



SHILAP Revista de Lepidopterología

ISSN: 0300-5267

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Sociedad Hispano-Luso-Americana de
Lepidopterología
España

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SHILAP Revista de Lepidopterología, vol. 38, núm. 152, diciembre, 2010, pp. 385-409

Sociedad Hispano-Luso-Americana de Lepidopterología
Madrid, España

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The Giant Butterfly-moths of the Field Museum of Natural History, Chicago, with notes on the Herman Strecker collection (Lepidoptera: Castniidae)

J. M. González, J. H. Boone, G. M. Brilmyer & D. Le

Abstract

In 1908, Chicago's Field Museum of Natural History (FMNH) acquired the collection of Lepidoptera built up by Herman Strecker (1836-1901) in Reading, Pennsylvania. Thought to have possessed, at some point, an estimated 200,000 Lepidoptera specimens, Strecker's collection is both historically and scientifically important. Among the several families he collected and traded, Strecker had numerous specimens belonging to Castniidae. This Panropical group is distributed in the Neotropics, Southeast Asia, and Australia. The Neotropical Castniinae contains just over 30 genera and almost 90 species, while the Australian Castniinae has 1 genus and over 40 species, about 20 of which appear to be still unidentified. Upon closer inspection of the FMNH insect collection, we found 45 taxa belonging to 23 genera of Neotropical and 1 genus of Australian Castniidae. Most specimens originated from the Strecker collection and were negotiated by him with numerous collectors and dealers of his time. Overall details of the Strecker collection and specific details of Castniidae at the FMNH are provided here in an attempt to improve knowledge on the group and stimulate interest in its study and conservation.

KEY WORDS: Lepidoptera, Castniidae, Strecker collection, Chicago.

Los Cástnidos del Museo Field de Historia Natural, Chicago, con notas sobre la colección Strecker (Lepidoptera: Castniidae)

Resumen

En el año 1908, el Museo Field de Historia Natural de Chicago (FMNH, en sus siglas en inglés) adquirió la colección de Lepidoptera establecida por Herman Strecker (1836-1901) en Reading, Pennsylvania. La colección de Strecker, la cual se cree que llegó a tener unos 200.000 ejemplares de Lepidoptera, tiene importancia no sólo científica, sino también histórica. Entre las diversas familias de insectos que Strecker colectó o negoció, se encuentran numerosos ejemplares de Castniidae. Esta familia pantropical está distribuida en el Neotrópico, el sureste de Asia y en Australia. Los Castniinae neotropicales están representados por unos 30 géneros con casi 90 especies, mientras los Castniinae australianos poseen un género con unas 40 especies, de las cuales cerca de 20 parecen estar aún por identificar. Revisando en detalle la colección de insectos del FMNH, encontramos 45 taxones que pertenecen a 23 géneros neotropicales y un género australiano de Castniidae. La mayoría de estos ejemplares pertenecen a la colección Strecker y fueron negociados por él con numerosos colectores y vendedores de insectos de la época. Detalles generales de la colección de Strecker y específicos de los Castniidae en el FMNH son presentados en este trabajo con la intención de ayudar en el conocimiento del grupo y estimular el interés en su estudio y conservación.

PALABRAS CLAVE: Lepidoptera, Castniidae, colección Strecker, Chicago.

Introduction

The Field Museum of Natural History (FMNH), founded in 1893, was constructed with monetary gifts from Marshall Field (1834-1906), founder and owner of the iconic Chicago department store ‘Marshall Field & Company.’ The museum was originally built to house the biological and anthropological collections exhibited at the World’s Columbian Exposition of 1893. Then known as the Columbian Museum of Chicago, the museum’s name was changed to the Field Museum of Natural History in 1905 as homage to its most important benefactor. However, from 1943-1966 it was known as the Chicago Natural History Museum. After 1966, the name of the Museum was changed back to the Field Museum of Natural History. The Museum is well-known worldwide because it houses, to date, the largest, most complete, and most well preserved specimen of *Tyrannosaurus rex* Osborn, 1905, called “Sue,” as well as the infamous lions, *Panthera leo* (L., 1758), known as the “Tsavo maneaters”. Interestingly enough, the museum also houses an exhibition of the first two giant pandas, *Ailuropoda melanoleuca* (David, 1869), ever shown in America, one of which was collected by Theodore Roosevelt Jr. and Kermit Roosevelt in Central Asia; the other is a skin obtained by Theodore and Kermit from local hunters (GONZÁLEZ, 2010; OSGOOD, 1931).

