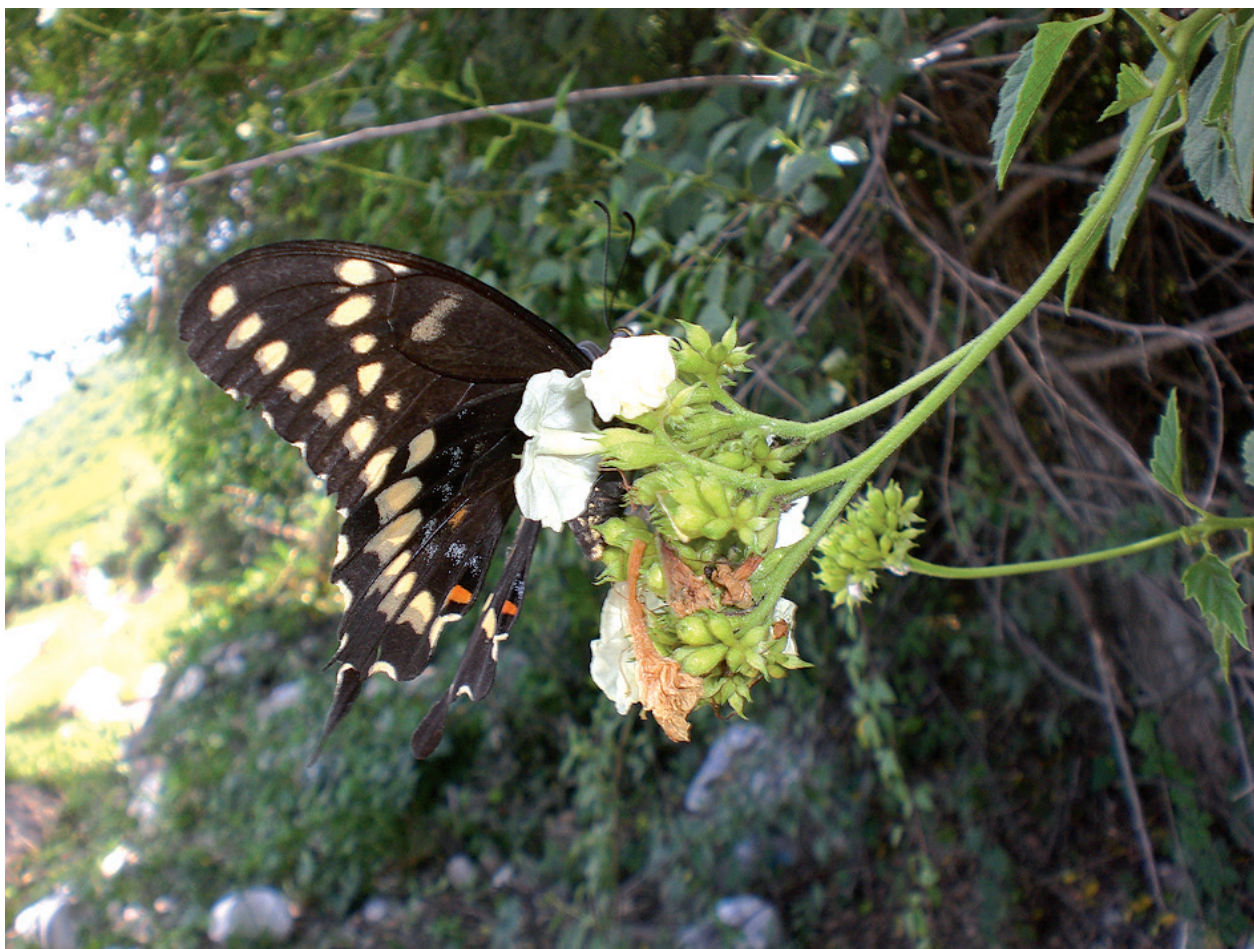


Fig. 1: *Heracles aristor* (GODART, 1819), ♀ at flowers, Vallejuelo.



Fig. 2: *Archaeoprepona demophoon insulicola* (GODART, 1823), Road Cabo Rojo-Aceitillar, 650 m.



Fig. 3: *Battus zetides* (MUNROE, 1971), Road Cabo Rojo-Aceitillar, 650 m.



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Fig. 6: *Heraclides aristodemus aristodemus* (ESPER, 1794), *Heraclides machaonides* (ESPER, 1796), habitat - Road Cabo Rojo-Aceitillar, 200 m.



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Fig. 7: *Battus polydamaspolycrates* (HOPFFER, 1865), *Protographium zonaria* (BUTLER, 1869), *Heraclides aristodemus aristodemus* (ESPER, 1794), *Heraclides androgeus epidauros* (GODMAN & SALVIN, 1890) habitat - Road Cabo Rojo-Aceitillar, 50 m.



Fig. 8: *Strymon linenia* (HEWITSON, 1868), *Pyrisitia pyro* (GODART, 1819), *Ascia monuste eubotea* (GODART, 1819), *Calisto confusa* Lathy, 1899 habitat Luperón, Puerto Plata.



Fig. 11: *Chlorostrymon maesites* (HERRICH-SCHÄFFER, 1862), *Euphyes singularis insolata* (BUTLER, 1878), *Melete salacia salacia* (GODART, 1819) habitat - Rio Chavón.



Fig. 9: Los Arroyos, Sierra de Bahoruco.



Fig. 12: Las Auyamas, 800 m, Polo.



Fig. 10 The author at La Cumbre, 500 m, Puerto Plata (photo FRANCESCO FONTEMAGGI).



Fig. 13: *Archaeoprepona demophoon insulicola* (GODART, 1823) *Calisto hysius* (GODART, 1819), *Dynamine serina zetes* (MÉNÉTRIES, 1832), *Choranthus haitensis* SKINNER, 1920 habitat - El Mulito, 200 m, Road Aguas Negras-Los Arroyos, Pedernales.



Fig. 14: *Heraclides machaonides* (ESPER, 1796), *Heraclides androgeus epidauros* (GODMAN & SALVIN, 1890), *Battus polydamas polycrates* (HOPFFER, 1865), *Myscelia aracynthia* (DALMAN, 1823), *Dismorphia spio* (GODART, 1819), *Calpodus ethlius* (STOLL, 1782), *Hypanartia paullus* (FABRICIUS, 1793) habitat - Arroyo Calabaza, Arroyo Cano, S. Juan de la Maguana.



Fig. 15: *Vanessa virginiensis* (DRURY, 1773), *Erymnis zarucco* (LUCAS, 1857) habitat - Constanza- Valle Nuevo Road, 1400 m.



Fig. 16: *Libytheana terena* (GODART, 1819) habitat - Enriquillo Lake with the threatened rhinoceros iguana (*Cyclura cornuta*).

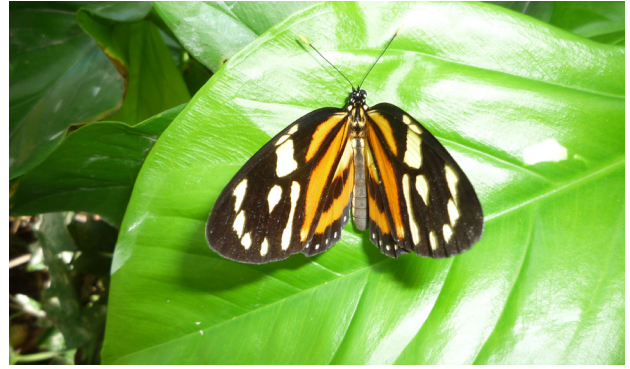


Fig. 17: *Lycorea halia cleobaea* (GODART, 1819) Rio Iguamo, Quisqueya.



Fig. 18: *Heraclides aristor* (GODART, 1819), ♀ San Juan, Vallejuelo, 600 m.



Fig. 19: *Battus polydamas polycrates* (HOPFFER, 1865) - Puerto Plata.



Fig. 20: *Aphrissa godartiana godartiana* (SWAINSON, 1821), *Protographium zonaria* (BUTLER, 1869), *Lucinia cadma torrebia* (MÉNÉTRIÉS, 1832) habitat - National Park Jaragua.



Fig. 21: *Brephidium exilis isophthalma* (HERRICH-SCHÄFFER, 1862) habitat - Halophytic vegetation in the salty basin of Lake Enriquillo.



Fig. 22: *Heraclides aristodemus aristodemus* (ESPER, 1794) puddling - Sierra de Bahoruco (photo ALBERTO MARTINEZ POLA).



Fig. 23 *Dismorphia spio* (GODART, 1819)- Arroyo Cano, San Juan de la Maguana.



Fig. 24: Cordillera Oriental, El Seibo, Pedro Sánchez.



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Fig. 26: *Heraclides pelaus imerius* (GODART, 1824), ♂ - Rio Iguamo, Quisqueya.



Fig. 28: *Heraclides androgeus epidaureus* (GODMAN & SALVIN, 1890), *Heraclides aristodemus aristodemus* (ESPER, 1794), *Anaea troglodyta* (FABRICIUS, 1775) habitat, and Gabriella wife of the author - San Juan, Buenavista, Arroyo Naranjo, 500 m.



Fig. 27: *Heraclides aristodemus aristodemus* (ESPER, 1794), *Kricogonia lyside* (GODART, 1819, *Protographium zonaria* (BUTLER, 1869), *Wallengrenia otho drury* (LATREILLE, 1824), habitat - Dry forest, Oviedo, 12 km N.



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Fig. 30: Pierids puddling.



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Fig. 31: Pierids puddling.



Fig. 34: *Calisto schwartzi* GALI, 1985, habitat - Pinares, Sierra de Bahoruco.



Fig. 35: Sierra de Neiba north side, from Vallejuelo.



Fig. 36: *Burca hispaniolae* BELL & COMSTOCK, 1948, *Burca stillmani* BELL & COMSTOCK, 1948, *Strymon acis* (DRURY, 1773 habitat - El Morro, Monte Cristi.



Fig. 37: Road S. José de Ocoa- Constanza - Entrance to the Valle Nuevo National Park.

Introduction

La Española is an island greatly influenced by human impact. Agriculture, deforestation, fires, heavy rains, hurricanes, landslides are all causes that affect the distribution, the extinction, and the survival of butterflies and other animals.

More than 30 years ago I had the luck to visit for the first time the Dominican Republic. I had also the misfortune that my traveling bags with all the collecting equipment was stopped and displaced at the Madrid airport transit. So, after one week of daily to-and-fro from Las Americas airport of Santo Domingo, with the 50 bucks the Airflight company gave me as an indemnification, the author was able to assemble not more than a poorly-shaped net and some envelopes. In spite of this he had the opportunity to have a first glimpse of the nature and of the composition of the butterfly fauna of the island.

At that time, only the field guide of the butterflies of the West Indies by NORMAN RILEY was known and it was a great surprise to find at the Museum of Natural History of the Capital the brand-new booklet on Haitian butterflies by ALBERT SCHWARTZ. This book remained alone on my shelf for a long time when it was paired by "The butterflies of Hispaniola", always by the same author A. SCHWARTZ, a great piece of work and hardly to be superseded but unfortunately without plates. BORKIN (1994) illustrating SCHWARTZ's life claimed that a colour atlas of Hispaniolan butterflies with co-authored F. L. GONZÁLEZ was scheduled for publication but it seems he never saw the light.

The actual author's destiny - luckily enough - was to work on the butterfly fauna of Ecuador for the next 20 years, a country where also was greatly felt the absence of any identification guide for butterflies. Various vicissitudes prevented me to write a book on Ecuadorian Butterflies but the lacking of illustration for the Hispaniolan butterflies was always clear in my mind.

Then, in 2009 I began to go regularly to the Republic together with EMILIO STEFANELLI. Comparing our data, with those of ALBERT SCHWARTZ, it was noticed that further field work was needed and the idea of producing an updated guide crystallized in my mind. Some years before, the booklet by TAKIZAWA et al. (2003) saw the light and added a lots of very useful information, new records for butterflies and a series of plates. Unfortunately, their "Guía de Mariposa" did not have the right recognition and acknowledgment due to the very unfortunate drowned off of the piled up copies in the cellar of the Museo de Historia Natural in Santo Domingo.

After many trips aimed at discovering suitable habitats in the island we found that many particular taxa were segregated in very difficult reaching spots and/or in National Parks. Therefore, during the summer of 2016 applications to the Ministerio de Medio Ambiente y Recursos Naturales were made to carry out investigations also in protected areas. The Ministry of Medio Ambiente, Dr. BAUTISTA ROJAS GOMEZ and his successor Dr. FRANCISCO DOMINGUEZ BRITO, and his collaborators LUIS REYNOSO and GLORIA SANTANA were very kind in allowing us to continue researches and we are very grateful to them. We are particularly thankful to ANTONIO TRINIDAD, Vicepresident of FUNDACIT, Pedernales, for useful and constructive suggestions; we hope a very long and fruitful cooperation with Dominican entomologists. In this optic the author tries to give a quick update annotated list and information on the butterflies of this intriguing and marvelous island.

The Fate or the unscientific copyright rules prevented me for reproducing the illustrations from the Butterflies of America website <http://butterfliesofamerica.com/knowhow/index.html> (WARREN et al. 2016). Therefore, the readers are invited to look at the pictures on this website. This paper is presented as an annotated list only, with a few pictures (with my own copyright) where appropriate. While this paper was in the proof a new book on the Butterflies of La Hispaniola saw the light. PÉREZ-ASSO et al. (2017) produced an excellent photographic guide to the butterflies of this island.

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Historical notes

A brief history of the naturalists who gathered information and specimens on the butterfly fauna is given herewith. RENÉ-GABRIEL RABIÉ - overlooked by SMITH et al. (1993) - a French engineer who resided in Haiti during the second half of 1770 painted 35 species of imagos and larvae of Butterflies (see below figs 38-40). These were discussed in details by MUNROE (1951a). MÉNÉTRIES (1832, 1834) made lists of butterflies from the Antilles describing new species from the collections made by JAEGER, and WESTWOOD (1847) described *Papilio zetes*. SHARPE (1898) listed 46 species and described the new skipper *T. christyi* in honour of the collector CUTHBERT CHRISTY, and shortly after LATHYI (1899) made a revision of *Calisto*. HALL (1925) listed 139 taxa based on his own collections made during 1924, on those of KAEMPFER and on literature data. Apart some inaccuracies, this is a very authoritative list of the butterflies of Hispaniola. We have to wait for more than 30-50 years when CUCURULLO (1959) listed 155 species, and MARIÓN (1975) 188 species.

EUGENIO MARCANO DE JESÚS, LUIS MARIÓN HEREDIA, HÉCTOR LUDOVINO DOMINGUEZ - whom the present author has had the privilege to meet them during 1983 - made extensive collections during 1970-1990, these data mostly included in MARIÓN (1974, 1975) and MARCANO (1976).

Information on Haiti is scarce except obviously the data of SCHWARTZ (1983 b). HERMANN (1886), FULDA (1931), WOLCOTT, (1927b) gave general notes on the Entomology of Haiti (or Zoology see WETHERBEE, 1985; WOODS & OTTENWALDER, 1992). COUTSIS (1983, 1986) reported on species collected in Haiti, GALI & SCHWARTZ (1986) surveyed

the butterflies at Morne La Visite and Pic Macaya, Haiti. A survey of lepidopterological investigations in the Antilles is given by MILLER (1991).

WETHERBEE (see WOODS, 2001 for list of papers) privately printed numerous accounts on the natural history of Hispaniola but alas he did not publish them. SCHWARTZ (1983b, 1989a) included all the information obtained during his collecting trips to Haiti 1977- 1979 and to the Dominican Republic 1980-1986 in his books "Haitian Butterflies" and "The Butterflies of Hispaniola".



Fig. 38: Original water-colour paintings on the natural history of St. Domingo painted by DE RABÉ in 1766. (© 2018 McGill University, Montreal, Canada).

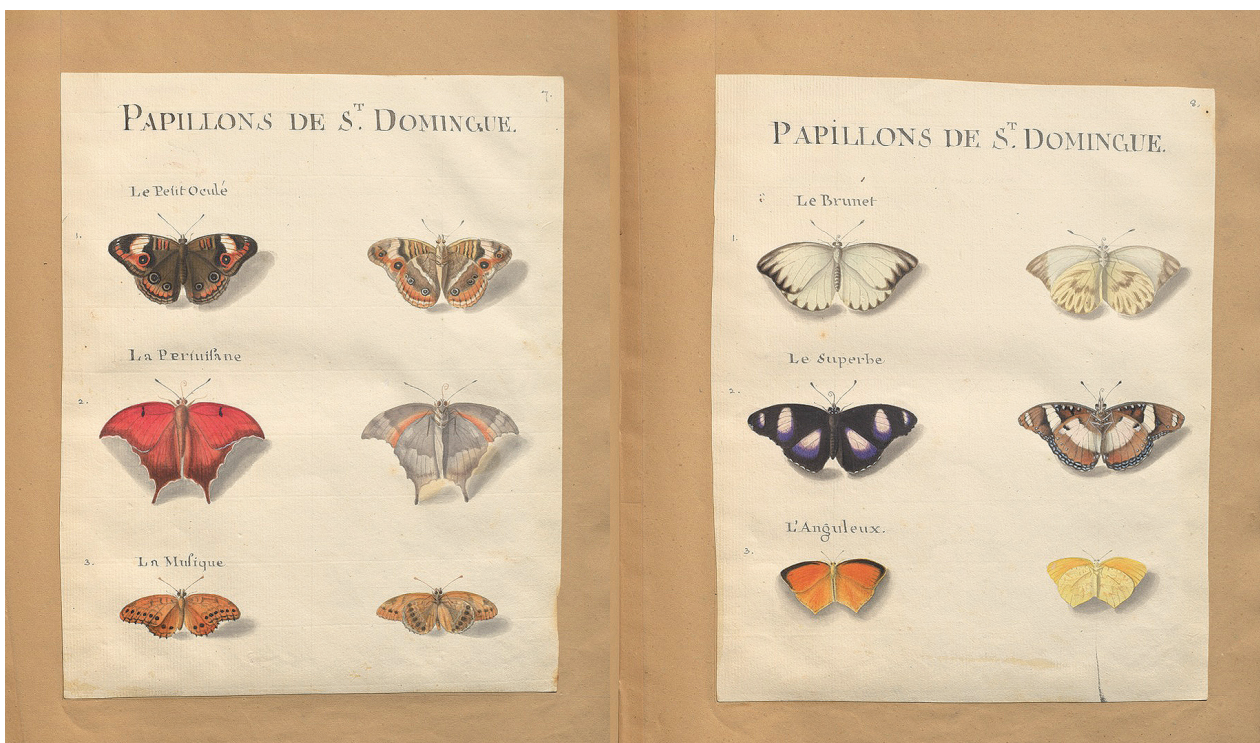


Fig. 39: Original water-colour paintings on the natural history of St. Domingo painted by DE RABÉ in 1766. (© 2018 McGill University, Montreal, Canada).

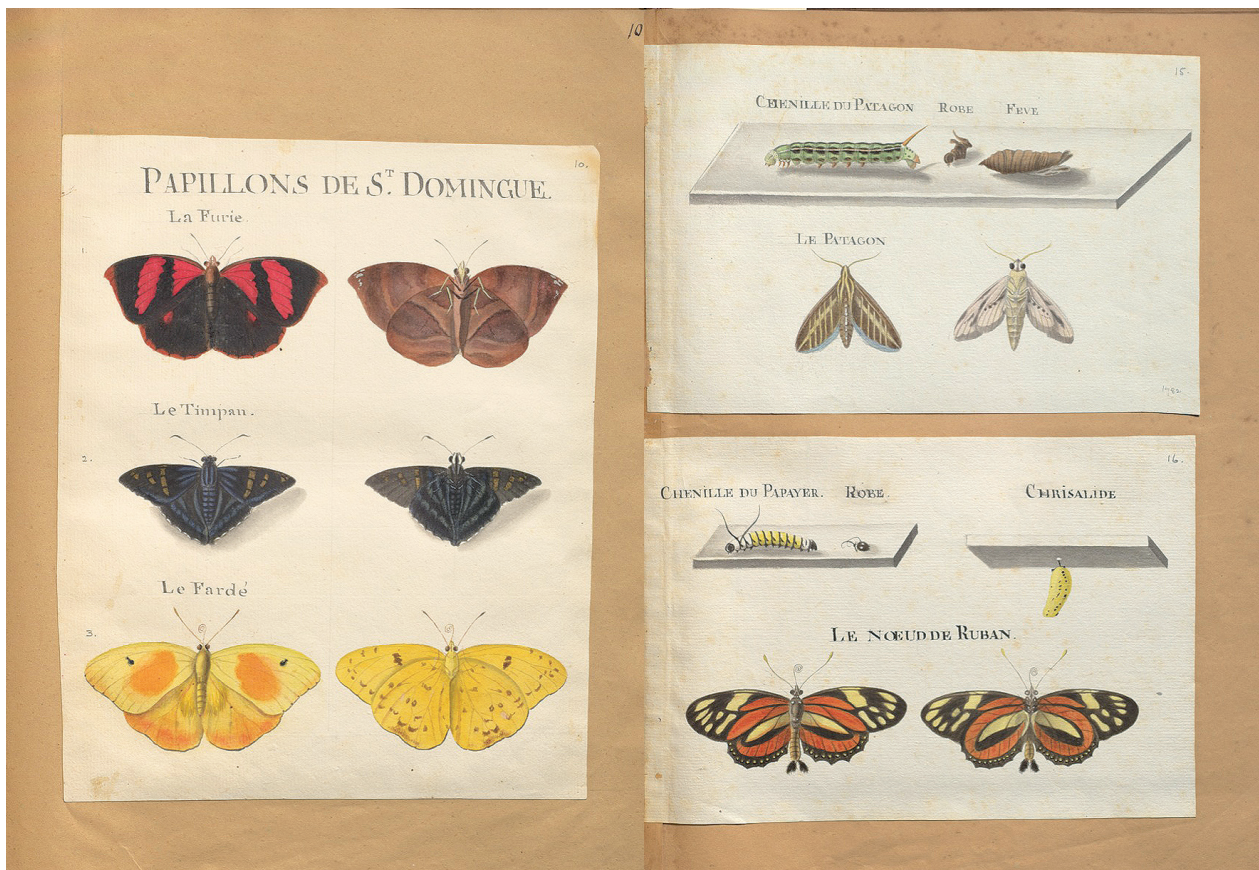


Fig. 40: Original water-colour paintings on the natural history of St. Domingo painted by DE RABIE in 1766. (© 2018 McGill University, Montreal, Canada).

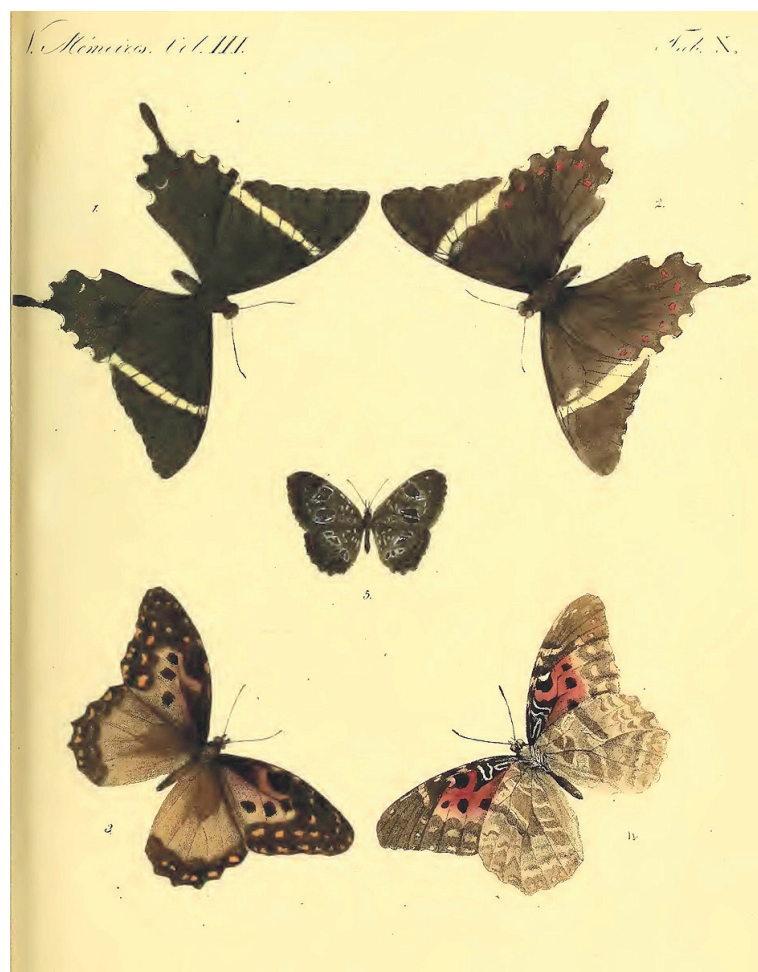


Fig. 41: 1-2 *Papilio Augias*, 3-4 *Argynnis Jaegeri*, 5 *Argynnis Teleboas* (from Ménétries, 1832 pl. X).



Fig. 42: 1a-1b- 2 *Nymphalis Zetes*, 3 *Nymphalis Torrebia*, 4 *Colias Euterpe*, 5 *Colias Hyona*, 6 *Colias Midea* (from MÉNÉTRIES, 1832 pl. XI).



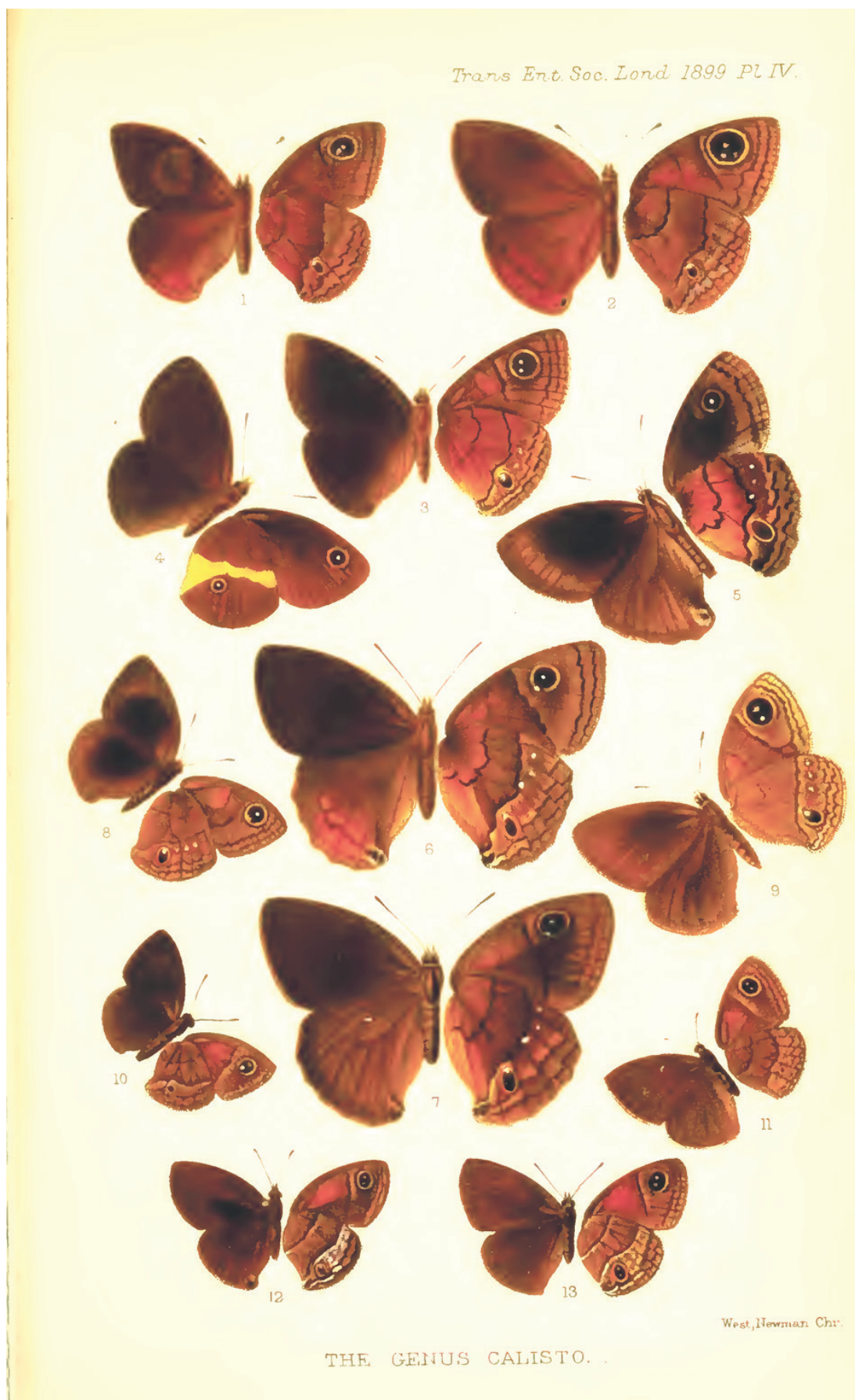
Fig. 46: HT ♀, *Papilio Zetes* (after WESTWOOD, 1847: pl. III figs 1, 1*) (text see page 44).



Fig. 47: *Papilio (Heraclides) aristor* GODART, 1819, ♀ (upperside): S. Domingo, Pedernales, Parco, P. 15 - 450 m, [recte Dominican Republic, Pedernales Prov. Sierra de Baoruco, Cabo Rojo-Aceitillar Rd, 450 m.], 17.vi. 2014, Leg. E. STEFANELLI (text see page 47).



Fig. 48: *Papilio (Heraclides) aristor* GODART, 1819, ♀ (underside): S. Domingo, Pedernales, Parco, P. 15 - 450 m, [recte Dominican Republic, Pedernales Prov. Sierra de Baoruco, Cabo Rojo-Aceitillar Rd, 450 m.], 17.vi. 2014, Leg. E. STEFANELLI (text see page 47).



THE GENUS CALISTO.

Fig 63: 1, 2. *Calisto zangis* ♂, ♀; 3. *C. nubila* sp. nov. ♂; 4. *C. archebates* ♂; 5, 6. *C. pulchella* sp. nov. ♂, ♀; 7. *C. pulchella* ab. *tenebrosa*, ab. nov. ♀; 8, 9. *C. herophile*. ♂, ♀; 10, 11. *C. hysius* ♂, ♀; 12, 13. *G. confusa*, sp. nov. ♂, ♀ (after LATHY, 1899) (text see page 89).



Fig. 103, 104: *Calisto wetherbeeii* ♀ - left: upperside; right: underside, Ébano Verde Reserva Científica Sample WI-JAG-1111. (http://beta.boldsystems.org/index.php/Taxbrowser_Taxonpage?taxid=659228 - License: JULIO A. GENARO.) (See page 89.)



Fig. 105, 106: *Papilio (Heraclides) thoas nealces* ROTHSCILD & JORDAN, 1906, ♂ upperside and underside “S. Domingo, Pedernales, Parco, P. 11” - [= Dominican Republic, Pedernales, Prov. Las Mercedes, 10 km S, 20 m] 26.vii. 2010, Leg. E. STEFANELLI (text see page 114).

The area, the life zones, the flora, the fauna, and the butterflies

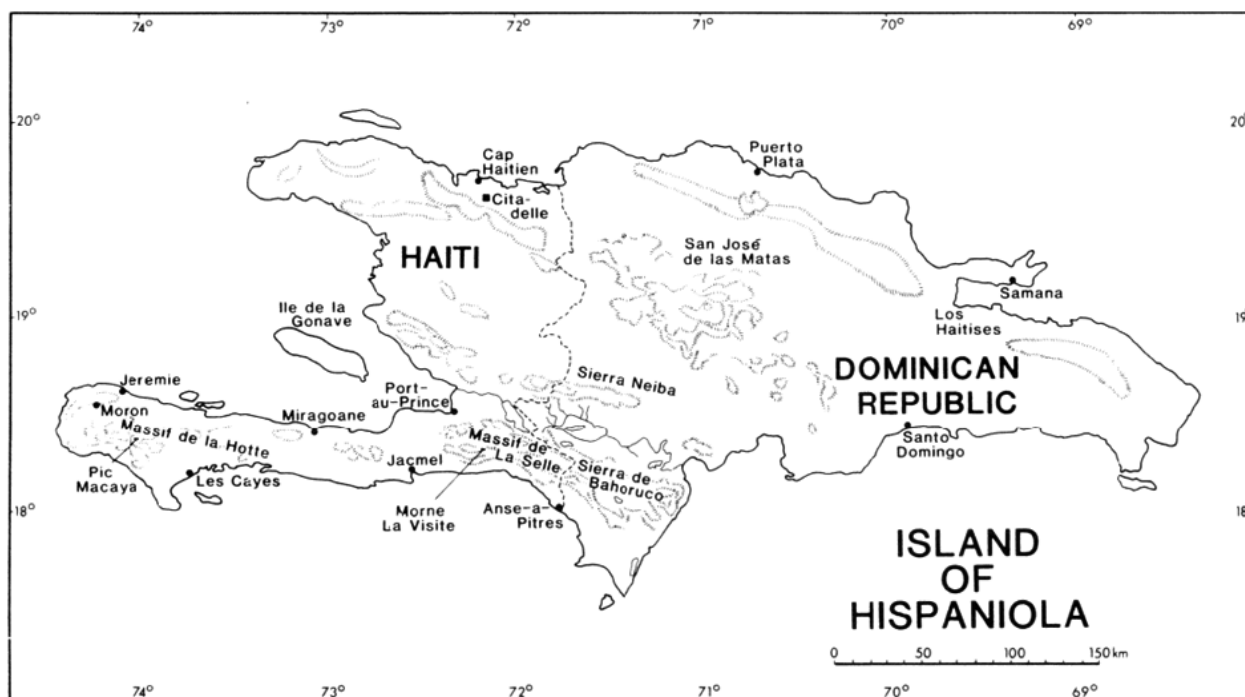


Fig. 43: Map of Hispaniola with main orographic systems (Redrawn from Woods, 1989).

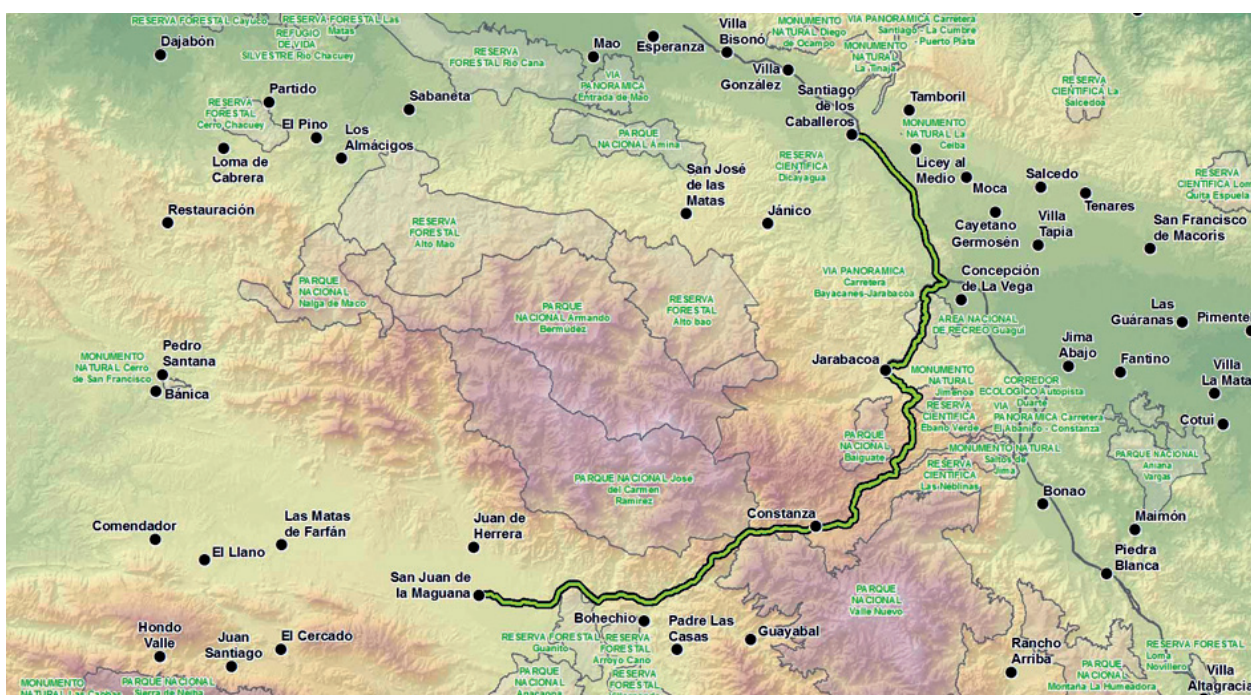


Fig. 44: Cordillera Central and the projected highway Cibao Sur (<https://www.geografiafisica.org/>).

The life zones

Usually the life zones are classified according to the HOLDRIDGE's (1967) system of vegetation. However, also the various classifications into ecoregions, habitat types, and botanical provinces as proposed by DINERSTEIN et al. (1995), HAGER & ZANONI (1993), HARCOURT & OTTENWALDER (1996) and TOLENTINO & PEÑA (1998) are suitable for our purposes.

HARCOURT & OTTENWALDER (1996) distinguished two major types of natural vegetations: Forests and Mangrove. Forests are characterized by altitude and rainfall. 1) Dry forests 40-500 m, rainfall 500-1000 mm. Semideciduous forests 400-900 m, rainfall 1000-1800 mm. Broadleaved evergreen forests: a) evergreen rain forests 400-1500 m, rainfall 2000 mm. b) Cloud forests 600-2300 m; Elfin forests 1800-1900 m; Pine forests, rainfall 1000-1700 mm.

BOLAY (1997) published a book on general ecology of the Dominican Republic providing also general information on plant and animal life as well as a detailed overview of selected areas, mostly of National Parks.

TOLENTINO & PEÑA (1998) produced a map of the natural vegetation of the Dominican Republic distinguishing and classifying the forest covers in pine forest, broadleaf cloudy forest, broadleaf humid forest, broadleaf semihumid forest, dry forest, mangrove, wetland woods, scrub, savanna and barelands or non cover areas.

LATTA et al. (2006) condensed the above information in the following 9 major habitat types.

Mangroves. This habitat type is found at coastal sites around river mouths and lagoons where the soil is flooded most or all of the year, and also inland along the margins of both freshwater and saline lakes where the soil may only be flooded seasonally. In the Dominican Republic, mangroves cover less than 1% of the land area; in Haiti, mangroves cover about 0.5% of the land area.

Freshwater swamps. This is an uncommon lowland habitat type on Hispaniola, usually occurring below 20 m elevation. On Hispaniola, freshwater swamps cover less than 0.5% of the land area.

Grasslands. This habitat type includes natural savannas at all elevations. They are mostly in the lowlands but are also found in several intermountain valleys. On Hispaniola, grasslands cover less than 1% of the land area.

Agricultural lands. These are lands cleared for agriculture, such as sugarcane plantations, especially in Haiti. Land cleared for pasture is also included here. In the Dominican Republic, agricultural lands and pastures cover about 55% of the land area; in Haiti, about 42% of the land is under cultivation, and another 19% is considered pasture.

Shrublands. This habitat type is typically dry and results from the recent removal of forest cover. It is now a widespread habitat type in both countries from sea level to, at least locally, 500 m. In the Dominican Republic, shrublands cover about 6% of the land area; in Haiti, where the forest cover has been removed from more than 95% of the land area and 60% of the land is mountainous, shrublands and low dense vegetation cover about 35% of the land area.

Dry scrub. This forest type now consists primarily of secondary growth of semideciduous trees growing at 40 to 500 m elevation in areas receiving 50 to 100 cm of annual rainfall. Most of these forests are disturbed because of cutting by inhabitants. This vegetation type is widespread in the lowlands of both the Dominican Republic and Haiti. In the Dominican Republic, dry scrub covers about 8% of the land area; in Haiti, dry scrub is reduced to shrubland.

Dry forest. Typically found at elevations of 400 to 900 m on the coastal plain and in the foothills of mountains, this habitat type is often bordered by dry scrub at its lower edge and broadleaf forest at its upper edge. It occurs in areas with a distinct annual arid period and rainfall in the range of 100 to 180 cm. It is a common natural forest type over much of lower elevation Dominican Republic and Haiti but has been widely cut, especially in Haiti. In the Dominican Republic, dry forest covers about 8% of the land area; in Haiti, most dry forest has been converted to shrubland.

Broadleaf evergreen forest. Humid evergreen forest or rainforest is typically found below 500 m but locally up to elevations of 1,500 m. It is found in all Dominican Republic mountain ranges and very locally in Haiti, though extensive stands are now quite scarce. This forest type receives annual precipitation of 200 cm or more. Many humid evergreen forests are also mixed with pine trees. **Montane broadleaf forest or cloud forest.** These humid forests are found up to 2,300 m in parts of the Cordillera Central, Cordillera Septentrional, Sierra de Neiba, and Sierra de Bahoruco; remnant stands in Haiti are found primarily in the Massif de la Hotte and Massif de la Selle. Canopy density is 80% or greater. In the Dominican Republic, broadleaf evergreen forest covers about 13% of the land area; in Haiti broadleaf evergreen forests have probably been reduced to less than 1% of the land area.

Pine forest. Pine forest habitats include both pure pine stands and pine mixed with some broadleaf species. Pine forests can also be either closed pine forest, with a canopy density of 60% or greater, or open pine forest, with a canopy density between 40 and 60%. Virtually all closed pine habitat remaining in Hispaniola is in the Sierra de Bahoruco or above 2,000 m in the Cordillera Central of the Dominican Republic. Examples of open pine habitat are found in parts of the Cordillera Central, Sierra de Bahoruco, and Sierra de Neiba; small stands occur in the Macaya Biosphere Reserve and La Visite National Park, Haiti. Indicator species include Hispaniolan pine (*Pinus occidentalis*). In the Dominican Republic, pine forest covers about 6% of the land area; in Haiti the pine forests have been reduced to less than 1.5% of the land area.

For comparison, we list the 5 major habitat types found in Hispaniola considered by Schwartz (1989a) when treated butterflies associations: 1- Acacia scrub and forest including *Uniola virgata* stands; 2 - Xeric woods and forests; 3 - Mesic forest and pseudoforest (low to moderate elevation); 4 - Upland mesic forest (including mixed pine-hardwoods); 5 - Pine forest and pinewoods.

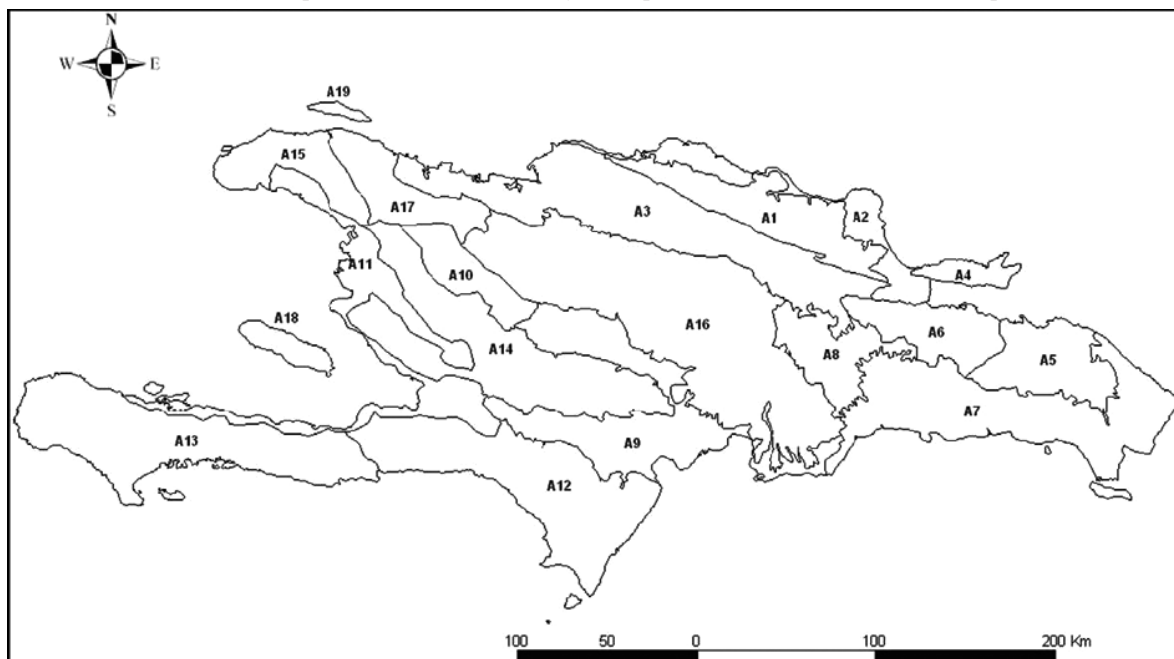


Fig. 45: Map of the 19 biogeographic areas of Hispaniola derived from their geological history, substrate and the presence/absence of 1,582 endemic plants. A1. Cordillera Septentrional. A2. Coastal-Atlantic Unit. A3. Cibao Valley. A4. Samana Peninsula. A5. Cordillera Oriental. A6. Los Haitises. A7. Eastern Coastal Plain. A8. Sierras of Yamasa and Prieta. A9. Azua-Lago Enriquillo. A10. Central Plain (Haiti). A11. Port-au-Prince-Gonaïve. A12. Bahoruco-La Selle. A13. Massif de La Hotte and Tiburon. A14. Massif of Matheux and Montanas Negras. A15. Northwest Haiti. A16. Cordillera Central Oriental (Dominican Rep.). A17. Cordillera Central Occidental (Rep. of Haiti). A18. Gonaïve Island. A19. Tortuga Island (Modified after CANO CARMONA et al. 2010; CANO-ORTIZ et al., 2016).

The flora, the fauna, and the butterflies

La Española, or Kiskeya that means “mother of all lands” in the Taíno language, as well as the Antilles constituted and still constitute a laboratory for biogeographical and evolutionary researches (RICKLEFS & BERMINGHAM, 2007; LOSOS, 2007). Hispaniola is a cradle of endemics. Only a few examples will be treated herein.

The seminal paper by ROSEN (1975) was the beginning of a series of papers on the debate Dispersal vs Vicariance hypotheses in biogeography, and put the basis for the Vicariance Biogeography. These hypotheses were tested using several taxa over the years. See on these topics BROWN (1978), MACFADDEN (1980), CROTHER (1999), CROTHER & GRUYER (1996), HEDGES (1982, 1989, 1996a,b, 2001), LIEBHERR (1988a, b), MORRONE (2006), POWELL & HENDERSON (1996), SCHWARTZ (1978, 1980a), WOODS (1989), Woods & Sergile (2001), and references therein.

Also the issue on Island Biogeography of the Antilles was treated by MUNROE (1948) who anticipated the equilibrium theory of MACARTHUR-WILSON. See also BROWN & LOMOLINO (1989), SCOTT (1972), DAVIES & SMITH (1998), and especially LOSOS & RICKLEFS (2009).

Floristically speaking, leaving aside the pioneering studies of URBAN and ECKMAN, a number of papers appeared over the last two decades especially those by LIOGIER (1981, 1982-1996). More recently, CANO CARMONA et al. (2010), CANO CARMONA & CANO-ORTIZ (2012), CANO-ORTIZ et al. (2016), and CANO-ORTIZ et al. (2017) carried out a series of surveys aimed at determining the distributional pattern of the flora of Hispaniola. Nineteen areas were disclosed based on the distribution of the endemic flora, and their variability with altitude (Fig. 45). The main concentration of endemic species occurs in mountains with a medium altitude and in certain mountain sites (palaeo-islands), which coincide with hotspots; a lower number of endemics are found in low-lying areas (coldspots), due to the degradation of their habitats. A total of 1,582 endemic species were studied and were distributed in 19 areas. The whole island has 2,050 endemic species, representing 34.16% of its total flora. In the study area were found 1,284 genera of which 31 are endemics. The sites with the highest rate of endemics are area A16 in the central range with a total of 440 endemic species, of which 278 are exclusive to the territory. The Sierra de Bahoruco, la Selle, La Hotte and Tiburón in area A12 host 699 species of plants of which 482 are endemic and exclusive to the area; and A13 with 173 and 129, respectively. The outstanding floristic diversity and high endemism rate makes Hispaniola one of the most important hotspots in the Caribbean.

Regarding Vertebrates, living mammals on Hispaniola are represented only by two endemic species (the insectivoran Lipotyphla *Solenodon paradoxus* BRANDT, 1833 and the rodent Plagiodontinae *Plagiodontia aedium* F. CUVIER, 1836 with N and S subspecies, namely the Hutia). Perhaps also the bat *Natulus major* MILLER, 1902, if it is not present in Jamaica. Twelve species of extinct rodents including *Isolobodon portoricensis* ALLEN, 1916 are known for Hispaniola, other than 21 species of bats of which 18 living (MORGAN & WOODS, 1986; MORGAN, 2001).

Most significant are the species of fossil mammals, 26 non-volant species and 29 species of bats, 90% of these went extinct during the last 20,000 years. All the other mammals are introduced. DÁVALOS (2004) discussed the modes of dispersal and evolution of Caribbean mammals with phylogenetic hypotheses. Results are contradictory in terms of dispersal vs. vicariance according to the various groups of taxa, and are more congruent with taxon-specific hypotheses. For instance, the GAARlandia hypothesis of ITURRALDE-VINENT & MACPHEE (1999) can fit the pattern of speciation of megalocnine sloths, hystricognath rodents, two bat lineages and primates whereas the distribution of choloepodine sloths, murid rodents, insectivorans, and natalid bats has to be explained by different hypotheses: dispersal or other land interconnections.

Many researches were carried out on amphibians and reptiles. The Herpetofauna of Hispaniola totals more than 200 species. The amphibians turn around 60 species. SCHWARTZ (1978) has shown that Hispaniola has the greatest Antillean diversity in Leptodactylidae frogs. ROUGHGARDEN (1995) treated *Anolis* lizards ecology. Other aspects of the Herpetofauna of the West Indies were elegantly treated in the commemorative volume to ALBERT SCHWARTZ by POWELL & HENDERSON (1996) and by CROTHER (1999). BURGESS & FRANZ (1989, and references therein) reported from Hispaniola 35 species of fish belonging to 7 genera of 4 families. The Hispaniolan fauna has been divided into three groups which correspond to the North and South islands, and the tectonic valley which separates the two island (See SCHWARTZ, 1989a: 7, for details). The Poeciliidae comprehends 28 species, 4 of *Gambusia*, 21 of *Limia*, and 3 of *Poecilia*. Most of these species shows restricted ranges and specific habitat requirements.

Among the immense bibliography on Caribbean birds, LATTI et al. (2006) recognized 31 species and 50 subspecies endemic to Hispaniola and nearby islands out of 306 species known as to have occurred in Hispaniola. VÁZQUEZ-MIRANDA et al. (2007) carried out a Parsimony Analysis of Endemicity (PAE) based on Caribbean avifauna, in order to assess biogeographical patterns and their concordance with geological and phylogenetic evidence.

As far as Invertebrates are concerned, LIEBHERR (1988a,b) reported that the *Platynus* group (Coleoptera: Carabidae) with 25 endemic species in Hispaniola is the taxon with the highest diversity in the West Indies. Distribution and phylogenetic relationships suggest that several overwater dispersal and vicariant events did occur.

SLATER (1988) reported that out of 37 Hispaniolan species of Lygaeidae (Hemiptera) 13 are endemic. RAMOS (1988), among Auchenorrhyncha (Hemiptera) illustrated 13 species (11 endemic) of Cicadoidea; 31 species (21 endemic) of Membracidae; 3 species (2 endemic) of Cercopoidea; 8 species (8 endemic) of Kinnaridae, and 15 species (9 endemic) of Cicadellidae. WILSON (1988) reported 83 species of Formicidae (Hymenoptera) of which 31 endemic. NICHOLS (1988) listed for Hispaniola 18 species of Scaritinae (Coleoptera: Carabidae) of which 28% endemic. The Hispaniola similarity index of PRESTON which measures the resemblance of two faunas, is .32 vs Puerto Rico, .29 vs Cuba, and .31 vs Jamaica. With regard to butterflies more than 40% of the more or less 200 species of Rhopalocera occurring in the island are endemic at species or subspecies level. We use still the subspecies concept (sensu auctorum) although in much cases single taxa can be regarded as full species. As an example, we will discuss the endemic to the Greater Antilles genus *Calisto* within the Systematic account.

The complexity and the origins of the Rhopaloceran fauna of the islands and the subsequent biogeographical hypotheses were variously discussed (see BROWN, 1978; CLENCH, 1964; MUNROE, 1948, 1957; SCOTT, 1972, 1986a; MILLER & MILLER, 1989; MILLER & MILLER, 2001).

FONTENLA (2003) carried out association analyses among areas of butterfly endemism in the West Indies using Parsimony analysis of endemism (PAE), Principal Components Analysis (PCA) and Panbiogeography. PAE and PCA's results yielded three main associations: Cuba-Bahamas (BAH)-Isle of Pines (PIN)-Cayman Islands (CAY), Hispaniola (HIS), Puerto Rico (PRI)-Jamaica (JAM)-Virgin Islands (VIR), and Leeward and Windward islands (LEE-

WIN). Panbiogeography produced the following generalized tracks: Cuba-BAH, Cuba-PIN, Cuba-HIS, Cuba-CAY, Cuba-HIS-BAH, Cuba-HIS-PRI, HIS-PRI, HIS-JAM, Cuba-HIS-JAM-PRI, and LEE-WIN. Cuba is the “mass center” of shared species and HIS the “mass center” of endemism.

To discuss the pattern of distribution of butterflies in Hispaniola a necessary premise must be made. As JOHNSON & HEDGES (1998) reported, it has been estimated that less than one percent of the natural forests of Haiti remain (HEDGES & WOODS, 1993), and these patches of forest occur in difficult reachable areas. Probable effects of deforestation bias current knowledge of the butterfly fauna of the southwestern Haiti as shown in the distributions maps of SCHWARTZ (1989a).

The deforestation after two decades is even worse both in the Dominican Republic and Haiti. SERGILE & WOODS (2001) and PARYSKY et al. (1989) for Haiti, SCHWARTZ (1980b), SCHUBERT (1993), and OTTENWALDER (1989) for the Dominican Republic, illustrated the strategies for conservation purpose and creation and development of National or Natural Parks and Reserves.

The butterfly composition of the Dominican Republic is pretty well studied and known. JOHNSON & HEDGES (1998) stated that Schwartz recorded 160 butterfly species from the southern slope of the Sierra de Bahoruco. Of these 160, only 73 (45.6%) are recently recorded from Haiti and, of these, only 9 (5.6%) from Haiti's Dept. du Sud. Recently, RACHELI et al. (2017), studying the relationships among some butterflies communities, recorded for the southern slopes of the Sierra de Bahoruco from 0 to 1123 m, 121 species of butterflies.

To have a clearer picture of the number of species inhabiting and resident to Hispaniola, 6 Hesperidae, 1 Papilionidae, 3 Lycaenidae strays or of doubtful taxonomy and/or occurrence are not included in the total. Moreover, 7 subspecies of *C. grannus* BATES, 1939, *C. hysius aleucosticha* CORREA & SCHWARTZ, 1986 as well as 4 fossils species of Riodinidae and Nymphalidae are not considered. To sum up, nowadays 201 species are inhabitants of the island. Many Caribbean taxa are still under investigation for inferring the relationships with other Antillean or Neotropical species. As an example look at what happened and is still happening with *Junonia* during the last 30 years (TURNER & PARNELL, 1985; BRÉVIGNON, 2004; NEILD, 2008; MCCULLAGH, 2011, 2016; PFEILER et al., 2012 a,b; BORCHERS & MARCUS, 2014; GEMMEL & MARCUS, 2015).

How to use this list

Many papers dealing with various aspects of the Entomology and particularly of the lepidopterous fauna of Hispaniola especially on the intriguing genus *Calisto*, were published over the years by several authors (see PÉREZ-GELABERT, 2008 and references therein). We give here briefly the guide-line on this list. Taxonomy and systematics are mainly in accordance with those of LAMAS (2004), and PELHAM (2008, 2012, 2014). The systematic account has been updated also with recent molecular data, and when conflicting hypotheses arose mainly traditional classifications were adopted.

For Nymphalidae, wide use was made of the papers by WAHLBERG (2014); WAHLBERG & ZIMMERMAN (2000); WAHLBERG et al. (2003); WAHLBERG et al. (2005a); PEÑA et al. (2006, 2011), GEMMEL et al. (2014), GEMMEL & MARCUS (2015) etc. For Libytheinae, KAWAHARA (2006); for Hesperidae, WARREN et al. (2008, 2009); for Pieridae, BRABY et al. (2006); for Lycaenidae, ROBBINS (2004a, b); for the phylogeny of butterflies and skippers WAHLBERG et al. (2005b).

Synonymy was mainly restricted to taxa belonging to Hispaniola or Antilles. Species/subspecies concerns are treated following the general views with obvious many doubts in as much as Hispaniola harbours many taxa which are endemics and/or vicariant and allopatric among nearby islands. The text will be kept to a minimum having general notes, ecology and distribution been exhaustively treated by SCHWARTZ (1989a). Only new localities for uncommon or elusive species and/or information will be added. Descriptions or short diagnosis are given for each taxon. References updated to 31.12. 2017.

Abbreviations

HT = Holotype; AT = Allotype; NT = Neotype; PT = Paratype; ST = Syntype; TS = Type species; TL = Type locality; UP = Upperside; UN = Underside; LFW = Length of FW; FW = Forewing (s); HW = Hindwing (s); UPFW = Upperside Forewing (s); UNFW = Underside Forewing (s); UPHW = Upperside Hindwing (s); UNHW = Underside Hindwing (s); D = Dorsal; V = Ventral; S = South; N = North; E = East; W = West; Prov. = Province; s.l. = sea level. MP = Maximum Parsimony; NJ = Neighbor Joining; ML = Maximum Likelihood.

AMNH: American Museum of Natural History, New York, New York, United States;

ANSP: Academy of Natural Sciences, Philadelphia, Pennsylvania, United States; most of the butterflies went to CMNH;

BMNH, NHM: The Natural History Museum [formerly British Museum (Natural History)], London, England;

CAS: California Academy of Sciences, San Francisco, California, United States;

CMNH: Carnegie Museum, Pittsburgh, Pennsylvania, United States (most of the ANSP butterflies now in CMNH);

CZACC: Instituto de Ecología y Sistemática, Havana, Cuba

HMUG: Hunterian Museum, University of Glasgow, Glasgow, Scotland;

LSUK: Linnean Society, London, England;

MACN: Museo Argentino de Ciencias Naturales “Bernardino Rivadavia,” Buenos Aires, Argentina;

MAMU: Macleay Museum, University of Sydney, Sydney, New South Wales, Australia;

MCPM: Milwaukee City Public Museum, Milwaukee, Wisconsin, USA;

MCZ: Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, United States;

MGCL: McGuire Center for Lepidoptera and Biodiversity; Gainesville, Florida, United States; including: Allyn Museum of Entomology, Sarasota, Florida Museum of Natural History, Gainesville, University of Florida, Gainesville, Florida State Collection of Arthropods, Florida Department of Agriculture and Consumer Services, Gainesville;

MNHNSD: Museo Nacional de Historia Natural de Santo Domingo, Santo Domingo, Dominican Republic;

MNHP: Muséum National d'Histoire Naturelle, Paris, France;

RMNH: Nationaal Natuurhistorische Museum (“Naturalis”) [Rijksmuseum van Natuurlijke Historie], Leiden, Netherlands;
 RSME: National Museums of Scotland, Edinburgh, Scotland;
 UFPC: Universidade Federal do Paraná, Curitiba, Brazil;
 USNM: National Museum of Natural History [formerly, United States National Museum], Smithsonian Institution, Washington, D. C., United States;
 UZIU: Universitets Zoologiska Institut, Uppsala, Sweden;
 VGRC: Victor González Research Collection, Puerto Rico;
 ZIN: Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia;
 ZMHB: Museum für Naturkunde der Humboldt-Universität Zoologisches Museum, Berlin, Germany;
 ZMUC: Zoologisk Museum, Universitets Copenhagen, Copenhagen, Denmark;
 ZSM: Zoologische Staatssammlung Muenchen, Munich, Germany.

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Checklist of Hesperioidea and Papilionoidea of Hispaniola

Key references: SCHWARTZ (1989a), SMITH et al. (1994), PÉREZ-GELABERT (2008). Nomenclature updated and revised according to LAMAS (2004), and PELHAM (2008, 2012, 2014)

Taxa with (*) = doubtful occurrence, stray or migrants are treated at the end of the systematic part

HESPERIOIDEA

HESPERIIDAE

Eudaminae

Eudamini

Phocides pigmalion bicolor (BODDAERT, 1783)
Proteides mercurius sanchesii BELL & COMSTOCK, 1948
Epargyreus spanna EVANS, 1952
Epargyreus zestos zestos (GEYER, 1832) (*)
Polygonus leo leo (GMELIN, 1790)
Chioides ixion (PLÖTZ, 1880)
Polythrix octomaculata (MÉNÉTRIÉS, 1855)
Aguna asander haitensis (MABILLE & BOULLET, 1912)
Urbanus dorantes cromptoni COMSTOCK, 1944
Urbanus proteus domingo (SCUDDER, 1872)
Astraptes anaphus anausis (GODMAN & SALVIN, 1896)
Astraptes alardus heriul (MABILLE & BOULLET, 1912)
Astraptes talus (CRAMER, 1777)
Astraptes christyi (SHARPE, 1898)
Cabares potrillo (LUCAS, 1857)

Pyrginae

Carcharodini

Burca hispaniolae BELL & COMSTOCK, 1948
Burca stillmani BELL & COMSTOCK, 1948

Erynnini

Anastrus sempiternus dilloni (BELL & COMSTOCK, 1948)
Chiomara mithrax (MÖSCHLER, 1879)
Gesta gesta (HERRICH-SCHÄFFER, 1863)
Ephyriades zephodes (HÜBNER, 1825)
Erynnis zarucco (LUCAS, 1857)

Achlyodidini

Eantis papinianus (POEY, 1832)
 = *Achlyodes mithridates sagra* EVANS, 1953

Pyrgini

Pyrgus crisia HERRICH-SCHÄFFER, 1865
Pyrgus oileus (LINNAEUS, 1767)

Hesperiinae

Tribe incertae sedis

Perichares philetes philetes (GMELIN, 1790)

Thymelicini

Copaeodes stillmani (BELL & COMSTOCK, 1948)

Calpodini

Argon sp. cfr *lota* (HEWITSON, 1877) (*)
Calpodes ethlius (STOLL, 1782)
Panoquina panoquinoides (SKINNER, 1891)
Panoquina ocola (W. H. EDWARDS, 1863)
Panoquina [ocola] distipuncta JOHNSON & MATUSIK, 1988
Panoquina nero (FABRICIUS, 1793)
Panoquina lucas (FABRICIUS, 1793)
Panoquina hecebolus (SCUDDER, 1872)

Antoptini

Synapte malitiosa adoceta SCHWARTZ & SOMMER, 1986

Moncini

Pheraeus unia (BUTLER, 1870) (*)
Cymaenes tripunctus (HERRICH-SCHÄFFER, 1865)
Lerodea eufala (EDWARDS, 1869) (*)
Rhinton bushi WATSON, 1937
Rhinton cubana cubana (HERRICH-SCHÄFFER, 1865)

Hesperiini

Hylephila phyleus phyleus (DRURY, 1773)
Hesperia nabokovi (BELL & COMSTOCK, 1948)
Polites baracoa loma EVANS, 1955
Wallengrenia otho drury (LATREILLE, 1824)
Atalopedes mesogramma apa COMSTOCK, 1944
Ochlodes batesi (BELL, 1935)

Choranthus haitensis SKINNER, 1920
Choranthus maria MINNO, 1990
Choranthus melissa GALI, 1983
Choranthus schwartzi GALI, 1983
Euphyes singularis insolata (BUTLER, 1878)
Pyrrhocalles antiqua antiqua (HERRICH-SCHÄFFER, 1863)
Nyctelius nyctelius nyctelius (LATREILLE, 1824)

PAPILIONOIDEA

PAPILIONIDAE

Papilioninae

Troidini

Battus polydamas polycrates (HOPFFER, 1865)
Battus zetides (MUNROE, 1971)

Leptocircini

Protographium zonaria (BUTLER, 1869)

Papilionini

Papilio demoleus malayanus WALLACE, 1865 [Introduced]
Heraclides thoas nealces (ROTHSCHILD & JORDAN, 1906) (*)
Heraclides androgeus epidauros (GODMAN & SALVIN, 1890)
Heraclides aristodemus aristodemus (ESPER, 1794)
Heraclides machaonides (ESPER, 1796)
Heraclides aristor (GODART, 1819)
Heraclides pelaus imerius (GODART, 1824)

PIERIDAE

Dismorphiinae

Dismorphia spio (GODART, 1819)

Coliadinae

Kricogonia lyside (GODART, 1819)
Nathalis iole BOISDUVAL, 1836
Eurema दौरा palmira (POEY, [1853])
Eurema elathea elathea (CRAMER, 1777)
Eurema lucina priddy (LATHY, 1898)
Pyrisitia larae (HERRICH-SCHÄFFER, 1862)
Pyrisitia dina mayobanex (BATES, 1939)
Pyrisitia leuce memulus (BUTLER, 1871)
Pyrisitia euterpiiformis (MUNROE, 1947)
Pyrisitia lisa euterpe (MÉNÉTRIES, 1832)
Pyrisitia proterpia (FABRICIUS, 1775)
Pyrisitia pyro (GODART, 1819)
Abaeis nicippe (CRAMER, 1782)
Abaeis nicippiformis (MUNROE, 1947)
Zerene cesonia cynops (BUTLER, 1873)
Anteos clorinde (GODART, 1824)
Anteos maerula (FABRICIUS, 1775)
Phoebis agarithe antillia BROWN, 1929
Phoebis argante rorata (BUTLER, 1869)
Phoebis editha (BUTLER, 1870)
Phoebis philea thalestris (ILLIGER, 1801)
Phoebis sennae sennae (LINNAEUS, 1758)
Rhabdodryas trite watsoni (BROWN, 1929)
Aphrissa godartiana godartiana (SWAINSON, 1821)
Aphrissa orbis browni (MUNROE, 1947)
Aphrissa statira hispaniolae (MUNROE, 1947)

Pierinae

Pierini

Glutophrissa drusilla boydi (COMSTOCK, 1943)
Glutophrissa punctifera (D'ALMEIDA, 1939)

Pierina

Ascia monuste eubotea (GODART, 1819)
Ganyra josephina josephina (GODART, 1819)
Melete salacia salacia (GODART, 1819)

LYCAENIDAE

Theclinae

Eumaeini

Rekoa bourkei (KAYE, 1924)
 = *Heterosmaitia abeja* (JOHNSON & MATUSIK, 1988)
Chlorostrymon maesites (HERRICH-SCHÄFFER, 1862)
Chlorostrymon simaethis (DRURY, [1773])

Allosmaitia fidena (HEWITSON, 1867)
Electrostrymon angelia (HEWITSON, 1874)
Electrostrymon minikyanos JOHNSON & MATUSIK, 1988 (*)
Strymon acis (DRURY, [1773])
Strymon bazochii (GODART, 1824)
Strymon istapa (REAKIRT, [1867])
Strymon christophe (COMSTOCK & HUNTINGTON, 1943)
Strymon columella (FABRICIUS, 1793)
Strymon limenia (HEWITSON, 1868)
Strymon monopeteinus SCHWARTZ & J. Y. MILLER, 1985
Strymon toussainti (COMSTOCK & HUNTINGTON, 1943)
 = *Strymon andrewi* JOHNSON & MATUSIK, 1988
Ministrymon azia (HEWITSON, 1873)
Nesiostrymon celida (LUCAS, 1857)
 = *Nesiostrymon celida bahorucoensis* JOHNSON, 1991
Nesiostrymon calchinia (HEWITSON, 1868) (*)
 = *Terra hispaniola* JOHNSON & MATUSIK, 1988
 = *Tmolus victoria* JOHNSON & MATUSIK, 1989

Polyommatainae

Leptotina

Leptotes cassius theonus (LUCAS, 1857)
Leptotes perkinsae idealis JOHNSON & MATUSIK, 1988

Brephidiina

Brephidium exilis isophthalma (HERRICH-SCHÄFFER, 1862)

Polyommata

Pseudochrysops bornoi bornoi (COMSTOCK & HUNTINGTON, 1943)
Cyclargus ammon noeli (COMSTOCK & HUNTINGTON, 1943)
Cyclargus kathleena JOHNSON & MATUSIK, 1992
Cyclargus sorpresus JOHNSON & MATUSIK, 1992
Hemiargus hanno ceraunus (FABRICIUS, 1793)
 = *Hemiargus hanno watsoni* COMSTOCK & HUNTINGTON, 1943

RIODINIDAE

Riodininae

Napaeina

† *Voltinia damba* ROBBINS & HARVEY in HALL et al., 2004

Theopina

† *Theope* sp. DeVRIES & POINAR (1997)

NYMPHALIDAE

Libytheinae

Libytheana terena (GODART, 1819)

Danainae

Danaini

Danaus cleophile (GODART, 1819)
Danaus eresimus tethys FORBES, 1944
Danaus gilippus cleothera (GODART, 1819)
Danaus plexippus megalippe (HÜBNER, 1826)

Euploeini

Lycorea halia cleobaea (GODART, 1819)
Anetia briarea briarea (GODART, 1819)
Anetia jaegeri (MÉNÉTRIES, 1832)
Anetia pantheratus pantheratus (MARTYN, 1797)

Ithomiinae

Godyridini

Greta diaphanus quisqueya (FOX, 1963)
 = *Greta diaphana calimete* SCHWARTZ, 1982
 = *Greta diaphana charadra* SCHWARTZ, 1982
 = *Greta diaphana galii* SCHWARTZ, 1982

Limenitidinae

Limenitidina

Adelpha lapitha HALL, 1929
Adelpha gelania gelania (GODART, 1824)

Heliconiinae

Heliconiini

Agraulis vanillae insularis MAYNARD, 1889
Dryas iulia fucatus (BODDAERT, 1783)
Eueides isabella melphis (GODART, 1819)
Heliconius charithonia churchi COMSTOCK & BROWN, 1950
Argynnini
Euptoieta claudia claudia (CRAMER, 1779)
Euptoieta hegesia hegesia (CRAMER, 1779)

Apaturinae

Asterocampa idya idya (GEYER, 1828)

Doxocopa thoe (GODART, 1824)

Biblidinae

Biblidini

Eurytelina

Archimestra teleboas (MÉNÉTRIES, 1832)

Biblidina

Biblis hyperia (CRAMER, 1779)

Catonephilini

Epicaliina

Eunica monima (STOLL, 1782)

Eunica tatila tatilista KAYE, 1926

Myscelia aracynthia (DALMAN, 1823)

Ageroniina

Hamadryas februa ferox (STAUDINGER, 1886)

= *Hamadryas amphichloe diasia* (FRUHSTORFER, 1916)

Epiphilina

Epiphilini

Lucinia cadma torrebis (MÉNÉTRIES, 1832)

Eubagina

Dynamini

† *Dynamine alexae* PEÑALVER & GRIMALDI, 2006

Dynamine serina zetes (MÉNÉTRIES, 1832)

Cyrestinae

Cyrestini

Marpesia chiron chiron (FABRICIUS, 1775)

Marpesia eleuthea dospassosi MUNROE, 1971

Nymphalinae

Coeini

Historis acheronta semele (BATES, 1939)

Historis odius odius (FABRICIUS, 1775)

Nymphalini

Colobura dirce wolcottii (COMSTOCK, 1942)

† “*Smyrna*” sp. HAMMOND & POINAR, 1998

Hypanartia paullus (FABRICIUS, 1793)

Vanessa atalanta rubria (FRUHSTORFER, 1909)

Vanessa cardui (LINNAEUS, 1758) (*)

Vanessa virginiensis (DRURY, 1773)

Victorini

Anartia jatrophae saturata STAUDINGER, 1884

Anartia lytrea (GODART, 1819)

= *Anartia dominica* SKINNER, 1889

Siproeta stelenes stelenes (LINNAEUS, 1758)

Junonini

Junonia “zonalis” C. FELDER & R. FELDER, 1867

Junonia “neildi” C. BRÉVIGNON, 2004

Hypolimnys misippus (LINNAEUS, 1764)

Melitaeini

Phyciodina

Antillea pelops pelops (DRURY, 1773)

Anthassa frisia frisia (POEY, 1832)

Atlantea cryptadia SOMMER & SCHWARTZ, 1980

Charaxinae

Preponini

Archaeoprepona demophoon insulicola (GODART, 1823)

Anaeini

Anaea troglodyta (FABRICIUS, 1775)

Fountainia johnsoni (AVINOFF & SHOUMATOFF, 1941)

Memphis verticordia (HÜBNER, 1831)

Siderone galanthus nemesi (ILLIGER, 1801)

Satyrinae

Satyrini

Incertae sedis

Calisto archebates (MÉNÉTRIES, 1832)

The *Calisto lyceius* lineage

Calisto pulchella LATHY, 1899

= *Calisto pulchella darlingtoni* CLENCH, 1943

Calisto raburni GALI, 1985

Calisto woodsi JOHNSON & HEDGES, 1998

Calisto pauli JOHNSON & HEDGES, 1998

Calisto mariposa PÉREZ-ASSO, NÚÑEZ & GENARO, 2016

Calisto tasajera GONZÁLEZ, SCHWARTZ & WETHERBEE, 1991

Calisto schwartzi GALI, 1985

Calisto azua PÉREZ-ASSO, NÚÑEZ & GENARO, 2016

Calisto victori PÉREZ-ASSO, NÚÑEZ & GENARO, 2016

Calisto lyceius BATES, 1935

Calisto franciscoi GALI, 1985

= *Calisto hendersoni* GALI, 1985

Calisto crypta GALI, 1985

Calisto samana PÉREZ-ASSO, NÚÑEZ & GENARO, 2016

The *Calisto hysius* lineage

Calisto confusa LATHY, 1899

Calisto thomasi JOHNSON & HEDGES, 1998

Calisto debarriera CLENCH, 1943

= *Calisto neiba* SCHWARTZ & GALI, 1984

Calisto montana CLENCH, 1943

Calisto gonzalezi SCHWARTZ, 1988

Calisto batesi CLENCH, 1943

Calisto loxias BATES, 1935

Calisto bahoruco PÉREZ-ASSO, NÚÑEZ & GENARO, 2017

Calisto hysius (GODART, 1819)

Calisto hysius aleucosticha CORREA & SCHWARTZ, 1986

The *Calisto grannus*-complex

Calisto grannus grannus BATES, 1939

Calisto grannus amazona GONZÁLEZ, 1987

Calisto grannus micheneri CLENCH, 1944

Calisto grannus dystacta GONZÁLEZ, 1987

Calisto grannus dilemma GONZÁLEZ, 1987

Calisto grannus phoenix GONZÁLEZ, 1987

Calisto grannus micrommata SCHWARTZ & GALI, 1984

Calisto grannus sommeri SCHWARTZ & GALI, 1984

Calisto obscura MICHENER, 1943

Calisto tragus BATES, 1935

Calisto eleleus BATES, 1935

Calisto arcas BATES, 1939

Calisto ainigma JOHNSON, QUINTER & MATUSIK, 1987

The *Calisto chrysaoros* lineage

Calisto clydoniata SCHWARTZ & GALI, 1984

Calisto neochma SCHWARTZ, 1991

Calisto chrysaoros chrysaoros BATES, 1935

Calisto chrysaoros galii SCHWARTZ, 1983

= *Calisto clenchi* SCHWARTZ & GALI, 1984

= *Calisto galii choneupsilon* SCHWARTZ, 1985

Calisto wetherbeei SCHWARTZ & GONZÁLEZ, 1988

Phenology and species abundance. Pooled data from 1980-1989 (SCHWARTZ, 1989a), and 2009-2018 (RACHELI & STEFANELLI, unpubl. data)

+ = 1-10; ++ = 11-20; +++ = 21-40; ++++ = > 41 specimens

Taxa/Months	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
HESPERIIDAE												
<i>Phocides pigmalion bicolor</i>			+	+	+	+	++	+				
<i>Proteides mercurius sanchesii</i>			+	+		+	+	+				+
<i>Epargyreus spanna</i>						+	++	++				
<i>Polygonus leo leo</i>	+		+	+	+	+	++++	+		+		+
<i>Chionides ixion</i>	+		+	+	+	+	++++			+		+
<i>Aguna asander haitensis</i>	++			++	+	++++	++++	++++		+		++
<i>Urbanus dorantes cramptoni</i>		+	+	++	++	++	++++	++		+		++
<i>Urbanus proteus domingo</i>	+	+	+	+	+	+	++++	+	+	+		+
<i>Astraptus anaphus anausis</i>		+	+	+	+		+	+			++	+
<i>Astraptus alardus heriul</i>			++	++		++++	++++	++++		+	+	+
<i>Astraptus talus</i>			+	+		+		+		+		
<i>Astraptus christyi</i>						+	++	+		+		+
<i>Cabares potrillo</i>	+		+	+	+	+	++	+++		++	+	+
<i>Burca hispaniolae</i>						++			+		+	
<i>Burca stillmani</i>	+		+	+	++	+	++	+		+	+	+
<i>Anastrus sempiternus dilloni</i>			+	+	+	+	++++	+		+		+
<i>Chiomara mithrax</i>										+		
<i>Gesta gesta</i>	+	+	+	++	++	++++	++++	++++		++		+
<i>Ephyriades zephodes</i>	+	+		++	++	++++	++++	++++	+	++	+	++
<i>Erynnis zarucco</i>					++	+	++++	+	+			
<i>Eantis papinianus = Achlyodes mithridates sagra</i>	+	+	++	+	+	++++	++++	++++		+		++
<i>Pyrgus crisis</i>			+	+		+	+	+++		+	+	+
<i>Pyrgus oileus</i>	+	+	+	+	+	++++	++++	+		+		+
<i>Perichares philetas philetas</i>	+		+++	+	+	++++	++++	+	+	+	+	+
<i>Copaodes stillmani</i>	+	+			+++	++++	++	+		+		+
<i>Calpodus ethlius</i>						+	+	+				
<i>Panoquina lucas = P. sylvicola woodruffi</i>	+		+	+	+++	++			+		+	++
<i>Panoquina nero</i>							+		+			+
<i>Panoquina panoquinoides</i>					+							
<i>Panoquina [ocola] distipuncta</i>							++					
<i>Panoquina ocola ocola</i>	+		++	+		++++	++++	++			+	+
<i>Synapte malitiosa adoceta</i>	+		+	++		++++	++++	++++		++		+
<i>Cymaenes tripunctus</i>	+		++	+	+	+	++++	++++			+	
<i>Rhinton bushi</i>								+				
<i>Rhinton cubana cubana</i>						+	+	+				
<i>Hylephila phyleus</i>	+			+	++	++	++++	++		+		+
<i>Hesperia nabokovi</i>		+	+		++	+	+	++	+	++		
<i>Polites baracoa loma</i>	+		+	+	++	+	+	+		+		+
<i>Wallengrenia otho drury</i>	+	+	+	++	++	++++	++++	++++	+		++	+++
<i>Atalopedes mesogramma apa</i>	+		+	+	+	+	++++	+				+
<i>Ochlodes batesi</i>		+				+	+	+				
<i>Choranthus haitensis</i>			+++		+	+++	+++	+++	+		+++	+
<i>Choranthus maria</i>											+	
<i>Choranthus melissa</i>						+++	++++	+		++		+
<i>Choranthus schwartzi</i>						+	++	++				+
<i>Euphyes singularis insolata</i>					+	++	+	++	+		+	+
<i>Pyrrhocalles antiqua antiqua</i>	+		++		++	++++	++++	++++	+		+	+++
<i>Nyctelius nyctelius nyctelius</i>	+		++	+	+	+++	++++	+++		++	+	+
PAPILIONIDAE												
<i>Battus polydamas polycrates</i>	+	+	+	+	+	+++	++++	+++		+		++
<i>Battus zetides</i>						+	++++	+++	+	+		+
<i>Protographium zonaria</i>			+		++	++++	++	+			+	+
<i>Heraclides androgeus epidauros</i>	+		+	+	+	++++	++++	++++		+		
<i>Heraclides aristodemus</i>			+	++	+	++	+++	+++			+	
<i>Heraclides aristor</i>			+	+	+	++	+	+++				
<i>Heraclides machaonides</i>	+		++	++	+	+++	++++	++++		++	+	+
<i>Heraclides pelaus imerius</i>	+	+	++	+		+++	+++	++				+
<i>Papilio demoleus</i>		+				++	++	++		+	+	
PIERIDAE												
<i>Dismorphia spio</i>	+		+++	+	+	+++	++++	++++	+	+	+	+
<i>Kricogonia lyside</i>	+++	+	+	+	++	+++	++++	+++			+	+
<i>Nathalis iole</i>		+	+	+		+++	++++		+	+		

<i>Eurema दौरा palmira</i>	+	+	+	+	+	++++	++++	++		+	+	+
<i>Eurema elathea elathea</i>		+	+	+	++	++++	++++	+		+	+	+
<i>Eurema lucina priddyi</i>	+				+	+				+	+	+
<i>Pyrisitia dina mayobanex</i>	+											
<i>Pyrisitia leuce memula</i>	+	+	+	+	+	++++	++++	+++		+	+	
<i>Pyrisitia euterpiiformis</i>			++	+	++	+++	+++	+++		+	+	+
<i>Pyrisitia laeae</i>	+			+	+	+	+					
<i>Pyrisitia lisa euterpe</i>	++	+	++	++	+	++++	++++	+++	+	++	+	++
<i>Pyrisitia proterpia</i>	+	+	+	+	+	++++	++++	+++	+	+	+	++
<i>Pyrisitia pyro</i>	+	+	+	+	+	++++	++++	++	+	+	+	+
<i>Abaeis nicippe</i>			+	+	++	+++	+++	+++	+	+	+	+
<i>Abaeis nicippiiformis</i>	+	+	+	+	+	+	++	+		+	+	+
<i>Zerene cesonia cynops</i>					+	++	++++	++++	+	+	+	+
<i>Anteos clorinde</i>		+	+		+	+	++++	+++		+	+	+
<i>Anteos maerula</i>	+		+	+	+	++	++++	+			+	+
<i>Phoebis agarithe antillia</i>	+		+	+	+	+	+++	+++		+		+
<i>Phoebis argente rorata</i>	+		+	+	+	+++	++++	++++		+	+	+
<i>Phoebis editha</i>			+	+	+	+	++++	+				+
<i>Phoebis philea thalestris</i>	+		+	+		+++	++++	+++				+
<i>Phoebis sennae sennae</i>	+++	+	+	+	++	++++	++++	++++			+	++
<i>Rhabdodryas trite watsoni</i>				+	++	+	++	++				+
<i>Aphrissa godartiana godartiana</i>	+			+		+				+	+	++
<i>Aphrissa orbis browni</i>	+			+		+	++++	+		+		+
<i>Aphrissa statira hispaniolae</i>												
<i>Glutophrissa drusilla boydi</i>	++	+	+	+	+	+++	++++	+++			+	++
<i>Glutophrissa punctifera</i>	+						+				+	
<i>Ascia monuste eubotea</i>	++		+	+	++	+++	++++	++	+	+	+++	+
<i>Ganyra josephina josephina</i>		+	+	+	+	+++	++++	++++		+		+
<i>Melete salacia</i>						++	++++	++				
LYCAENIDAE												
<i>Rekoa bourkei = abeja</i>							+					
<i>Chlorostyrm mon maesites</i>						+	++	+			+	
<i>Chlorostyrm mon simaethis</i>					+	+	+	+			+	
<i>Allosmaitia fidenae</i>	+			+	+	++	+++	+		+		
<i>Electrostyrm mon angelia</i>	+			++	+	++	++	+		+	+	+
<i>Strymon acis</i>			++		+	+	+	+++				+
<i>Strymon bazochii</i>	+		+	+		+	++	++	+			+
<i>Strymon istapa</i>	+++	+	++	++		++++	++++	++++	+	++	+	
<i>Strymon christophei</i>	+			+		+		+				
<i>Strymon columella</i>	+++	+	++			++++	++++	++++	+	++	+	
<i>Strymon limenia</i>			+	+		++++	++	+		+		+
<i>Strymon monopteinus</i>			+		+		++	+				+
<i>Strymon toussainti</i>	+		++	+	+	++++		++				++
<i>Ministrymon azia</i>	+					++	++++	+++		+	+	
<i>Nesiostyrm mon celida</i>						+	+	+				
<i>Leptotes cassius theonius</i>	++	++	+++	++	++	+++	++++	++			+	+++
<i>Leptotes perkinsae idealis</i>							+					
<i>Brephidium exilis isophthalma</i>			+	+	+	+	+	+				+
<i>Pseudochrysops bornoi bornoi</i>	+		+			+	+			+		+
<i>Cyclargus ammon noeli</i>	++	++	+	+	+++	++	++++	++++		++	++	++
<i>Cyclargus kathleena</i>							+					
<i>Cyclargus sorpresus</i>					+							
<i>Hemiargus hanno ceraunus</i>	++	+	+	+	+++	+++	++++	+++	+		+	++
NYMPHALIDAE												
LYBITHEINAE												
<i>Libytheana terena</i>				+	+	++++	++++	+			+	+
DANAIDAE												
<i>Danaus cleophile</i>				+	+	+++	++++	++++	+	+	+	+
<i>Danaus eresimus tethys</i>	+	+	+	+	+++	++	+++	+		+	+	+
<i>Danaus gilippus cleothera</i>	+		+	+	+++	+++	++++	++	+	+	+	+
<i>Danaus plexippus megalippe</i>	+	+	+	+	+	+++	+++	++	+	+	+	+
<i>Lycorea halia cleobaea</i>	+	+	+	+	+	+++	++++	++++			+	++
<i>Anetia briarea briarea</i>	+		+	+	+	++++	++++	++	+	+	+	+
<i>Anetia jaegeri</i>				+	+	+++	++++	++	+	+	+	
<i>Anetia pantheratus pantheratus</i>	+			+	+	+++	++++	++	+	+		
ITHOMIINAE												
<i>Greta diaphanus quisqueya</i>						+++	+++	++		+	+	++
LIMENTIDINAE												
<i>Adelpha lapitha</i>		+	+			+		+			+	+
<i>Adelpha gelania gelania</i>		+	+	+	+	++	+++	+++			+	+
HELICONIINAE												
<i>Agraulis vanillae insularis</i>	+	+	++	+	+	+++	++++	+			+	+
<i>Dryas iulia fucatus</i>	+	+	+	+	+	++++	++++			+	+	++
<i>Eueides isabella melphis</i>		+	+	+	+	+	+	++				+
<i>Heliconius charitonia churchi</i>	++	++	++	++		++	+++	++		++	++	
<i>Euptoieta claudia claudia</i>					+	+	++++	+		+		
<i>Euptoieta hegesia hegesia</i>	+		+		++	+++	++++	+++		+	+	+
APATURINAE												
<i>Asterocampa idyja idyja</i>	+					+++	++++	+++		+	+	+
<i>Doxocopa thoe</i>	+		+	++		++	++++	+++				+
BIBLIDINAE												
<i>Archimestra teleboas</i>	+	+	+	+	+	+++	++++	++++	+	+	+	+
<i>Biblis hyperia</i>		+	+	+	+	+++	+++	++				
<i>Eunica monima</i>		+			+	++++	++++	+++		+	+	+
<i>Eunica tatila tatilista</i>	+	+				+++	+++	+		+		
<i>Myscelia aracynthia</i>			+	+	+	+++	+++	++	+	+		
<i>Hamadryas februa ferox</i>	++	+	+		+++	+++	++++	++		+	+	+
<i>Lucinia cadma torrebias</i>	+	+		+	+	++	++++	++		+	+	+

<i>Dynamine serina zetes</i>		+					++++	++	+	+	+	+
CYRESTINAE												
<i>Marpesia chiron chiron</i>	+		+	+	+	+	++++	+		+	+	
<i>Marpesia eleutheia dospassosi</i>	+	+	+	+	+	++++	++++	+++		+		+
NYMPHALINAE												
<i>Historis acherontia semele</i>			+	+								
<i>Historis odius odius</i>			+	+	+	+++	+++	+++		+	+	+
<i>Anartia jatrophae saturata</i>		+	++	+	+	++++	++++	+		+	+	+
<i>Anartia lytrea</i>			+	+		++++	++++	+++		+	+	++
<i>Siproeta stelenes stelenes</i>	+	+	++		+	+++	++++	+++		+	+	+
<i>Junonia "zonalis"</i>											+	
<i>Junonia "neildi"</i>	+	++	+		++	++++	++++	++		+	+	++
<i>Hypolimnas misippus</i>	+								+		+	
<i>Colobura dirce wolcottii</i>			+	+		++	+++	+++	+		+	
<i>Hypanartia paullus</i>				+	+	+++	+++	++		+	+	+
<i>Vanessa atalanta rubria</i>			+			+	+	+	+			
<i>Vanessa cardui</i>		+				+	+++	+	+	+		
<i>Vanessa virginiensis</i>	+	+	+	+	+	++	+++	+++	+	+	+	+
<i>Antillea pelops pelops</i>	+		+	+	+++	+++	++++	+++				+
<i>Anthanassa frisia frisia</i>		+		+		++	++++	++++		+	+	+
<i>Atlantea cryptadia</i>					+		+					
CHARAXINAE												
<i>Archaeoprepona demophoon</i>			+	+		+	++++	++++		+		+
<i>insulicola</i>												
<i>Anaea troglodyta</i>	+++	+	+	+	+++	++++	++++	++++		++	+	+
<i>Fountainea johnsoni</i>						+		+				
<i>Memphis verticordia</i>	+					++	++++	++				+
<i>Siderone galanthis nemesis</i>			+	+	+	+	+	+			+	+
SATYRINAE												
<i>Calisto archebates</i>				++		+++	++++	++	++	+		
<i>Calisto pulchella</i>	++	+	+	+		+	++++	++++	+	++	+	+
<i>Calisto raburni</i>						++		+			+	
<i>Calisto woodsi</i>						+						
<i>Calisto pauli</i>						+						
<i>Calisto mariposa</i>						+	++	++				
<i>Calisto tasajera</i>				+		+	++				++	
<i>Calisto schwartzii</i>						+++	+	+		+		+
<i>Calisto azua</i>						+		++				
<i>Calisto victori</i>				++		+	+	+++				
<i>Calisto lyceius</i>	+					++	++				+	
<i>Calisto franciscoi</i>	+	+	+			+++	+++	+++				+
<i>Calisto crypta</i>		+	+			+	+				+	
<i>Calisto samana</i>								++++			+	+
<i>Calisto confusa</i>	++	+	+	+	++	++++	++++	++++	+	++	+	
<i>Calisto thomasi</i>						+						
<i>Calisto debarriera = C. neiba</i>							+++	++		+		
<i>Calisto montana</i>	+								+			
<i>Calisto gonzalezi</i>						+						
<i>Calisto batesi</i>	+		+		+	++++	++++	++++		+	+	+
<i>Calisto loxias</i>	+								+			
<i>Calisto batoruco</i>							+	++				
<i>Calisto hysius</i>	++	+	++	++		++++	++++	+++		+		++
<i>Calisto hysius aleucosticha</i>								+		+		+
<i>Calisto grannus grannus</i>			+			++++	++++	+	+			
<i>Calisto g. amazona</i>							++					
<i>Calisto g. micheneri</i>						+						
<i>Calisto g. dystacta</i>			++		+	+						
<i>Calisto g. dilemma</i>						+++	+					
<i>Calisto g. phoinix</i>			+			+	+++	+				
<i>Calisto g. micrommata</i>							+	+++				
<i>Calisto g. sommeri</i>				++	++	+	+++	+++		+		
<i>Calisto obscura</i>		++	++	++	+++	++++		++++			+	
<i>Calisto tragi</i>						+	+					
<i>Calisto eleleus</i>						++++	++++	+				+
<i>Calisto arcas</i>								++				
<i>Calisto ainigma</i>						+						
<i>Calisto clydoniata</i>						++	+	++		+		
<i>Calisto neochma</i>								+				
<i>Calisto chrysaoros chrysaoros</i>		+				+	+	+		+		+
<i>Calisto chrysaoros galii</i>						+	+	++++	+	+	++	+
<i>Calisto wetherbeeii</i>											+	

Systematic account

Superfamily **HESPERIOIDEA** LATREILLE, 1809

Gen. Crust. Ins. **4**: 187, 207 (as “Hesperides”). Genus type: *Hesperia* FABRICIUS, 1793, Ent. Syst. **3** (1): 258, no. 187.

Family **HESPERIIDAE** LATREILLE, 1809

The family-group arrangement follows WARREN et al. (2008) and WARREN et al. (2009), based on molecular and morphological characters.

Subfamily **Eudaminae** MABILLE, 1877

Petites Nouv. Ent. **2** (179): 162. Genus type: *Eudamus* SWAINSON, 1831, Zool. Illustr. (2) **2** (11): pl. 48, unnumbered text.

Tribe **Eudamini** MABILLE, 1877

Phocides HÜBNER, [1819]

Verz. bekannt. Schmett. (7): 103. **TS**: *Phocides cruentus* HÜBNER, [1819], Verz. bekannt. Schmett. (7): 103, no. 1082 (= *Hesperia polybius* FABRICIUS (1793), Ent. Syst. **3** (1): 337, no. 281; synonym), designation by SCUDDER (1875).

Phocides pigmalion (CRAMER, 1779)

Pap[ilio]. Pleb[ejus]. Urbicol[a] Pigmalion. CRAMER, 1779 Utitl. Kapellen **3** (21): 87, pl. 245, figs. A ♂ dors., B ♂ vent.; (24): 176 (index). TL: “Surinamen” “Suriname” Types: Type(s) probably lost (van der Meulen collection).

Phocides pigmalion bicolor (BODDAERT, 1783)

Sphinx bicolor BODDAERT, 1783, Table Pl. d’Aubenton, **2**: pl. 17 [error] TL: [Haiti]

Distribution: Hispaniola, Puerto Rico.

Adult Characteristics: ♂ FW with costal fold. FWs with a series of discal and apical translucent spots and nervular bluish stripes. HWs with scattered and transverse bands, and bluish spots.

Comments: This seems a very scarce and local species. Larvae feed on *Rhizostoma*, therefore it is a coastal species even if it was found also at Jarabacoa (LV), a montane locality.

Proteides HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 105. **TS**: *Papilio mercurius* FABRICIUS, 1787, Mantissa Ins. **2**: 86, no. 780, designation by BUTLER (1870), Ent. Month. Mag. **7** (76): 93.

Proteides mercurius sanchesii BELL & COMSTOCK, 1948

Amer. Mus. Novit. **1379**: 3-4, TL: Pétionville, Haiti. Types: HT ♂, Pétionville, Haiti, June 14, 1930; AT ♀, Sanchez, Dominican Republic, May 11-16, 1915. PT: 2 ♂♂, Port-au-Prince, Haiti, April 5-11, 1922; 2 ♀♀, Pétionville, Haiti, June 8 and 13, 1930; 3 ♀♀, Sanchez, Dominican Republic, May 22-27, 1915 and June 19-23, 1915. In coll. AMNH.

Distribution: Hispaniola.

Adult Characteristics: Upperside very similar to typical *mercurius*, but the fulvous scales of the thorax and basal areas of the wings are a little duller and less extensive.

UNFW apical area violet gray, scaling reduced or absent in *sanchesii*. The outer marginal band of scales narrower and less defined. UNHW outer marginal area entirely dark or only lightly overscaled with violet gray. The dark brown basal area is more extensive, and the V-shaped spot is approximately twice as wide and with vivid colouration, not shaded as in *mercurius*.

Comments: Widespread but very local and scarce. Found especially along creeks edging forested areas.

Epargyreus HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 105. **TS**: *Papilio tityrus* FABRICIUS, 1775, Syst. Ent.: 532, no. 382 (= *Papilio clarus* CRAMER, 1775, Utitl. Kapellen **1** (4): 66, pl. 41, figs. E, F; (8): 152 (index); homonym), by designation of SCUDDER (1872)

Epargyreus spanna EVANS, 1952

Cat. amer. Hesp. Brit. Mus. **2**: 46, TL: “Santo Domingo” Types: ♀ HT in BMNH.

Distribution: Dominican Republic.

Adult Characteristics: UNHW band of even width, 4 mm, but in space 7 it is divided by a brown bar equal in width to the white arm on either side. ♀ ostium bursae as in the Jamaican *E. antaeus* (HEWITSON, 1867).

Comments: This is a rare species found in forested mountainous areas. Specimens from low altitudes are very scarce. We found it not uncommon at Banano (PD). Described on the ♀ HT in BMNH.

Polygonus HÜBNER, [1825]

Samml. exot. Schmett. **2**: pl. [144]. **TS**: *Polygonus lividus* HÜBNER, [1825], Samml. exot. Schmett. **2**: pl. [144], figs. 1-4 (= *Papilio leo* GMELIN, [1790], Syst. Nat. (ed. 13) **1** (5): 2363, no. 836; synonym), by monotypy.

Polygonus leo leo (GMELIN, [1790])

[*Papilio Plebejus Urbanus*] *Leo* GMELIN, [1790] Syst. Nat. (ed. 13) **1** (5): 2363, no. 836; cited *Papilio amyntas* FABRICIUS, 1775, Syst. Ent.: 533, no. 384. Proposed as a replacement name for *Papilio amyntas* FABRICIUS, 1775, with the same

data (Code Article 60.3).

Types: Type(s) probably lost. NT in ZMUC, designated by MIELKE & CASAGRANDE (2002: 39). The NT is the same specimen as the LT of *amyntas*.

= *Papilio amyntas* FABRICIUS, 1775 Syst. Ent.: 533 (preocc. Poda, 1761), TL: America

= *Polygonus Lividus* HÜBNER, [1825] Samml. exot. Schmett. 2: pl. [144], TL: [Hispaniola] Not stated; suggested to be “Hispaniola” by W. COMSTOCK (1944: 541).

= [*Polygonus leo*] *ishmael* EVANS, 1952, Cat. Amer. Hesp. 2: 54 TL: Haiti Types: [holó]tipo ♂, Haiti; BM (NH);

Distribution: South USA to Argentina.

Adult Characteristics: Sexes similar. UPFWs very dark brown with bluish sheen, especially on the underside. Four white apical dots; three large white spots. UNHWs with a series of spots shaping two bands on a bluish background.

Comments: Widespread especially on the northern part of the island. Found in forested areas from sea level to 900 m; rare in Haiti (SCHWARTZ, 1983b).

Chioides LINDSEY, 1921

Bull. Labs. Nat. Hist. St. Univ. Iowa 9 (4): 25-26. **TS:** *Eudamus albofasciatus* HEWITSON, 1867, Descr. one hundred new spec. Hesp. (1): 3-4, no. 2, by original designation.

Chioides ixion (PLÖTZ, 1880)

Goniurus ixion PLÖTZ, 1880 Bull. Soc. Nat. Moscou 55:13; TL: “C. Amer.”

= *Eudamus myrto* MABILLE, 1903 Gen. Insect. Hesperidae 17A: 21; TL: Haiti. Types: not stated

Distribution: Hispaniola

Adult Characteristics: Sexes similar. UPFWs dark brownish with a series of large yellowish rectangular discal spots shaping a transverse band. Three minute subapical spots. UNHWs with a variegated pattern, and a large arched tail.

Comments: Apparently it occurs on the western part of the Dominican Republic only, during July in forested areas.

Aguna WILLIAMS, 1927

Trans. Am. Ent. Soc. 53 (3): 286. **TS:** *Eudamus camagura* R. WILLIAMS, 1926, Trans. Am. Ent. Soc. 52 (2): 81-82, by original designation.

Aguna asander (HEWITSON, 1867)

Eudamus asander HEWITSON, 1867 Descr. one hundred new spec. Hesp. (1): 9, no. 13, figured by HEWITSON (1875), Ill. exot. Butterflies 5 (96): pl. *Eudamus* III, fig. 24 ♂ vent.; TL: “Amazon (Ega)” [Tefé, Brazil]; Types: LT in BMNH, designated by AUSTIN & MIELKE (1998:896)

Aguna asander haitensis (MABILLE & BOULLET, 1912)

Epargyreus haitensis MABILLE & BOULLET, 1912 Ann. Sci. nat.(Zool.) (9) 16 (1-4): 65 TL: “Haiti”. Type: HT ♂ [recte ♀] at BMNH, with the following labels: / Type / Haiti / haitensis [sic] Mb. ined. Haiti/.

= *Aguna asander jasper* EVANS, 1952. TL: Jamaica. Type: HT ♂ at BMNH, with the following labels: / Type jasper Evans / Jam[ai]ca / J. J. Joicey Col / B.M. 1925-4511. See MIELKE (1971: 203-208).

Distribution: Cuba, Isle of Pine, Jamaica, Hispaniola.

Adult Characteristics: Sexes similar. Brown ground colour. UPFW and UNFW with four large yellowish spots. UNHW with a wide, suffused whitish band.

Comments: EVANS (1952) distinguished *A. a. jasper* from Jamaica for the FW spots being white instead of pale yellow. MIELKE (1971) treated this as synonymous with *A. a. haitensis* but it was retained distinct by BROWN & HEINEMAN (1972), and SMITH et al. (1994). As AUSTIN & MIELKE (1998) noted *A. asander* occurring in the West Indies is separated from mainland populations by its somewhat smaller size, ventral purple gloss, and the absence of white submarginal scaling on the UNHW. MIELKE (1971) and SMITH et al. (1994) reported the subspecies *haitensis* from Haiti, Jamaica, Dominican Republic, Cuba, Ilha de Pinos, Martinica, and St. Thomas. For Jamaica there are reliable records only from Morant Point in July, and Kingston in January. Rare in Cuba (HERNÁNDEZ, 2004) Apparently it occurs on the western part only of the Dominican Republic.

Urbanus HÜBNER, [1807]

Samml. exot. Schmett. 1: pls. [150], [151], [155], [159]. **TS:** *Papilio proteus* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 484, no. 163 (as figured by HÜBNER [1807], Samml. exot. Schmett. 1: pl. [155]), by designation of HEMMING (1933: 200). STEINHAUSER (1981) revised the *proteus* group, and detailed species-group names in this genus.

Urbanus proteus (LINNAEUS, 1758)

P[apilio]. P[lebejus urticae]. Proteus LINNAEUS, 1758 Syst. Nat. (ed. 10) 1: 484, no. 163; cited MERIAN (1705), Ins. Surinam: t. 63. f. 2; figured by CLERCK [1764], Icon. Ins. 2: pl. 42 ♂ dors. & vent.

TL: “Americas”; “NT” from “Cherrypoint, Craven Co., N[orth] C[arolina]”, as designated by STEINHAUSER (1981). Types: LT in UZIU, designated by AURIVILLIUS (1882). A subsequent “LT”, in MWNH, was designated by MIELKE (1989), and a “NT”, in MGCL, was designated by STEINHAUSER (1981). As PELHAM (2008) noted the LT designated by AURIVILLIUS may not be this species. If not, it may be necessary to ask the I.C.Z.N. to establish a NT that conforms with the consistent use of this name; see HONEY & SCOBLE (2001).

Urbanus proteus domingo (SCUDDER, 1872)

Thymeles domingo SCUDDER, 1872, Ann. Rep. Trustees Peabody Acad. Sci., 4: 69; TL: Haiti.

Distribution: Throughout the West Indies.

Adult Characteristics: Easily identifiable for the metallic blue hue of the tegulae and wings upperside. STEINHAUSER (1981) recognized *domingo* as the Antillean subspecies which is characterized for ♂♂ often lacking the subapical hyaline spots; small size of hyaline spots; FW fringes checkering usually not reaching the apex; HW fringes usually pale brown; ♀♀ with body and basal hair scales blue green.

Comments: This is one of the most common skipper of Hispaniola. It occurs in a variety of habitats. Perhaps *domingo* is a synonym of the nominate subspecies.

Urbanus dorantes (STOLL, 1790)

Pap[ilio]. Pleb[ejus] Urbic[ola]. Dorantes STOLL, 1790 Aanhangs. Werk Utitl. Kapellen 3: 172; ibidem 3: pl. 39, fig. 9 ♂ vent.; 383 (index). TL: "Surinamen" "Suriname" Type(s): probably lost (BREUKELERWAERTH collection).

Urbanus dorantes cramptoni COMSTOCK, 1944

Sci. Serv. Puerto Rico & Virg. isl., 12:546, TL: Puerto Rico Types: HT ♂, Mayaguez P. R. July 24-29, 1914; AT ♀, Manati P.R. June 27-29, 1915 in coll. MGCL.

Distribution: Hispaniola, Puerto Rico, St. Thomas.

Adult Characteristics: Similar to *U. proteus domingo* (SCD.) but without the metallic bluish hue. UP wings ground colour rather dark brown. Fringes lightly chequered. FW small translucent spots, spot in space 2 often linear in ♂, broader in ♀. HWs tail 1 cm long. UNHWs greyish with dark transverse bands.

Comments: Widely distributed especially in open areas from sea level to 1900 m.

Astraptes HÜBNER, [1819]

Verz. bekannt. Schmett. (7): 103. TS: *Papilio aulestes* Cramer, 1780, Utitl. Kapellen 3 (24): 161, pl. 283, figs. E, F, G (= *Papilio aulestis* Cramer, 1780, Utitl. Kapellen 3 (24): 173 (index); incorrect original spelling), designation by SCUDDER (1875: 137). HEMMING (1934: 158): made a first reviser choice of *Astraptes* HÜBNER, [1826] over *Telegonus* HÜBNER, [1826].

Astraptes talus (CRAMER, [1777])

Papilio talus CRAMER, [1777] Utitl. Kapellen 2 (9-16): 122, pl. 176, f. 1, TL: Surinam.

Distribution: Mexico to Argentina.

Adult Characteristics: A distinctive species for the green scales scattered on body and wings upperside. UPFW translucent spots shaping a transversal bands across the cell. UN palpi, thorax and a large part of the wings are green.

Comments: Never common, and found in separated populations from sea level to 1000 m in mesic environments.

Astraptes habana (LUCAS, 1857)

Eudamus alardus habana LUCAS, 1857 in: SAGRA, Hist. Cuba 7 (2): 624, TL: Cuba.

Astraptes habana heriul (MABILLE & BOULLET, 1912)

Telegonus alardus heriul MABILLE & BOULLET, 1912, Ann. Scienc. nat., Zoologie. (9) 16 (1/4): 83, 89 TL: "Brésil" Types: HT ♀, coll. MABILLE

= *Telegonus antiquus* SKINNER, 1920, Ent. News, 31: 133. TL: San Domingo, West Indies Types: HT ♂, San Domingo 1883 [CMNH]. GILLHAM & EHRLICH (1954) reported: "The type and one other specimen from San Domingo, West Indies."

= *Telegonus domingensis* JOICEY & TALBOT, 1924, Entomologist 57 (729): 39; TL: Santo Domingo, Loma Miranda, La Vega, 700-900 m, type ♂, specimen No. BMNH(E) 1236176 [BMNH].

Distribution: Hispaniola.

Adult Characteristics: Similar to *A. christyi* (SHARPE) but with wide marginal fringes; the discal transverse FW band absent.

Comments: Not very common but widespread in mesic habitats from sea level to 1200 m.

Astraptes christyi (SHARPE, 1898)

Telegonus christyi SHARPE, 1898, Proc. Zool. Soc. London 1898: 366. TL: [Dominican Republic] "in dense forest on the mountains near La Vega in April".

= *Thymeles angustus* SKINNER, 1920, Ent. News, 31: 134. TL: San Domingo, West Indies. Types: "The type and two other specimens from San Domingo, West Indies". See GILLHAM & EHRLICH (1954).

Distribution: Hispaniola.

Adult Characteristics: Sexes similar. Palpi and underside of thorax buffish. UP almost black, head, thorax, abdomen and bases of both wings with a hue of iridescent blue. UPFW Iridescent blue colouration entering into the cell. A very narrow diaphanous band of spots only 1 mm wide at the end of the FW cell, from the costa to just below vein 2. UNFW the blue colouration from the base, to the cell and space 2.

Comments: For a long time it was considered a ssp. of the Cuban *Astraptes xagua* (LUCAS, 1857). SKINNER (1920a) described *T. angustus* on the type and two other specimens from "San Domingo, West Indies". As SCHWARTZ (1989a) suggested *christyi* should be considered a good species, this opinion shared with that of STEINHAUSER et al. (2017) who, basing on morphology and DNA data, reinstated *A. christyi* to the rank of species and, phylogenetically, placed *christyi* far from *A. xagua*.

It has a spotted distribution and very uncommon. SCHWARTZ (1989a) collected in 10 years 17 specimens especially in

Jarabacoa area (LV). We found a few specimens at Arroyo Cano (SJ). According to SCHWARTZ (1989a) it is apparently bivoltine in December-January, and June to July.

Astraptes anaphus (CRAMER, [1777])

Papilio anaphus CRAMER, [1777] Utitl. Kapellen 2 (9-16): pl. 173, f. F, TL: Surinam

Astraptes anaphus anausis (GODMAN & SALVIN, 1896)

Telegonus anausis GODMAN & SALVIN, 1896, Proc. Zool. Soc. London 1896: 513-520. TL: St. Vincent, Grenada, Dominica, Hispaniola.

Distribution: Jamaica, Cuba, Hispaniola, Dominica, St. Vincent, Grenada.

Adult Characteristics: FWs brown with 2-3 dark transverse darker bands; HWs with whitish fringes.

Comments: It is uncommon and local in the northern and eastern parts of the island. Usually found singly from sea level to 500 m in mesic forests. SCHWARTZ (1989a) collected only 24 specimens during 10 years. We found one specimen at Arroyo Cano during June 2018. Rare in Haiti (SCHWARTZ, 1983b).

***Cabares* GODMAN & SALVIN, 1894**

Biol. centr.-amer., Lepid. Rhop. 2 (114): 337. TS: *Thanaos potrillo* LUCAS, 1857, in: SAGRA, Hist. Cuba 7 (2): 641, by original designation.

Cabares potrillo (LUCAS, 1857)

Thanaos Potrillo LUCAS, 1857 In: SAGRA, Hist. Cuba 7 (2): 641; TL: “habite l’île de Cuba” “Ce nom est donné à cette espèce, en souvenir de la montagne qui s’élève jusqu’à 3,000 mètres de haut, non loin de la Trinité”; thus, implied to be “Pico Potrerillo.”; Type(s): probably in MNHP.

Distribution: South Texas to Colombia, Cuba, Hispaniola, Jamaica, apparently absent from Puerto Rico.

Adult Characteristics: Sexes similar. UPFW dark brown with apical and discal series of small translucent spots. HW unmarked. UN lighter brown: UNFW darker in the apical and basal areas. UNHW with two darker bands.

Comments: Common and widespread in scattered localities at low and moderate elevations near forests and wooded areas.

Subfamily **Pyrginae** BURMEISTER, 1878

Descr. phys. Rép. Argentine 5 (Lépid.) (1): 245. Genus type: *Pyrgus* HÜBNER, [1819], Verz. bekannt. Schmett. (7): 109. Though this name is junior to *Pyrrhopygini* MABILLE, 1877 it is maintained as the most widely used name for this family group (Code Article 35.5).

Tribe **Carcharodini** VERITY, 1940

Farfalle diurne Ital. 1: 10 (as “Carcharodidi”). Genus type: *Carcharodus* HÜBNER, [1819], Verz. bekannt. Schmett. (7): 110. I.C.Z.N. Opinions 181 and 270 placed *Carcharodus* on the Official List of Generic Names in Zoology as name no. 686.

***Burca* BELL & COMSTOCK, 1948**

Am. Mus. Novit. 1379: 10. TS: *Nisoniades concolor* HERRICH-SCHÄFFER, 1865. CorrespBl. Zool.-min. Ver. Regensburg: 172, by original designation.

Burca stillmani BELL & COMSTOCK, 1948

Amer. Mus. Novit. 1379: 12, TL: Dominican Republic, Rio Yaque, 10 miles south of Monte Christi. Types: HT ♂, and AT ♀, Rio Yaque, 10 miles south of Monte Christi, February 25 and 23, 1931. PTs: 1 ♀, Monte Christi, May 6, 1915; 9 ♂♂, Rio Yaque, 10 miles south of Monte Christi, March, 1930, February 23, 25, 1931; 3 ♂♂, 8 miles south of Monte Christi, February 24, 1930; 5 ♂♂, near Monte Christi, March 13, 1931; 2 ♀♀, 1 mile east of Monte Christi, March 6, 1931; 1 ♂, Monserat, July 20-22, 1932. In coll. AMNH. PT ♂, Rio Yaque, 10 miles south of Monte Christi, February 23, 1931. In coll. ANSP.

Distribution: Hispaniola.

Adult Characteristics: It is identifiable for the buffish palpi; UP wings blackish brown, paler outwardly. UPFWs with one to three small white subapical spots, variable in size, sometimes absent. A short costal fold enclosing a tuft of hairs arising from the base of the fold. The fringes are a little paler than the ground colour of the wings and tend to become white at the extreme tips. UNFWs subapical spots present in those specimens in which they occur on the upper side. There are some rusty red scales in the apical area and some pale brown or greyish scales along the outer margin and on the base of the fringes. UPHWs with no pattern, fringes whitish, crossed by brown at the ends of the veins. UNHWs with blurred black bands, and in the discal and outer angle areas may be present some rusty brown or red brown scales.

Comments: Described from the Monte Cristi area in the NW of Hispaniola, it is especially distributed in the south of the island. It is less common than *B. hispaniolae*. There is a record from the east at Playa Bayahibe (LA). Both species of *Burca* are uncommon in Haiti (SCHWARTZ, 1983b).

Burca hispaniolae BELL & COMSTOCK, 1948

Am. Mus. Novit. 1379: 14-16. TL: Freres, Haiti. Types: HT ♂, and AT ♀, Freres, Haiti, May 30 and 27, 1930. PTs: 4 ♂♂, 2 ♀♀, Port-au-Prince, Haiti, January 1-6, 15-23, 1922, February 11-18, 1922; 1 ♂, 1 ♀, Fond Parisien, Haiti, February 11-

18, 1922; 1 ♂, St. Marc, Haiti, March 30-April 2, 1922; 1 ♀, Supplice, Haiti, March 31, 1922; 1 ♂, Frères, Haiti, May 27, 1930; 3 ♂♂, 2 ♀♀, Pétionville, Haiti, January 24-29, 1922, about 1700 feet, May 21, 23, 31, and June 4, 1930; 1 ♂, Chacquey, Dominican Republic, 1200 feet, February 26, 1930; 1 ♂, 2 ♀♀, Manzanillo Bay, Dominican Republic, February 27, 28, 1931; 1 ♂, 6 miles southwest of Santiago, Dominican Republic, 2000 feet, March 15, 1931. In coll. AMNH. PT ♂, Port-au-Prince, Haiti, January 13, 1922. In coll. ANSP.

Distribution: Hispaniola.

Adult Characteristics: Palpi in both sexes creamy white. ♂ UPFW ground colour not intense black; well-marked patch of androconial scales on inner margin. No costal fold. Three small subapical white dots and a paler post discal band. UN similar to UP but lighter brown. ♀ ground colour grey brown. The three subapical hyaline spots larger than those of the ♂, with other three in the cell, in space 2, and in space 3, respectively. UN similar to UP but lighter.

Comments: The type material reported by BELL & COMSTOCK (1948) shows considerable variation in the size and superficial appearance of the ♂♂, but the ♀♀ vary to a less extent. Apparently there are seasonal differences. In fact, ♂♂ specimens collected from January to the middle of March are extent, and most of these individuals have one or two small FW discal white spots, although these may be occasionally absent. Specimens from April to June are larger and have no trace of the discal spots. The ♂ genitalia are the same in both forms absent. It is distributed on the western part of the island, usually in xeric environments.

Tribe **Erynnini** BRUES & F. CARPENTER, 1932

Bull. Harvard Mus. Comp. Zool. **73**: 235-236, couplet 156c (as “Erynninae”). Genus type: *Erynnis* SCHRANK, 1801, Fauna boic. **2** (1): 152, no. 197. BRUES & CARPENTER (1932) diagnosed Erynninae in a key; this is the only valid proposal of a family-group name based on the genus *Erynnis* properly identified.

Anastrus HÜBNER, [1824]

Samml. exot. Schmett. **2**: pl. [149]. TS: *Anastrus obscurus* HÜBNER, [1824], Samml. exot. Schmett. **2**: pl. [149], figs. 3, 4, by monotypy.

Anastrus sempiternus (BUTLER & DRUCE, 1872)

A[chlyodes] *Sempiternus* BUTLER & DRUCE, 1872 Cist. Ent. **1** (5): 114. TL: “Cartago, Costa Rica” implied from the title and introduction to the paper. Types: HT in BMNH.

Anastrus sempiternus dilloni (BELL & COMSTOCK, 1948)

Echelatus sempiternus dilloni BELL & COMSTOCK, 1948, Amer. Mus. Novit. **1379**: 8; TL: Pétionville, Haiti. Types: HT ♂, Pétionville, Haiti, May 25, 1930; AT ♀, La Romana [= La Romana], Dominican Republic, January 13, 1915. PTs: 1 ♂, 2 ♀♀, Aux Cayes, Haiti, March 15-22, 1922; 1 ♀, Santiago, Cuba; 1 ♂, Baron Hill, Jamaica, June, 1930; 2 ♂♂, 1 ♀, Baron Hill, Trelawney, Jamaica, June 29, July 20, October 22; 6 ♂♂, 1 ♀, Claremont, Jamaica, January, June, July, September, July 3, 1929; 1 ♀, Montego Bay, Jamaica, February 13, 1939; 3 ♂♂, Jamaica without definite locality, June. In coll. AMNH.

Distribution: Jamaica, Hispaniola, Cuba?

Adult Characteristics: On the upper side of the wings *dilloni* differs from the Neotropical *simplicior* MÖSCHLER in having a somewhat paler brown ground colour. FWs outer margin broadly darker, and no marginal band of pale spots as in *simplicior*. The FWs and HWs pattern is much less distinct. The FW discal area of the ♀ is paler than that of the ♂, and pattern is more distinct, but the FW apical area is broadly dark coloured and does not show the two dark bands as in *simplicior*. The ♂ wings underside pattern is less distinct than in *simplicior*. The ♀♀ have the pattern a little more distinct than the ♂♂, but the FWs apical area is broadly dark coloured as on the upper side, and the pale yellow spot near the apex is very prominent. It differs from the nominate subspecies in lacking the UNHW bluish flush.

Comments: Widespread and locally common but usually found singly especially during July and August. It has not been collected recently in Cuba (HERNÁNDEZ, 2004) although a PT of *dilloni* is from Santiago de Cuba.

Chiomara GODMAN & SALVIN, [1899]

Biol. centr.-amer., Lep. Rhop. **2**: 453, TS: *Achlyodes mithrax* MÖSCHLER, 1879 Verh. Zool.-bot. Ges. Wien **28** (Abh.): 225, by original designation.

Chiomara mithrax (MÖSCHLER, 1879)

Achlyodes mithrax MÖSCHLER, 1879 Verh. Zool.-bot. Ges. Wien **28** (Abh.): 225, TL: “Colombien”.

= [*Achlyodes*] *Noctula* PLÖTZ, 1884, Jb. nassau. Ver. Naturk. **37**: 15, no. 12; cited unpublished pl. 965, TL: “Parà” [Brazil]; Type(s): may be in ZMHB or lost.

= *Cycloglypha gundlachi* SKINNER & RAMSDEN, 1924, Proc. Acad. Nat. Sci. Philad. **75**: 314, TL: Guantanamo Cuba.

Distribution Mexico to Argentina.

Adult Characteristics: ♂ UPFWs with an irregular straight black band across the cell. Three parallel blurred brownish band on the UPHWs.

Comments: In the Antilles, this species is known on the basis of a few specimens from Cuba. It has been found by TAKIZAWA et al. (2003) near Maimón, Loma Leonora, 200-300 m (MN) in a xeric environment. Only 3 specimens were collected.

Gesta EVANS, 1953

Cat. Am. Hesp. Brit. Mus. **3**: 171, 200. TS: *Thanaos gesta* HERRICH-SCHÄFFER, 1863, CorrespBl. Zool.-min. Ver. Regensburg **17**: 142, by original designation.

Gesta gesta (HERRICH-SCHÄFFER, 1863)

Thanaos gesta HERRICH-SCHÄFFER, 1863, CorrespBl. Zool.-min Ver. Regensburg **17** (9): 142, TL: Cuba.

Distribution: Mexico to Argentina.

Adult Characteristics: Sexes similar. UPFWs very dark brown with variegated pattern. Costa with two small dots sometimes absent.

Comments: Common and widespread in a variety of habitats from sea level to 1000 m; found often puddling.

***Ephyriades* HÜBNER, [1819]**

Verz. bekannt. Schmett. (7): 111. **TS:** *Papilio otreus* STOLL, 1780, Uitl. Kapellen **4** (28): 78, pl. 328, fig. F, (34): 252 (index) (= *Papilio philemon* FABRICIUS, 1775, Syst. Ent.: 534, no. 392; synonym: a subspecies of *Papilio arcas* DRURY, 1773, Ill. Nat. Hist. **1**: 38, pl. 19, figs. 5, 6; 2: index), by designation of SCUDDER (1875: 164).

Ephyriades zephodes (HÜBNER, [1825])

Oileides zephodes HÜBNER, [1825], Samml. exot. Schmett. **2**: pl. [151]. TL: not known

= *Nisoniades zephodes* HÜBNER, [1819] (nom. nud.)

= *Thanaos Velasquez* LUCAS, 1857, In: SAGRA, Hist. Cuba **7** (2): 641. TL: ile de Cuba Types: in coll MNHP.

Distribution: Cuba, Hispaniola, Puerto Rico, the Virgin islands, St. Thomas, St. Bartholomew.

Adult Characteristics: ♂ wings intense black. Costal fold with creamy androconial scales. ♀ dull brownish; FW with a series of whitish, tiny subapical and discal spots. HW short mark at the end of the cell; narrow reddish brown post discal band.

Comments: Distinguished for the strong sexual dimorphism, and for the peculiar androconial system along the FWs costa. Apparently, it is replaced in Jamaica by *E. arcas philemon* F., 1775 which should occur also in Puerto Rico but the presence of these species on both islands is doubtful. Indeed, *E. arcas* DRURY occurs in Cuba, and it is very difficult to separate from *zephodes*. This latter taxon is doubtfully recorded from Cuba although one specimen was collected by QUERCI in 1930 in the Sierra Maestra (HERNÁNDEZ, 2004). Common and widespread at low and moderate elevations in a variety of habitats.

***Erynnis* SCHRANK, 1801**

Fauna boic. **2** (1): 152, no. 197. **TS:** *Papilio tages* LINNAEUS, 1758, Syst. Nat. (ed. 10) **1**: 485, no. 168, designation by SCUDDER (1872: 71).

Erynnis zarucco (LUCAS, 1857)

Thanaos Zarucco LUCAS, 1857, in: SAGRA, Hist. Cuba **7** (2): 641-642. TL: “habite l’île de Cuba”. Type(s): probably in MNHP.

Distribution: Southern USA to Argentina.

Adult Characteristics: ♂ with costal fold with whitish androconial scales. FW with 4 hyaline subapical dots; a fifth in space 3. ♀ larger, lighter, and more variegated. Brownish black with small whitish dots on both sides of the wings.

Comments: Widespread but uncommon in a few localities, and in a variety of habitats.

Tribe Achlyodidini BURMEISTER, 1878

Descr. phys. Rép. Argentine **5** (Lép.)(1): 245, 254 (as “Achlyodidae”). Genus type: *Achlyodes* HÜBNER, [1819], Verz. bekannt. Schmett. (7): 108.

***Eantis* BOISDUVAL, [1836]**

Eantis BOISDUVAL, [1836] Hist. nat. Ins., Spec. gén. Lépid. **1**: pl. 13 [= pl. 9B], f. 6, **TS:** *Urbanus thraso* HÜBNER, [1807]

Eantis papinianus (POEY, 1832)

= *Hesperia thraso Papinianus* POEY, 1832, Cent. Lép. Cuba [1pl. 2 pp]. TL: Cuba.

= *Achlyodes thraso sagra* EVANS, 1953, Cat. Am. Hesp. Brit. Mus. **3**: 177, TL: Haiti. Types: 15 ♂♂, 8 ♀♀, Haiti; 1 ♂, Porto Rico; 1 ♂, St. Thomas; in coll. BMNH.

Distribution: Cuba, Hispaniola, Puerto Rico, the Virgin Islands.

Adult Characteristics: UP wings greyish with well-defined lighter markings. UNHWs with outer margin broadly lighter.

Comments: Often known as *Achlyodes thraso* (HÜBNER, [1807]) and *papinianus* as subspecies. Following PELHAM (2008) we include it in Achlyodidini and in the genus *Eantis* (see WARREN, 1996). This taxon has had a troublesome nomenclatural history. EVANS (1953) described the ssp. *sagra* from a series of 15 ♂♂, 8 ♀♀ from Haiti, 1 ♂ from Porto Rico, 1 ♂ from St. Thomas. RILEY (1975) reported it as *Achlyodes thraso sagra*, and distinguished 3 ssp. within *A. thraso*; SCHWARTZ (1989a) as *Achlyodes papinianus sagra*, and SMITH et al. (1994) as *Achlyodes mithridates sagra*. LAMAS (2004) included it in the Pyrgini as *Achlyodes mithridates sagra* and retained distinct the ssp. *papinianus*. HERNÁNDEZ (2004) considered *papinianus* a ssp. of *A. mithridates* although in the plate (HERNÁNDEZ, 2004: pl. 26g) it is shown as *A. papinianus papinianus*, and also the text is confusing regarding its nomenclatural status. The taxon *sagra* is similar to *papinianus* but UNHW with the white scaling arranged in two narrow discal and submarginal bands. It is currently considered a synonym.

This is a widely distributed species from sea level to medium elevations. The Jamaican *mithridates* (FABRICIUS, 1793) is figured by WARREN et al. (2016).

Tribe **Pyrgini** BURMEISTER, 1878

Pyrgus HÜBNER, [1819]

Verz. bekannt. Schmett. (7): 109. **TS:** *Papilio alveolus* HÜBNER, [1803], Samml. europ. Schmett. 1: pl. 92, figs. 466, 467 [= *Papilio malvae* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 485, no. 167; synonym], by designation of WESTWOOD [1841], in: Brit. Butterflies Transf. (ed. 1): 123. I.C.Z.N. Opinion 278 placed this name on the Official List of Generic Names in Zoology as name no. 706.

As PELHAM (2008, 2012) noted, as a result of the erroneous type-species designation of *Hesperia* FABRICIUS, 1793 by SCUDDER (1875: 187-189), most of what is now known as *Pyrgus* was previously called *Hesperia*. The action of PLÖTZ (1879), Stettiner Ent. Ztg. 40 (4-6): 179, of citing *malvae* as the TS of *Carcharodus* HÜBNER, [1819], Verz. bekannt. Schmett. (7): 110, further confused the issue surrounding the identity of *Pyrgus*. The situation was explained by HEMMING (1967: 94-95).

Pyrgus oileus oileus (LINNAEUS, 1767)

P[apilio]. P[lebejus Urbicola]. Oileus LINNAEUS, 1767 Syst. Nat. (ed. 12) 1 (2): 795, no. 269. TL: “Algiriae” [Algeria]; suggested to be “Mexico or the U.S.A.” by EVANS (1953:221) Type(s): apparently lost, as noted by HONEY & SCOBLE (2001). This name was resurrected by EVANS (1953) to replace *syrichtus* (FABRICIUS, 1775), a name previously in wide use.

Distribution: Usa to Brazil. West Indies.

Adult Characteristics: ♂ FW costal fold not clearly visible greyish ground colour with a series of small white spots.

Comments: Very common and widespread in a variety of habitats, rarely in forests, from sea level up to 1700 m. RILEY (1975) reported *Heliopetes arsalte* (L., 1758) after the quotation by HALL (1925) of one specimen from “above La Vega”. It may be a stray or a misidentification.

Pyrgus crisia (HERRICH-SCHÄFFER, 1865)

Pyrgus crisia HERRICH-SCHÄFFER, 1865, CorrespBl. Zool.-min Ver. Regensburg 18 (11-12): 171, TL: Cuba.
= *Syrichtus* [sic] *odilia* OBERTHÜR, 1912, Et. Lép. Comp., 6: 65, pl. 137 n. 1202. TL: Port-au-Prince (Haiti).

Distribution: Cuba, Hispaniola, ?Puerto Rico.

Adult Characteristics: Similar to *P. oileus* (L.) but much darker and with a reduction of the maculation. ♂♂ with costal fold.

Comments: Local and uncommon in Haiti (SCHWARTZ, 1983b). In the Dominican Republic, it is much more uncommon than *P. oileus* (L.) but widespread and local, often syntopic with *P. oileus* (L.).

Subfamily **Hesperiinae** LATREILLE 1809

Gen. Crust. Ins. 4: 187, 207 (as “Hesperides”). Genus type: *Hesperia* FABRICIUS, 1793, Ent. Syst. 3 (1): 258, no. 187.

Tribe **incertae sedis**

Perichares, SCUDDER, 1872

4th Ann. Rep. Peabody Acad. Sci. (1871): 81, TS: *Papilio coridon* FABRICIUS, 1775.

Perichares philetes philetes (GMELIN, [1790])

Papilio philetes GMELIN, [1790], in LINNAEUS, Syst. Nat. (edn 13) 1 (5): 2364 (repl. name), TL: Jamaica.
= *Eudamus trinitad* LUCAS, 1857, in SAGRA, Hist. fis. pol. nat. Isla Cuba (2) 7 : 626, TL: Cuba.

Distribution: central America to S Brazil. Cuba, Hispaniola, Jamaica, Puerto Rico in the Antilles.

Adult Characteristics: UPFWs with a <- shaped cellular spot. UNHWs with large brown discal spot.

Comments: Apparently scarce in Haiti (SCHWARTZ, 1983b), and also in the Dominican Republic is never abundant but widespread from sea level to 2000.

Tribe **Thymelicini** TUTT, 1905

Nat. Hist. Brit. Butterflies 1 (1): 90, 91 (as “Thymelicinae” and “Thymelici”). Genus type: *Thymelicus* HÜBNER, [1819], Verz. bekannt. Schmett. (7): 113.

Copaeodes SPEYER, 1877

In EDWARDS, Trans. amer. Ent. Soc. 6 : 49, 64, **TS:** *Heteropterus procris* EDWARDS, 1871.

Copaeodes stillmani BELL & COMSTOCK, 1948

Copaeodes stillmani BELL & COMSTOCK, 1948, Amer. Mus. Novit. 1379: 18. TL: “near Monte Christi, Dominican Republic”. Types: HT ♂, AT ♀, Rio Yaque, 10 miles south of Monte Christi, February 25 and 23, 1931. Paratypes: 1 ♀, Monte Christi, May 6, 1915; 9 ♂♂, Rio Yaque, 10 miles south of Monte Christi, March, 1930, February 23, 25, 1931; 3 ♂♂, 8 miles south of Monte Christi, February 24, 1930; 5 ♂♂, near Monte Christi, March 13, 1931; 2 ♀♀, 1 mile east of Monte Christi, March 6, 1931; 1 ♂, Monserat [= Monserrat, Baoruco], July 20-22, 1932 in coll. AMNH. 1 ♂, Rio Yaque, 10 miles south of Monte Christi, February 23, 1931 in coll. ANSP.

Distribution: Hispaniola.

Adult Characteristics: Sexes similar. ♂ UPFWs Orange background colouration with large brownish shade on the distal area. Black thin androconia between veins 2 and 3. UNHWs with brown veins.

Comments: As BELL & COMSTOCK (1948) reported the short antennae, the antennal clubs, the palpi, and the stigmata of the ♂ FWs appear to be quite the same as those of other species placed in the genus *Copaeodes*. The shape of the wings is similar to that of the Continental *Copaeodes minima* EDWARDS, 1870, but the FWs are a little less apically pointed. This is a local and uncommon species described from a few specimens from Monte Cristi area (MC). One ♂ was found many years later in Isla Catalina (LR) but its range is on the western part of the Dominican Republic where it can be fairly not uncommon. It is bound for xerophilic grass *Uniola virgata*.

Tribe Calpodini CLARK, 1948

Proc. Biol. Soc. Wash. 61: 81. Genus type: *Calpodes* HÜBNER, [1819], Verz. bekannt. Schmett. (7): 107. Proposed by indication (see Code Article 13.2.1). VOSS (1952), Ann. Ent. Soc. Am. 45(2): 255, also proposed this name; he did not cite CLARK, but established *Calpodes* as the genus type, thus validating CLARK's authorship.

***Calpodes* HÜBNER, [1819]**

Verz. bekannt. Schmett. (7): 107. TS: *Papilio ethlius* STOLL, 1782, Uitl. Kapellen 4 (33): 212, pl. 392, figs. A, B; (34): 249 (index), by designation of SCUDDER (1872: 82).

***Calpodes ethlius* (STOLL, 1782)**

Papilio. *Pleb[ejus]*. *Urbicol[a]*. *Ethlius* STOLL, 1782 Uitl. Kapellen 4 (33): 212, pl. 392, figs. A ♂ dors., B ♂ vent.; (34): 249 (index). TL: "Surinamen" "Suriname"; Type(s): probably lost (RAYE DE BREUKELEWAERT collection, in RMNH?).

Distribution: Southern USA to Argentina. In the Antilles widespread with the exception of the Virgin Islands.

Adult Characteristics: ♂♂ and ♀♀ similar. FWs with a series of six spots from the apical to discal areas. One spot in the cell. HWs with three yellowish discal spots; anal lobe prominent.

Comments: A migratory species. Five specimens known so far from Polo, 702 m (BH), 1,7 km S Jarabacoa, 488 m (LV), and S. Domingo (SD) (SCHWARTZ, 1989:102). We found one ♂ at Arroyo Cano (SJ).

***Panoquina* HEMMING, 1934**

Ent. 67 (849): 38. TS: *Hesperia panoquin* SCUDDER, 1863, Proc. Essex Inst. 3: 178-179, no. 81, as replacement name. Proposed to replace *Prenes*, 1872, preoccupied by GISTEL, 1848 [Pisces] (Code Articles 60.3, 67.8).

***Panoquina panoquinoides panoquinoides* (SKINNER, 1891)**

P[amphila] panoquinoides SKINNER, 1891 Ent. News 2 (9): 175; figured by SKINNER (1900), Ent. News 11 (4): pl. 2, fig. 26 ♂. TL: "Key West, Fla. and Texas" [Monroe County, Florida]. Types: ST (#7103, labeled "holotype", from "Key West, Fla." in CMNH).

Distribution: From California to Brazil. West Indies.

Adult Characteristics: UPFWs brownish with a series of 3-4 spots. UNHWs with 2 distinct and separate spots.

Comments: Apparently a very scarce species, perhaps bound to coastal habitats; only a few specimens known from Puerto Plata (PP), Playa Juan Dolio (PM), and Monte Cristi (MC).

***Panoquina ocola ocola* (EDWARDS, 1863)**

Hesperia Ocola EDWARDS, 1863, Proc. Ent. Soc. Philad. 2 (1): 14, 20, no. 10; (4): pl. 11, fig. 4 ♂ dors. TL: "Georgia; Florida; Texas"; NT from "Fla.". Types: NT in CMNH, designated by BROWN & MILLER (1987: 61, fig. 24 ♂ dors. & vent.).

Distribution: Southern USA to Argentina. West Indies.

Adult Characteristics: Sexes similar. Light brown colouration with 2 small FWs discal spots.

Comments: Similar to *P. lucas* but it is slightly smaller, colouration more ochraceous brown. No FW cell spot, spot on vein 1 often yellow. UNFW apical veins yellowish. UNHW veins yellowish with no oblique white band as in *P. lucas*. Sporadic in Cuba, Jamaica, Hispaniola, and Puerto Rico. A xerophilous species often a pest to sugar cane.

***Panoquina [ocola] distipuncta* JOHNSON & MATUSIK, 1988**

Ann. Carnegie Mus. 57: 245, TL: [Dominican Republic Pedernales Prov.] "CMNH Expedition Base camp 18°10' N, 71° 37' W, 1600 m, circa 4 km from upper Abejas, in xeric pine forest". Types: HT ♂, AT ♀, 1987 CMNH Expedition Base Camp, 18°10'N, 71°37'W, 1600 m, circa 4 km from upper Abejas, in xeric pine forest, 16 July 1987, leg. K. JOHNSON, deposited in coll. CMNH (AMNH/HS dissections #39, 40 transferred to CMNH). PTs: CMNH (1 ♂, 1 ♀) same data as primary types (AMNH/HS #41,42 transferred to CMNH), (2 ♂♂), pine forest on way to Las Abejas, 4-11 July 1985 [circa 1520 m], leg. D. MATUSIK (AMNH/HS #43, 46 transferred to CMNH); AMNH (2 ♂♂, 2 ♀♀) pine forest on way to Las Abejas, July 13, 1986 [circa 1520 m], leg. D. MATUSIK and K. JOHNSON (AMNH/HS #49, 50, 51, 52); in coll. MGCL (2 ♂♂, 1 ♀), data as on primary types, on lifetime loan to A. SCHWARTZ (AMNH/HS #47, 120,121 transferred to coll. MGCL); BMNH (1 ♂, 1 ♀), data as on primary types (AMNH/HS #48, 122).

Distribution: Dominican Republic, Pedernales Prov. Upper Abejas 1600 m.

Adult Characteristics: It differs from the typical *ocola* for a small spot in the cell and another small streak in the anal area of UPFWs.

Comments: The status of this taxon is still fluid. It was described on a series of 9 ♂♂ and 6 ♀♀ from the upland pine forests of the Sierra de Baboruco. Apparently, ecology and genitalia are similar to those of the nominate *P. ocola* (EDW.) but the pattern is reminiscent to that of *P. lucas* (F.). SCHWARTZ (1989a) suggested it might be a different species.

***Panoquina nero* (FABRICIUS, 1798)**

Hesperia nero FABRICIUS, 1798, Ent. Syst. (Suppl.): 433, TL: “in America meridionali” restricted to [Haiti] by RILEY (1975).
= *Panoquina nero belli* WATSON, 1937, Amer. Mus. Novit. **906**: 4. TL: Aibonito, Puerto Rico.

Distribution: Hispaniola, Puerto Rico

Adult Characteristics: Sexes similar. It shows a FW cell streak which is absent in *P. ocola* and reminiscent of *P. lucas* (F.) but the UNHW oblique white band distinguishes it clearly. The genitalia are similar to those of *P. ocola* (EDW.).

Comments: Similar to the Cuban *P. corrupta* (H.-S., 1865) but larger and with UNHWs white band parallel to the outer margin. UP and UN wings with 3 white subapical small dots, 4 discal spots, and one streak in the cell. SCHWARTZ (1989a) reported 11 specimens from Haiti, and Dominican Republic (Independencia and Pedernales Provinces) from 5 localities only. Apparently very uncommon in mesic hardwoods or in open pine forests.

***Panoquina lucas* (FABRICIUS, 1793)**

H[esperia]. U[rbicola]. Lucas FABRICIUS, 1793, Ent. Syst. **3** (1): 339, no. 290. TL: “Americae meridionalis Insulis”

Types: LT in ZMUC, designated by MIELKE & CASAGRANDE (2002: 59).

= [*Goniloba*] *sylvicola* HERRICH-SCHÄFFER, 1865 CorrespBl. Zool.-min. Ver. Regensburg **19** (3/4): 55, no. 13.

TL: “Cuba” implied from the title of the paper. **Types:** LT in ZMHB, designated by MIELKE & CASAGRANDE (2002: 59).

= *Panoquina sylvicola woodruffi* WATSON, 1937 Am. Mus. Novit. **906**: 6. TL: “Aibonito, Puerto Rico”. **Types:** HT in AMNH.

Distribution: West Indies.

Adult Characteristics: Similar to *P. ocola* (EDW.). UPFWs with several hyaline spots. UNHWs with small post median spots.

Comments: Commonly known as *P. sylvicola* (H.-S.) (see SCHWARTZ, 1989a). Puerto Rico ♀♀ lack the blue flush on UNHW, and the ground colour is lighter brown. This form named *woodruffi* occurs in various Antillean islands and LAMAS (2004) retained it as a valid subspecies. Widespread and common in Haiti (SCHWARTZ, 1983b), in the Dominican Republic is found in mesic and xeric habitats at 600-1100 m.

Tribe Anthoptini WARREN, 2009

In: WARREN et al., Syst. Ent. **34** (3): 479, fig. 4, 482, 498. Genus type: *Anthoptus* BELL, 1942, Am. Mus. Novit. **1205**: 7.

***Synapte* MABILLE, 1904**

In WYTSMAN (1904), Genera Insectorum **17B**: 133, **TS:** *Carystus salemus* MABILLE, 1883.

***Synapte malitiosa* (HERRICH-SCHÄFFER, 1865)**

Goniloba malitiosa HERRICH-SCHÄFFER, 1865, CorrespBl. Zool.-min Ver. Regensburg **19** (3-4): 54; TL: Cuba.

***Synapte malitiosa adoceta* SCHWARTZ & SOMMER, 1986**

Synapte malitiosa adoceta SCHWARTZ & SOMMER, 1986 Florida Sci. **49**: 20-21. TL: Republica Dominicana: Provincia de La Altagracia: 16 km NE La Romana, 61 m; **Types:** HT ♀. Republica Dominicana: Provincia de La Altagracia: 16 km NE La Romana, 61 m, 17. vi. 1981, W.W. SOMMER (ex coll. W. W. SOMMER, no. 683) in coll. MGCL,

PTs: in the collection of ALBERT SCHWARTZ [AS] unless otherwise indicated: La Altagracia: 6694, 16 km NE La Romana, 61 m, 1 ♂, 30.vii.1981, FG (= FRANK GALI coll.); Sanchez Ramirez: 12531, 1 km NE Las Lagunas, 183 m, 1 ♀, 3.ii.1984, RWW (= RW WISOR coll.); Santiago: 10861, Rio Bao, 8 km SE Montones Abajo, 488 m, 1 ♂, 1.viii.1983, AS; La Vega: 10990, Buena Vista, 11 km NE Jarabacoa, 640 m, 1 ♂, 1.viii.1983, JWR (=JOEL W. RABURN coll.); Independencia: 0390, 10396, 10398, 10404, 7 km NE El Aguacate, 519 m, 2 ♂♂, 2 ♀♀, 14.vii.1983, AS; 10435-38, 10444, 10446, 7 km NE El Aguacate, 519 m, 3 ♂♂, 3 ♀♀, 15.vii.1983, AS; 11119-23, 4-7 km NE El Aguacate, 519-732 m, 11.viii.1983, AS; 11538-41, 4-7 km NE El Aguacate, 519-732 m, 3 ♂♂, 1 ♀, 11.x. 1983, AS; 11660-11661, 7 km NE El Aguacate, 519 m, 1 ♂, 1 ♀, 15.x. 1983, AS; Barahona: 11189, El Limon, summit. Sierra Martin Garcia, 976-1037 m, 1 ♂, 13.viii.1983, PEA (PORFIRIO E. AMADOR coll.); 10335, west slope. Sierra Martin Garcia, 640 m, 1 ♀, 9.vii.1983, JWR; 11210A, west slope. Sierra Martin Garcia, 488-534 m, 1 ♀, 13.viii.1983, PEA; 9655, Polo, 702 m, 1 ♀, 24.vii.1982, FG; FG 620, 12 km SW Barahona, 427 m, 1 ♂, 9.vii.1983, FG; 8401, 8403-04, FG 705-06, 8 km NW Paraiso, 153 m, 4 ♂♂, 1 ♀, 28.vii. 1982, FG, AS; 11606-07, 11609-11, 11616-17, 11620, 8 km NW Paraiso, 153 m, 6 ♂♂, 2 ♀♀, 14.x. 1983, JWR, AS; 13189, 18193-200, 8 km NW Paraiso, 153 m, 7 ♂♂, 2 ♀♀, 3.iv.1984, RWH, AS; 13283, 13285, 13291-92, 13296-97, 8 km NW Paraiso, 153 m, 5 ♂♂, 1 ♀, 6.iv.1984, AS; 10264, 9 km NW Enriquillo, 671 m, 1 ♀, 5.vii.1983, AS.

Distribution: Hispaniola.

Adult Characteristics: Uniformly brownish with light yellowish spots on UPFWs. Reddish stripes along the UNFWs costa.

Comments: It was firstly reported by SCHWARTZ et al. (1985) and then described as a new subspecies by SCHWARTZ & SOMMER (1986). It is very uncommon but widely distributed from 60 to 1000 m. It is especially present in the Province of Barahona (BH), and we found it at Arroyo Cano (SJ). The species is very common and widespread in Cuba and found also in Jamaica.

Tribe Moncini WARREN, 2008

In WARREN et al. (2008), Cladistics **24** (5): 4, 8, 17. Genus type: *Monca* EVANS, 1955, Cat. Am. Hesp. Brit. Mus. **4**: 87, 124.

***Cymaenes* SCUDDER, 1872**

4th Ann. Rep. Peabody Acad. Sci. (1871): 82, **TS:** *Cobalus tripunctus* HERRICH-SCHÄFFER, 1865.

= *Megistias* GODMAN, [1900] in GODMAN & SALVIN, Biol. centr.-amer., Lep. Rhop. **2**: 571, **TS:** *Hesperia tripunctata* LATREILLE, [1824]

Cymaenes tripunctus tripunctus (HERRICH-SCHÄFFER, 1865)

Cobalus tripunctus HERRICH-SCHÄFFER, 1865, CorrespBl. Zool.-min Ver. Regensburg **19** (3-4): 53, TL: Cuba.

Distribution: Southern USA to Brazil.

Adult Characteristics: ♂♂ with FW black modified scales forming a sex brand patch along the base of space 1 and a streak along vein 1. *L. eufala* has no sex brand. UPFWs with 3 subapical hyaline spots. The antennae in *tripunctus* are longer than half FW costal margin. In *L. eufala* the antennae are shorter than this.

Comments: Widespread in the Greater Antilles. In Hispaniola it is found singly but not uncommon.

***Rhinthon* GODMAN, [1900]**

In GODMAN & SALVIN [1900], Biol. centr.-amer., Lep. Rhop. **2**: 530, TS: *Proteides chiriquensis* MABILLE, 1889.

***“Rhinthon” bushi* WATSON, 1937**

Rhinthon bushi WATSON, 1937, Amer. Mus. Novit. **906**: 9. TL: Paradis, San Domingo, West Indies, 1800 ft.; Type: HT ♂, Paradis, San Domingo, West Indies, 1800 ft., Aug. 18, 1932 (BUSH [Leg.]), in coll. AMNH.

Distribution: Dominican Republic.

Adult Characteristics: WATSON (1937) described this taxon as follows: “Male, UP wings dark brown. UPFW dark fulvous hairs and scales in the basal area; three pale yellow subapical spots, the upper being elongate and the second very small. Four large more or less quadrate semi-hyaline yellowish-white spots: one in the cell, the other shaping a postdiscal band. Fringes dark brown, orange at anal angle. UPHW with reddish-brown hairs in the basal area. UNFW the cell spot has above it 3 bright greenish-yellow streaks. A fourth subapical spot of bright greenish-yellow appears above the 3 mentioned followed by a small streak toward the apex and a second above it of the same colour. UPHW with 5 spots. A small round orange spot at base of interspace Sc + R1-R2. A large irregular white spot in the cell more or less ringed with orange scales distad of which is a second small nearly round orange spot. Below this a silvery-white elliptical spot in the base of interspace Cu2-A2. A larger nearly elliptical spot of silvery-white lies below the one just mentioned. These three large discal spots are contiguous and form a large irregular spot basad of the center of the wing. Above, the palpi, head and patagia are bright green, shining, mixed with dark fulvous hairs. Tegulae, brown with some greenish hairs. Thorax denuded. Abdomen dark brown. Beneath, palpi bright dark orange with a few bright shining green scales. Thorax and base of abdomen bright green. Remainder of abdomen brown with some dark fulvous hairs. Legs dark fulvous, femures with green hairs. Antennae, above, dark brown, clubs black with a few scattered dark fulvous scales at the base. Below, dark brown, club, orange. Expanse, 34.4 mm.; length of primary, 18 mm.”

Comments: SMITH et al. (1994), who examined SCHWARTZ’s specimens (1 ♂ from Haiti, 4 ♀♀ from Sto Domingo, Jayaco, Jarabacoa 530 m, 1 km S Jarabacoa 519 m (LV)) tentatively determined as *R. bushi* by SCHWARTZ (1989a:75) claimed that these are referable to *cubana*. SCHWARTZ (1989a) reported the HT of *bushi* which is quite diverse from *cubana* and therefore it is assumed that both species occur in Hispaniola.

R. bushi seems to be endemic to the Dominican Republic given that the TL of the HT seems correct. COMSTOCK (1943), treating on *Appias* pierids, mentioned specimens collected by W. M. BUSH at Barahona during July and August 1932. The Type locality “Paradis” of *R. bushi* should be Paraíso, a locality 40 km SW of Barahona (BH), although the altitude 1800’ does not fit. Presumably, the specimen was collected on the hills behind Paraíso and appears the unique collected so far. We have never come across with both species.

***Rhinthon cubana cubana* (HERRICH-SCHÄFFER, 1865)**

Goniloba cubana HERRICH-SCHÄFFER, 1865 CorrespBl. Zool.-min Ver. Regensburg **19** (3-4): 55, TL: Cuba.

Distribution: Cuba, Jamaica, Hispaniola.

Adult Characteristics: UP wings dark brown. FWs with apical and discal hyaline whitish spots. HWs with 3 small postdiscal spots in both sexes differing from the HT of *Rhinthon bushi* WATSON.

Comments: As it was reported above, according to SMITH et al. (1994), the specimens identified by SCHWARTZ as *R. bushi* WATSON from Dominican Republic and Haiti, are to be referred to *R. cubana*.

SCHWARTZ (1983b: 65) collected in Haiti, l’Ouest, Decouzé, 641 m, 1 ♀ which he related to a possible new species near *cubana*. From this latter, it differs for lacking the greenish head and thorax. Possibly for this reason, SCOTT (1986a) treated it as a ssp. of *R. osca* (PLÖTZ, 1882), which has a brownish head and thorax. *Rhinthon osca* (PLÖTZ) apparently was never reported from the Antilles, although widespread from S Texas to Ecuador and Trinidad.

Tribe Hesperini LATREILLE, 1809

Gen. Crust. Ins. **4**: 187, 207 (as “Hesperides”). Genus type: *Hesperia* FABRICIUS, 1793, Ent. Syst. **3** (1): 258, no. 187.

***Hylephila* BILLBERG, 1820**

Enum. Ins. Mus. Billb.: 81. TS: *Papilio phyleus* DRURY, 1773, Ill. Nat. Hist. **1**: 25-26, pl. 13, figs. 4, 5; 2: index, designation by SCUDDER (1875)

= *Euthymus* SCUDDER, 1872, 4th Ann. Rep. Peabody Acad. Sci. (1871): 77. TS: *Papilio phyleus* DRURY, 1773, Ill. Nat. Hist. **1**: 25-26, pl. 13, figs. 4, 5; 2: index, by original designation. Preoccupied by *Euthymus* RAFINESQUE, 1815, Analyse Nat.:127, and also a junior objective synonym of *Hylephila*.

= *Andinus* HAYWARD, 1940, Revta. Soc. Ent. Argent. **10** (3): 284-285. TS: *Andinus venustus* HAYWARD, 1940, Revta. Soc. Ent. Arg. Ent. **10**(3): 285-286, fig. 9, by original designation.

= *Cordillana* HAYWARD, 1941, Revta. Mus. La Plata, Zool. (n.s.) **2** (14): 288. TS: *Andinus venustus* HAYWARD, 1940, Rev. Soc. Ent. Arg. Ent. **10**: 285, as replacement name; proposed to replace *Andinus* HAYWARD, 1940, erroneously thought preoccupied.

***Hylephila phyleus phyleus* (DRURY, 1773)**

Papilio Phyleus DRURY, 1773, Ill. Nat. Hist. 1: 25-26, pl. 13, figs. 4 ♂ dors., 5 ♂ vent. (1770); 2: index (1773, name given). TL: "Antigua, St. Christopher's, Nevies"; suggested to be "Antigua" by EVANS (1955: 311), Type(s): probably lost. = *Papilio Druryi* MEGERLE, [1803], Cat. Ins. Viennae Austriae 28 Novembris 1803, auctionis: [29]. Proposed to replace *Papilio phyleus* DRURY, 1773, erroneously thought preoccupied. I.C.Z.N. Opinion 1710 placed this work on the Official Index of Rejected and Invalid Works in Zoological Nomenclature.

Distribution: Southern USA to Argentina, West Indies.

Adult Characteristics: ♂ UPFWs with a narrow androconial patch, orange background with brown markings. A series of marginal cuneiform streaks on the upperside of both wings. ♀ suffused with brownish scales so as to appear as the "negative" of the ♂.

Comments: Widespread and fairly common especially in open grasslands up to 1000 m. Also in Haiti it is common in a variety of habitats (SCHWARTZ, 1983b).

***Hesperia* FABRICIUS, 1793**

Ent. Syst. 3 (1): 258, no. 187. TS: *Papilio comma* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 484, no. 162, by designation of DALMAN (1816), K. svenska VetenskAkad. Handl. 37 (2): 200. I.C.Z.N. Opinion 1240 placed this name on the Official Index of Generic Names in Zoology as name no. 2178. Due to the erroneous type designation by SCUDDER (1875: 187-189), most of what is now known as *Pyrgus* was previously called *Hesperia*.

***Hesperia nabokovi* (BELL & COMSTOCK, 1948)**

Atalopedes nabokovi BELL & COMSTOCK, 1948, Amer. Mus. Novit. 1379: 19, TL: Thomazeau, Haiti. Types: HT ♂, Thomazeau, Haiti, September 4, 1934 (D. M. BATES [leg.]) in coll. MCZ at Harvard College; AT ♀, Fond Parisien, Haiti, February 11-18, 1922. In coll. AMNH.

Distribution: Hispaniola.

Adult Characteristics: ♂ UPFW large triangular black androconia, orange ground colouration, costa brown on its basal half; apical area and outer margin pale brown. UNHWs yellowish with small pale spots. ♀ UPFWs light brown with fulvous spots in spaces 1 to 5. Three very small subapical spots and two streaks in the cell. UNHWs with six white discal spots which are faint on UP.

Comments: According to BELL & COMSTOCK (1948) *H. nabokovi* resembles *Atalopedes campestris* BOISDUVAL, 1852 from the mainland than it does the Cuban *mesogramma* LATREILLE, 1822 or the subspecies *apa* COMSTOCK, 1944 from Puerto Rico and Hispaniola. The ♂ of *nabokovi* is much larger and more extensively orange fulvous than the ♂ of *campestris*, but the ♀♀ of the two species bear more resemblance to each other, although they are not likely to be confused as *campestris* which is confined to the mainland. The ♂ genitalia show specific differences from those of *campestris*, the unci and the terminal parts of the claspers being different in the two species.

Found in a few localities on the north and south part of Hispaniola. It is usually associated with *Acacia* scrubs along the coast. In the same biotope often sympatric with *O. stillmani* and *Calisto franciscoi* on tufts of the grass *Uniola virgata*. According to EVANS (1955) ♀ UPFW discal spots opaque.

***Polites* SCUDDER, 1872**

4th Ann. Rep. Peabody Acad. Sci. (1871): 78; TS: *Hesperia peckius* KIRBY, 1837.

***Polites baracoa* (LUCAS, 1857)**

Hesperia baracoa LUCAS, 1857, in SAGRA (1872), Hist. fis. pol. nat. Isla Cuba (2) 7: 650, TL: Cuba.

***Polites baracoa loma* EVANS, 1955**

Cat. amer. Hesp. Brit. Mus. 4: 329. TL: Haiti, Types: described on 19 ♂♂, 3 ♀♀ from Haiti; HT ♂ in BMNH.

Distribution: Hispaniola.

Adult Characteristics: Distinguished from the nominate Cuban subspecies for the ♂ UPFW androconial patch darker and longer, from base of vein 4 to mid-vein 1 unbroken whereas in *baracoa* it is shorter and broken in 3 parts, and for the broader anal band. HWs interspersed with fulvous scales.

Comments. It occurs in a variety of habitats but usually found singly from 200 to 1400 m.

***Wallengrenia* BERG, 1897**

An. Mus. Nac. (Buenos Aires) (2) 5: 254-255. TS: *Hesperia premnas* WALLENGREN, 1860, Wien. Ent. Montaschr. 4 (2): 38, no. 20, by original designation.

***Wallengrenia drury* (LATREILLE, [1824])**

Hesperia drury LATREILLE, [1824], Encyclopédie Méthodique 9 (2): 767, TL: "Pennsylvania".

Distribution: Hispaniola.

Adult Characteristics: ♂ UPFWs with a roughly triangular androconial brand. Pale orange background colouration on both wings with darker marginal areas. ♀ duller with 3-4 discal spots on the FWs.

Comments: It is widespread geographically and altitudinally from sea level to 1800 m. For some authors (see LAMAS, 2004) it is a ssp. of *W. otho*. In Puerto Rico is present *W. otho mutchleri* WATSON, 1937.

***Atalopedes* SCUDDER, 1872**

4th Ann. Rep. Peabody Acad. Sci. (1871): 78. TS: *Hesperia huron* W. H. EDWARDS, 1863, Proc. Ent. Soc. Philad. 2 (1): 16-17, no. 4, pl. 1, figs. 1, 2 (= *Hesperia campestris* BOISDUVAL, 1852, Ann.. Soc. Ent. Fr. (2) 10: 316; subspecies), by

original designation.

Atalopedes mesogramma (LATREILLE, [1824])

Hesperia mesogramma LATREILLE, [1824], Encyclopédie Méthodique 9 (2): 765, TL: Brazil.

Atalopedes mesogramma apa COMSTOCK, 1944

Sci. Surv. Puerto Rico & Virgin Is. 12 (4): 559. TL: Puerto Rico.

Distribution: Hispaniola, Puerto Rico.

Adult Characteristics: A distinctive taxon. ♂ with conspicuous, roughly rectangular androconial patch. Brown ground colour with orange spots. UNHWs with long yellowish discal longitudinal band. ♀ with lighter markings; the spot on vein is always tawny.

Comments: This taxon, compared with the nominate ssp., is slightly smaller and much brighter for the most extensive orange colouration of FWs between the costa and the sex-brand. This colouration is also more extensive in space 1a and on the HW discal area. EVANS (1955: 339) reported 23 ♂♂ and 6 ♀♀ from Haiti. SCHWARTZ (1989a) reported this taxon from sea level up to 1800 m in a variety of habitats especially in July-August.

Ochlodes SCUDDER, 1872

4th Ann. Rep. Peabody Acad. Sci. (1871): 78, TS: *Hesperia nemorum* BOISDUVAL, 1852

Ochlodes batesi (BELL, 1935)

Poanes batesi BELL, 1935, Psyche 42: 63. TL: La Selle Mts., Haiti, Types: HT ♂, La Selle Mts., September 23. AT ♀, La Selle Mts., September 20. PTs: 14 ♂♂, 5 ♀♀, La Selle Mts., September 18-23; 1 ♂, Roche Croix, La Hotte, October 13. HT, AT and 16 PTs are in coll. MCZ. 2014. 4 PTs (2 ♂♂, 2 ♀♀) are in the collection of the author.

Distribution: Hispaniola.

Adult Characteristics: ♂ UPFW with a large, oblique, narrow, blackish androconial patch. The costal margin to near the end of the cell orange with three small post cellular spots. Basal area of cell 1 orange fulvous, somewhat darker. Outer marginal area of FWs blackish brown, suffused with orange fulvous scales. A subquadrate whitish discal spot.

Comments: *Ochlodes batesi* appears to be a species of the high altitudes and in this respect agrees with the Mexican species *Paratrytone polyclea* GODMAN, 1900 and *O. aphractioia* DYAR, 1914. It is very uncommon and found usually above 1000 m up to 2300 m in pine or cloud forests although SCHWARTZ (1989a: 98) claimed that the species is found in open places. Apparently is more abundant during September. This taxon is known also in combination with *Paratrytone* GODMAN, 1900.

Choranthus SCUDDER, 1872

4th Ann. Rep. Peabody Acad. Sci. (1871): 79 TS: *Hesperia radians* LUCAS, 1857

Choranthus haitiensis SKINNER, 1920

Choranthus haitiensis SKINNER, 1920 Ent. News 31: 187. TL: Port de Paix, [Haiti]. GILLHAM & EHRLICH (1954) noted the presence of the holotype from Port de Paix, Haiti in ANSP.

Distribution: Hispaniola.

Adult Characteristics: It differs from the Cuban *C. radians* Lefèbvre, apart from the sex mark, as follows: UPFWs veins black, the fulvous not dentate into the fuscous border. HWs fuscous border entire. UNFW entirely fulvous, except the base and the border of the inner margin. HWs entirely fulvous.

Comments: Similar to the Puerto Rican *C. vitellius* F. 1793 but with a very delicate linear black sex brand which is interrupted by vein 2. HWs with dark scale suffusion along outer margin. ♀ with darker markings. This is the species of *Choranthus* more widespread and common. It occurs in grassy places from sea level to 1000 m. It may have at least three generations.

SKINNER (1920c) reported that he described it from a number of specimens from Haiti and San Domingo. The only definite localities are Samaná Bay, "San Domingo", and the type ♂ from Port de Paix, Haiti. VII, 27, 1917 as well as a ♀ with the same data.

Choranthus maria MINNO, 1990

Trop. Lepid. 1: 55. TL: Dominican Republic: Puerto Plata Prov. 1,5 km E Sosúa, Type: HT ♀, Dominican Republic, Puerto Plata Prov.: 1.5Km E. Sosúa, 23 Nov 1988, M. C. MINNO & T. C. EMMEL (reared ex. larva on *Sabal*). HT ♀ in coll. MGCL.

Distribution: Dominican Republic, Puerto Plata Prov.

Adult Characteristics: ♂ not known. LFW 11.5mm; ♀. Head, thorax and abdomen covered with yellow and black scales. Outer black border broad on both wing.

UPFW with distinct black streak from the base, through the cell, to the outer black border. This streak contains two small golden spots before the distal end of the cell, and a small diffuse golden spot between M1-M2 at the junction with the outer black border.

UNFW. Apex covered with light-yellow and black scales which blend to an olivaceous colour.

UPHW golden-yellow with black veins and black margins. The costal black border runs into the end of the cell. The outer black border has a point basad between CU2-2A, and is interrupted by a narrow golden streak from the base of the wing along 2A.

UNHW light-yellow and black scales which blend to an olivaceous colour. End of cell with a faint, diffuse black spot. Anal area mostly golden-yellow.

♀ genitalia with a long slender lamella antevaginalis, which is slightly notched at the tip. The lamella postvaginalis is broad and notched. The corpus bursae is membranous with fine folds.

Comments: This species was described on a ♀ specimen hatched from a larva found on *Sabal* palm, probably *S. causiarum* (O.F. COOK) BECCARI (Arecaceae) in a dry seasonal forest 1.5 km east of Sosúa (PP). The species was found together with other skippers other than *C. haitensis*. Apparently no other specimens were collected in the last decades and the status of *C. mariae* is still fluid. Similar to *schwartzi* ♀ but its upperside is darker in comparison with that of *mariae* whereas the underside is lighter in *mariae*. Even if, on the contrary, the overall appearance should suggest a relationship with *C. haitensis*. Indeed, the UPFW band is similar to that of *C. schwartzi*, and also the ♀ genitalia are similar to those of *C. schwartzi* as reported by MINNO (1990) and MILLER et al. (2015). It may turn to be a form or aberration of *C. schwartzi*.

***Choranthus melissa* GALI, 1983**

Bull. Allyn Mus. **82**: 2. TL: Republica Dominicana, Prov. Pedernales, Las Abejas, 11 km NW Aceitillar m 1220, Types: HT ♂, Republica Dominicana: Provincia De Pedernales: Las Abejas. 11 km NW Aceitillar, 1220 m, 18.vii.1981 (F. GALI), ex coll. A. SCHWARTZ, now in coll. MGCL.

PTs: AS (= ALBERT SCHWARTZ collection) 6164 (♂), Las Abejas, 11 km NW Aceitillar, 1220 m, 14.vii.1981. F. GALI; AS 6291. 6296, 6298-99, 6304, 6325, 6327 (7 ♂♂). Las Abejas, 12 km NW Aceitillar. 1129 m. 19.vii.1981. F. GALI, A. SCHWARTZ; AS 8050,8052-53 (3 ♂♂). FG (= FRANK GALI collection) 360, 362 (2 ♂♂), Las Abejas. 12 km NW Aceitillar, 1129 m, 16.vii.1982, F. GALI, A. SCHWARTZ; AS 8085 (♂), 8086 (1 m, FG 413 (♂). 414 (♂). Same locality as HT, 18.vii.1982, F. GALI, A. SCHWARTZ; AS 8146. 8148, 8152-53 (4 ♂♂), 8151 (♂). FG 520-21 (2 ♂), 509. 512-14, 517-18, 522 (7 ♂♂), RWW (= RANDOLPH W. WISOR collection) 396.398 (2 ♂♂), Las Abejas, 12 km NW Aceitillar, 1129 m, 20.vii.1982, F. GALI, A. SCHWARTZ; AS 8445,8450 (2 ♂♂), FG 763 (m), 4-7 km NE El Aguacate, 732 m, Prov. De Independencia, 30.vii.1982, F. GALI, A. SCHWARTZ.

Distribution: Dominican Republic, Independencia, Pedernales, Barahona, and San Juan Provinces.

Adult Characteristics: GALI (1983) described this species: “Males: LFW 13-15 mm. Apiculus completely black, antennal club: distal one-third of greater curvature black, proximal two-thirds orange and lesser curvature almost entirely black with some orange scaling. UPFW and UPHW dark golden yellow. UPFW stigma single, extending from the middle of 2A across Cu1, and along the lower edge of the cell to just below the origin of Cu1. Also, along the lower edge of the cell crosses a dark band which joins with the stigma at the proximal portion of Cu2. The subcellular band continues past Cu2, along the postdiscal margin of the cell and at M2-M3 there is a dark band that blends with the dark submarginal band. The former continues along the upper edge of the cell to R1.

UNFW golden yellow with a heavy band along the costal margin. There is a dark tawny submarginal band with an extension at M2-M3, to the cell, and a darker band along the inner margin. The latter band extends distad from 2A in the lower basal and discal regions to the subcellular line at the origin of Cu2.

UPHW with a heavy dark band along the costal margin of the HW with a central interruption at M1-M2, M2-M3, M3-Cu1 and at Cu2-2A. it interrupts the submarginal band. UNHW olivaceous except orange yellow scales on anal fold, as well as some on outer edge itself”.

Comments: This species was known from the Palaeoisland only, in the Sierra de Bahoruco (PD) and Sierra de Martín García (BH). We found it also, as single specimens, along the road Cabo Rojo- Aceitillar 650 m (PD), at Arroyo Cano and at Sabaneta (SJ) widening northwards its range. SCOTT (1986a) suggested that *C. melissa* and *C. schwartzi* were one species only because they appeared very similar. The ♂ genitalia of these two species are different (See GALI, 1983, fig. 4 A, B), and we treat them as two separate species for the time being. The ♀ was briefly described by SCHWARTZ (1989a: 96-97) from 2 ♀♀ taken in October. Similar to the ♂ but the black FW margin broader.