The Department of Zoology at FMNH, one of the four curatorial divisions (excluding Ornithology which was a separate Department until 1921), traces its origin to the foundation of the Columbian Museum. The zoological collections were highly enriched in 1908 when the museum acquired Herman Strecker’s collection of Lepidoptera, which contains over 50,000 specimens (WALSTEN, 1975). In addition to his collection, the museum also acquired personal belongings of Strecker, including his library and several thousand letters exchanged between him and naturalists and collectors of the time (GERHARD, 1909; WALSTEN, 1975).

Ferdinand Heinrich Herman Strecker (1836-1901) (Figs. 1.1, 1.2) was born in Philadelphia, Pennsylvania. He was trained as a sculptor and architect, but, while still a child, he became interested in natural science (ANONYMOUS, 1902a, 1909; BARBER, 1885; BEUTENMÜLLER, 1901; MENGEL, 1902; WALSTEN, 1975). Both his profession and passion were inherited from his parentage; his father was a sculptor, and some of his mother’s relatives were artists and naturalists (ANONYMOUS, 1902a, 1909; MALLIS, 1971; MENGEL, 1902). Strecker studied all branches of natural history but later concentrated on studying Lepidoptera (MALLIS, 1971). His publications were widely acclaimed, and in recognition of his scientific knowledge and contributions, he was awarded a PhD degree in 1890 from Franklin & Marshall College, Lancaster, Pennsylvania (ANONYMOUS, 1902a). One of Strecker’s most celebrated works (STRECKER, 1872-1878) contains 15 richly illustrated and engraved plates, depicting a variety of Lepidoptera (Fig. 2.1). He spoke several languages and traveled extensively in the Caribbean, Mexico, and Central America to study pre-Columbian monuments and collect insects (MALLIS, 1971). Apart from his daily work as a sculptor and tombstone engraver, Strecker dealt (trading, buying, and selling) in butterflies and moths with many naturalists and insect dealers from around the world (ANONYMOUS, 1902a; MALLIS, 1971), actively building up his Lepidoptera collection over the last half of the 19th century (Rupert L. Wenzel, *in litt.*). After 40 years of collecting and dealing butterflies and moths, he allegedly amassed an estimated 200,000 specimens from all over the world (ANONYMOUS, 1909; MENGEL, 1902). Strecker died in Reading, Pennsylvania.

Research indicates that several museums were interested in securing Strecker’s Lepidoptera collection after his death. The American Museum of Natural History was authorized to purchase not only the collection, with its “several hundred types”, but also his library (ANONYMOUS, 1902b). However, the collection was finally purchased by the Field Museum of Natural History (FMNH) in 1908 and brought from Reading, Pennsylvania to Chicago, Illinois, where it stands today, forming the nucleus of the museum’s Lepidoptera collection (GERHARD, 1909; MALLIS, 1971; WALSTEN, 1975).

William J. Gerhard (1873-1958) was the entomology curator who coordinated the purchase of the Strecker collection for \$15,000 and spent many years working on it. Gerhard was born and raised near Reading and he spent many days studying specimens deposited in several Philadelphia insect collections during his youth (WALSTEN, 1975). Once the Strecker collection was bought, Gerhard spent

three months preparing the specimens for shipment to the Field (GERHARD, 1909; WALSTEN, 1975). Gerhard took special care of the Strecker collection studying and maintaining it until his death.

While Rupert L. Wenzel (1915-2006) was the museum's senior entomological curator, all of Strecker's butterflies (around 24,000 specimens), Sphingidae specimens, and approximately 200 types were sent, on loan (from 1976 to 1981), to the Allyn Museum in Sarasota, Florida (Rupert L. Wenzel, *in litt.*). The loan was part of a pre-agreement that would eventually make the Allyn Museum a facility of FMNH. However, after Wenzel retired, financial shortages and waning interest at FMNH in keeping the Allyn collection and its assets (Jacqueline Y. Miller, pers. comm.) led Arthur C. Allyn (1913-1985) and the Allyn Museum Board to deal with the specimens and finally donate all Allyn Museum assets and collections to the University of Florida Foundation and the Florida State Museum (MILLER & MILLER, 1985; MILLER, 2010). Strecker's specimens were then returned to the Field Museum in Chicago.