As GALI (1983) observed the species is bound for open areas, most often associated with grasslands and the edges of cafetales. Found especially during June-July, often synchronic with *C. haitensis* but flying in different habitats. In fact, *C. haitensis* is an open area insect, most often associated with grasslands and the edges of cafetales whereas *C. melissa* is bound for mesic deciduous forests.

***Choranthus schwartzi* GALI, 1983**

Bull. Allyn Mus. **82**: 4. TL: Republica Dominicana, Province de La Vega, 10 km W Jayaco 915 m, Types: HT ♀, Republica Dominicana: Provincia de La Vega: 10 km W Jayaco, 915 m, 9.viii.1982 (A. S = A. SCHWARTZ coll.), ex coll. A. SCHWARTZ in coll. MGCL. PTs: (AS 3168 (♀), same locality as HT, 21.vi.1980, A. A. GINEIKA; AS 3268-9 (♂). same locality as HT, 23.vi. 1980, A. A. GINEIKA; AS 3661 (♂) same locality as HT, 3.vii.1980, A. A. GINEIKA; AS 5447 (♂) La Palma, 19 km W Jayaco, 1007 m. 30.xii.1980, J. C. LUCIO; AS 8716-19 (61,8733-34 (♂). FG 994-96 (♀), 998-99,1003 (♂), La Palma. 19 km W Jayaco, 1007 m. 9.viii.1982, F. GALI, A. SCHWARTZ; AS 5984 (♀), Buena Vista. 11 km NE Jarabacoa, 641 m. 1.vii.1981, A. SCHWARTZ.

Distribution: Dominican Republic.

Adult Characteristics: Sexes different. ♂ UPFW and UPHW light orange yellow. UP ♂ resembles *C. haitensis* but UNFW is tawny along the submarginal and outer margins, and light orange yellow on the discal-postdiscal portions. Basal region with a dark patch covering the celi. The UNHW is tawny with a central discal interruption of yellow-orange scales.

♂ genitalia: Valva not similar to *C. haitensis* nor to *C. melissa*.

♀ UP wings dark golden yellow, all veins black. UPFW black band on the border continuing broadly, the discal and

postdiscal portions of the cell black with some yellow scaling; black patch from the basal region at Cu1-Cu2. UPHW outer edge black border with an interruption at 3A-2A. UNFW orange-yellow with a dark basal cell patch; outer margin and submargin pale fulvous gray. UNHW olivaceous except for pale fulvous anal fold.

Comments: GALL (1983) reported that this species is sympatric with *C. haitensis* in the Jayaco area, north of Bonao (MN). Both species share the same habitat: clearings and roads in mesic forests. On the other hand, *C. haitensis* is sympatric with *C. melissa* in the Sierra de Bahoruco. It occurs from 500 to 1000 m. ♂♂ of *C. schwartzi* differ from *C. haitensis* for the UN greenish brown colouration along the submargin and outer margin whereas UN *C. haitensis* is yellow-orange and has a thin submarginal dark line. ♀♀ of both species UN colouration and pattern similar. However, UP *C. schwartzi* discal and postdiscal portions of the cell are black with some yellow scaling, but in *C. haitensis* the basal portion of the cell is dark and has a black V in the position of the anterior portion of the ♂ stigma. ♂ UP colouration and pattern are similar in both species.

***Euphyes* SCUDDER, 1872**

4th Ann. Rep. Peabody Acad. Sci. (1871): 80. TS: *Hesperia metacometa* T. HARRIS, 1862, Ins. injur. Veget. (3rd ed.): 317 (= *Hesperia vestris* BOISDUVAL, 1852, Ann.. Soc. Ent. Fr. (2) 10: 317; subspecies), by original designation.

***Euphyes singularis* (HERRICH-SCHÄFFER, 1865)**

Goniloba singularis HERRICH-SCHÄFFER, 1865, CorrespBl. Zool.-min Ver. Regensburg 17 (9): 155, TL: "Cuba".

***Euphyes singularis insolata* (BUTLER, 1878)**

Pamphila insolata BUTLER, 1878, Proc. Zool. Soc London 1878: 483. TL: [Jamaica].

= [*Hesperia*] *Aurinia* PLÖTZ, 1883, Stett. Ent. Z. 44: 195, n. 398, TL: Jamaica.

Distribution: Jamaica, Hispaniola, Puerto Rico.

Adult Characteristics: Similar to the nominate Cuban subspecies but the brown colouration is more extensive especially on the discal area of the UPHW. ♀ with FWs hyaline white discal spots.

Comments: Widespread in Hispaniola possibly with two broods. This species shows a remarkable sexual dimorphism. SHUEY (1993) discussed the relationships between the various species and groups in this genus as well as their biogeographical hypotheses.

***Pyrrhocalles* MABILLE, 1904**

In WYTSMAN (1904), Genera Insectorum 17C: 143, TS: *Pamphila antiqua* HERRICH-SCHÄFFER, 1863.

***Pyrrhocalles antiqua antiqua* (HERRICH-SCHÄFFER, 1863)**

Pamphila antiqua HERRICH-SCHÄFFER, 1863, CorrespBl. Zool.-min. Ver. Regensburg 17 (9): 142. TL: "Cuba". RILEY (1975) considered the type-locality Haiti after SKINNER (1920b).

= *Hesperia utha* HEWITSON, [1868], Descr. one hundred new Spec. Hesp. (2):37. TL: "Cuba".

= *Phemiades antiqua* var. *haitensis* HOLLAND, 1916, Ann. Carnegie Mus. 10: 510. TL: Haiti, Type not stated.

= *Pyrrhocalles kruegeri* RÖBER, 1926, Ent. Rundsch. 43: 32, TL: Ilha Santo Domingo.

Distribution: Bahamas (Eleuthera and Andros islands), Hispaniola, Cuba, and doubtfully Puerto Rico.

Adult Characteristics: Dark orange colouration with large brownish marginal fascia on both wings upperside. ♀ slightly lighter.

Comments: The species occurs in Cuba as ssp. *orientis* (SKINNER, 1920), Hispaniola (the nominate ssp.), and the Bahamas as ssp. *eleutherae* (BATES, 1934). Widespread in Hispaniola from sea level to 1200 m. We found it along the road Cabo Rojo - Aceitillar (PD). In Jamaica a different species is present, namely *P. jamaicensis* (SCHAUS, 1902).

***Nyctelius* HAYWARD, 1948**

Acta Zool. Lilloana 5: 99, TS: *Hesperia nyctelius* LATREILLE, [1824].

***Nyctelius nyctelius nyctelius* LATREILLE, [1824]**

Hesperia nyctelius LATREILLE, [1824] Encyclopédie Méthodique 9 (2): 746, TL: Brazil, Surinam.

Distribution: Central America to S Brazil. Greater Antilles and the Virgin Islands.

Adult Characteristics: It is very similar to several *Panoquina* species. FWs with 7-8 semitransparent pale spots. HWs with no pattern sometimes with some postdiscal orange scales. UNHWs with a costal spot and a transverse discal band of 5 rectangular spots.

Comments: Apparently scarce in Haiti (SCHWARTZ, 1983b); in the Dominican Republic is fairly uncommon although widespread from sea level to 1200 m.

Superfamily PAPILIONOIDEA LATREILLE, [1802]

Hist. Nat. Crust. Ins. 3: 387 (as "Papilionides"). Genus type: *Papilio* LINNAEUS, 1758. I.C.Z.N. Opinion 278 placed *Papilio* on the Official List of Generic Names in Zoology as name no. 703. I.C.Z.N. Direction 99 placed Papilionidae [LEACH], [1815] (as "Papilionida"), in: BREWSTER's Edinburgh Ency. 9: 127, on the Official List of Family-Group Names in Zoology as name no. 233, and placed Papilionida [LEACH] on the Official Index of Rejected and Invalid Names in Zoology as name no. 271; I.C.Z.N. Direction 116 deleted this entry, corrected as above, and placed Papilionides on the Official Index of Rejected and Invalid Names in Zoology as name no. 500.

Family **PAPILIONIDAE** LATREILLE, [1802]

Subfamily **Papilioninae** LATREILLE, [1802]

Tribe **Troidini** TALBOT, 1939

Fauna Brit. Ind., Butterflies 1 (ed. 2): 60 (key), 61. Genus type: *Troides* HÜBNER, [1819], Verz. bekannt. Schmett. (6): 88.

Subtribe **Battina** MUNROE & EHRLICH, 1960

J. Lepid. Soc. 14(3): 171, defined on 170 (as “Battiti”). Genus type: *Battus* SCOPOLI, 1771, Intro. Hist. Nat.: 433.

Battus Scopoli, 1777

Intro. Hist. nat.: 433, TS: *Papilio polydamas* LINNAEUS, 1758.

= *Laertias* HÜBNER, [1819], Verz. bek. Schmett. (6): 84, TS: *Papilio philenor* LINNAEUS, 1771.

= *Ithoballus* HÜBNER, [1819], Verz. bek. Schmett. (6): 88, TS: *Papilio polydamas* LINNAEUS, 1758.

= *Battuosa* MÖHN, 1999, Butt. of the World (BAUER & FRANKENBACH, eds), Part 5 Papilionidae II *Battus*: 5. TS *Battus* (*Battuosa*) *belus* (CRAMER, 1777).

Battus zetides (MUNROE, 1971) (see page 16: Fig. 46)

Papilio zetides MUNROE, 1971, J. Lep. Soc. 25: 142, replacement name for *Papilio zetes* WESTWOOD, 1847, Trans. Ent. Soc. Lond. 5: 36, pl. 3, f. 1, 1* preocc. LINNAEUS, 1758, TL: “Insula St. Dominici Indice occidentalis”.

Distribution: Hispaniola.

Adult Characteristics: An unmistakable species and an Hispaniolan endemic. The sexes are similar in general appearance, with LFW 35-40 mm in ♂♂ and 39-44 mm in ♀♀.

UPFW with a submarginal band of ochre yellow spots and a series of three post-cellular spots in S6, S8 and S9 on a dark brown background. UNFW similar to the UP, with a slightly softer background colour; it also has a spot in the apical part of the cell and, in some specimens, discal spots from S1b to S4 that continue the discal band with the three spots S6, S8 and S9. HWs with a spatula-shaped tail at M3, and the outer edge is festooned.

UPHW with a postdiscal band formed by subrectangular spots from S1 to S7. UNHW some silver scales in the cell along the upper discocellular vein; a complete set of wide silver discal spots; a double submarginal band of orange spots from S1 to S7, and silver from S2 to S6. There is also a series of marginal yellow spots.

♂ genitalia: Rounded valva, very short pseuduncus with little developed ridges. Harpe consisting of a concave quadrangular plate, the outer margin of which has one large and four smaller teeth. Aedoeagus shorter than the valva, with a strong curvature one third of the length.

Comments: The best account on this species is given by GALI & SCHWARTZ (1983). These authors made collections of butterflies throughout much of the Republica Dominicana between 19 June and 19 August 1981. The period of 13 July to 21 July was spent at the Sierra de Bahoruco. We report herewith most of his notes. HALL (1925) considered the species “Apparently very rare” and recorded a single specimen from La Vega, Dominican Republic as the only example with “exact” locality data. RILEY (1975) gave the range in an anomalous manner: “Known only from Haiti, La Vega, and apparently very rare. Should also occur in the Dominican Republic.” His statement of range is taken from Hall, but he has confused the two countries involved and also the altitude is erroneous the species being taken more likely to the Cordillera Central south of La Vega. MARIÓN (1980b) noted the capture of a series of specimens on 3 October 1976 at Las Auyamas, Polo, Barahona Prov., at an elevation of about 1000 m; he regarded these as the first specimens from that country, apparently unaware that Hall had mentioned the La Vega locality many years earlier. Additionally, RILEY (1975: Pl. 18) figured a specimen of *B. zetides* without tails but the species indeed is tailed (see Fig. 46 with the HT ♀ figured by WESTWOOD, 1847: pl. III, figs 1, 1*).

COUTSIS (1983) reported the capture of one ♂ in Haiti and saw several others but he did not give localities. However this specimen was collected in 1954 between Laboulle and Kenscoff, near Port au Prince, 1100 m; not seen in Haiti by SCHWARTZ (1983b, 1989a).

SCHWARTZ ([1988]) reported that GALI collected one specimen of *B. zetides* at 915 m, and saw several others on Sierra de Martín García which is an isolated coastal range NE of Barahona. BROWN (1989, 1990) found the species at Polo and Constanza in two successive years at the end of July. The same author (in TYLER et al., 1994) performed mark-recapture sessions in Constanza which showed about 10 ♂♂ occupying the ridge, exchanging their precise perching and promenade sites regularly over a 500 m linear transect.

JOHNSON & MATUSIK (1993) noted a ♀ polymorphism occurring at Las Abejas. Along with ochre-yellow or yellow and orange wing banded ♀♀, there is also a form mostly white, occasionally mottled pale yellow in distal areas of cells. The frequency of this form apparently represents about 1 % of the ♀♀ taken at the site.

Information regarding its life history is still scarce. COLLINS & MORRIS (1985) reported the unpublished observations of WEINTRAUB. ♀♀ lay patches of 15 eggs. The larvae are gregarious in the first two stages and have orange-yellow longitudinal stripes on a brown ground. The dorsolateral tubercles are found only on the second and third thoracic segments and on the first, 8th and 9th abdominal segments. The pupa is dark green, dorsally yellowish, with a thinned thoracic process. It is assumed that the food plants are the primitive *Aristolochia bilabiata* and *A. montana*.

The present author visited several times Las Auyamas, last time during October 2017, but he saw no trace of *B. zetides*. He saw several individuals however at the ecotone of upland mesic broadleaf deciduous forest and pine forests along the Cabo Rojo-El Aceitillar road at km 25, 600-650 m, a low altitude for this species.

Battus polydamas (LINNAEUS, 1758)

Papilio polydamas LINNAEUS, 1758, Syst. Nat. (Edn 10) 1 : 460, TL: “Hibisco mutabitis America”.

Battus polydamas polycrates (HOPFFER, 1865)

Papilio polycrates HOPFFER, 1865, Stett. Ent. Ztg 27 (1-3): 24, TL: “Pará” [= Haiti according to ROTHSCILD & JORDAN (1906), Novit. Zool. 13: 522]. Types: Not stated in the original description. HT ♂ / [green label] *Polycrates* HOPFFER Stett. Ztg 1865 Pará, Sieber / in coll. ZMHB.

= *Papilio hypodamas* GUENÉE, 1872, Mém. Soc Phys. Hist. Nat. Geneve 22: 371, TL: Haiti.

Distribution: Hispaniola.

Adult Characteristics: Wings longer and narrower than other subspecies, so that the FW apex and the HW anal part are more evident. Colouration not olive-green but darker, greenish-blackish. The FW submarginal band is more proximal and that of the HW less curly. The spot in S2 of this band is more distal than in *B. p. polydamas* (L.). The anal dot is always small, often vestigial. The UNHW submarginal red spots are large and the silver points from S3 to S4 are also large. The dark discal area is much more intense than in *B. p. polydamas* (L.). The spots of the FW are pale, creamy-white.

Comments: HOPFFER (1865) described as *Papilio polycrates* a specimen from Pará [Brazil], referring to the plate viii [=vii] fig. 1 of ESPER (1785) which is practically indistinguishable from *B. p. jamaicensis* (ROTHSCILD & JORDAN, 1906). In the figure of ESPER (1785) the three apical spots present on both wing surfaces are evident. The bands are yellow on the FWs and green on the HWs: there is a small anal spot on the HWs, in which the basal and discal areas are lighter. Three silvery and prominent spots in S4-S6. Trace of tails as in *B. p. jamaicensis* (R. & J.). The two UNHW yellow dots in S1a and S1b are missing.

As RACHELI & PARISSET (1992) noted there are differences in the structure of the ♂ genitalia of the two subspecies *polycrates* and *jamaicensis* if compared with those of all the other populations distributed in the Tropics and the Antilles. The differences are in the structure of the harpe which bears two small incisions laterally and, in the lower part, a single tooth facing inwards. The valva is rounded, with the upper edge curved which forms an angle with the lateral margin. Short and stocky pseuduncus with highly developed lateral ridges. Aedoeagus like that of *B. p. polydamas* (L.).

SCHWARTZ (1989a) has meticulously described the distribution, food preferences of adults and eco-ethology. Adults have a considerable tolerance to a diversity of environments, and are often observed in urban settlements. It is present all year round, more abundant in June and July. Populations belonging to this subspecies are widely distributed in the island of Hispaniola from sea level to more than 2200 m, preferably in open fields and gardens. It is found both in desert areas and in mesic vegetation formations.

Tribe **Leptocircini** KIRBY, 1896

In ALLEN (1896), Nat. Libr., Lepid. 2: xviii, 307-308 (as “Leptocircinae, Leptocirciti”). Genus type: *Leptocircus* SWAINSON, 1833, Zool. Illustr. (2) 3 (23): pl. 106, unnumbered text. The application of this family-group name is discussed by SMITH & VANE-WRIGHT (2001: 506-508).

Protographium MUNROE, [1961]

Can. Ent., Suppl. 17: 18; TS: *Papilio leosthenes* DOUBLEDAY, 1846.

= *Neographium* MÖHN, 2002, Die Schmetterlinge der Erde 14: 2, TS: *Papilio philolaus* BOISDUVAL, 1836, Hist. nat. Ins., Spec. gén. Lépid. 1 : 256, TL: Mexico.

= *Asiographium* (*Neographium*) MÖHN, 2002, Die Schmetterlinge der Erde 14: 6, TS: *Papilio asius* FABRICIUS, 1781.

= *Eurygraphium* (*Eurytides*) MÖHN, 2002, Die Schmetterlinge der Erde 14: 6, TS: *Papilio thyastes* DRURY, 1782.

= *Bellerographium* MÖHN, 2002, Die Schmetterlinge der Erde 14: 8, TS: *Papilio bellerophon* DALMAN, 1823.

Protographium zonaria (BUTLER, [1870])

Papilio zonaria BUTLER, [1870], Cat. diurn. Lep. FABRICIUS: 240, TL: St. Domingo.

Distribution: Hispaniola.

Adult Characteristics: Sexes similar. UPFW greenish cellular lines very narrow and widely separated by black longitudinal bands. The 4th and 5th bands continuous with the narrow discal band. This band formed by a series of subquadrate spots. A row of greenish premarginal spots. UNFW similar to UP but lighter. UPHW three pale greenish bands. Red anal spot large, from inner margin to vein 3. A series of greenish premarginal crescents, and a long tail at M3. UNHW discal band red from costa to vein 4, bordered with black on both sides

Comments: This species with its relative *P. celadon* LUCAS, 1852 in Cuba, and *P. marcellinus* DOUBLEDAY, 1845 in Jamaica, is mainly found in the Barahona Peninsula. At times it can be extremely abundant but for many years only single individuals can be seen or collected. It has a swift flight but it congregates often at puddles during June-July the months when the species mainly occurs.

Tribe **Papilionini** LATREILLE, [1802]

Papilio LINNAEUS, 1758

Syst. Nat. (ed. 10) 1: 458. TS: *Papilio machaon* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 462, no. 27, by designation of LATREILLE (1810), Consid. gén. Anim. Crust. Arach. Ins.: 350, 440. I.C.Z.N. Opinion 278 placed this name on the Official List of Generic Names in Zoology as name no. 703. The generic and subgeneric arrangement follows MILLER (1987).

Subgenus *Papilio* LINNAEUS, 1758

= *Amaryssus* DALMAN, 1816, K. svenska VetenskAkad. Handl. **37** (1): 60. TS: *Papilio machaon* LINNAEUS, 1758, Syst. Nat. (ed. 10) **1**: 462, no. 27, by original designation. A junior objective synonym of *Papilio*.

= *Aernauta* BERGE, 1842, Schmetterlingsbuch: **19**, 106-109. TS: *Papilio machaon* LINNAEUS, 1758, Syst. Nat. (ed. 10) **1**: 462, no. 27, by designation of HEMMING (1934), Ent. **67** (849): 38. A junior objective synonym of *Papilio*.

= *Achivus* KIRBY, 1896, in ALLEN, Nat. Libr., Lepid. **2**: 286. TS: *Papilio machaon* LINNAEUS, 1758, Syst. Nat. (ed. 10) **1**: 462, no. 27, by original designation. A junior objective synonym of *Papilio*.

= *Princeps* HÜBNER, [1806], Tentamen: [1]. TS: *Papilio machaon* LINNAEUS, 1758, Syst. Nat. (ed. 10) **1**: 462, no. 27, by monotypy. The Tentamen was suppressed by I.C.Z.N. Opinion 97; Opinion 278 placed this name on the Official Index of Rejected and Invalid Generic Names in Zoology as name no. 83

Papilio (Papilio) demoleus LINNAEUS, 1758

Papilio demoleus LINNAEUS, 1758 Syst. Nat. (Edn 10) **1**: 464, TL: "Asia" [China, Canton].

Papilio (Papilio) demoleus malayanus WALLACE, 1865

Papilio erithonius CRAMER, local form a (*malayanus*) WALLACE, 1865, Trans. Ent. Soc. London **25**: 59. TL: Singapore, Flores, Manilla.

Distribution: Hispaniola, Puerto Rico, Jamaica, Cuba (introduced).

Adult Characteristics: Sexes similar. UPFW black with large yellow markings. Cell and basal areas speckled with yellow. Discal yellow band formed by irregular spots. A series of yellow submarginal spots. UPHW Large yellow discal band; a red spot with an anterior blue lunule in space 1b. Submarginal spots yellow. UN wings yellow with a series of reddish post discal bars on the HWs.

Comments: Reported by GUERRERO et al. (2004, 2005), EASTWOOD et al., (2006), CARSUS & CHOIMET (2006), and BASTARDO (2012) for various localities of Hispaniola. WEHLING et al. (2006) reported *P. demoleus* (L.) for Hispaniola, Puerto Rico, and Jamaica.

EASTWOOD et al. (2006) with molecular techniques showed that this introduced species came from SE Asia where it is a pest of *Citrus* plants. Now it is widespread everywhere in the Dominican Republic and we are fearing that it will compete for food resources with other *Heracletes* species.

Subgenus *Heracletes* HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 83-84. TS: *Papilio thoas* LINNAEUS, 1771, Mant. Plant. (2nd ed.): 536, by designation of SCUDDER (1875: 187, no. 517). ZAKHAROV et al. (2004) suggested that this group (with the present synonymy) might be considered a genus-level taxon.

= *Calaides* HÜBNER, [1819], Verz. bekannt. Schmett. (2): 86. TS: *Papilio androgeus* CRAMER, 1775, Uitl. Kapellen **1** (2): 24-25, pl. 16, figs. C, D; (8): 151 (index), by designation of ROTHSCCHILD & JORDAN (1906), Novit. Zool. **13** (3): 358.

= *Priamides* HÜBNER, [1819], Verz. bekannt. Schmett. (2): 87. TS: *Priamides hipponous* HÜBNER, [1819], Verz. bekannt. Schmett. (6): 87, no. 896 (= *Papilio anchisiades* ESPER, 1788, Ausl. Schmett. (4): 53, no. 22, pl. 13, figs. 1, 2; junior objective synonym), by designation of HEMMING (1935), Ent. 68(861): 39.

= *Troilides* HÜBNER, [1825], Samml. exot. Schmett. **2**: pl. [111]. TS: *Troilides tros* HÜBNER, [1825], Samml. exot. Schmett. **2**: pl. [111], figs. 1, 2 [= *Papilio polybius* SWAINSON, 1822, Zool. Illustr. (1) **2** (18): pl. 94, unnumbered text; synonym: a subspecies of *Papilio torquatus* CRAMER, 1777, Uitl. Kapellen **2** (14): pl. 177, figs. A, B; (16) 151 (index)], by monotypy.

= *Thoas* SWAINSON, 1833, Zool. Illustr. (2) **3** (26): pl. 121, unnumbered text. TS: *Papilio thoas* LINNAEUS, 1771, Mant. Plant. (2nd ed.): 536, by tautonymy; a junior objective synonym of *Heracletes* HÜBNER, [1819].

Papilio (Heracletes) androgeus CRAMER, [1775]

Papilio androgeus CRAMER, [1775] Uitl. Kapellen **1** (1-7): 24, pl. 16, f. C, D, TL: Surinam.

Papilio (Heracletes) androgeus epidaureus GODMAN & SALVIN, 1890

Papilio epidaureus GODMAN & SALVIN, [1890], Biol. centr.-amer., Lep. Rhop. **2**: 224, 3: pl. 69, f. 1-3, TL: Mexico, Veracruz.

Distribution: S Florida, Mexico to Panama, Cuba, Hispaniola, Puerto Rico, Santa Lucia (?).

Adult Characteristics: Sexes different. ♂ UPFW yellow with black borders from wing base, through cell to the apex. UNFW markings reduced. UPHW black border large with a series of faint greenish yellow submarginal crescents from S2 to S6. A short tail at vein 3. UNHW. A row of large submarginal yellow lunules, a series of blue crescents, a basally a row of large orange lunules.

♀ UPFW black, unmarked. UNFW small yellow patch around upper angle of cell. No patch in cell. Thin premarginal crescents in S2-S6. UPHW Greenish blue area wider than in other subspecies, entering into the cell. A series of bluish postdiscal and submarginal crescents. UNHW. Three rows of crescents, the first brick red, the second blue, and the third larger and yellow.

Comments: Widely distributed in Hispaniola but somewhat scarce in Haiti (SCHWARTZ, 1983b). It is found in a variety of habitats up to 2000 m. ♀♀ rarely observed but they occur often on *Citrus* plantations where larvae feed.

Papilio (Heracletes) aristodemus ESPER, 1794

Mag. Neu Ausl. Ins. **1**: 8, TL: [Haiti].

Papilio (Heracletes) aristodemus aristodemus ESPER, 1794

Mag. Neu Ausl. Ins. **1**: 8, TL: [Haiti].

Distribution: Hispaniola, Mona island, Puerto Rico.

Adult Characteristics: Sexes similar. UPFW dark brown in the basal and subapical areas. A long discal yellow band from apex to inner edge. UNFW similar to UP but with duller yellow markings, and ochreous premarginal band edged with black. UPHW discal yellow band filling half of the cell. Tail at M3 not yellow tipped. UNHW discal series of blue crescents, proximally and distally bordered with ochreous spots.

Comments: This species, endemic to West Indies, is found mainly in arid environments especially in NW and SW of Hispaniola although it can be found in other types of habitats. Usually scarce but it can have outstanding eclosions in some years when can congregate by dozens on puddles. This is an aspect already mentioned by SCHWARTZ (1989a: 129).

Papilio (Heracles) machaonides ESPER, 1796

Die ausl. Schmett. : 191, pl. 45, fig. 2; TL: Haiti.

Distribution: Hispaniola.

Adult Characteristics: Sexes similar, ♀ slightly larger. UPFW dark brown with a yellow cell bar, and a discal band from midcosta to the inner angle. Four different sized subapical yellow spots; a submarginal row of yellow double spots. UNFW similar to UP but yellow colouration greatly enlarged. UPHW yellow markings as the UP but larger. Tail at M3 yellow tipped. UNHW large yellow discal area with a postdiscal band of blue lunules. A row of premarginal yellow lunules.

Comments: PASQUIS (1938) described the preimaginal stages of this species from eggs collected on *Citrus* at Mando (Cap), Haiti. COUTSIS (1983) also reported the preimaginal stages from Haiti noting that the full-grown larvae are very similar to those of *Papilio cressphontes* CRAMER, [1777]. Widespread in the whole island from sea level to approx. 1000 m.

Papilio (Heracles) aristor GODART, 1819 (see page 17: Fig. 47, 48)

Encyclopédie Méthodique 9 (1): 60; TL: not stated [Hispaniola].

Distribution: Hispaniola.

Adult Characteristics: Sexes similar. LFW 40-50 mm. ♂ UPFW with a diagonal row of five small discal yellow spots from the costal margin, converging with a submarginal row of larger yellow spots. UPHW tailed with a postdiscal row of large yellow spots; yellow marginal crescents, and a red anal spot. UNFW and UNHW differs from UP in having a diffuse yellow spot in the FW cell, and HW paler postdiscal spots. HW also has two red spots below the cell and a discal row of blue lunules. ♀ larger, and the yellow spots on both wings are somewhat paler.

Comments: This was a “mysterious” species. The first ♀ was presumably reported by JORDAN (1931) and RILEY (1975) illustrated a specimen from Haiti, Turgeau, Port au Prince. Modern reports were made by SCHWARTZ (1983b) who found it very uncommon in Haiti. Two ♀♀ were recorded from Boutilliers Road, 366-458 m, and at sea level at Carrefour la Mort. SCHWARTZ (1989a) reported the species in scattered localities in lowland thorn-forest or other arid habitats in the southern part of the island, Oviedo area (PD), Cruce de Ocoa (JO), and in the north in the Monte Cristi (MC) area.

TYLER et al. (1994: Pl. 48A) reported that “*Heracles caiguanabus* and *H. aristor* have almost identical “squat” pupae with prominent serrate cephalic “ears” and salient mesothoracic “thumb”. A pupal shell is present in the NHM, London, and is more “squat” than most *Heracles*; the larva has been seen but not described, and feeds on a xeric-vegetation thorny *Zanthoxylum*”. Probably, the larvae or pupae go into diapause awaiting for climatic good opportunities.

We found it usually as single individuals, never common in the Monte Cristi area, 5 km N Villa Elisa (MC), at Vallejuelo 700 m, (SJ), below Las Mercedes, 30 m, and along the Cabo-Rojo-Aceitillar road, km 26, 600 m (PD). Also, we found it in a unsuitable habitat for the species, at Arroyo Cano (SJ) in mesic forest. We examined a striking variation in a specimen with three supernumerary yellowish spots on the discal band of FW.

Papilio (Heracles) pelaus FABRICIUS, 1775

Syst. Ent. : 444, TL: “India”

Papilio (Heracles) pelaus imerius GODART, 1819

Papilio imerius GODART, 1819, Encyclopédie Méthodique 9 (1): 69; TL: “Indes orientales”.

= *Papilio augias* MÉNÉTRIES, 1832, Bull. Soc. imp. Nat. Moscou 5: 293 (preocc. LINNAEUS, 1763), TL: Haiti.

Distribution: Hispaniola, Puerto Rico, St Croix (?)

Adult Characteristics: Sexes similar. ♂ UPFW with whitish discal band anteriorly narrow if compared with other subspecies. UPHW with a row of small red postdiscal spots, smaller and fewer in respect to other subspecies. UNFW as UP but discal band broader.

UNHW similar to UP but with a series of discal whitish obscured dots from S1b to S5. A series of reddish lunules from S2 to S7. A series of large internervular white marginal crescents. ♀ larger with FW broader whitish discal band.

Comments: Along with *P. aristor* GOD. this is the scarcest of Hispaniolan Papilios. Contrary to *P. aristor* GOD., it is found in a variety of habitats (xeric, transitional, and mature forests) from 50 to 1200 m. In Haiti it has been found in a few locality only (SCHWARTZ, 1983b, 1989a). It is distinguished from other subspecies for the FWs white band narrow, and smaller HWs red spots.

We found this species in February at La Balsa (PM), at Arroyo Cano (SJ), and Cabo Rojo- Aceitillar road (PD) during June and July.

Family **PIERIDAE** SWAINSON, 1820

SWAINSON, 1820, Zool. Illustr. (1)1(3): pl. 15, unnumbered text. Genus type: *Pieris* SCHRANK 1801, Fauna boica **2** (1): 152, no. 198. According to PELHAM (2008) I.C.Z.N. Opinion 278 placed *Pieris* on the Official List of Generic Names in Zoology as name no. 704. I.C.Z.N. Direction 112 gave Pieridae precedence over Coliadinae whenever their type genera are considered to be in the same family-group taxon. I.C.Z.N. Opinion 500 placed Pieridae on the Official List of Family-Group Names in Zoology as name no. 206, placed Pierides on the Official Index of Rejected and Invalid Family-Group Names in Zoology as name no. 238, placed Pieridina HERRICH-SCHÄFFER, 1853, Lep. exot. Spec. nov.: 54, on the Official Index of Rejected and Invalid Family-Group Names in Zoology as name no. 239, and placed Pierididae REUTER, 1896, on the Official Index of Rejected and Invalid Family-Group Names in Zoology as name no. 240. The “Official List” must be corrected as the authorship for Pieridae is listed as DUPONCHEL, [1835], in GODART, Hist. Nat. Lépid. Fr. Suppl. **1** (22): 381. SWAINSON’s application of the name was much earlier. The higher-level arrangement of the family is according to BRABY et al. (2006).

Subfamily **Dismorphiinae** SCHATZ, 1886

In STAUDINGER & SCHATZ, Exot. Schmett. **2** (2): 56, 57 (as “Dismorphiden”). Genus type: *Dismorphia* HÜBNER, 1816, Verz. bekannt. Schmett. (1): 10.

***Dismorphia* HÜBNER, 1816**

Verz. bek. Schmett. (1): 10; TS: *Papilio laja* CRAMER, 1779.

***Dismorphia spio* (GODART, 1819)**

Pieris spio GODART, 1819 Encyclopédie Méthodique **9** (1): 166. TL: Antilles.

Distribution: Hispaniola.

Adult Characteristics: Sexes slightly different. FW falcate. ♂ UPFW with three series of bands yellow or orange (form virago), or intermediate yellow-orange ((f. *spio*). UNFW discal area white. UNHW Cryptic coloured greenish brown. **Comments:** Perhaps related to the continental *D. amphione* CRAMER, it occurs in several morphs in both sexes. The yellow morph is very similar in pattern to *Heliconius charithonia* and the orange morph to *Eueides isabella melphis* although their flight is different. It seems common in Haiti (SCHWARTZ, 1983b); the yellow morph is predominant: 7 yellow, 4 orange, 2 yellow-orange at Dondon, 336 m. SCHWARTZ (1983b) reports for Haiti 52% yellow, 30% orange, and 18 % intermediate. The present author found during nine years in the Dominican Republic 57% of the yellow form, 34% orange, and 9 % intermediate. Out of 70 specimens observed at Arroyo Cano (SJ), 30% of ♂♂ and 20% of ♀♀ are orange whereas 26% and 24%, are yellow, respectively. During June 2017 in the same locality 10 specimens were orange and two yellow. TORRES BAUZÁ (1991) reported on the life cycle and reproductive biology of *Dismorphia spio* from eggs, larvae, prepupae and pupae observed and collected in the field in Puerto Rico.

Subfamily **Coliadinae** SWAINSON, 1821

Zool. Illustr. (1) **1** (4): pl. 22, unnumbered text (as “Coliadae”). Genus type: *Colias* [FABRICIUS], 1807, Mag. f. Insektenk. **6**: 284, no. 24. I.C.Z.N. Direction 99 placed Coliadinae on the Official List of Family-Group Names in Zoology as name no. 227. The same Direction placed Coliana on the Official Index of Rejected and Invalid Names in Zoology as name no. 265. I.C.Z.N. Opinion 146 placed *Colias* on the Official List of Generic Names in Zoology as name no. 572.

***Kricogonia* REAKIRT, [1864]**

Proc. Ent. Soc. Philad. **2** (3): 355; TS: *Colias lyside* GODART, 1819.

***Kricogonia lyside* (GODART, 1819)**

Colias lyside GODART, 1819, Encyclopédie Méthodique **9** (1): 98 no 30. TL: Not stated; defined as “Haiti” by RILEY (1972: 228). Types: LT in MNHP; designated by LAMAS (1993: 154, no. 125). = *Gonepteryx terissa* LUCAS, 1852, Revue Mag. Zool. (2) **4** (9): 429, TL: “Saint-Domingue et la Jamaïque” Types: STs in MNHP.

Distribution: S USA, to central America to Argentina. The Bahamas, Cuba, Jamaica, Hispaniola, Puerto Rico.

Adult Characteristics: ♂ UPFW whitish with orange basal patch. UPHW with short apical black bar, often reduced or absent. ♀ both wings pale yellow.

Comments: The never ending debate on how many species of *Kricogonia* exist would never last. COMSTOCK (1944) claimed that two species *K. lyside* GOD. and *K. castalia* F. occur in the Caribbean; RILEY (1972, 1975) and SCHWARTZ (1989a: 192) concur that only one species is involved. *K. lyside* is widespread and very common, in some years it swarms. WOLCOTT (1927a) reported a migration of this species (reported as *K. castalia*) in Haiti, and described the preimaginal stages. ♀♀ occur in different morphs, totally yellow or basally yellow, this form very common. FW apex black without yellow base or FW apex not black but with yellow base. These latter forms are very uncommon.

***Nathalis* BOISDUVAL, [1836]**

Hist. nat. Ins., Spec. gén. Lépid. **1** : 589, TS: *Nathalis iole* BOISDUVAL, 1836, Spec. gén. Lépid. **1**: 589, no. 9, by monotypy.

***Nathalis iole* BOISDUVAL, [1836]**

Hist. nat. Ins., Spec. gén. Lépid. **1**: 589, TL: Mexico.

= *Nathalis felicia* POEY, [1852], Mem. Hist. Nat. Cuba **1**: 443, pl. 18 figs 18-21. TL: Cuba Types: STs in MNHP.

Distribution: S Georgia, Florida, Texas to Colombia. North and South Bahamas, Cuba, Hispaniola, Jamaica, Puerto Rico.
Adult Characteristics: This is the smallest Pierid found in Hispaniola. Sexes different: ♂ with a yellow costal stripe on UNFW; ♀ ground colour dull yellow, HW with a suffused orange colouration.
Comments: Usually local especially in central and western part of the island from sea level to 2000 m but more frequent between 600 and 1200 m. It occurs in open areas and road sides.

***Eurema* HÜBNER, [1819]**

Eurema HÜBNER, [1819] Verz. bek. Schmett. (6): 96, TS: *Papilio delia* CRAMER, [1780]

***Eurema daira* (CRAMER, [1780])**

Papilio delia CRAMER, [1780], Uitl. Kapellen 3 (23-24): 144, pl. 273, f. A (preocc. *Papilio delia* DENIS & SCHIFFERMÜLLER, 1775); TL: Virginia.

***Eurema daira palmira* (POEY, [1853])**

T[er]ias Palmira POEY, [1852], Mem. Hist. Nat. Cuba 1: 198, no. 14 (Oct 1852) Nomen nudum.

Terias Palmira POEY, [1853], Mem. Hist. Nat. Cuba 1: 249 pl. 24, figs. 4 ♂ dors., 5 ♂ vent., 6 ♀ dors. (May 1853). TL: "Cuba" implied from the title of the paper. Types: ST (#7801) in ANSP.

= *Terias Ebriola* POEY, [1853], Mem. Hist. Nat. Cuba 1: 250, pl. 24, f. 7-13; TL: "Cárdenas...Habana" [Cuba]. Types: STs (#7769, 7802) in ANSP.

= *Terias Albina* POEY, [1853], Mem. Hist. Nat. Cuba 1: 251-252, no. 10, pl. 24, figs. 14 m D, 15 ♂ vent, 16 ♀ dors.; TL: "Cuba" implied from the title of the paper. Types: ST (#7803) in ANSP.

= [*Terias*] cubana HERRICH-SCHÄFFER, 1865, CorrespBl. Zool.-min. Ver. Regensb. 18 (11/12): 166, no. 6. Unnecessary replacement name for *Terias albina* POEY [1853].

Distribution: West Indies.

Adult Characteristics: *E. daira* and *E. elathea* ♂♂ are characterized for the presence of a greyish stripe parallel to the inner margin of FW. In *E. daira* this stripe is bowed or arched whereas in *E. elathea* is straight. The ♀♀ of both species are very similar. *Eurema elathea* has some yellow shade on UPFW while *E. daira* is completely white with no traces of yellow.

Comments: The wet season form (*palmira* POEY): ♂ FW greyish stripe along the inner margin with a continuous orange stripe below. HW with broad black border. ♀ wings white with wide black border. The dry season form (*ebriola* POEY): ♂ greyish stripe reduced and not reaching vein 2. Costal area brighter; HW black border reduced. ♀ FW yellowish, HW creamy. UN of both sexes white in the wet form, reddish sandy in the dry form.

SMITH et al. (1982) discussed the supposed presence of this subspecies in Florida and concluded that all populations in Florida are best considered *E. d. daira* (Cr.). It is widespread in Hispaniola from sea level up to 1600 m, especially in open mesic areas.

***Eurema elathea elathea* (CRAMER, [1777])**

Papilio elathea CRAMER, [1777], Uitl. Kapellen 2 (9-16): pl. 99, f. C, D; TL: "Virginia" [Haiti].

Distribution: Nicaragua to Paraguay; West Indies.

Adult Characteristics: Sexes similar and variable. ♂ FW black straight stripe on inner margin and not grey or bowed as in *E. daira*. ♀ UPFW discal area more whitish in the wet form whereas this is yellowish in *E. elathea*.

Comments. Widespread in South America as well as throughout the Antilles. *E. elathea* is more common than *E. daira* and is very similar to it. *E. elathea* is found especially in xeric areas therefore it does not reach altitudes as *E. daira*. There are peaks of flight in June-July and December-January. SMITH et al. (1994) found the two species together at Boca de Yuma, Rio Chavón, Jarabacoa, etc.

***Eurema lucina* (POEY, [1852])**

Terias lucina POEY, [1852], Mem. Hist. Nat. Cuba 1: 252 no. 11, pl. 18, figs. 8-10; TL: [Cuba].

= *Eurema priddyi forbesi* KLOTS, 1929, Ent. Amer. 9: 124, pl.I, figs 5ab, HT ♂; TL: Isle of Pines Cuba.

***Eurema lucina priddyi* (LATHY, 1898)**

Terias Priddyi LATHY, 1898, Ent. month. Mag. 9: 223; TL: Haiti.

Eurema lucina priddyi WINHARD, 2000, in BAUER & FRANKENBACH (eds.), Butterflies of the world 10: 14, pl. 17, fig. 13.

Distribution: Hispaniola.

Adult Characteristics: Sexes similar. UPFWs lemon yellow with wide black apical border extended almost to the anal angle. UPHWs with black marginal blurred suffusion interrupted along the veins.

Comments: SCHWARTZ (1989a) reported 5 specimens from Haiti and one only from the Dominican Republic. SMITH et al. (1994) consider *priddyi* a distinct species. It is scarce, with few specimens from Haiti and a single record for the Dominican Republic at El Aguacate (IN). We found it along the road Cabo Rojo-Aceitillar 450-650 m (PD), at Arroyo Cano (SJ) and Arroyo Naranjo (SJ).

***Pyrisitia* BUTLER, 1870**

Cist. Ent. 1 (3): 35, no. 17; 44, no. 17. TS: *Papilio proterpia* FABRICIUS, 1775, Syst. Ent.: 478, no. 152, by original designation.

***Pyrisitia laeae* (HERRICH-SCHÄFFER, 1862)**

Terias laeae HERRICH-SCHÄFFER, 1862 CorrespBl. Zool.-min Ver. Regensburg 16 (6-8): 120, TL: Cuba.

= *Eurema* (*Pyrisitia*) *laeae* f. *ricardi* TORRE & ALAYO, 1953, Cuadernos, Univ.de Oriente 27: 1-43, TL: Cuba.

Distribution: Bahamas (Andros Is.), Cuba, Hispaniola.

Adult Characteristics: ♂ UPFWs light lemon yellow with thin black apical area. UNHWs deeper yellow with tiny black dots in the cell. Tip of the veins somewhat orange - ♀ similar but more whitish.

Comments: RILEY (1975), SCHWARTZ (1989a) and SMITH et al. (1994) consider it a distinct species although some author treats it as a ssp. of *Pyristia nise* (CRAMER, 1775). Perhaps this is the rarest of the Hispaniolan "*Eurema*". In fact, RILEY (1975) found it in the Río Yuma area, SCHWARTZ (1989a) reported 1 specimen from Haiti, another one from El Mulito (PD), 3 specimens from El Aguacate (IN), and 2 specimens from near Neiba (BA). SMITH et al. (1994) reported it from Boca de Yuma during January and July; TAKIZAWA et al. (2003) from El Número (AZ). We found it at Cabo Rojo-Aceitillar road (PD), Banano (PD), Arroyo Cano (SJ). Also at Ramón Santana, and La Balsa, Quisqueya (PM).

Pyristia dina (POEY, 1832)

Terias Dina POEY, 1832, Centurie Lèpid. Cuba: [1, 1 pl.] , TL: [Cuba].

Pyristia dina mayobanex (BATES, 1939)

Eurema helios mayobanex BATES, 1939, Psyche **46**: 45; TL: Haiti: Ennery Types: Type (♂) and PTs (2 ♂♂, 1 ♀) from Haiti: Ennery (2500 ft., Aug., BATES [Leg]). In coll. MCZ.

Distribution: Hispaniola.

Adult Characteristics: This subspecies is deeper orange if compared with other Antillean populations. It shows also a broader FW black border, and a thin black border on HW.

Comments: Apparently distributed only on the western part of the island. It is not very common but it may be locally frequent from 100 to 1600 m. RILEY (1975) considers it "very rare" and SCHWARTZ (1989a) found only 3 specimens in Haiti. We found it, scarce, at Cabo Rojo-Aceitillar road 650 m (PD), Banano (PD) and La Balsa (PM).

Pyristia leuce (BOISDUVAL, 1836)

Terias Leuce BOISDUVAL, 1836, Hist. nat. Ins., Spec. gén. Lépid. **1**: 659, TL: Brazil, Rio Grande do Sul.
= *Terias Thymetus* BOISDUVAL, 1836, Hist. nat. Ins., Spec. gén. Lépid. **1** : 662; TL: Saint-Domingue.

Pyristia leuce memulus (BUTLER, 1871)

Terias memulus BUTLER, 1871, Proc. Zool. Soc. Lond. **1871**: 251 pl. 19, f. 6, TL: Haiti.

Distribution: Hispaniola.

Adult Characteristics: Similar to *E. dina*. ♂ UPFWs with apical black border extended to the anal angle. ♀ UPHWs with large marginal orange blotch. UNFWs apical area is dusted with orange and black as well as the HW blotch.

Comments: SCHWARTZ (1989a) reported that this species although widespread especially in xeric forested habitats, it is only locally common. It flies especially in June - July from sea level to up 1700 m. We found it at Cabo Rojo-Aceitillar road (PD), Arroyo Cano (SJ), and La Balsa, Quisqueya (PM).

Pyristia euterpiformis MUNROE, 1947

Eurema (Pyristia) euterpiformis MUNROE, 1947 Amer. Mus. Novit. **1362**: 3-4, TL: Kenscoff, Haiti; Types: HT ♂, Kenscoff, Haiti, 4826 feet, "3/10/35"; genitalia preparation 562, E. MUNROE; in coll. AMNH. PTs: 1 ♂, Ennery, Haiti, 2500 feet, August (BATES). 1 ♂, Furcy, Haiti, 5500 feet, September (Bates). In coll. MCZ.

Distribution: Hispaniola.

Adult Characteristics: Sexes different: ♂ light yellow with black wide border, underside almost without pattern; ♀ dull yellowish.

Comments: Widespread in Hispaniola from sea coast to 1500 m in a variety of habitats from *Acacia* scrubs to hardwood, mixed and pine forests. Usually found during June and July. It has been found during January in Constanza (LV) by SMITH et al. (1994) suggesting that this species may be bivoltine.

Pyristia lisa (BOISDUVAL & LE CONTE, [1830])

X[anthidia]. Lisa BOISDUVAL & LE CONTE, [1830], Hist. Lépid. Amér. sept. (6): 53-55 [May 1830]; (7): pl. 19, figs. 4 ♂ D, 5 ♂ V, 6 larva, 7 pupa [Jun 1830]. TL: "dans les différentes parties des États-Unis". Types: Described, at least in part, from a JOHN ABBOT drawing. The specimens upon which this drawing was based are presumed lost. A "type" is in USNM, but CALHOUN (2004: 156) discussed the dubious nature of such "types" from the BOISDUVAL collection.

Pyristia lisa euterpe (MÉNÉTRIÉS, 1832)

Colias euterpe MÉNÉTRIÉS, 1832, Bull. Soc. imp. Nat. Moscou **5** : 299, TL: Haiti.

= *Terias Stygmula* BOISDUVAL, 1836, Hist. nat. Ins., Spec. gén. Lépid. **1** : 661, TL: Cuba.

= *Terias sulphurina* POEY, [1852], Hist. Nat. Cuba **1**: pl. 18, f. 1-3, TL: Cuba.

= *Terias thymetus* var. *pauperata* D'ALMEIDA, 1934, Ent. Z. Frankf. a. M. **48** (15): 115-118, TL: Cuba.

Distribution: West Indies except the Bahamas and Bermuda Islands.

Adult Characteristics: Similar to the endemic *E. euterpiformis*. ♂ differs for 1) absence of UPFW cell end black dot; 2) UPFW black marginal band reaches inner margin being of the same size; in *euterpiformis* thinner; 3) UNHW without round marginal orange spot in Rs-M1 which is present in *P. lise euterpe*.

Comments: It is one of the commonest *Eurema* in Hispaniola, found in a variety of habitats from sea level to 1700 m. It flies especially in June, July and August.

***Pyrisitia proterpia* (FABRICIUS, 1775)**

P[apilio]. D[anaus]. C[andidi]. Proterpia FABRICIUS, 1775, Syst. Ent.: 478, no. 152. TL: “Iamaica”; Types: STs in HMUG. = *Terias Gundlachia* POEY, [1853], Mem. Hist. Nat. Cuba 1: 246, no. 4, pl. 24, figs. 1 ♂ D, 2 ♂ V, 3 ♀ dors.; TL: “isla de Cuba...Cárdenas”; Types: ST (#7770) in ANSP.

Distribution: Texas to Peru: Cuba, Hispaniola, Jamaica

Adult Characteristics: Sexes different with strong polyphenism. The winter morph was described as *Terias gundlachia* which shows an UNHW leaf-pattern, and the HW distinctly tailed. The morph *proterpia* shows UNHW with brownish markings.

Comments: In Haiti it is common above 250 m in lowland forests to mountain fields (SCHWARTZ, 1983b). In the Dominican Republic it is widespread, found especially in wooded areas from sea level up to 1800 m. It flies mainly in June-July.

***Pyrisitia pyro* (GODART, 1819)**

Pieris pyro GODART, 1819, Encyclopédie Méthodique 9 (1): 137; TL: Haiti S. Domingo. = *Colias hyona* MÉNÉTRIÉS, 1832, Bull. soc. imp. Nat. Moscow 5: 301; TL: Haiti.

Distribution: Hispaniola.

Adult Characteristics: ♂ deep orange with black border on both wings, in the ♀ only on FWs.

Comments: An Hispaniolan endemic. Widespread in forested habitats above 300 m. The morph *hyona* which occurs occasionally shows the basal 2/3 of UPHWs irregularly light yellow. We found it at Arroyo Cano (SJ) and La Balsa, Quisqueya (PM).

***Abaeis* HÜBNER, [1819]**

Abaeis HÜBNER, [1819], Verz. bekannt. Schmett. (7): 97. TS: *Papilio nicippe* CRAMER, 1779, Uitl. Kapellen 3 (18): 31, pl. 210, figs. C, D; (24): 176 (index), by designation of BUTLER (1870), Cist. Ent. 1 (3): 35. = *Xanthidia* BOISDUVAL & LE CONTE, [1830], Hist. Lépid. Amér. sept. (5): 48. TS: *Papilio nicippe* CRAMER, 1779, Uitl. Kapellen 3 (18): 31, pl. 210, figs. C, D; (24): 176 (index), by designation of SCUDDER (1875: 288, no. 1081). A junior objective synonym of *Abaeis* HÜBNER, [1819].

***Abaeis nicippe* (CRAMER, 1779)**

Pap[ilio]. Dan[aus]. Cand[idus]. Nicippe CRAMER, 1779, Uitl. Kapellen 3 (18): 31, pl. 210, figs. C, D; (24): 176 (index). TL: “Virginiën” “Virginie”; “NT” from “Arizona, EUA”. Types: STs (#665378, 665379, possibly 665080) in BMNH; D’ALMEIDA (1944a: 90) designated “NT”; MIELKE & CASAGRANDE (1985: 328, fig. 11 ♂ D & V) designated one of these, from “River Maroni, Guiana Francesa,” as the NT (#1652) in UFPC. Neither of these designations are in accordance with Code Articles 75.2 and 75.3.

Distribution: Eastern USA to Costa Rica; Bahamas to Puerto Rico and Hispaniola.

Adult Characteristics: Similar to *A. nicippiformis*. UPFW deep orange, UPHWs black border with prominent tooth in space 4.

Comments: Common in Haiti in a variety of habitats (SCHWARTZ, 1983b). In the Dominican Republic it is widespread sometimes found together with *E. nicippiformis*.

***Abaeis nicippiformis* (MUNROE, 1947)**

Eurema (Abaeis) nicippiformis MUNROE, 1947, Amer. Mus. Novit. 1362: 2-3; TL: Ravine of Pétionville, Haiti ca 1600 ft.; Types: HT ♂, Ravine of Pétionville, Haiti, ca. 1600 feet, January 24-29 1922; genitalia preparation 611, E. MUNROE; in coll. AMNH. AT ♀: Pétionville, Haiti, November 7, 1933 (DUCASSE); in coll. CMNH. PTs: 1 ♂, Monte Christi, Dominican Republic, May 6, 1915. 1 ♂, Dessources, Haiti, March 2, 1922. 1 ♀, Rio Yaque, 10 miles south of Monte Christi, Dominican Republic, March 12, 1931 (STILLMAN). These 3 PTs in coll. AMNH. 2 ♂♂, 1 ♀ Delmar, Haiti, October 30, 1933 (DUCASSE); ♂ genitalia preparations 612 and C5, E. MUNROE. 1 ♂, Port-au-Prince, Haiti, November 6, 1933 (DUCASSE). 2 ♀♀ Port-au-Prince region, Haiti, October 28, 1933 (DUCASSE). These 6 PTs in coll. CMNH.

Distribution: Hispaniola.

Adult Characteristics: Similar to *nicippe* but ♂ does not show the HWs tooth in space 4. ♀♀ with UPFWs veins scaled with yellow not orange. Black border with blurred projections, not straight as in *nicippe*. There are ♀ specimens not easily distinguishable.

Comments: Endemic to Hispaniola and much scarcer than *A. nicippe*, sometimes syntopic with it. In Haiti also much less common than *A. nicippe*, found from sea level to about 800 m in a variety of habitats (SCHWARTZ, 1983b).

***Zerene* HÜBNER, [1819]**

Verz. bekannt. Schmett. (7): 97; TS: *Papilio cesonia* STOLL, [1790], Aanhangs. Werk Uitl. Kapellen 3: 176-177, pl. 41, figs. 2, 2b; 382 (index), by designation of SCUDDER (1872: 59).

***Zerene cesonia* (STOLL, [1790])**

Papilio cesonia STOLL, [1790], Aanhangs. Werk, Uitl. Kapellen 3 (2-5): 176, pl. 41, f. 2, TL: “Georgia”.

***Zerene cesonia cynops* (BUTLER, 1873)**

Megonostoma cynops BUTLER, 1873, Cist. Ent. 1 (7): 171, TL: Haiti; Types: 3 STs (♂ and ♀) in BMNH.

Distribution: S USA, to central America to Argentina, Cuba, Hispaniola.

Adult Characteristics: This subspecies is more orange-yellow on both sides of the wings; the FW basal black suffusion

much reduced, and confined to the anterior part of the cell. In ♀♀ sometimes absent.

Comments: Widespread in the western part of the island, usually in xeric forests but it occurs in a variety of habitats from sea level to 1900 m.

Anteos HÜBNER, [1819]

Verz. bekannt. Schmett. (7): 99; TS: *Papilio maerula* FABRICIUS, 1775, Syst. Ent.: 479, no. 157, by designation of GODMAN & SALVIN (1889), Biol. centr.-amer., Lepid. Rhop. 2 (79): 148.

Anteos clorinde clorinde (GODART, [1824])

Colias Clorinde GODART, [1824], Ency. méth. 9 (Ins.) (2): 813-814, nos. 1-2. TL: “Brésil” [Brazil] Types: ST(s) in MNHP.

Distribution: S Texas to Argentina. Cuba, Jamaica, Hispaniola.

Adult Characteristics: ♂ FWs with large bright orange patch. ♀ with this patch blurred or absent. At the end of the cell brownish spot ringed with orange.

Comments: Widespread in the western part of the island, sometimes locally abundant especially when puddling. It is not clear if the species colonized the island or was overlooked at the beginning of the century.

Anteos maerula (FABRICIUS, 1775)

P[apilio]. D[anaus]. C[andidus]. Maerula FABRICIUS, 1775, Syst. Ent.: 479, no. 157. TL: “America”; provisionally determined be “Jamaica” by BATES (1935a: 139), stated as “probably Jamaica” by KLOTS (1951: 190); Types: STs in HMUG.

Distribution: S Texas to Peru. Greater Antilles, St Kitts, Guadeloupe.

Adult Characteristics: ♂ bright yellow, FWs with a black dot at the end of the cell. ♀ usually whitish with FW apex produced. The ♀ form *flava* RÖBER which is yellow like the ♂ is very rare.

Comments: Widespread up to 2300 m.

Phoebis HÜBNER, [1819]

Verz. bekannt. Schmett. (7): 98; TS: *Phoebis cypris* HÜBNER, [1819], Verz. bekannt. Schmett. (7): 98, no. 1044 (and unjustified emendation of *Papilio cypris* CRAMER, 1777, Utitl. Kapellen 2 (9): 5, pl. 99, figs. E, F; (16): 148 index; = *Papilio argante* FABRICIUS, 1775, Syst. Ent.: 470, no. 116; synonym), by designation of BUTLER (1873), Lepid. Exot. (13): 155.

= *Colias* HÜBNER, [1819], Verz. bekannt. Schmett. (7): 99. TS: *Papilio sennae* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 470, no. 72, by designation of HEMMING (1939), Proc. R. Ent. Soc. Lond. (B) 8 (7): 136. Preoccupied by *Colias* [FABRICIUS], 1807, in ILLIGER, Mag. f. Insektenk. 6: 284.

= *Callidryas* BOISDUVAL & LE CONTE, [1830], Hist. Lépid. Amér. sept. (8): 73. TS: *Papilio eubule* LINNAEUS, 1767, Syst. Nat. (ed. 12) 1 (2): 764, no. 102 [= *Papilio sennae* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 470, no. 72; synonym], by designation of BLANCHARD (1840), in: CASTELNAU, Hist. Nat. Ins. 3: 432.

Phoebis agarithe (BOISDUVAL, 1836)

Callidryas Agarithe BOISDUVAL, [1836], Hist. nat. Ins., Spec. gén. Lépid. 1: 623; TL: Mexique.

Phoebis agarithe antillia BROWN, 1929

American Museum Novitates 368: 15; TL: Pivert, Haiti; Types: HT ♂, Pivert, Haiti, April 1, 1922, (WATSON). AT ♀, Fond Parisien, Haiti, February 11-18, 1922, (WATSON). PTs: ♂, Caymanas, St. Catherine, Jamaica, November 23, 1919, (WATSON); ♂, Two Mile Wood, St. Catherine, Jamaica, Nov. 14-23, 1919, (WATSON); ♂, Fond Parisien, Haiti, February 11-18, 1922, (WATSON); ♂, Santiago, Cuba, February, 1892, (SCHAUS). In coll. AMNH.

Distribution: West Indies.

Adult Characteristics: Similar to *P. argante* but ♂ UPFWs colouration is a little more yellow than the HWs. ♀ FWs postdiscal band straight and not interrupted at vein 4.

Comments: A scarce species found especially in xeric habitats.

Phoebis argante (FABRICIUS, 1775)

P[apilio]. D[anaus]. C[andidus]. Argante FABRICIUS, 1775, Syst. Ent.: 470, no. 116.

TL: “Brasilia” Fabricius cited “Mus. Banks” and MILLER & BROWN (1981:191) stated that only Rio de Janeiro was visited by BANKS; Types: ST in BMNH.

Phoebis argante rorata (BUTLER, 1869)

Callidryas rorata BUTLER, 1869, Ann. Mag. nat. Hist. (4) 4 (21) : 202; TL: St. Domingo [Haiti?]. BUTLER (1869) reported on this taxon: “Hab. St. Domingo. B.M. ♂♀. Obtained 1855; collected by Mr. TWEEDIE. This is the Haitian representative of *C. larra*, a species allied to *C. Argante*, but referred, in the ‘Genera of Diurnal Lepidoptera,’ to *C. Philea*, of which it is supposed to be the ♀. I have seen specimens of *C. rorata* in Mr. SALVIN’s collection, also from St. Domingo”. By implication it seems that the type locality is “Haiti”. Therefore, not having selected a HT, it is not clear if he referred “the Haitian representative” as the specimens collected by TWEEDIE in “St. Domingo”.

= *Callidryas argante rorata* ♀ f. norm. *adela* BROWN, 1929 Amer. Mus. Novit. 398: 13; TL: [“West Indian race”].

Distribution: Jamaica, Hispaniola.

Adult Characteristics: Sexes different. ♂ UPFWs orange with small marginal spot at the end of the veins. ♀ paler orange suffused with fuscous or red scales. Dark spot at the end of FW cell; dark marginal spots at end of the veins; dark bar from FW costa to Cu1-Cu2.

Comments: BROWN (1929) named the yellow morph of *rorata* as *adela*. He described also the white form from Honduras

as *albante*. Widely distributed in wooded areas from sea level to 1000 m especially during July and August.

***Phoebis editha* (BUTLER, 1870)**

Callidryas editha BUTLER, 1870, Trans. Ent. Soc. Lond. **18**: 10; TL: Haiti.

Distribution: Hispaniola.

Adult Characteristics: ♂♂ similar to those of *sennae* but wings underside orange for the mixing of the yellow background and the overlay of red scales which produce an orange colouration. Out of a series of 72 ♀♀ we found 10 ♀♀ completely orange.

Comments: It is often common from sealevel to 1500 m in Haiti (SCHWARTZ, 1983b). In the Dominican Republic it reaches 2300 m. Widespread in the west in a variety of habitats. COUTSIS (1986) depicted and compared the genitalia differences among *Phoebis editha* and *Phoebis sennae*.

***Phoebis philea* (LINNAEUS, 1763)**

Papilio D[anaus]. Philea LINNAEUS, 1763, in: JOHANSSON, Cent. Ins. Rar.: 21, no. 59; cited RÖSEL VON ROSENHOF (1761), Der monat. Insect.-Belustig. **4**: pl. 3, fig. 5; often cited as published in Amoen. acad. 6: 404, no. 59, a subsequent reprint. TL: "Indiis"; suggested to be "Surinam" by MILLER & BROWN (1981: 86). Type(s): apparently lost, as noted by HONEY & SCOBLE (2001: 363).

***Phoebis philea thalestris* (ILLIGER, 1801)**

Papilio (Danaus) philea thalestris ILLIGER, 1801, Mag. Insektenk. **1** (1-2): 207 n. 31; TL: República Dominicana.

Distribution: Hispaniola.

Adult Characteristics: ♂ large, yellow. UPFW with a black dot at the end of the cell and a large orange discal patch. UPHW marginal pale orange fascia. ♀♀ vary for the amount of red and orange colouration. UPFW dark reddish with marginal and premarginal dark spots. UPHWs with wide red suffusion on the 2/3 of the wings, with some marginal black dots. UNHWs with large dark marginal area.

Comments: It seems relatively rare in Haiti (SCHWARTZ, 1983b). Perhaps it can be ranked as full species (see SCHWARTZ 1989a: 205). It is widespread but strongly seasonal; sometimes abundant.

***Phoebis sennae* (LINNAEUS, 1758)**

P[apilio]. D[anaus] Candidus]. Sennae LINNAEUS, 1758, Syst. Nat. (ed. 10) **1**: 470, no. 72; cited SLOANE (1725), Voy. Mad. Barb. Niev. St. Christ. Jam. **2**: pl. 236, figs. 11, 12, and MERIAN (1705), Ins. Surinam.: pl. 58, among others. TL: "Cassia Americes"; possibly "Jamaica Surinam" from reference to SLOANE. Types: apparently lost, as noted by HONEY & SCOBLE (2001: 379).

= *Phoebis eubule sennae* ♀ form *sennalba* BROWN, 1929, Am. Mus. Novit. **368**: 8-9. TL: "7 kilometers north of Viñales, Cuba" [Pinar del Rio]; Types: "HT" in AMNH.

Distribution: Southern USA states, Texas to Argentina. The Bahamas, West Indies.

Adult Characteristics: The ♀♀ are particularly recognizable by the UPFW submarginal and subcostal row of brown spots that is always present. Marginal markings are heavy, and in the FWs usually form a continuous band serrate inwards. UNHWs of both sexes with a series of fine, short, wavy, lines. Occasionally, these lines are faint in the ♂♂. ♀♀ polymorphic, yellow and white forms occur. Colouration varies from warm orange yellow to pale cream (f. *sennalba*).

Comments: BROWN (1929) reported this taxon as *P. eubule sennae*. COMSTOCK (1944) reported that the f. *sennalba* is predominant in Puerto Rico and the Virgin Islands. We noted that in Hispaniola this form occurs in 80-85% of individuals. SCHWARTZ (1989a) apparently does not report the polymorphism. This is the commonest *Phoebis* in Hispaniola (SCHWARTZ, 1983b, 1989a).

***Rhabdodryas* GODMAN & SALVIN, [1889]**

Biol. centr.-amer., Lep. Rhop. **2**: 146, TS: *Papilio trite* LINNAEUS, 1758.

***Rhabdodryas trite* (LINNAEUS, 1758)**

Papilio trite LINNAEUS, 1758, Syst. Nat. (Edn 10) **1**: 469; TL: "In Calidioribus regionibus" [warm regions - South and Central America, probably the Guiana].

***Rhabdodryas trite watsoni* (BROWN, 1929)**

Phoebis (Rhabdodryas) trite watsoni BROWN, 1929, Amer. Mus. Novit., **368**: 20; TL: Sanchez, Santo Domingo, W. I. Types: HT ♂, Sanchez, Santo Domingo, W. I., May 28-31, 1915, (WATSON). PTs: 2 ♂♂ from Cayey, Porto Rico, W. I., May 30-31, 1915, (LUTZ and MUTCHLER); 1 ♂ from Adjuntas, Porto Rico, W. I., June 8-13, 1915, (LUTZ & MUTCHLER). Types in AMNH.

Distribution: Dominican Republic, Puerto Rico, Montserrat, St Kitts, Guadeloupe, Dominica, St Lucia, St Vincent.

Adult Characteristics: It differs from the continental nominal subspecies in the absence of a slender black line in ♂ UPFWs, and in the absence of the underside markings as well as the FW and HW diagonal lines. ♂ similar to *trite* but lacking entirely the black margin on FW and HW upperside. UN ground colour citron-yellow instead of light buff as in *trite*. The diagonal lines, characteristic of the species, very faintly represented by a few brown scales; the HWs patches between M2 and M3, and M3 and Cu each represented by a few scattered brown scales. ♀ similar to ♂, slightly paler yellow, FW with black margins.

Comments: This is an uncommon and local species found often puddling in mesic forests. It occurs during summer from 100 to 1000 m. BROWN (1929) described this subspecies on the basis of 1 ♂ from Dominican Republic and 3 ♂♂ from Porto Rico.

***Aphrissa* BUTLER, 1873**

Lepid. Exot. (13): 155. TS: *Papilio statira* CRAMER, 1777, Utitl. Kapellen **2** (10): 35, pl. 120, figs. C, D; (16): 150 (index), by original designation..

***Aphrissa godartiana godartiana* (SWAINSON, 1821)**

Colias Godartiana SWAINSON, 1821, Zool. Illustr. 1: [i] + pl. 34; TL: not stated.

Distribution: Jamaica, Hispaniola.

Adult Characteristics: ♂ similar to *A. orbis* but FWs basally yellow. HWs basally yellow and distally white. ♀ UPFWs yellow with a large black spot at the end of the cell. Apical and marginal black border. HWs dark yellow-orange.

Comments: Recently, MURILLO-RAMOS et al. (2016) wrote that the phylogenetic position of *Aphrissa* within Coliadinae is not clear, carried out a MP analysis on 32 morphological characters. The resulting cladogram has this topology: clade A: *Eurema* + (*Anteos* + (*Colias* + *Zerene*)) and clade B: *Prestonia* + (*Aphrissa* + (*Rhabdodryas* + *Phoebis*)). *Kricogonia* remained as the sister taxon of the whole group. Characters that support clade A include the morphology of ♂ genitalia whereas the clade B is supported by ♀ genitalia and morphology of the chorion of the eggs.

Usually a very scarce species, local, and found in scattered localities throughout the island. It seems a “winter” species being found mainly during December and January, although it was found also in April, June and October. We found it at Cabo Rojo-Aceitillar road 450-650 m (PD), Vallejuelo (SJ), and Arroyo Cano (SJ).

***Aphrissa orbis* (POEY, 1832)**

Callidryas Orbis POEY, 1832, Cent. Lépid. Cuba (1): [1-3], [no. 1], pl. [1], figs. [1] ♀ D, [2] ♂ D, [3] larva, [4] ♀ vent. [5] pupa. TL: “Cuba”; Types: STs (#7767) in ANSP.

***Aphrissa orbis browni* (MUNROE, 1947)**

Phoebis (Aphrissa) orbis browni MUNROE, 1947, Amer. Mus. Novit. 1362: 1; TL: Pivert, Haiti; Types: HT ♂: Pivert, Haiti, 250 feet, April 1, 1922; genitalia slide B1180, F. M. BROWN; in coll. AMNH. AT ♀: Pétionville, Haiti, July 3, 1930; in coll. AMNH (collection F. E. CHURCH). PTs: 1 ♂, Fond Parisien, Haiti, February 11-18, 1922; genitalia preparation 609, E. MUNROE. 1 ♀, Chacquey, Dominican Republic, February 26, 1930 (STILLMAN); genitalia slide B1357, F. M. BROWN. Both in coll. AMNH. 1 ♂, Barahona, Dominican Republic, June 7, 1940 (NEEDHAM); in Cornell University collection.

Distribution: Hispaniola.

Adult Characteristics: A large species. ♂ UPFW with rather pale orange discal patch; ♀ rich yellow with prominent black blotch at the end of FW cell; thin marginal border.

Comments: It is a scarce and local species distributed on the western part of the Hispaniola in wooded habitats except the records from isla Saona (LA). It seems uncommon in Haiti (SCHWARTZ (1983b)).

***Aphrissa statira* (CRAMER, 1777)**

Pap[ilio]. Dan[aus]. Cand[idus]. Statira CRAMER, 1777, Uitl. Kapellen 2 (10): 35, pl. 120, figs. C, D; 2 (16): 150 (index); TL: “Kust van Coromandel, en te Tránquebar” “Côte de Coromandel & à Tranquebar” in error; suggested to be “Surinam” by MILLER & BROWN (1981: 87) “NT” from “Pará.” [Brazil]; Type(s): probably lost; D’ALMEIDA (1945: 239) designated “NT”; MIELKE & CASAGRANDE (1985: 328, fig. 4 ♂♂ dors. & vent.) designated one of these as the NT (#1282) in UFPC. Neither of these designations are in accordance with Code Articles 75.2 and 75.3.

***Aphrissa statira hispaniolae* (MUNROE, 1947)**

Phoebis (Aphrissa) statira hispaniolae MUNROE, 1947, Amer. Mus. Novit. 1362: 1-2; TL: Sanchez, Dominican Republic; Types: HT ♂: Sanchez, Dominican Republic, June 24-26, 1915; in coll. AMNH. AT ♀: Sanchez, Dominican Republic; June 30-July 4, 1915; in coll. AMNH. PTs: 6 ♂♂, same locality and month as HT. ♂, San Lorenzo, Dominican Republic, June 24-26, 1915. All the above PTs in coll. AMNH. Genitalia preparations 575, E. MUNROE, and B1183, F. M. BROWN, made from among these paratypes. 1 ♂, “San Domingo. Gift of H. C. FALL.” 1 ♂, “San Domingo, A. G. WEEKS Collection”; M. C. Z. slide no. 292. These 2 PTs in MCZ.

Distribution: Hispaniola.

Adult Characteristics: ♂ larger than ssp. *cubana* D’ALMEIDA, 1939 distributed in Jamaica, Cuba and Cayman Islands, and brighter yellow on the basal and discal parts of both wings. ♀♀ pinkish white, basally yellowish. FWs cell with black spots.

Comments: A scarce and very local species. SCHWARTZ (1989a) listed only 11 localities mostly in mesic hardwood forests in the Cordillera Central and in the Sierra de Bahoruco. Rare also in Haiti (SCHWARTZ, 1983b).

Subfamily Pierinae SWAINSON, 1820

Zool. Illustr. [1] 1 (3): pl. 15, unnumbered text. Genus type: *Pieris* SCHRANK 1801, Fauna boica 2 (1): 152, no. 198.

Tribe Pierini SWAINSON, 1820

***Glutophrissa* BUTLER, 1887**

Ent. Month. Mag. 23 (275): 249; TS: *Appias poeyi* BUTLER, 1872, Proc. Zool. Soc. Lond. 1872 (1): 49 [= *Papilio drusilla* CRAMER, 1777, Uitl. Kapellen 2 (10): 21, pl. 110, fig. C; (23): 148 (index); subspecies], by original designation.

***Glutophrissa drusilla* (CRAMER, 1779)**

Pap[ilio]. Dan[aus]. Cand[idus]. Drusilla CRAMER, 1779 Uitl. Kapellen 2 (10): 21, pl. 110, fig. C ♀ dors.; (16): 148 (index). TL: “Batavia” in error; suggested to be “Surinam” by COMSTOCK (1943a:1) “NT” from “Óbidos, Pará.” [Brazil]; Types: Type(s) probably lost; D’ALMEIDA (1945: 236) designated “NT”; MIELKE & CASAGRANDE (1985: 328, fig. 7 ♂♂ dors. & vent., designated one of these as the NT (#920) in UFPC. Neither of these designations are in accordance with Code Articles 75.2 and 75.3.

***Glutophrissa drusilla boydi* (COMSTOCK, 1943)**

Appias (*Glutophrissa*) *drusilla boydi* COMSTOCK, 1943, Amer. Mus. Novit. **1238**: 4-5; TL: Barahona, Dominican Republic; Types: HT ♀, Barahona, Dominican Republic, July 29-31, 1932, AT ♂, Barahona, Dominican Republic, July 20-26, 1932, leg. W. M. BUSH. PTs: 2 ♂♂, 4 ♀♀, Barahona, Dominican Republic, July 6-19, August 1-15, 1932, leg. W. M. BUSH; ♂, Monte Cristi, Dominican Republic, March 13, 1931; ♂, Fond Parisien, Haiti, February 11-18, 1922; ♀, Freres, Haiti, May 27, 1930; ♀, Kenscoff, Haiti, 4826 feet elevation, March 10, 1935; ♀, Mira Goane, Haiti, August 14, 1927; 2 ♂♂, St. Marc, Haiti, March 30-April 2, 1922; ♀, Trouin, Haiti, 500 feet elevation, March 30, 1935. In coll. AMNH. There are 2 PTs in the British Museum, ♂ and ♀, labeled “St. Domingo. 55-1” and “*Glutophrissa poeyi* ♂ type Butler” and “*Glutophrissa poeyi* ♀ type Butler,” the same being the two specimens misdetermined as types of *poeyi* BUTLER.

Distribution: Hispaniola, Puerto Rico, Virgin Islands.

Adult Characteristics: ♂ UPFW costa edged with black, silky white throughout. UNFW pale whitish, with in some specimens a small yellow basal area. UNHW an orange line along the costa from the base and thinly showing to the apex of Sc.

♀ UPFW a broad black marginal fascia indented below M2. Cell and basal area black. Wide discal white area. UNFW with the cell filled with yellow. UPHW large black marginal separated spots. Ground colouration creamy yellow.

♂ genitalia are of the typical *drusilla* pattern (Fig. 49, left).

Comments: Among the various insular and continental populations of *drusilla*, the Cuban *poeyi* BUTLER, is the closest to *boydi*. ♂♂ of *poeyi* are hardly distinct from *boydi*, but the ♀♀ can be separated without difficulty. The ♀♀ of the Cuban *poeyi* differ in that the FW marginal border is thinner than that of *boydi*; consequently the marginal projection below M2 is smaller. The cell and the basal area is less black. The UPHW marginal black is not uniform and often absent, and the yellowish colouration is restricted to the basal area.

The purported type of *G. drusilla boydi* figured by WARREN et al. (2016) http://www.butterfliesofamerica.com/L/ih/glutophrissa0029_i.htm/ is indeed the NT ♀ of *G. drusilla poeyi* as clearly designated by COMSTOCK (1943a: 3).

The Hispaniolan *boydi* is widespread in a variety of habitats from sea level up to 1600 m. Presumably univoltine from May to November in the summer although wet season ♀♀ have the UPFW cell black, dry season ♀♀ can be white.

***Glutophrissa punctifera* (D’ALMEIDA, 1939)**

[*Appias* (*Glutophrissa*)] *drusilla punctifera* D’ALMEIDA, 1939, Boletim Biológico (n.s.) **4** (1): 61, TL: Puerto Rico

Distribution: Hispaniola, Puerto Rico, St Thomas and St John.

Adult Characteristics: COMSTOCK (1943a: 5) reported three ♀♀ with LFW 26-29 mm. FWs white, with or without an outer marginal fuscous border; HWs distinctly cream-coloured. The spot at the end of the forewing cell is larger than in the ♂, partly or completely closing the cell, and prominent on the wing. The underside is similar to that of the ♂ but with the cell spot more prominent and the basal yellow suffusion filling half or more of the area of the cell.

Comments: This species was not reported by SCHWARTZ (1989a), but SMITH et al. (1989) and SMITH et al. (1994) collected few specimens at Boca de Yuma (LA) and Rio Chavón (LR) together with *G. drusilla*. TAKIZAWA et al. (2003: 33, pl. 12 fig. 3) reported one ♀ from Saona (LA) island and noted its resemblance with the wet forms of *G. drusilla boydi*. WAHLBERG & PEÑA (2007) reported one specimen from Parque Nacional Jaragua possibly near Oviedo (PD). At present, it is not clear how many ♀ forms occur in Hispaniola. The ♀ figured by SMITH et al. (1994: pl. 4, fig. 11c) from Boca de Yuma (LA) is the morph with large black border on FWs. We found one ♂ flying together with *A. drusilla* at Banano (PD). COMSTOCK (1943a) figured and compared ♂ genitalia of *boydi* and *punctifera* which are herewith reproduced in fig. 49.

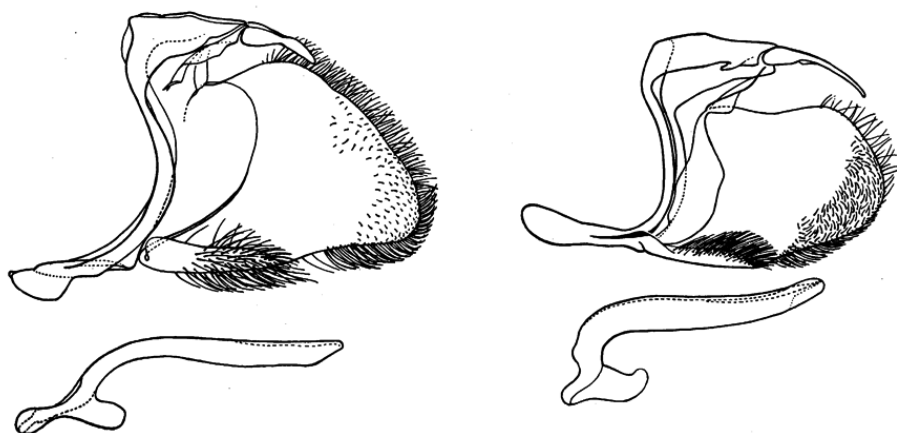


Fig. 49: ♂ genitalia. (Left) *Appias drusilla boydi* COMSTOCK - lateral view of genital armature, Monte Cristi, Dominican Republic. (Right) *Appias punctifera* D’ALMEIDA, St. John, Virgin Islands (Modified after COMSTOCK, 1943a).

Subtribe Pierina SWAINSON, 1820

***Ascia* SCOPOLI, 1777**

Intro. Hist. Nat.: 434, no. 175. TS: *Papilio monuste* LINNAEUS, 1764, Mus. Lud. Ulr.: 237, no. 56, by designation of

SCUDDER (1872), 4th Ann. Rep. Peabody Acad. Sci. (1871): 61.

***Ascia monuste* (LINNAEUS, 1764)**

P[apilio] D[anaus]. C[andidus]. Monuste LINNAEUS, 1764, Mus. Lud. Ulr. [1]: 237, no. 56. TL: “in Exteris terris”; stated to be “Barbaria” by LINNAEUS (1767), Syst. Nat. (ed. 12) 1(2): 760, no. 80; listed as “America” by FABRICIUS (1775), Syst. Ent.: 470, no. 117, citing KLEEMANN (1761), Beytr. Nat. Ins. 1: 31, pl. 3, fig. 3 m D (“Westindianische”); further defined as “Surinam” by COMSTOCK (1943b: 2). Type(s): apparently lost. COMSTOCK (1943b) discussed the identity of this taxon.

***Ascia monuste eubotea* (GODART, 1819)**

Pieris Eubotea GODART, 1819, Enc. méth. 9 (Ins.) (1): (111), 144, no. 90. TL: Not stated; suggested to be “Antilles” by COMSTOCK (1943b: 3); Types: Locality of type(s) not known.

Distribution: West Indies except St Vincent.

Adult Characteristics: ♂ with FWs outer margin, apex, and marginal spots black. ♀ more variegated with dark brown triangular marginal UNHWs spots. A black spot at the end of the cell.

Comments: It is widespread in West Indies. SCHWARTZ (1989a) commented upon the variation of ♀♀, some of them approaching the Bahamian *phileta* (F. 1775). One ♀ from Isla Saona (LA) is similar to the lesser Antillean *virginia* (GODART, 1819). Some years extremely abundant, especially in xerothermic places.

***Ganyra* BILLBERG, 1820**

Enum. Ins. Mus. Billberg, 76; TS: *Papilio amaryllis* FABRICIUS, 1793, Ent. Syst. 3 (1): 189-190, no. 586 (= *Pieris josephina* GODART, 1819, Ency. méth. 9 (Ins.) (1): (115), 158, no. 136; homonym), by designation of SCUDDER (1875: 178).

***Ganyra josephina josephina* (GODART, 1819)**

Pieris Josephina GODART, 1819, Ency. méth. 9 (Ins.) (1): (115), 158, no. 136. TL: Not stated; suggested to be “Hispaniola” by COMSTOCK (1943b: 5); STs from “St. Domingo and Mexico,” as documented by GRIMSHAW (1897: 6). According to MILLER & BROWN (1981:73); TL: “Hispaniola “, probably Port au Prince, Haiti. HT probably in MNHP. Types: STs in MNHP and RSME.

Distribution: Texas to Central America. Hispaniola, Jamaica, Puerto Rico

Adult Characteristics: ♂ UPFWs white with dark apex; UNFW and UNHW cream coloured and in some ♂♂ more intense yellow. Androconial stripes along FWs veins. ♀♀ similar, with premarginal black stripes along the veins.

Comments: It is locally common but absent in vast areas of Hispaniola. Found in xeric forests and woods.

***Melete* SWAINSON, 1832**

Zool. Illustr. (2) 2 (17): pl. 79; TS: *Pieris limnoria* GODART, 1819.

= *Daptonoura* BUTLER, [1870], Cat. diurn. Lep. FABRICIUS: 209, TS: *Papilio lycimnia* CRAMER, 1777.

***Melete salacia salacia* (GODART, 1819)**

Pieris salacia GODART, 1819 Encyclopédie Méthodique 9 (1): 144; TL: Santo Domingo.

Distribution: Hispaniola.

Adult Characteristics: ♂ UPFWs white with apical, subapical and marginal black border. UNHWs with orange basal patches, and a straight thin black medial stripe. ♀ yellowish, with strong black design in the apical and marginal areas of both wings. A strong black bar at the end of the FW cell. Underside similar to that of ♂ but with stronger colouration and thicker HW black medial stripe.

Comments: Widespread in the west of the island, except Haiti, wherefrom only one specimen is known from Dondon (NO). Very local and seldom abundant, it frequents mesic hardwood forests.

Family **LYCAENIDAE** [LEACH], [1815]

In Edinburgh Ency. 9: 129, Type Genus *Lycaena* FABRICIUS, 1807.

Subfamily **Theclinae** SWAINSON, 1831

Zool. Illustr. 2: pl. 85.

Tribe **Eumaeini** E. DOUBLEDAY, 1847

List Spec. Lepid. Ins. Coll. BM., 2: 20.

Rekoa KAYE, 1904

Trans. Ent. Soc. Lond. 1904 (2): 198, TS: *Papilio meton* CRAMER, 1779.

Heterosmaitia CLENCH, 1964, J. Res. Lepid. 2 (4): 254, TS: *Thecla bourkei* KAYE, 1925.

Rekoa bourkei (KAYE, 1925)

Thecla bourkei KAYE, 1925, Trans. Ent. Soc. Lond. 1924 (3/4): 416, TL: “Trinidad” [Jamaica]; Types: HT ♀ “Trinidad” BOURKE Collection, Oxford Museum. According to COMSTOCK & HUNTINGTON (1959: 166) BERNARD HEINEMAN says type was not in Oxford Museum according to Prof. VALARY on May 15, 1953.

= *Heterosmaitia abeja* JOHNSON & MATUSIK, 1988, Ann. Carnegie Mus. 57: 232; TL: [Dominican Republic: Pedernales Prov., Sierra de Batoruco south slope] “upper Abejas”; Types: HT ♂, upper Abejas, nectaring in sunlight on blackberry, 15 July 1987, leg. KURT JOHNSON, deposited CMNH; AT ♀, same locality, same conditions, 10 July 1986, leg. KURT JOHNSON, deposited CMNH (AMNH/HS #104, 105 transferred to CMNH).

Distribution: Jamaica, Hispaniola.

Adult Characteristics: ♂ UPFWs dark blue with large androconial patch at the end of the cell. Apical and marginal areas black. UPHWs extensively blue with two tails and a red anal dot. ♀ similar pattern but colouration bluish grey with large black area on UPFWs.

Comments: ROBBINS (1991) in revising *Rekoa* reported that KAYE (1925) described *Thecla bourkei* from a Trinidadian ♀ in BOURKE’S Collection, the Oxford Museum. KAYE (1931b) later corrected the type locality to Jamaica, and illustrated a ♂. The type apparently has been lost (COMSTOCK & HUNTINGTON, 1959) but KAYE’S (1931b: pl. XXXIX, fig. 8) illustration makes identification unambiguous.

JOHNSON & MATUSIK (1988) described *H. abeja* from 1 ♂ and 1 ♀ collected in the Sierra de Batoruco; see JOHNSON & COATES (1999: 56-82) for details on collection sites. ROBBINS (1991) did not find any character to differentiate *H. abeja* and therefore synonymized it with *R. bourkei*.

SCHWARTZ (1989a) reported that only two specimens of *R. abeja* are known from “Upper Abejas”. SMITH et al. (1994) considered it a separate species. HT and AT illustrated by WARREN et al. (2016). It seems a rare species in Jamaica. D’ABRERA (1995: 1259) figured 2 ♂♂ from Jamaica, Port Antonio. The relationships among *R. abeja*, *R. bourkei* and the Mesoamerican *R. zebina* (HEWITSON, 1869) will remain fluid until new material will be available.

Chlorostrymon CLENCH, 1961

In EHRLICH, P. & A. EHRLICH (eds.), How to know the butterflies: 189 TS: *Thecla telea* HEWITSON, 1868.

Chlorostrymon simaethis (DRURY, [1773])

Papilio simaethis DRURY, [1773], Illust. Nat. Hist. Exot. Insects 1: 3, pl. 1, f. 3; TL: “St. Christopher’s” [= St. Kitts].

= *Thecla simaethis jago* COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. 45 (2): 74, pl. 1, f. 7, TL: Dunrobin Distr., Mandeville, Manchester, Jamaica

= *Chlorostrymon chilleana* JOHNSON, 1989, J. Lepid. Soc. 43 (2): 141, f. 3C-D, 5I, 6O; TL: “Santiago, Chile”.

Distribution: S California, Texas and Florida to Argentina. Greater and Lesser Antilles.

Adult Characteristics: Easily recognizable for the green underside. UPFWs ♂ purple, ♀ dark with body and basal areas of both wings bluish.

Comments: This is a widespread but elusive species, also on the mainland. Only a few specimens collected by SCHWARTZ (1989a) at Puerto Plata (LA), and Pedernales (PD). Reported for the Parque Nacional Jaragua (PD) by WAHLBERG & PEÑA (2007). We found a few specimens at the end of June at Santa Barbara (BA). The ssp. *jago* COMSTOCK & HUNTINGTON (1943) usually considered a synonym of the nominate subspecies is found in Jamaica. D’ABRERA (1995: 1192) does not list this taxon from Hispaniola.

Chlorostrymon maesites (HERRICH-SCHÄFFER, 1865)

Thecla maesites HERRICH-SCHÄFFER, 1865. CorrespBl. Zool.-min Ver. Regensburg 18 (11-12): 165, TL: Havana, Cuba?

Distribution: S Florida, Bahamas, Greater Antilles, St. Croix, Tortola and Guana Is.

Adult Characteristics: Similar to *C. simaethis* but the green underside somewhat duller. UPFWs ♂ deep purple. ♀ UPFWs blue on the basal half and the whole of the HWs. One short and one long tail at the HWs.

Comments: RILEY (1975) did not report this species from Hispaniola. Found in only two far apart localities near Vallejuelo (SJ) and Cabo Rojo (PD).

Allosmaitia CLENCH, 1964

J. Res. Lepid. 2 (4): 254, TS: *Thecla coelebs* HERRICH-SCHÄFFER, 1862 CorrespBl. Zool.-min. Ver. Regensb. 16:142, TL: Cuba.

Allosmaitia fidena (HEWITSON, 1867)

Thecla fidena HEWITSON, 1867, Ill. diurn. Lep. Lycaenidae (3): 112, pl. 44, f. 183-184, TL: Not stated [Jarabacoa, La

Vega, Dominican Republica].

Distribution: Hispaniola, Puerto Rico.

Adult Characteristics: ♂ UPFWs dark with deep blue basal area. UPHWs dark with blue colouration in basal and discal areas. ♀ similar but with lighter blue colouration Presence of one tail at the HWs.

Comments: RILEY (1975) considers it a ssp. of *A. coelebs* (HERRICH-SCHÄFFER, 1862), SCHWARTZ (1989a) on the contrary a full species. SMITH et al. (1994) reported it as *A. coelebs fidena* and they restricted its TL to Jarabacoa, La Vega, Dominican Republica. ROBBINS (2004b: 127) treats *A. fidena* a separate species.

It differs from *coelebs* for not having the HW tail at vein 3, underside greyish and not brownish, marginal spot in space 2 more red. *Allosmaitia coelebs* from Cuba has 2 tails on the HW, *fidena* lacks the HW tail at Cu1.

TAKIZAWA et al. (2003) reported that the species is widespread from sea level to above 1000 m. Found in scattered colonies, usually uncommon. We found it singly in the Sierra de Baoruco at 1200 m. HT ♂ figured by D'ABRERA (1995: 1183).

Electrostrymon CLENCH, 1961

In EHRLICH, P. & A. EHRLICH (eds.), How to know the butterflies: 185, 218, TS: *Papilio endymion* FABRICIUS, [1782].

= *Angulopsis* JOHNSON, 1991 Rep. Mus. Nat. Hist. Univ. Wisc. (Stevens Point) **21**: 41, TS: *Thecla autoclea* HEWITSON, 1877.

= *Rubroserrata* JOHNSON & KROENLEIN, 1993, Rep. Mus. Nat. Hist. Wisc. (Stevens Point) **34**: 19, TS: *Thecla mathewi* HEWITSON, 1874.

Electrostrymon angelia (HEWITSON, 1874)

Thecla angelia HEWITSON, 1874, Ill. diurn. Lep. Lycaenidae (6): 162, pl. 63, f. 439-440, TL: Cuba, Jamaica.

= *Strymon angelia dowi* CLENCH, 1941, Torreia (Havana) **7**: (1-7), TL: Arthurstown, Cat Island.

= *Thecla angelia pantoni* COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. **45** (2): 69, TL: Jamaica.

= *Thecla angelia boyeri* COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. **45** (2): 70, TL: Pétionville, Haiti.

Distribution: Hispaniola, Puerto Rico to St. Croix.

Adult Characteristics: ♂ with large dark orange patches on both wings upperside. ♀ with much more reduced patches. Two tails at HWs. The Hispaniolan populations are similar to the nominate ssp. but with HW postdiscal white line broken, and the ocellar spot at vein 2 very large, with a large orange suffused band above it.

Comments: Usually found as single individual throughout the island. SMITH et al. (1994) found this species at Boca de Yuma (LA), and WAHLBERG & PEÑA (2007) at Puerto Plata (PP). ROBBINS (2004b: 218) considers *boyeri* a synonym of the nominate subspecies.

Strymon HÜBNER, 1818

Zuträge Samml. exot. Schmett. **1**: 22, TS: *Strymon melinus* HÜBNER, 1818.

Strymon christophe (COMSTOCK & HUNTINGTON, 1943)

Thecla christophe COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. **45** (2): 85, TL: Port-au-Prince, Haiti, Types: all from Hispaniola : HT ♀, Port-au-Prince, Haiti, January 1-6, 1922; AT ♀, Paradis, Dominican Republic, 1800 feet, August 15, 1932. PTs: ♀, Port-au-Prince, Haiti, January 1-6, 1922; ♀, Pétionville, Haiti, June 13, 1930; ♀, San Lorenzo, Dominican Republic, June 27-29, 1915.

Distribution: Hispaniola.

Adult Characteristics: ♂ UPFWs brownish with scattered bluish scales. UPHWs basal blue scales, red tornus, and presence of one tail at Cu2. UNHWs greyish with a red costal spot. ♀ similar but with blue colouration more extensive.

Comments: This is the rarest Hispaniolan *Strymon*. SMITH et al. (1994) reported it for Boca de Yuma (LA), and near Jarabacoa (LV). The HT ♂ from Port-au-Prince is figured in WARREN et al. (2016).

Strymon acis (DRURY, [1773])

Papilio acis DRURY, [1773], Illust. Nat. Hist. Exot. Insects **1**: pl. 1, f. 3, TL: "New York"

= *Thecla acis gossei* COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. **45** (2): 67, pl. 1 fig. 3; TL: Don Christoper's Dove, St. Ann, Jamaica.

= *Thecla acis petioni* COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. **45** (2): 64, pl. 1 fig 4; TL: Port-au-Prince, Haiti.

Distribution: S Florida, The Bahamas, Cuba, Hispaniola, Puerto Rico?

Adult Characteristics: Sexes similar. ♂ UPFWs brownish with androconial patch at the end of the cell. Apical and marginal areas black. UPHWs with two tails, the anterior the longest. Black submarginal spot in Cu1-Cu2 with a red spot above it. UNHWs with an orange submarginal patch which renders this taxon unmistakable.

Comments: This taxon is close to the Puerto Rican *mars* (F. 1776) but with a greyish and not a brownish underside. ROBBINS (2004b: 130) considers *petioni* a synonym of *S. acis* which is monotypic. Apparently a xerophilous taxon found in a few localities only, Monte Cristi, Vallejuelo, and Cabo Rojo area. In Vallejuelo it was once found abundant (SCHWARTZ, 1989a).

Strymon bazochii (GODART, [1824])

Polyommatus bazochii GODART, [1824], Encyclopédie Méthodique **9** (2): 681, TL: "Brazil".

= *Strymon gundlachianus* BATES, 1935, Bull. Mus. Comp. Zool. **78** (2): 195, TL: [Cuba] Oriente Sierra Maestra 1000 ft. Types: Type and eight PTs in the M.C.Z. from Oriente (Sierra Maestra, 1000 ft., June, July, Sept., Nov., Dec. collected by QUERCI).

Distribution: Cuba, Jamaica, Hispaniola.

Adult Characteristics: ♂ UPFWs with a large subquadrangular androconial patch at the apex of the discal cell. UPHWs

with large lilac blue colouration. ♀ UPHWs with blue area reduced.

Comments: This is a very uncommon species, found usually as single individuals in very few localities from sea level to almost 1500 m. SMITH et al. (1994) reported it in hammock forest at Playa Bavaro (LA), and at Jarabacoa (LV). Only at Vallejuelo (SJ) a long series of specimens have been collected (SCHWARTZ, 1989a).

The Cuban populations (namely *S. gundlachianus*) are less strongly marked on the underside if compared with the nominate subspecies. ROBBINS (2004b: 130) considers it a synonym.

***Strymon istapa* (REAKIRT, [1867])**

Thecla istapa REAKIRT, [1867], Proc. Acad. nat. Sci. Philad. **18** (5): 339, TL: Mexico, Veracruz.

= *Thecla cybira* HEWITSON, 1874, Ill. diurn. Lep. Lycaenidae (6): 161, pl. 73, f. 435-436, TL: Cuba; Jamaica.

= *Thecla columella arecibo* COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. **45** (2): 81, pl. 1 fig 14; TL: Guayanilla, Puerto Rico; Types: all from Puerto Rico: HT ♂, Guayanilla, July 22, 1914, AT ♀, Arecibo, July 30 - August 1, 1914. PT: ♂, Coamo Springs, January 6-10, 1915.

Distribution: S Arizona, S California, S Texas, S Florida, Mexico to Peru, Brazil. Cuba, Jamaica, Hispaniola, Puerto Rico.

Adult Characteristics: ♂ UPFWs brown, with small androconial patch at the end of the discal cell. HWs with a short tail at Cu1. ♀ upperside of both wings brown with traces of blue in the basal areas.

Comments: It was for long debated whether *S. istapa* is conspecific with *S. columella* (F. 1793). Indeed, the systematics of this group of taxa is rather complicated (see SCHWARTZ, 1989a: 244).

ROBBINS (2004b:130-131) considered, among others, *cybira* and *columella arecibo* as synonyms of *S. istapa* this latter being a different species from *S. columella*. SCHWARTZ (1989a) reported *S. columella cybirus* for Hispaniola whereas SMITH et al. (1994) *S. columella* with its subspecies, namely *modesta* (Maynard 1873), the Hispaniolan *cybira*, *arecibo*, and *columella* but they did not mention *S. istapa*. We follow ROBBINS (2004b), as noted originally by COMSTOCK & HUNTINGTON (1943), in considering *istapa* and *columella* different species.

Reported for the Parque Nacional Jaragua (PD) and the Sierra de Bahoruco (PD) by WAHLBERG & PEÑA (2007). We observed many specimens at Santa Barbara (BA) and Sierra de Bahoruco km 21 (PD) during June.

***Strymon toussainti* (COMSTOCK & HUNTINGTON, 1943)**

Thecla toussainti COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. **45** (2): 84, pl. 1 fig 17, TL: Fond Parisienne, Haiti; Types: all from Hispaniola: HT ♂ and AT ♀, Fond Parisien, Haiti, February 11-18, 1922. PTs: 2 ♂♂, 1 ♀, Fond Parisien, Haiti, February 11-18; 1922; ♂, Monserat, Dominican Republic, July 20-22; 7 ♂♂, 7 ♀♀, Port-au-Prince, Haiti, January 1-6, 13, February 24, 19-28, March 5-11, April 6-8, 8-11, December 28. 1 ♂, 1 ♀, from Haiti, HOLLAND collection, in the Carnegie Museum, Pittsburgh, Pa.

= *Strymon andrewi* JOHNSON & MATUSIK, 1988, Ann. Carnegie Mus. **57**: 228, TL: Upper Abejas, 1750 m, 8 km on footpath, Las Abejas transect, NW of Aceitillar, Pedernales Province, Dominican Republic. Types: HT ♂, upper Abejas 1750 m, 8 km on footpath. Las Abejas transect, NW of Aceitillar, Pedernales Province, Dominican Republic, nectaring in sunlight 1330 hrs, July 16, 1986, leg. D. MATUSIK; AT ♀, same data but 1400 hrs, July 17, 1986, both deposited AMNH (AMNH/HS #83, 84). PTs: AMNH - (♂) same data as HT but 1300 hrs, 1530 m in xeric pine/broadleaf margin, nectaring in sunlit opening, July 17, 1986, leg. D. MATUSIK (AMNH/HS #85); (♀) same data as PT ♂ July 17, 1986, leg. K. JOHNSON (AMNH/HS #86); (♂) upland pine forest, slope from mountain crest, 1780 m, 6 km on footpath, Las Abejas transect, NW of Aceitillar, nectaring on blackberry in sunlight, 1400 hrs, July 17, 1986; (♀) data as previous entry but 1520 m, 1430 hrs; (2 ♀♀) 12 km NW Aceitillar, near Las Abejas, margin with pine forest, 1130 m, July 3, 1984, July 5, 1985, leg. D. MATUSIK. CMNH - (♀) pine forest 1 km NE of Aceitillar, 1430 m, July 17, 1987, leg. K. JOHNSON; (2 ♂♂, 1 ♀) same locality as primary types, July 15, 1987, leg. K. JOHNSON; (♂) CMNH Expedition Base Camp, 1730 m, circa 4 km from upper Abejas, in xeric pine forest, nectaring on blackberry, July 16, 1987. DMC - (5 ♂♂, 1 ♀) pine forest between 1987 base camp and upper Abejas, July 11-15, 1987, leg. D. MATUSIK; AME - (2 ♀♀), same locality as primary types, but July 16, 1987, leg. K. JOHNSON (on lifetime loan to A. SCHWARTZ). ASC - (2 ♂♂) 1 km N Aceitillar, 1270 m, December 27, 1986, leg. J. ESCOBIO; (♂) 26 km NE Cabo Rojo, Pedernales Province, 800 m, January 2, 1987, leg. A. SCHWARTZ.

= *Strymon rhapsos* JOHNSON, EISELE & MACPHERSON, 1990, Bull. Allyn. Mus. **130**: 15-16, TL: "Argentina, ?Patagonia".

= *Strymon amonensis* SMITH, JOHNSON, MILLER & MCKENZIE, 1991, Bull. Allyn. Mus. **134**: 2, TL: Mona Island, Puerto Rico.

Distribution: Hispaniola.

Adult Characteristics: ♂ UPFWs dark brown with small androconial patch at the end of the cell. UNFWs very irregular disposition of postdiscal spots. UNHWs with two black marginal spots and a short tail. Scattered bluish basal scaling on UP wings. ♀ similar but bluish scaling more extensive.

D'ABRERA (1995: 1242) figured ♂ and ♀ from Haiti: ♂ brown throughout, ♀ with bluish scales in the lower discal area of UPHWs, and on the lower margin of UPFWs.

Comments: According to SCHWARTZ (1989a: 247) the taxa *toussainti*, *columella*, and *limenius* are easily misidentified. Moreover, JOHNSON & MATUSIK (1988) described *Strymon andrewi* from the Sierra de Bahoruco. SCHWARTZ (1989a) considered *S. toussainti* and *S. andrewi* two different species based on ecology and ♂ genitalia. SMITH et al. (1994: pl. 12, fig. 22) illustrated the HT ♂ of *andrewi* which differs in colouration from the PT. Indeed, the specimen figured by SMITH et al. (1994) shows a large suffusion on the basal half of both wings. It is not unlike to be a ♀ and not a ♂. But see below. ROBBINS & NICOLAY (1999b) and ROBBINS & LAMAS (2002: 2012) stressed that *S. andrewi* is nothing else than a synonym of *S. toussainti*, given that the HT (a ♀ and not a ♂) of the former nominal taxon has the ♂ genitalia of a different species, probably *S. eurytulus* (HÜBNER, [1819]). The ♂ genitalia are therefore excluded from the HT. The HT figured as a ♂ by WARREN et al. (2016) is a ♀.

ROBBINS (2004a: xxvii-xxviii) once again heavily criticized JOHNSON and co-authors' publications. The superficiality of JOHNSON and colleagues is evidenced also for the description of *S. rhapsos* from Argentina, indeed a synonym of the

Hispaniolan *toussainti*.

Apparently, the Haitian *toussainti* is a xerophilous species and occurs obviously in xeric environments also in the Dominican Republic. *Strymon andrewi*, on the other hand, occurs in different ecological biotopes from 700 to 1300 m in the Sierra de Bahoruco road to Aceitillar and it seems that the two taxa are altitudinally separated for some 350 m. In fact, other than the type series of *andrewi* from the upper Abejas, SCHWARTZ (1989a) reported a specimen collected at km 26 on the road Cabo Rojo-Aceitillar. *Strymon toussainti* is found 350 m below at km 23 of the same road. We found *S. "andrewi"* also at km 31 and 32 of the same road in pine forest. It is also known a specimen found 6 km SE Los Arroyos, 1200 m, reported by JOHNSON & MATUSIK (1988) which might be the same, mentioned by SCHWARTZ (1989a) but with different data: "0.6 km SE Los Arroyos 1098 m". It seems then that *S. "andrewi"* and *S. toussainti* are ecologically tolerant of low xeric and high altitude wet sites and this suggests they are the same euryecious species. For the time being we consider *andrewi* a synonym of *S. toussainti* according to the opinion of ROBBINS (2004b). WARREN et al. (2016) depicted specimens of *S. toussainti* from Cuba, Guantanamo but HERNÁNDEZ (2004) does not report this species from Cuba.

Strymon limenia (HEWITSON, 1868)

Thecla limenia HEWITSON, 1868, Descr. some new spec Lyc.: 32; TL: Jamaica.

Distribution: Keys Is, Greater Antilles, St. Thomas.

Adult Characteristics: Similar to *S. istapa*. ♂ UPFWs uniformly dark brown with a well defined androconial patch at the end of the cell. UPHWs with a small red dot at the anal angle (absent in *S. istapa*). Two large black subcostal spots in space 7, the distal, the largest. ♀ UPHWs with two marginal black ocelli and red anal dot. Distinguished also for the dark underside with a HW angled postdiscal line, near the anal angle.

Comments: This is a species commonly found together with *S. istapa*, although somewhat scarcer, especially in grassy or field areas.

Strymon monopeteinus SCHWARTZ & MILLER, 1985

Bull. Allyn Mus. 99: 2-4, TL: Republica Dominicana, Provincia Maria Trinidad Sánchez, 1 km S Cruce de Rincón s.l.

Distribution: Dominican Republic (La Altagracia, Maria Trinidad and La Vega Provinces).

Adult Characteristics: ♂ UPFWs bright blue with costa, apical and marginal areas black. Androconial patch at the end of the cell. UPHWs extensively blue with large submarginal spot, and anal lobe with red scales. Two tails. ♀ similar with bluish areas somewhat reduced.

Comments: It has a superficial resemblance with *Rekoa bourkei* but the black stripe on UNHW is placed in a different way. SCOTT (1986a) claims that it resembles *S. bebrycia* (HEWITSON, 1868) of Mexico but the upperside is somewhat bluish. This is a rare species found in scattered localities in La Altagracia, Maria Trinidad and La Vega Provinces. SMITH et al. (1994) reported it for Boca de Yuma (LA). Apparently only a few specimens are known from the island.

***Ministrymon* CLENCH, 1961**

In EHRLICH, P. & A. EHRLICH (eds.), How to know the butterflies: 179, 196, TS: *Thecla leda* EDWARDS, 1882.

Ministrymon azia (HEWITSON, 1873)

Thecla azia HEWITSON, 1873, Ill. diurn. Lep. Lycaenidae (5): 144, pl. 57, f. 357-358, TL: Mexico [LT ♂, Mexico (ROBBINS & LAMAS, 2002)]

= *Thecla guacanagari* WALLENGREN, 1860, Wien Ent. Monatschr. 4 (2): 37, TL: Ecuador.

= *Ministrymon hernandezi* SCHWARTZ & JOHNSON, 1992, Carib. J. Sci. 28 (3/4): 153, TL: Cuba.

= *Electrostrymon grumus* JOHNSON & KROENLEIN, 1993, Rep. Mus. Nat. Hist. Wisc. (Stevens Point) 34: 39; TL: Trinidad.

Distribution: S Texas and Florida to Argentina. Bahamas, Greater Antilles, St. Kitts, Grenada.

Adult Characteristics: ♂ UPFWs dark brown with squarish androconia at the end of the cell. HWs with a long tail. ♀ upperside of both wings with greyish colouration basally. There is sexual dimorphism, and the abdomen in fresh ♂♂ is bright orange-red.

Comments: The species was reported for the first time from Hispaniola by BECK (1983). Subsequently, SCHWARTZ (1989a: 238) and colleagues collected it in several other localities. SMITH et al. (1994) found this species at Rio Chavón (LR) and at Boca de Yuma (LA), and it was reported for the Sierra de Bahoruco (PD) and San Rafael (BH) by WAHLBERG & PEÑA (2007). It occurs in a variety of habitats from sea level to 2100 m.

***Nesiostrymon* CLENCH, 1964**

J. Res. Lepid. 2(4): 251, TS: *Thecla celida* LUCAS, 1857 in SAGRA, Hist. fis. pol. nat. Isla Cuba (2) 7: 610 by original designation.

= *Terra* JOHNSON & MATUSIK, 1988, Ann. Carnegie Mus. 57: 235; TS: *Thecla tera* HEWITSON, [1878] by original designation.

= *Sipaea* JOHNSON, 1991, Rep. Mus. Nat. Hist. Univ. Wisconsin 21: 45; TS: *Thecla hyccara* HEWITSON, 1868.

Nesiostrymon celida (LUCAS, 1857)

Thecla celida LUCAS, 1857, in SAGRA, Hist. fis. pol. nat. Isla Cuba (2) 7: 610, TL: Cuba.

= *Thecla celida aibonito* COMSTOCK & HUNTINGTON, 1943, Ann. NY Acad. Scie., 45 (2): 76 TL: Aibonito, Puerto Rico.

= *Nesiostrymon celida bahorucoensis* JOHNSON, 1991, Amer. Mus. Novit. 3011: 9-10, TL: "Upper Abejas" (sensu JOHNSON & MATUSIK, 1988: 222).

Distribution: Cuba, Dominican Republic Puerto Rico.

Adult Characteristics: ♂ UPFWs with light blue colouration except the apical area. Black androconial patch not clearly visible. UPHWs light blue throughout with 2 thin tails. ♀ with blue colouration somewhat duller.

Comments: *Nesiostrymon celida* other than in Cuba shows other populations in Puerto Rico, Jamaica, and Hispaniola.

In this latter island the species occurs in a few scattered and widely separated spots. The species is scarce in the Dominican Republic from 500 to 1200 m in wet dense wooded areas especially in the Sierra de Bahoruco. JOHNSON (1991) discussed the taxonomy of the species and differentiated the populations of the Sierra de Bahoruco as ssp. *bahorucoensis* whereas included all the other known Hispaniolan populations under the ssp. *aibonito*, this same taxon occurs also in Puerto Rico. The ssp. *bahorucoensis*, described on a series of 45 ♂♂ and 28 ♀♀, is hardly distinguishable if not for a very slight difference in the colouration of the underside of the wings.

The taxon *aibonito* is very similar to the nominate subspecies. According to SCHWARTZ (1989a: 240) *aibonito* ♂♂ show FWs with a reduced blue colouration in respect to other subspecies. In the ♀ the blue colouration is duller than in the ♂. ROBBINS (2004b) considered *aibonito* and *bahorucoensis* as synonyms. D'ABRERA (1995: 1230) reported doubtfully this species from Hispaniola.

Subfamily **Polyommatae** SWAINSON, 1827

Phil. Mag. (2) **1** (3): 187 (as "Polyommatae"). Genus type: *Polyommatus* LATREILLE, 1804, Nouv. Dict. Hist. Nat. **24** (Tab.): 185, no. 474, 200. I.C.Z.N. Opinion 270 placed *Polyommatus* on the Official List of Generic Names in Zoology as name no. 689.

Tribe **Polyommatae** SWAINSON, 1827

Subtribe **Leptotina** WAGENER, 1995

In HESSELBARTH et al. (1995), Tagf. Türk. 1: 152 (as „Leptotiti“). Genus type: *Leptotes* SCUDDER, 1876, Bull. Buffalo Soc. nat. Sci. **3**: 124, no. 28.

Leptotes SCUDDER, 1876

Bull. Buffalo Soc. nat. Sci. **3** : 124, TS: *Lycaena theonus* LUCAS, 1857.

= *Syntarucus* BUTLER, [1901], Proc. Zool. Soc. Lond. **1900** (4) : 929; TS: *Papilio telicanus* LANG, 1789.

= *Syntarucoides* KAYE, 1904, Trans. Ent. Soc. Lond. **1904** (2) : 190; TS: *Papilio cassius* CRAMER, 1775.

= *Langia* TUTT, 1906 Nat. Hist. Brit. Butts. **1** (12): 314. TS: *Papilio telicanus* LANG, 1789, Verz. Schmett. Gegend. Augsburg (2nd ed.): 47 (= *Papilio pirithous* LINNAEUS, 1767, Syst. Nat. (ed. 12) **1** (2): 790, no. 235: synonym), by original designation. Preoccupied by *Langia* MOORE, 1872, Proc. Zool. Soc. Lond. **1872**: 567, and a junior objective synonym of *Syntarucus* BUTLER, [1901].

= *Raywardia* TUTT, 1908, Nat. Hist. Brit. Butts. **2** (25): 484. TS: *Papilio telicanus* LANG, 1789, Verz. Schmett. Gegend. Augsburg (2nd ed.): 47 [= *Papilio pirithous* LINNAEUS, 1767, Syst. Nat. (ed. 12) **1** (2): 790, no. 23; synonym], as a replacement name. Proposed to replace *Langia* TUTT, 1906, preoccupied (Code Articles 60.3, 67.8). A junior objective synonym of *Syntarucus* BUTLER, [1901].

Leptotes cassius (CRAMER, [1775])

Papilio cassius CRAMER, [1775], Uitl. Kapellen **1** (1-7): 36, pl. 23, f. C, D.

Leptotes cassius theonus (LUCAS, 1857)

Lycaena theonus LUCAS, 1857, in SAGRA, Hist. fis. pol. nat. Isla Cuba (2) **7** : 611, TL: Cuba.

Distribution: Florida, Bahamas, Greater Antilles.

Adult Characteristics: ♂ UPFWs purplish blue; UNHWs with 2 blue-ringed black ocelli at anal angle. ♀ dark with bluish colouration in the basal area of both wings upperside.

Leptotes cassius is similar to *L. perkinsae* but this latter shows only one HW marginal spot. *L. cassius* has two. Also the UN wing pattern is very different.

Comments: Widespread and common from sea level to 1200 m, in a variety of habitats from grassy fields, xeric scrubs to mixed pine-hardwoods forests.

Leptotes perkinsae KAYE, 1931

Trans. Ent. Soc. Lond. **79**: 534; TL: Jamaica.

Distribution: Jamaica.

Adult Characteristics:

Comments: Easily differentiated from *L. cassius theonus* for the presence of a single black spot on the UNHWs Cu2-2A. This Jamaican taxon is rare and often confused with *L. cassius*. ♂ UP darker blue. UN with pattern less defined with larger white areas. UNHW with one large ocellus in S2. One pair figured by D'ABRERA (1995: 1253).

Leptotes perkinsae idealis JOHNSON & MATUSIK, 1988

Ann. Carnegie Mus. **57**: 243-244; TL: [Dominican Republic: Pedernales Prov.: ca. 11 km NW of Aceitillar, Las Abejas]. Types: HT ♂, extremely dense moist woods, bottom of Las Abejas, 18 July 1987, 1100 hrs, disturbed into flight in filtered sunlight, leg. K. JOHNSON, deposited CMNH (AMNH/HS #111 transferred to CMNH).

Distribution: Dominican Republic: Pedernales Prov. Las Abejas.

Adult Characteristics: As noted above, easily differentiated from *L. cassius theonus* for the presence of a single black spot on the UNHWs Cu2-2A.

Comments: Only the HT ♂ was known collected in the locality Las Abejas in the Sierra de Bahoruco. JOHNSON & MATUSIK (1992) reported on the collecting of a further pair at the type locality on 29 June 1988. They figured the ♀ genitalia which is quite diverse from the Jamaican *L. perkinsae* (see Fig. 50).

As SCHWARTZ (1989a) noted *idealus* seems related to the Jamaican *perkinsae*. The ♀ in AMNH is figured by WARREN et al. (2016). This is a very worn specimen but very similar to the Jamaican ♀. No recent specimens were recorded and we retain it a ssp. of *L. perkinsae*.

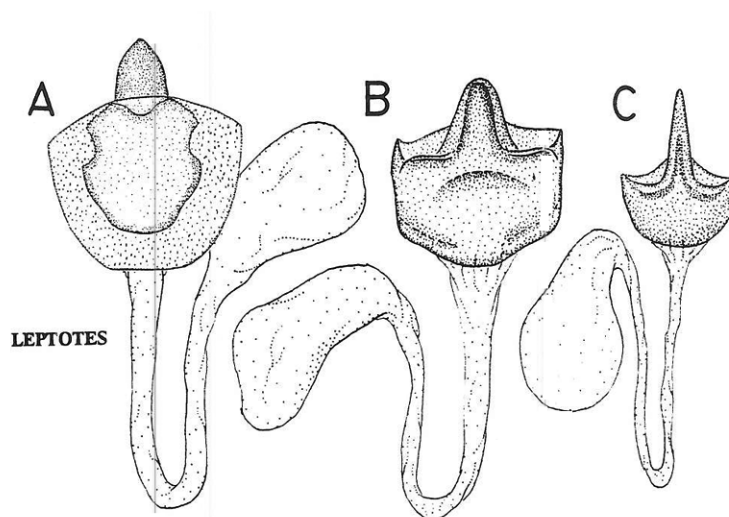


Fig. 50: ♀ genitalia of *Leptotes*: A) *L. cassius*, Las Abejas; B) *L. perkinsae*, Jamaica; C) *L. idealus*, Las Abejas (modified after JOHNSON & MATUSIK, 1988).

Subtribe **Brephidiina** GIFFORD, 1965

Butts. Malawi: 58 (as “Brephidinae”). Genus type: *Brephidium* SCUDDER, 1876, Bull. Buffalo Soc. nat. Sci. 3: 123, no. 27. This name also proposed by STEMPFFER, 1967, Bull. Br. Mus. nat. Hist. (Ent.) Suppl. 10: 276.

***Brephidium* SCUDDER, 1876**

Bull. Buffalo Soc. nat. Sci. 3: 123, TS: *Lycaena exilis* BOISDUVAL, 1852.

***Brephidium exilis* (BOISDUVAL, 1852)**

Lycaena exilis BOISDUVAL, 1852, Ann. Soc. Ent. Fr. (2) 10: 294, TL: California.

***Brephidium exilis isophthalma* (HERRICH-SCHÄFFER, 1862)**

Lycaena isophthalma HERRICH-SCHÄFFER, 1862, CorrespBl. Zool.-min Ver. Regensburg 16 (10): 141, TL: Cuba.

= *Brephidium barbouri* CLENCH, 1943, Psyche 49 (3-4): (52-60), TL: Great Inagua Island, Bahamas.

= *Brephidium exilis thompsoni* CARPENTER & LEWIS, 1943, Annls Carnegie Mus, 29 (13): 392; TL: Grand Cayman.

Distribution: Bahama, Cuba, Jamaica, Hispaniola.

Adult Characteristics: ♂ Upperside brown with metallic bluish basal areas of both wings. UPHWs with 5-6 marginal black ocelli dusted with silver. ♀♀ larger than ♂♂ with similar pattern.

Comments: This is an uncommon halophilic species along coastal areas. It was found also in the salt depression area around Lago Enriqueillo where we found it plentiful during the end of June 2018. SCHWARTZ (1989a) explained the occurrence of this species far from the coast as a phenomenon due to sea recession and the presence of *Batis maritima*, the supposed food plant of the larvae.

Subtribe **Polyommata** SWAINSON, 1827

***Pseudochrysops* NABOKOV, 1945**

Psyche, Camb. 52 (1/2): 12. TS: *Hemiargus bornoi* COMSTOCK & HUNTINGTON, 1943. Ann. N.Y. Acad. Sci. 45: 102, pl.1, figs 18-19.

***Pseudochrysops bornoi bornoi* (COMSTOCK & HUNTINGTON, 1943)**

Hemiargus bornoi COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. 45 (2): 102, pl.1, figs 18-19; TL: Pont Bendent, Dépt. de l'Ouest, Haiti; Types: described on a series of 6 ♂♂, 6 ♀♀ from Pont Bendent, Dépt. de l'Ouest, Haiti.

= *Pseudochrysops bornoi escobioi* SCHWARTZ, 1987, Bull. Allyn Mus. 110:2, fig. 1; TL: Puerto Rico, 3.1 mi. W Cana Gorda.

Distribution: Cuba, Hispaniola, Puerto Rico.

Adult Characteristics: ♂ UPFWs brownish grey with apical bluish gloss. UNFWs ground colour light grey. HWs with short tails. ♀ with bluish cast.

Comments: In the Dominican Republic it seems uncommon from sea level to approx. 600 m, at Vallejuelo (SJ). According to SCHWARTZ (1989a) *P. bornoi* is found together with *S. limenius*, *S. toussainti*, and *S. columella cybirus* [= *S. istapa*].

HOMZIAK & HOMZIAK (2012) reported on the natural history of this taxon based on observations of a population of *P. b. escobioi* made during March 2006 and March 2007 near Guánica, Puerto Rico. Flight behavior, mating flight and oviposition were observed. On multiple occasions ♀♀ laid eggs in the developing inflorescences of *Acacia farnesiana* and *Pithecellobium circinale*.

***Cyclargus* NABOKOV, 1945**

Psyche 52: 14, TS: *Lycaena ammon* LUCAS, 1857. This taxon was considered a synonym of *Hemiargus* HÜBNER by RILEY (1975). Studies of ♂ genitalia by JOHNSON & MATUSIK (1992) showed the differences among these taxa and *Cyclargus* was reinstated.

***Cyclargus ammon* (LUCAS, 1857)**

Lycaena ammon LUCAS, 1857; in SAGRA, Hist. fis. pol. nat. Isla Cuba (2) 7: 612, pl. 16, f. 7, 7a-b; TL: Cuba, "Mexico, Yucatan".

***Cyclargus ammon noeli* (COMSTOCK & HUNTINGTON, 1943)**

Hemiargus ammon noeli COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. 45 (2): 99, pl. 1, fig. 23; TL: St Marc Haiti.

Distribution: Hispaniola.

Adult Characteristics: A brightly marked taxon, characterized by the pale contrasting underside with the elongate HW spots clearly defined. Basal spot at Cu1-Cu2 well developed.

Comments: Reported by SCHWARTZ (1989a: 266) as *Hemiargus thomasi noeli*. SMITH et al. (1994) considered *ammon* (LUCAS, 1857) and *thomasi* (CLENCH, 1941) two distinct species, and only *C. thomasi noeli* is reported for Hispaniola. According to LAMAS (2004) *C. ammon noeli* is the taxon occurring in Hispaniola. *Cyclargus a. thomasi* is from the Bahamas.

This is a mostly xerophilous taxon widespread but sporadic, widely distributed in Monte Cristi area and the Barahona Peninsula. Often syntopic and synchronic with *H. ceraunus* but less common.

***Cyclargus kathleena* JOHNSON & MATUSIK, 1992**

Rep. Mus. Nat. Hist. Univ. Milwaukee 23: 3, 17-18 (♂ genitalia); TL: Dominican Republic: 1600 m, ca 4 km from upper Abejas in xeric pine forest. Types: HT ♂, at site of 1987 Carnegie Expedition base camp, 18 degrees 10'N, 71 degrees 37'W 1600 m, circa 4 km from upper Las Abejas in xeric pine forest, 815 hrs., 27 June 1998 leg. D. MATUSIK, deposited AME. PTs AMNH: 1 ♂, pine forest bottom, ca. 1000 m, adjacent Aceitillar open pit mine near southern entry point of Ideal Dominican access road, 900 hrs., 28 June 1988, leg. K. JOHNSON; 1 ♂, "Pine Forest before Abejas" [this would refer to the upland trail from the HT locality to Las Abejas (see JOHNSON & MATUSIK, 1988:222)]; 3 ♂♂, same data as previous entry, all early morning, 2 July 1985, 30 July 1990, 12 August 1991, leg. D. MATUSIK.

Distribution: Dominican Republic, Las Abejas, Pedernales Prov.

Adult Characteristics: Only the ♂ is known, small, LFW 10 mm. UPFWs bright blue, fringes white. HWs with two black marginal spots. UNHWs with 5 large black spots, 2 near the base, one median, and two marginal. ♂ genitalia similar to those of *C. ammon noeli* (Fig. 53C) but valval terminus with rostellum and mentum of about the same size. In *noeli* rostellum has a serrate comb and dorsally inclined spine. In *kathleena* with two spines at the distal process of the valva (Fig 51 A right). *Cyclargus kathleena* and *C. sorpresus* seem closely related and are considered different species by LAMAS (2004).

Comments: According to JOHNSON & MATUSIK (1992) this species has a particular behaviour. It flies in early morning at or before 09.00 hours in pine woods areas. We have searched in vain for this species and since its discovery it seems that it was never collected again.

***Cyclargus sorpresus* JOHNSON & MATUSIK, 1992**

Rep. Mus. Nat. Hist. Univ. Milwaukee 23: 3-4, 17-18 (♂ genitalia) TL: Dominican Republic: Pedernales Prov.: Cabo Rojo, kilometer marker 21, near "Las Mercedes"500 m. Types: HT ♂, 21 km marker, near "Las Mercedes" on Ideal Dominicana S.A. company road from Cabo Rojo to Aceitillar, Pedernales Prov Dominican Republic, altitude ca 500 m, in Acacia-dominated xeric scrub, 14 May 1984, D. MATUSIK, deposited AMNH. PTs AMNH: 2 ♂♂ data as HT.

Distribution: Dominican Republic: Pedernales Prov.

Adult Characteristics: ♂ UP wings bright lilac blue. HW with black marginal spots Cu1-Cu2 and Cu2-2A, with a few orange scales at the base of the former. UNFW greyish with grey discal spots. UNHW basal area with three large black spots. ♂ genitalia similar to those of *C. ammon* but valvae blunt with prominent dorsal setose lobe. Aedoeagus not slender as in *C. ammon*.

Comments: Apparently only 3 ♂♂ were collected, and the ♀ is unknown. LAMAS (2004) considered it as a good species. In spite of several visits at the TL we never found this species.

***Hemiargus hanno* (STOLL, [1790])**

Papilio hanno STOLL, [1790], Aanhangel Werk, Uitl. Kapellen 3 (2-5): 170, pl. 39, f. 2, TL: "Cape of Good Hope" [Surinam].

***Hemiargus hanno ceraunus* (FABRICIUS, 1793)**

H[esperia]. R[urales]. Ceraunus FABRICIUS, 1793, Ent. Syst. 3 (1): 303, no. 149. TL: "America meridionalis Insulis"; defined as "Jamaica and Hispaniola" by COMSTOCK & HUNTINGTON (1943: 107); stated to be "probably Jamaica" by KLOTS (1951: 159); suggested to be "Jamaica or Hispaniola" by F. BROWN (1972), In: BROWN & HEINEMAN (1972: 252). Types: STs in ZMUC. SMITH et al. (1994) claimed that two Fabrician STs of *Hesperia ceraunus* are found in Kiel Museum but they belong to a different lycaenid. A third specimen in Copenhagen Museum is *ceraunus*.

= *Hemiargus hanno watsoni* COMSTOCK & HUNTINGTON, 1943, Ann. N.Y. Acad. Sci. 45 (2): 106, pl. 1 fig. 20; TL: San Juan, Puerto Rico.

Distribution: Jamaica, Hispaniola, some Bahama Islands (New Providence, etc.)

Adult Characteristics: ♂ UP wings violet bluish with thin black marginal border. ♀ UP wings brown sometimes with basal blue scaling. HW long white fringes. UNHW of both sexes with a single black marginal spot in space 2.

Comments: RILEY (1975) considered *ceraunus* a ssp. of *H. hanno*, a species confined to Jamaica and Hispaniola. On the contrary, *H. ceraunus* and *H. hanno* are treated as separate sympatric species by SCHWARTZ (1983b) who stated that they fly together at 4 localities in Haiti. Moreover, SCHWARTZ (1989a: 262-266) reported *H. thomasi noeli* (now *Cyclargus ammon noeli*) together with *H. hanno watsoni* and *H. ceraunus ceraunus* as widely sympatric on Hispaniola, but he did not indicate how to separate them morphologically. According to SMITH et al. (1994) *ceraunus* differs from

the nominate *hanno* for the different shape of the submarginal spot on UNHW Cu1-Cu2.

SCHWARTZ (1989a: 262) compared *watsoni* to *ceraunus* which seems to lack the UNHW costal black spot. ♀♀ are brown. TAKIZAWA et al. (2004) and LAMAS (2004) reported only two species of *Hemiargus* for Hispaniola. LAMAS (2004: 139) placed the nominal taxon *ceraunus* as a subspecies of *H. hanno*, and *watsoni* a synonym of *ceraunus*, an arrangement with which many authors concurred.

WARREN et al. (2016) figured specimens of *H. ceraunus watsoni* reporting it from Puerto Rico but not from Hispaniola where, according to their opinion, the nominate subspecies is present. As it seems, they are not certain of the conspecificity of *H. ceraunus* and *hanno*, this latter not reported from Hispaniola. Therefore, there is still much confusion on the status of the taxon, and how many taxa are involved in Hispaniola. For the time being, we consider the Hispaniolan populations as *H. hanno ceraunus*.

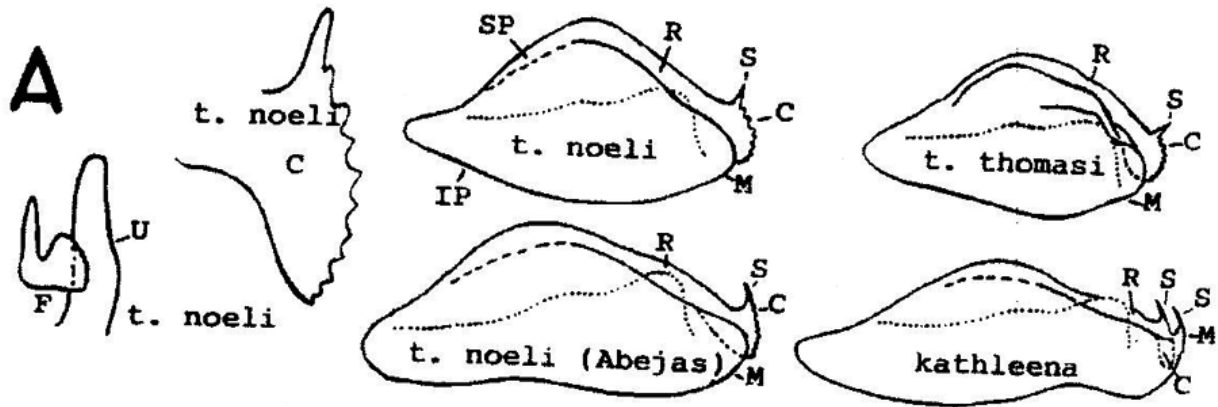


Fig. 51: (A) - ♂ genitalia of Antillean *Cyclargus*. Terminology as in NABOKOV (1945): valvae-superior process = SP; rostellum = R; comb = C; mentum = M; distal spine (on comb) = S; inferior process = IP; aedeagus- distal point = D; dorsal opening of suprazonal sheath = O; proximal tabs of subzonal sheath = TT; allulae = A; uncus and falx = U; forearm = F; (A) - Left comb and uncus of *Cyclargus thomasi noeli*; above right. lateral valve of nominate *thomasi*, and *t. noeli*; below right AMNH *C. t. noeli* from Las Abejas and *C. kathleena* (Modified after JOHNSON & MATUSIK, 1992).

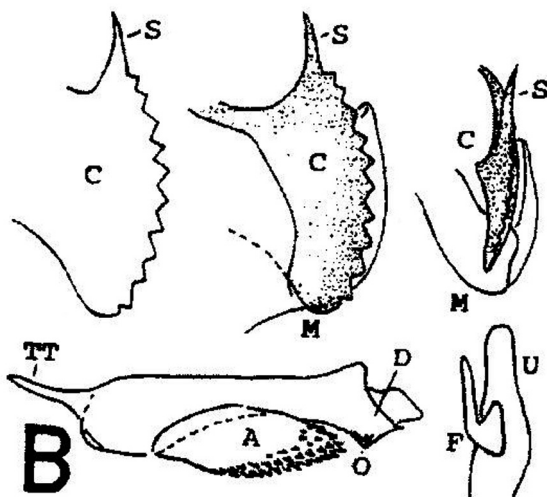


Fig. 52: (B) - *Cyclargus thomasi noeli* (Las Abejas) valval terminus; above left, comb inner lateral; center comb (stipled) and mentum; right terminal view, same; below left aedeagus, right, uncus (Modified after JOHNSON & MATUSIK, 1992).

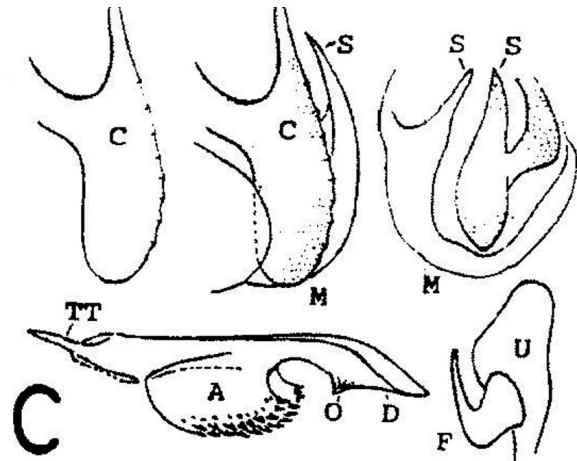


Fig. 53: (C) - same as (B) *Cyclargus kathleena* (Modified after JOHNSON & MATUSIK, 1992).

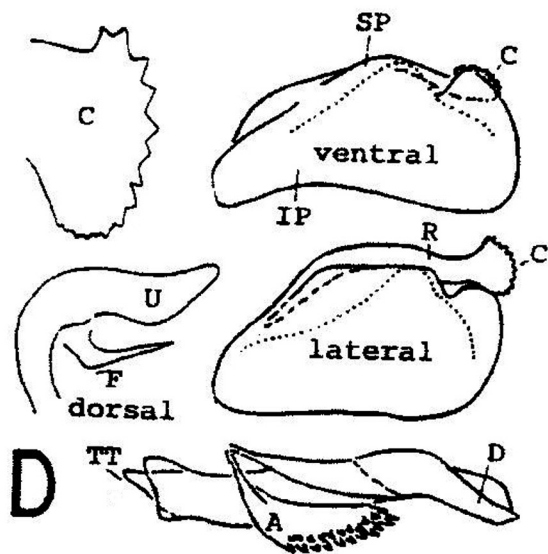


Fig. 54: (D) – *Cyclargus ammon* of fig 1: above left, comb dors (rotated laterally); below left, uncus dorsal, views of valvae; below aedeagus (Modified after JOHNSON & MATUSIK, 1992).

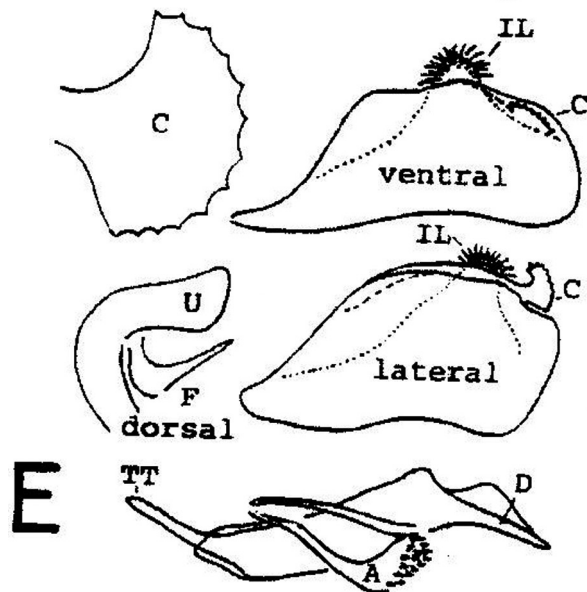


Fig. 55: (E) – same as (D). *Cyclargus sorpresus* (Modified after JOHNSON & MATUSIK, 1992).

FOSSIL TAXA

Family RIODINIDAE GROTE, 1895

Mitt. Roemer Mus. Hildesheim (1): [2], [4] (as “Riodinidae” “Riodininae” “Riodinini”). Genus type: *Riodina* WESTWOOD, 1851, in: Gen. diurn. Lepid. 2 (47): 430. I.C.Z.N. Opinion 1073 placed Riodinidae on the Official List of Family-group Names in Zoology as name no. 484, and placed *Riodina* on the Official List of Generic Names in Zoology as name no. 2039.

Subfamily Riodininae GROTE, 1895

Subtribe Napaeina

Napaeina (Mesosemiini); HALL, 2003, Syst. Ent. 28 (1): 33

Voltinia STICHEL, 1910

In WYTSMAN (1910), Gen. Ins. 112A: 72, TS: *Esthemopsis radiata* GODMAN & SALVIN, [1886].

† *Voltinia dramba* HALL, ROBBINS & HARVEY, 2004

Proc. R. Soc. Lond. B: 271: 797. TL Dominican Republic, Cordillera Septentrional; Types: HT♀, Dominican Republic, Cordillera Septentrional; in the National Museum of Natural History, Smithsonian Institution, Washington, DC (USNM); PTs: Same locality data, ♀ in coll. M. MURATA, Kyoto, Japan; 2 ♀♀ in coll. E. MORONE, Torino, Italy. The fifth specimen is not designated as a PT because its current deposition is unknown.

Adult Characteristics: ♀: Head: eyes brown and bare, frons brown, palpi pale brown ventrally and dark brown dorsally with elongate second and third segments, antennal segments brown with white scaling at base, antennal clubs brown. Body: both surfaces of thorax and abdomen brown, all legs brown, mid and hindlegs without a tibial spur (hindleg appears to have a tibial spur, but this seems to be an artefact of two overlapping spines; tibial spurs in *Voltinia* are confined to the species *V. radiata* (GODMAN & SALVIN, [1886]) from Costa Rica, and *V. theata* STICHEL, 1910 from Colombia). LFW 20 mm. Wing shape: FW triangular, five FW radial veins; HW angular and pointed at vein M3. Dorsal surface: ground colour of both wings brown; three narrow white bars in discal cell of both wings, one immediately distally, and three at base of cell Cu2, darker brown between these markings, an extra faint spot at base of cell Cu2 on HW; FW postdiscal band 4 elongate white spots in a straight, outwardly diagonal line in cells R2 to M2, and three smaller, proximally displaced, white spots in cells M3 to Cu2, HW postdiscal band five narrow white spots in cells M, to Cu2 in a V-shaped pattern, darker brown scaling proximal to postdiscal band on both wings; roundly elongate FW submarginal spots in cells R3 and R4+5 to Cu2 pale, large oval to semicircular HW submarginal spots largely black with a narrow pale border, submarginal spots on both wings surrounded by darker brown; fringe colour on both wings indiscernible. Ventral surface: essentially same as dorsal surface. ♂: unknown (HALL et al. 2004).

Comments: This new species is from Oligo-Miocene Dominican amber (15-25 Myr ago) and it was described from a series of 5 ♀ specimens which represents probably the best preserved fossil record for any lepidopteran. It was hypothesized that the ancestor of its sister species, the extant Mexican *V. danforthi* (WARREN & OPLER, 1999), reached Hispaniola by the ‘proto-Greater Antillean arc’. PEÑALVER & GRIMALDI (2006) reported on a further ♀ of this species (fig. 56) probably from the mines NNE of Santiago. The most important features of this specimen lie on the presence of a distal spur in the hind tibia, this character considered as an artifact by HALL et al. (2004). This structure (fig. 56

d) is not easy to observe, and surely it is present in the fossil specimens studied by HALL et al. (2004) though probably obscured. Given that the spur is present in the extant species *V. radiata* and *V. theata* and in some other genera of Mesosemiini the placement in this tribe is substantiated.

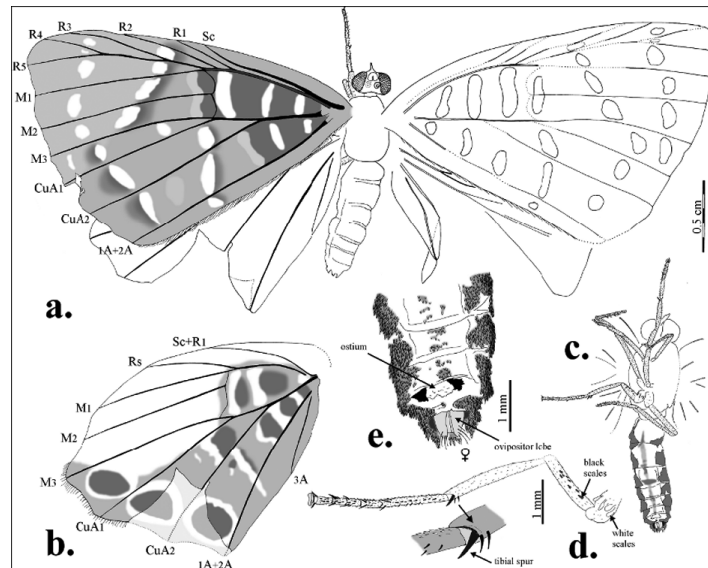


Fig 56: Camera lucida drawings of the ♀ of *Voltinia dramba* HALL, ROBBINS & HARVEY, 2004 (AMNH DR-18-1) in Miocene amber from the Dominican Republic. A: Complete dorsal view of body with the colour forewing pattern. B: Hind wing with the colour pattern preserved. C: Ventral view of body. D: Hind leg. E: ♀ genitalia. A–C to same scale (After PEÑALVER & GRIMALDI, 2006).

Subtribe *Theopina* CLENCH, 1955

Theopini (Riodinidae) CLENCH, 1955, Ann. Carnegie Mus. **33**: 261-274; TS: *Theope eudocia* WESTWOOD, 1851, Theopeina (Nymphidiini); HALL & HARVEY, 2001, J. N.Y. Ent. Soc. **109** (2): 201 (note); HALL, 2002, Syst. Ent. **27** (2): 139-168; HALL, HARVEY & JANZEN, 2004, Ann. Ent. Soc. Amer. **97** (2): 316.

Theope DOUBLEDAY, 1847

List Spec. lep. Ins. B. M. **2** : 6, TS: *Polyommatus terambus* GODART, [1824].

† *Theope* sp. DEVRIES & POINAR, 1997

Proc. R. Soc. Lond. B Biol. Sci. **264**: 1137-1140.

Larval Characteristics: Probably the fourth, and penultimate instar. Tentacle nectary organs; vibratory papillae; balloon setae along the anterior margin of the first thoracic segment (Fig. 57).

Comments: DEVRIES & POINAR (1997) reported on a riodinid fossil caterpillar dated between 15 and 20 Ma. The amber originated from La Toca group of mines in the northern mountain ranges of the Dominican Republic, located in the El Mamey Formation (Upper Eocene).

They placed it under the genus *Theope* given that this caterpillar differs little from modern species, and larvae of *Theope* possess exaggerated balloon setae along the anterior margin of the first thoracic segment. Also, the combined larval characters of this taxon ranks it under the riodinid tribe Nymphidiini. Present day *Theope* caterpillars possess strongly developed ventro-lateral flanges on all body segments, long plumose lateral body setae, and absence of anterior tentacle organs, traits that are not shared by *Nymphidium* caterpillars (PENZ & DEVRIES, 2006). These findings provide the first direct evidence that secretory and acoustical organs used by riodinid butterfly caterpillars to mediate symbioses with ants were highly developed at least 15-20 Ma ago.

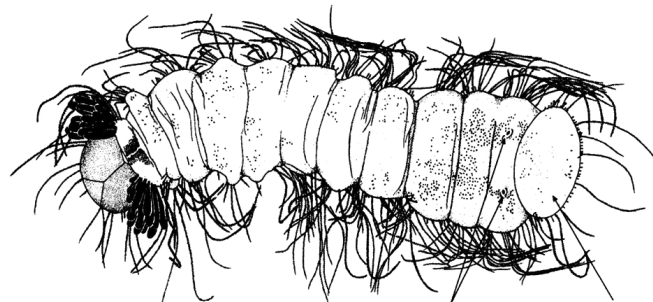


Fig. 57: Fossil *Theope* caterpillar in Dominican amber - Reconstruction of the entire fossil in dorsal view showing features characteristic of riodinid caterpillars that form symbioses with ants: conspicuous corona of balloon setae on thoracic segment one, the well developed anal plate (right arrow) on abdominal segments nine and ten, and the external orifices of the tentacle nectary organs (left arrows) on abdominal segment eight (modified after DEVRIES & POINAR, 1997).

Family **NYMPHALIDAE** RAFINESQUE, 1815

Analyse Nat.: 127 (as “Nymphalia”). Genus type: *Nymphalis* KLUK, 1780, *Zwierz. Hist. Nat. Pocz. Gospod.* **4**: 86-89, no. 147. As PELHAM (2008) reported, I.C.Z.N. Opinion 278 placed *Nymphalis* on the Official List of Generic Names in Zoology as name no. 702. RAFINESQUE did not include *Nymphalis* among the listed genera, but *Nymphalis* is unequivocally implied from the formation of the name (Code Article 11.7.1.1). I.C.Z.N. Direction 99 placed Nymphalidae SWAINSON, 1827, *Phil. Mag.* (2) **1** (3): 185, 187 on the Official List of Family-group Names in Zoology as name no. 232. KOÇAK (1981), *Priamus* **1** (2): 93-96, demonstrated that Swainson's name was based on *Nymphalis* LATREILLE, 1804, *Nouv. Dict. Hist. Nat.* **24** (tab): 184, 199, a homonym, and thus invalid (Code Article 39). The RAFINESQUE name has the advantage of priority, and *Nymphalis* KLUK, 1780, can be assumed to be the genus type. An application must be made to the I.C.Z.N. to correct the Official List (Code Article 79.5). The arrangement of family-group names follows WAHLBERG et al. (2003, 2005a, 2005b, 2009, 2014), and PEÑA et al. (2006).

Subfamily **Libytheinae** BOISDUVAL, 1833

Nouv. Ann. Mus. Hist. Nat., Paris **2** (2): 201 (as “Libythides”). Genus type: *Libythea* [FABRICIUS], 1807 in: ILLIGER, *Mag. f. Insektenk.* **6**: 284, no. 28.

***Libytheana* MICHENER, 1943**

Am. Mus. Novit. **1232**: 1, figs. 4-6 (genitalia of type-species). TS: *Libythea bachmanii* KIRTLAND, 1851, *Family Visitor* **2** (76): 189, illustr.[= *Papilio carinenta* CRAMER, 1777, *Uitl. Kapellen* **2** (9): 18, pl. 108, figs. E, F; (16): 148 (index); subspecies], by original designation. The arrangement of taxa in this genus is given by KAWAHARA (2006, 2009).

***Libytheana terena* (GODART, [1823])**

Libythea terena GODART, [1823], *Enc. Meth.* **9**: 170, Suppl., 813; TL: [Hispaniola].

Distribution: Hispaniola, Jamaica, Puerto Rico.

Adult Characteristics: Sexes similar. UPFWs with apical small white spot, and 4 ochreous larger postdiscal spots.

Comments: Widespread especially on the southern part of the island where it occurs in a variety of habitats. It is endemic to Hispaniola even if some authors consider it related to other Caribbean *Libytheana* species.

Subfamily **Danainae** BOISDUVAL, [1833]

Icon. Hist. Lépid. Europ. **1** (9): 84 (as “Danaides”). Genus type: *Danaïs* LATREILLE, 1807, *Mag. f. Insektenk.* **6**: 291-292, no. 3. A junior objective synonym of *Danaus* KLUK, 1780, *Zwierz. Hist. Nat. Pocz. Gospod.* **4**: 83. I.C.Z.N. Direction 99 placed Danaidae on the Official List of Family-Group Names in Zoology as name no. 230; the same Direction placed Danaides on the Official Index of Rejected and Invalid Family-Group Names in Zoology as name no. 268.

Tribe **Danaini** BOISDUVAL, [1833]

Subtribe **Danaina** BOISDUVAL, [1833]

***Danaus* KLUK, 1780**

Zwierz. Hist. Nat. Pocz. Gospod. **4**: 83-86, no. 145. TS: *Papilio plexippus* LINNAEUS, 1758, *Syst. Nat.* (ed. 10) **1**: 471, no. 80, by designation of HEMMING (1933), *Ent.* **66** (845): 222. I.C.Z.N. Opinion 278 placed this name on the Official List of Generic Names in Zoology as name no. 699.

Subgenus ***Danaus*** KLUK, 1780

***Danaus cleophile* (GODART, 1819)**

Danaïs cleophile GODART, 1819 *Encyclopédie Méthodique* **9** (1): 185; TL: [?Haiti].

Distribution: Hispaniola, Jamaica.

Adult Characteristics: Easily identifiable for the UPFWs yellow spots.

Comments: Endemic to Jamaica and Hispaniola. Jamaican populations are somewhat different according to BROWN & HEINEMANN (1972). It is a local species apparently absent from the eastern part of the island. It occurs in forested habitats usually above 400 m up to 1900 m.

***Danaus plexippus* (LINNAEUS, 1758)**

P[apilio]. D[anaus Festivus]. Plexippus LINNAEUS, 1758, *Syst. Nat.* (ed. 10) **1**: 471, no. 80; cited various works, including SLOANE (1725), *Voy. Mad. Barb. Niev. St. Christ. Jam.* **2**: 214, pl. 239, figs. 5, 6, and CATESBY (1743), *Nat. Hist. Carolina* **2**: 88, pl. 88; TL: “America septentrionali”; NT from “Kendall, New York State.” [Orleans County]; Types: NT in USNM, designated by I.C.Z.N. Opinion 282; figured by CLARK (1941), *Proc. U. S. Nat. Mus.* **90** (3118): pl. 71, fig. 1 ♂ dors.; I.C.Z.N. Opinion 282 placed this name on the Official List of Specific Names in Zoology as name no. 111.

***Danaus plexippus megalippe* (HÜBNER, [1826])**

Anosia megalippe HÜBNER, [1826] *Samml. exot. Schmett.* **2**: pl. [7], fig. 2; TL: “Georgia” [Hispaniola see Smith et al., 1994]

Distribution: The Bahamas, Cuba, Hispaniola, Lesser Antilles

Adult Characteristics: FW less pointed; borders less white spotted; veins especially in the ♂, less black; FW pale spots at cell end minute, often absent.

Comments: Widespread but usually found single among other *Danaus* species. It occurs from sea level to 1900 m in a variety of habitats. This ssp. is found also in Jamaica and apparently is not migratory.

Subgenus *Anosia* HÜBNER, 1816

Verz. bekannt. Schmett. (1): 15-16. **TS:** *Papilio gilippus* CRAMER, 1775, Uitl. Kapellen 1 (3): 41, pl. 26, figs. E, F; (8): 153 (index), by designation of SCUDDER (1875: 113, no. 84.).

Danaus eresimus (CRAMER, 1777)

Pap[ilio]. Dan[aus] Festiv[us]. Eresimus CRAMER, 1777, Uitl. Kapellen 2 (13): 121-122, pl. 175, figs. G ♂ dors., H ♂ vent.; (16): 148 (index); TL: “Surinamen” “Suriname”; Type(s): probably lost.

Danaus eresimus tethys FORBES, [1944]

N.Y. Ent. Soc. 51 (4): 301-302; TL: “Fond Parisien, Haiti...alt. about 60 ft.”; Types: HT in AMNH.

Distribution: South Florida, Greater Antilles, Cayman islands, Grenada.

Adult Characteristics: Similar to *D. gilippus* but *D. eresimus* is slightly larger and more coloured. FWs on both surfaces with pale discal spot in S2, and a faint series of postdiscal spots on UNHWs which are missing in *D. gilippus* or other Antillean *Danaids*.

Comments: The name *tethys* was applied to pale forms whereas there are also dark forms in other Antillean populations but variation is almost negligible and *tethys* is hardly differentiated from the nominate subspecies. It is a local species in lowland xeric areas in north, south and eastern sites. In flight it is very similar to *D. gilippus cleothera*.

Danaus gilippus (CRAMER, 1775)

Pap[ilio]. Dan[aus] festiv[us]. Gilippus CRAMER, 1775, Uitl. Kapellen 1 (3): 41, pl. 26, figs. E ♀ dors., F ♀ vent.; (8): 153 (index). TL “Rio de Janeiro...Brazil” “Rio Janéiro...Côte du Brasil”; Type(s): probably lost; D’ALMEIDA (1944b: 62) designated a “NT”, figured in D’ALMEIDA (1939b: pl.17, fig. 3). This designation is not in accordance with Code Articles 75.2 and 75.3.

Danaus gilippus cleothera (GODART, 1819)

Danaüs cleothera GODART, 1819, Encyclopédie Méthodique 9 (1): 185, TL: “Timor”.

Danaüs kaempfferi HALL, 1925, Ent. 58: 165, TL: [Dominican Republic] Puerto Plata.

Distribution: Hispaniola, western Puerto Rico.

Adult Characteristics: It differs from other Antillean subspecies in having the anterior part of the FWs darkened as well as the HWs veins.

Comments: Widespread especially in xeric areas during the summer. It is distributed from sea level to 2100 m.

Subtribe *Euploeina* MOORE, 1880

Lep. Ceylon 1 (1): 1 (as “*Euploeinae*”). Genus type: *Euploeia* FABRICIUS, 1807, Mag. f. Insektenk. (ILLIGER) 6: 280. I.C.Z.N. Opinion 163 places *Euploeia* on the Official List of Generic Names in Zoology as Name no. 611.

Lycorea DOUBLEDAY, 1847

In Gen. diurn. Lepid. 1 (9): pl. 16, fig. 1; (10): 105. **TS:** *Lycorea atergatis* DOUBLEDAY, 1847, in: Gen. diurn. Lepid. 1 (9): pl. 16, fig. 1; (10): 106 [= *Eueides halia* HÜBNER, 1816, Verz. bekannt. Schmett. (1): 11, no. 31; subspecies], designation by SCUDDER (1875).

= *Lycorella* HEMMING, 1933, Ent. 66 (845): 222. **TS:** *Lycorea atergatis* DOUBLEDAY, 1847, in Gen. diurn. Lepid. 1 (9): pl. 16, fig. 1; (10): 106 [= *Eueides halia* HÜBNER, 1816, Verz. bekannt. Schmett. (1): 11, no. 31; subspecies], as a replacement name. Proposed to replace *Lycorea* DOUBLEDAY, [1847], erroneously thought preoccupied; a junior objective synonym of *Lycorea*.

= *Ituna* DOUBLEDAY, 1847, in Gen. diurn. Lepid. 1 (9): pl. 17, fig. 1 1847; (12): 113-114. **TS:** *Ituna phenarete* E. DOUBLEDAY, 1847, in: Gen. diurn. Lepid. 1 (9): pl. 17, fig. 1; (12): 114, no. 2 [= *Papilio ilione* CRAMER, 1775, Uitl. Kapellen 1 (3): 42, pl. 26, figs. G, H; (8): 153 (index)], by monotypy.

Lycorea halia (HÜBNER, 1816)

E[ueides] Halia HÜBNER, 1816, Verz. bekannt. Schmett. (1): 11, no. 31; cited *Papilio ceres* CRAMER, 1776, Uitl. Kapellen 1 (8): 141, pl. 90, fig. A; (8): 152 (index); figured by HÜBNER [1825], Samml. exot. Schmett. 2: pl. [3]. Proposed to replace *Papilio ceres* CRAMER, 1776, with the same data (Code Article 60.3).

= *Pap[ilio] Helicon[ius] Ceres* CRAMER, 1776 Uitl. Kapellen 1 (8): 141, pl. 90, fig. A ♂ dors.; (8): 152 (index); TL: “Surinamen”/ “Suriname”; Type(s): probably lost. Preoccupied by *Papilio ceres* FABRICIUS, 1775, Syst. Ent.: 504, no. 257. D’ALMEIDA (1944b: 62), designated a “NT.” This designation is not in accordance with Code Articles 75.2 and 75.3.

= *Lycorea pieteri* LAMAS, 1978. J. Lep. Soc. 32 (2): 116. Nom. nov. pro *Papilio ceres* CRAMER [1776] nec FABRICIUS, 1775

Lycorea halia cleobaea (GODART, 1819)

Heliconia cleobaea GODART, 1819, Encyclopédie Méthodique 9 (1): 222, TL: [Hispaniola].

= *Lycorea halia domingensis* NIEPELT, 1927, Int. Ent. Z. 21: 50, TL: St Domingo.

Distribution: Hispaniola, Jamaica, Puerto Rico (stray).

Adult Characteristics: Fulvous areas of wings paler. FW yellow band formed by well separated spots. HW discal band yellow and not fulvous.

Comments: ♂ and ♀ similar and slightly smaller than the Cuban ssp. *demeter* (FELDER & FELDER, 1867). It is widespread and locally common from sea level to 1100 m in forested as well as xeric areas. WETHERBEE (1986b) reported on the life history of this species which was depicted by RABIÉ who described also those of *Danaus plexippus*, *Colobura dirce*, *Siproeta stelenes* and *Dione vanillae* (see MUNROE, 1951b). This species was for a long time known as *L. ceres* (CRAMER, 1776) but this is a homonym.

Anetia HÜBNER, [1823]

Samml. exot. Schmett. 2 : pl. [22] (multip. orig. spell.), TS: *Anetia numidia* HÜBNER, [1823].

Anetia HÜBNER, [1823] Samml. exot. Schmett. 2 : pl. [23] (multip. orig. spell.), TS: *Anetia numidia* HÜBNER, [1823]

= *Clothilda* BLANCHARD, 1840, Hist. nat. Ins. 3 : 440, TS: *Argynnis briarea* GODART, 1819.

= *Synalpe* BOISDUVAL, 1870, Considérations Lépid. Guatemala: 36, TS: *Argynnis euryale* KLUG, 1836.

Anetia jaegeri (MÉNÉTRIES, 1832)

Argynnis Jaegeri Ménétries, 1832 Bull. Soc. imp. Nat. Moscou 5 : 305, TL: [Haiti].

Distribution: Hispaniola.

Adult Characteristics: Easily identifiable for the UPHW very dark brown with basal half reddish. UPHWs unspotted except the marginal spots. UNFWs basal and discal area with bright red colouration. UNHW with light pattern.

Comments: This species is endemic to Hispaniola although sometimes considered conspecific with the Cuban *A. cubana*. Contrary to the opinion of SCHWARTZ (1898a: 480) we found this species very local and scarce in comparison with the other two *Anetia*. SOURAKOV & EMMEL (1996) described the early stages from eggs collected on *Asclepias nivea* (Asclepiadaceae) above Mata Grande, Santiago prov. at 1500 m.

Anetia briarea briarea (GODART, 1819)

Argynnis briarea GODART, 1819 Encyclopédie Méthodique 9 (1): 261, TL: Antilles.

Distribution: Cuba, Hispaniola.

Adult Characteristics: Differs from the Cuban ssp. *numidia* (HÜBNER, [1823]) for UP wings colouration more uniform, duller. FWs more falcate; marginal, and costal pale spots white and rather larger. UNHW colouration darker; marginal spots dark and larger.

Comments: The species is endemic to Cuba and Hispaniola, it occurs usually in forested areas above 1000 m but occasionally it is found at lower altitudes. It is absent from eastern areas so far.

IVIE et al. (1991) observed an aggregation of this species near the summit of Pico Duarte (2500-3000 m). These observations represent the highest elevation record in the West Indies for butterflies, and the first report of high elevation aggregations in the genus *Anetia*.

BROWER et al. (1992) described the life history of this butterfly reared on *Cynanchum angustifolium* from Florida. For some larval characters, they placed it close to the Danaini as suggested by FORBES (1939) who treated the genus *Anetia* as a relict Antillean stem group of the whole Danainae.

Anetia pantheratus pantheratus (MARTYN, 1797)

Papilio pantheratus MARTYN, 1797, Psyche: pl. 12, fig. 27, pl. 14, fig. 35, TL: Haiti.

Distribution: Cuba, Hispaniola.

Adult Characteristics: Larger than *A. briarea* (GOD.). FW apex more produced. UPHWs with two rows of black separated spots. *A. briarea* (GOD.) has three rows of spots.

Comments: This species is also endemic to Cuba and Hispaniola. According to SCHWARTZ (1989a) this is the less common of the three *Anetia* species; in Haiti the species is rare. It is confined to central and southern areas usually in pine forests although there is a sight record from Rio Cumayasa (LR) at sea level (SCHWARTZ, 1989a: 478). This is the only record from eastern Hispaniola. At times, it is found together with *A. briarea* at the ecotone of pine and hardwood forests. HALL (1925) reported single specimens from La Cumbre (SA) and Puerto Plata (PP). He described also the Cuban ssp. as *clarescens* (HALL, 1925: 186).

Subfamily Ithomiinae GODMAN & SALVIN, 1879

Biol. centr.-amer. Lepid. Rhop. 1 (1): 6 (as "Ithomiina"). Genus type: *Ithomia* HÜBNER, 1816, Verz. bekannt. Schmett. (1): 9. The name Ithomiini is junior to Mechanitini BAR, 1878, Ann. Soc. Ent. Fr. (5) 8 (1): 12, 13, 24-25, however the use of Mechanitina over Ithomiini would upset current usage greatly. PELHAM (2008) suggests that the ideal solution is to petition the Commission to suppress Mechanitini at any level where it competes directly with Ithomiini, leaving it available to represent a tribal or infra-tribal grouping.

Tribe Godyridini D'ALMEIDA 1941

Papeis avulsos Dept. Zool., Sao Paulo 1:79 Genus type *Greta* HEMMING, 1934, Gen. Names hol. Butts 1: 28, TS: *Hymenitis diaphane* HÜBNER, 1816, Verz. bek. Schmett. (1): 8 by original designation: as HEMMING (1967: 202), noted *Hymenitis diaphane* HÜBNER, 1816 as defined by fig. 3 on plate 7 in DRURY's Ill. nat. Hist., which was named *Papilio diaphanus* in the index to volume 2 of that work after having been described but not named on page 13, that specimen having been selected by HEMMING (1964, Annot. lep. 3: 89) to represent the LT both of *Papilio diaphanus* DRURY, [1773] and of *Hymenitis diaphane* HÜBNER. The nominal species *Hymenitis diaphane* was established by HÜBNER solely upon the basis of bibliographical references to works by previous authors. The first of these references was to *Papilio diaphanus* DRURY, [1773] (Ill. nat. Hist. 2: index et 13, pl. 7, fig. 3), the type-material of which forms part, therefore, of the STs of *Hymenitis diaphane* HÜBNER. By the LT-selections cited at the head of the present note, the specific name *diaphane* HÜBNER became a junior objective synonym of *diaphanus* DRURY. The name *Greta* was introduced when it was realized that the name of the genus - *Hymenitis* HÜBNER, 1816 - in which the above species had till then been placed was invalid under the Law of Homonymy. *Greta* HEMMING, 1964 was requested to be placed on the Official List of Generic Names in Zoology by COWAN, 1970, The Bulletin of Zoological Nomenclature 26: 246. *Greta* (through *Hymenitis* HÜBNER, 1816) was placed on the Official List of Valid Generic Names in Zoology in 1972, The Bulletin of Zoological Nomenclature 29 (3): 117.

Papeis avulsos Dept. Zool., Sao Paulo 1:79.

Greta HEMMING, 1934

Gen. Names hol. Butts 1: 28, TS: *Hymenitis diaphane* HÜBNER, 1816.

= *Hymenitis* HÜBNER, 1816, Verz. bek. Schmett. (1): 8, TS: *Hymenitis diaphane* HÜBNER, 1816.

= *Hypomenitis* FOX, 1945, Amer. Mus. Novit. 1295: 11, f. 13-14, TS: *Ithomia theudelinda* HEWITSON, [1861].

Greta diaphanus (DRURY, [1773])

Papilio diaphanus DRURY, [1773], Illust. Nat. Hist. Exot. Insects 2: index: 13, pl. 7, fig. 3, TL: Jamaica.

Greta diaphanus quisqueya (FOX, 1963)

Hymenitis diaphana quisqueya FOX, 1963, J. Res. Lepidoptera 2 (3): 177; TL Pico Diego de Ocampo, Prov. de Santiago, Republica Dominicana, 3-4000 ft; Types: HT ♂ Pico Diego de Ocampo, Prov. de Santiago, Republica Dominicana, 3-4000 ft.; 2 ♂♂ PTs in MCZ.

= *Greta diaphana charadra* SCHWARTZ, 1982, Bull. Allyn Mus. 69: 4-5, TL: Republica Dominicana: Provincia de La Vega: 10 km W Jayaco, 815 m; Types: HT ♀ ex coll. A. SCHWARTZ, now in the Allyn Museum of Entomology (MGCL).

= *Greta diaphana calimete* SCHWARTZ, 1982, Bull. Allyn Mus. 69: 6; TL: Republica Dominicana: Provincia de La Estrelleta: 21 km S Elias Piña, 1464 m; Types: HT ♀ ex coll. A. SCHWARTZ, now in the Allyn Museum of Entomology (MGCL).

= *Greta diaphana galii* SCHWARTZ, 1982, Bull. Allyn Mus. 69: 7; TL: Republica Dominicana: Provincia de Pedernales: Las Abejas, 12 km NW Aceitillar, 1129 m; Types: HT ♀ ex coll. A. SCHWARTZ, now in the Allyn Museum of Entomology (MGCL).

Distribution: Hispaniola.

Adult Characteristics: SCHWARTZ (1982) diagnosed this taxon as follows: ♂ LFW 23-24 mm; FW black wing borders narrow; black subapical bar about one-half as wide as that of ♀, tapering and then expanding only slightly to form a small inverted Y in the same position as that in the ♀; white spot in fw M2-M3 very small and not transversely elongate; white vertical subapical bar incomplete and at most extending from costal margin slightly into FW M1-M2; HW white apical spot tiny but present, with sometimes a supernumerary HW tiny white dot in M3-Cu1.

♀ LFW 23-26 mm; FW black border wide, especially at FW and HW apices; black subapical bar broad at costal margin, tapering posteriorly, then expanding to form a widely open inverted Y, the two arms extending into space M2-M3 and along the upper margin of M3-Cu1; subapical white bar broad and extending almost to M2; white spot in M2-M3, transversely elongate; FW white spots moderately large; HW apical white spot moderate, with accessory white spots at times present in M3-Cu1, and Cu1-Cu2.

Comments: Four subspecies were described from the Dominican Republic but only *quisqueya* is treated as the valid name. It seems however, that the ssp. *galii* from the Sierra de Bahoruco is distinctive. The FWs white spots are larger and almost shape a continuous band from costal margin to the dark border of M3-Cu1 (see SCHWARTZ, 1982: fig. 1). SOURAKOV & EMMEL (1995) described the preimaginal stages at La Ciénaga (LV) 1000 m, on *Cestrum coelophlebium* O. E. SCHULZ (Solanaceae) which is an endemic plant to Hispaniola. The species shared with Jamaica occurs only in montane areas where it is not uncommon from 700 to 2000 m; it is not reported from Haiti so far.

Subfamily **Limnitiidae** BEHR, 1864

Proc. Calif. Acad. Sci. [1] 3 (8): 127 (as "Limnitiidae"). Genus type: *Limnitis* [FABRICIUS], 1807 in: ILLIGER, Mag. f. Insektenk. 6: 281, no. 10. I.C.Z.N. Opinion 278 placed *Limnitis* on the Official List of Generic Names in Zoology as name no. 701.

Tribe **Limnitiini** BEHR, 1864

Subtribe **Limnitiina** BEHR, 1864

Adelpha HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 42. TS: *Papilio mesentina* CRAMER, 1777, Uitl. Kapellen 2 (14): 102, pl. 162, figs. B, C; (16): 149 (index), by designation of SCUDDER (1875) = *Heterochroa* Boisduval, 1836 Spec. gén. Lépid. 1: pl. 8 [=4B], fig. 4. TS: *Heterochroa serpa* BOISDUVAL, 1836, Spec. gén. Lépid. 1: pl. 8 [=4B], fig. 4, by monotypy.

Adelpha lapitha HALL, 1929

Adelpha cestus lapitha HALL, 1929, Entomologist 62: 132, TL: "Colombia" [restricted to Hispaniola by SCHWARTZ (1989a)].

Distribution: Hispaniola.

Adult Characteristics: An unmistakable species. Fuscous brown with FW orange subapical patch. A continuous white band on both wings from FW costa to HW tornus. HW with orange tornus, and small black submarginal spot. Underside of both wings with purplish hue.

Comments: WILLMOTT (2003) combined *lapitha* with the continental *A. fessonia* but perhaps as SCHWARTZ (1989a) and many other authors in the past suggested, it is better to consider it as a distinct, endemic species. It seems very scarce and local in the western part of the Dominican Republic from 600 to 1900 m. It is not reported from Haiti even if it may occur there. Apparently not reported by RILEY (1975). At Vallejuelo we collected 8 ♂♂, 4 ♀♀. They have been found nectaring on the tentatively identified white flowers of *Croton barahonensis* URBAN (Euphorbiaceae).

Adelpha gelania gelania (GODART, [1824])

Nymphalis gelania GODART, [1824], Encyclopédie Méthodique 9 (2): 378, TL: "Amerique equinoxiale" [Hispaniola, see WILLMOTT (2003)]; Types: unknown.

Distribution: Hispaniola and Puerto Rico.

Adult Characteristics: UP dark brown with a whitish series of spots, those on FWs separated, continuous on HWs. UPFW cell with 3 reddish bars. Underside silky with marginal red band edged with white lines.

Comments: Widespread but always uncommon in mesic and xeric forests up to 1700 m. We found it at Sabaneta (SJ), and Sierra de Bahoruco (PD).

Subfamily **Heliconiinae** SWAINSON, 1822

Zool. Illustr. [1] (2) (18): pl. 92, unnumbered text (as “Heliconiae”). Genus type: *Heliconius* KLUK, 1780, Zwierz. Hist. Nat. Pocz. Gospod. 4: 82-84, no. 143. As PELHAM (2008) reported I.C.Z.N. Opinion 382 placed *Heliconius* on the Official List of Generic Names in Zoology as name no. 923. I.C.Z.N. Direction 54 placed Heliconiidae SWAINSON, 1827, Phil. Mag. (2) 1 (3): 184, 185, 187 (as “Heliconi” “Heliconidae”); 185, 187, no. 5 (as “Heliconidae”), on the Official List of Family-Group Names in Zoology as name no. 117; the same Direction placed Heliconidae, an invalid original spelling of Heliconiidae, on the Official Index of Rejected and Invalid Family-Group Names in Zoology as name no. 103. KOÇAK (1981), Priamus 1 (2): 93-96, determined that SWAINSON’s family-group name was based on *Heliconius* LATREILLE 1804, a homonym of *Heliconius* KLUK, 1802. Thus, the type genus is invalid because it is a junior homonym (Code Article 39); an application must be made to the I.C.Z.N. to correct the Official List (Code Article 79.5).

Tribe **Heliconiini** SWAINSON, 1822

Subtribe **Heliconiina** SWAINSON, 1822

Agraulis BOISDUVAL & LE CONTE, [1835]

Hist. Lépid. Amér. sept. 1 (16): 142-145. TS: *Papilio vanillae* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 482, no. 144, by monotypy.

Agraulis vanillae (LINNAEUS, 1758)

P[apilio]. N[ympalis]. [Phaleratus] Vanillae LINNAEUS, 1758 Syst. Nat. (ed. 10) 1: 482, no. 144; cited MERIAN (1705), Ins. Surinam.: pl. 25, and SLOANE (1725), Voy. Mad. Barb. Niev. St. Christ. Jam. 2: pl. 239, figs. 23, 24; figured by CLERCK [1764], Icon. Ins. 2: pl. 40 ♂ dors. & vent.; TL: “Americas”; defined as “Surinam” by MICHENER (1942: 2).. Suggested to be “South America” but probably “Surinam” according to HONEY & SCOBLE (2001: 391). Types: LT in UZIÜ, designated by HONEY & SCOBLE (2001: 391).

Agraulis vanillae insularis MAYNARD, 1889

Agraulis insularis MAYNARD, 1889, Contrib. to Sci., Newtonville, Mass., 1 (2): 89. TL: Andros, Bahamas.

Distribution: Northern West Indies to Dominica.

Adult Characteristics: An unmistakable species. It shows sexual dimorphism as ♀♀ are typically distinctively larger in size than ♂, darker, dull coloured, and more marked with black streaks. UP wings deep orange with black streaks running across. UN wings brown and speckled with silvery white dots.

Comments: The ssp. *insularis* is characterized by a large black spot in the FW space Cu2-A2. This spot is reduced or absent in all the other subspecies. This is a common and widespread species throughout the Antilles. It is a migratory species and at times can be extremely abundant.

Dryas HÜBNER, [1807]

Samml. exot. Schmett. 1: pls. [43], [44]; TS: *Papilio iulia* FABRICIUS, 1775, Syst. Ent.: 509-510, no. 281, by designation of HEMMING (1933: 197).

Dryas iulia (FABRICIUS, 1775)

P[apilio]. N[ympalis]. P[halerata]. Iulia FABRICIUS, 1775, Syst. Ent.: 509-510, no. 281; TL: “America”; Types: LT in BMNH, designated by WETHERBEE (1991c: 18).

Dryas iulia fucatus (BODDAERT, 1783)

Papilio fucatus BODDAERT, 1783, Planche. Hist. nat. d’Aubenton, 5: n. 70; TL: “Le Rocou de St. Domingo”.

[Dominican Republic].

= *Colaenis iulia* [sic] *hispaniola* HALL, 1925 Ent., 58: 186. TL: [Dominican Republic].

Distribution: Hispaniola.

Adult Characteristics: It is a large subspecies, FWs ♂ with a complete black band. Ground colour darker than in other ssp. ♀ light brown with almost no ochreous colour.

Comments: This is a common species found for a variety of habitats. DAVIES & BIRMINGHAM (2002) carried out phylogenetic analyses based on mitochondrial DNA which revealed that Hispaniolan populations are sister to those from Puerto Rico.

Eueides HÜBNER, 1816

Verz. bekannt. Schmett. (1): 11. TS: *Nereis dianasa* HÜBNER, [1806], Samml. exot. Schmett. 1: [17], [18], pl. [8], figs. 1, 2, 3, 4, designation by SCUDDER (1875: 169-170, no. 415).

Eueides isabella (STOLL, 1781)

Pap[ilio]. Helicon[ius]. Isabella STOLL, 1781, Utitl. Kapellen 4 (30): 117, pl. 350, figs. C ♂ ventr., D ♂ dors.; (34): 250 (index). TL: “Surinamen” “Suriname”; Type(s): probably lost.

= *Pap[ilio]. Helicon[ius]. Isabella* STOLL, 1781 Utitl. Kapellen 4 (30): 117, pl. 350, figs. C ♂ ventr., D ♂ dors.; (34): 250 (index). TL: “Surinamen” “Suriname”; Type(s): probably lost.

Eueides isabella melphis (GODART, 1819)

Heliconia isabella melphis GODART, 1819, Encyclopédie Méthodique **9** (1): 218, TL: Antilles.

= *Eueides cleobaea* var. *monochroma* BOULLET & LE CERF, 1910, Bull. Mus. Nat. Hist. nat. Paris **16** (1): 24-26, TL: Haiti.

Distribution: Hispaniola.

Adult Characteristics: Sexes similar, but ♀ lighter, uniformly fulvous with black horizontal black stripes.

Comments: This is considered one of the rarest of Hispaniolian butterflies. SCHWARTZ (1989a) reported the species for only 5 localities noticing the variability in colouration and pattern. Indeed, we found it in two places only, quite far apart from each other (at Arroyo Cano, San Juan 2 specimens in June, and at Rio Iguamo, Ulloa, Quisqueya, 6 specimens in February).

Heliconius KLUK, 1780

Zwierz. Hist. Nat. Pocz. Gospod. **4**: 82-84, no. 143. TS: *Papilio charithonia* LINNAEUS, 1767, Syst. Nat. (ed. 12) **1** (2): 757, no. 65, by designation of HEMMING (1933: 223). I.C.Z.N. Opinion 382 placed this name on the Official List of Generic Names in Zoology as name no. 923.

Heliconius charithonia (LINNAEUS, 1767)

P[apilio]. H[eliconius]. *Charithonia* LINNAEUS, 1767, Syst. Nat. (ed. 12) **1** (2): 757, no. 65; index, no. 65 (as *charitonia*); cited SLOANE (1725), Voy. Mad. Barb. Niev. St. Christ. Jam. **2**: pl. 239, figs. 15, 16, and EDWARDS (1747), Nat. Hist. Birds **2**: 80, pl. 80; TL: "America"; suggested to be "one of the Virgin Islands" by COMSTOCK (1944: 438-439) further defined as "the island of St. Thomas, Virgin Islands" by COMSTOCK & BROWN (1950: 10).

Types: LT in LSUK, designated by COMSTOCK & BROWN (1950: 11, fig. 2 ♂ dors.). I.C.Z.N. Opinion 382 placed this name (spelled *charithonia*) on the Official List of Specific Names in Zoology as name no. 616. COMSTOCK & BROWN (1951a: 1-2) selected the spelling *charitonia* over *charithonia* as first revisers, but the Official List supercedes that action.

Heliconius charithonia churchi COMSTOCK & BROWN, 1951

Amer. Mus. Nov. **1467**: 14; TL: Port-au-Prince, Haiti.

Distribution: Hispaniola.

Adult Characteristics: According to COMSTOCK & BROWN (1951a) the populations of Hispaniola, found in a number of ecologically variable habitats, seem quite uniform. The average size of the specimens of the sample is slightly smaller than of those of the Cuban race, but the width of the band at Cu2 is distinctly less than in those of the Cuban race. The occurrence of the yellow spots is approximately the same, except that the spot lying over vein Cu1 is nearly obsolete. ♀♀ with rusty scales increase to over 50 per cent, and another character appears as a trace, that of the interruption of the yellow band with patches of black scales on the UNFW.

Comments: Widely distributed in the whole island in a variety of habitats from sea level to 2000 m. DAVIES & BIRMINGHAM (2002) carried out a phylogenetic analyses of mitochondrial DNA which found out that only Jamaican populations are different enough so as to deserve a subspecific name. All the other continental and West Indies populations are related. The populations of Mona Island and Puerto Rico show a well supported clade which is sister to the Hispaniolan populations.

Tribe *Argynnini* SWAINSON, 1833

Zool. Illustr. (2) **3** (29): pl. 136, unnumbered text (as "Argynninae"). Genus type: *Argynnis* [FABRICIUS], 1807, in ILLIGER, Mag. f. Insektenk. **6**: 287. As PELHAM (2008) reported I.C.Z.N. Direction 99 placed Argynnidae DUPONCHEL, 1844, on the Official List of Family-group Names in Zoology as name no. 228, placed Argynnidae AURIVILLIUS, [1911], on the Official Index of Rejected and Invalid Names in Zoology as name no. 266. I.C.Z.N. Direction 118 corrected the literature citation as above. I.C.Z.N. Opinion 161 placed *Argynnis* on the Official List of Generic Names in Zoology as name no.

Subtribe *Euptoietina* SIMONSEN, 2006

Biol. J. Linn. Soc. **89** (4): 648, figs. 8L, 8M, 11L, 11M, 15Oo, 15Pp, 21A, 21B, 22W, 23W, 32C, 32D. Genus type: *Euptoieta* DOUBLEDAY, 1848, in: Gen. diurn. Lepid. **1** (20): 169-170.

Euptoieta DOUBLEDAY, 1848

In Gen. diurn. Lepid. **1** (20): 169-170. TS: *Papilio claudia* CRAMER, 1775, Uitl. Kapellen **1** (6): 109, pl. 69, figs. E, F; (8): 152 (index), by designation of SCUDDER (1872: 43).

Euptoieta claudia claudia (CRAMER, 1775)

Pap[ilio]. Nymph[alis]. Phalerat[a]. *Claudia* CRAMER, 1775, Uitl. Kapellen **1** (6): 109, pl. 69, figs. E ♂ dors., F ♂ vent.; (8): 152 (index). TL: "Jamaika"/"Jamaïque"; Type(s): probably lost.

Distribution: South North America to Argentina; West Indies.

Adult Characteristics: Wings upperside chequered with orange and black. UPFWs and UPHWs with a row of submarginal black spots and black median lines running across the wings. UNFWs orange with a pale orange spot rimmed in black in the FW cell. UNHWs marked with brown and grey patches with a pale postmedian band.

Comments: This species can be found in a variety of habitats, in some locality together with *E. hegesia*.

Euptoieta hegesia hegesia (CRAMER, 1779)

Pap[ilio]. Nymph[alis]. Pha[lerata]. *Hegesia* CRAMER, 1779, Uitl. Kapellen **3** (18): 30, pl. 209, figs. E ♂ dors., F ♂ vent.; ibidem **3** (24): 175 (index). TL: "Nord-Amerika, en Nieuwjork, en op Eiland Jamaïka" "l'Amerique septentrionale, à

la Nouvelle-York, & dans l'Isle de la Jamaïque"; NT from "Montego Bay, Jamaica". Types: NT in AMNH, designated by COMSTOCK (1944: 445). It is possible that STs may exist in BMNH.

Distribution: South Texas to Argentina; the Bahamas, Greater Antilles.

Adult Characteristics: Similar to *E. claudia* which shows a black median lines on UPHWs, and on UNHWs it has a pale postmedian band. *Euptoieta hegesia* shows the upperside of the wings bright orange with the basal part of the hindwing unmarked. UPFWs and UPHWs with a row of submarginal black spots. UNFWs and UNHWs yellow orange with no submarginal black spots.

Comments: More widespread than its congener *E. claudia* but absent in many provinces especially on the eastern part. It occurs in xeric and mesic habitats from sea level to 1600 m.

Subfamily **Apaturinae** BOISDUVAL, 1840

Gen. Ind. Europ. Lepid.: 24 (as "Apaturides"). Genus type: *Apatura* [FABRICIUS], 1807, in ILLIGER, Mag. f. Insektenk. 6: 280. As PEHLAM (2008) reported I.C.Z.N. Opinion 232 placed *Apatura* on the Official List of Generic Names in Zoology as name no. 657. I.C.Z.N. Direction 99 placed Apaturidae on the Official List of Family-group Names in Zoology as name no. 229 (with incorrect date and bibliographic reference), and placed Apaturides on the Official Index of Rejected and Invalid Family-Group Names in Zoology as name no. 267. I.C.Z.N. Direction 118 corrected the bibliographic citation as above.

Asterocampa RÖBER, 1916

In SEITZ, Grossschmett. Erde 5 (241): 549. TS: *Apatura celtis* BOISDUVAL & LE CONTE, [1837], Hist. Lépid. Amér. sept. (19) pl. 57, figs. 1-4; (24): 210-211, by designation of BATES (1926), Ent. News 37 (5): 154.

Asterocampa idyja idyja (GEYER, [1828])

Doxocopa Idyja GEYER, [1828], in HÜBNER, Samml. exot. Schmett. 3: pl. [13], figs. 1 ♂ dors., 2 ♂ ventr.; 3 ♀ dors., 4 ♀ vent. ("type"). TL: "Cuba" Types: Locality of type(s) not known, presumed lost.

= *Doxocopa idyja padola* FRUHSTORFER, 1912, Ent. Rdsch. 29 (2): 14. TL: "Haiti". Types: HT in ZMHB.

Distribution: Mexico, Guatemala; Cuba, Hispaniola, Puerto Rico.

Adult Characteristics: UPFW with a transverse band of brownish spots, more distinct in the ♂. Some small subapical spots. HWs with a series of 4-5 black submarginal dots. UN very pale especially in ♀.

Comments: There is a colour variation in both sexes, dark and pale forms occur. The morph *padola* FRUHSTORFER was described as showing a uniform ochreous colour. The two morphs occur at 50 % in both sexes. Found especially on the South of the island in xeric or mesic woods or forests from sea level to 1100 m.

Doxocopa HÜBNER, [1819]

Verz. bekannt. Schmett. (4): 49-50. TS: *Papilio agathina* CRAMER, 1777, Uitl. Kapellen 2 (14): 109-110, pl. 167, figs. E, F; (16): 147 (index), designation by SCUDDER (1872: 30).

Doxocopa thoe (GODART, [1824])

Nymphalis thoe GODART, [1824], Enc. Méth. 9 (2): 376; TL: "Brazil" [Haiti, see SMITH et al., 1994].

= *Chlorippe speciosissima* KAYE, 1918, Ann. Mag. nat. Hist. (9) 2 (9): 231, TL: Haiti.

Distribution: Hispaniola.

Adult Characteristics: This species shows a striking sexual dimorphism. ♂ with blue iridescent hue on both wings with white longitudinal bands. ♀ ochreous brown spotted with black and white.

Comments: It is widespread in the southern part of Hispaniola and apparently absent from Haiti. It occurs also in the north around Puerto Plata. Usually uncommon and sporadic in coastal areas in mesic or xeric woods. It is found up to 1100 m in the Sierra de Bahoruco.

Subfamily **Biblidinae** BOISDUVAL, 1833

Nouv. Ann. Mus. Hist. Nat., Paris 2 (2): 201 (as "Biblidés"). Genus type: *Biblis* [FABRICIUS], 1807, in ILLIGER, Mag. Insektenk. 6: 281, no. 13.

Tribe **Biblidini** BOISDUVAL, 1833

Subtribe **Eurytelina** DOUBLEDAY, 1845

List lep. Ins.Brit. Mus. 1: 143 (as Eurytelidae)

Archimestra MUNROE, 1949

J. N.Y. Ent. Soc. 57 (1): 73, TS: *Argynnis Teleboas* MÉNÉTRIÉS, 1832.

Archimestra teleboas (MÉNÉTRIÉS, 1832)

Argynnis Teleboas MÉNÉTRIÉS, 1832 Bull. Soc. imp. Nat. Moscou 5: 307, TL: [Haiti].

Distribution: Hispaniola.

Adult Characteristics: Sexes similar. Wings black with a series of white spots. UN wings paler.

Comments: These monotypic genus and species are endemic to the western part of Hispaniola.

The genus *Archimestra* described by MUNROE (1949) was systematically placed between the Afrotropical *Mesoxantha* AURIVILLIUS, 1898 and the Neotropical *Mestra* HÜBNER, 1825 which occurs also in Jamaica. According to WAHLBERG et al. (2009) *Archimestra* is sister to *Mestra*. Then the hypothesis of an African relationship with *Neptidopsis ophione* (CRAMER, 1779) as suggested by MILLER & MILLER (1989) is unsubstantiated. Apparently, larvae of *Archimestra* and

Mestra feed on *Tragia* PLUMIER ex L. (Euphorbiaceae).

It is found in a variety of habitats from sea level to 1200 m. It may be moderately common especially during July and August. Some differences in pattern of a specimen from Île Gonâve, Haiti, has suggested that there may be a different subspecies (SCHWARTZ, 1989a).

Subtribe **Biblidina** BOISDUVAL, 1833

Biblis [FABRICIUS], 1807

In ILLIGER, Mag. Insektenk. 6: 281, no. 13. TS: *Papilio biblis* FABRICIUS, 1775, Syst. Ent.: 505, no. 261 (= *Papilio hyperia* CRAMER, 1779, Uitl. Kapellen 3 (20): 74, pl. 236, figs. E, F; (24): 175 (index); homonym), by tautonymy.

Biblis hyperia hyperia (CRAMER, 1779)

Pap[ilio]. Nymph[alis]. Phaler[ata]. Hyperia CRAMER, 1779, Uitl. Kapellen 3 (20): 74, pl. 236, figs. E ♂ dors., F ♂ vent.; (24): 175 (index). TL: "Eiland St. Thomas in de Westindiën" "l'Isle de St. Thomas, aux indes Occidentales" [= United States Virgin Islands]. Type(s) probably lost.

Distribution: Mexico to Paraguay. Hispaniola, Puerto Rico, Virgin Is to St. Lucia.

Adult Characteristics: Easily identifiable for the brown wings and the large red submarginal band on both sides of HWs.

Comments The species is not reported in Haiti. It has mostly a SE distribution along the coasts. There is also a record from Sosúa (PP). SCHWARTZ (1989a) suggested migrations from Puerto Rico. It may have colonized the east coast and expanded to the west (Azua and Bahoruco provinces). It is uncommon and found singly, associated with xeric and mesic bushes.

Tribe **Catonephelini** ORFILA, 1952

An. Soc. Cient. Arg. Ent. 154 (3): 103. Genus type: *Catonephele* HÜBNER, [1819], Verz. bekannt. Schmett. (2): 40. This family-group name was challenged with "Epicalidae" GUENÉE, 1865, in VINSON, Voy. Madagascar, Annexe F: 28.

ORFILA proposed that this name replace "Epicaliini" because *Catonephele* HÜBNER, [1819] is senior to *Epicalia* E. DOUBLEDAY, [1845]. Code Article 40.2 clearly provides that such action taken before 1961, and becoming widely accepted, is valid.

Subtribe **Epicaliina** GUENÉE, 1865

GUENÉE, 1865 In VINSON. Voy. Madagascar. Annexe F Insectes Lep. : 28 [as Epicaliidae - genus type *Crenis* BOISDUVAL, 1833. Nouv. Ann. Mus. Hist. nat. Paris (3) 2 (2): 196].

Eunica HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 61. TS: *Papilio monima* STOLL, 1782, Uitl. Kapellen 4 (33): 202, pl. 387, figs. F, G; (34): 250 (index), designation by SCUDDER (1875).

Eunica monima (STOLL, 1782)

Pap[ilio]. Nymph[alis]. Phaler[ata] Monima STOLL, 1782, Uitl. Kapellen 4 (33): 202, pl. 387, figs F ♂ dors., G ♂ vent.; (34): 250 (index). TL: "Kust van Guinea by Della Mina" "Côte de Guinée, pres de Della Mina" in error. Type(s): probably lost.

= *Eunica Modesta* H. BATES, 1864, Ent. Month. Mag. 1 (5): 113, no. 45. TL: "Guatemala"; STs from "Centr. Valleys."

Types: STs (#Rh9308, 9475) in BMNH; figured by JENKINS (1990).
= *Eunica pusilla fairchildi* M. BATES, 1935, Bull. Mus. Comp. Zool. 78 (2): 177, no. 81. TL: "La Milpa, Cienfuegos Bay, Sta. Clara" [Cuba]; Types: HT (#16604) in MCZ.

Distribution: S Texas through central America to Venezuela. S Florida to Greater Antilles.

Adult Characteristics: UP wings brown; UPFW with purple hue in the ♂, and sometimes in the ♀. Five small, white separated spots. UNHW greyish with fine lines; postdiscal greyish spots of different size with black pupils.

Comments: JENKINS (1990) considered the taxa *modesta* and *fairchildi* as synonyms given that *E. monima* is very variable, common, and highly migratory throughout its range. Therefore, there is little opportunity for isolation and differentiation. In Hispaniola it occurs from sea-level up to 1200 m.

Eunica tatila (HERRICH-SCHÄFFER, [1855])

Cybdelis Tatila HERRICH-SCHÄFFER, [1855], Samml. neuer. Aussereurop. Schmett. 1 (2): 54; 1 (2)(4): pl. 17, figs 69 ♂ dors., 70 ♂ vent., 71 ♀ dors., 72 ♀ vent.; TL: "Am Mer." implied from the text, "Mexico" from the plate caption. Types: STs possibly in BMNH.

Eunica tatila tatilista KAYE, 1926

Eunica tatila tatilista KAYE, 1926, Trans. Ent. Soc. Lond. 73 (3/4): 473, no. 22. TL: "Rae Town" [Jamaica]; Types: HT in MGCL.

Distribution: Central America, S Florida, the Bahamas to Greater Antilles.

Adult Characteristics: UP wings dark brown with bright purple hue in the ♂, blue in the ♀. UPFW with seven white spots. UN greyish; UNFW as UP. UNHW with postdiscal greyish spots with black pupils.

Comments: This species occurs in a variety of habitats especially in the Barahona Peninsula. JENKINS (1990) considered it a valid subspecies.

Myscelia E. DOUBLEDAY, [1845]

List Spec. Lepid. Brit. Mus. 1: 88. TS: *Papilio orsis* DRURY, 1782, Ill. Nat. Hist. 3: 20, index, pl. 16, fig. 3, designation by BARNES & BENJAMIN (1926), Bull. South. Calif. Acad. Sci. 25 (1): 15.

***Myscelia aracynthia* (DALMAN, 1823)**

Papilio aracynthia DALMAN, 1823, *Analecta Ent.*: 41-42, n. 8; TL: unknown; Type: HT ♂ in Museum Stockholm.

= *Biblis antholia* GODART, [1824], *Enc. Meth.* 9, suppl.: 824; TL: Haiti “des Antilles et particulièrement de la Martinique”; Types: 2 STs in Museum Paris, MNHP.

Distribution: Hispaniola.

Adult Characteristics: ♂ upperside black with brilliant violet or blue hue, and with two series of large white spots on FWs. Apical margin produced. The blue colouration in the ♀ is on UPHWs. UN greyish with the white spots on FWs.

Comments: GALI & SCHWARTZ (1983) reported on this species, as *Myscelia antholia* from seven different localities. Since then, it was known from two localities only in Hispaniola. They suggested that “it may be rather periodic in activity or it may emerge at a time when most collectors are not in the field”. The species occurs especially on the western part of the island. It is uncommon and usually found singly but can congregate on rotten mangos (see SCHWARTZ, 1989a: 327). It flies during June to August from sea level to 1600 m. JENKINS (1984) synonymized *B. antholia*; the occurrence of this species in Colombia and Martinique is erroneous. We found it singly along the Arroyo Calabaza (SJ) almost every year during June and July.

Subtribe Ageroniina E. DOUBLEDAY, 1847

In *Gen. diurn. Lepid.* 1: pl. 10; (8): 81 (as “Ageronidae”). Genus type: *Ageronia* HÜBNER, [1819], *Verz. bekannt. Schmett.* (3): 42.

***Hamadryas* HÜBNER, [1806]**

Samml. exot. Schmett. 1: pl. [47]; TS: *Papilio amphinome* LINNAEUS, 1767, *Syst. Nat.* (ed. 12) 1 (2): 779-780, no. 176, by monotypy.

= *Apatura* [ILLIGER], [1807], *Allg. Lit.-Zeit.* 2 (303): 1181. TS: *Papilio amphinome* LINNAEUS, 1767, *Syst. Nat.* (ed. 12) 1 (2): 779-780, no. 176, by monotypy. I.C.Z.N. Opinion 232 suppressed this name and placed on the Official Index of Rejected and Invalid Generic Names in Zoology as name no. 37.

= *Ageronia* HÜBNER, [1819] *Verz. bekannt. Schmett.* (2): 42. TS: *Papilio chloe* STOLL, 1787, *Aanhangs. Werk Uitl. Kapellen* 1: 22, pl. 5, figs 1, 1a; (3): 382 (index), designation by SCUDDER (1875).

***Hamadryas februa* (HÜBNER, [1823])**

Ageronia Februa (HÜBNER, [1823]), *Samml. exot. Schmett.* 2: pl. [41], figs. 1 ♂ dors., 2 ♂ vent.; TL: Not stated; listed as “Amer. Mer. Et Centr., Mexico” by KIRBY (1908), in: WYTSMAN, *Facsimile ed. HÜBNER Samml. exot. Schmett.* 3 (addit. notes): 31; suggested to be “Amazonas Gebiet oder dem nördlichen Theil von Brasilien” by FRUHSTORFER (1916), in: SEITZ, *Grossschmett. Erde* 5 (206): 539. Type(s): probably lost.

***Hamadryas februa ferox* (STAUDINGER, 1886)**

A. [geronia] ferentina ferox STAUDINGER, 1886. *Exoti. Schmett.* 1: 127; TL: Caucathale (Columbien). Type: HT ♂ in ZMBH. = *[Ageronia ferox] diasia* FRUHSTORFER, 1916, in SEITZ, *Grossschmett. Erde* 5 (206): 541. TL: “Porto Rico und Haiti” Types: Locality of type(s) not known, possibly lost.

= *Ageronia februa antillana* HALL, 1925, *Ent.* 58 (8) [747]: 187, no. 72. TL: “most wooded places up to 2000 feet” implied from the text, “Hispaniola” from the title of the paper; STs from “Puerto Plata, La Cumbra [= La Cumbre], 1600 ft.” and “Santo Domingo.” [Dominican Republic]; Types: STs in BMNH; figured by JENKINS (1983).

Distribution: Cuba, Jamaica, Hispaniola, Mona Is. Puerto Rico.

Adult Characteristics: An unmistakable species with a reticulate pattern of black, grey and white, UPHW and UNHW submarginal black and white ocelli edged basally with brown.

Comments: Widespread and often abundant in a variety of habitats. SOURAKOV (2007) observed in Altagracia a sort of roosting on a tree trunk where up to 30 individuals congregated. If one was disturbed the whole group flew away. JENKINS (1983) revising *Hamadryas* species considered *antillana* as a synonym of *H. amphiocloe diasia*. While this paper was in the press, GARZÓN-ORDUÑA et al. (2018) basing on mtDNA COI barcode, disclosed that *H. amphiocloe diasia* is part of *H. februa* (HÜBNER, [1823]). For the populations of the Caribbeans the name to be applied is *H. februa ferox* (STAUDINGER, 1886).

Tribe Epiphilini JENKINS, 1987

Bull. Allyn Mus. 114: 9 (mentioned), 48. Genus type: *Epiphile* E. DOUBLEDAY, [1845], *List Spec. Lepid. Brit. Mus.* 1: 90. JENKINS (1987:9) stated: “The genus *Asterope* is in the subfamily Eurytelinae and in the tribe which I designate Epiphilini”.

Subtribe Epiphilina JENKINS, 1987

***Lucinia* HÜBNER, [1823]**

Lucinia HÜBNER, [1823], *Samml. exot. Schmett.* 2: pl. [35], TS: *Lucinia sida* HÜBNER, [1823].

***Lucinia cadma* (DRURY, [1773])**

Papilio cadma DRURY, [1773], *Illust. Nat. Hist. Exot. Insects* 2: pl. 18, figs 1-2, TL: Jamaica.

***Lucinia cadma torrebria* (MÉNÉTRIÉS, 1832)**

Nymphalis torrebria MÉNÉTRIÉS, 1834, *Nouv. Mém. Soc. imp. Nat. Moscou* 3: 129, pl. 11, fig. 3, TL: [Haiti]

Distribution: Hispaniola.

Adult Characteristics: UPFW with prominent black cell bar. UNHW ocelli small and oval if compared with those of the Cuban *L. sida*.

Comments: The Antillean endemic genus *Lucinia* comprehends 4 taxa, *cadma* on Jamaica, *sida* on Cuba, *torrebria* on

Hispaniola, and *albomaculata* distributed along the Bahamas. The biological relationships among these taxa are fluid being vicariant. LAMAS (2004) considered only one species *L. cadma* with 4 subspecies. Although widespread in Hispaniola this species is nowhere common. We found it rather abundant at Vallejuelo, 3 km SE during June 2016. The larva was found by WAHLBERG & PEÑA (2007) near Cabo Rojo, Pedernales Prov. According to these authors morphology and DNA data rank this taxon in the tribe Callicorini rather than into Epicaliina.

Subtribe **Eubagina** BURMEISTER, 1878

Descr. phys. Rép. Argentine **5** (Lépid.) (1): 169 (as “Eubagidae”). Genus type: *Eubagis* BOISDUVAL, 1832, in: D’URVILLE, Voy. Astrolabe **1**(Lep): 70.

Dynamine HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 41. TS: *Papilio mylitta* CRAMER, 1779, Uitl. Kapellen **3** (22): 107, pl. 253, figs. D, E; (24): 175 (index) (= *Papilio postverta* CRAMER, 1779, Uitl. Kapellen **3** (22): 109, pl. 254, figs C, D; (24): 176 (index); synonym by designation of SCUDDER (1875).

† **Dynamine alexae** PEÑALVER & GRIMALDI, 2006

Dynamine alexae PEÑALVER & GRIMALDI, 2006, Amer. Mus. Novit. **3519**: 7. TL: Mid-Miocene amber from mines in the Cordillera Septentrional, north and northeast of Santiago, Dominican Republic (Hispaniola). Type: AMNH DR-18-2 (♂), HT in an amber piece 32 mm length x 22 mm width x 8 mm thickness.

Distribution: Cordillera Septentrional, north and northeast of Santiago, Dominican Republic.

Adult Characteristics: According to wing size this new *Dynamine* species was large. Greatest width of the HW larger than greatest width of the FW (HW/FW = 1.19). White median band under both FW and HW wings; costal white subband on FW covers M3-CuA1 cell and ends in CuA1-CuA2. UNHW two identical ocelli. Continuous, broad, brown postmedial band connects the two ocelli, and has a broad, pale brown proximal margin. Two strong, short apical spines at apex of each ♂ valve, one dorsal and one ventral.

Comments: PEÑALVER & GRIMALDI (2006) described the fossil *Dynamine alexae* from a ♂ specimen (diagnosis above) found in the Miocenic amber from a Hispaniolan mine N of Santiago. The holotype is incomplete, the anterior part of the body namely the head, the anterior part of the thorax, most of the right wings and proximal portions of the left fore and hind wings are missing. Preserved are only the distal part of the mid- and hind legs, most of the left wings, and abdomen with genitalia. The wings partly preserve the colour pattern as tones of brown and are overlapping (Fig. 58). The authors compared the new species with the extant *Dynamine* species at present distributed in South America and the Antilles.

The ♂ valves (= harpe) in extant *Dynamine* vary greatly in form (Fig. 59). The harpe of *D. alexae* were compared with those of four species which differ most in the structure of the apex. The two “subspecies” of *D. egea* that were studied from the West Indies have a broad, granulate apex without spines. The continental “subspecies” *D. paulina thalassina* (GODMAN & SALVIN, [1883]) has three strong, short spines (one dorsal and two ventral) in the apex. Lastly, the continental *D. glauce* (BATES, 1865) and *D. artemisia* (F. 1793) have two small apical spines.

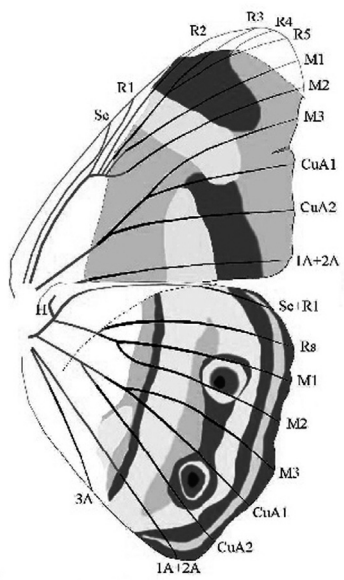


Fig. 58: Reconstruction of *Dynamine alexae* PEÑALVER & GRIMALDI, 2006 (modified after PEÑALVER & GRIMALDI, 2006).

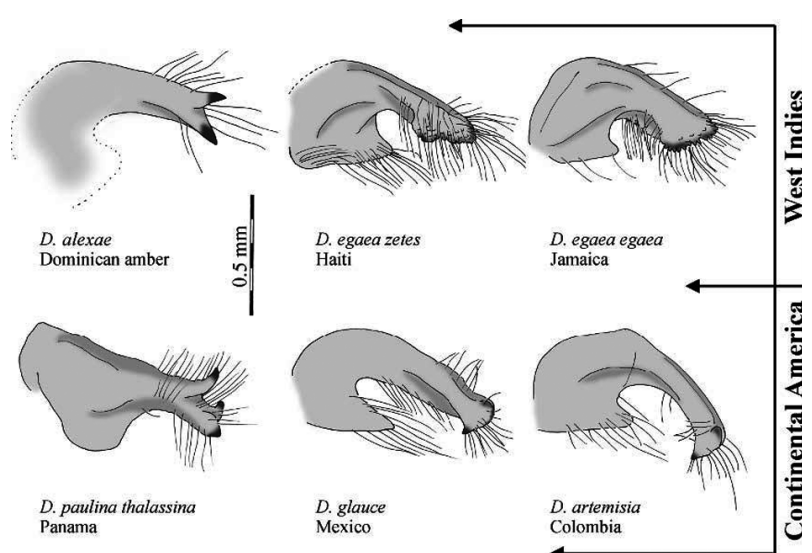


Fig. 59: Harpe of *Dynamine* species (modified after PEÑALVER & GRIMALDI, 2006).

Dynamine serina (FABRICIUS, 1775)

Papilio Serina FABRICIUS, 1775, Syst. Ent.: 497 n. 232; TL: Jamaica.
= *Papilio Egea* FABRICIUS, 1775, Syst. Ent.: 496, n. 231; TL: Jamaica.

Dynamine serina zetes (MÉNÉTRIES, 1832)

Nymphalis zetes MÉNÉTRIES, 1834, Nouv. Mém. Soc. imp. Nat. Moscou 3: 128, pl. 11, figs 1-2; TL: Haiti.

Distribution: Hispaniola.

Adult Characteristics: A species with strong sexual dimorphism. ♂ UP wings greenish with FW apical and subapical black patches. ♀ black with wide white patches on both UP wings.

Comments: The two nominal taxa *serina* and *egaea* represent the ♂ and ♀, respectively, of the same species. Reported by RILEY (1975) and SCHWARTZ (1989a) as *D. egea zetes*, it is a scarce species mostly confined to the SW part of Hispaniola. Similar to the vicariant Cuban *calais* and the Jamaican *serina*.

Subfamily **Cyrestinae** GUENÉE, 1865

In VINSON, Voy. Madagascar, Annexe F: 28 (as “Cyrestidae”). Genus type: *Cyrestis* BOISDUVAL, 1832, in d’URVILLE, Voy. Astrolabe 1 (Lep): 117.

Tribe **Cyrestini** GUENÉE, 1865

Marpesia HÜBNER, 1818

Zutr. Samml. exot. Schmett. 1: 32. TS: *Marpesia eleuthea* HÜBNER, 1818, Zutr. Samml. exot. Schmett. 1: pl. [35], figs 197, 198; 32, no. 99, by designation of SCUDDER (1875).

= *Megalura* BLANCHARD, 1840 In: CASTELNAU, Hist. Nat. Ins. 3: 446. TS: *Nymphalis coresia* GODART, [1824], in: Ency. méth. 9 (Ins.) (2): 359, no. 31 (= *Marpesia zerynthia* HÜBNER, [1823], Samml. exot. Schmett. 2: pl. [51], figs 1 ♂ dors., 2 ♂ vent.; synonym), by original designation.

Marpesia chiron chiron (FABRICIUS, 1775)

P[apilio] E[ques]. A[chivus]. *Chiron* FABRICIUS, 1775, Syst. Ent.: 452, no. 40; cited DAUBENTON [1765], Miscellanea: pl. 71, figs 2, 3; TL: “India”; suggested to be “Jamaica” by BROWN (1972), in: BROWN & HEINEMAN (1972: 135-136). Types: LT in ZMUC, designated by WETHERBEE (1991c: 18).

= *Papilio*. *Eq[ui]tes*. *Achiv[i]*. *Marius* CRAMER, 1779, Uitl. Kapellen 3 (17): 14, pl. 200, figs D ♂ dors., E ♂ vent.; (24): 175 (index). TL: “Surinamen” “Suriname”. Type(s): probably lost.

= *M[egalura]*. *Chironides* STAUDINGER, 1886, in: STAUDINGER & SCHATZ, Exot. Schmett. 1 (1)(14): 134. TL: “Cuba”; Type(s): probably in ZMHB.

= [*Megalura chiron* form] *insularis* FRUHSTORFER, 1907, Stettiner Ent. Z. 68 (2): 237; cited *Papilio marius* (sensu STOLL, 1790, Anhangs. Uitl. Kapellen: pl. 30, figs 1, 1a). TL: “Jamaica” implied from the citation to STOLL; Types: Proposed for the figures in STOLL and probably lost.

= *P[apilio]. A[chivus]*. *Cyclops* FABRICIUS, 1938 In: BRYK, Syst. Glossat.: 45, no. 94. TL: “Amboina”; suggested to be “Hispaniola” by BROWN (1988); Types: TL not known.

Distribution: S Texas to Brazil and Argentina; Cuba, Jamaica, Hispaniola.

Adult Characteristics: ♂ brown with dark transverse bands on UP both wings. UN with light discal and basal areas with thin transverse lines. ♀ lighter than ♂ on both sides.

Comments: Not common, found in separated colonies, usually above 500 m in mesic forests during July. It is fairly common in the Sierra de Bahoruco.

Marpesia eleuthea HÜBNER, 1818

Zutr. Samml. exot. Schmett. 1: 32, no. 99 (1818), pl. [35], figs. 197 ♀ dors., 198 f V [1818]; figured by HÜBNER [1823], Samml. Exot. Schmett. 2: pl. [50], figs 1 ♂ dors., 2 ♂ vent., 3 ♀ dors., 4 ♀ vent.; TL: “der Insel Cuba, von Habana”. Type(s): probably lost.

Marpesia eleuthea dospassosi MUNROE, 1971

J. Lep. Soc. 25: 190; TL: Punta Arena, San Lorenzo, Dominican Republic.

Types: HT ♂, Punta Arena, San Lorenzo, Dominican Republic, 24 June 1915, F3177, in AMNH; AT ♀, Petionville, Haiti, 12 June 1930, F. E. CHURCH, in AMNH. 5 ♂♂, 3 ♀♀ PTs in AMNH, same data as HT, and: La Romana, Dominican Republic, 14 Dec., G. N. WOLCOTT; Rio Macosia, 8 km. south of Las Matas, Dominican Republic, 5 July 1957, O. CUCURULLO JR.; Petionville, Haiti, 3 June 1930, F. E. CHURCH; Cit. La Ferriere, Haiti, 2,500 ft., 6 June 1935. 5 ♂♂, 4 ♀♀ PTs in BMNH: “Haiti”, Tweedie; Port-an-Prince, Haiti, F. ODILE JOSEPH; “Gulf of Mexico, P. E. CHEESMAN”; [Haiti], ex coll. CHRIS. WARD. 5 PTs in the Cornell University Collection: Petionville, Haiti, May, June; Monte Christi, Dominican Republic, June. 3 PTs “San Domingo” in MCZ.

Distribution: Hispaniola.

Adult Characteristics: MUNROE (1971a) described this taxon as follows. ♂ UPFWs apical black suffusion wide, continued around apex to join expanded outer subterminal band. The latter wide, black and reaching nearly to termen. Anterior part of postmedial band strongly thickened towards costa. UPHWs discocellular bar tending to be weak. First postmedial line usually narrow and broken. Second postmedial line nearly obsolete anterior to M2. Ocellate spot in cell M3 largely fulvous. Undersides variable in colour, from grey through tan to dark brown.

♀ UP both wings closely similar to that of the nominate subspecies, but with terminal area more broadly and heavily suffused with brownish fuscous. Underside as in nominate subspecies, but with ocellate spots more distinct.

Comments: Widespread in a variety of habitats, never abundant, from sea level to 1700 m, although it prefers altitudes of 500-700 m. It is present on the isla Saona (LA).

Subfamily **Nymphalinae** RAFINESQUE, 1815

Analyse Nat.: 127 (as “Nymphalia”). Genus type: *Nymphalis* KLUK, 1780, Zvierz. Hist. Nat. Pocz. Gospod. 4: 86-89, no.147. According to PELHAM (2008, 2012) I.C.Z.N. Opinion 278 placed *Nymphalis* on the Official List of Generic Names in Zoology as name no. 702. RAFINESQUE did not include *Nymphalis* among the listed genera, but *Nymphalis* is unequivocally implied from the formation of the name (Code Article 11.7.1.1). I.C.Z.N. Direction 99 placed Nymphalidae SWAINSON, 1827, Phil. Mag. (2) 1 (3): 185, 187 on the Official List of Family-group Names in Zoology as name no. 232. KOÇAK (1981), Priamus 1 (2): 93-96, demonstrated that SWAINSON's name was based on *Nymphalis* LATREILLE, 1804, Nouv. Dict. Hist. Nat. 24(tab): 184, 199, a homonym, and thus invalid (Code Article 39). The RAFINESQUE name has the advantage of priority, and *Nymphalis* KLUK, 1780, can be assumed to be the genus type. An application must be made to the I.C.Z.N. to correct the Official List (Code Article 79.5). The arrangement of family-group names follows WAHLBERG et al. (2003, 2005a, 2005b, 2009, 2014), and PEÑA et al. (2006).

Tribe **Coeni** SCUDDER, 1893

Proc. Am. Acad. Arts Sci., Boston 27: 243 (as “Coenini”). Genus type: *Coea* HÜBNER, [1819], Verz. bekannt. Schmett. (3): 48.

Historis HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 35. TS: *Papilio odius* FABRICIUS, 1775, Syst. Ent.: 457, no. 60, by designation of BARNES & BENJAMIN (1926), Bull. South. Calif. Acad. Sci. 25(1): 16.

= *Coea* HÜBNER, [1819], Verz. bekannt. Schmett. (2): 48. TS: *Papilio acheronta* FABRICIUS, 1775, Syst. Ent.: 501-502, no. 249, designation by SCUDDER (1875).

Historis odius odius (FABRICIUS, 1775)

P[apilio]. E[ques]. A[chivus]. Odius FABRICIUS, 1775, Syst. Ent.: 457, no. 60. TL: “Indiis”. Type(s): probably lost.

= *Papilio D[anaus] F[estivus]*. *Orion* FABRICIUS, 1775, Syst. Ent.: 485, no. 185. TL: “Surinami”. Types: STs in HMUG and ZMUC. Preoccupied by *Papilio orion* PALLAS, 1771, Reise verschied. Prov. Russisch. Reichs 1, Anhang: 471.

Distribution: Antilles; Granada, St. Lucia, Martinique, Dominica.

Adult Characteristics: An unmistakable species. ♂ FW markedly falcate. UP wings dark brownish. FW with a small white costal spot toward apex. UN wings cryptic with narrow black lines on a brownish background. ♀ similar to ♂, larger and lighter.

Comments: Widespread in wooded habitats from sea level to 1100 m especially during July and August.

Historis acheronta (FABRICIUS, 1775)

P[apilio]. N[ympnalis]. P[halerata]. Acheronta FABRICIUS, 1775, Syst. Ent.: 501-502, no. 249. TL: “Brasilia”. Types: ST in BMNH.

Historis acheronta semele (BATES, 1939)

Coea acheronta semele BATES, 1939, Mem. Soc. Cubana Hist. nat. 13: 4; TL: Cuba.

Distribution: Cuba, Hispaniola.

Adult Characteristics: The ssp. *semele* shows UNFW lighter brown, the bluish flush not extensive if compared with the nominate subspecies.

Comments: It seems that it is known only on the sight record at Lavaneau 229 m, southern slope of the Massif de La Salle, Haiti by SCHWARTZ (1989a: 349). An old record from Puerto Plata is given by WARREN et al. (2016). Although not common in Cuba it could be a stray from this island. It occurs very uncommon also on Puerto Rico, and Jamaica as ssp. *cadmus* CRAMER.

Tribe **Nymphalini** RAFINESQUE, 1815

Analyse Nat.: 127 (as “Nymphalia”). Genus type: *Nymphalis* KLUK, 1780,

Colobura BILLBERG, 1820

Enum. Ins. Mus. Billb.: 79; TS: *Papilio dirce* LINNAEUS, 1758, by monotypy.

= *Gynocia* DOUBLEDAY, 1844, List. lepid. Ins. Brit. Mus. 1: 88, TS: *Papilio dirce* LINNAEUS, 1758, by monotypy.

Colobura dirce (LINNAEUS, 1758)

Papilio dirce LINNAEUS, 1758, Syst. Nat. 1: 477 n 117 [incorrect original spelling], TL: “Calidis regionibus” [probably Surinam].

Papilio dirce LINNAEUS, 1764, Mus. Lud. Ulr.: 287 n. 105.

Colobura dirce wolcottii COMSTOCK, 1942

N.Y. Ent. Soc. 50 : 286, TL: Mayaguez, Puerto Rico; Types: HT ♀, Mayaguez, Puerto Rico, July 24-29, 1914. PTs: 1 ♂, Consumo, between Mayaguez and Las Marias, Puerto Rico, March 7, 1935; 1 ♂, 1 ♀, Fond Parisien, Haiti, February 19-20, 1933, in coll. AMNH. AT ♂, Lares, Puerto Rico, December, 1930; PT ♂, Largo dos Bocas, Puerto Rico, March 10, 1940 in coll. Cornell University, Ithaca, N. Y.; PTs 5 ♂♂, 1 ♀, Cap Haitien, Haiti; 1 ♂, Port au Prince, Haiti, October 9 in coll. MCZ. = *Colobura dirce clementi* COMSTOCK, 1942, J. N.Y. Ent. Soc. 50 : 284, TL: Santiago de Cuba, Cuba.

= *Colobura dirce avinoffi* COMSTOCK, 1942, J. N.Y. Ent. Soc. 50 : 285, TL: Bath, St. Thomas, Jamaica.

Distribution: Puerto Rico, Hispaniola, Cuba, Jamaica.

Adult Characteristics: FWL ♂ 33.5-35.6 mm, ♀ 35.6-37.7 mm. COMSTOCK (1942) compared *wolcottii* with other subspecies. Ground-colour UP wings brown and UN cream with yellow areas like *dirce*. UP subapical yellow spot is absent as in the Cuban *clementi*, thus differing from *dirce*. UNFW with heavier brown markings in the apical and basal areas than *dirce* but the apical markings are not suffused as in *clementi*. HW also heavily marked as in *clementi* with pinkish tones replacing some of the cream areas of *dirce*. FW blue spots of the central bar are obsolete but the HW subocellate spots are about as in *clementi*. It is distinguished from the Jamaican *avinoffi* by the lack of the pale lilac colouration.

Comments: Found in scattered colonies from sealevel to 1100 m in mesic forests during especially July and August. WILLMOTT et al. (2001) discussed the taxonomy of *Colobura* and described a new unknown species namely *C. annulata*. The Antillean populations were retained all under the name *wolcottii*.

***Smyrna* HÜBNER, [1823]**

Samml. exot. Schmett. 2: pl. [65]. TS: *Papilio blomfieldia* FABRICIUS, 1781, Spec. Ins. 2: 84, by monotypy.

† “*Smyrna*” spec. HAMMOND & POINAR, 1998

HAMMOND & POINAR 1998, Entomologica Scandinavica 29: 275-279.

Larval Characteristics: Probably a penultimate 4th instar Head capsule (incomplete): A pair of large horns near the dorsum on each side of the capsule. Four pairs of sharp spines are present on the remaining head capsule. These include a dorsal pair near the posterior part of the head, two lateral pairs at posterior and anterior positions along the side of the head and a subventral pair. The maxillae are still visible on the ventral side of the head capsule but the mandibles and labrum are missing.

Body morphology: The body is covered with seven rows of long, sharply branching spines or scoli, with seven individual spines per body segment. These include a single dorsal row, and a subdorsal, lateral and subventral row on each side of the body. In addition to the spines, prominent short, hair-like setae are sparsely scattered over the entire body.

Spine morphology: The largest spines are located on the posterior abdominal segments and in the subdorsal rows along the entire length of the body. The dorsal, lateral and subventral spines are mostly smaller with less branching. In general, the spines that characterize the fossil larva are quite thick and diverge from primary shaft close to the base of the spine. In addition, the primary shaft and branches all terminate in jointed needle-like spinules.

Comments: HAMMOND & POINAR (1998) reported the first fossil member of the family Nymphalidae in Dominican amber and the first fossil nymphalid caterpillar is placed near the genus *Smyrna* of the tribe Coloburini (now Nymphalini) on the basis of the morphology, position and arrangement of its spines. See description above. The larva is regarded as prototypic ancestor near the *Pycina-Vanessa* lineage and its closest descendants probably occur in Central and South America, thus illustrating yet another case of disjunct distribution in the Dominican amber fauna. This represents the second family of butterflies reported from Dominican amber (previously only the Riodinidae, and we must add *Dynamine alexae* PEÑALVER & GRIMALDI, 2006).

The amber piece is believed to have originated from the northern mountain ranges in the Dominican Republic. These mines are in the El Mamey Formation (Upper Eocene). The exact age of the amber is unknown and estimates based on various micro fossils and chemical analyses span over a range from 15-20 million years to 30-45 million years. The specimen is deposited in the Poinar amber collection maintained at Oregon State University, Corvallis, Oregon.

***Hypanartia* HÜBNER, [1821]**

Samml. exot. Schmett. 2: pl. [26]. TS: *Hypanartia demonica* HÜBNER, [1821], Samml. exot. Schmett. 2: pl. [26], figs 1, 2 (not 3, 4) [= *Papilio lethe* FABRICIUS, 1793 Ent. Syst. 3 (1): 80, no. 250; synonym], by monotypy.

***Hypanartia paullus* (FABRICIUS, 1793)**

Papilio paullus FABRICIUS, 1793, Ent. Syst. 3 (1): 63, TL: Jamaica (see JONES' Icones 5: pl. 78 fig.2), Type: unknown.

Distribution: Cuba, Jamaica, Hispaniola, Puerto Rico.

Adult Characteristics: The species shows a discrete sexual dimorphism: ♂ is darker whereas ♀ is paler for having less black markings.

Comments: According to SCHWARTZ (1989a: 304) the species occurs in a variety of habitats from sea level to 1900 m in the Cordillera Central, Sierra de Neiba, Sierra de Martín García, Sierra de Bahoruco and Massif de La Selle. There is also a record for Punta Cana. We found this species in different years at Arroyo Cano.

***Vanessa* [FABRICIUS], 1807**

In ILLIGER, Mag. f. Insektenk. 6: 281, no. 12. TS: *Papilio atalanta* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 478, no. 119, by designation of LATREILLE (1810), Consid. gén Anim. Crust. Arach. Ins.: 440, 354. I.C.Z.N. Opinion 156 placed *Vanessa* on the Official List of Generic Names in Zoology as name no. 601.

= *Nymphalis* LATREILLE, 1804 Nouv. Dict. Hist. Nat. 24 (tab): 184, no. 468, 199. TS: *Papilio atalanta* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 478, no. 119, by monotypy. Preoccupied by *Nymphalis* KLUK, 1780, Zwierr. Hist. Nat. Pocz. Gospod. 4: 86. WAGENER (1995), in: HESSELBARTH et al., Tagf. Türk 2: 1008, claimed that the species *Papilio morio* RETZIUS, 1783, Gen. Spec. Ins.: 31, no. 9, the other of the two species included in the genus by LATREILLE, was indeed validly described. This name is a homonym and should not be considered anymore.

= *Cynthia* [FABRICIUS], 1807 In: ILLIGER, Mag. f. Insektenk. 6: 281, no. 11. TS: *Papilio cardui* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 475, no. 107, by designation of WESTWOOD (1840), Intro. Class. Ins. 2: 87. I.C.Z.N. Direction 4 placed *Cynthia* on the Official List of Generic Names in Zoology as name no. 805. I.C.Z.N. Opinion 156 gave *Vanessa* precedence over *Cynthia*. The validity of this name as a genus-level taxon is questionable, as demonstrated by occasional hybridization between taxa placed by FIELD (1971) in *Vanessa* and *Cynthia*.

= *Pyrameis* HÜBNER, [1819], Verz. bekannt. Schmett. (2): 33. TS: *Papilio atalanta* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 478, no. 119, by designation of SCUDDER (1875). A junior objective synonym of *Vanessa*.

***Vanessa virginiensis* (DRURY, 1773)**

Papilio Cardui Virginiensis DRURY, 1773, Illustr. Nat. Hist. 1: 10-11, pl. 5, figs 1 ♂ dors., 1a ♂ vent. (1770); 2: index (1773, name given). TL: “New York, Maryland, and Virginia”; defined as “Virginia” on the basis of its name by FIELD (1971: 49). Types: STs possibly in MAMU or lost.

Distribution: Canada to Central America. Grand Bahama and New Providence; Greater Antilles.

Adult Characteristics: Similar to *V. cardui* (L.) but markings less black. FW outer margin deeply concave from vein 2 to 5. UNHW with two large ocell in spaces 2 and 5.

Comments: An unmistakable species which is resident and distributed altitudinally from 500 to over 2000 m especially in pine forests.

Vanessa cardui (LINNAEUS, 1758)

P[apilio]. N[ympalis gemmatus] *Cardui* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 475, no. 107; cited LINNAEUS (1764), Fauna Svecica (ed. 1): 235-236, no. 778, among others. TL: “Europae, Africae”; defined as “Sweden” by FIELD (1971: 43), based on LINNAEUS’ reference to Fauna Svecica. Types: LT in LSUK, designated by HONEY & SCOBLE (2001: 308). I.C.Z.N. Direction 4 placed this name on the Official List of Specific Names in zoology as name no. 259.

Distribution: Cosmopolitan.

Adult Characteristics: FW apical third with white spots. Irregular black markings on an orange background. UNHW light brownish with a series of five post discal ocelli.

Comments: The species is resident in the Cordillera Central and Massif de La Selle from 1000 to 2000 m.

Vanessa atalanta (LINNAEUS, 1758)

P[apilio]. N[ympalis phaleratus]. *Atalanta* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 478, no. 119; cited LINNAEUS (1764), Fauna Svecica (ed. 1): 235, no. 777, among others. TL: not stated “in Urtica”; defined as “Sweden” by FIELD (1971: 15) based on LINNAEUS’ reference to Fauna Svecica. Types: LT in LSUK, designated by HONEY & SCOBLE (2001: 302). I.C.Z.N. Direction 4 placed this name on the Official List of Specific Names in Zoology as name no. 258.

Vanessa atalanta rubria (FRUHSTORFER, 1909)

Pyrameis atalanta rubria FRUHSTORFER, 1909, Int. Ent. Z. 3 (17): 94. TL: “Mexiko, Nord-Amerika”; defined as “Mexico” by FIELD (1971: 16-17). Types: LT in MNHP, designated by FIELD (1971).

Distribution: Canada to Florida. Mexico to Guatemala. Cuba, Jamaica and Hispaniola. Stray to Grand Bahamas and North Andros.

Adult Characteristics: It differs from the nominate subspecies for the reduction of the FW white subapical spots.

Comments: SCHWARTZ (1989a) considers this species resident given that for 6 years it was collected at the same locality at La Palma, La Vega. We found a solitary specimen at Puerto Plata.

Tribe Victorinini SCUDDER, 1893

Proc. Am. Acad. Arts Sci., Boston 27: 236-237. Genus type: *Victorina* BLANCHARD, 1840, in: CASTELNAU, Hist. Nat. Ins. 3: 447.

Anartia HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 33. TS: *Papilio jatrophae* LINNAEUS 1763, in: JOHANSSON, Cent. Ins. Rar.: 25, no.73, by designation of SCUDDER (1875: 111 no 73),

Anartia jatrophae (LINNAEUS, 1763)

Papilio Jatrophae N[ympalis]. LINNAEUS, 1763 In: JOHANSSON, Cent. Ins. Rar.: 15, no. 73; cited MERIAN (1705), Ins. Surinam.: pl. 4. Often cited as Amoen. acad. 6: 408, no. 73, a later reprint. TL: “Americae”; defined as “Surinam” by MUNROE (1942: 2). Types: LT in UZIUI, designated by HONEY & SCOBLE (2001: 339).

Anartia jatrophae saturata STAUDINGER, [1885]

Anartia jatrophae var. *saturata* STAUDINGER, [1885], in STAUDINGER & SCHATZ, Exot. Schmett. 1 (11): 104, (8): pl. 39, TL: “Hayti (Port au Prince)” and “Porto Rico”. Restricted to Port au Prince [Haiti] by MUNROE (1942).

Distribution: Hispaniola, Bahamas: Great Inagua.

Adult Characteristics: Pattern is somewhat “dusky” on upperside and more red on the underside but also lighter forms occur in 1/3 of the specimens.

Comments: MUNROE (1942) revising *A. jatrophae* claimed that the dark and light forms occurring in Hispaniola are seasonal variation. SILBERGLIED & AIELLO (1980) having examined long series of the species throughout its range found a large amount of phenotypic plasticity in pattern detail, both geographic and seasonal. They agree with the “several recognizable but not easily defined subspecies” as RILEY (1975) noted, and they concluded that it is better to recognize no subspecies at all. SCHWARTZ (1989a) recognized the ssp. *saturata* for Hispaniola which occurs also in Great Inagua. It has a considerable seasonal variation and it is widespread in a variety of habitats especially open fields, from sea level to 1200 m.

Anartia lytrea (GODART, 1819)

Vanessa lytrea GODART, 1819, Encyclopédie Méthodique 9 (1): 299, TL: unknown; “de l’expédition du capitaine Baudin” [Hispaniola].

= *Anartia Dominica* SKINNER, 1889, Trans. Amer. ent. Soc. 16: 86. TL: “Hayti”; Types: “HT ♂, Hayti, Dr. ABBOT,” and the “AT”, “San Domingo, FRAZAR, 1883.” In coll. ANSP; see GILLHAM & EHRLICH (1954: 101).

Distribution: Hispaniola.

Adult Characteristics: Sexes similar, ♀♀ larger, lighter brown with pale bands a little broader.

Comments: An endemic species to Hispaniola, local and never common, found in scattered colonies up to 1600 m. As SCHWARTZ (1989a) noted it prefers shady deciduous forests and adjoining open lands. SKINNER (1889) described *Anartia Dominica* from “five specimens, 4 ♂♂ and 1 ♀. Two were caught at Samana Bay by Dr. W. C. ABBOTT, and are in the collection of the Am. Ent. Soc. Two were presented to me by my friend, Mr. E. M. AARON, and one received from

Mr. A. G. WEEKS, JR; all are from Hayti.”.

BLUM et al. (2003) carried out molecular analysis which showed *A. jatrophae* sister to *A. fatima* + *A. amalthaea* lineage so as to corroborate SILBERGLIED et al.’s (1980) hypothesis. *A. lytrea* and the Cuban *chrysopelea* HÜBNER, 1825 are sister taxa.

Siproeta HÜBNER, [1823]

Samml. exot. Schmett. 2: pl. [48]. TS: *Siproeta trayja* HÜBNER, [1823], Samml. exot. Schmett. 2: pl. [48], figs. 1,2, by monotypy. = *Victorina* BLANCHARD, 1840 In: CASTELNAU, Hist. Nat. Ins. 3: 447. TS: *Papilio stelenes* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 465, no. 39, by original designation.

Siproeta stelenes stelenes (LINNAEUS, 1758)

P[apilio]. E[ques Achivus] Stelenes LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 465, no. 39; cited PETIVER (1703), Gazophylacium: pl. 13, fig. 1 (as “*Papilio Jamaicansis*”), MERIAN (1705), Ins. Surinam.: pl. 2 (in error, actually *Philaethria dido* LINNAEUS (1763), Cent. Ins. Rar.: 25, no. 74), and SLOANE (1725), Voy. Isl. Mad. Barb. Nieves, St. Christ. Jam. 2: 217, pl. 239, figs 9, 10; figured by CLERCK [1764], Icon. Ins. 2: pl. 35, fig. 2 ♂ dors & vent.; TL: “America”; defined as “Jamaica” by COMSTOCK (1944: 458) and FOX & FORBES (1971), and restricted to “America” [Jamaica] by HONEY & SCOBLE (2001: 358). Types: LT in PETIVER Collection: 1 ex, Volume 1: 37, labelled “1571.52”, in BMNH, designated by HONEY & SCOBLE (2001:358).

Distribution: S Texas to Brazil. Greater Antilles, Cayman, St. Kitts and St. Croix islands.

Adult Characteristics: Typical *stelenes* shows 0-2 spots in FW cell whereas the Cuban *insularis* has 2, and a HW small orange anal spot.

Comments: Widespread and common, seasonally very abundant. It occurs especially in cafetales and mesic woods at moderate altitudes.

Tribe Junoniini REUTER, 1896

Acta Soc. Sci. fenn. 22 (1): 457, 554, 557. Genus type: *Junonia* HÜBNER, [1819], Verz. bekannt. Schmett. (3): 34.

Junonia HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 34. TS: *Papilio lavinia* CRAMER, 1775, Uitl. Kapellen 1 (2): 32, pl. 21, figs C, D; (8): 153 (index) [= *Papilio evarete* CRAMER, 1779, Uitl. Kapellen 3 (17): 18, pl. 203, figs C, D; (24): 174 (index); homonym], by designation of SCUDDER (1872: 43). WAHLBERG et al. (2005: 236, 239, 250), determined that *Junonia* and *Precis* HÜBNER, [1819] are distinct genus-level taxa. The following arrangement of species-level taxa follows NEILD (2008: 57-62, 247-250, pls. 7, 8) where types are designated and taxa discussed in detail.

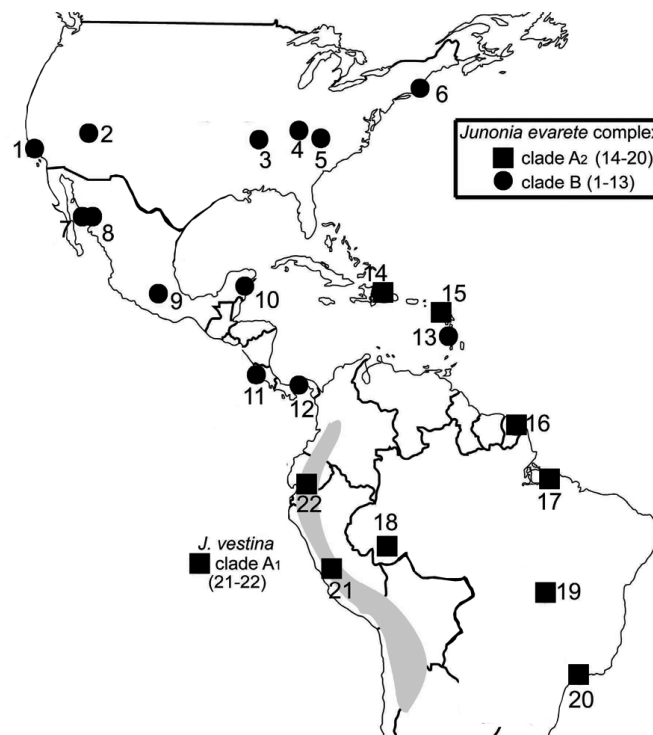


Fig. 60: Map of North and South America showing collection localities for *Junonia* complex. Black circles and squares correspond to the two main clades (A and B, respectively) of New World *Junonia*. The shaded area represents the approximate geographic distribution of the Andean buckeye, *Junonia vestina* FELDER & FELDER, [1867]: 1, *J. coenia grisea* (USA, CA); 2, *J. coenia coenia* (USA, UT); 3, *J. coenia coenia* (USA, TN); 4, *J. coenia coenia* (USA, KY); 5, *J. coenia coenia* (USA, NC); 6, *J. coenia coenia* (USA, MA); 7, *J. evarete* (= *J. genoveva*; MEXICO, SO); 8, *J. evarete nigrosuffusa* (= *J. nigrosuffusa* MEXICO, SO); 9, *J. evarete* (= *J. genoveva* MEXICO, MO); 10, *J. evarete* (= *J. genoveva* MEXICO, QR); 11, *J. evarete* (= *J. genoveva* COSTA RICA); 12, *J. evarete* (= *J. genoveva* PANAMA); 13, *J. genoveva* (= *J. neildi* MARTINIQUE); 14, *Junonia* sp. (= *J. evarete* DOMINICAN REPUBLIC, PD); 15, *J. evarete* (GUADELOUPE); 16, *Junonia* spp. (FRENCH GUYANE); 17, *J. evarete* (BRAZIL); 18, *J. evarete* (BRAZIL); 19, *J. evarete* (BRAZIL); 20, *J. genoveva*? (= *J. evarete* BRAZIL); 21, *J. vestina* (PERU) (NN07); 22, *J. vestina* (ECUADOR, Las Culebrillas, Cañar). (Redrawn after PFEILER et al. 2012).

***Junonia "zonalis"* C. FELDER & R. FELDER, 1867**

Reise Novara Zool. 3: 399-400, no. 593; cited *Junonia lavinia* var. *occidentalis* C. FELDER & R. FELDER, 1862, Wien. ent. Monatschr. 6 (4): 110 (part). TL: "Nova Grenada: Bogotá...Cuba...Porto-Rico"; Types: LT from "Cuba" in BMNH, designated by NEILD (2008), proposed for *Junonia lavinia* var. *occidentalis* C. FELDER & R. FELDER, 1862 (in part). First reviser choice of *zonalis* over *pallens* was made by NEILD (2008: 249).

= *Junonia Pallens* C. FELDER & R. FELDER, 1867 Reise Novara Zool. 3: 401, no. 597. TL: "Venezuela". Types: STs in BMNH.

Distribution: Cuba, the Isle of Pines, Jamaica, Hispaniola, the Bahamas: New Providence, Great Inagua, Watling, Great Abaco, South Eleuthera, and Long. It might occur in southern Florida and the Cayman group.

Adult Characteristics: Ventral club of antennae light; FW postdiscal band white; eye spot large and brown inwardly; HW colour dark; median band fairly straight. Larval food plant mangrove.

Comments: There was and still there is a great confusion on the identity of the *Junonia* complex throughout its range and as SCHWARTZ (1989a: 307) stated: "Perhaps no other Antillean genus is more in a state of confusion than *Junonia*". After almost 30 years the issue is even worse.

Indeed, studies based on hybridization (HAERNICK, 1982), systematics (MUNROE, 1951c; TURNER & PARNELL, 1985; BRÉVIGNON, 2004), and molecular data (McCULLAGH, 2011; PFEILER et al. 2012; GEMMEL et al. 2014; GEMMEL & MARCUS, 2016) did entangle the knot.

Many authors in the past followed MUNROE (1951c) in considering a single species namely *P. genoveva* with *zonalis* and *genoveva* the wet and dry forms, respectively (see BROWN & HEINEMAN, 1974). Therefore, because the two species were confused together, the records given by SCHWARTZ (1989a) who reported only *J. genoveva zonalis* for Hispaniola may belong to either species.

TURNER & PARNELL (1985) gave discriminating characters for Jamaican populations which often do not hold good for other Antillean populations and, unfortunately, they reversed - according to NEILD (2008: 247) - the identification of the two species now properly established and identified with the designation of the respective NTs (NEILD, 2008). BRÉVIGNON (2004) described two new subspecies of *J. genoveva* and *J. evarete* from Guadeloupe, *neildi* and *swifti*, respectively, stating that the larva of *neildi* feeds on the Black Mangrove, *Avicennia germinans* (L.) L. (Verbenaceae). More recently, following DNA based studies with contradictory results in respect to morphological traits, it appears that more than one species is involved over the wide range of *Junonia* in South America, and populations from the Antilles should be specifically distinct from those of South America.

In fact, McCULLAGH (2011) assaying with wingless gene, 338 specimens of *Junonia* from Florida, Texas, Kentucky, California, and Argentina, found significative differences in their haplotypes.

PFEILER et al. (2012) assayed with DNA barcode a number of taxa of the *J. evarete* complex. *J. evarete* and *J. genoveva* clustered in a clade where the Andean *J. vestina* is basal (see fig. 60). Populations from Hispaniola are not specifically identified and are included in a composite NJ tree which includes *J. evarete*, *J. genoveva*, *Junonia* sp. along with other taxa. Particularly, PFEILER et al. (2012: fig. 2) figured 3 specimens as *Junonia* sp. from Pedernales and Hatillo which topologically are polyphyletic within the clade A2.

Further DNA analyses carried out by GEMMEL et al. (2014) stated that true *J. genoveva* does not occur in the Caribbean but it is widespread across the Latin American mainland, and that it does not feed on mangrove. Therefore, it seems for the time being that the only correct name for this mangrove-feeding Caribbean species is *J. neildi*. This taxon has prominently black-tipped antennae, a useful character for *J. neildi*, *J. genoveva*, and one or two other species.

GEMMEL & MARCUS (2015) argued that up to 14 taxa in the *J. evarete* complex span in the New World, and that they may form a ring species although this hypothesis is controversial. It is to point out that use of DNA barcoding shows limits in separating *Junonia* species (see on this issue BORCHER & MARCUS, 2012). However, out of these 14 "species"

GEMMEL & MARCUS (2015) assayed 23 specimens from Dominican Republic identified - morphologically? - as *J. zonalis*. GEMMEL & MARCUS (2015: fig. 2) and McCULLAGH (2016: fig. 3.1) depicted two identical ML consensus trees. The topology of the tree shows 3 specimens identified as *zonalis* from the Dominican Republic which are clustered in very distant clades under haplotypes A2 and B. It is to underline that the tree is mainly unresolved. It seems that these specimens are not the same assayed by PFEILER et al. (2012), and paraphyletic in their "clade A".

Luckily, as noted above, NEILD (2008) selected NTs for almost all nominal taxa within *Junonia* restricting their TLs. Then, future studies should be aimed at assaying Antillean populations and comparing them with the North and South American ones so as to have a final result on the identity and relationships of these taxa.

As far as Hispaniolan *Junonia* populations are concerned, to the best of our knowledge at least two different species occur in Hispaniola. Also SMITH et al. (1994) recognized the presence of two species in the Greater Antilles although not specifically from Hispaniola. Examination of some 200 specimens collected over a span of 9 years in the Dominican Republic allowed us to discriminate two groups namely a dark form ("*zonalis*") and a light form ("*genoveva*"). Some intermediate specimens may represent introgression between the two or more "forms" present in Hispaniola.

A further problem still lies on which is the correct name to apply to the Hispaniolan populations. Until now the two taxa were known under the names *J. evarete zonalis* the small species, and the nominate *J. genoveva genoveva*, the large species. In a few words, the *evarete* complex is polyphyletic and no clear-cut differentiation of taxa derive from barcoding data. Therefore, we recognize two different biological species present in Hispaniola. For the time being, we change the traditional identification and presence of *J. genoveva* (now "*neildi*") and *J. evarete zonalis* (now "*zonalis*") in Hispaniola until the knot will be untangled.

***Junonia "neildi"* BRÉVIGNON, 2004**

Junonia evarete neildi BRÉVIGNON, 2004, Lambillionea 104 (1): 72; TL: Port-Louis, Guadeloupe. Types: HT: ♂, Port-Louis, Guadeloupe, 15-VIII-1999, collection L. & C. BRÉVIGNON. AT ♀, ex larva, elevage 7-99, Abymes, Guadeloupe, 14-IX-1999, collection L. & C. BRÉVIGNON.

= *Papilio*. *Nymphalis*. *Phalerata* *Genoveva* auctorum, nec CRAMER, 1780 Utitl. Kapellen 4 (25): 4, pl. 290, figs E ♂ dors., F ♂ vent.; (34): 249 (index). TL: “Surinamsche” “Suriname”; suggested to be “northeastern South America” by BROWN & HEINEMAN (1972:179-180); considered to be “West Indien” by MILLER & BROWN (1981: 176). Types: apparently lost; NT in RMNH, designated by NEILD (2008, pl. 7, figs 199 ♀ dors., 200 ♀ vent.), from “Sinnamary (by bridge over estuary), NC French Guiana.”

Distribution: Range not known exactly probably restricted to Antilles.

Adult Characteristics: Ventral club of antennae dark; FW postdiscal band orange; eye spot never ringed with brown; HW colour light; median band not straight but indented. Larval food plant no mangrove.

Comments: This is - in part - the species known in the past as *J. genoveva*. Generally common, found also together with *J. zonalis* along coastal areas. RILEY (1975) stated that at least on Jamaica a pair of sibling species coexists which at present cannot be distinguished by external characters. BROWN & HEINEMAN (1974) on the contrary recognized the presence of only one species. The issue of the two species in Jamaica was treated by TURNELL & PARNELL (1985).

Tab. 1 – Differential characters for *Junonia* taxa

taxon	Ventral club of antennae	FW postdiscal band	FW eye spot	HW colour	HW median band	Larvae food plant
<i>Evarete</i> (? <i>zonalis</i>)	Light	White	Large and brown inwardly	Dark	Fairly straight	mangrove
<i>Genoveva</i> (? <i>neildi</i>)	Dark	Orange	Never ringed with brown	Light	Not straight but indented	No mangrove

Although characters may be variable, apparently these are the most reliable: Upperside ground colour light brown; FW with a narrow orange band which rings the large eyespot; eyespot is never ringed with brown. HW underside brown, usually without bands or eyespots; median band is not straight but indented (See Tab. 1).

NEILD (2008: 247-248) pointed out that TURNER & PARNELL (1983) inverted the names and therefore the characters so as many subsequent authors - namely SCHWARTZ (1989a) and SMITH et al. (1994) - perpetuated the error. Only SCOTT (1986b) attributed the right names to the *Junonia* taxa of North America.

Hypolimnias HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 45. TS: *Papilio pipleis* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 476, no. 108 [= *Papilio pandarus* LINNAEUS, 1758, Syst. Nat. (ed. 10) 1: 461, no. 17; synonym], designation by SCUDDER (1875).

Hypolimnias misippus (LINNAEUS, 1764)

P[apilio]. D[anaus]. F[estivus]. Misippus LINNAEUS, 1764, Mus. Lud. Utr. 1: 264, no. 83. TL: “America”; suggested to be “Java” [Indonesia] by HONEY & SCOBLE (2001: 350). Types: LT in LSUK, designated by HONEY & SCOBLE (2001). Old World synonymy for this species was provided by LAMAS (2004).

Distribution: Old World Tropics and Subtropics. NE South America, West Indies.

Adult Characteristics: ♂ UP black with strong bluish hue around the large white discal areas. ♀ brownish with FW apical and subapical areas black enclosing transverse band of white spots. It is a mimic of *Danaus* species.

Comments: It is a migratory species and known from a handful of specimens from Hispaniola. Not recorded by RILEY (1975) for Hispaniola although he overlooked a specimen from Haiti. There is one ♂ in the MCZ collection from Haiti: Cul-de-sac Plain (BATES, 1939).

It was found in the following localities: Boca de Yuma (SMITH et al. 1994), El Numero, Azua, “Santo Domingo” Cabral-Polo road, El Morro de Monte Cristi (SCHWARTZ, 1989a). WAHLBERG & PEÑA (2007) reported 5 specimens from Parque Nacional de l’Este, Altagracia Prov. Apparently only the dark ♂♂ are recorded and never the orange mimetic ♀♀ except one specimen from the city of Santo Domingo (SCHWARTZ, 1989: 306).

Tribe *Melitaeini* NEWMAN, [1870]

Ill. Nat. Hist. Brit. Butts: 39 (as “Melitaeidae”). Genus type: *Melitaea* [FABRICIUS], 1807, in: ILLIGER, Mag. f. Insektenk. 6: 284.

Subtribe *Phyciodina* HIGGINS, 1981

Bull. Brit. Mus. (Nat. Hist.) Ent. 43 (3): 81-82 (as “*Phyciodini*”), figs. 178 FW venation, 179, HW venation, 180 palpus lateral, 181 ♂ foreleg, 182 ♂ genitalia (*tharos*), fig. 183 ♂ genitalia, 184 aedoeagus lateral (*Eresia clara*), 185 f sterigma (*Eresia phillyra*). As LONG et al. (2014) reported among the four Melitaeini subtribes the most problematic is the Phyciodina. They included *Antillea* and *Atlantea* in Phyciodina.

Antillea HIGGINS, [1959]

Lepid. News 12 (5-6): 164, TS: *Papilio pelops* DRURY [1773].

Antillea pelops pelops (DRURY, [1773])

Papilio pelops DRURY, [1773], Illust. Nat. Hist. Exot. Insects 1: index, : 38, pl. 19, figs 3-4. TL: St. Kitts.
= *Argynnis pelopsa* GODART, 1819, Encyclopédie Méthodique 9 (1): 290.

Distribution: Greater Antilles, St. Kitts.

Adult Characteristics: Upperside blackish brown with a pattern of light brown spots as in the Jamaican *A. proclea* DBL. & HEW. 1847. No UPFW subapical white spots as in *A. proclea*. UNFW the brown lighter spots enlarged. UPHW along the inner margin there are hairy androconia.

Comments: This is the smallest Fritillary. Widespread but usually uncommon in a variety of habitats, cafetales, mesic, xeric, and pine forests. We believe that is heavily conditioned by the rains. For many years we have not seen a specimen

and unexpectedly it swarmed during June 2015 after a very strong wet season. On the contrary, no specimens were seen during June 2018, after 4 months of a very dry season.

Atlantea HIGGINS, [1959]

Lepid. News **12** (5-6): 162, TS: *Synchlœ perezi* HERRICH-SCHÄFFER, 1862.

Atlantea cryptadia SOMMER & SCHWARTZ, 1980

Bull. Allyn Mus. **58**: 2, TL: Haiti: Departement de L'Ouest: Boutilliers Road, 734-857 m.

Distribution: Hispaniola.

Adult Characteristics: ♂ UP orange with black margins. FW a row of orange spots in dark marginal band. HW Black border with round orange spots, similar to the FW ground colour, in Cu1 and Cu2, and a spot in M3. Cu1 also contains a basal black spot and a discal black spot. UNFW as UP with black bar on inner margin. HW with broad discal band of pale yellow spots, and smaller white spots on the costa, inner margin, and basally. Postdiscal row of round orange spots. Marginal row of fine white crescents.

♂ genitalia most like those of the Puerto Rican *A. tulita* DEWITZ, 1877 except that: 1) the dorsal lobes of the uncus are broader and more lobate, 2) the inner process of the valva is not so massive, but slightly longer, and 3) the dorsal process of the valva is relatively longer and a bit more heavily toothed.

♀ darker. All the spots on both wings whitish. UPFW a series of postdiscal white dots; four spots beyond the cell; a white bar in the cell UPHWs A large spot in the cell. A band of white discal spots. A series of red postdiscal spots. Underside as upperside but lighter. Marginal row of fine white crescents.

Comments: The endemic Antillean nymphalid genus *Atlantea* has been known to occur on three of the four Greater Antillean islands, each with its own endemic species: *perezi* HERRICH-SCHÄFFER, 1862 (Cuba), *tulita* DEWITZ, 1877 (Puerto Rico), and *pantoni* KAYE, 1906 (Jamaica). RILEY (1975: 78) noted that butterflies of this genus might well occur on the island of Hispaniola. In fact, SOMMER & SCHWARTZ (1980) described the new species *Atlantea cryptadia* from Haiti. At the time of the description, the unique HT was known but there was another specimen recorded by MARIÓN (1978) from Bonao, Loma de La Quimbamba, Monseñor Nouel Province.

The other *Atlantea* species which occur in the Greater Antilles are considered by some authors conspecific. Indeed, they are vicariant and the Hispaniolan representative known on only few specimens. BROWN (1978) suggested that *Atlantea* might well be a representative of a group of butterflies that represent a very old invasion of America and the Antillean region, and that this group might also re-enforce ocean-bottom spreading and continental drift. According to SCOTT (1986a) the Antillean *Atlantea perezi*, *pantoni*, *tulita*, and *cryptadia* are treated as ssp. of *perezi* because they seem to represent one phyletic line, although they look somewhat different. If *perezi* and *pantoni* are treated as species, then *cryptadia* should still be considered a ssp. of *tulita*. Indeed, as SOMMER & SCHWARTZ (1980) reported that: “*Atlantea cryptadia* resembles *A. tulita*, but differs in several respects as follow. The forewing is shorter and wider with but one row of orange spots in the marginal band compared with two rows in *A. tulita*. The upperside of the hindwing differs in the absence of submedian and postmedian concentric black bands. The dark margin is much narrower with orange spots found only in interspaces Cu1, Cu2, and in M3. Interspace Cu2 shows a basal black spot and a discal black spot. UNFW generally paler than that of *A. tulita* with a black bar on the inner margin. UNHW differs in that the basal white spots extend along the costa and inner margin, in contrast to their greater restriction to the basal area and spare extension along the costa and inner margin in *A. tulita*. The postdiscal row of round spots is orange in *A. cryptadia* and brick red in *A. tulita*. The habitat where the Haitian specimen was found was rich in flowers, including *Lantana*, *Daucus*, and *Stachytarpheta*, all extremely attractive to a wide variety and very large numbers of butterflies. *Atlantea cryptadia* was taken along with a number of other species which are basically orange and- black or orange-and-brown (as is *A. cryptadia*) and as such was not identified until the insect was spread”.

K. S. BROWN, JR. (1989, 1990) found the species at Constanza during July 1989-1990. ANDERSON (2005) reported the preimaginal stages of this species from la Loma Sierra Prieta, Villa Mella, Prov. Santo Domingo. WAHLBERG & PEÑA (2007) discussed its presence at Jarabacoa (LV). Apparently a very scarce and local species perhaps linked to karst habitats.

Anthanassa SCUDDER, 1875

Bull. Buffalo Soc. Nat. Sci. **2** (4): 239, 268, no. 54. TS: *Melitea texana* EDWARDS, 1863, Proc. Ent. Soc. Philad. **2** (2): 81, no. 5, by designation of I.C.Z.N. Opinion 839; the same Opinion placed *Anthanassa* on the Official List of Generic Names in Zoology as name no. 1780.

Anthanassa frisia frisia (POEY, 1832)

Melitea [sic!] *Frisia* POEY, 1832, Cent. Lépid. Cuba **1**: [5-6], [no. 2]; pl. [2], figs [1] ♀ vent., [2] ♀ dors., [3] ♂ vent.

TL: “Cuba...côte du Nord”, Types: ST (#7799) in ANSP.

Distribution: S Florida, N Bahamas, Cuba, Jamaica, Hispaniola.

Adult Characteristics: Sexes similar. UP wings light brown. UPFW irregular black markings those on HWs shaped in parallel sinuate lines. UNFW with postdiscal black markings.

Comments: Distributed on the SW part of Hispaniola (only 1 record from Rio Cumayasa, La Romana in the East of the island), it is locally common but strongly seasonal. It occurs in a variety of habitats. We found it at 1500 m at Los Arroyos (PD) in pine forests, an unusual altitude given that this species is bound to lower altitudes.

Subfamily *Charaxinae* GUENÉE, 1865

In VINSON, Voy. Madag. Annex F: 28 (as “Charaxidae”). Genus type: *Charaxes* OCHSENHEIMER, 1816, Schmett. Europa **4**: 18. As PELHAM (2008, 2012) noted Opinion 577 placed *Charaxes* on the Official List of Generic Names in Zoology as name no. 1386. The same Opinion placed *Charaxinae* DOHERTY, 1886, J. asiat. Soc. Bengal **55**, Pt. II (2): 109, on

the Official List of Family-group Names in Zoology as name no. 284, Charaxei Wheeler, 1903, Butterflies Switz.: 99, 149, and Charaxidae Aurivillius, 1911, in Seitz, Grossschmett. Erde **13** (107): 122 (as incorrect subsequent spellings) on the Official Index of Rejected and Invalid Family-Group Names in Zoology as names no. 321 and 322, respectively. The family-group as proposed by Guénée antedates Doherty's name and requires an application to the I.C.Z.N. to correct the Official List.

Tribe Preponini Rydon, 1971

Ent. Rec. **83** (8): 232; (10): 310 (as "*Preponinae*"); (10): 313 (as "*Preponini*"), 314 (as "*Preponina*"). Genus type: *Prepona* Boisduval, 1836, Spec. gén. Lépid. **1**: pl. 7 [=3B].

Archaeoprepona Fruhstorfer, 1915

Ent. Rundsch. **32** (8): 45. TS: *Papilio demophon* Linnaeus, 1758, Syst. Nat. (ed. 10) **1**: 464, no. 36, by original designation. = *Pseudoprepona* Le Moult, 1932, Novit. Ent. **2** (suppl. 1): vii. TS: *Papilio demophon* Linnaeus, 1758, Syst. Nat. (ed. 10) **1**: 464, no. 36, by original designation. A junior objective synonym of *Archaeoprepona* Fruhstorfer, 1915.

Archaeoprepona demophoon (Hübner, [1814])

Potamis demophoon Hübner, [1814], Samml. exot. Schmett. **1**: pl. 69, fig. 1-2; TL ["Surinam Amazonas"].

Archaeoprepona demophoon insulicola (Fruhstorfer, 1897)

Prepona insulicola Fruhstorfer, 1897, Ent. Nachr. **23** (14): 222, TL: "St Domingo, West Indies...Cuba"; Types: 2 ♀, St Domingo, West Indies, in BMNH; 1 ♂, Cuba in coll. Fruhstorfer.

= *Prepona* (*Archaeoprepona*) *antimache ilmatar* Fruhstorfer, 1916, in Seitz, Grossschmett. Erde **5**: 555; TL: Trinidad (Port of Spain).

= *Archaeoprepona demophoon ramosorum* Johnson & Descimon, 1989, Carib. J. Sci. **25**: 45-53; TL: Puerto Rico, Lago Guajataca.

Distribution: Cuba, Hispaniola, Puerto Rico.

Adult Characteristics: ♂ UPFW black with green band not extending above vein 3. UPHW a short green band filling half of space 2. UN wings grayish with irregular lines and a series of premarginal black dots pupilled with blue. ♀ similar but without hair pencils at UPHW base of inner margin.

Comments: Commonly reported as *P. amphitoë* Godart, 1823. Larger than Cuban subspecies, and the FW subapical spots better developed than in Puerto Rican populations. Widespread but more common in the Dominican Republic than in Haiti. It occurs in forested areas from sea level up to 1000 m. It can be seen feeding on rotten mangos together with *Anaea troglodyta*, *Historis odius* and *Asterocampa idyia* in the Sierra de Bahoruco.

Tribe Anaeini Reuter, 1896

Acta Soc. Sci. fenn. **22** (1): 515, 555, 557 (as "*Anaeidi*"). Genus type: *Anaea* Hübner, [1819], Verz. bekannt. Schmett. (3): 48.

Anaea Hübner, [1819]

Verz. bekannt. Schmett. (3): 48. TS: *Papilio troglodyta* Fabricius, 1775, Syst. Ent.: 502, no. 250, designation by Scudder (1875: 111, no. 71).

Anaea troglodyta (Fabricius, 1775)

P[apilio]. N[ymphalis]. P[halerata]. Troglodyta Fabricius, 1775, Syst. Ent.: 502, no. 250. TL: "America"; defined as "Hispaniola" by Johnson & Comstock (1941); Types: LT in ZMUC, designated by Wetherbee (1991c: 14).

Distribution: Hispaniola.

Adult Characteristics: ♂ UPFW dull reddish ♀ lighter with wide postdiscal yellowish band. UN wings cryptic greyish pattern in both sexes, lighter in the ♀.

Comments: Widespread and fairly common in the western part of the island. It is found especially in lowland xeric woods, and attracted to rotten fruits. The various related taxa found in the remaining Antilles are considered subspecies of *A. troglodyta*.

Fountainea Rydon, 1971

Ent. Rec. & J. Var. **83** (11): 339. TS: *Anaea phidile* Geyer, 1837, in: Hübner, Zutr. Samml. Exot. Schmett. **5**: pl. [156], figs 905, 906; 27, no. 453, by original designation.

Fountainea johnsoni (Avinoff & Shoumatoff, 1941)

Anaea glycerium johnsoni Avinoff & Shoumatoff, 1941, Ann. Carnegie Mus. **28**: 313; TL: Cave River, Jamaica, British West Indies. Types: A ST series of 6 specimens in the original descriptions. Comstock (1961) reported: HT ♂, Cave River, Jamaica, British West Indies, July, 30, 1936. AT ♀, Coleyville, Manchester, Jamaica, British West Indies, July, 27, 1933; PTs: ♀, Coleyville, Manchester, Jamaica, British West Indies, July, 27, 1933, 1 ♂, same data but July, 29, 1933; 2 ♂♂, 1 ♀, Cave River, Jamaica, British West Indies, August, 11, 1936; 1 ♂, Jamaica, British West Indies. In coll. CMNH.

Distribution: Jamaica, Hispaniola.

Adult Characteristics: UP wings ♂ brick red, ♀ lighter and yellowish. UPFW with irregular black bar across the upper part of the cell. UN wings greyish and cryptic.

Comments: Since its description this species was considered endemic to Jamaica. It is often considered a subspecies of the continental *Fountainea glycerium* Doubleday, [1849]. Riley (1975) reported on a specimen found by John Coutsis in Haiti, at Boutillier. It was suggested to be a vagrant from Jamaica. Later, Schwartz (1983a) collected 2 specimens at Boutillier Road (OU) during July and August 1979, and Coutsis (1983) reported on the same specimen of Riley

(1975). SCHWARTZ (1983a) also reported it from Obléon, 0.5 km NE, 1617-1678 m (OU) in “grassy and flowery field along road in pines”.

In the Dominican Republic it was reported from El Número (AZ) by MARIÓN (1980a), and SCHWARTZ (1989a: 368-370) did not see any specimen from El Número but collected 7 specimens at Peralta, 5 km S (AZ), and 4 specimens at Vallejuelo, 9 Km SE (SJ).

We only saw 1 ♂ at km 21 of the Sierra de Baboruco 650 m, but we collected 10 ♂♂, 1 ♀, 3 km SE Vallejuelo during June 2017. According to SCHWARTZ (1989a) specimens from Hispaniola and Jamaica are identical.

***Memphis* HÜBNER, [1819]**

Verz. bekannt. Schmett. (3): 48. TS: *Papilio odilia* STOLL, 1780, Uitl. Kapellen 4 (28): 79, pl. 329, figs. C, D; (34): 251 (index) (= *Papilio polycarmes* FABRICIUS, 1775, Syst. Ent. 484, no. 181), by original designation. As first reviser, KIRBY (1871), Syn. Cat. diurn. Lepid.: 276, accorded precedence to *Anaea* over *Memphis*.

***Memphis verticordia* (HÜBNER, 1824)**

Anaea verticordia HÜBNER, 1824, Zuträge Samml. exot. Schmett. 3: pl. 97, figs 559-560, TL: “Havanna” [Haiti, see GODMAN & SALVIN, 1884, Proc. Zool. Soc. London 1884: 314]

Distribution: Hispaniola.

Adult Characteristics: An unmistakable endemic species. UPFW brown with apical and subapical areas black with 5 yellowish spots. UPHW with a row of 3-4 small ocellar spots from anal angle to the base of the tail. UN wings cryptic with a variable greyish pattern.

Comments: Although found in a few localities only in the SW part of Hispaniola, it may be at times abundant, from sea level to 1500 m in xeric or mesic forests.

***Siderone* HÜBNER, [1823]**

Samml. exot. Schmett. 2: pl. [56], TS: *Siderone ide* HÜBNER, [1823].

Siderone BOISDUVAL, [1836], Hist. nat. Ins., Spec. gén. Lépid. 1: pl. 8 [= pl. B], fig. 1, TS: *Siderone ide* HÜBNER, [1823].

***Siderone galanthis* (CRAMER, [1775])**

Papilio galanthis CRAMER, [1775], Uitl. Kapellen 1 (1-7): 39, pl. 25, f. D, E; TL: Surinam.

***Siderone galanthis nemesis* ILLIGER, [1801]**

Papilio Nobilis Nemesis ILLIGER, [1801], Mag. Insektenk. (Illiger) 1: 203, TL: Insel St. Domingo.

Distribution: Cuba, Hispaniola, Puerto Rico.

Adult Characteristics: The Antillean populations namely the ssp. *nemesis* differ from the nominate subspecies for the reduction of the UPHW red discal band reduced to a small square red spot. UN wings with a mimetic “leaf” pattern.

Comments: Very scarce and uncommon in scattered localities in lowland wooded areas. We found it at Boca de Yuma (LA).

Subfamily Satyrinae BOISDUVAL, [1833]

Icon. Hist. Lépid. Europ. 1 (12): 128 (as “Satyrides”). Genus type: *Satyrus* LATREILLE, 1810, Consid. gén. Anim. Crust. Arach. Ins.: 355, 440. As PELHAM (2008) noted I.C.Z.N. Direction 99 placed Satyridae on the Official List of Family-Group Names in Zoology as name no. 226; the same Direction placed Satyrides on the Official Index of Rejected and Invalid Family-Group Names in Zoology as name no. 264. I.C.Z.N. Opinion 142 placed *Satyrus* on the Official List of Generic Names in Zoology as name no. 596. The family-group name Hipparchiinae SWAINSON, 1820, Zool. Illustr. (1) 1 (1): pl. 11, [unnumbered text], is senior to Satyrinae. Code Article 23.2 clearly states that if the application of the Principle of Priority disturbs stability or universality and causes confusion that existing usage is to be maintained. The long and consistent use of Satyridae overwhelms priority, and the traditional listing is maintained.

Tribe Satyrini BOISDUVAL, [1833]

Subtribe Pronophilina REUTER, 1896

Acta Soc. Sci. fenn. 22 (1): 371 (as Pronophilidi) Genus type: *Steroma* WESTWOOD, [1850] In DOUBLEDAY, Gen. diurn. Lep. 2: pl 66, f 6. TS: *Steroma bega* WESTWOOD, [1850] In DOUBLEDAY, Gen. diurn. Lep. 2: pl 66, fig. 6 by monotypy. It is still debated whether the genus *Calisto* belongs to this subtribe (see VILORIA, 2007; PYRCZ, 2010; MATOS-MARAVI et al. 2014).

***Calisto* HÜBNER, 1823**

Zuträge Samml. exot. Schmett. 2: 16; TS: *Papilio zangis* FABRICIUS, 1775, Syst. Ent.: 486 (designation by BUTLER, 1868, Ent. Month. Mag. 4:194).

This taxon is endemic to the Caribbeans. A single species is known from Jamaica, one on Puerto Rico, two species on the Bahama Islands, one on Anegada, and 11 from Cuba according to the arrangements by NÚÑEZ et al. (2012, 2013) based on DNA data. JOHNSON & HEDGES (1998) reported that Hispaniola, with 36 of the 42 known species of *Calisto* - at that time - is the center of species diversity for this satyrid genus. SMITH et al. (1994) listed 56 named taxa and LAMAS et al. (2004) 54 for the Caribbeans.

Regarding *Calisto*, MUNROE (1951a: 231) stated: “The differences in sex scaling and particularly in the structure of the ♂ genitalia among some of the species are profound. The genitalia differences are especially striking in view of the uniformity of these organs in most of the remainder of the Satyrinae. No doubt some workers would wish to emphasize these differences by making *arcas*, *pulchella*, *nubila*, *eleleus*, and *zangis* the types of monotypic genera, and proposing a new name for the genitally more homogeneous remainder. The genus as here understood, however, is undoubtedly monophyletic, is reasonably constant in external structure, and forms a compact ecological and zoogeographic unit.”

In Fig. 61 the scheme of the wing venation and androconial systems of *Calisto chrysaoros* BATES, 1935 is depicted.

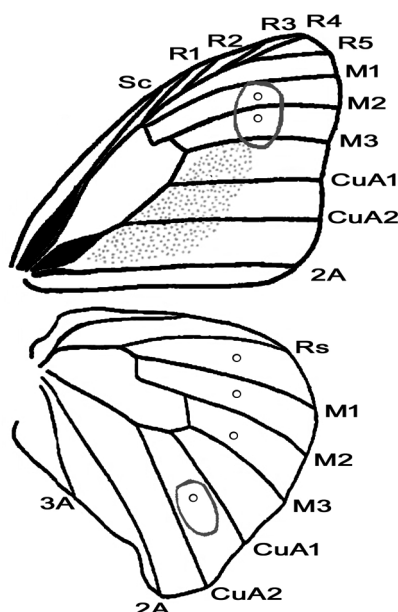


Fig. 61: UPFW and UNHW, respectively, *Calisto chrysaoros* BATES, 1935. - Wing venation, androconial systems, and ocelli. Abbreviations: M1– median vein 1, M2– median vein 2, M3– median vein 3, Cu1– cubital vein 1, Cu2– cubital vein 2, Rs–R1-R5 radial sector ; Sc – subcosta.

In the past, *Calisto* has had the attention of several authors (LATHY, 1899; BATES, 1935b; MICHENER, 1943; MONROE, 1951a; LIEBHERR, 1988b; HEDGES & JOHNSON, 1994; JOHNSON & MATUSIK, 1987; JOHNSON et al. 1987; JOHNSON & HEDGES, 1998), and more recently of SCHWARTZ and colleagues (GALI, WETHERBEE, GONZÁLEZ, SOMMER, JIMENEZ, HENDERSON, etc). In the last decades all this information was condensed in SCHWARTZ's (1989a) book who gathered all the data available up to that time on *Calisto*. After this, the most impressive contribution lies on the faunistic list by SCHWARTZ & WETHERBEE (1996) derived from extensive field research along the Lamedero Massif. These authors illustrated the *Calisto* species composition of the western part of the Cordillera Central. They suggested a classification according to the first BATES's (1935b) arrangement. The all then-known *Calisto* (15 species including those from Puerto Rico, Jamaica, and Cuba) were divided into two sections. "Section I included two groups: the *archebates* group (which is Hispaniolan), and the *arcas* group which includes only *C. arcas*. Section II had six groups of which three (*hysius*, *eleleus*, and *pulchella* occur on Hispaniola. Of these latter three groups, the *eleleus* and *pulchella* groups each contain one species. Indeed, the arrangement by BATES (1935b) is somewhat diverse. The *arcas* group of Section I is not mentioned.

According to SCHWARTZ & WETHERBEE (1996) in the western Cordillera occur the following species: two species of the *archebates* group, *C. wetherbeeii* and *C. galii*, the former was known only from the extreme isolate Loma Nalga de Maco and, recently reported also from the Ebano Verde Reserva Científica (LV); the latter is widespread wherever there is the high altitude "tibisi" hanging grass. Of the *arcas* group, the only included species, *C. arcas* is found in the Lamedero Massif at high elevations. *Calisto pulchella* (*pulchella* group) and *C. eleleus* (*eleleus* group) occur in the Lamedero Massif, but the second is perhaps a "recent" invader from the mountains (Massif de la Selle, Sierra de Bahoruco) south of the Plaine de Cul de Sac-Valle de Neiba. All the other species belong to the *hysius* group which contains most Hispaniolan *Calisto*. Subgroup A, Series A includes *C. batesi* (widespread) and *C. aleucosticha* (uncommon and local). Series B includes biocellate members (*C. phoinix*, *C. amazona*, *C. dystacta*, *C. micheneri*). Series C includes *C. neochma*, whose relatives occur in the uplands of the Sierra de Neiba (*C. clydoniata*), and the Massif de la Selle (*C. clenchi*). Subgroup B includes a group of species (Series A) brightly coloured ventrally and associated with bunch or tussocky grasses. To this group belongs *C. tasajera*. Series B includes two widely distributed species namely *C. confusa* and *C. obscura*. The Lamedero Massif includes examples of all of the principal groups of Hispaniolan *Calisto*. No other geographic area on Hispaniola has such a rich, and diverse *Calisto* fauna. More recently, PÉREZ-GELABERT et al. (2011) surveying the Lepidoptera fauna of Nalga de Maco reported only 5 species of *Calisto*. A scheme of *Calisto* classifications according to various authors is given in Tab.2.

♂ genitalia often do not show clear-cut differences so as to distinguish among several taxa, especially those that are diverged recently. See SCHWARTZ & GALI (1984) and GALI (1985) for the *lyceus*-lineage, or GONZÁLEZ (1987) for the *grannus* lineage. However, an important tool on the classification of *Calisto* lies on ♀ genitalia. JOHNSON et al. (1987) figured ♀ genitalia of 22 Hispaniolan species. JOHNSON & HEDGES (1988) figured the ♀ genitalia of *C. pauli*, the Cuban complexes of *C. herophile* and *C. sybilla*, *C. hysius*, *C. thomasi*, and *C. debarriera*. Other ♀ genitalia were figured by PÉREZ - ASSO et al. (2016). For terminology of ♂ genitalia see fig. 62.

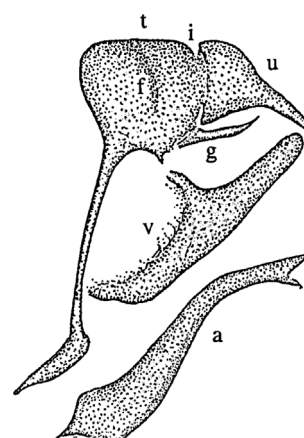


Fig. 62: Terminology of ♂ genitalia - t = tegumen; f = folds along tegumen; i = incised juncture between tegumen and uncus; u = uncus; g = ghathos; v = valve; a = aedeagus. *Satyrus hysius*, ♂ NT (modified after JOHNSON & HEDGES, 1998: fig. 3A).

Tab. 2: Hispaniolan *Calisto* status according to different authors' classifications. - in alphabetical order.

Hispaniolan <i>Calisto</i> taxa (in alphabetical order)	SCHWARTZ (1989a)	SMITH & al. (1994)	SOURAKOV & ZAKHAROV (2011)	MATOS-MARAVÍ et al. (2014)	PÉREZ-ASSO et al. (2016). NUÑEZ et al (2017)
<i>Calisto ainigma</i> Johnson, QUINTER & MATUSIK, 1987	<i>Calisto ainigma</i>	<i>Calisto ainigma</i>		Related to <i>eleleus</i>	
<i>Calisto aleucosticha</i> CORREA & SCHWARTZ, 1986	<i>Calisto aleucosticha</i>	<i>Calisto aleucosticha</i>	<i>Calisto hysius aleucosticha</i>	ssp. of <i>hysius</i>	
<i>Calisto amazona</i> GONZÁLEZ, 1987	<i>Calisto amazona</i>	<i>Calisto amazona</i>	<i>Calisto grannus amazona</i>	ssp. of <i>grannus</i>	
<i>Calisto arcas</i> M. BATES, 1939	<i>Calisto arcas</i>	<i>Calisto arcas</i>	<i>Calisto arcas</i>	Incertae sedis	
<i>Calisto archebates</i> MÉNÉTRIÉS, 1832	<i>Calisto archebates</i>	<i>Calisto archebates</i>	<i>Calisto archebates</i>	Incertae sedis	
<i>Calisto azua</i> PÉREZ-ASSO, NUÑEZ & GENARO, 2016					<i>lyceius</i> -complex
<i>Calisto barahona</i> PÉREZ-ASSO, NUÑEZ & GENARO, 2017					
<i>Calisto batesi</i> MICHENER, 1943	<i>Calisto batesi</i>	<i>Calisto batesi</i>		<i>confusus-hysius</i> clade	
<i>Calisto clenchi</i> SCHWARTZ & GALI, 1984	<i>Calisto clenchi</i>	<i>Calisto clenchi</i>		<i>chrysaoros</i> clade	= <i>chrysaoros galii</i>
<i>Calisto clydoniata</i> SCHWARTZ & GALI, 1984	<i>Calisto clydoniata</i>	<i>Calisto clydoniata</i>		<i>chrysaoros</i> clade	
<i>Calisto chrysaoros</i> M. BATES, 1935	<i>Calisto chrysaoros</i>	<i>Calisto chrysaoros</i>	<i>Calisto chrysaoros</i>	<i>chrysaoros</i> clade	
<i>Calisto confusa</i> LATHY, 1899	<i>Calisto confusa</i>	<i>Calisto confusa</i>		<i>confusus-hysius</i> clade	
<i>Calisto debarriera</i> CLENCH, 1943	<i>Calisto debarriera</i>	<i>Calisto confusa debarriera</i>	<i>Calisto debarriera</i>	<i>confusus-hysius</i> clade	
<i>Calisto crypta</i> GALI, 1985	<i>Calisto crypta</i>	<i>Calisto crypta</i>		<i>lyceius</i> clade	
<i>Calisto dystacta</i> GONZÁLEZ, 1987	<i>Calisto dystacta</i>	<i>Calisto dystacta</i>	<i>Calisto grannus dystacta</i>	<i>Calisto grannus dystacta</i>	
<i>Calisto eleleus</i> M. BATES, 1935	<i>Calisto elelea</i>	<i>Calisto eleleus</i>	<i>Calisto eleleus</i>	Incertae sedis	
<i>Calisto franciscoi</i> GALI, 1985	<i>Calisto franciscoi</i>	<i>Calisto franciscoi</i>	<i>Calisto franciscoi</i>	<i>lyceius</i> clade	
<i>Calisto galii</i> SCHWARTZ, 1983	<i>Calisto galii</i>	<i>Calisto galii</i>		<i>chrysaoros</i> clade	a ssp. of <i>chrysaoros</i>
<i>Calisto [galii] choneupsilon</i> SCHWARTZ, 1985	<i>Calisto [galii] choneupsilon</i>	<i>Calisto [galii] choneupsilon</i>		ssp. of <i>galii</i>	= <i>chrysaoros galii</i>
<i>Calisto gonzalezi</i> SCHWARTZ, 1988	<i>Calisto gonzalezi</i>	<i>Calisto gonzalezi</i>	<i>Calisto debarriera</i>	Related to [= <i>debarriera</i>]	
<i>Calisto grannus</i> M. BATES, 1939	<i>Calisto grannus</i>	<i>Calisto grannus</i>	<i>Calisto grannus</i>	<i>confusus-hysius</i> clade	
<i>Calisto grannus dilemma</i> GONZÁLEZ, 1987	<i>Calisto grannus dilemma</i>	<i>Calisto grannus dilemma</i>	<i>Calisto grannus dilemma</i>	<i>confusus-hysius</i> clade	
<i>C. hendersoni</i> GALI, 1985	<i>C. hendersoni</i>	<i>C. hendersoni</i>		= <i>C. franciscoi</i>	
<i>Calisto hysius</i> (GODART, [1824])	<i>Calisto hysia</i>	<i>Calisto hysius</i>	<i>Calisto hysius</i>	<i>confusus-hysius</i> clade	
<i>Calisto loxias</i> BATES, 1935	<i>Calisto loxias</i>	<i>Calisto loxias</i>		<i>confusus-hysius</i> clade	
<i>Calisto lyceius</i> M. BATES, 1935	<i>Calisto lyceia</i>	<i>Calisto lyceius</i>	<i>Calisto lyceius</i>	<i>lyceius</i> clade	
<i>Calisto mariposa</i> PÉREZ-ASSO, NUÑEZ & GENARO, 2016					<i>lyceius</i> -complex
<i>Calisto micheneri</i> CLENCH, 1944	<i>Calisto micheneri</i>	<i>Calisto micheneri</i>	<i>Calisto grannus micheneri</i>	ssp. of <i>grannus</i>	
<i>Calisto micrommata</i> SCHWARTZ & GALI, 1984	<i>Calisto micrommata</i>	<i>Calisto micrommata</i>	<i>Calisto grannus micrommata</i>	ssp. of <i>grannus</i>	
<i>Calisto montana</i> CLENCH, 1943	<i>Calisto montana</i>	<i>Calisto montana</i>	<i>Calisto debarriera</i>	<i>confusus</i> -clade	
<i>Calisto neiba</i> SCHWARTZ & GALI, 1984	<i>Calisto neiba</i>	<i>Calisto neiba</i>	<i>Calisto debarriera</i>	<i>Calisto debarriera</i>	
<i>Calisto neochma</i> SCHWARTZ, 1991	<i>Calisto neochma</i>	<i>Calisto neochma</i>		related to <i>clydoniata</i>	
<i>Calisto obscura</i> MICHENER, 1943	<i>Calisto obscura</i>	<i>Calisto obscura</i>		<i>confusus-hysius</i> clade	
<i>Calisto pauli</i> JOHNSON & HEDGES, 1998	<i>Calisto pauli</i>			related to <i>hysius</i>	
<i>Calisto phoinix</i> GONZÁLEZ, 1987	<i>Calisto phoinix</i>	<i>Calisto phoinix</i>	<i>Calisto grannus phoinix</i>	ssp. of <i>C. grannus</i>	

<i>Calisto pulchella</i> LATHY, 1899	<i>Calisto pulchella</i>	<i>Calisto pulchella</i>	<i>Calisto pulchella</i>	lyceius clade	
<i>Calisto pulchella darlingtoni</i> CLENCH, 1943	<i>Calisto pulchella darlingtoni</i>	<i>Calisto pulchella darlingtoni</i>	<i>Calisto pulchella darlingtoni</i> (sp.? ssp.?)	lyceius clade	= <i>C. pulchella</i>
<i>Calisto raburni</i> GALI, 1985	<i>Calisto raburni</i>	<i>Calisto raburni</i>	<i>Calisto raburni</i>	lyceius clade	
<i>Calisto samana</i> PÉREZ-ASSO, NÚÑEZ & GENARO, 2016					lyceius-complex
<i>Calisto schwartzi</i> GALI, 1985	<i>Calisto schwartzi</i>	<i>Calisto schwartzi</i>		lyceius clade	
<i>Calisto sommeri</i> SCHWARTZ & GALI, 1984	<i>Calisto sommeri</i>	<i>Calisto sommeri</i>	<i>Calisto grannus sommeri</i>	ssp. of <i>grannus</i>	
<i>Calisto tasajera</i> GONZÁLEZ, SCHWARTZ & WETHERBEE, 1991	<i>Calisto tasajera</i>	<i>Calisto tasajera</i>	<i>Calisto tasajera</i>	lyceius clade	
<i>Calisto thomasi</i> JOHNSON & HEDGES, 1998				related to <i>confusa</i>	
<i>Calisto tragius</i> BATES, 1935	<i>Calisto tragia</i>	<i>Calisto tragius</i>		related to <i>eleleus</i>	
<i>Calisto victori</i> PÉREZ-ASSO, NÚÑEZ & GENARO, 2016					lyceius-complex
<i>Calisto wetherbeeii</i> SCHWARTZ & GONZALES, 1988	<i>Calisto wetherbeeii</i>	<i>Calisto wetherbeeii</i>		related to <i>archebates</i>	
<i>Calisto woodsi</i> JOHNSON & HEDGES, 1998				related to <i>thomasi</i>	

As JOHNSON & HEDGES (1998) reported, in 1991 after the publication of ALBERT SCHWARTZ's Butterflies of Hispaniola (1989a), HEDGES forwarded to SCHWARTZ specimens of *Calisto* collected in the Parc Nacional Pic Macaya ("Macaya"), in the Masif de la Hotte at the western end of the Tiburón peninsula in southwestern Haiti. SCHWARTZ noted that some of the specimens represented a new species of *Calisto*. Following new material from Haiti (including collections of the Carnegie Museum of Natural History, CMNH), JOHNSON & HEDGES (1998) described *C. thomasi*, *C. pauli*, *C. woodsi*, and the NT of *Satyrus hysius* was designated.

In the meantime, the book by SMITH et al. (1994) treating all the species occurring in the Caribbean saw the light. SOURAKOV & ZAKHAROV (2011) critically commented upon the statements made in the book by SMITH et al. (1994) especially for the absence of many *Calisto*-key species and stressing the inconsistency of their typological approach which led to taxonomic confusion.

Moreover, they doubted on the correct identifications of many figures depicted by SMITH et al. (1994). For instance, the specimen figured as *C. micheneri* seems to be a taxon similar to *C. grannus dilemma* (sensu SOURAKOV & ZAKHAROV, 2011). Also, the unfigured *C. phoinix* and *C. dystacta* are considered conspecific to *C. grannus* by SOURAKOV & ZAKHAROV (2011). Indeed, the MP tree by SOURAKOV & ZAKHAROV (2011: Figs 2-4) shows three main clusters but not a so strongly support for several nodes (see Fig. 64 A herewith). The first cluster, rooted with the Andean pronophiline *Auca* HAYWARD, 1953 and *Eretris* THIEME, 1905 is sister to a clade which includes (*pulchella* + *raburni*); and *tasajera* is basal to (*crypta* + *lyceius* + *franciscoi*). The second cluster which is unresolved, identifies *arcas* basal to (*confusa* + (*neiba* + *debarriera*)) and four unresolved terminal taxa: *chrysaoros*, *eleleus*, *herophila* and *nubila* (these two latter extra-hispaniolan taxa). In the third cluster, *archebates* is basal to a clade which delineates two lineages A): *obscura* basal to a grouping which includes *grannus*, *dilemma*, *sommeri*, *phoinix*, *micheneri*, and *amazona*, all these taxa considered conspecific with *grannus*. B) *hysius* and *batesi* appear to be sister species.

Fig 63: 1, 2. *Calisto zangis* ♂, ♀; 3. *C. nubila* sp. nov. ♂; 4. *C. archebates* ♂; 5, 6. *C. pulchella* sp. nov. ♂, ♀; 7. *C. pulchella* ab. *tenebrosa*, ab. nov. ♀; 8, 9. *C. herophile*. ♂, ♀; 10, 1. *C. hysius* ♂, ♀; 12, 13. *G. confusa*, sp. nov. ♂, ♀ (after LATHY, 1899) (see page 18).

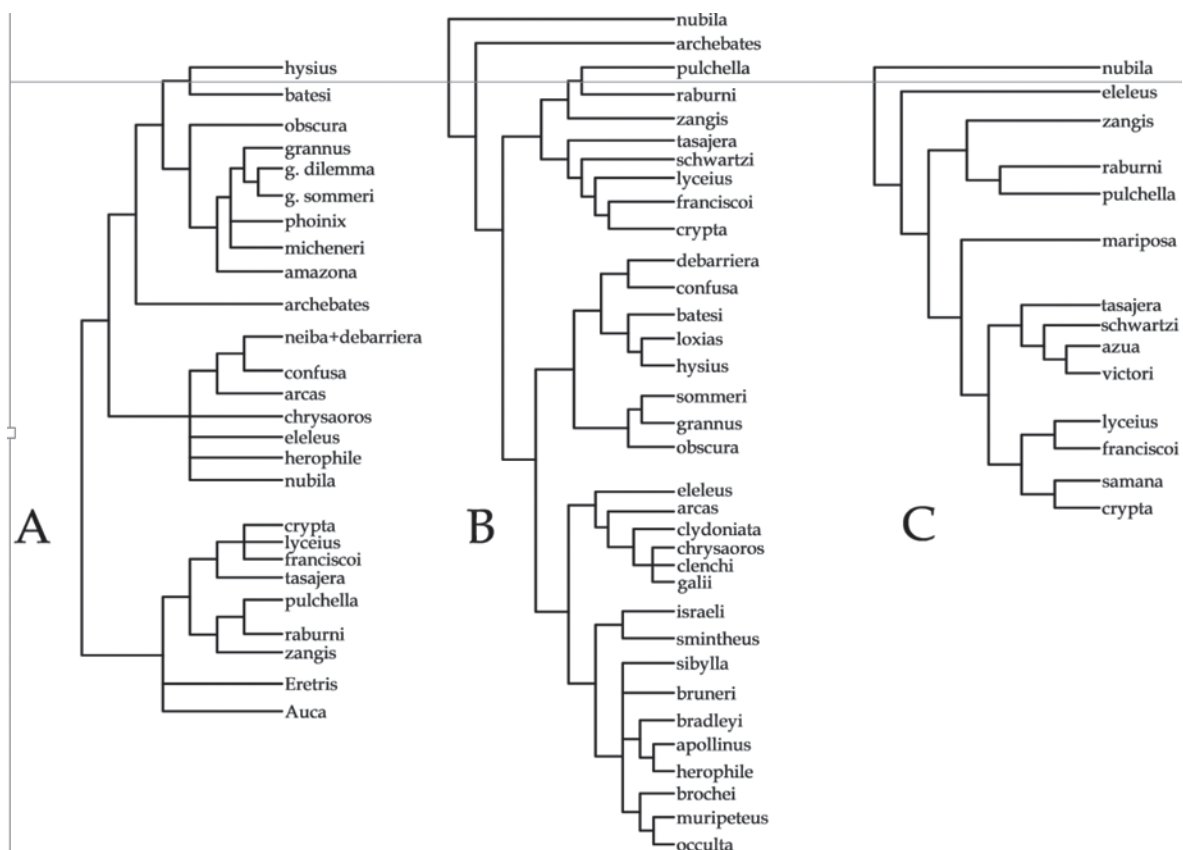


Fig 64: A - MP tree redrawn after SOURAKOV & ZAKHAROV (2011); B - MP tree redrawn after MATOS-MARAVI et al. (2014); C - MP tree for the *lyceius*-group redrawn after PÉREZ-ASSO et al. (2016).

SCHWARTZ & WETHERBEE (1996)
<i>C. aleucosticha</i>
<i>C. amazona</i>
<i>C. arcas</i>
<i>C. batesi</i>
<i>C. confusa</i>
<i>C. dystacta</i>
<i>C. eleleus</i>
<i>C. galii</i>
<i>C. micheneri</i>
<i>C. neochma</i>
<i>C. obscura</i>
<i>C. phoinix</i>
<i>C. pulchella darlingtoni</i>
<i>C. tasajera</i>
<i>C. wetherbeeii</i>

Tab. 3: SCHWARTZ & WETHERBEE's (1996) list of species present in the Lamadero Massif

<i>C. sommeri</i>	Sp. bona
<i>C. batesi</i>	Sp. bona
<i>C. archebates</i>	near <i>hysius</i>
<i>C. galii</i>	Sp. bona
<i>C. pulchella</i>	Sp. bona
<i>C. confusa confusa</i>	Sp. bona
<i>C. c. debarriera</i>	ssp. of <i>confusa</i>
<i>C. hysius</i>	Sp. bona
<i>C. grannus</i>	Sp. bona
<i>C. grannus dilemma</i>	Ssp. of <i>grannus</i>
<i>C. crypta</i>	Sp. bona
<i>C. nubila</i>	Sp. bona
<i>C. tasajera</i>	Sp. bona
<i>C. hendersoni</i>	synonym of <i>C. franciscoi</i>
<i>C. raburni</i>	Sp. bona
<i>C. lyceia</i>	Sp. bona
<i>C. schwartzi</i>	Sp. bona

Tab. 4: SOURAKOV's (1996, 2000) *Calisto* classification based on preimaginal stages and/or genitalia of a few taxa.

As noted above, SOURAKOV & EMMEL (1996a) and SOURAKOV (1996, 2000) studied also the preimaginal stages of many *Calisto* taxa (Tab. 4). SOURAKOV 's (1996) observations on *Calisto* support the view that characters of immature stages can recognize relationships among taxa which are obscured if based on adults patterns morphology only. For instance, *C. confusa* and *C. obscura* which were referred to by MUNROE (1951a) as a "compact group" based on wing pattern only, show significant differences in their immatures. *C. sommeri* and *C. batesi* which were considered by some author as subspecies of *C. grannus* and *C. hysius*, respectively, showed sufficient differences in their immature stage to consider them separate species. *C. archebates* appears to be close to *C. hysius*. The adults of *C. galii* and *C. pulchella* are extremely different from other Hispaniolan *Calisto*, ecologically as well as morphologically. Interestingly, *Calisto* are even more divergent in their immature stages than in their adults, and could be placed in separate genera (or subgenera) on the basis of these characters.

Like in the past, also most of the modern classifications of *Calisto* are typological such as those of SCHWARTZ (1989a), SMITH et al. (1994), SCHWARTZ & WETHERBEE (1996), and JOHNSON & HEDGES (1998) who added - as was noted above - three new species from Haiti. SOURAKOV (1996, 2000) revised some species basing on their preimaginal stages, and more recently on DNA barcoding (SOURAKOV & ZAKHAROV, 2011; NUÑEZ et al. 2012, 2013; MATOS-MARAVI et al. 2014; PÉREZ-ASSO et al. 2016. See Tabs 1-3, and Figs 64 A, B, C).

Particularly, the recent phylogenetic analysis by MATOS-MARAVI et al. (2014) of the whole genus *Calisto* showed (fig. 64 B) that the Cuban species derived from a vicariance process after the Hispaniola-Cuba split. Dispersal was the cause of the colonization of Jamaica and the Bahamas Islands. These authors recognized 44 species of *Calisto*, 28 of which occurring on Hispaniola.

Just recently, PÉREZ-ASSO et al. (2016) revised the *lyceius*-complex (see fig. 64 C) with the description of four new

species for Hispaniola. The topology of the tree according to PÉREZ-ASSO et al. (2016: fig. 106) mirrors that obtained by SOURAKOV & ZAKHAROV (2011). PÉREZ-ASSO et al. (2017) added a new species namely *Calisto bahoruco*. In the present paper 41 taxa of *Calisto* are reported including 7 subspecies within the *C. grannus* complex, and *C. hysius aleucosticha*. Two doubtful taxa *C. neochma* and *C. ainigma* are also included; two taxa, *montana* and *micheneri* which holotypes are quite faded, may represent specimens of *confusa* or *obscura*. *C. micheneri* is considered for the time being a subspecies of *C. grannus*. *C. "clenchi"* from Haiti is considered close to *C. clydoniata*. In tab. 2 is shown the Hispaniolan *Calisto* status according to different authors' classifications. NUÑEZ et al. (2012, 2013), MATOS-MARAVI et al. (2014), and PÉREZ-ASSO et al. (2016) all contributed in shaping the taxonomy and evolution of the taxon carrying out DNA barcoding analyses but we guess that new arrangements will be made in a near future when all the taxa will be arranged in one total evidence tree only. For completeness, we report the known hostplants of some *Calisto* species (Tab. 5). The *Calisto* species are arranged herewith as follows: *C. archebates* basal to *C. lyceius* and *hysius* lineages, *C. grannus* complex, and *C. chrysaoros* lineage.

Genus/Species	Hostplant (and source)
<i>Calisto</i> HUBNER	
<i>C. archebates</i> MÉNETRIÈS	<i>Isachne rigidifolia</i> URB. [association], reared on <i>Stenotaphrum secundatum</i> (WALT) KUNTZE (SOURAKOV, 1996)
<i>C. batesi</i> MICHENER	reared on <i>Cynodon dactylon</i> PERS., <i>Stenotaphrum secundatum</i> (SOURAKOV, 1996)
<i>C. chrysaoros</i> M. BATES	<i>Arthrostylidium</i> sp. (SMITH et al., 1994)
<i>C. confusa</i> LATHY	reared on <i>Cynodon dactylon</i> , <i>Stenotaphrum secundatum</i> (SOURAKOV, 1996)
<i>C. crypta</i> GALI	<i>Leptochloopsis virgata</i> (POIR.) YATES (WETHERBEE, 1988), <i>Uniola virgata</i> BARTR. ex SCHUT. (SOURAKOV, 2000)
<i>C. galii</i> SCHWARTZ	<i>Arthrostylidium</i> sp. (SOURAKOV, 1996)
<i>C. grannus grannus</i> M. BATES	reared on <i>Poa pratensis</i> L. (SOURAKOV & EMMEL, 1995)
<i>C. grannus dilemma</i> GONZÁLEZ	<i>Panicum xalapense</i> H. B. & K., reared on <i>C. dactylon</i> and <i>S. secundatum</i> (Sourakov, 1996)
<i>C. herophile</i> HIBNER	low grasses (ALAYO AND HERNANDEZ, 1987), <i>Saccharum officinarum</i> L., <i>Zea mays</i> L. (Dethier, 1940; RILEY, 1975; SMITH et al., 1994), reared on wire grass (SOURAKOV, unpubl.)
<i>C. hysius</i> (Godart)	reared on <i>C. dactylon</i> and <i>S. secundatum</i> (SOURAKOV, 1996)
<i>C. nubila</i> Lathy	reared on rye grass and others (SOURAKOV, 2000)
<i>C. obscura</i> Michener	<i>Bothriochloa pertusa</i> (BILLD.) MAIRE, <i>Solphio japonica</i> (?) (WETHERBEE, 1996)
<i>C. pulchella</i> Lathy	<i>S. officinarum</i> [secondary host] (RILEY, 1975; SCHWARTZ, 1989; SMITH et al., 1994; SOURAKOV, 1996, 2000)
<i>C. sibylla smintheus</i> M. BATES	Poaceae (ALAYO & HERNANDEZ, 1987)
<i>C. sommeri</i> Schwartz & Gali	reared on <i>C. dactylon</i> and <i>S. secundatum</i> (SOURAKOV, 1996)
<i>C. tasajera</i> González, Schwartz &	<i>Danthonia domingensis</i> HACKEL & PILGER (SOURAKOV, 2000)
<i>C. zangis</i> (Fabricius)	grasses, Bahama grass [= <i>Cynodon dactylon</i>] (RILEY, 1975); <i>Axonopus compressus</i> BEAUV. (BROWN & HEINEMAN, 1972; SMITH et al., 1994); <i>C. dactylon</i> (BROWN & HEINEMAN, 1972; RILEY, 1975; SMITH et al., 1994)

Tab. 5: Host plants records for some *Calisto* species (after VILORIA, 2007).

Calisto HÜBNER, 1823

Zuträge Samml. exot. Schmett. 2: 16, TS: *Papilio zangis* FABRICIUS, 1775, Syst. Ent.: 486 (designation by BUTLER, 1868, Ent. Monthly Mag. 4: 194).

Incertae sedis

BATES (1935b) diagnosed the *Archebates* group for the FW vein R1 arising very close to the end of the cell, while in all of the other species of the genus it arises at some distance beyond the end of the cell. The androconia in *C. loxias* and *C. archebates* have only one form of simple rods, which are arranged in compact bunches so that they resemble scales. The androconia of *C. chrysaoros* are larger, flattened, usually with a shallow terminal notch. ♂ genitalia: The uncus is short in *C. loxias* and *C. archebates*, strongly arched dorsally, and separated from the tegumen by a deep groove; in *C. chrysaoros* the uncus is longer, and the pre-tegumenal groove is comparatively broad and shallow. The side lobes are thin, spinelike; the valvae are simple. Three species were placed in this group other than *C. archebates*, *C. loxias* and *C. chrysaoros*. MUNROE (1951a) accepted this arrangement, and the three species, observing that *C. loxias* and *archebates* are geographically representative and resemble each other closely. They might be considered subspecies of a single species, but there are minor differences in the genitalia profiles. *C. chrysaoros* is much more distinct.

Calisto archebates (MÉNÉTRIÉS, 1832)

Satyris Archebates MÉNÉTRIÉS, 1832, Bull. soc. imp. Nat. Moscow 5: 313; TL: [“Haiti”].

Distribution: Massif de la Selle (Haiti-D. R.), W Sierra de Bahoruco, Dominican Republic.

Adult Characteristics: LFW ♂ 18-21 mm, ♀ 18-22 mm. UP wings very dark brown, paler in the ♀. ♂ UPFW with large androconial patch filling $\frac{2}{3}$ of the wings. UPHW with a characteristic broad transverse band expanding at the inner margin; yellow or orange in ♂♂, whitish in ♀♀. Small black ocellus in Cu1-Cu2 with 2 to 4 internervular small white dots anteriorly.

Comments: SCHWARTZ (1989a: 387) considered it as the vicariant of *C. loxias*, and it was placed into the *archebates* group, together with *C. loxias* and *C. chrysaoros* following BATES (1935b) and MUNROE (1951a) as noted above. The MP tree depicted by MATOS-MARAVÍ et al. (2014) shows *archebates* basal to all the other assayed *Calisto* taxa. The species is present in the southern Palaeoisland that is occurring in the Haitian uplands of the Massif de la Selle, and in Dominican Republic in the Sierra de Bahoruco, at Las Abejas and El Aguacate areas. These localities are quite diverse in habitat types. It is distributed from 1100 to almost 1900 m. TAKIZAWA et al. (2003) reported it from Loma de Toro at 1950 m. Preimaginal stages are close to those of *C. hysius* (SOURAKOV, 1996).

The *Calisto lyceius* lineage

In the past, the *lyceius* complex (sensu GALI, 1985) included seven species: *lyceius*, *crypta*, *franciscoi*, *hendersoni*, *tasajera*, *raburni* and *schwartzii*. These two latter taxa are differently related (see below). On the basis of the preimaginal stages SOURAKOV (2000) noted that the *lyceius* group (sensu auctorum) was artificial.

These species are characterized by an orange colouration and the presence of a single ocellus on the underside of both wings. All species are bound to low altitudes, approx. up to 600 m, and they are xerophilous except *C. schwartzii* which occurs in pine woods, and *C. tasajera* which is found at high elevations (2000-2800 m). As GALI (1985) observed ♂ genitalia profiles of *C. lyceius*, *C. franciscoi*, *C. hendersoni*, and *C. crypta* are essentially the same in characters, except for the size of the uncus. In these species, the uncus is strongly arched dorsally and separated from the tegumen by a small pretegumenal groove, like the *hysius* group. However, in *C. franciscoi* the uncus is elongate and proportional in size to the tegumen. *Calisto hendersoni* and *C. crypta* have much smaller unci in proportion to the tegumen. The aedoeagus is slender and bowed in *C. franciscoi* and in *C. hendersoni*. However, in *C. lyceius* the aedoeagus is thin, elongate, sinuate posteriorly, very different from those of the other species of the *Lyceius* complex. The valvae are simple and fairly broad toward the middle in all the species of the *lyceius* complex with the exception of *C. raburni* and *C. schwartzii*.

More recently, PÉREZ-ASSO et al. (2016) following morphology and COI barcode sequences proposed a cluster of species, and considered in the complex 11 species which are provisionally retained herein.

C. raburni and *C. pulchella* are sister species and are included in the *lyceius*-group together with the Jamaican *C. zangis*. Particularly, these authors depicted a tree (PÉREZ-ASSO et al. 2016: fig. 197) where [(*zangis* + (*raburni*+*pulchella*))] are sister to the “true” *lyceius* lineage. *C. mariposa* is basal to two main clusters: A [(*tasajera* + *schwartzii* + (*azua* + *victori*)), and B [(*lyceius*+ *franciscoi*) + (*crypta* + *samana*)]. Except the very distinct *C. pulchella*, all the other taxa show ♂ genitalia profiles similar together, especially for the tegumen and the uncus. Tentatively, we include *C. woodsi* and *C. pauli* in this lineage. They seem to be related to Cuban taxa as already noted by NÚÑEZ et al (2012: 101). However, the systematic position of *C. woodsi* and *C. pauli* is still fluid, and may belong to different clades such as those where *arcas*, *pulchella* and/or *chrysaoros* are concerned.

Immature stages of *C. pulchella* proved to be morphologically very distinct from the other *Calisto* species, supporting observations on the adults. Food plant records and observations on egg and first instar larval morphology are provided other than for *C. tasajera* also for *C. galii*, *C. schwartzii*, and *C. arcas* (SOURAKOV, 1996, 2000).

Calisto pulchella LATHY, 1899

Trans. Ent. Soc. London 34 (1-2): 225, pl.IV, figs 5 ♂, 6 ♀. TL: “Haiti”; Types: described on an undisclosed number of specimens in coll. BMNH, in coll. GODMAN & SALVIN, in coll. H. J. ADAMS, and in coll. Dr STAUDINGER.

= [*Calisto pulchella*] f. *tenebrosa*, ab. nov. LATHY, 1899, Trans. Ent. Soc. London 34 (1-2): 225, pl. IV., fig. 7. Type in coll. H. J. ADAMS, BMNH.

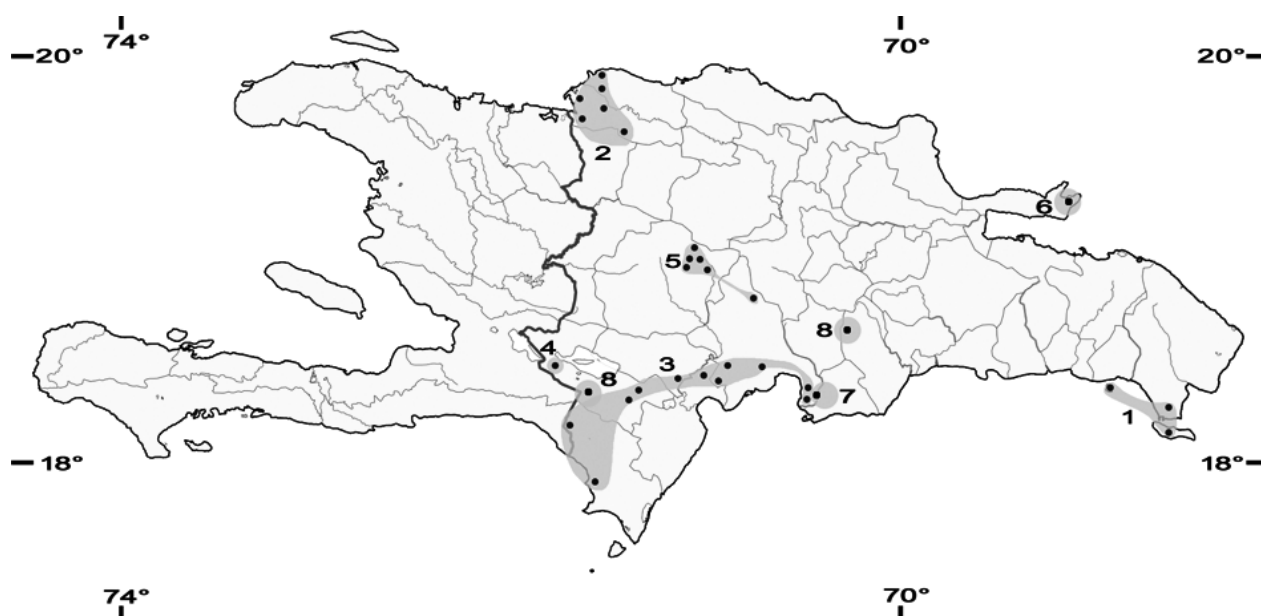


Fig. 65: Distribution of taxa of the *Calisto lyceius* lineage (partim). 1 - *C. lyceius*; 2 - *C. crypta*; 3 - *C. franciscoi*; 4 - *C. "hendersoni"*; 5 - *C. tasajera*; 6 - *C. samana*; 7 - *C. azua*; 8 - *C. mariposa* (Modified after SCHWARTZ, 1989a; PÉREZ-ASSO et al. 2016).

= *Calisto pulchella darlingtoni* CLENCH, 1943, *Psyche* **50** (1-2): 28; TL: Republica Dominicana, Constanza, Hispaniola, 3-4000 feet; Types: HT ♂, Constanza, Republica Dominicana, Hispaniola, 3-4000 feet, Aug. 1938 (P. J. DARLINGTON leg.). PTs 2 ♂♂, same data as HT; 1 ♂, foothills of the Cordillera Central, South of Santiago, Rep. Dom., June 1938 (P. J. DARLINGTON leg.). HT and two PTs in coll. MCZ. no. 2 59 18. One PT in CLENCH collection.

Distribution: Hispaniola.

Adult Characteristics: LFW ♂ 21-24mm f 25-28 mm. ♂ HW brown with large rusty area, ♀ HW much paler with contrasting bands. UPFW androconia patch reduced in the middle of FW behind the cell, around the base of the two cubital wings.

♂ genitalia quite different from those of *C. raburni*. Uncus slender, long and apically bent, separated from the bulbous tegumen by a shallow groove; gnathi apparently absent. Valvae are particular as BATES (1935b) noted. They are reduced to narrow, truncate, subquadrate flaps, apparently through the complete loss of the apical section. Aedoeagus thin and long.

Comments: This species is widespread in Hispaniola from sea level to 1000 m. At higher altitudes it is replaced by the ssp. *darlingtoni* - herewith considered a synonym - which is found in the Cordillera Central from 900 to 1900 m. RILEY (1975) considered it an altitudinal form only. The ♀ form *tenebrosa*, is similar to typical ♀, but without the UPHWs orange-brown area at anal angle.

The larval food plant is the indigenous cane *Gynerium sagittatum* (AUBLET) P. BEAUVOIS (Poaceae). The preimaginal stages as well as those of *C. galii* are highly different from other *Calisto* species so as to suggest to treat them in different subgenera (SOURAKOV, 1996).

This taxon is included in the *lyceius* lineage according to DNA data (MATOS-MARAVÍ et al. 2014; PÉREZ-ASSO et al. (2016).

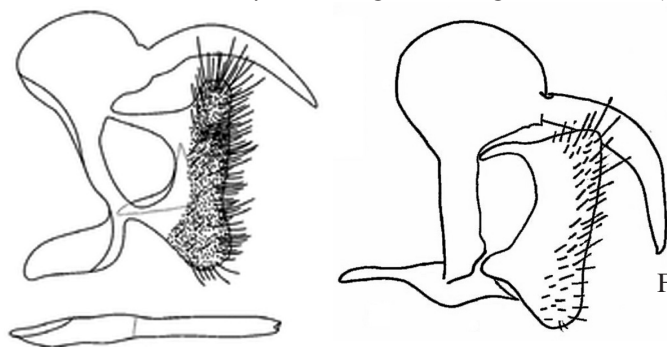


Fig. 66: Left - ♂ genitalia *C. pulchella* LATHY, 1899 (modified after PÉREZ-ASSO et al., 2016). Right - ♂ genitalia *C. pulchella* (modified after BATES, 1935b).

***Calisto raburni* GALI, 1985**

Contr. Biol. Geol. Milwaukee Publ. Mus. **63**: 8, fig. 6 ♂ genitalia, fig. 12 HT ♂; TL: 7 km NE El Aguacate, 519 m, Prov. de Independencia, Dominican Republic; Types: HT ♂, Republica Dominicana, Provincia de Independencia, 7 km NE El Aguacate, 519 m, 6.vii.1983 (A. SCHWARTZ leg.), ex coll. A. SCHWARTZ, ex Allyn Museum of Entomology, now in coll. MGCL. PTs: an undisclosed number of ♂♂; ♀ unknown at the time of the original description.

Distribution: NE of El Aguacate, Independencia, Dominican Republic.

Adult Characteristics: LFW ♂ 15-20 mm, ♀ 15-22 mm. Similar to *C. mariposa* from which can be separated for the UNHW discal and post discal area which is reddish in *C. mariposa* and greyish in *C. raburni*.

♂ genitalia are distinctive. The uncus is short, flattened, and slightly smaller in proportion to the tegumen. There is a deep pretegmenal groove. The posterior part of the tegumen is acutely angled and curves downward to continue as the vinculum. Aedoeagus short and stout. The gnathi are present as very small acute processes, faintly evident.

Adult Characteristics: SCHWARTZ & GALI (1984) suggested that: “*Calisto* that are closely related or have diverged from each other minimally insofar as ♂ genitalia are concerned may be quite different with regard to colouration and pattern. This is apparently the case with the species of the *lyceus* complex, with the exception of *C. raburni*”. Moreover, as GALI (1985) observed when describing the ♂ genitalia of *C. raburni*, “the other species of the *lyceus* complex are rounded at the posterior portion of the tegumen, with the exception of *C. schwartzi* which has the posterior portion of the tegumen more like that of *C. raburni*. In *C. raburni*, the “neck” of the uncus is slender and curved in comparison with the other *lyceia* complex species. Additionally, the uncus is sinuate dorsally in contrast to the dorsal arch of the other species. The aedoeagus is short and stout with minimal bowing. The saccus is thin and bowed posteriorly. Other species in the complex have thin, short, and simple sacci, but *C. schwartzi* has a small wedge-shaped saccus. The valvae in *C. schwartzi*, are simple, rounded toward the middle, and smaller in proportion to those of other species of the complex”.

GALI (1985) described *C. raburni* on the HT ♂ and on an undesclosed number of ♂ PTs, collected by SCHWARTZ and RABURN on 6. vii. 1983 at the type-locality, a rather xeric forest below rich mesic deciduous forests. SCHWARTZ (1989a) noticed that *raburni* and *schwartzi* are related but distinct from other members of the *lyceus* complex.

To note that for the elongate HW underside ocellus it could be related to *pulchella*. This is confirmed by DNA barcoding by SOURAKOV & ZAKHAROV (2011) where *raburni* and *pulchella* are shown to be sister taxa.

Specimens from El Número, Azua m 200-300, if the identification is correct - but they may belong to *C. azua* - flies together with *C. franciscoi* (TAKIZAWA et al. 2003). SOURAKOV (2000) reported this species together with *C. hysius* at Polo, 1 km S, Barahona Province.

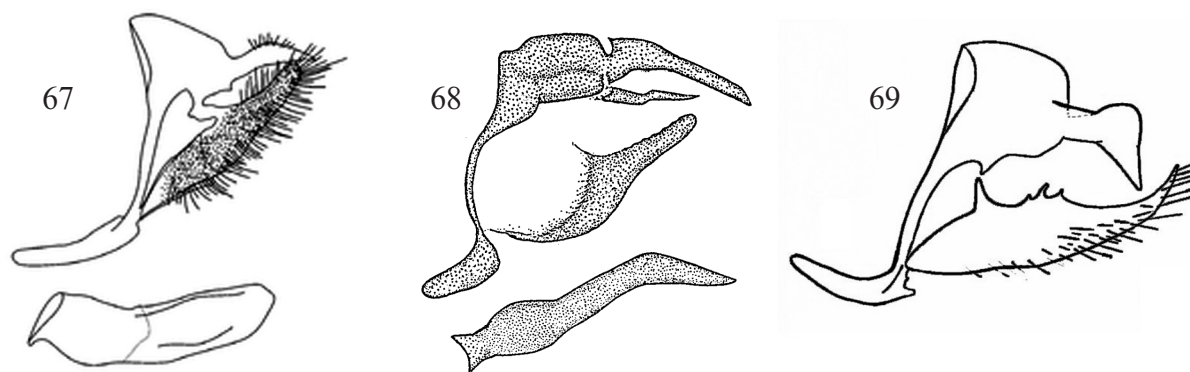


Fig. 67: ♂ genitalia of *C. raburni* GALI, 1985 (modified after PÉREZ-ASSO et al., 2016).

Fig. 68: ♂ genitalia, HT *Calisto woodsi* JOHNSON & HEDGES, 1998 (modified after JOHNSON & HEDGES, 1998).

Fig. 69: ♂ genitalia of the Jamaican *Calisto zangis* (FABRICIUS, 1775) (modified after BATES, 1935b).

***Calisto woodsi* JOHNSON & HEDGES, 1998**

Trop. Lep. 9: 49; TL: Haiti: Sud: 10.7 km. WNW Les Platons (citadel), Caye Paul 1120 m, Types: HT ♂: Haiti: Sud: 10.7 km. WNW Les Platons (citadel), Caye Paul 1120 m, leg. S. B. HEDGES and N. PLUMMER, 1 Jun 1991, #AS 27443. PT 1 ♂: same data but #27418. Both additionally labelled: A. SCHWARTZ Collection donated by M. STRAHM access no. IZ 1993-35A, Milwaukee Public Museum”; both deposited in MCPM.

Distribution: Haiti, Massif de la Hotte.

Adult Characteristics: LFW ♂ 20-20,5 mm. A large species. ♂ UPFW with basal rusty red colouration, distally lighter. No visible androconial patch. UNFW with large black subapical yellow-ringed ocellus pupilled with a white dot. UNHW with a very small ocellus with “vague central dot”. Black tornal patch. According to JOHNSON & HEDGES (1998) the ♂ genitalia of *C. woodsi* (Fig. 68) show “the tegumen and uncus both elongate but moderately robust and separated by a single, incised, dorsal notch. Gnathos elongate and sigmoidal, extending some two-thirds the length of the uncus. Valvae relatively short, terminus extending no further than two-thirds the uncus length; lateral valva contour hemielliptical in the terminus, slightly more robust and arched anterior of the dorsal armature. Aedoeagus elongate but robust, caecum greatly swollen, posterior with strong ventral declination in the posterior one-half and with terminus laterally blunt but dorsally entire”.

Comments: *Calisto woodsi* is comparable in pattern to the Jamaican *C. zangis* although *woodsi* lacks an androconial patch which on the contrary is prominent in *C. zangis*. *Calisto woodsi* shows a suffused rust-red colouration on the upper surfaces and a strong HW tornal lobe. The types, 2 ♂♂, are somewhat worn and found in the SCHWARTZ collection in the Milwaukee Public Museum.

According to JOHNSON & HEDGES (1998) *C. woodsi* appears rather “isolated” among *Calisto* taxa, and it might be suggested that *C. woodsi* and *C. pauli* represent the same lineage. These authors noted that ♂ genitalic profiles should suggest divergence from the same stock of *C. pauli*. The similarities in the ♂ genitalia of *C. woodsi* with the Jamaican *C. zangis* referred to by JOHNSON & HEDGES (1998), namely the elongate and robust shapes of the tegumen, uncus and aedoeagus do not appear to be substantiated. Indeed, the valva of *C. zangis* (F., 1775) (see fig. 69), figured herewith for comparison, exhibits a unique shape among *Calisto* with a bulbous tegumen, and with 2-3 projections along the dorsal margin of the valva, gnathos absent, uncus beak-like shaped.

***Calisto pauli* JOHNSON & HEDGES, 1998**

Trop. Lep. 9: 47, TL: Haiti: Sud: 10.7 km. WNW Les Platons (citadel), Caye Paul 1120 m; Types: HT ♂, Haiti: Sud: 10.7 km. WNW Les Platons (citadel), Caye Paul 1120 m, leg. S. B. HEDGES and N. PLUMMER, 1 June 1991,” #27444. AT ♀: labelled same as HT, #27451. PTs (1 ♂ # 27445, 1 ♀ #27425): labelled same as HT (♂ also labelled, “abdomen originally sent to HEDGES for DNA analysis”); all specimens also labelled A. SCHWARTZ collection donated by M. STRAHM access no. IZ 1993-35A, in coll. MCPM.

Distribution: Haiti, Massif de la Hotte.

Adult Characteristics: LFW ♂ 17-18 mm, f 18,5 mm. ♂ UP wings brownish. UPFW with black androconial patch below the cell. UNFW with rusty basal area; large subapical ocellus with two white dots. UNHW with large, somewhat elongate ocellus with a white dot; four white internervular dots across postmedial area. ♀ slightly larger similar to ♂ but UNHW with two black ocelli, one in CuA1.

Comments: This species is readily separable from *Calisto hysius* by the shape of the FW androconia resembling those of Cuban *C. herophile* HÜBNER, 1823 and *C. sibylla* BATES, 1934. According to JOHNSON & HEDGES (1998) the ♂ genitalia of *C. pauli* (Fig. 70a below) show the tegumen and uncus both elongate, narrow, notably “flat-topped” compared to congeners, and separated by a single, wide, dorsal notch; basad this notch, a short and blunt gnathos extends some onethird the length of the uncus. Valvae relatively short, terminus extending no further than one-half the uncus length; lateral valve surfaces narrow but armature extending dorsally to tegumen and gnathos remarkably elaborate for *Calisto*. Aedoeagus robust and elongate, caecum arched ventrad, terminus narrow, elongate, and sculptured with bifid prongs.

♂ and ♀ genitalia of *C. pauli* differs from those of *hysius* and resemble, especially for the shape of uncus and valva, Cuban species such as *C. herophile*, *C. bradleyi* MUNROE, 1951 or *C. occulta* NÚÑEZ, 2012.

C. herophile ♂ genitalia are illustrated for comparison (fig. 70b, below).

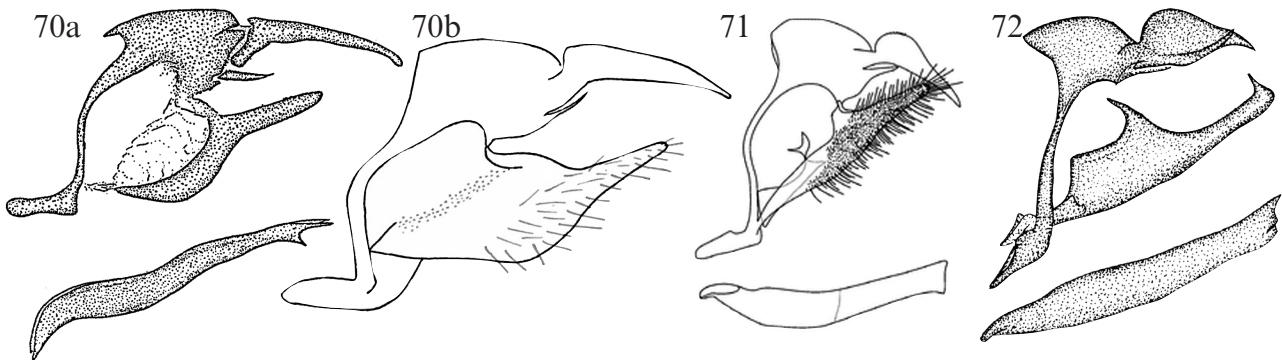


Fig. 70a: ♂ genitalia *Calisto pauli* after JOHNSON & HEDGES, 1998 (modified after JOHNSON & HEDGES, 1998).

Fig. 70b: ♂ genitalia of the Cuban *Calisto herophile* HÜBNER, 1823 (modified after BATES, 1935).

Fig. 71: ♂ genitalia *C. mariposa* PÉREZ-ASSO, NÚÑEZ & GENARO, 2016 (modified after PÉREZ-ASSO et al. 2016).

Fig. 72: ♂ genitalia *Calisto tasajera* GONZÁLEZ, SCHWARTZ & WETHERBEE, 1991 (modified after HEDGES & JOHNSON, 1994).

***Calisto mariposa* PÉREZ-ASSO, NÚÑEZ & GENARO, 2016**

Zootaxa 4170: 418; TL: República Dominicana: Distrito Nacional, Santo Domingo, Sierra Prieta. Types: HT ♂, República Dominicana: Distrito Nacional, Santo Domingo, Sierra Prieta, 26.viii.14, A. R. PÉREZ-ASSO & A. LÓPEZ, en bosque seco con Tibisi (Arthrostylidium spp.), DNA voucher JAGWI-1030 (in coll. VGRC). PTs 19 ♂♂, 6 ♀♀. Same data as HT; 11 ♂♂ 6 ♀♀, Parque Nacional Sierra de Bahoruco, camino entre Caseta 1 y Puerto Escondido, 24.vi.2013, A. LÓPEZ & A. R. PÉREZ-ASSO, 3 ♂♂, DNA vouchers JAGWI-957, 1003, 1005 (in coll. CZACC, MGCL, MNHSD, VGRC).

Distribution: República Dominicana: Distrito Nacional, Santo Domingo, Sierra Prieta; Provincia Independencia, Parque Nacional Sierra de Bahoruco, north slope.

Adult Characteristics: LFW ♂ 17.6-19.1 mm, ♀ 18.5-20.8 mm. UNHW background mostly reddish (♂♂) or pale orange (♀♀) without scattered pale yellowish or whitish scaling as occurs in the other three taxa.

♂ genitalia greatly enlarged if compared to imago size. Tegumen large and rounded. Uncus rounded at the base, straight only slightly curved at the tip. Gnathos short and acute. Aedoeagus caecum strongly curved to the right in dorsal view.

Comments: According to PÉREZ-ASSO et al. (2016) *Calisto mariposa* needs to be compared with the syntopic *C. raburni*, *C. victori*, and *C. azua*. All four species are reddish, but having various tones, and have two white dots at UNHW: one enlarged dot between M2-M3 veins, and another distinctly smaller between M3-Cu1.

C. mariposa differs from *C. victori* and *C. azua* for the usually acute distal end of the UNHW ocellus, the latter is also acute in *C. raburni* but its ocellus is much more elongated, the latter species is smaller on the average. The species can be also separated from *C. azua* and *C. raburni* by lacking the reddish colour beyond the UNFW post discal line in both sexes. Only few specimens show the suffusion at the outer edge line whereas that colour is more extended toward the area below the ocellus or even reaching the subterminal line. ♂♂ can be also recognized by having the UPFW area anterior to androconial patch also blackish whereas in the other three is distinctly paler as the remaining FW surface. *Calisto victori* bears pear shaped UNHW ocellus and its ♂♂ have the UN background mixed with dark reddish scaling. The distribution is disjunct, as in *C. raburni*, and it has been recorded only from two localities. One at the northern slope of Sierra de Bahoruco and the other at Sierra Prieta, 150 km to the east, a small hill south of Sierra de Yamasá, which is separated by a narrow valley from the Cordillera Central. It occurs in xeric forests with climbing grass,

Arthrotylidium spp. (Poaceae).

***Calisto tasajera* GONZÁLEZ, SCHWARTZ & WETHERBEE, 1991**

Contr. Biol. Geol. Milwaukee Publ. Mus. **80**: 1-8, 2 figs; TL: Loma de Tasajera, San Juan, Dominican Republic Types: HT ♂, Republica Dominicana: Provincia de San Juan: Loma de Tasajera, 2142 m; 28-29.xi.1989 (D.K. WETHERBEE leg.), ex coll. A. SCHWARTZ, now in coll. MCPM. Original number AS 25033. PTs (AS = ALBERT SCHWARTZ coll.): AS 25031, AS 25032, AS 25035, AS 26062 (♂), AS 26034, AS 25043 (♀): same data as HT; AS 25747, AS 25766, AS 26824, AS 25825, AS 25827, AS 25832, AS 25833, AS 25834, AS 25836, AS 25838, AS 25839, AS 25840, AS 26881 (♀), AS 25746, AS 26748, AS 25749, AS 25826, AS 26827, AS 25830, AS 25837 (♀): R.D.: San Juan: Loma Pinal Viejo (El Manguito), 29.v-1.vi.1990, D.K. WETHERBEE; AS 25891, AS 25893, AS 25922, AS 26923, AS 26927, AS 25928, AS 26955 (♂), AS 25893, AS 25949, AS 26961, AS 25952 (♀): R.D.: San Juan-Santiago: Aguita Fria, base of Loma la Diferencia, 1750-2300 m, 20.vii.1990; AS 25898, AS 26930, AS 25931, AS 25932, AS 25960, AS 25966, AS 25973, AS 25976, AS 25976 (♂): R.D.: San Juan-Santiago: Loma la Diferencia, peak, 2300-2800 m, 21.vii.1990; AS 26677 (♂): R.D.: Santiago: Pico Platino, 1200-2500 m, 26.-30.vii.1990.

Distribution: Cordillera Central, Dominican Republic.

Adult Characteristics: LFW ♂ 19 mm, ♀ 20 mm. UNFW large ocellus with two white pupils; UNHW with two elongate black ocelli with two small white pupils displaced basally. ♂ genitalia greatly reduced in respect to imago size. Gnathos long, thin and curved upwards. Valva with dorsal projection and apically hooked (PÉREZ-ASSO et al., 2016).

Comments: The habitat of this species is peculiar if compared with those of other taxa of the *lyceius* lineage which are bound for lowland and xerophilous environments. This is a montane species found at 2000-2800 m in areas with ferns, thick grass (*Danthonia domingensis*), and scattered pines. It was found also on Pico Platino, 1200-2500 m (SA), in habitats with mixed sedges, mosses and lycopods. GONZÁLEZ et al. (1991) in the appendix "Précis of the Cordillera Central in the República Dominicana" detailed very obscure localities where *C. tasajera* was found: Loma Pinal Viejo (El Manguito) (SJ); Loma La Diferencia, base, Aguita Fria 1750-2300 m (SJ-SA); Loma La Diferencia, peak, 2300-2500 (SJ-SA). HEDGES & JOHNSON (1994) reported the presence of this species at the Valle de Bao 1800 m, on the N slope of Pico Duarte. This valley is wet and surrounded by forests of *Pinus occidentalis*. The same authors (HEDGES & JOHNSON, 1994) also noted the apparent relationship of *C. tasajera* with *C. schwartzi* and *C. raburni*, and now we may add also with *C. mariposa*, *C. victori*, and *C. azua*.

SOURAKOV (2000, 2007) reported this species as common on the road to Valle Nuevo 22 km SE Constanza together with *C. arcas*, *C. galli*, and *C. grannus*, and he found it again in the Valle de Bao.

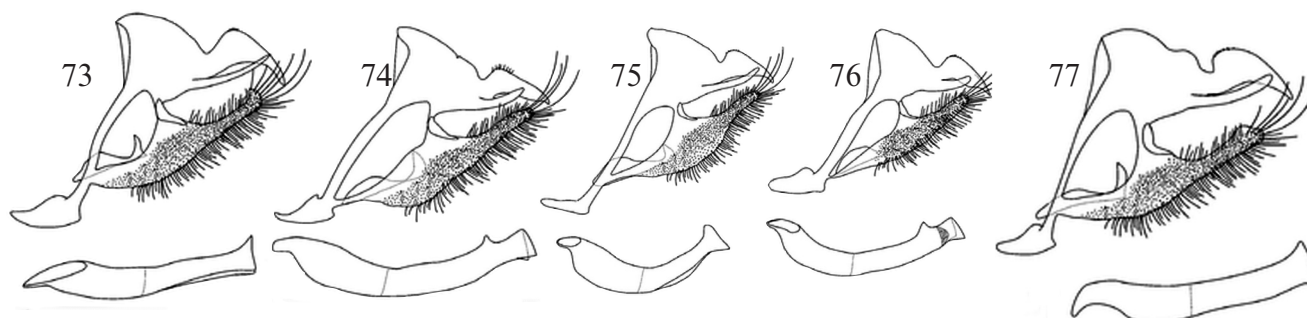


Fig. 73: ♂ genitalia *C. tasajera* GONZÁLEZ, SCHWARTZ & WETHERBEE, 1991 (modified after PÉREZ-ASSO et al., 2016).

Fig. 74: ♂ genitalia *C. schwartzi* GALI, 1985 (Modified after PÉREZ-ASSO et al., 2016).

Fig. 75: ♂ genitalia *C. azua* (PÉREZ-ASSO, NÚÑEZ & GENARO, 2016 (modified after PÉREZ-ASSO et al., 2016).

Fig. 76: ♂ genitalia *C. victori* PÉREZ-ASSO, NÚÑEZ & GENARO, 2016 (modified after PÉREZ-ASSO et al., 2016).

Fig. 77: ♂ genitalia *C. lyceius* M. BATES, 1935 (modified after PÉREZ-ASSO et al., 2016).

***Calisto schwartzi* GALI, 1985**

Contr. Biol. Geol. Milwaukee Publ. Mus. **63**: 7, fig. 5 ♂ genitalia, fig. 11 HT ♂; TL: 1 km N Aceitillar, 1281 m, Prov. de Pedernales, Dominican Republic Types: HT ♂: Republica Dominicana: Provincia de Pedernales: 1 km N Aceitillar, 1281 m; 6.x.1983 (A. SCHWARTZ leg.), ex coll. A. SCHWARTZ, ex coll. Allyn Museum of Entomology, now in MGCL coll. PTs: 16 ♂♂, 1 ♀ (AS coll.), 2 ♂♂, 2 ♀♀ (in coll. MCPM), 2 ♂♂, 2 ♀♀ (FG coll.), 6.x.1983 from TL.

Distribution: Dominican Republic, Aceitillar, Sierra de Bahoruco, Pedernales.

Adult Characteristics: LFW ♂ 17-19 mm, ♀ 18-21 mm. ♂ UPFW large dark androconial patch at basal half of the wings. UNFW apical ocellus with 2 white pupils, the posterior placed in the yellow ring. Broad extension of the orange-brown colouration.

UPHW with with ternal black spot with white on top. UN of both wings with brownish colouration basally. UNHW black ocellus with white pupil displaced basally in the yellow ring. Anteriorly, 4 white internervular dots.

♂ genitalia: GALI (1985) reported that valvae are relatively slender and not very broad toward the middle. The Aedoeagus is elongate (largest of the *lyceius* species) and bowed. According to PÉREZ-ASSO et al. (2016), tegumen is moderately flat with a shallow groove about the middle. Uncus hairy at base, gradually tapering towards apex. Gnathos long and stout. Aedoeagus strongly arched with a short subapical broad tooth

Comments: SCHWARTZ (1989a) considered this species to belong to the *lyceius* complex, and it is the only taxon of this complex occurring at high elevations (1250-1400 m) in pine woods in the Sierra de Bahoruco (PD). It seems to be

endemic to this area. The typical series was collected on 6.x.1983. We found the species fairly common at 1000-1250 m on the road Cabo Rojo Aceitillar during July.

Related taxa, such as *C. raburni* flies 20 km to the N, NE of El Aguacate (IN), populations related to *C. hendersoni* (= *franciscoi*) 35 km to NW near El Limón (IN), and *C. franciscoi* at 30 km to the W at Mencía, 397 m (PD). All these taxa occur at lower elevations if compared with *C. schwartzi*.

It has been reported also from Loma La Leonora near Maimón at 200-300 m (MN) by TAKIZAWA et al. (2003). This locality is too low for this species which may have been misidentified.

***Calisto azua* PÉREZ-ASSO, NÚÑEZ & GENARO, 2016**

Zootaxa 4170: 422; TL: República Dominicana: provincia Azua, Hatillo, El Número Types: HT ♂, República Dominicana: Provincia Azua, Hatillo, El Número, 24.viii.14, A. R. PÉREZ-ASSO & A. LÓPEZ, DNA voucher JAGWI-1028 (in coll. VGRC). PTs: 11 ♂♂, 1 ♀. Same data as hT, 9 ♂♂, DNA vouchers JAGWI-785-788, 1029; same data as HT except 14.vi.13, 1 ♂, DNA voucher JAGWI-983; same data as HT except 23.vi.13, 1 ♂, 1 ♀, DNA vouchers JAGWI-975, 976 (in coll. CZACC, MGCL, MNHSD, VGRC).

Distribution: República Dominicana: Provincia Azua, Hatillo, El Número.

Adult Characteristics: FW length: ♂ 17.3-18.7 mm, ♀ 23.4 mm. ♂ UPHW small reddish orange areas around the position of UN ocellus, UNHW more brownish; pale yellow scaling along the external side of post discal line of both wings. ♂ genitalia large. Uncus gradually tapering towards apex. Gnathi long and thin, slightly curved upward. Aedoeagus strongly arched. ♀♀ are distinctly larger and darker than ♂.

Comments: From *C. mariposa* and *C. victori* can be also separated by the extension in most specimens of the reddish scaling beyond the post discal line reaching the first UNFW subterminal line.

The larger size and the scarce UN wings reddish suffusion in both sexes differentiate this taxon from *C. raburni*, *C. mariposa*, and *C. victori*. The only other member of the *lyceius* group at the TL and its vicinity is the distinctive smaller and redder *C. franciscoi* [= *C. hendersoni*].

The species is known from a single locality, El Número, near Hatillo Town, Azua Province, at the southern slope of the Cordillera Central eastern extreme. The habitats are *Acacia* scrub and forest with *Uniola virgata* stands.

***Calisto victori* PÉREZ-ASSO, NÚÑEZ & GENARO, 2016**

Zootaxa 4170: 424. TL: República Dominicana: Provincia Independencia, Parque Nacional Sierra de Bahoruco, camino entre Caseta 2 y Caseta 1. Types: HT ♂, República Dominicana: Provincia Independencia, Parque Nacional Sierra de Bahoruco, camino entre Caseta 2 y Caseta 1, 7.viii.14, A. R. PÉREZ-ASSO & A. LÓPEZ, en pinar, DNA voucher JAGWI-1032 (in coll. VGRC). PTs: 29 ♂♂, 3 ♀♀. Same data as HT, 17 ♂♂, 3 ♀♀, DNA voucher JAGWI-1033; same data as HT except 22-24.v.2013, 11 ♂♂, DNA vouchers JAGWI-1000-1002; Provincia Independencia, Parque Nacional Sierra de Bahoruco, Caseta 2, 7.vi.11, A. LÓPEZ & A. R. PÉREZ-ASSO, 1 ♂, DNA voucher JAGW-789; same data as anterior except 6.vii.11, 1 ♂, DNA voucher JAGWI-964; Provincia Pedernales, Parque Nacional Sierra de Bahoruco, Aceitillar, 14.vii.12, A. R. PÉREZ-ASSO & A. LÓPEZ, 1 ♂, DNA voucher JAGWI-977; Parque Nacional Sierra de Bahoruco, camino de Aceitillar hasta el cruce de Las Abejas y Caseta 2, 19.vi.13, A. LÓPEZ & A. R. PÉREZ-ASSO, en pinar, 6 ♂♂, 1 ♀, DNA vouchers JAGWI-990-995 (in coll. CZACC, MGCL, MNHSD, VGRC). Other material (10 ♂♂, 2 ♀♀). Same data as HT, unpinned.

Distribution: Dominican Republic: Prov. Independencia and Pedernales, Parque Nacional Sierra de Bahoruco.

Adult Characteristics: LFW ♂ 17.2-19.4 mm, ♀ 20.5 mm. Its reddish tone is very similar to that of syntopic *C. schwartzi* ♂ that also possess UNHW pear shaped ocellus but the latter has four UNHW internervular white dots of similar size instead of two as occurs in *C. victori*.

♂ genitalia: Uncus basal two thirds gradually tapering, apex abruptly tapered downwards. Gnathos shorter than in *azua*. Aedoeagus strongly arched with a short subapical broad tooth, transverse sclerotized process just before apex.

Comments: As PÉREZ-ASSO et al. (2016) noted *C. victori* differs from *C. raburni*, *C. mariposa*, and *C. azua* for the UNHW ocellus pear shaped, and from the first two taxa for the ♂ UPHW reddish suffusion around ocellus. The species can be also separated from *C. azua* and *C. raburni* for the absence of reddish colour beyond the UNFW post discal line in both sexes. Some specimens bear a tiny white dot at M1-M2 veins interspace.

PÉREZ-ASSO et al. (2016) suggested that the species probably was overlooked due to its resemblance with the syntopic *C. schwartzi* being the absence of two white dots, occasionally one, surely attributed to *C. schwartzi* variability. *Calisto schwartzi* and *C. victori* show slight genitalic differences but possess distinctive COI barcodes that serve for a clear separation.

***Calisto lyceius* M. BATES, 1935**

Occas. pap. Boston Soc. Nat. Hist. 8: 240-241, TL: Isla Saona, República Dominicana. Types: HT ♂/ Saona Island, St. Domingo, Jan. 21, 1931, Armour Exp./, PTs 1 ♂, 1 ♀ same data, in coll. MCZ.

Distribution: Dominican Republic, Isla Saona & Isla Catalina.

Adult Characteristics: LFW ♂ 15-16 mm, ♀ 15-16 mm. Sexes similar. ♂ UPFW with subtriangular androconial patch below the cell, sharply defined and with its outer edge not parallel to margin. UNFW rusty red, subapical ocellus centred with 2 white dots. UNHW with dark postmedian and submarginal bands. A tornal black spot. Large elongate ocellus with a single white dot displaced basally. Anteriorly 4 white internervular spots.

Comments: We have not examined *lyceius* genitalia but from the descriptions given by BATES (1935b) and by PÉREZ-ASSO et al. (2016), it seems that there are some discrepancies. BATES (1935b) described the ♂ genitalia as “proportionately much larger than in *confusa*, more closely resembling those organs in *tragi*; aedoeagus much more slender than the same organ in *confusa*, and straight, whereas the equally slender aedoeagus of *tragi* is bowed; uncus and tegumen

similar to those structures in *confusa*; valvae as in *tragi*us, with an elongate distal section". PÉREZ-ASSO et al. (2016: figs 83, 93) illustrated and described ♂ and ♀ genitalia: "Tegumen moderately rounded with a deep groove. Valvae with a smooth dorsal keel, broader just before apex. Aedoeagus caecum strongly curved to the left in dorsal view".

C. lyceius was reported and described from 2 ♂♂ and 1 ♀ from the Isla Saona (LA). Later, it was found on the Isla Catalina (LR) and on the coastal mainland, at Boca de Yuma (LA), where it is not unlikely that it is now extinct (see SOURAKOV, 2007) due to the heavy deforestation for sugar cane plantations.

***Calisto franciscoi* GALI, 1985**

Contr. Biol. Geol. Milwaukee Publ. Mus. **63**: 4, fig. 3 ♂ genitalia, fig. 9 HT ♂, TL: Tábara Abajo, Prov. de Azua, Dominican Republic; Types: HT ♂: Republica Dominicana: Provincia de Azua: Tabara Abajo, 5.iv.1984 (A. SCHWARTZ leg.), ex coll. A. SCHWARTZ (AS), ex coll. Allyn Museum, now in MCGZ. PTs: 1 ♂, 3 ♀♀ (from Museo Nacional de Historia Natural de Santo Domingo), 22.xii.1979, from TL; 1 ♂, (AS coll.), 9.iii.1984; 2 ♂♂, 2 ♀♀ (FG coll. = FRANK GALI), 10 ♂♂, 8 ♀♀ (AS coll.), 1 ♂, 1 ♀ (FG coll.), 5.iv.1984, from TL; 1 ♂, 1 ♀ (AS coll.), 5.iii.1984; 1 ♀, (AS coll.), 9.iii.1984; Prov. de Peravia, 4 km E Sabana Buey, 61 m; 1 ♀ (AS coll.), 9.iii.1984; Prov. De Azua, 1 km E Palmar de Ocoa, s.l.; 4 ♂♂, 5 ♀♀ (AS coll.), 3 ♂♂, 5 ♀♀ (AS coll.), 3 ♂♂, 5 ♀♀ (FG coll.), 31.vii.1982, Prov. de Barahona, 12 km ESE Canoa, s.l.; 1 ♀, (AS coll.), 22.vi.1983; 7 ♂♂, 5 ♀♀ (AS coll.), 1 ♂, 1 ♀, (FG coll.), 26.vi.1983; 1 ♂, (AS coll.), 10.iv.1984, Prov. de Barahona, 3 km NE Canoa, s.l.; 9 ♂♂, 5 ♀♀ (WILLIAM W. SOMMER coll.), 2 ♂♂, 3 ♀♀ (AS coll.), 2 ♂♂, 2 ♀♀ (Milwaukee Public Museum-MPM), 20.iv.1984, Prov. de Barahona, 8 km ESE Canoa, s.l.; 1 ♂, (AS coll.), 16.vii.1983, Prov. de Independencia, 2 km S Duverge.

= *Calisto hendersoni* GALI, 1985, Contr. Biol. Geol. Milwaukee Publ. Mus., 63: 6, fig. 4 ♂ genitalia, fig. 10 HT ♂. TL: 4 km E El Limón, Prov. de Independencia, Dominican Republic. Types: HT ♂: Republica Dominicana: Provincia de Independencia: 4 km E El Limon, 2.iv.1984 (A. SCHWARTZ leg.), ex coll. AS, ex coll. Allyn Museum of Entomology now in MCGZ. PT: 10 ♂♂, 9 ♀♀ (AS coll.), 2 ♀♀ (MCPM coll.), 2 ♂♂, 2 ♀♀, (FG coll.) 2.iv.1984; 3 ♀♀ (AS coll.), 2 ♀♀, (MCPM coll.), 16. x, 1983, all from the TL.

Distribution: SW Dominican Republic, Valle de Neiba and Barahona Peninsula to Azua; nr. El Limon, Independencia. **Adult Characteristics:** LFW ♂ 15-17 mm, ♀ 17-19 mm. It is a representative of the *lyceius* complex characterized by bi-ocellate UNFW ocellus and 4 white dots on UNHW.

Comments: GALI (1985) made comparisons of ♂ genitalia of *C. lyceius*, *C. franciscoi*, *C. hendersoni*, and *C. crypta* which we re-propose herewith. "They are essentially the same in characters, except for the size of the uncus. (Note: no *C. crypta* ♂ was available with an aedoeagus). In all four species, the uncus is strongly arched dorsally and separated from the tegumen by a small pretegumental groove, like the *hysia* group. However, in *C. franciscoi* the uncus is elongate and proportional in size to the tegumen. *Calisto hendersoni* and *C. crypta* have much smaller unci [= gnathos] in proportion to the tegumen. The Aedoeagus is moderately slender and bowed in *C. franciscoi* and in *C. hendersoni*; however, in *C. lyceius* the Aedoeagus is thin, elongate, sinuate posteriorly, very different from those of the other species of the *lyceius* complex. The valvae are simple and fairly broad toward the middle in all *lyceius* complex species with the exception of *C. raburni* and *C. schwartzi*. PÉREZ-ASSO et al. (2016: fig. 84) reported: "Tegumen flat. Uncus base rounded, expanded backward. Valvae with a smooth dorsal keel, a broad tooth pointing upward just before apex".

GALI (1985) described *C. franciscoi* on the basis of several specimens from three different areas in Azua, Barahona, and Independencia Provinces. In these localities it appears as a spring species, specimens collected from December to April but also in July. This species occurs in the SE of the Dominican Republic usually at low elevations in xeric habitats.

The populations from the Sierra de Neiba have been described as *Calisto hendersoni* which is now considered a synonym of *franciscoi*. It is known from only a few locality namely 20 km SE Jimaní, 4 km E of El Limón (IN), south of Enriquillo Lake (BH). It occurs in open fields of *Uniola virgata* in xeric environments. It has been found more recently also near the type-locality at Cruce de Limón (IN) near the TL (TAKIZAWA et al. 2003).

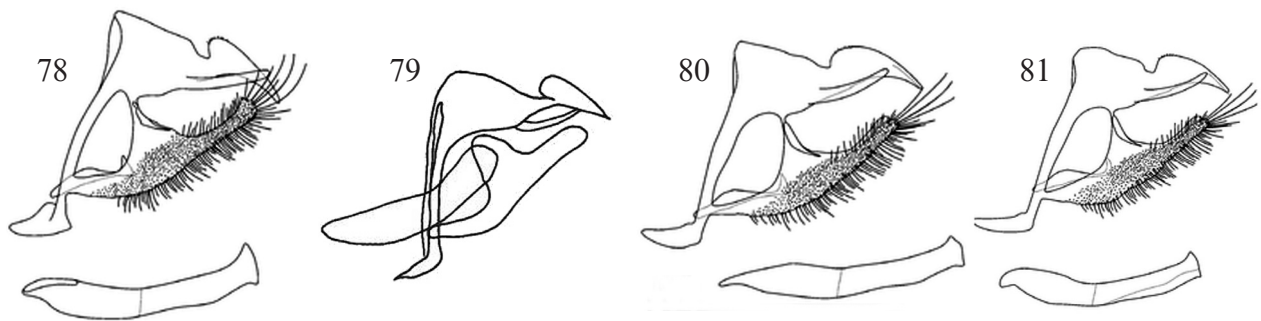


Fig. 78: ♂ genitalia *C. franciscoi* GALI, 1985 (modified after PÉREZ-ASSO et al., 2016).

Fig. 79: ♂ genitalia *C. hendersoni* GALI, 1985 (modified after GALI, 1985).

Fig. 80: ♂ genitalia *C. crypta* GALI, 1985 (modified after PÉREZ-ASSO et al. 2016).

Fig. 81: ♂ genitalia *C. samana* PÉREZ-ASSO, NÚÑEZ & GENARO, 2016 (modified after PÉREZ-ASSO et al., 2016).

***Calisto crypta* GALI, 1985**

Contr. Biol. Geol. Milwaukee Publ. Mus. **63**: 3, fig. 2 ♂ genitalia, fig. 8 HT ♂. TL: Near Monte Cristi, Prov. de Monte Cristi, Dominican Republic, Types: HT ♂: Republica Dominicana: Provincia de Monte Cristi: near Monte Cristi, 13.iii.1931 (A.L. STILLMAN), in coll. AMNH. 3 ♂♂, 1 ♀, same data as HT; 1 ♀ (AMNH coll.), R.D. Prov. de Monte Cristi, 1 mile E Monte Cristi, 6.iii.1931; 1 ♀ (AMNH coll.), RD., Prov. De Monte Cristi, Rio Yaque, 10 mi. S Monte

Cristi, 26.ii.1931; 1♀ (AMNH coll.), R.D. Prov. de Monte Cristi, Manzanillo Bay, 27.ii.1931; 1♀ (AMNH coll.), R.D., Prov. de Dajabon, Chaquey, 28.ii.1931; 1♀ (AMNH coll.), R.D. Prov. de Monte Cristi, 8 mi. E Monte Cristi, 28.ii.1930; 1♀ (ALBERT SCHWARTZ coll.), R.D., Prov. de Monte Cristi, 1 km SE Monte Cristi, 16.iii.1984.

Distribution: Dominican Republic, Monte Cristi area.

Adult Characteristics: LFW ♂ 13-19 mm, ♀ 16-22 mm. It is characterized for the androconial patch sharply defined and parallel to outer margin. HW ocellus oblong and the white spots anterior to it larger and better developed. HW tornal lobe is present thus differing from *lyceius* where it is slightly produced. In ♂ genitalia tegumen long and flat. Uncus beak-like and long with thin apex. Gnathos long. Valvae with a smooth dorsal keel.

Comments: This taxon was recorded as *C. lyceius* by MUNROE (1951a) and later described by GALI (1985) as a new species. It is a small species which occurs in various localities at low elevations in xeric environments in the Monte Cristi area. It seems a very uncommon species absent for many years at the TL. It has been collected also at 3 km S Zamba, 214 m (SR), and at Chaquey (DJ) (SCHWARTZ, 1989a: 424).

Calisto samana PÉREZ-ASSO, NÚÑEZ & GENARO, 2016

Zootaxa 4170: 428, TL: República Dominicana: Provincia Samaná, Cueva del Agua. Types: HT ♂, República Dominicana: Provincia Samaná, Cueva del Agua, 14.viii.14, A. R. PÉREZ-ASSO & A. LÓPEZ, en costa rocosa con Espartillo (*Uniola virgata*), DNA voucher JAGWI-1020 (in coll. VGRC). PTs: 24 ♂♂, 6 ♀♀, same data as HT, 14 ♂, 3 ♀♀, DNA voucher JAGWI-1021; same data as HT except 6.xii.07, 2 ♂♂, 2 ♀♀, DNA vouchers JAGWI-971-974; same data as HT except 13.xi.13, 8 ♂♂, 1 ♀ (in coll. CZACC, MGCL, MNHSD, VGRC).

Calisto sp. GALI, 1985: 10; SCHWARTZ, 1989a: 428.

Distribution: Dominican Republic, Samaná peninsula, Cueva del Agua, Samaná Province.

Adult Characteristics: LFW ♂ 15.9-17.4 mm, ♀ 16.1-19.2 mm. As PÉREZ-ASSO et al. (2016) reported this taxon, as well as all the other taxa of this complex, is characterized for the UN large reddish orange areas of both wings and for a UNHW post discal row of four internervular white dots. The ♂♂ of *C. franciscoi* have the androconial patch concealed by the UPFW dark background whereas *C. samana* ♂♂ differ by the distinctly paler brown background. There are no external differences among *C. samana* ♂♂ and those of *C. crypta* and *C. lyceius*. ♀♀ of *crypta* show a browner UNHW. ♂ genitalia very similar to those of *C. crypta* but tegumen with a broad shallow groove and heavier valvae (fig. 81).

Comments: GALI (1985: 10) mentioned two specimens, tentatively identified as *lyceius* and later reported by SCHWARTZ (1989a: 428), collected in Puerto Francés Viejo, Samaná Prov. (an area between Samaná and Las Galeras) by LODOVINO DOMINGUEZ and deposited in the Museo Nacional de Historia Natural, Santo Domingo. GALI (1985) also noted a correlation of the presence of the skippers *Oarisma stillmani*, *Atalopedes nabokovi*, members of the *lyceius* group, with the xerophytic grass *Uniola virgata* (POIRET) GRISEBACH (Poaceae) at three different localities in the island. Indeed, the habitat of *C. samana* is rocky coastal vegetation with Cocos grove and *Uniola virgata* stands. Given that no other member of the *lyceius* group is known from the Samaná peninsula, it is not unlikely that the specimens mentioned by GALI (1985) represent *C. samana*.

SCHWARTZ (1989a: 428), who collected in the area, found it “too mesic” with no “appropriate” habitat for *lyceius* group members. As PÉREZ-ASSO et al. (2016) reported they found the species in the same habitat that GALI (1985) and SCHWARTZ (1989a) described, namely a coastal Cocos grove.

***Calisto hysius* lineage**

According to NÚÑEZ et al. (2017) the *hysius* lineage include 11 taxa namely *confusa*, *debarriera*, *bahoruco*, *hysius*, *tragi*, *batesi*, *obscura* and *grammus* of which there are DNA data, and *loxias*, *pauli* and *thomasi* with no DNA data. We do not consider *C. pauli* belonging to this lineage.

The topology showed in the Bayesian COI barcode gene tree mirrors, with a slight difference due to the addition of *C. bahoruco*, that of SOURAKOV & ZAKHAROV (2011).

Calisto confusa LATHY, 1899

Trans. Ent. Soc. London 34(1-2): 227, pl.4; TL: Haiti. Types: Haiti ♂, In Coll. Brit. Mus. GODM. SALV., ♂, ♀, in coll. J. J. ADAMS.

Distribution: Hispaniola (widespread).

Adult Characteristics: LFW ♂ 13-15 mm, ♀ 14-17 mm. ♂ UPFW black with black androconial patch from inner margin to space 4. Its outer edge roughly curved. UN wings greyish brown. UNFW cell with a red patch not reaching the line at cell end. Ocellus with two white dots and area under it red brown. UNHW with a proximal whitish curved line, distal line edged with black basally. Ocellus in space 2 slightly oblong with one white spot displaced anteriorly. ♀ UPFW with traces of a submarginal line.

♂ genitalia tegumen smooth. Uncus proportionately longer and more slender than in either *hysius* or *tragi*: not so strongly arched dorsally. Distal part of the valvae short and round. Gnathos short and thin. BATES (1935b) noted a size variation of the valvae of specimens from Tiburón Peninsula which are shorter if compared with those of other populations.

Comments: In the past, it was hypothesized that *C. confusa*, *debarriera*, *montana*, *neiba* and *gonzalesi* were conspecific. *C. debarriera* was separated from *confusa* by SOURAKOV & ZAKHAROV (2011). *Calisto confusa* and *obscura* seem structurally related but quite distant on the basis of DNA barcoding (SOURAKOV & ZAKHAROV, 2011).

Calisto confusa is a common, small, and widespread species from sea level to 1900 m. Not found in xeric environments. SOURAKOV (1996) described the preimaginal stages of many species of *Calisto* including *C. confusa* and *C. debarriera*. Characters of immature stages, such as egg, larval, and pupal structures and colour patterns, were found to be of taxonomic value. Correlations between these characters and ecological strategies employed by immature stages of different *Calisto* species are found. On the basis of these observations, *debarriera* was synonymized with *confusa* and

assigned a form status whereas *C. grannus grannus* and *C. grannus dilemma* are confirmed to be conspecific. In contrast, *C. batesi* and *C. hysius*, as well as *C. sommeri* and *C. grannus*, are proved to be separate species.

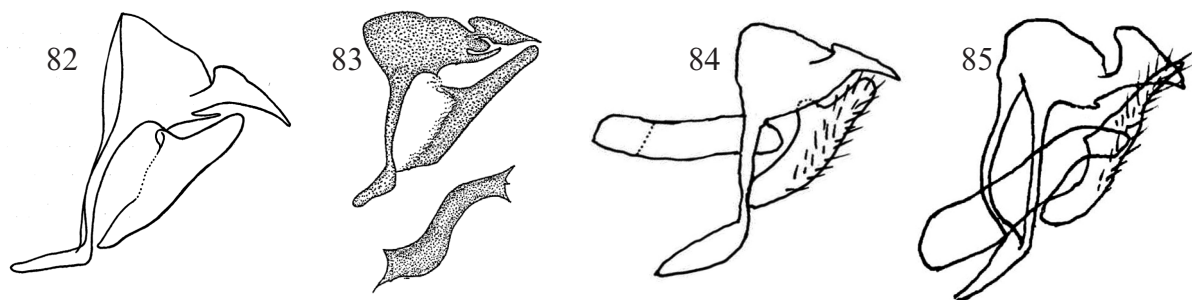


Fig. 82: ♂ genitalia *C. confusa* LATHY, 1899 (modified after MICHENER, 1943).

Fig. 83: ♂ genitalia HT *Calisto thomasi* JOHNSON & HEDGES, 1998 (modified after JOHNSON & HEDGES, 1998).

Fig. 84: ♂ genitalia *C. neiba* SCHWARTZ & GALI, 1984 (modified after SCHWARTZ & GALI, 1984).

Fig. 85: ♂ genitalia *C. batesi* MICHENER, 1943 (modified after CORREA & SCHWARTZ, 1986).

***Calisto thomasi* JOHNSON & HEDGES, 1998**

Trop. Lep. 9: 50, TL: Haiti: Sud: 10.7 km. WNW Les Platons (citadel), Caye Paul 1120m. Types: HT ♂ labelled "Haiti: Sud: 10.7 km. WNW Les Platons (citadel), Caye Paul 1120 m, leg. S. B. HEDGES and N. PLUMMER, 1 Jun 1991, #27438. AT ♀, labelled same as HT, #27434. Both additionally labelled "A. SCHWARTZ Collection donated by M. STRAHM, access no. IZ 1993-35A, Milwaukee Public Museum"; both deposited MCPM.

Distribution: Haiti, Massif de la Hotte.

Adult Characteristics: LFW ♂ 14.5, ♀ 15 mm. JOHNSON & HEDGES (1998) described the species as follows: ♂ small, UP wings reddish brown HW tornal lobe not distinct in the ♂, absent in the ♀. ♂ FW androconia triangular, deep brown, from the posterior half of the cell to the inner margin. (similar to *montana* androconia). UNHW with a small ocellus pupilled with a white dot, and white internervular dots in M2-M3. ♀: Slightly larger than ♂ (LFW 15.0mm) and with more rounded wings. Upper FW and HW similar to ♂ except for lack of androconial patch, Underside with greyish chocolate colouration, darker than on holotype. *C. thomasi* can be easily separated from the only other small *Calisto* reported from the Massif de la Hotte namely *C. debarriera*. According to JOHNSON & HEDGES (1998). ♂ genitalia of this species are rather different from other *Calisto* species - those of *C. montana* are undescribed - uncus short and keel-shaped, about 0.5 length of tegumen; tegumen with two dorsal humps and broad lateral surface; gnathos robust, rather straight, and about one-half length of uncus; valvae elongate with caudal extension narrow and fingerlike, Aedoeagus robust and distinctly sigmoid, with distal prongs.

Comments: JOHNSON & HEDGES (1998) discussed the differences of androconia in 4 *Calisto* with UNHW markings most similar to *C. thomasi*:

C. obscura: blackish brown, extending from wing base anterior to the discal cell and with irregular distal margin;

C. confusa: black, round and sharply defined from inner margin to discal cell;

C. mitcheneri: suffusive black and rounded, occurring posterior of the discal cell;

C. montana: suffusive dark brown, occurring in posterior half of discal cell and posterior of the cell. Androconial patches in two other small *Calisto* but with UNHW pattern different from that of *C. thomasi*: 1) *C. debarriera* black, round, similar to but less concisely defined than in *C. confusa*; 2) *C. batesi* black and large, including discal cell and areas posterior of the discal cell.

The ♂ androconial patch in the *grannus* complex (SMITH et al. 1994) is suffusive black and generally covers the basal two-thirds of the FW.

***Calisto debarriera* CLENCH, 1943**

Calisto confusa debarriera CLENCH, 1943, Psyche 50 (1-2): 25. TL: Debarriere [=Désbarrière], de la Hotte Mt, Haiti, 4000 ft Types: HT ♂, Debarriere, La Hotte Mt., Haiti, 4000 ft., Oct. 13, 1934 (P. J. DARLINGTON leg.). (M. C. Z. ♂ genitalia slide no. 363.) PT ♂, same data. HT, in coll. MCZ. no. 25916. PT in the author's collection.

= *Calisto neiba* SCHWARTZ & GALI, 1984, Bull. Allyn Mus., 85:2, 7 figs; TL: Republica Dominicana, 15 km S Comendador, 976 m, Prov. de Elías Piñas, Types: HT ♂: Republica Dominicana: Provincia de La Estrelleta: 15 km S Elías Piña, 976 m, 26.vii.1981 (F. GALI leg.), ex coll. A. SCHWARTZ, ex coll. Allyn Museum of Entomology, now in MGCL. PTs: 5 ♂♂, 5 ♀♀, 26.vii.1981; 2 ♂♂, 1 ♀, 27.vii.1981 (A. SCHWARTZ coll.) from the TL; 1 ♂ (F. GALI coll.), 1 ♂ (A. SCHWARTZ coll.), 5.viii.1982, Republica Dominicans, Prov. de la Estrelleta, 2 km NE Puesto Piramide 204, 1586 m; 5 ♂♂ (F. GALI coll.), 5 ♂♂ (A. SCHWARTZ coll.), 1 ♂ (R. W. WISOR coll.), 6.viii.1982, Rep. Dom., Prov. de la Estrelleta, 2 km NE Puesto Piramide 204, 1586 m.

Distribution: Massif de la Hotte, Haiti; Sierra de Neiba, Dominican Republic.

Adult Characteristics: LFW ♂ 13-15 mm, ♀ 14-15 mm. ♂ Upperside: both wings black-brown. FW discal dark patch in the lower central part. UNFW with a subapical, bipupilled ocellus, ringed with yellowish. Cell red with colouration spreading in the near interspaces. UNHW lightly overcast with a few scattered whitish scales. A single ocellus near the anal angle, with its small white pupil slightly basad of the center. A very obscure line crosses the basal part of the wing. Inwards the two submarginal lines slightly converge towards the anal angle, and in the latter part are white in-between. Three white spots basally to the inner submarginal line, one each in the interspaces M2-M3-Cu1.

It differs from *confusa*, although not always, for the reduction of the white discal and postdiscal bands on UN wings.

Also for being darker below and with the light lines obscured. The cellular red colour is darker also.

Comments: Originally, *C. debarriera* was described as a ssp. of *C. confusa* from the Massif de la Hotte, S Haiti. Given that *C. debarriera* and *C. confusa* apparently occur syntopically, *C. debarriera* was considered a form of *C. confusa* as RILEY (1975) stated. The same conclusion was reached by SMITH et al. (1994). On the contrary, MUNROE (1951a) considered *debarriera* a species different from *confusa* chiefly because of a slight difference in the aedoeagus. In *confusa* the aedoeagus is about four times as long as broad, and in those of *debarriera* this organ is about six times as long as broad. Then, MUNROE (1951a) and SCHWARTZ (1989a) reinstated it at species level. Also according to SCOTT (1986a) *C. debarriera* is a distinct species, with *C. d. neiba* a ssp. of it (both *debarriera* and *neiba* occur at higher altitude and have the UNHW lines weaker than those of *confusa*; *neiba* has more UNHW ocelli than the others; *neiba* is sympatric with *confusa*).

SOURAKOV (1996) noted that immature stages of *C. debarriera* should support synonymy with *C. confusa* but external characters and size distinguish the *C. debarriera* morph of the Massif de la Hotte.

Later, SOURAKOV & ZAKHAROV (2011) basing on DNA barcoding data consider it sister to *confusa*. MATOS-MARAVI et al. (2014) confirm *debarriera* and *confusa* as sister-taxa. For the time being, we consider *debarriera* and *confusa* two separate species.

Regarding *C. neiba* SCHWARTZ & GALL, 1984 as noted above, it is considered a synonym of *debarriera* according to SOURAKOV & ZAKHAROV (2011) based on DNA barcoding of a single specimen clustering in an unresolved clade among 5 specimens of *debarriera*. *Calisto neiba* is similar to *confusa*. HWs underside with 3 black ocelli white pupillated and ringed with yellow. Ternal lobe weakly developed. It is found in a few localities only from 670 to 1600 m in the Sierra de Neiba. It prefers shady places in mesic forests. These populations are slightly larger than typical *debarriera* LFW ♂ 14-16 mm, ♀ 15-17 mm.

According to TAKIZAWA et al. (2003) it does not occur around Las Lagunas, N slope of Sierra de Neiba which is totally deforested. It flies on the S slope at 1700 m below Puesto de Calimete at 1200 m near Aniceto Martinez. We found *C. neiba* uncommon at Juan Santiago, prov. Elias Piña, 750 m at the beginning of June.

***Calisto montana* CLENCH, 1943**

Calisto hysius montana CLENCH, 1943, Psyche **50** (1-2): 24. TL: Haiti, Mt. Basil, 4500 feet. Types: HT ♂, Mt. Basil, Haiti, 4500 feet, September 1934 (P. J. DARLINGTON and M. BATES leg.), in coll. MCZ. no. 25914.

Distribution: N Haiti, Morne Basile, Montagnes Noires.

Adult Characteristics: This taxon is apparently known on the HT ♂ only. CLENCH (1943) described *Calisto hysius montana*, on this ♂ from Mt. Basil, Haiti. He noted that: "This subspecies differs from typical *hysius* in lacking the red patch below the subapical ocellus of the fore wing; in the marginal extension of the red into the outer extremity of the cell below; in the white post-median line on the hind wing below, which in typical *hysius* is less prominent and bordered with blackish; and in the slightly larger subapical ocellus on the underside of the fore wing. Also, the subanal ocellus of the hind wing below is more nearly round, and has the pupil almost in the center, while in *hysius* the ocellus is oval, with the pupil towards the base".

Comments: MUNROE (1951a) raised *montana* to species level noting that it differs from *hysius* for the absence of the UNFW postmedial red patch, and for the UNHW white dot in the black ocellus which is almost central and not eccentric. Various authors debated on the status of this taxon. RILEY (1975), SCHWARTZ (1989a) and SMITH et al. (1994) considered it a good species, and SCHWARTZ (1989a) discussed also on the type locality and guessed it should be "Mourne Bazile", the highest peak in the Montagne Noires. JOHNSON & HEDGES (1998) suggested it may represent a specimen of *obscura* or *confusa* whereas SOURAKOV & ZAKHAROV (2011) synonymized it with *C. debarriera*.

If indeed *montana* is conspecific with *confusa* together with *neiba*, *debarriera*, and also likely with *gonzalezi* (see SOURAKOV & ZAKHAROV, 2011: 208) then geographically it may have sense and they should constitute different populations of the same species. We retain this taxon distinct for the time being.

***Calisto gonzalezi* SCHWARTZ, [1988]**

Florida Sci. **50** (4): 247-248. TL: República Dominicana, Provincia de Sánchez Ramirez, 1 km NE Las Lagunas, 183 m. Types: HT ♀: República Dominicana: Provincia de Sanchez Ramirez: 1 km NE Las Lagunas, 600 ft. (183 m), 27. vi. 1985 (F. L. GONZÁLEZ leg.), ex coll. A. SCHWARTZ (original no. AS 14291), ex coll. Allyn Museum of Entomology, now in coll. MCGL. PTs: 7 ♂♂, all with the same data as the HT (FLG [collection of F. L. GONZÁLEZ] 311-12, FLG 334-336, AS 14289-90); 1 ♂ (FLG 2655), 1 ♀ (AS 17877), same locality as HT, collected by F. L. GONZÁLEZ, 7.vi.1986.

Distribution: Dominican Republic, Sierra de Yamasá, N of Santo Domingo.

Adult Characteristics: LFW ♂ 14-17 mm, ♀ 16-17 mm. Sexes slightly different but ♂ diagnosable for the androconial patch. UNFW with a reddish colouration in the cell; black large ocellus in Rs-M3 ringed with yellow, with two whitish pupils. Dark marginal and submarginal lines with a pale band in-between. UNHW 2 black ocelli, the anterior the largest, followed by 3- 5 white internervular dots.

♂ genitalia resembles that of *C. confusa* and *C. hysius* much more closely than that of *C. obscura*. The ♂ genitalia of the latter species is the most distinctive, and that of *C. confusa*, *C. hysius*, and *C. gonzalezi* are rather similar. In *gonzalezi* the tegumen is flat; uncus about one-half the length of the tegumen; valvae strongly bowed ventrally; aedoeagus only slightly sinuate.

Comments: *C. gonzalezi* was considered a synonym of *C. debarriera* by SOURAKOV & ZAKHAROV (2011: 208). We retain it as a different species for the time being. This is a rare species localized in the lowlands and adapted to mesic hardwoods. The type locality is now cleared and apparently the species was recorded no more from Las Lagunas area in central Cibao.

***Calisto batesi* MICHENER, 1943**

Amer. Mus. Novit. **1236**: 1-6, 2 figs.; TL: Sánchez, Prov. de Samaná. Republica Dominicana. Types: HT ♂, Sanchez, Dominican Republic, May 11-16, 1915. AT ♀, same locality, May 17-21, 1915. PTs: 10 ♂♂, 2 ♀♀, three with the data of the HT; one with that of the AT; one topotype, June 30 to July 4, 1915; one topotype, April 23, 1930; one, Kato (sic = Hato) Mayor, Dominican Republic, July 21, 1935 (W. G. HASSLER leg.); one, Puerto Plata, Dominican Republic, May 7-8, 1915; two, Las Matas, Dominican Republic, June 27 and 30, 1940 (one from Arroyo Sabana Miguel) (J. G. NEEDHAM leg., Cornell University collection); two, Mt. Puilboreau, Ennery, Haiti, 3000 feet altitude, July 10, 1935.

Distribution: Hispaniola (most common in N Dominican Republic).

Adult Characteristics: LFW ♂ 12-15 mm, ♀ 13-15 mm (north populations); ♂ 12-14 mm, ♀ 16-17 mm (south populations). *C. batesi* was considered for a long time a ssp. of *C. hysius*, they are now treated as two different species especially for the differences in ♂ genitalia. In *batesi* the two discal and postdiscal UNHW lines are arranged in a chevron. In most specimens classified as *hysius* the lines are more or less straight but the NT ♂, designated by JOHNSON & HEDGES (1998), shows the outer line bent over the tornus. In a topotype ♀ this line is almost straight. It seems that these lines are differently shaped in the two sexes.

♂ genitalia: Uncus short and separated by a deep and broad pretegumental groove from the tegumen, which are highly arched. Valvae long and narrow. In *C. hysius* valvae are broader posteriorly (less finger-like) and the uncus is more flat-topped than in *C. batesi*. Also the gnathos in *C. hysius* is long and thin, whereas in *C. batesi* gnathos is short and inconspicuous (CORREA & SCHWARTZ, 1986).

Comments: Apparently both, *batesi* and *hysius*, overlap in a narrow belt with no intergradation, in a few localities in Barahona and Pedernales Provinces. The two species are the representative of the North and South Palaeoislands, respectively (see SCHWARTZ, 1989a: 410). If you compare long series of *batesi* and *hysius*, the former has a LFW of 12,5-14,5 vs 15-18 of *hysius*.

It is a small species and widely distributed in Dominican Republic, with a few records only for Haiti. It is common in a variety of habitats, mesic woods, forests, and cafetales but apparently not in xeric environments, from sea level up to 1700 m. ♀♀ of northern populations are slightly smaller. Also the preimaginal stages are different from those of *hysius* (SOURAKOV, 1996).

***Calisto loxias* BATES, 1935**

Occas. pap. Boston Soc. Nat. Hist. **8**: 229-248, 10 figs. TL: Roche Croix, Massif de la Hotte, Dépt, du Sud, Haiti Types: HT ♂, Roche Croix, La Hotte, Haiti, 5000' 13. x. 34, P. J. DARLINGTON [leg.]. PTs 4 ♂♂, 1 ♀ same data in coll. MCZ.

Distribution: Hispaniola Palaeoisland. Massif de la Hotte, Haiti; nr. Las Abejas, SW Dominican Republic.

Adult Characteristics: LFW ♂ 21-22 mm, ♀ 21-23 mm. BATES (1935b) described the ♂ as follows: Androconia patch as described for the *archebates* group. Upperside: dark fuscous. UNFW: fuscous, with a small patch of reddish brown in the upper angle of the cell; apical ocellus black, faintly and narrowly ringed with yellow, with a single minute bluish central spot; a faint brownish shading on the outer margin in fresh specimens. UNHW: fuscous, irrorated with brown scales; median band broad, contrasting but slightly with the ground colour, edged proximally and distally by faint lines; anal ocellus black, almost round, encircled with light brown, with a minute white central spot; four white spots between the veins indicating the ocellar row; some diffuse brown shadings discernible in the submarginal area.

♂ genitalia very similar to the same structures in *archebates*: uncus somewhat heavier than in *archebates*, valve slightly excavated before the apex, uniformly rounded in *archebates*.

Comments: According to SCHWARTZ (1989a) it is the vicariant of *archebates* in Haiti, but both species occur also at Pedernales, Las Abejas. JOHNSON & HEDGES (1998) stated that "It is an unambiguous yellow-striped species". Indeed, this seems to be referred to the light and pale HW underside discal band bordered proximally with a whitish line coupled with the single ocellus and 4 small white dots. In fact, BATES (1935b) included it in the *archebates* group noticing that the milky HW pattern is missing in *loxias*. This species even though quite different in pattern from *chrysaoros* or *galii* is included in Section I of MUNROE (1951a). MATOS-MARAVI et al. (2014) assaying this taxon with DNA data found that it belongs to the *confusa* species-group, and it is sister to *hysius*.

***Calisto bahoruco* PÉREZ-ASSO, NÚÑEZ & GENARO, 2017**

In NÚÑEZ et al. (2017): Zootaxa **4317** (1): 3-6; TL: Villa Nizao, Paraíso, Barahona, República Dominicana Type: HT ♂, Villa Nizao, Paraíso, Barahona, República Dominicana, 5-VIII-2014, A. R. PÉREZ-ASSO & A. LÓPEZ coll., DNA voucher code JAGWI-1018 (VGRC). PTs. 4 ♂♂, 5 ♀♀, same data as HT except DNA voucher codes JAGWI-1015, 1016, 1018, R-114, R-115 (VGRC). Genitalia slide preparations ♂: Rh1745, Rh1752, and ♀: Rh1747 (in coll. ZSM).

Distribution: Villa Nizao, Paraíso, Barahona, República Dominicana.

Adult Characteristics: LFW ♂ 14-16 mm, ♀ 17 mm. ♂ UPFW blackish brown with triangular androconial patch from base to the cell. UNFW dark brown, paler beyond the post discal line. Discal cell red edged with a transverse black bar. Postdiscal line with a narrow yellow band outwardly. Ocellus large, with two white dots edged below by a red spot. UNHW discal line edged by a narrow whitish band. Ocellus elliptical, with a single basal white dot. Anteriorly with four tiny white internervular dots. PÉREZ-ASSO et al (2017) described the ♂ genitalia which are very similar to those of *hysius* but the tegumen of the latter broadly protrudes backwards compared to that of *C. bahoruco*, and in addition the ♂ structure of *bahoruco* is more sclerotized.

♀ LFW 15.7-17.9 mm. Similar to the ♂ except: UP wings brown, with outer half paler. Outer third of both wings with a reddish spot.

Comments: In the past, it is not unlike that this taxon was confused with *C. batesi* or *C. hysius*. In fact, as pointed out by PÉREZ-ASSO et al. (2017) three specimens identified as *C. hysius* from two other localities of the Barahona Province

(Enriqueillo and Polo) illustrated on the Butterflies of America website (WARREN et al. 2016) probably are *C. bahoruco*. The third specimen from La Vega seems to match with the undescribed ♂ of *C. hysius aleucosticha*.

PÉREZ-ASSO et al. (2017) compared *Calisto bahoruco* and *C. hysius* which are very similar in pattern but differ in several characters. Average LFW is smaller in *C. bahoruco*, 15 mm in ♂♂ and 16.8 mm in ♀♀ if compared to *C. hysius* (16.5 mm in ♂♂, 18.3 mm in ♀♀). Ocelli are distinctly larger in *C. bahoruco*. Wing pattern of *C. bahoruco* has a UN wings darker background, the discal area of the HW is straighter and smooth, the overall pale scaling on the distal edge of lines is much more contrasting compared to the equivalent in *C. hysius* which shows a paler ground colour, less contrasting distal edges of lines and the discal line more irregular than that in *C. bahoruco*.

The tree topology illustrated by PÉREZ-ASSO et al. (2017) is as follows: {[(*Calisto confusa* + *C. debarriera*) + (*C. bahoruco* + *C. hysius*)] + [(*C. tragi* + *C. batesi*) + (*C. obscura* + *C. grannus*)]}. Therefore, *Calisto confusa* and *C. debarriera* are sister of all other species. *C. obscura* and the *C. grannus* complex being sister of the remaining species. It is found in secondary mesic forest mixed with coffee plantations at the extreme eastern area of Sierra de Bahoruco.

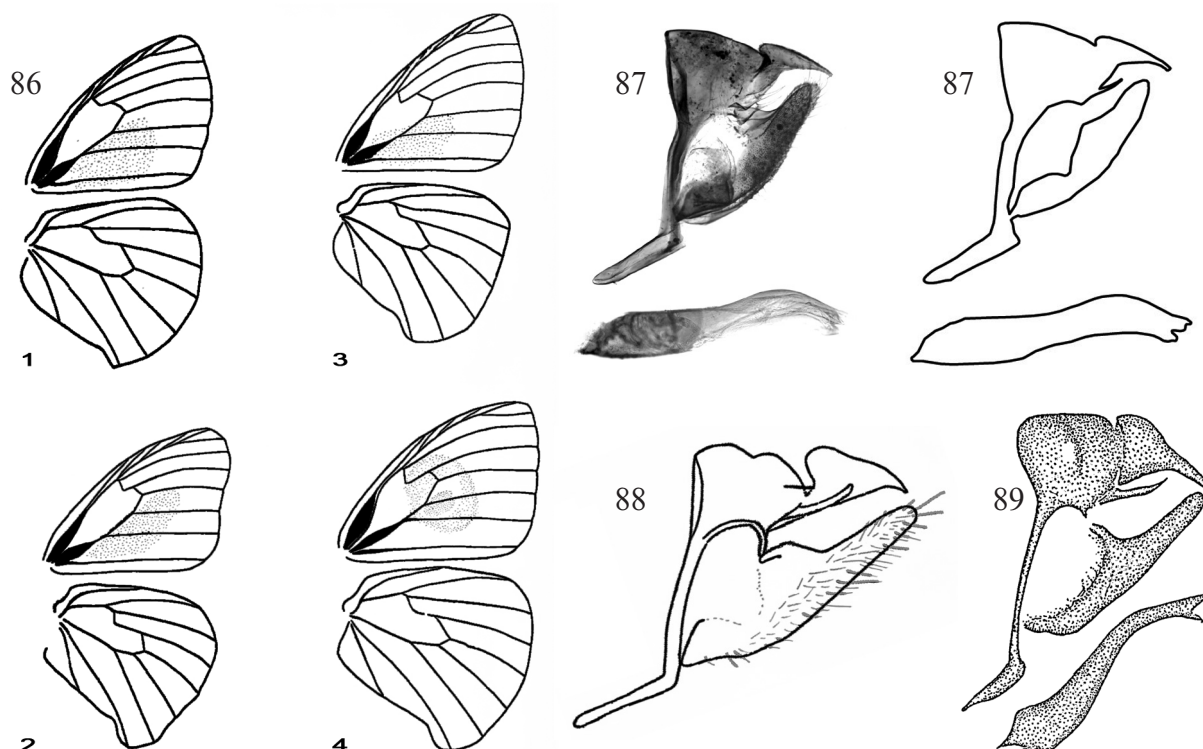


Fig. 86: Wing venation and androconia in some species of *Calisto* - 1. *C. archebates*; 2. *C. chrysaoros*; 3. *C. tragi*, 4. *C. zangis* (modified after BATES, 1935b).

Fig. 87: Left - ♂ genitalia *Calisto bahoruco* PÉREZ-ASSO, NÚÑEZ & GENARO, 2017 (modified after NÚÑEZ et al. (2017). Right - redrawn.

Fig. 88: ♂ genitalia *C. hysius* GODART, [1824] (modified after BATES, 1935b).

Fig. 89: ♂ genitalia NT *Papilio hysius* GODART, [1824] (modified after JOHNSON & HEDGES, 1988).

***Calisto hysius hysius* (GODART, [1824])**

Satyrus Hysius GODART, [1824], Enc. Méthod. 9 (2): 525. TL: "L'Amerique septentrionale" ["Haiti", RILEY (1975); NT ♂ (JOHNSON & HEDGES, 1998: Fig. 2A). - LFW 16.0 mm; labelled "Haiti: Sud: 10.7 km. WNW Les Platons (citadel), Caye Paul 1120 m., leg. S. B. HEDGES and N. PLUMMER, 1 Jun 1991, AS 27459," and "designated NT of *Satyrus hysius* GODART by JOHNSON & HEDGES 1998"; deposited in MPM (Milwaukee Public Museum, Milwaukee).

Distribution: Hispaniola (South Palaeoisland).

Adult Characteristics: LFW ♂ 16-17 mm, ♀ 17-18 mm. *Calisto hysius* is one of the smallest *Calisto* together with *batesi*, *obscura* and *confusa*. Similar to *batesi* with which it was related but it differs in genitalia (CORREA & SCHWARTZ, 1986). It is found in the "southern Palaeoisland" sensu SCHWARTZ (1980) from 150 to 1900 m namely Sierra de Bahoruco and along Tiburón Peninsula (Massif de la Selle and Massif de la Hotte).

Comments: JOHNSON & HEDGES (1998) described again ♂ and ♀, and designated a ♂ NT. We repropose the description herewith. "♂: LFW 16-17 mm; upper FW and HW ground blackish brown, FW with black androconial patch covering basal two-thirds of wing, distally parallel with FW outer margin; under FW and HW with concentric basal, medial and postmedial ground colours greatly contrasted and divided from each other by pronounced black divider lines edged prominently distad with bright gray and/or white scales. FW basal area: rust-red patch followed by divider line; medial area: grizzled olive-brown followed by divider line; postmedial area: light olive with central rust-red suffusion centrad, large ocellus ringed moderately with yellow and containing white dots at center and 6 o'clock.

HW with basal, medial and postmedial areas marked as FW except for lack of the basal rust-red and, on HW, with a

rather ovate yellow-ringed black ocellus with bold white dot at 12 o'clock, and four white dots across postmedial area in cells Sc+R, and M1-M3. Area from HW ocellus to inner margin not darkened, marginal and submarginal ground adjacent outer margin distinctly light (beige or as light as the gray/white of the divider lines) with intervening black dashes crossing each cell.

♀: LFW 16-17 mm. Many *C. hysius* ♀♀ at Caye Paul show often morphs with extreme light underside. Also they show broad rust-red dorsal patches (FW postmedial, HW limbal) typifying *C. hysius*".

♂ genitalia. Tegumen humped separated by a deep central depression from the beak-like uncus; this is short, strongly arched dorsally; gnathos, long and thin, valva regular with blunt tip.

The immature stages of *C. hysius* were described by SOURAKOV (1996) but those of *C. bajoruco* remain unknown.

***Calisto hysius aleucosticha* CORREA & SCHWARTZ, 1986**

Calisto aleucosticha CORREA & SCHWARTZ, 1986, Florida Sci. **49** (1): 14, 2 figs. TL Buena Vista, 11 km NW Jarabacoa, 640 m, Prov. de La Vega, Dominican Republic. Types: HT ♀: Republica Dominicana: Provincia de La Vega: Buena Vista, 11 km NW Jarabacoa, 640 m, 31.xii.1980 (C. J. JIMENEZ leg.), ex coll. A. SCHWARTZ, ex coll. Allyn Museum of Entomology, now in coll. MCGL. PTs: 2 ♀♀ both from Republica Dominicana: Prov. de Santiago Rodriguez: 19 km SW Monción, 610 m (AS - ALBERT SCHWARTZ collection -8777, 6833), 2 f, 13.viii.1982, 3.viii.1981, F. GAH.

Distribution: Dominican Republic, Cordillera Central (N Paleoisland).

Adult Characteristics: ♂ unknown. ♀: LFW ♀ 15-17 mm. UPFW brown, darker basally; UNFW with a basal red suffusion in the cell; apical black ocellus pupilled with two small white ocelli bordered with a yellow ring. UNHW brown with paler margin. One small black ocellus in Cu1-Cu2 with one white dot inside; anteriorly 1 to 3 white internervular dots. The lines converging at tornus not edged with white as in *C. batesi*.

Comments: CORREA & SCHWARTZ (1986) described *C. aleucosticha* as a new species on the HT ♀ and 2 ♀♀ PTs from the Province of Santiago Rodriguez, 19 km SW Monción, 610 m. SCHWARTZ (1989a), and SMITH et al. (1994) treat it as a good species. Considered as the "northern island" representative of *C. hysius*, it is known on few specimens collected at mid altitudes (600 m) in Elias Piñas and La Vega provinces in mixed and pine forests.

As NUÑEZ et al. (2017) suggested, the specimen figured as *C. hysius* in WARREN et al. (2016) is perhaps the ♂ of *C. aleucosticha*.

***Calisto grannus*-complex**

This complex comprehends 13 taxa, 8 of which are considered systematically ranked as subspecies of *C. grannus*. The status of some of them is still open to debate perhaps having the rank of full species or synonyms of other subspecies. SCHWARTZ & GALI (1984) who described the two related taxa *C. sommeri* and *C. micrommata*, and GONZÁLEZ (1987) was the first author to face the issue. GONZÁLEZ (1987) recognized *C. grannus*, with its ssp. *dilemma*, *C. phoinix*, *C. amazona*, and *C. dystacta*, and linked them to *C. micrommata* and *C. sommersi*, all presenting two ocelli pupilled with a white dot. The same author, (GONZÁLEZ, 1987) also noted that ♂ genitalia are very similar and do not constitute a reliable character to separate these taxa. In fact, ♂ genitalia of *C. g. dilemma*, *C. phoinix*, *C. amazona*, and *C. dystacta*, are very close if not identical with those of *C. g. grannus*. "All, including *C. g. grannus*, have slightly sinuate aedoeagi, the sacci are short and bulbous, and the tegumina are extremely arched. The unci all have the typical bird's head shape". However, the morphological characters of some of these species and/or subspecies namely *C. g. dilemma*, *C. phoinix*, and *C. dystacta* are very similar and it is not easy in separating the species on primarily external features. GONZÁLEZ (1987) and JOHNSON et al. (1987) illustrated *Calisto* ♀ genitalia, also of the *grannus* complex which give more weight in the differentiation of the complex.

A new scenario has shed light with the advent of DNA molecular approaches. NUÑEZ et al. (2017) commented upon the *C. grannus*-complex. Assaying 215 COI barcode sequences, they identified 8 species, and the populations within the *C. grannus* complex appear to be conspecific. Haplotypes from the Sierra de Neiba (*micrommata*) and Sierra de Bajoruco (*micheneri*) are found in their respective far apart ranges. Although weakly supported, the authors inferred that *C. sommeri* from the Sierra de Bajoruco and *C. micrommata* from the Sierra de Neiba are genetically distinct enough. As a matter of fact, *C. phoinix*, *micheneri*, *grannus*, *dilemma*, and *amazona* show a variable degree of introgression, except *C. grannus dystacta*. Indeed, some taxa are morphologically well characterized (see *C. phoinix*) others like *C. grannus* show a great deal of variability and, within the same population, one can find specimens with *amazona*, *dilemma* and *dystacta* phenotypes. See also on this issue the DNA barcodes results of NUÑEZ et al. (2017). It is not unlike that the name *micheneri* holds true for all the populations of *C. grannus* in the Cordillera Central namely *dystacta*, *dilemma* and *phoinix*. *C. grannus* and *dilemma* have similar larvae whereas those of *sommeri* are different (SOURAKOV, 1996). For the time being, we consider this complex as an "Artenkreis" (RENSCH, 1928).

***Calisto grannus grannus* BATES, 1939**

Calisto grannus BATES, 1939, Psyche **46** (2-3): 49. TL Valle Nuevo, SE Constanza, c. 7000 ft., [Prov. de La Vega], Rép[ublica] Dom[inicana]. Types: HT ♂/Valle Nuevo, SE Constanza, Aug. 1938, Dom. Rep., ca 7000 ft., DARL.[INGTON leg.]/1 PT ♂, Valle Nuevo, S. E. Constanza, Rep. Dom., Aug. 1938, c. 7000 ft., P. J. DARLINGTON leg; 3 PTs ♂♂ from Loma Rucilla, June 1938, 8000 ft., P. J. DARLINGTON leg. in coll. MCZ.

Distribution: Dominican Republic, Cordillera Central.

Adult Characteristics: LFW ♂ 16-19 mm, ♀ 17-20 mm. UP wings dark brown. Androconia patch like that of *C. hysius*. UN slightly paler with a FW thin dark discal line. UNFW usually a basal red suffusion is missing; large black ocellus ringed with yellow and centred with two white dots; along the outer margin two wavy submarginal lines. UNHWs two black ocelli pupilled with a white dot; sometimes supenumerary ocelli. Between the black ocelli two white dots of different size. As BATES (1939) reported ♂ genitalia strikingly similar to those of *C. hysius*, differing only in details of

proportion and chitinization.

Comments: The three PTs specimens reported by BATES (1939) from Loma Rucilla differ from the others in that the lines of the under side are more obscure, the ocellus of the forewing smaller.

Found in the Cordillera Central between 1150 to 2200 m in pine forests from June to September. SOURAKOV & EMMEL (1995a) described the preimaginal stages from eggs obtained from ♀♀ collected at Valle Nuevo, 2930 [?1930] m.



Fig. 90: Distribution of the taxa of the *C. grannus* complex. 1 - *Calisto g. phoinix*; 2 - *Calisto g. amazona*; 3 - *Calisto g. dystacta*; 4 - *Calisto g. micrommata*; 5 - *Calisto g. sommeri*; 6 - *Calisto g. micheneri*; 7 - *Calisto grannus grannus*; 8 - *Calisto g. dilemma* (modified after SCHWARTZ, 1989a and NUÑEZ et al., 2017).

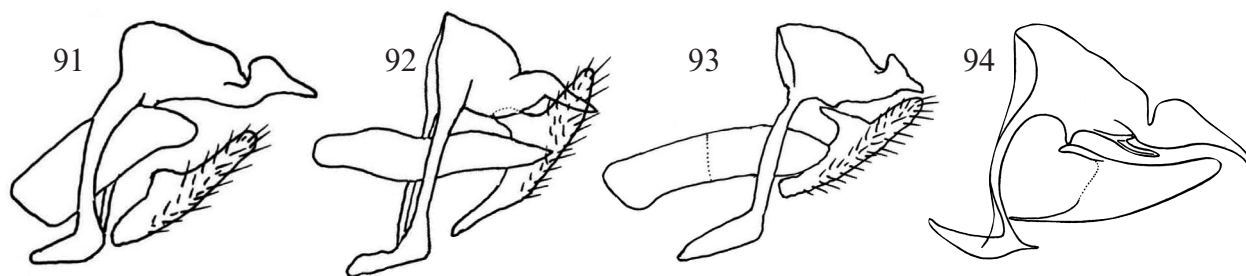


Fig. 91: ♂ genitalia *C. grannus grannus* BATES, 1939 (modified after SCHWARTZ & GALI, 1984).

Fig. 92: ♂ genitalia *C. g. micrommata* SCHWARTZ & GALI, 1984 (modified after SCHWARTZ & GALI, 1984).

Fig. 93: ♂ genitalia *C. g. sommeri* SCHWARTZ & GALI, 1984 (modified after SCHWARTZ & GALI, 1984).

Fig. 94: ♂ genitalia *C. obscura* MICHENER, 1943 (modified after MICHENER, 1943).

Calisto grannus amazona GONZÁLEZ, 1987

Bull. Allyn Mus. **108**: 6 (fig 1 map; fig. 2 D ♂ genitalia; fig. 3 C unhw HT ♂). TL Republica Dominicana, Provincia de Santiago, Entrance to Valle de Tetero, 1922 m. Types: HT ♂: Republica Dominicana: Provincia de Santiago: entrance to Valle de Tetero, 6300 ft. (1922 m); 19.vii.1985 (F.L. GONZALEZ leg.), ex coll. A. SCHWARTZ, ex coll. Allyn Museum of Entomology, now in coll. MCGL. PTs. 4 ♂♂, 5 ♀♀ (AS = ALBERT SCHWARTZ coll.), 6 ♂♂, 2 ♀♀ (FLG = FERNANDO L. GONZÁLEZ coll.), TL, 19.vii. 1985; 4 ♂, 1 ♀ (AS), 5 ♂♂, 1 ♀ (FLG), Prov. de Santiago: La Laguna, 6000 ft. (1830 m), 19.vii.1985; 6 ♂♂, 6 ♀♀ (AS), 2 ♂♂, 1 ♀ (FLG), Prov. de Santiago: La Laguna, 6000 ft. (1830 m), 16.vii.1985.

Distribution: Dominican Republic, Cordillera Central, Pico Duarte area, 1100-3000m.

Adult Characteristics: LFW ♂ 15-18 mm, ♀ 18-19 mm. UNFW without red in the cell; UNHW brown with rusty postdiscal band. Usually easily identifiable for the two large black spots on the postdiscal band of the UNHWs. These spots larger in *grannus* and smaller in *sommeri*. There is also a super-numerary minute black dot encircled with yellow, and a white pupil in S7 in almost 80% of specimens.

Comments: This is a high altitude taxon of the *grannus* complex. It is found in the Cordillera Central from 1100 to 3000 m. It flies in July in pine forests. We found, both “*grannus*” and “*amazona*” phenotypes flying together at the south entrance of the Park on the road Constanza- San José de Ocoa.

Calisto grannus micheneri CLENCH, [1944]

Calisto micheneri CLENCH, [1944], Psyche **50** (3-4): 115 (repl. name for *Calisto batesi* CLENCH, 1943), TL: Loma del Toro, foothills of the Cordillera Central, about 5000 ft., South of Santiago, República Dominicana.

= *Calisto batesi* CLENCH, 1943 Psyche **50** (1-2): 23 (preocc. MICHENER, 1943), TL: Loma del Toro, foothills of the Cordillera Central, about 5000 ft., South of Santiago, República Dominicana. Types: HT ♂, Loma del Toro, foothills

of the Cordillera Central, south of Santiago, Republica Dominicana, Hispaniola, \approx 5000 feet, June 1938 (P. J. DARLINGTON leg.). In coll. MCZ. no. 25915.

Distribution: Dominican Republic, Cordillera Central.

Adult Characteristics: LFW m 14 mm UNHWs greyish brown with a reddish band outside cell; a brown dentate submarginal band; a tiny small black single pupillated ocellus in Cu1-Cu2.

Comments: The holotype is quite faded and it may represent a specimen of *confusa* or *obscura* according to JOHNSON & HEDGES (1998). SCHWARTZ (1989a) reported that only the HT σ is known from Loma del Toro a locality in the Cordillera Central south of Santiago which DARLINGTON (1943) located north of Loma Rucilla, 5000 feet, NE of Pico Duarte. This locality should not be confused with that with the same name, in the Sierra de Baoruco, north of Los Arroyos. TAKIZAWA et al. (2003: pl. 8, fig. 8) reported this species from Loma Los Guayuyos (AZ).

***Calisto grannus dystacta* GONZÁLEZ, 1987**

Calisto dystacta GONZÁLEZ, 1987, Bull. Allyn Mus. **108**: 8 (fig 1 map; fig. 2 E σ genitalia; fig. 3 D unhw HT σ). TL Republica Dominicana, Provincia de Santiago Rodriguez, Loma Leonor, 19 km SW Monción, 2000 ft (645 m); Type: HT σ : Republica Dominicana: Provincia de Santiago Rodriguez: Loma Leonor, 19 km SW Monción, 2000 ft. (645 m); 17.iii.1984 (R. W. WISOR leg.), ex coll. A. SCHWARTZ, ex coll. Allyn Museum of Entomology, now in coll. MCGL. Original number AS 12874. PTs: 13 $\sigma\sigma$, 3 $\varphi\varphi$, (AS= ALBERT SCHWARTZ coll.) TL, 17.iii.1984; 3 $\sigma\sigma$, 1 φ (AS), 1 σ , 2 $\varphi\varphi$ (FLG = FERNANDO L. GONZÁLEZ coll.), 30.vi.1985.

Distribution: Dominican Republic, Santiago Rodriguez, Loma Leonor.

Adult Characteristics: LFW σ 16-18, mm φ 17-19 mm. UNFW brown with slight red suffusion at the 2/3 of the cell basally; UNHW with reduced ocelli in M1-M2 and Cu1-Cu2, the anterior one most developed.

Comments: This is a local uncommon taxon found at mid altitudes (5-700 m) in the Province of Santiago Rodríguez. TAKIZAWA et al. (2003: pl.8, fig.1) reported and illustrated a specimen from Jarabacoa (LV).

***Calisto grannus dilemma* GONZÁLEZ, 1987**

Bull. Allyn Mus. **108**: 4 (fig 1 map; fig. 2B σ genitalia; fig. 3A unhw HT σ), TL República Dominicana, Provincia de La Vega, 6 km SSE Constanza, 4600 ft (1403 m). Types: HT σ : Republica Dominicana: Provincia de La Vega: 6 km SSE Constanza, 4600 ft. (1483 m), 23.vii. 1985 (F.L. GONZALEZ leg.), ex coll. F.L. GONZALEZ, ex coll. Allyn Museum of Entomology, now in coll. MCGL. Original number FLG 1149. PTs: 3 $\sigma\sigma$, 5 $\varphi\varphi$ (AS = ALBERT SCHWARTZ coll.), TL, 1.vii.1982; 1 φ , (AS), TL, 29.ix.1983; 2 $\varphi\varphi$, (FLG= FERNANDO L. GONZÁLEZ coll.), type-locality, 23.vii.1985. Associated specimens: Rep. Dom.: La Vega: 10 km SE Constanza, 5400 ft. (17 41 m), 1 σ , 1 φ (AS); La Vega: 12 km NE Constanza, 4000 ft. (1290 m), 1 σ , 1 φ (AS).

Distribution: Dominican Republic, La Vega, near Constanza.

Adult Characteristics: LFW σ 15-17, mm φ 18-19 mm. It differs from *grannus* for the presence of red scales on the UNFW basal area, smaller UNHW ocelli but larger white dots between them. This character is very variable in all the taxa within the *grannus* complex.

Comments: Found in the Cordillera Central in the Constanza area from 1100 m to 1600 m. Given that this taxon is found parapatrically with *C. grannus* and even syntopic with it (see SCHWARTZ, 1989: 401) perhaps it deserves species status. According to SOURAKOV (1996) it may represent a low altitude form.

***Calisto grannus phoenix* GONZÁLEZ, 1987**

Calisto phoenix GONZÁLEZ, 1987, Bull. Allyn Mus. **108**: 5 (fig 1 map; fig. 2C σ genitalia; fig. 3B unhw HT σ), TL República Dominicana, Provincia de La Vega, La Palma, 19 km W Jayaco, 3300 ft (1064 m). Types: HT σ : Republica Dominicana: Provincia de La Vega: La Palma, 19 km W Jayaco, 3300 ft. (1064 m), 7.viii.1985 (A. SCHWARTZ leg.), ex coll. A. SCHWARTZ, ex coll. Allyn Museum of Entomology, now in MCGL. Original number AS 11025. PTs: 1 σ (AS= ALBERT SCHWARTZ coll.), TL, 13.viii.1980; 3 $\sigma\sigma$ (AS), TL, 9.viii.1982; 1 σ (AS), TL, 21.vii.1983; 2 $\sigma\sigma$, 1 φ (AS), TL, 7.viii.1983; 1 φ (AS), TL, 12.iii.1984; 4 $\sigma\sigma$, 3 $\varphi\varphi$ (AS), 10 $\sigma\sigma$, 4 $\varphi\varphi$ (FLG = FERNANDO L. GONZÁLEZ coll.), TL, 17.vii.1985.

Distribution: Dominican Republic, La Vega, La Palma, E Cordillera Central.

Adult Characteristics: LFW σ and φ 15-17 mm. Upperside both wings brown. UPFW andoconial patch filling basally $\frac{2}{3}$ of FWs. UNFW with large, black subapical ocellus with 2 white dots encircled with a yellowish ring, larger than in *grannus*. Slight red suffusion on $\frac{2}{3}$ of cell basally. UNHWs with reddish discal and submarginal lines, and two unequal ocelli pupilled with a white dot. HW tornal lobe slightly visible.

Comments: Found in two places in the Province of La Vega from 500 to 1000 m. The locality La Palma is along Río La Palma with plantations of coffee and cocoa. TAKIZAWA et al. (2003: pl. 8, fig. 2) reported and illustrated a specimen from Loma La Leonora 200-300 m near Maimón (MN) along a trail in a humid wood.

***Calisto grannus micrommata* SCHWARTZ & GALI, 1984**

Calisto micrommata SCHWARTZ & GALI, 1984, Bull. Allyn Mus. **85**: 6 (fig. 2B, PT σ ; fig. 6C, PT; fig. 7C, σ genitalia), TL Republica Dominicana, Prov. de La Estrelleta, 2 km NE Puesto Pirámide 204, 1586 m. Types: HT σ : Republica Dominicana: Provincia de La Estrelleta: 2 km NE Puesto Piramide 204, 1586 m; 6.viii.1982 (A. SCHWARTZ leg.), ex coll. A. SCHWARTZ, ex coll. Allyn Museum of Entomology, now in coll. MCGL. PTs: 6 $\sigma\sigma$, 3 $\varphi\varphi$ (AS = ALBERT SCHWARTZ coll.), 4 $\sigma\sigma$, 7 $\varphi\varphi$ (FG = FRANK GALI coll.), 5.viii.1982, from TL; 3 $\sigma\sigma$ (AS coll.), 2 $\sigma\sigma$, 1 φ (FG.), 5.viii.1982, R.D., Prov. de la Estrelleta, 1 km NE Puesto Piramide 204, 1730 m; 1 σ (AS coll.), 1 σ , 2 $\varphi\varphi$ (FG coll.), 5.viii.1982, R.D., Prov. de la Estrelleta, 1 km SW Puesto Piramide 204, 1890 m; 2 $\sigma\sigma$, 2 $\varphi\varphi$ (AS coll.), 1 σ (FG coll.), 6.viii.1982, same data as HT.

Distribution: SW Dominican Republic, 1600-1900 m, S range Sierra de Neiba.

Adult Characteristics: LFW ♂ 13-16 mm, ♀ 15-17 mm. UNHW ocelli smaller than in *grannus*; well developed red brown band across the cell; tornus lobed.

SCHWARTZ & GALI (1984) had already observed: “that the ♂ genitalia of *C. micrommata* are the most distinctive. The uncus is elongate and less beak-like than in the other taxa, and the pretegumental groove is relatively shallow. The aedoeagus is quite sinuate, in contrast to the aedoeagi of other species, wherein the aedoeagus varies from bowed to short and stout. The saccus in *C. micrommata* is about the same size and shape as that of the other species. The uncus equals slightly less than the total dorsal length of the tegumen, but in other species, the unci are short (less than the dorsal length of the tegumina), and are much more beak-like and decurved at the apices. Gnathos is absent as is the case in *C. eleleus*, *C. pulchella*, in the Jamaican *C. zangis*, and weakly developed in Cuban *C. herophile* and *C. smintheus*”.

Comments: A local, montane taxon found in the Sierra de Neiba at 1600-1900 m in pine forests during July and August.

***Calisto grannus sommeri* SCHWARTZ & GALI, 1984**

Calisto sommeri SCHWARTZ & GALI, 1984, Bull. Allyn Mus. **85**: 7 (fig. 2C, PT ♂; fig. 6D, PT; fig. 7D, ♂ genitalia); TL Haiti, Dépt. de l'Ouest, Forêt des Pins, 1586 m, Types: HT ♂: Haiti: Département de l'Ouest: Forêt des Pins, 1586 m, 26.iv.1982 (A. SCHWARTZ), ex coll. A. SCHWARTZ, ex coll. Allyn Museum of Entomology, now in coll. MCG. PTs: 1 ♂, 1 ♀, 13.vii.1979, Haiti, Dépt. de l'Ouest, Forêt des Pins, 1525 m (AS = ALBERT SCHWARTZ coll.); 2 ♀♀ (AS coll.), 2 ♀♀ (FG = FRANK GALI coll.), 26.iv.1982, Haiti, Dépt. de l'Ouest, Forêt des Pins, 1586 m; 6 ♂♂, 2 ♀♀ (AS coll.), 1 ♂, 1 ♀ (FG coll.), 26.iv.1982, Haiti, Dépt. de l'Ouest, 1 km NW Forêt des Pins, 1556 m; 3 ♂♂ (AS coll.), 1 ♂, 1 ♀ (FG coll.), 28.iv.1982, Haiti, Dépt. de l'Ouest, 8 km SE Forêt des Pins, 1495 m; 1 ♂, 1 ♀ (AS coll.), 28.iv.1982, Haiti, Dépt. de l'Ouest, 9 km SE Forêt des Pins, 1495 m; 5 ♂♂, 3 ♀♀ (AS coll.), 8 ♂♂, 5 ♀♀ (FG coll.), 1 ♂, 1 ♀ (RWW = R.W. WISOR coll.), 27.vii.1982, R.D., Prov. de Pedernales, 11 km SW El Aguacate, 1890 m; 1 ♀ (AS coll.), 3 ♂♂, 7 ♀♀ (FG coll.), 1.viii.1982, R.D., Prov. de Pedernales, 22 km SW El Aguacate, 1617 m; 7 ♂♂, 1 ♀ (AS coll.), 1.viii.1982, R.D. Prov. de Pedernales, 11 km SW El Aguacate, 1890 m.

Distribution: Haiti E Massif de la Selle to W Sierra de Bahoruco, Dominican Republic.

Adult Characteristics: LFW ♂ 16-19 mm, ♀ 17-19 mm. ♂ UPFW androconial patch prominent and extending from M2 to 2A across the basal-discal portions of the cell; cell without red scales. UNHWs paler than in *grannus* with 2 black ocelli and 2 small white internervular spots, the anterior the larger; tornal lobe weakly developed.

♀ UPFW and UPHW generally paler than ♂. UNFW with a large black subapical ocellus ringed with yellow; one pupillary dot located centrally, the other slightly posteriorly and adjacent to yellow ring. UNHW two ocelli and two internervular white dots: posterior ocellus slightly larger than anterior and more proximal.

Comments: *Calisto grannus grannus*, *C. g. sommeri*, *C. g. micrommata* (and *C. arcas*) are the only Hispaniolan *Calisto* which show the presence of two black UNHWs ocelli. SCHWARTZ & GALI (1984) carried out diametrical measurements of the HW ocelli. ♀ anterior and posterior ocelli means are slightly greater than those of ♂♂ for the three taxa. Posterior ocelli are larger than anterior ones in all taxa. The largest ocelli are in *C. sommeri*; *C. grannus* ranks second, and *C. micrommata* third. Posterior ocelli were larger than anterior ocelli in *C. sommeri* and *C. micrommata* whereas *C. grannus* appears to have the ocelli about equal in size. *Calisto micrommata* HW ocelli are half the size of those of the two other taxa. This character easily distinguishes *C. micrommata* from *C. grannus* or *C. sommeri*. Internervular UNHW white markings characterize the three taxa. In *C. micrommata*, the white dots are barely discernible, whereas in *C. grannus* the white dots are distinct. *Calisto sommeri* has prominent and contrasting white dashes (rather than dots) between the ocelli. In all three taxa, these white markings are located in M2-M3 and M3-Cu1. The UN median and submarginal lines are similar; however, these are bolder in *C. micrommata* and *C. sommeri* than in *C. grannus*. *Calisto sommeri* has a more discernible tan-brown irregular band between the submarginal lines.

They all show red, orange, to brick red scales in the FW cell, and a red blush posterior to the FW ocellus. The latter more frequently occurs in ♀♀ than in ♂♂. Such a postocellar blush in both sexes is a distinguishing character of *C. hysius*. However, the presence of a red blush on the UP is not constant for any of the species.

Calisto g. sommeri is found in Haiti on the Massif de la Selle, and in the opposite western part of the Sierra de Bahoruco at 1500-1800 m above Los Arroyos. At the locality 22km SW of El Aguacate this species occurred together with the two ♀♀ of *C. “clenchi”* [= *C. chrysaoros gali*]. TAKIZAWA et al. (2003: pl. 7, fig. 13) reported *sommeri* from Loma de Toro, 2200 m, another locality above Los Arroyos (PD). SMITH et al. (1994) guessed it could be a ssp. of *grannus*. SOURAKOV (1996) studying the preimaginal stages, confirmed *C. grannus grannus* and *C. grannus dilemma* conspecific whereas, *C. batesi* and *C. hysius*, as well as *C. sommeri* and *C. grannus*, are proved to be separate species.

***Calisto obscura* MICHENER, 1943**

Amer. Mus. Novit. **1236**: 5, fig. 2; TL: Pétiönville, [Dépt. de l'Ouest], Haiti, 1600 feet; Types: HT ♂, Pétiönville, Haiti. 1600 feet altitude, January 24-29, 1922; AT ♀, same locality and date, 2260 feet altitude. PTs.: 32 ♂♂, 22 ♀♀ from Dominican Republic: two, La Vega, May 14, 1915; one, Main Road, Province of La Vega, March 13, 1931; one, one mile east of Monte Cristo, March 6, 1931; two, three miles west of Santiago, 2000 feet altitude, March 15, 1931; three, Puerto Plata, May 7-8, 1915; one, Monserrat, July 20-22, 1934; one, Manzanillo Bay, February 27, 1931; three, Barahona, July 6-11 and 20-26, 1932; one, Kato [sic] Mayor, July 21, 1935; three, Chacquey, 1200 feet altitude, February 26-28, 1931; one, Santo Domingo City, December-January. Haiti: Thirteen, Port-au-Prince, 300 to 500 feet altitude, January 14-23, 1922, February 2-4, 1922, March 21, 1924, April 8-11, 1922; nine, Aux Cayes, March 15-20, 1922; one, Trouin, 500 feet altitude, April 1, 1935; three, Ravine of Pétiönville, 1500-1600 feet altitude, January 24-29, 1922; one, Jeremie, June 17, 1930; one, Bizeton, December 25, 1921; three, Pétiönville, 1600-2250 feet, January 24-29, 1922; two, Pétiönville, May 31 and June 2, 1930 (O. FULDA, Cornell University collection); one, Carrefour, January 7, 1922; one, Point Beudet, 100 feet altitude, March 3-4, 1922.

Distribution: Hispaniola.

Adult Characteristics: LFW ♂ and ♀ 12-16 mm. It is similar to *C. confusa*: ♂ with androconial patch larger; UNFW with reduced red colour in the cell; UNHW without black tornal spot, and tornus very slightly produced. DNA barcoding set the two species apart.

Comments: This is one of the commonest and widespread species of *Calisto* found from sea level to up 1900 m. It shares a variety of habitats from lowland xeric areas to montane pine forests.

Larvae of *obscura* from San José de la Mata area and from Sierra de Bahoruco have different colouration (SOURAKOV, 1996).

***Calisto tragi* BATES, 1935**

Occas. pap. Boston Soc. Nat. Hist. **8**: 236, fig. 3. TL: La Visite, Massif de la Selle, 5000 to 7000 ft., Dépt. de l'Ouest, Haiti Types: HT ♂/La Visite & vic. La Selle range, 5-7000 feet, Sept. 16-23/ Haiti, 1931 M. BATES leg./ PTs, 6 ♀♀ from La Visite, in the La Selle range, 5000 to 7000 feet (September, DARLINGTON and BATES leg), in coll. MCZ.

Distribution: Massif de la Selle (Haiti); W Sierra de Bahoruco, Dominican Republic.

Adult Characteristics: LFW ♂ 15-20, mm ♀ 16-21 mm; ♂ UPFW androconial patch indented distally and fading in the pale area. UNFW very pale reddish suffusion at the base of the cell. Large black ocellus with 2 white dots. UNHW basally dark brown with an irregular whitish or greyish band. Round black ocellus centred with a white dot and ringed with yellow. Two minute white internervular dots anteriorly. ♀ similar to the ♂.

♂ genitalia: Uncus longer and more slender than in *hysius*, the dorsal elevation pointed anteriorly, not evenly rounded as in *hysius*; tegumen smooth, without a transverse crease; the genitalia in general heavier and larger than in *confusa*, the distal section of the valve proportionately longer (BATES, 1935b). For the large juxta and sigmoid aedoeagus this species, according to MONROE (1951a), is close to Section I; the genitalia are not very different from those of *loxias* or *archebates*.

Comments: In Haiti it is found in grassy fields within pine woods whereas in Dominican Republic is present in both pine and deciduous forests. The peak of abundance of this taxon is during September in the Massif de la Selle and Sierra de Bahoruco from 1200 to 2100 m. It occurs also in June and July. It has been found in the Sierra de Neiba, Puesto Piramide 204 by TAKIZAWA et al. (2003: pl. 8, fig. 6).

***Calisto eleus* BATES, 1935**

Occas. pap. Boston Soc. Nat. Hist. **8**: 245, fig. 5. TL: Mt. Bourette, 5000 ft., Massif de la Selle, Dépt. de l'Ouest, Haiti Types: HT ♂/Mt. Bourette, 15.ix.34/ Haiti 1934, M. BATES [leg.]/PT 1♀ from the hills south of Port-au-Prince (2000 ft., Oct. 1934, P. J. DARLINGTON leg.), in coll. MCZ.

Distribution: Hispaniola.

Adult Characteristics: LFW ♂ 18-21 mm, ♀ 18-24 mm. Sexes similar. UPFW ♂ dark brown with no evident androconial patch. UNFW reddish brown colouration filling almost the whole cell. Subapical ocellus with two white dots. UPHW often with a post discal red area. UNHW with two greyish bands; oval black ocellus in Cu1-Cu2 pupilled with a basally displaced white dot. Two small white dots in the internervular cells before the ocellus. There is a black HW tornal spot with dull yellow colouration on top. This character separates it from *C. tragi*.

♂ genitalia with a characteristic inward hooked projection on the apical part of the valva. Uncus comparatively short, but slender, separated from the tegumen by a shallow but definite groove which is somewhat obscured in lateral view by the considerable development of the wings of the uncus. Gnathos apparently absent. Aedoeagus slightly sinuate.

Comments: Described from Haiti, Massif de la Salle, it is found also in the Sierra de Bahoruco and Cordillera Central from 700 to 1400 m where it is a scarce species but sometimes found moderately common from June to October. Perhaps it is a bivoltine species.

TAKIZAWA et al. (2003) found this species at La Loma, Los Guayuyos m 1300 (AZ), and at Loma Los Pinos, 1100-1300 m (IN). It is found also at Los Guandules (EP) to the NW of the Cordillera Central.

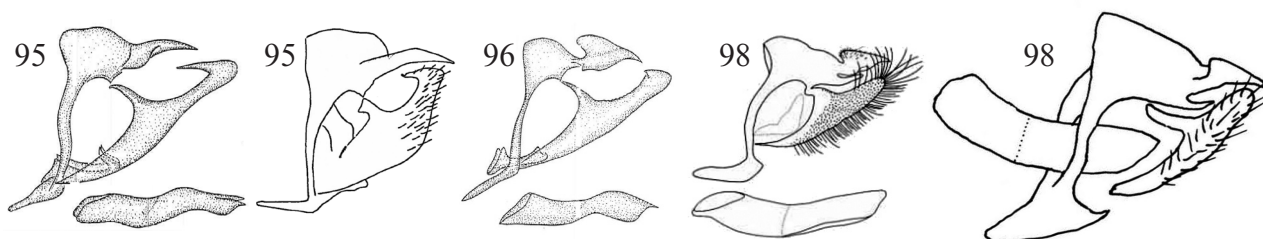


Fig. 95: Left ♂ genitalia *C. eleus* BATES, 1935 (modified after JOHNSON & MATUSIK, 1992) - right (modified after BATES, 1935b).

Fig. 96: ♂ genitalia *C. ainigma* JOHNSON, QUINTER & MATUSIK, 1987 (modified after JOHNSON & MATUSIK, 1992).

Fig. 98: Left ♂ genitalia *C. clydoniata* SCHWARTZ & GALI, 1984 (modified after NUÑEZ AGUILA et al. 2017); right - ♂ genitalia *C. clydoniata* (modified after BATES, 1935b).

***Calisto arcas* BATES, 1939**

Psyche **46** (2-3): 46. TL Valle Nuevo, SE Constanza, c. 7000 ft., [Prov. de La Vega], Rép[ublica] Dom[inicana]. Types: HT ♂/Valle Nuevo, SE Constanza, Aug. '38, Dom. Rep., c. 7000', DARL[INGTON leg.]/PTs 3 ♂♂, 3 ♀♀ from Loma Vieja, S. Constanza, Aug. 1938, c. 6000 ft., P. J. DARLINGTON leg. In coll. MCZ.

Distribution: Cordillera Central, Pico Duarte massif, Dominican Republic.

Adult Characteristics: LFW ♂ 23-25 mm, ♀ 23-27 mm. A montane unmistakable large species with pale orange band on both wings. ♂ UPFW the androconia are limited to the Cu1-Cu2 and Cu2-2A areas, and they do not form a sharply defined patch. UNHW with two small black ocelli of same size, pupilled with a white dot; ♂ genitalia strikingly

modified; uncus deeply carinate; juxta hypertrophied, with a pair of ribbon-like projections extending dorsad from the posterior angles; valve distally truncate and calloused; aedoeagus greatly inflated beyond middle.

Comments: *C. arcas*, was included in Section I of MUNROE (1951a) characterized by genitalia and pattern modified. The position of FW vein R1 arising at the end of the cell and the HW symmetrical ocelli should put it in the *Archebates* group, as BATES (1939) suggested. SOURAKOV & ZAKHAROV (2011) according to their molecular data placed *arcas* basal to *confusa* + (*neiba* + *debarriera*).

It is found from 1300 to 2200 m. It was extremely abundant during July 2015 along the road Constanza - Valle Nuevo at the south entrance of the Park.

Calisto ainigma JOHNSON, QUINTER & MATUSIK, 1987

J. Res. Lep. **25** (2): 78. TL: Dominican Republic, La Vega Province [near] Hotel Pinar Dorado, ca 4 km NW of Jarabacoa, 930 m. Types: HT ♀, La Vega Province, Dominican Republic, 930 m, in central portion of Cordillera Central, June, 26, 1985, by DAVID MATUSIK “at site characterized as follows: along a small (1.5-2.5 m wide) stream currently running between the Hotel Pinar Dorado’s group of cabanas and the highway that proceeds from the immediate entrance to the hotel grounds about 4 km northwest to central Jarabacoa”. In coll. AMNH.

Distribution: Cordillera Central, Dominican Republic.

Adult Characteristics: LFW ♂ 15.5, ♀ 16 mm. ♀ UN wings yellowish for the presence of yellow and brown scales. Olive black marginal band. HW without bands. FW with a single ocellus with 2 white dots. HW with small black ocellus pupilled with white dot; 2 small white dots anteriorly.

♂ genitalia tegumen globose with deep interteguminal groove, uncus humped posteriorly with acute apex. Valvae with mid dorsal acute projection. Distal tip round with small inward hook. Aedoeagus short, stout, with middle restriction.

Comments: Described on the HT ♀ only, but 2 ♂♂ were collected some years later by JOHNSON & MATUSIK (1992) near the TL “at stream course near outlet of Bamboo Hole Canyon, approx. 6.5 km SE Jarabacoa”. ♂ with FW androconial patch. UNFW with reddish suffusion filling the cell. Black apical ocellus with 2 white dots inside, and ringed with yellow. UNHW brown with scattered yellow scales; small black ocellus in Cu1-Cu2; anteriorly 2 small white dots. JOHNSON & MATUSIK (1992: 20, B) figured the ♂ genitalia which are quite different from those of *C. eleleus*. JOHNSON et al. (1987) noted that ♀ genitalia corpus bursae is extremely short.

The *Calisto chrysaoros* lineage

In the past, this group of species included the following taxa: *archebates*, *loxias*, *chrysaoros* - which constituted the *Archebates* group - and *C. galii galii*, *C. galii choneupsilon* and *C. wetherbee*.

SCOTT (1986a) had already noted that *chrysaoros* might be regarded as a ssp. of *galii* which is the northern Palaeoisland representative, and *chrysaoros* a synonym. In Constanza, where only *galii* is known, it has been found a specimen not differentiable from *chrysaoros*.

Nowadays, it has been shown that the taxa listed above belong to different lineages (SOURAKOV & ZAKHAROV, 2011; MATOS-MARAVI et al., 2014). Indeed, DNA barcoding has shown *chrysaoros* internal to a composite clade (SOURAKOV & ZAKHAROV, 2011), and MATOS-MARAVI et al. (2014) suggested that *chrysaoros-clenchi-galii* belong to an unresolved cluster where *clydoniata* is a sister to it. This lineage according to the DNA data by MATOS-MARAVI et al. (2014) appears to be sister to the Cuban *Calisto* lineage and, as they suggested, it is not unlike that the two lineages are the result of a vicariant process.

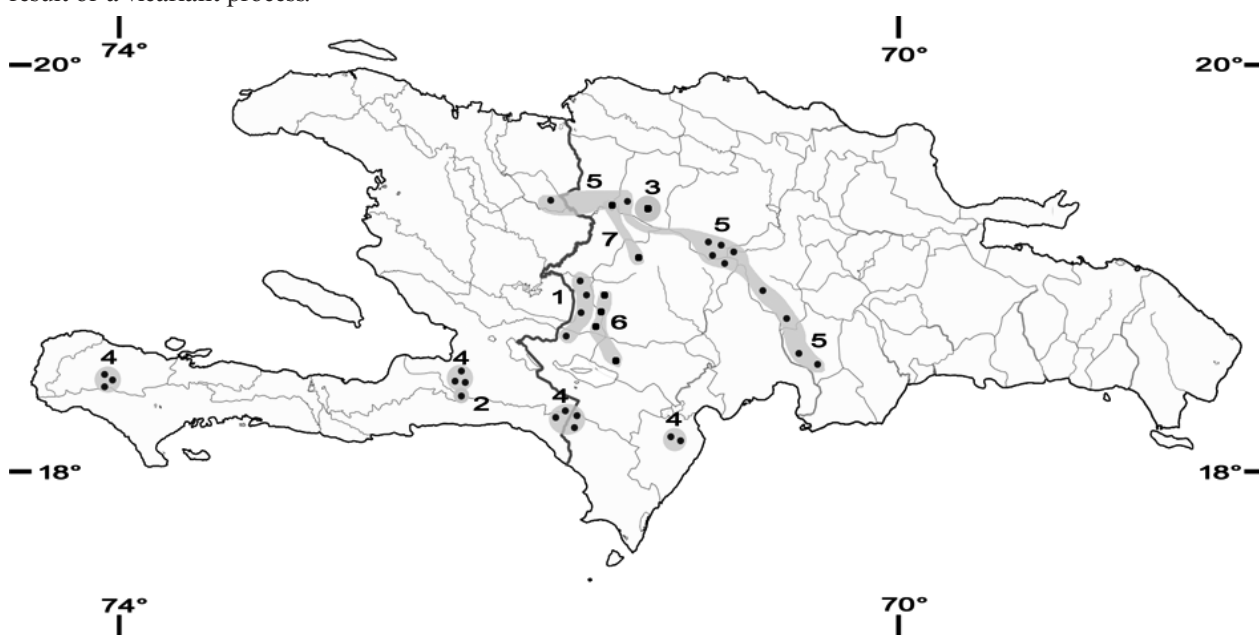


Fig. 97: Distribution of the taxa of the *chrysaoros* lineage of *Calisto*. 1 - *C. clydoniata*; 2 - *C. "clenchi"* (Scierie, Massif de la Selle); 3 - *C. neochma*; 4 - *C. chrysaoros chrysaoros*; 5 - *C. chrysaoros galii*; 6 - *C. chrysaoros choneupsilon* (= *galii*); 7 - *C. wetherbee* (modified after SCHWARTZ, 1989a and NUÑEZ AGUILA et al., 2017).

C. galii, *choneupsilon*, *chrysaoros*, *neochma* and possibly *wetherbee* are taxa deeply linked together. NUÑEZ AGUILA et al. (2017) assaying various taxa with molecular techniques suggested two separated groups: *C. clydoniata* and *C. chrysaoros*. There is a faint split among populations of southern and northern Hispaniola Palaeoislands. The *chrysaoros* populations of the southern and northern Hispaniola Palaeoislands are considered as different subspecies: *C. chrysaoros chrysaoros* and *C. chrysaoros galii*, respectively. *Calisto clenchi* is a synonym of *C. chrysaoros chrysaoros* whereas *C. galii choneupsilon* is synonym to *C. chrysaoros galii*. Pattern, genitalia, and molecular data support this arrangement; ♀♀ formerly assigned to *C. clenchi* match the highly diffuse pattern mentioned by BATES (1935b) when describing *C. chrysaoros* ♀♀, and by SCHWARTZ (1983a) for some *C. galii* ♀♀.

We agree with these authors regarding the synonymy and the new combination of *chrysaoros* with *galii*, but we retain separate the Haitian ♂ of “*C. clenchi*” (sensu SCHWARTZ, 1989a; WARREN et al. 2016) for the time being. Also we consider *C. neochma* a possible distinct population of *C. chrysaoros* but being known the HT ♀ only we refrain from further hypotheses.

***Calisto clydoniata* SCHWARTZ & GALI, 1984**

Bull. Allyn Mus. **85**: 10, fig. 3B PT ♂; fig. 6F PT ♀; fig. 7 E ♂ genitalia; TL Dominican Republic, Prov. De La Estrelleta, 1 km SW Puesto Pirámide 204, 1891 m. Types: HT ♀: Republica Dominicana: Provincia de La Estrelleta: 1 km SW Puesto Pirámide 204, 1891 m, 5.viii.1982 (F.GALI leg.), ex coll. F. GALI, ex coll. Allyn Museum of Entomology, now in coll. MCGL. PTs: 7 ♂♂, 1 ♀ (AS = ALBERT SCHWARTZ coll.), 4 ♂♂, 1 ♀ (FG = FRANK GALI coll.), same data as HT; 3 ♂♂, 2 ♀♀ (AS coll.), 1 ♂, 5 ♀♀ (FG coll.), 1 ♂, 1 ♀ (RWW = RW WISOR coll.), same locality as HT, 6.viii.1982; 3 ♂♂, 2 ♀♀ (AS coll.), 2 ♂♂ (FG coll.), R.D., Prov. de la Estrelleta, 2 km NE Puesto Piramide 204, 1586 m, 6.viii.1982.

Distribution: Sierra de Neiba, Dominican Republic.

Adult Characteristics: LFW ♂ 16-18 mm, ♀ 17-18 mm. Easily identifiable for the yellowish scales on UNHW. Two other characters are distinctive: the orange dot on the costal margin at the end of the postdiscal line, and the indentation of both discal and postdiscal lines.

Comments: Restricted to the Sierra de Neiba at altitudes between 1600-1900 m in deciduous or pine forests. Apparently related to *C. clenchi* from Sierra de Bahoruco and Massif de la Selle.

***Calisto neochma* SCHWARTZ, 1991**

Contr. Biol. Geol. Milwaukee Publ. Mus. **81**: 1-3. TL Monte El Rubio, Santiago, Dominican Republic. Type: HT ♀: Republica Dominicana: Provincia de Santiago: Monte El Rubio, 900 m; 22.viii.1990 (D.K. WETHERBEE); ex coll. A SCHWARTZ, now in MCPM. Original number AS 2665.

Distribution: Dominican Republic, Santiago, Monte El Rubio.

Adult Characteristics: LFW ♀ 16 mm. We report the description given by SMITH et al. (1994): “Female. UPFW and UPHW brownish, distinctly scalloped with a yellow chevron. Anal lobe elongate and reddish. UNFW single black subapical ocellus with white pupil and yellow ring. UNHW with no reddish tornus nor postdiscal lines. Small submarginal ocellus in Cu1-Cu2 with basal white pupil, and a white dot in Cu2-A2”.

Comments: This is a taxon that was not collected anymore after its discovery. Known on the HT ♀ only, found in August at 900 m in mesic broadleaf forest, according to SCHWARTZ (1991), but in a xeric pineland according to WETHERBEE (1991c). SCHWARTZ (1991) suggested that it could be a member of the *clydoniata* group. SCHWARTZ (1991) also compared *neochma* with *clydoniata* because at that time *cydoniata* and *clenchi* were considered two different species and it was not suspected that *clenchi* were the ♀ of *C. chrysaoros galii*. The habitat is also comparable with that of *chrysaoros* which in other localities spans from 550 to 2200 m in pine forests. Even if it is not unlike that it will turn to be conspecific with *C. chrysaoros* we keep it separate for the time being.

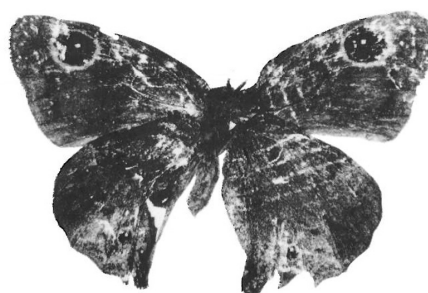


Fig. 99: *Calisto neochma* SCHWARTZ, 1991 - HT ♀ Underside - Dominican Republic, Santiago, Monte El Rubio, 900 m, 22.-VIII-1990 (after SCHWARTZ, 1991).

***Calisto chrysaoros chrysaoros* BATES, 1935**

Occas. pap. Boston Soc. Nat. Hist. **8**: 235, fig. 2; TL: Roche Croix, Massif de la Hotte, 5000 ft, Dépt. Du Sud, Haiti. Types: HT ♂/Roche Croix, La Hotte, Haiti, 5000', 13.x.'34, P. J. DARLINGTON/; PTs: 9 ♂♂, 2 ♀♀ from the La Selle-La Hotte complex of southern Haiti, at elevations between 3000 and 7000 feet: Roche Croix, Targi, La Visite, Mt. Bourette, Mt. Robin (above Kenskoff), all taken in September and October by DARLINGTON and BATES. In coll. MCZ.

Distribution: Massif de la Hotte, Haiti; Sierra de Bahoruco, Dominican Republic.

Adult Characteristics: LFW ♂ 16-19 mm, ♀ 16-21 mm. ♂ UPFW Androconial scales bladelike, with a terminal notch, but there is a narrow peripheral band of simple, rodlike androconia around the end of the patch. UNHW with a

continuous white band from the costa to the anal area. An intermediate band from M1 to the inner margin shaping a somewhat inverted “Y”. ♀: with paler brown colouration, ocellus very small with 4 white dots before it. No white band on UNHW.

In ♂ genitalia the tegumen relatively short; pre-tegumenal groove comparatively broad and shallow. Uncus moderately long, not arched dorsally. Gnathos spinelike, about half as long as uncus; valva slender and tapering.

Comments: In Pedernales Province it is found between 1000 and 1600 m in Los Arroyos area. In Haiti it is found at higher altitudes up to 1900 m. It is often associated with “climbing grass” (*Arthrostyidium*) and WETHERBEE (1992a) suggested that these plants could be the larval food for the species in the *archebates* group. The flight of this species is high and erratic differing from other species of *Calisto*.

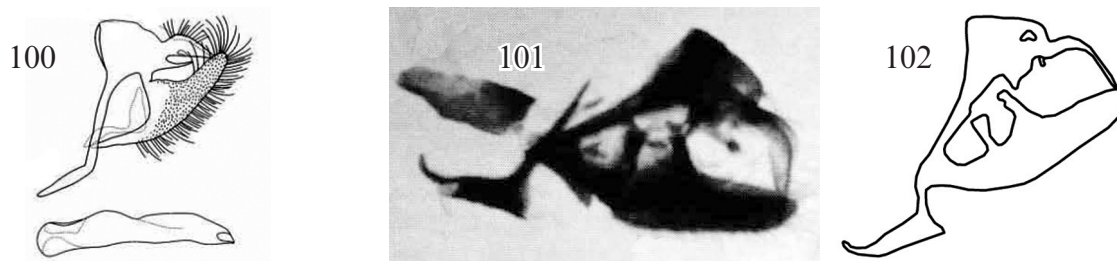


Fig. 100: ♂ genitalia *C. chrysaoros chrysaoros* BATES, 1935 and *C. chrysaoros galii* SCHWARTZ, 1983 (modified after NUÑEZ AGUILA et al.. 2017). It is to underline that the ♂ genitalia of *C. galii* are hardly distinct from those of the nominate *C. chrysaoros*.

Fig. 101, 102: (101) ♂ genitalia *C. wetherbeeii* SCHWARTZ & GONZÁLEZ, 1988 (after SCHWARTZ & GONZALES, 1988); (102) redrawn.

***Calisto chrysaoros galii* SCHWARTZ, 1983**

Calisto galii SCHWARTZ, 1983, Bull. Allyn Mus. **80**: 1-10, figs 1-2. TL República Dominicana, Provincia de La Vega, 18 km SE Constanza, 1586 m. Types: HT ♂: República Dominicana: Provincia de La Vega: 18 km SE Constanza, 1586 m, 5.vii.1980 (A. A.GINEIKA leg.), ex coll. A.SCHWARTZ, ex coll. Allyn Museum of Entomology, now in coll. MCGL. PTs (all from República Dominicana, Prov. de La Vega). AS 3721-23, 3725-31 (9 ♂♂, 1 ♀), 18 km SE Constanza, 1586 m, 4.vii.1980, A. A.GINEIKA, A. SCHWARTZ leg.; AS 3760, 3765-66, 3769, 3772-73, (3 ♂♂, 3 ♀♀), 18 km SE Constanza, 1586 m, 5.vii.1980, A. A. GINEIKA, A. SCHWARTZ leg.; AS 3984, 3993, 3995-96, 3999, 4001, 4003, 4008, 4012, 4020 (4 ♂♂, 5 ♀♀), 10 km SE Constanza, 1647 m, 9.vii.1980, A.A.GINEIKA, A.SCHWARTZ leg.; AS 6001-02, 6005-06, WWS 747-48, 753 (3 ♂♂, 4 ♀♀), 10 km SE Constanza, 1647 m, 3.vii.1981, J.E.SOMMER, A.SCHWARTZ leg. Associated specim: Rep. Dom.: Prov. de Santiago Rodríguez: Loma Leonor, 18 km SW Monción, 549 m, 3.viii.1981, F. GALI (AS 6796).

= *Calisto clenchi* SCHWARTZ & GALI, 1984, Bull. Allyn Mus. **85**: 10-11, fig. 5 (map). TL República Dominicana, Provincia de Pedernales, 22 km SW El Aguacate [= 5 km NE Los Arroyos], 1586 m [= 1617 m]. Types: HT ♀: República Dominicana: Provincia de Pedernales: 22 km SW El Aguacate, 1586 m, 1.viii.1982 (A.SCHWARTZ), ex coll. A.SCHWARTZ, ex coll. Allyn Museum of Entomology, now in coll. MCGL. PT ♀ same data as HT (FG = FRANK GALI coll.).

= *Calisto galii choneupsilon* SCHWARTZ, 1985, Bull. Allyn Mus. **93**: 1-5, figs 1-2. TL República Dominicana, Provincia de La Estrelleta, 2 km NE Puesto Pirámide 204, 5200 ft (1586 m); Types: HT ♂: República Dominicana: Provincia de La Estrelleta: 2 km NE Puesto Piramide 204, 5200 ft. (1586 m), 6.viii.1982 (F. GALI leg.), ex coll. FRANK GALI, ex coll. Allyn Museum of Entomology, now in coll. MCGL. PTs (all from República Dominicana, Prov. de La Estrelleta): FG 892 (♂), 1 km SW Puesto Piramide 204, 1890 m, 5.viii. 1982, F.GALI leg.; FG 913-914, AS 8614-8616, 8645 (4 ♂♂, 2 ♀♀), same data as HT but collected by F. GALI and A. SCHWARTZ; FG 900 (♂), same locality as HT, 6. VIII.1982; AS 8550 (♀), 15 km S Elías Piña, 9200 ft. (976 m), F. GALI leg.

Distribution: Cordillera Central, Sierra de Neiba, and Sierra de Baboruco, Dominican Republic.

Adult Characteristics: LFW ♂ 16-18 mm, ♀ 17-19 mm. ♂ UPFW dark brown. UNFW black ocellus with small white eccentric dot. UNHW pale brown with two whitish band; small ocellus and 2-3 internervular white dots. ♀ UNHW very variable, basically with three main patterns. One is similar to that of ♂; a second with a reduced pattern, and a third with almost absence of pattern.

Comments: SCHWARTZ (1983a) gave detailed descriptions of the differences among “ocelli” and “dots” and also debated the issue on *C. chrysaoros*, and asked himself whether taxa occurring on isolated montane faraway localities are species or subspecies. Therefore, he described “*C. chrysaoros*” from Constanza as the new species *C. galii*. This author described this taxon on a number of specimens collected during July 1980-1981 in two localities 10 and 18 km SE Constanza at 1647 m and 1586 m, respectively.

SMITH et al. (1994) already suggested - as SCOTT (1986a) noted - that *galii* might be a ssp. of *C. chrysaoros* although the lower arm of the inverted “Y” is interrupted from the inner band, differing therefore from *chrysaoros*. NUÑEZ AGUILA et al. (2017) synonymized *Calisto clenchi* of SCHWARTZ & GALI (1984). This taxon was described on two ♀♀ from the western part of Sierra de Baboruco at Los Arroyos 1617 m. From this locality 2 ♀♀ more are known and other specimens were seen flying together with *C. chrysaoros* and *C. eleus* (SCHWARTZ, 1989a: 441). It is indicative that *chrysaoros* ♂♂ were common and only 2 ♀♀ of *clenchi* were collected. The supposed ♂ of *clenchi* was collected in Haiti at Scierie, 1950 m. SCHWARTZ & GALI (1984) noticed the relationship of this taxon with *clydoniata* in several aspects of wing pattern, and SMITH et al. (1994) suggested it may be a ssp. of *C. clydoniata* or according to MATOS-MARAVÍ et al. (2014) of *chrysaoros*. It is clear that there was confusion on the identity of the specimens from Los Arroyos and

Haiti. For the time being, we consider *C. clenchi* as a synonym of *Calisto chrysaoros galii* sharing the opinion of Nuñez Aguila et al. (2017) whereas *C. "clenchi"* from Haiti may represent a new species or an extreme individual of *clodoniata*. All these taxa are illustrated at WARREN et al.'s (2016) website.

As far as *choneupsilon* is concerned this name was applied to the populations of Sierra de Neiba on the basis of 7 ♂♂, 3 ♀♀ by SCHWARTZ (1985), and considered as a distinct species by SCHWARTZ (1989a) whereas SCOTT (1986a) considered it a synonym of *galii*. Slightly smaller than *galii* LFW ♂ 15-17 mm, ♀ 16-18 mm. The white transverse band is a little wider and the lower arm less interrupted or more connected differing therefore from *chrysaoros* and *galii*. It is found, like *galii*, in dense deciduous forests at 1000-1900 m.

C. chrysaoros galii is a montane taxon found from various localities in the Cordillera Central, Sierra de Neiba, and Sierra de Bahoruco usually from 1500 up to 2200 m. One specimen recorded at 549 at Loma Leonor, Santiago Rodríguez Prov. TAKIZAWA et al. (2003) report the species from La Ciénaga, near Manabao 1100 m (LV), and Loma del Rancho 1200 m, San José de Ocoa (PV).

Calisto wetherbee SCHWARTZ & GONZÁLEZ, 1988 (Figs. 103, 104, see on page 19)

Bull. Allyn Mus. 117: 2-3, 2 figs. TL República Dominicana Prov. de Elias Piñas, summit Loma Nalga de Maco, ca 1900 m. Types: HT ♂, República Dominicana: Provincia de Elias Piña: summit, Loma Nalga de Maco, ca. 1900 m, DAVID K. WETHERBEE leg., 20.xi.1986, ex coll. A. SCHWARTZ, ex coll. Allyn Museum of Entomology, now in coll. MCGL. Original number AS 21291. PTs: AS 21300 (♂), FLG 5086 (♀), same data as HT; AS 20126 (♀ ?), same locality and collector as HT, but taken ca. 16.vii.1986. AS 20126 will be deposited in the collection of the Museo Nacional de Historia Natural de Santo Domingo.

Distribution: Cordillera Central, W Dominican Republic.

Adult Characteristics: LFW ♂ 15 mm, ♀ 16 mm. ♂ HW underside brown with a yellowish band resembling that of *chrysaoros* but more complete encircling a brown patch inside. ♀ UP wings brown, lighter on discal area of both wings. UNFW large apical black ocellus centred with white pupil, and ringed with yellow. Below the ocellus, a brownish suffusion. UNHW large yellowish band from costa to the anal area. Another thinner band from inner margin to a brownish discal blotch inside the yellowish band. Small black ocellus, with white pupil, and ringed with yellow; anteriorly 4 white dots, the first almost absent. A wide, scalloped greyish marginal band.

♂ genitalia: The aedeagus slightly sinuate; the saccus is slightly inflated basally and sharply curved upward, tapering toward the anterior end. The tegumen is almost flat, and the uncus is elongate and set off from the tegumen by a deep pretegumental groove, not resembling the typical bird's head shape known in most *Calisto* ♂ genitalia. In addition, the vinculum is not specialized. Gnathoi are absent, and the elongate valvae extend posteriorly beyond the apex of the uncus.

Comments: *C. wetherbee* is an enigmatic taxon. It is sympatric with *C. chrysaoros galii*. In some way it resembles *C. archebates* with similar genitalia, and UNHWs pale yellow pattern. *C. wetherbee* however is much smaller and the UNHWs differ in many details (SCHWARTZ, 1989a: 388).

SCHWARTZ & GONZÁLEZ (1988) described this species on the basis of the HT ♂ and 1 ♂, 2 ♀♀ PTs. According to these authors the characteristics of the ♂ genitalia of *C. wetherbee* approach those of the *Archebates* group and show similarities to its members: saccus like that of *C. loxias* and *C. chrysaoros*; tegumen like that of *C. archebates*; uncus like that of *C. choneupsilon*.

The ♂ genitalia of *C. wetherbee* once again demonstrate that, in the genus *Calisto*, the ♂ genitalia should not be regarded as a sole means of identification, because the degree of difference in ♂ genitalia is far less than the degree of variation in morphology. It is here hypothesized that the genitalia figured by SCHWARTZ & GONZÁLEZ (1988, herewith fig. 102) might be an artefact. Possibly, the uncus is flattened, smashed and twisted down, and the thin, long, uncus reported by SCHWARTZ & GONZÁLEZ (1988), might be another distorted structure. Obviously, this is only a supposition and new material is needed to confirm this hypothesis. A tentative reconstruction is given on fig. 102 (right).

SMITH et al. (1993) consider it one of the more distinctive species for the scalloped HW margins. This is a character shared with *clodoniata* and *chrysaoros*.

SCHWARTZ & WETHERBEE (1996) reported that this species is known from four specimens from the TL, Loma Nalga de Mace [=Maco], at elevations of ca. 1900-2000 m. Nalga de Maco is a northwestern, high (2000 m) outlier of the Lamedero Massif. The type-series was collected in 1986. This species seems to be a truly relictual species, now restricted to the summit of Loma Nalga de Maco. The habitat is an elfin, quasicloud-forest of *Coccoloba* (Polygonaceae) and *Podocarpus* (Podocarpaceae) and, of course, with *Arthrostylidium* a Neotropical genus of climbing bamboo in the grass family, called locally "tibisi".

NÚÑEZ AGUILA et al. (2017) suggested it may belong to the *chrysaoros* lineage with whom we concur. As noted, known on a few specimens only from the top of Nalga de Maco but recently it has been collected far south, at Ébano Verde Reserva Científica (LV) - see PÉREZ-ASSO et al. (2017).

Taxa of uncertain occurrence or strays in Hispaniola

HESPERIIDAE

Epargyreus HÜBNER, [1819]

Verz. bekannt. Schmett. (2): 105. TS: *Papilio tityrus* FABRICIUS, 1775, Syst. Ent.: 532, no. 382 [= *Papilio clarus* CRAMER, 1775, Utitl. Kapellen 1 (4): 66, pl. 41, figs. E, F; (8): 152 (index); homonym], designation by SCUDDER (1872).

Epargyreus zestos zestos (GEYER, 1832)

Proteides Zestos GEYER, 1832, in HÜBNER, Zutr. Samml. exot. Schmett. 4: pl [106], figs. 615 ♀ dors., 616 ♀ vent. (1826);

(text): 9, no. 308 (1832, name given). TL: “Surinam”, probably an error. Types: probably lost.

HÜBNER [1819], Verz. bekannt. Schmett. (7): 103, listed *Proteides zestos* without a description or indication; a nomen nudum.

Distribution: Florida, C America, Lesser Antilles, Cuba, Puerto Rico.

Comments: The species is present at Cuba and Puerto Rico and only BROWN & HEINEMAN (1972) reported it for the Dominican Republic. It has not been found so far and it might be a stray. We report it for future identification.

Polythrix WATSON, 1893

Proc. Zool. Soc. Lond. **1893** (1): 16, 19. TS *Eudamus metallescens* MABILLE, 1888, Naturaliste (2) **2** (28): 108-109, fig. 2, by original designation.

Polythrix octomaculata (SEPP, [1844])

Hesperia Octomaculata SEPP, [1844], Surinaam. Vlinders **2** (13): 123 [22 Aug 1844]; (15): pl. 58, larva, pupa, ♂ dors., ♂ vent. [27 Aug 1844]. TL: “Surinam” from the title of the work. Type(s): are lost.

Distribution: Mexico to Argentina.

Comments: SCHWARTZ (1989a: 35) discussed the very improbable occurrence of *P. octomaculata decussata* (MÉNÉTRIÉS, 1855). *Goniris* [sic] *decussata* was described and figured by Ménétries (1855: 97, tab. V, fig. 2) from Haiti and never recorded for Haiti since then except by RILEY (1975). SMITH et al. (1994) claimed that it may be a misidentification with *Chioides ixion*. It is to underline that the specimen figured by Ménétries (1855-1857) has nothing to do with *C. ixion*, and *G decussata* is currently treated as a synonym of the widespread *Hesperia octomaculata* Sepp.

Argon EVANS, 1955

Argon EVANS, 1955 Cat. amer. Hesp. Brit. Mus. **4**: 205, 221, TS: *Carystus argus* MÖSCHLER, 1878.

Argon cfr *lota* (HEWITSON, 1877)

Hesperia lota HEWITSON, 1877, Ann. Mag. nat. Hist. (4) **19** (109): 81.

= *Pamphila Cerymicoides* BURMEISTER, 1878, Descr. phys. Rép. Argentine **5** (Lépid.) (1): 276-277, no. 4. TL: [Argentina] “des Missions de la Province de Corrientes”

= *Carystus argus* MÖSCHLER, 1878 Verh. zool.-bot. Ges. Wien **28** (Abh.): 212; TL: Colombia.

Distribution: Perhaps C America to Colombia and Argentina.

Comments: SCHWARTZ (1989a) reported 3 ♂♂, 1 ♀ as *Argon* sp. from Sierra de Baboruco, Lower Abejas (PD). We have never seen a similar species but from the description these specimens could be referred to *A. lota* or to a taxon similar to it.

Panoquina HEMMING, 1934

Panoquina HEMMING, 1934 Ent. **67** (849): 38. TS: *Hesperia panoquin* SCUDDER, 1863, Proc. Essex Inst. **3**: 178-179, no. 81, as replacement name. Proposed to replace *Prenes*, 1872, preoccupied by GISTEL, 1848 [Pisces] (Code Articles 60.3, 67.8).

Panoquina hecebolus (SCUDDER, 1872)

P[renes]. Hecebolus SCUDDER, 1872 4th Ann. Rep. Peabody Acad. Sci. (1871): 81, no. 3. TL: “Tehuantepec” [Oaxaca, Mexico] Types: ST (#15312) in MCZ.

Distribution: Mexico to Panama [Haiti?].

Comments: Similar to *P. ocola* with a pale spot in the FW cell, and a small arrow-shaped mark in Cu1-Cu2. Underside with a golden gloss along the inner margin. It is not reported by RILEY (1975). SCHWARTZ (1989a) does not include it for Hispaniola but reported 1 ♂, 3 ♀♀ from Haiti after JOHNSON & MATUSIK (1988) [indeed 1 ♀ and 3 ♂♂].

Pheraeus GODMAN in GODMAN & SALVIN, [1900]

Biol. centr.-amer., Lep. Rhop. **2**: 578, TS: *Carystus epidius* MABILLE, 1891.

Pheraeus unia (BUTLER, 1870)

Trans. ent. Soc. Lond. **1870** (4): 507; TL: “St. Domingo” [Brazil, Minas Gerais].

Distribution: SE Brazil.

Comments: It has been reported by RILEY (1975) probably on the basis of 2 old ♂♂ from “Sto Domingo” in BMNH. The species occurs in Brazil and the locality Santo Domingo appears wrong. It has not been collected in recent times (see SCHWARTZ, 1989a, SMITH et al. 1994, TAKIZAWA et al. 2003).

Lerodea SCUDDER, 1872

4th Ann. Rep. Peabody Acad. Sci. (1871): 80; TS: *Hesperia eufala* EDWARDS 1869, Trans. Am. Ent. Soc. **2** (3): 311-312, by original designation.

Lerodea eufala eufala (EDWARDS, 1869)

Hesperia eufala EDWARDS, 1869, Trans. Amer. ent. Soc. **2**: 311, TL: “Apalachicola, Florida”; NT from “Ind[ian] River.” [Brevard and Volusia counties]. Types: NT (possibly LT) in CMNH, designated by BROWN & MILLER (1987: 58, fig. 22 ♂ dors. & vent.).

= [*Goniloba*] *dispersa* HERRICH-SCHÄFFER, 1869, CorrespBl. zool.-min. Ver. Regensburg **23** (12): 197, no. 56. TL: Not stated. Types: Syntype in ANSP. GODMAN (1907), Ann. Mag. Nat. Hist. (7) **20** (116): 142, determined this synonymy through an examination of the unpublished drawing (pl. 541) made by PLÖTZ.

= *Pamphila Floridae* MABILLE, 1876 Anns. Soc. Ent. Fr. (5) **6** (2): 269, no. 16; (bull.): ix, no. 6, referring to p. 269. TL:

“E. Florida” “Floride, Texas”. Type(s): probably in MNHP.

= *Carystus Miccylla* BURMEISTER, 1878, Descr. phys. Rép. Argentine **5** (Lépid.) (1): 272-273, no. 7. TL: “Buénos-Ayres” [Buenos Aires, Argentina]. Types: Syntype in MACN.

Distribution: Southern North America, Central America to Argentina and Chile.

Comments: HALL (1925) reported this species for Hispaniola but all subsequent authors considered it a misidentification for *Cymaenes tripunctus* HERRICH-SCHÄFFER, 1865. RILEY (1975) reported it doubtfully for Hispaniola. The species is widespread from southern North America, Central America to Argentina. It is a migratory species present in Cuba and Jamaica, it may occur then in Hispaniola but we have never seen it.

PAPILIONIDAE

Papilio (Heraclides) thoas LINNAEUS, 1771

Papilio E[ques]. A[chivus]. Thoas LINNAEUS, 1771, Mant. Plant. (2nd ed.): 536; cited DRURY (1770), Ill. Nat. Hist. **1**: pl. 22, figs. 1, 2, DAUBENTON [1765], Miscellanea:pl. 69, and SEBA (1764), Locuplet. Rerum Nat. Thes. **4**: pl. 38, figs. 6 ♂ dors, 7 ♂ vent. TL: “Guadelupa, Surinamo”. Type(s) apparently lost, as noted by HONEY & SCOBLE (2001: 386).

= *P[apilio]. Archimedes* FABRICIUS, 1938 In: BRYK, Syst. Glossat.: 46, no. 97. TL: Not stated. Types: HT in Museum Gallicum.

Papilio (Heraclides) thoas nealces ROTHSCHILD & JORDAN, 1906 (Figs. 105, 106, see page 19)

Novit. Zool. **13** (3): 558; TL: Colombia, Muzo. Types: Described on a series of 210 ♂♂, 28 ♀♀ in BMNH.

Distribution: Nicaragua to West Ecuador. Dominican Republic (stray).

Comments: Only one very worn specimen was collected near Pedernales at Las Mercedes, and provisionally identified as *P. thoas nealces*. Obviously, it is a stray presumably blown out by a hurricane. It might be classified also as a specimen of the very similar *P. thoas autocles* from Mexico.

LYCAENIDAE

Electrostrymon minikyanos JOHNSON & MATUSIK, 1988

Ann. Carnegie Mus. **57**: 223, TL: “Middle Abejas”, 1500 m. Prov. de Pedernales, Republica Dominicana. Types: HT ♂, Middle Abejas”, 1500 m, July 11, 1986, in coll. AMNH.

Distribution: Dominican Republic, Pedernales Prov.

Comments: According to ROBBINS & LAMAS (2002) the nominal taxon *E. minikyanos*, was described on a single ♂ specimen from the Dominican Republic. It is made a nomen dubium because it cannot be definitively identified from its wing pattern or genitalia. The HT was stated to be a ♂, and its illustrated genitalia appear to belong to *Electrostrymon*. However, Antillean *Electrostrymon* species cannot be readily distinguished by the structure of their ♂ genitalia. Although the HT of *E. minikyanos* is very worn and lacks its front legs (so determination of its sex is uncertain), its wing pattern appears to be that of a small ♀ of *Allosmaitia fidenia*. The pattern and hue of the UPFW blue colour of the HT is the same as all ♀♀ of *Allosmaitia* species and is different from all ♂♂ of *Electrostrymon* species. ROBBINS & LAMAS (2002), given that K. JOHNSON and associates have described seven species from “alien” HT composed of more than one species, considered *Electrostrymon minikyanos* as a nomen dubium until further specimens can clarify its identity.

Nesiostrymon calchinia (HEWITSON, 1868)

Thecla calchinia HEWITSON, 1868, Descr. some new spec Lyc.: 21, TL: Brazil, Amazonas.

= *Thecla tera* HEWITSON, 1878, Ill. diurn. Lep. Lycaenidae (**8**): 211, pl. 84, f. 714-715, TL: Panama, Chiriqui.

= *Thecla chilica* SCHAUS, 1902, Proc. U.S. Nat. Mus. **24** (1262) : 422, TL: Brazil, Paraná.

= *Thecla cana* HAYWARD, 1949, Acta zool. Lill. **8**: 571, TL: Argentina, Tucumán.

= *Terra hispaniola* JOHNSON & MATUSIK, 1988, Annls Carnegie Mus. **57**: 241-242 TL: [Dominican Republic, Pedernales Province, Sierra de Bahoruco] “slightly below upper Abejas”, Types: HT ♂ and AT ♀ (a mating pair) taken slightly below: upper Abejas, 6 July 1986, leg. K. JOHNSON, both deposited CMNH (AMNH/HS #106, 107, transferred to CMNH). PTs: DMC - (♂) same locality as primary types, 5 July 1984, leg. D. MATUSIK (AMNH/HS #108 transferred to DMC). AME - (♂) upper Abejas, patrolling path, 13 July 1987, leg. K. JOHNSON, on lifetime loan to ALBERT SCHWARTZ (AMNH/HS #109 transferred to AME). AMNH - (♂) same locality as primary types, nectaring on small blue flowers in sunlight, 15 July 1987, leg. K. JOHNSON (AMNH/HS #110).

= *Terra andevaga* JOHNSON, 1991, Amer. Mus. Novit. **3011**: 24, TL: Santo Domingo de los Colorados, Pichincha, Ecuador.

= *Terra altilineata* JOHNSON, 1992, J. N.Y. ent. Soc. **100** (3): 522, TL: Quebrada de las Cruces, Dept. Tilcara, Jujuy Province, Argentina, 3,500 m,

Distribution: Mexico, Panama, Brazil, Argentina, Ecuador. Dominican Republic?

Comments: ♂ UPFWs bluish with round androconial spot, costa, apical and marginal areas black. UPHWs light blue with two small tails. Under surface whitish with reddish discal and postdiscal bands. Apparently, this species is known in the Dominican Republic on the basis of the HT ♂, and the AT ♀ described as *Terra hispaniola* by JOHNSON & MATUSIK (1988). These authors noted that the habitat of this species differs from that of *Nesiostrymon celida*, described later as *N. celida baourocoensis* by JOHNSON (1991) which is bound to dense woods in the vicinity of lower Abejas.

SCHWARTZ (1989a) reported only the information given by JOHNSON & MATUSIK (1988) on *Terra hispaniola*. SMITH et al. (1994) treated *Terra hispaniola* as a full species but they did not mention *N. calchinia* which indeed is a species widespread from Mexico to Argentina, but never reported from the Antilles. Apparently this species was not collected

any more in Hispaniola but due to the peculiarities of the habitats in the Sierra de Bahoruco it can be discovered again.

***Celmia* JOHNSON, 1991**

Rep. Mus. Nat. Hist. Univ. Wisc. (Stevens Point) **21**: 44. TS: *Papilio celmus* CRAMER, [1775].

= *Uzza* JOHNSON, 1991, Rep. Mus. Nat. Hist. Univ. Wisc. (Stevens Point) **21**: 43 TS: *Thecla uzza* HEWITSON, 1873.

= *Cyclotrichia* JOHNSON, AUSTIN, LE CROM & SALAZAR, 1997, Revta Theclinae Colomb. **1** (1): 17. TS: *Thecla wichami* RILEY, 1919.

***Celmia celmus* (CRAMER, [1775])**

Papilio celmus CRAMER, [1775], Utitl. Kapellen **1** (1-7): pl. 55, ♀. G, H. TL: Surinam.

= *Tmolus pereza* BUTLER, 1877, Trans. Ent. Soc. Lond. **1877** (2) : 140. TL: Brazil, Amazonas.

= *Tmolus victoria* JOHNSON & MATUSIK, 1989, in SCHWARTZ (1989: 525), Butt. Hispaniola. TL: [Dominican Republic] "from a locality between La Romana to Casa de Campo road" [Probably mainland Central or South America, see ROBBINS & LAMAS (2002)].

= *Celmia stigmata* JOHNSON, 1991, Rep. Mus. Nat. Hist. Univ. Wisc. (Stevens Point) **21**: 46. TL: Hacienda Garcia Cauca Valley, 3500 ft, Colombia.

Distribution: Mexico, Surinam, Brazil (Amazonas), Colombia.[Dominican Republic?].

Comments: JOHNSON & MATUSIK (1989) described *Tmolus victoria* on the HT ♀ from a locality between La Romana to Casa de Campo road. One supposed ♂ from "Santo Domingo" coll. DRUCE, is found in the BMNH. This taxon is considered by ROBBINS (2004b) as a synonym of *Celmia celmus* (CRAMER, [1775]). Indeed, ROBBINS (2004a) claimed that the FWs of both specimens of *T. victoria* are *Ministrymon albinimicus* (JOHNSON, 1986) from Venezuela. The HWs are of *Celmia celmus* a species, although widespread in South America, never recorded from the Antilles or Hispaniola. ROBBINS & LAMAS (2002) noted that: "It is rather remarkable, and truly troubling, that both the holotype of *T. victoria*, which was collected by MATUSIK, and the AT, which was from the BMNH collection (JOHNSON & MATUSIK, 1989), are both glued composites of the same two species belonging to different genera".

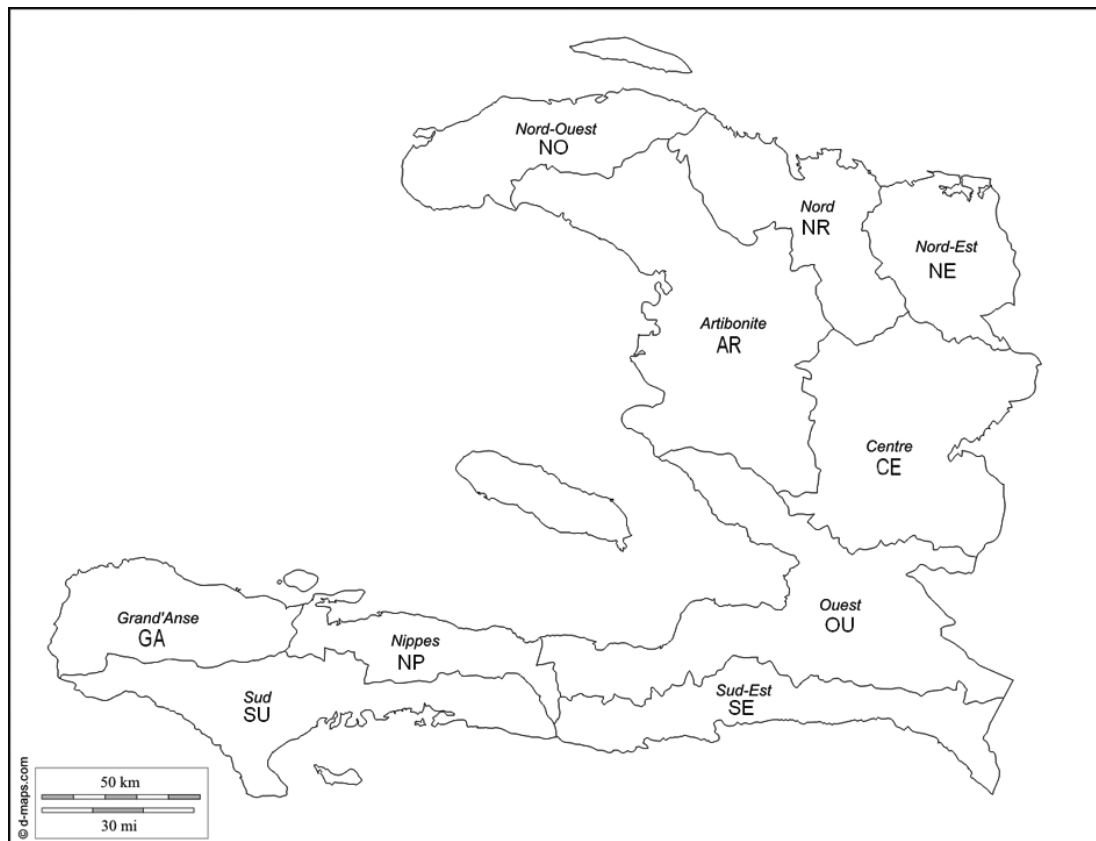
SMITH et al. (1994: pl.12 fig. 20) reported it as *Ministrymon victoria* and they illustrated the PT specimen found at BMNH. *C. celmus* is figured by D'ABRERA (1995: 1288).

Apparently, it has never been collected in La Hispaniola and it is a species not to be listed for the time being for the Hispaniolan fauna.

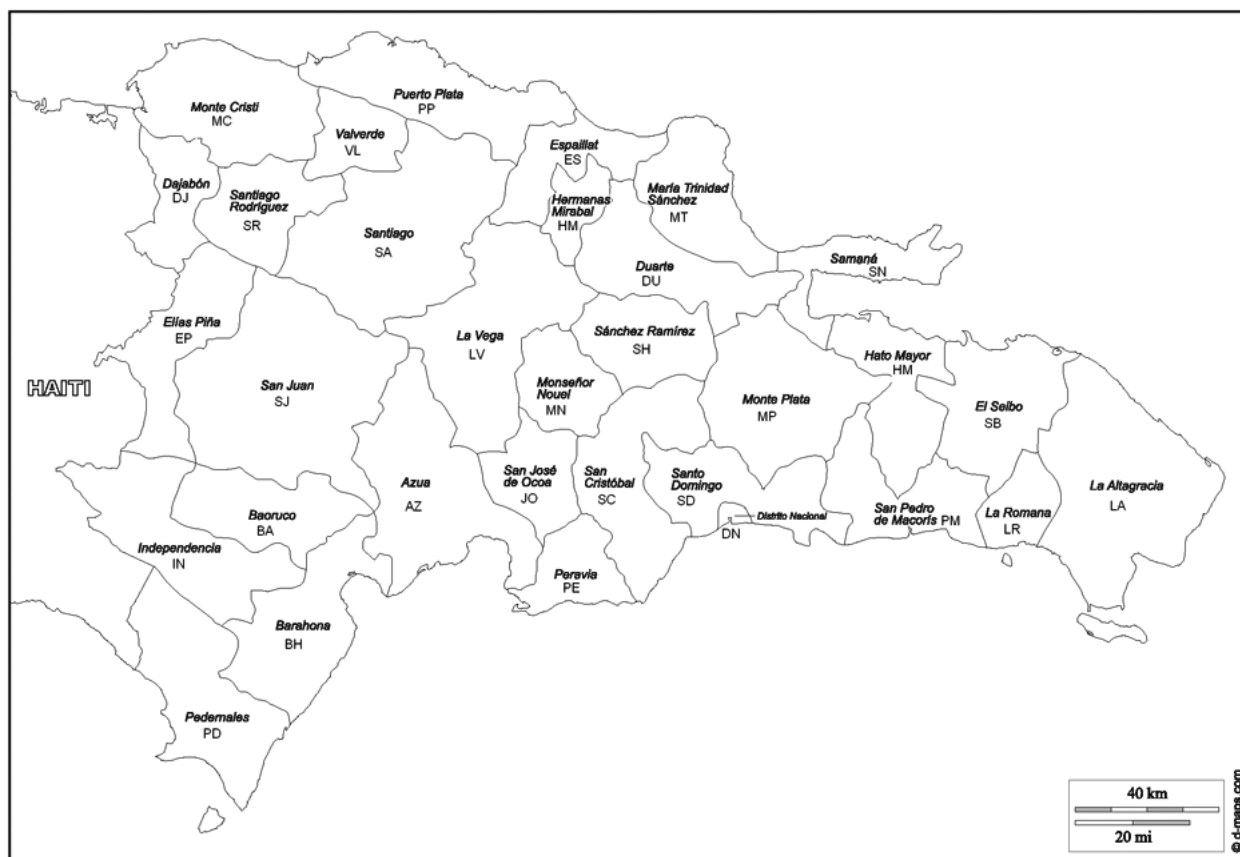
Gazetteer of Hispaniola

This gazetteer was compiled using both collecting sites from our own field expeditions and those gathered from literature. The localities are alphabetically ordered for each province (s.l. = sea level).

Maps of Hispaniola with Provinces (redrawn after ©d-maps.com)



Departments of Haiti with acronyms: Nord-Ouest (NO); Nord (NR); Nord-Est (NE); Artibonite (AR); Centre(CE); Ouest (OU); Sud Est (SE); Sud (SU); Grand'Anse (GA); Nippes (NP).



Provinces of Dominican Republic with acronyms; Monte Cristi (MC); Dajabón (DJ); Elias Piña (EP); Independencia (IN); Pedernales (PD); Barahona (BH); Baoruco (BA); San Juan de la Maguana (SJ); Santiago Rodríguez (SR); Valverde (VL); Puerto Plata (PP); Santiago (SA); La Vega (LV); Azua (AZ); Española (ES); Hermanas Mirabal (= Salcedo) (HM); María Trinidad Sánchez (MT); Duarte (DU); Sánchez Ramírez (SH); Monseñor Nouel (MN); San José de Ocoa (JO); Peravia (PE); San Cristóbal (SC); Santo Domingo (SD); Distrito Nacional (DN); Monte Plata (MP); Samaná (SN); Hato Mayor (HM); San Pedro de Macorís (PM); El Seibo (SB); La Romana (LR); La Altagracia (LA).

Republic of Haiti:

1 Nord-Ouest (NO)

[Between] Bassin Bleu, 452 m and Gros Morne, 232 m;
Balladé, 0.6 km NW. 31 m;
Balladé, 1.3- 2.1 km S. 31 m;
Môle St.-Nicolas s. l.;
Port-de-Paix, 7.5 km SE. 31 m;

2 Nord (NR) + 3 Nord-Est (NE)

Cap-Haitien s.l.
Carrefour la Mort s.l.
Cormier Plage s.l.;
Dondon, 1.8-9.9 km S. 366 m;
Dondon, 5.6 km SE. 336 m;
Dufort, 1.1 km S;
Limonade, 3.5 km E. s. l.;
Gaubert, 1500 m;
Jonas, 2.9 km S. 153 m;
“Mt Basil” ?= Mourne Bazile, Montagne Noires;
Mont Griné (= Mon Grinnie)
Plaisance, 3.5 km S. 336 m;
Plaisance, 6.2 km W. 259 m;
Terrier Rouge, 8.5-12.3 km E;

4 Artibonite (AR) + 5 Centre (CE)

[between] Bassin Bleu and Gros Morne;
Ça Soleil, 12-16.8 km W;
Carrefour Joffre, 16 km N. 183 m;

Carrefour Marmelade, 1.1 km N. 793 m;
Carrefour Marmelade, 1.6 km E. 854 m;
Carrefour Marmelade, 76 km E. 93 m;
Colmini, 6.4 km W Terre Noire. s.l.;
Délugé s.l.
Ennery, 2.9 km E. 305 m;
Ennery, 5.4- 6.4 km E. 336 m;
Ennery, 3.2 km NE. 427 m;
Gonaïve, 16 km E. s.l.;
Gros Morne, Rivière Pendu, 15 km N;
Les Poteaux, 4.6 km E. 183 m;
Les Bains des Amani-y, 7.4 km E s. l.
Passe Reine, 1.6 km W. 200 m;
Pivert, E St.-Marc. 50 m;
Platon, 13 km E Croix des Bouquets s.l.
Platon, 5 km E Carrefour Marm. 793 m;
Pont l' Estère, 11 km S. s. l.;
Port Guauguin, 13 km ESE. s. l.;
Terre Noire. 14 m;
Thomonde, 4.0 km N. 250 m;
Thomonde, 24.0 km N;
Thomonde, 20.3 km SW;

6 Ouest (OU) + 7 Sud Est (SE)

Archare, 15.2 km NW. s.l.;
Belle Anse, 2-9.6 km E;
Béloc, 1.6 km N. 702 m;
Béloc, 8.6 km N. 534 m;

Boutilliers Road. 266-915 m;
 Boutilliers Road, 5 km S. 732 m;
 Canapé Vert, Port-au-Prince;
 Croix de Bouquets, 13 km E. s. l.;
 Croix de Bouquets, 18.1 km SE. s. l.;
 Croix de Bouquets, 11.2 km N. s. l.;
 Croix de Missions, 6 km N. s. l.;
 Découzé, 1.6 km N. 702 m;
 Découzé, 0.6-6.6 km S. 397-702 m;
 Dufort, 17 km S. 702 m;
 Etang Saumâtre, Lake;
 Fond Parisien, 2-5 km SE. 40 m;
 Forêt des Pins. 1525-1586 m;
 Forêt des Pins, 4 km NW. 1496 m;
 Furcy, 1-1.6 km SW. 1464 m;
 Grand Goâve, 6.7 km E. s. l.;
 Grand Goâve, 8.8 km W. s. l.;
 Jacmel. 244 m;
 Jacmel, 9.3 km NW. 183 m;
 Jacmel, 7.7 km N. 92 m;
 Jacmel, 10-13.6 km E. s. l.;
 Kenscoff, 3.7 km S. 1647 m;
 Kenscoff, 5.8 km S. 1678 m;
 Kenscoff, 9.6 km S. 1568 m;
 Kenscoff, 1.8-2.1 km W. 793-885 m;
 Lascahobas, 6.2 km E. 275 m;
 Lastic la Roche, Plaine Thoman. 488 m;
 Léogâne, 10.1-10.8 km E. 15 m;
 La Source, 5 km E Thomazeau. s. l.;
 Lavaneau, 229 m;
 Manegue, just N Duvalierville. s. l.;
 Meyér, 5.8 km E. s. l.;
 Mirebalais, 12.0 km SE. 305 m;
 Mirebalais, 20 km SE. 366 m;
 Morne Formond. 1635-1800 m;
 Morne La Visite, Massif de La Selle. 1400-2100 m;
 Mt. Bounite. 1600 m; [Not Located]
 Obléon, 0.3 km N. 1617 m;
 Obléon, 0.5 km NE. 1678 m;
 Peneau, 1.1-1.6 km SW Furcy. 1464 m;
 [near] Péredo. 570-600 m;
 Pétionville. 366-458 m;
 Petit - Gôave, 17.8 km E;
 Pic Cabalo, 2.4 km from Scierie. 2100 m;
 Pic Formond. 1900 m;
 Pic Macaya. 2300 m;
 Plaine du Cul-de-Sac, Port-au-Prince;
 Ponte Beudet, Port-au-Prince;
 Ravine Roseau, 4 km SW Dufort. 60 m;
 Roche Cabrit, 1 km W. 2000 m;
 Saut d'Eau, 1.6 km N. 183-275 m;
 Scierie, 2 km NW. 1785-1810 m;
 Scierie, 4.8 km NW. 2187 m;
 Scierie, 1 km SE. 1891 m;
 Soliette, 17 km S Fond Parisienne. 488 m;
 Source Matelas, 5 km E. s. l.;
 Terre Rouge, 549 m;
 Terre Rouge, 1.1 km N. 519 m;
 Terre Rouge, 1.3 km N. 580 m;
 Terre Rouge, 3.8 km N. 534 m;
 Terre Rouge, 2.9-8.5 km S. 122-488 m;
 Terre Rouge, 5.6 km S. 366 m;

8 Sud (SU) + 9 Grand'Anse (GA) + 10 Nippes (NP)
 Aquin, 12 km W;

Los Cerezos, 12 km NW Rio Limpio. 580 m;
 Mont Griné, frontier marker 47, SW Trinitaria, 1000 m;
 Pico Gallo, ca 10 km E El Carrizal. 1302 m;
 Restauración. 550 m;
 Restauración. 400-800 m
 Restauración, 5 km NE. 610 m;
 Restauración, 7 km N. 671 m;
 Restauración, 4 km S. 580 m;
 Restauración, 8 km S. 640 m;
 Restauración, 9.1 km S. 519 m;
 Restauración, 14 km S, 3 km ESE Villa Anacaona,
 437 m;
 Restauración, 15 km S. 976 m;
 Rio Limpio. 16 km NW. 702 m;

3 Elias Piña (EP)

Aniseto Martinez, Puesto de Calimete. 1200 m;
 Comendador, 10 km E, Hato Viejo. 400 m;
 Comendador, 14-15 km S. 976 m;
 Comendador, 21 km S. 1646 m;
 Elias Piña, 10 km S. 732 m;
 Hondo Valle, 16 km E. 702 m;
 Juan Santiago, 750 m;
 La Estrelleta, 3 km N Los Alejos. 366 m;
 La Laguna, 10 km S Comendador. 732 m;
 Loma Caramaná, Alto de Loma, S Los Guandules.
 1083 m;
 Loma Nalga de Maco (summit) ca 1990 m;
 Los Alejos, 3 km N, 10 km E Comendador. 378 m;
 Los Guandules, above Guayajayaco. 1231 m;
 Puesto Piramide 204, 1 km SW. 1891 m;
 Puesto Piramide 204, 2 km NE. 1586 m;

4 Independencia (IN)

Ángel Félix, 5 km S, road Los Pinos del Eden-
 Aniceto Martinez;
 Boca de Cachón, 1 km S. 30 m;
 Boca de Cachón, 19 km W, Las Lajas;
 Cruce del Limón near El Limón. 47 m;
 Duvergé, 0.5-2 km E. 20 m;
 Duvergé, 8 km W. 30 m;
 Duvergé, 10 km SE.
 El Aguacate, 1 km NE. 976 m;
 El Aguacate, 7 km NE. 519 m;
 El Aguacate, 4-7 km NE. 519-824 m;
 El Aguacate, 22 km SE. 1586 m;
 El Aguacate, 7 km NE, path to El Limón 600-700 m;
 El Limón, 4 km E. s. l.;
 El Naranjo, 6 km SW. 519 m;
 Guayabal, 5 km N Postrer Río. 25 m;
 La Descubierta, 1-3 km S. 16 m;
 La Furnia s. l.
 Las Lajas, 19 km W Boca de Cachón s. l.;
 Loma del Toro. 1650 m;
 Loma Los Pinos. 1100-1300 m;
 Los Pinos del Eden, 14 km N. 1159 m;
 Los Pinos del Eden, 21 km N, 1708 m;
 Los Pinos del Eden, 23 km N. 1739 m;
 Jimaní, 8 km NW, La Furnia. s. l.;
 Jimaní, 20 km W, path to El Limón, 519-580 m;
 Postrer Río, 2-4 km N. 17 m;
 Puerto Escondido, 5 km N. 427 m;
 Puerto Escondido, 0.6 km NW. 519 m;
 Puerto Escondido, 16.7 km SE. 1350 m;
 Tierra Nueva, 4-5 km NW. s. l.;

Camp Perrin, 4,8-5.6 km N. 244-275 m;
 Desbarrieres de La Hotte Mt. 1300 m;
 Cavaillon, 4.5 km E. 31 m;
 Cavaillon, 6.2 km N. 61 m;
 Cavaillon, 16.2 km N. 488 m;
 Cavaillon, 19 km N. 580 m;
 Cavaillon, 25.6 km N. 640 m;
 Cavaillon, 7 km SW. 122 m;
 Forment, 0.75 km WSW;
 Formond, 800 m;
 Formond base camp. 975 m;
 Les Cayes. s.l.
 Les Platons. 650 m;
 Les Platons (Citadel), 10,7 km WNW, Caye Paul.
 1120m;
 Lévy. 168 m;
 Marceline, 6,4 km NW. 610 m;
 Marceline, 14 km NW. 671 m;
 Miragoâne, 5.7-10.7 km W. s.l.
 Miragoâne, 11.2 km E. s.l.
 Morne Formond. 1000-1870 m;
 Paillant, 2-3 km SW. 671 m;
 Paillant, 4.8 km SW. 671 m;
 Paillant, 6-7 km SW. 793-854;
 Pic Formond. 700-900 m;
 Pic Formond, top. 1900 m;
 [Along ravine between] Pic Formond and
 Roche Croix, Massif de La Hotte. 1600 m;
 Pic Macaya. 1050-1485 m;
 Soie Bois, 960 m;
 Trou Carfineyes, 0.5 km SSE;
 Vieux Bourg d'Aquin. s.l.

Île à Vache (Sud)

Pointe Diamant;

Île de la Gonâve (Ouest)

Anse-à-Galets

Picmi

Île à Cabrit (Ouest)

Dominican Republic

1 Monte Cristi (MC)

Bahia de Manzanillo;

Copey, 6 km W. s. l.

El Morro. 150 m;

Los Quemados, 3 km W, Rio Gurabo. 122 m;

Martin Garcia, 3.9 km SE. 92 m;

Monte Cristi, 1-4 km SE;

Monte Cristi, 9 km SSE;

Monte Cristi, 3 km E. 20 m;

Monte Cristi, 12.8 km E;

Pepillo Salcedo. s.l ;

Rio Yaque, 16 km S Monte Cristi;

Villa Elisa, 3-5 km N. 60 m;

Villa Sinda, 4 km SE;

Villa Vásquez, 4 km NW. 61 m;

2 Dajabón (DJ)

Cañada Tirolis, S Villa Anacaona. 458 m.

Cañongo, 0.5 km N. 31 m;

Cerro Chacuey, 3 km N Loma de Cabrera. 350 m;

Cruce de Limón;

El Pino, 1-2 km NW. 183 m;

El Pino, 1.4 km SE. 183 m;

Loma Nalga de Maco, ca 1990 m;

Zapoten area. 1545-1775 m;

5 Pedernales (PD)

Aguas Negras, 3 km W. 519 m;

Banano, 1 km SE. 183 m;

Banano, 2 km N. 244 m;

Cabeza de Agua, 1 km N. 275 m;

Cabo Rojo. s.l.;

Cabo Rojo, 2-4 km N. s.l.;

Cabo Rojo, 4-7 km NE. s.l.;

Cabo Rojo, 11 km NE. 30 m;

Cabo Rojo, 12.5 km NE. 70 m;

Cabo Rojo, 13.5 km NE. Bomba de agua. 110 m;

Cabo Rojo, 18 km NE. 305 m;

Cabo Rojo, 19 km NE. 427 m;

Cabo Rojo, 21 km NE, desvio a Las Mercedes. 412 m;

Cabo Rojo, 23 km NE. 488 m;

Cabo Rojo, 24 km NE. 656 m;

Cabo Rojo, 25 km NE. 680 m;

Cabo Rojo, 26 km NE. 732-740 m;

Cabo Rojo, 27 km NE. 793 m;

Cabo Rojo, 28 km NE. 950 m;

Cabo Rojo, 29 km NE, 990 m;

Cabo Rojo, 31 km NE, La Charca. 1060 m;

Cabo Rojo, 32-33 km NE. 1260-1285 m;

Canote mine, 6 km NW Aceitillar. 1495 m;

Canote mine, 5 km N. 1830-1952 m;

Camino Hoyo de Pelempito 1300-1350 m;

Camino de Los Arroyos a Ojo de Agua;

El Aceitillar, 1-4 km N. 1281 m;

El Aceitillar, 7 km NW. 1520 m;

El Aceitillar, 11-12 km NW. 1160-1250 m;

El Aceitillar, 4.5 km NE. 1373 m;

El Aceitillar, 2 km SW. 1251 m;

El Aceitillar, 36 km NE Cabo Rojo. 1281 m;

El Aguacate. 1655 m;

El Aguacate, 9 km SW. 1769 m;

El Aguacate, 11 km SW. 1891 m;

El Mulito, 21 km N Pedernales. 214 m;

Las Abejas transect, NW of Aceitillar;

Las Abejas. 11-12 km NW El Aceitillar. 1129-1220 m;

Las Mercedes, 1 km SW. 397 m;

Las Mercedes, 6 km S. 200 m

Las Mercedes, 10 km S. 50-65 m;

Loma del Toro, 12 km N Los Arroyos ca 2200 m;

Los Arroyos, 1 km NE. 1220 m;

Los Arroyos, 5 km NE. 1617 m;

Los Arroyos, 0.6 km S. 1098 m;

Los Arroyos, 3 km SE. 976 m;

Manuel Goya, 3 km W. 130 m;

Mencia. 397 m;

Mencia, 2 km SW. 275-336 m;

Oviedo, 9 km W. 35 m;

Oviedo, 17 km NW. 183 m;

Oviedo, 19 km N. 150 m;

Oviedo, 39 km N. 130 m;

Tres Charcos, 4 km NW Oviedo. 70 m;

Tres Charcos, 0.5 km S;

“Upper Abejas”, 1750 m, 8 km on footpath,

Isla Alto Velo (Pedernales)

Isla Beata (Pedernales)

6 Barahona (BH)

Barahona. s.l.;

Barahona, 3 km W. 183-397 m;

Barahona, 2-12 km SW. 122-427 m;

Barahona, 20-22 km SW. 1098 m;
 Barahona, 5 km SE 3 km W. 183 m;
 Barahona, 5 km SE 6.4 km W. 488 m;
 Barahona 10 km S, Casa Bonita Hotel, Rio
 Baoruco Canyon. 300 m;
 Cabral, 20 km SE. 946 m;
 Cabral, 19 km SW. 305 m;
 Cabral, 10 km SSW. 160 m;
 Cabral, 17 km SSW. 214 m;
 Canoa, 8-11.5 km ESE. s.l.;
 El Aguacate, 4-7 km NE. 519-824 m;
 El Limón, summit Sierra Martín García. 976-1037
 m;
 El Charco, summit Sierra Martín García. 1098 m;
 Enriquillo, (Cacique Monument), Cruze de Neiba,
 0 m;,
 Enriquillo, Los Cocos, 3 km NW. 244 m;
 Enriquillo, Los Cocos, 9 km NW. 671 m;
 La Ciénaga, 3.3 km NE, 20 m;
 La Lanza, 2 km S, ca 8 km NW Paraíso. 1000 m;
 Las Auyamas, 2 km N. 885 m,
 Las Auyamas, 5 km NW. 900 m;
 Loma Remigio, ca 10 km NW Paraíso. 1000 m;
 Los Cocos. 10 m;
 Los Cuatro Vientos, 5 km NE Barahona. 193 m;
 Monteada Nueva, 1.3 km W, west slope Sierra
 Martín García. 458-610 m.
 Monteada Nueva, 1.8 km W, west slope Sierra
 Martín García. 1007 m.
 Paraíso, 8-11 km NW. 153-366 m.;
 Polo. 702 m;
 Polo, 8 km NNE. 793 m;
 San Rafael. s. l.;
 Sierra Martín García, west slope. 305-458 m;
 Sierra Martín García, west slope. 458 m;
 Sierra Martín García, west slope .610-640 m;
 Sierra Martín García, west slope. 768-915 m;
 Villa Nizao, 4 km NW Paraíso. 600 m;

7 Baoruco (BA)

Cabeza de Toro, 2 km S. Vallejuelo, 15 km SW. 390
 m;
 El Veinte, 1 km NW. 1230 m;
 El Veinte, 8 km SW. 1617 m;
 Galván, 2 km SE. 15 m;
 Monserrat,[= Monserrate]. 52 m;
 Neiba, 9 km N. 366 m;
 Nelba, 11 km N. 519 m;
 Neiba, 14 km N. 671 m;

8 San Juan de la Maguana (SJ)

Aguita Fria, base of Loma la Diferencia, 1750-2300
 m;
 Arroyo Cano, Arroyo Calabaza 550-575 m;
 Bohechio, 15 km W. 700 m;
 Buena Vista de Yaque, Arroyo Naranjo 490 m;
 El Cercado, La Ermita, S La Mata de Farfán. 630
 m;
 El Cercado, 4 km E. 702 m;
 El Cercado, 6 km W. 640 m;
 Jorgillo, 8-10 km NW. 769 m
 Lamadero Massif, Loma Pinal Viejo (El Manguito);
 Loma de Tasajera. 2142 m;
 Loma la Diferencia, 2300- 2800 m;
 SE Sabana Alta. 305 m;
 San Juan, 19 km N. 543 m;

San Juan, 14 km E. 427 m;
 Sabaneta. 650 m;
 Vallejuelo, 3 km SE. 671 m;
 Vallejuelo, 7 km NE. 671 m;
 Vallejuelo, 9 km E. 610 m;

9 Santiago Rodriguez (SR)

La Leonor (Cerro). 300 m;
 Los Almácigos, 6 km NE;
 Los Almácigos, 8 km NNW;
 Loma El Rancho. 1200 m;
 Loma Leonor, 18 km SW Monción. 534 m;
 Loma Leonor, 19 km SW Monción, 610 m;
 Loma Leonor, 4.7 km SW. 732 m;
 Monción, 15 km SW. 320 m;
 Rio Toma. 550 m;
 Santiago, 7 km SW. 214 m;
 Zamba, 3-4.8 km S. 183-214 m.

10 Valverde (VL)

Mao, 12 km SW. 244 m;
 Cruze de Guayacanes, 3.3 - 11 km N. 198-275 m;

11 Puerto Plata (PP)

El Choco, 5 km NE. 503 m;
 Estero Hondo, 0.6 km NE. 15 m;
 Guanamico, 10 km W. 529 m;
 Imbert, 2 km S. 92 m;
 La Cumbre. 500 m;
 Loma de Aguacate road, 40 km W Puerto Plata, 600 m;
 Luperón, 8-10 km W;
 Luperón, 12 km SE. 264 m;
 Luperón, 13 km SE. 214 m;
 Mt Isabel. 300 m = Pico Isabel de Torres;
 Pico Isabel de Torres. 700 m;
 Puerto Plata, 10 km W, Maimón. 20 m;
 Puerto Plata, 8 km E. ca. 15 m;
 Puerto Plata, El Cupey, 1 km NW. 350 m;
 Punta Rucia, 0.4 km S. s. l.;
 Sabaneta de Yásica. 10 m;
 Salto La Damajagua. 130 m;
 Sonadores, 2 km N, 350 m, road to Santiago;
 Sosúa, 9 km SE. 16 m;
 Sosúa, 11 km SE. 47-183 m;
 Yásica, 22 km SE Puerto Plata. 122 m;

12 Santiago (SA)

La Cotorra, 1.5 km before. 1342 m;
 [between] La Cotorra and La Laguna. 1403-1800 m;
 La Laguna, 0.3 km NE. 1723 m;
 La Laguna. 1830 m;
 Jánico, 8 km E. 610 m;
 Jánico, 7 km NE. 488 m;
 Loma de Tambor, 5 km SW Mata Grande. 2000 m;
 Mata Grande. 600 m;
 Monte Rubio. 900 m, 13 km W San José de la Mata;
 (=Pico El Rubio)
 Pedro Garcia, 2 km E. 427 m;
 Pico Diego de Ocampo, 15 km N Santiago;
 Pico Platico. 1200-2500 m;
 Rincón de Piedras;
 Rio Bao, 8 km SE Montones Abajo. 488 m
 Rio Bao, 2 km SW Mata Grande. 702 m;
 Santiago, 7 km SW. 214 m;
 San José de las Matas. 600 m;
 [entrance] Valle de Tetero to Valle de Tetero. 1342-1922 m;

13 La Vega (LV)

Alto de la Sierra. 1031 m [Not Traced]
Balneario La Guázara, 9.4 km SW Jarabacoa. 760 m;
Bayacanes, 241 m;
Boca del Rio, ca. 3 km SW. 976 m;
Buena Vista, 11 km NE Jarabacoa. 641 m;
Constanza, 10 km SE, road to S. José de Ocoa, 1700 m;
Constanza, 1 km S. 1098 m;
Constanza, 4-6 km SSE. 1159-1403 m;
Constanza, 7 km SE. ca. 1312 m;
Constanza, 8 km SE. 1495-1586 m;
Constanza, 10-14 km SE. 1648- 1921 m;
Constanza, 18 km SE. 2227 m;
Constanza, 21 km SE. 2257 m;
Constanza, 28 km SE. 2288 m;
Constanza, 41 km SE. 2074 m;
Ébano Verde Reserva Científica 800-1500 m;
El Arroyazo see Ébano Verde Reserva Científica;
El Rio, 1 km E. 1037 m;
El Rio, 2 km SW, 30 km SE Jarabacoa. 1080 m;
Güaigüi, 10 km S La Vega. 336 m;
Jarabacoa, 530 m;
Jarabacoa, 1-2 km S. 488 m;
Jarabacoa, 6 km S. 610 m;
Jarabacoa, 5 km SE. 595 m;
Jayaco 10 km W. 915 m;
Jayaco 19 km W. 1007 m;
La Ciénaga. 915-1110 m;
La Compartición, Loma La Paloma, Pico Duarte, 2450 m;
La Horma, 10 km NW 1496 m;
La Nevera, 37 km S Constanza. 2227 m;
La Nuez. 1393 m;
La Palma, 19 km W Jayaco. 1007 m;
Loma del Toro. N Loma La Rucilla. 1600 m;
Loma El Peñon, Constanza. 1200 m;
Loma La Rucilla, NE Pico Duarte, SW La Ciénaga;
La Vega, 2 km S. 366 m;
[Viaje a] Madre Las Aguas
Los Tablones, La Ciénaga. 1278 m;
Los Tablones, 1 km SW. 1159 m;
Manabao, 13 km E. 610 m;
Manabao, 1 km W. 793 m;
Paso Bajito, 3.5 km E. 732 m;
Pinar Bonito [road to], 5 km SE Constanza. 1400 m;
[road] S. José de Ocoa-Constanza, km 44, 2150 m;
Valle Nuevo, 5 km NW. 2288 m;
Valle Nuevo, 13 km SE. 2074 m;
Valle Nuevo, 25 km SE Constanza, 2105 m;

14 Azua (AZ)

Azua, 2.5 km W, 6.6 km N. 183 m;
Azua, 25 km NE. 92 m;
El Guayabal. 727 m;
El Número near Hatillo. 14 m;
Fundación de Sabana Buey, 1 km N. s. l.;
La Canoa, 2 km SE. 397 m;
Hatillo, 2 km NW. 183 m;
Hato Nuevo de Cortéz, 0.5 km NE. 214 m;
La Loma Los Guayuyos, ca 10 km N. 1300 m;
Los Guayuyos, ca 6 km W. Bohechio. 1027 m;
Los Guayuyos, 1300 m;
Loma de Los Ranchos, N Hatillo;
Monte Bonito, 5 km SW. 702 m;
Palmar de Ocoa, 1 km E. s. l.;
Padre Las Casas, Monte Bonito 3 km SW, 600 m;

Peralta, 4-5 km S. 300-366 m;
Peralta, 18 km S. 122 m;
Playa Tortuguero, 8 km SE Azua. s. l.;
Puerto Viejo, 10 km SE Azua, s. l.;
Tábara Abajo. 108 m;
Yayas de Viajame, 2 km N. 366 m;

15 Espaillat (ES)

Gaspar Hernández, 2 km NW. 15 m;
Jamao al Norte, 14 km SW. 534 m;
Jamao al Norte, 20 km SW. 793 m;
Moca, 3 km S. 200 m;
Puesto Grande, 3 km N. 580 m;
Rio Yásica;

16 Hermanas Mirabal (= Salcedo) (HM)

Las Cuevas, 3 km SE Salcedo. 167 m;
Rancho El Medio. 163 m;
Ojo de Agua, 5 km NE Salcedo. 200 m;
La Hoya, 5 km N Tenares. 358 m;

17 María Trinidad Sánchez (MT)

Cabrera, Punta Diamante, 20 m ;
Cabrera, 6 km S. s.l.
Cruce de Rincón. s.l.
Cruce de Rincón, 1 km S. s.l.
Nagua, 9-11 km SE. 15 m;
La Entrada, 14 km S. 15 m;
Rio San Juan, 8-11 km NE. s.l.
Rio San Juan, 19 km SE. 92 m;
Sánchez, road to Rincón Molinillos, ca. 18 km W, 1.2 km S. 31 m;

18 Duarte (DU)

El Abanico, 1 km N. 45 m;
Pimentel, 2 km SW. 40 m;
San Francisco de Macoris, 12 km SE. 120 m;
Tenares, 10 km SE. 183 m
Villa Riva. 20 m;

19 Sánchez Ramírez (SH)

Hatillo, 5 km NE Maimón, 100 m;
La Piedra, 7 km SW Pimentel;
Las Lagunas, 1 km NE. 183 m;
Presa de Hatillo, 6 km SW Cotuí. 70 m;
Villa La Mata, 1 km SE. 50 m;

20 Monseñor Nouel (MN)

Bejucal, Bonao. 206 m;
Boca de Rio Blanco near Bonao [Not traced];
Bonao, 153 m;
Casabito Mountaine Village, 1400 m, 1 km S Alto de la Virgen, 5 km NE;
Jayaco, 10 km W. 915 m;
La Presa de Blanco near Bonao;
Loma Leonora near Maimón. 645 m;
Loma de La Quimbamba. 1000 m;
Loma Las Cien Tareas near Bonao. 700 m;
Maimón, 6 km SE. 122 m;
Maimón, 19 km SW. 120 m;
Piedra Blanca, 14 km SW. 427 m;
Piedra Blanca, 15 km SW. 534 m;
Piedra Blanca, 17 km SW. 854 m;

21 San José de Ocoa (JO)

+ 22 Peravía (PE)

Arroyo La Angostura, N Baní;
Cruce de Ocoa, 5 km N. 250 m;

Cruce de Ocoa, 15 km NW. 76 m;
 Cruce de Ocoa, 22 km NW. 61 m;
 El Recodo, 10 km N Baní;
 La Horma. 872 m;
 La Horma, 1.6 km SE. 750 m;
 La Horma, 2-3 km W. 920 m;
 La Horma, 6 km W. 1159 m;
 Las Calderas, 25 km SW Baní, s. l.;
 Las Carreras, 4 km S 21 km W Baní. 70 m;
 Las Salinas. s.l.;
 Rancho Arriba, 2 km SW. 671-686 m;
 Rancho Arriba, 9 km S. 700 m;
 San José de Ocoa, 10 km NW. 946 m;
 Sabana Buey, 3 km W. s.l.;
 Sombrero, 5 km S Baní. s.l.;

23 San Cristóbal (SC)
 Cambita Garabitos, 6-8 km NW. 519-580 m;
 Cambita Garabitos, 3 km NW. 702 m;
 Cambita Garabitos, 11 km NW. 671 m;
 Hato Damas, 2 km N. 122 m;
 Hato Damas, 15 km N. 153 m;
 Hato Damas, 3 km S. 92 m;
 La Cuchilla, 29 km W Santo Domingo. 149 m;
 Villa Altagracia, Rio Isabel. 150 m;

24 Santo Domingo (SD)
+ 25 Distrito Nacional (DN)
 Jardin Botanico Nacional;
 Loma Sierra Prieta, Villa Mella. 300 m;
 Parque Nacional Mirador del Norte. 10 m;
 [San Antonio de] Guerra, 9 km NE. 29 m;
 San Isidro, 5 km S. 355 m;
 Tres Ojos. Mirador del Este Park. s.l.;
 Punta (=Cabo) Caucedo, 2 km W 2 km S Andrés. s.l.;
 Santo Domingo, 30 km NW. 122 m;

26 Monte Plata (MP)
 Bayaguana, 8 km NE. 60 m;
 Esperalvillo, 2 km W. 92 m;
 Esperalvillo, 11 km W. 153 m;
 Piedra Blanca, 14 -15 km W. 428-534 m;
 Sierra de Yamasá. 500 m;
 Yamasá. 82 m;
 Yamasá, 7 km SE. 31 m;

27 Samaná (SN)
 Cayo Samaná harbor s.l.;
 Cueva del Agua. 70 m;
 El Frances, 14 km E and N Samaná. s. l.;
 Las Galeras, 2 - 10. 5 km S. 60 m;
 Las Terrenas, 3 km SW. s.l.;
 Loma Ceiba Quemada. 100 m;
 [camino a] Playa Fronton;
 Samaná, 4.8 km W;
 Samaná, 10.2 km W. 61 m;
 Samaná, 4.5 km E.;
 Samaná, 14.1 km E and N. 31 m;
 Samaná, 18.0 km E and N.;
 Sánchez, 2.3 km NE. 92 m;
 Sánchez, 6.9 km NE. 336 m;
 Sánchez, 13.2 km NE. 392 m;

28 Hato Mayor (HM)
 El Valle, 6 km N. 40 m;
 El Valle, 6-12 km S. 45 m;
 Hato Mayor, 18 km NE. 198 m;

Sabana de la Mar, 4-7 km E. 20 m ;
 Sabana de la Mar, 17-25 km E. 120 m;
29 San Pedro de Macorís (PM)
 Boca Chica, 13 km SE. 10 m;
 Consuelo, 3 km N. 40 m;
 La Balsa, 3 km E. 30 m;
 Playa Juan Dolio. s. l.;
 Quisqueya, 6 km NW Consuelo, Monte Coca. 30 m;
 Ramón Santana 20 m;
 San Pedro de Macorís, 33 km W;
 Ulloa, 3 km E, Puente Rio Iguamo. 30 m;
 Villas del Mar, 3 km E Juan Dolio. 5 m;

30 El Seibo (SB)
 Sabana de la Mar, 4 km E. 15 m;
 El Seibo, 10 km NW. 320 m;
 Miches, 10 km N. 300 m;
 Miches, 5 km S. 30 m;
 Punta Arena, Bahía de San Lorenzo. s.l

31 La Romana (LR)
 Alto de Chavón, 3 km N;
 La Romana, 8 km NE. 61 m;
 La Romana, 16 km NE. 60 m;
 Rio Chavón, 8 km SE La Romana;
 Rio Chavón, 10 km NE La Romana;
 Rio Cumayasa, 13.5 km W La Romana;

Isla Catalina (La Romana)
 Near Naval base;

32 La Altagracia (LA)
 Boca de Yuma, 0.5-3 km W. s. l.;
 El Macao. s. l.;
 Higüey, 5 km S. 100 m;
 Otra Banda, 5 km E Higüey. 115 m;
 Playa Bavaro. s. l.;
 Playa Bayahibe, 1- 2.5 km N. s.l.;
 Punta Cana. s.l.;
 Punta Cana, 2-6 km W. s.l.;

Isla Saona (La Altagracia)
 Catoano-Adamaney;
 Mano Juan. 3 m;
 Mano Juan, 1-2 km W. 5 m.

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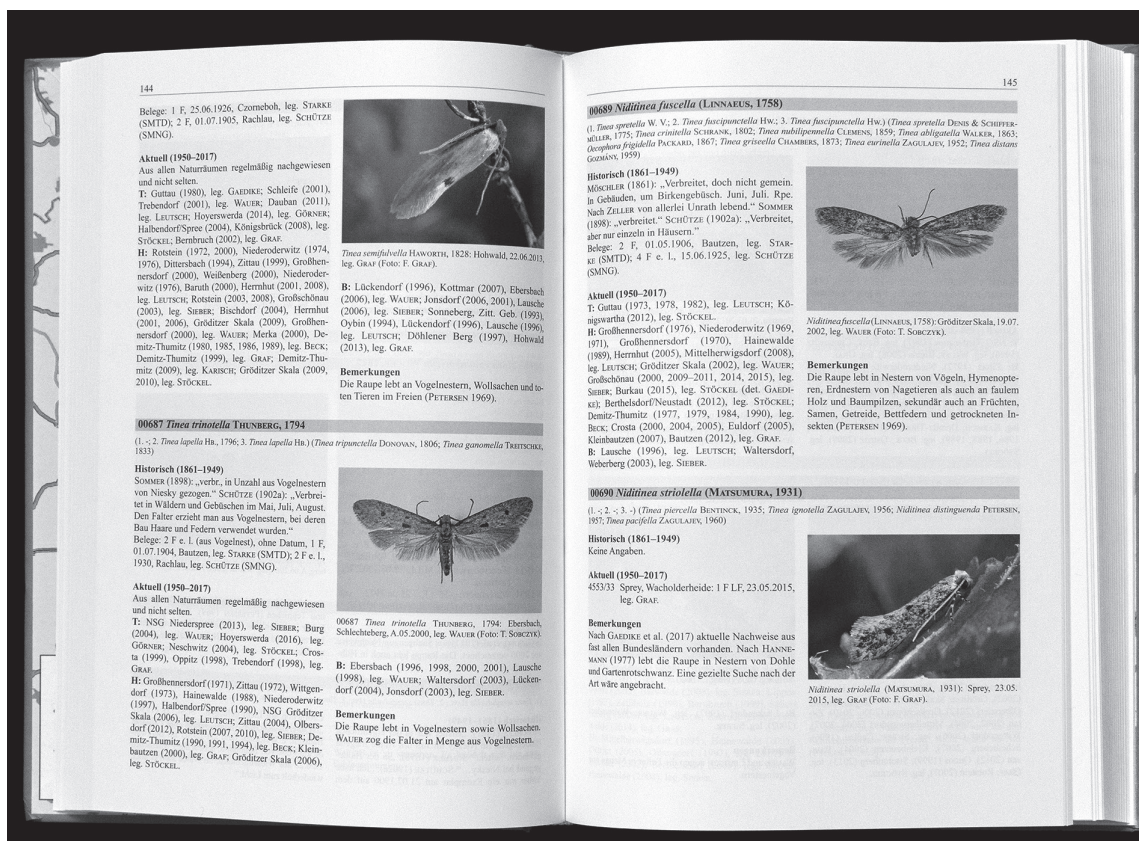
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Address of the author:

Dr. TOMMASO RACHELI
Via G. Valmarana 66
I-00139 Rome, Italy
racheli@tiscalinet.it

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