While Strecker's collection was in Sarasota, Lee Miller (1935-2008), a well-known expert in Lepidoptera (additionally, curator of the Allyn Foundation (1968-1972), research associate of the Department of Zoology, Division of Insects at the FMNH (1971-1979), Allyn Museum of Entomology (1981-2004), Allyn Curator of Lepidoptera, McGuire Center for Lepidoptera and Biodiversity (2004-2008) (MILLER, 2010)), noticed that several specimens depicted in the plates had been "changed" for newer specimens in the actual collection but maintained the original labels (Jacqueline Y. Miller, pers. comm.). This "wrong-doing" has been attributed to the fact that Strecker did not have formal training in either entomology or curating, and was possibly driven by some sort of "amateur collector's syndrome" to keep only specimens in perfect shape. With time, several Lepidoptera specimens have been added to the Strecker collection, making the FMNH insect collection of great interest not only historically but also scientifically.

Among the many Lepidoptera specimens in the FMNH collections, Castniidae is well represented. Recently, illustrations of specimens of these giant butterfly-like moths were computerized and are now available to the public through the FMNH's website (BOONE *et al.*, 2010). Castniidae is a Pantropical family that has been divided into two subfamilies that can be found in the Malay Peninsula (Tasciniinae), Australia (Castniinae, Castniini, Synemonina), and in North (Mexico), Central and South America (Castniinae, Castniini, Castniina) (GONZÁLEZ & STÜNNING, 2007; LAMAS, 1995; MILLER, 1995).

Adults of Castniinae from the Americas are commonly diurnal and/or crepuscular. Some are cryptic, while others are aposematic and appear to be members of mimetic complexes involving several diurnal and nocturnal Lepidoptera from other families (GONZÁLEZ & STÜNNING, 2007; MILLER, 1986, 2008). The Neotropical Castniidae contains over 80 species (GONZÁLEZ & STÜNNING, 2007; LAMAS, 1995; MILLER, 1995; MORAES *et al.*, 2010). Many of the species, with the exception of those of economic interest, are rare and endemic, with restricted geographical ranges that have resulted in a lack of collected material in most museums worldwide (ESPINOZA & GONZÁLEZ, 2005; GONZÁLEZ, 1999; GONZÁLEZ *et al.*, 2006; GONZÁLEZ & COCK, 2004; GONZÁLEZ & FERNÁNDEZ YÉPEZ, 1993; GONZÁLEZ & SALAZAR, 2003; GONZÁLEZ & STÜNNING, 2007; LAMAS, 1993, 1995, 2004; MILLER, 1972, 1986, 2008).

In the case of the adults of Australian Castniinae, all are diurnal with brightly coloured hind wings and markedly clubbed antennae (COMMON, 1990; D'ABRERA, 1974). They fly vigorously during sunny hours and may be confused with Lycaenidae or Hesperidae (D'ABRERA, 1974). Their larvae commonly feed on grasses (Poaceae) and sedges (Cyperaceae); some of the species feeding on grasses are endangered or extinct because of the use of grasslands for agriculture (COMMON, 1990; DOUGLAS, 2004; EDWARDS, 1996). The Australian group contains approximately 24 described species, but it appears that over 20 are yet to be described (DOUGLAS, 2004; EDWARDS, 1996).

Most Castniidae in the FMNH collection originally belonged to Strecker's collection; several were added after its acquisition. Unfortunately, not all specimens have detailed data; some of the data is confusing, and some specimens appear to be mislabeled. However, considering the historical importance of the collection, we present this annotated list of specimens. In naming the species, we generally follow EDWARDS (1996), MILLER (1995) and LAMAS (1995). However, when changes to those checklist

names occur, they are noted. After the name of the species, we include some general comments on the species and some of the specimens examined. Whenever possible, historical background of the specimen itself and/or its original collector/trader is included. Specimens in the FMNH collection have one to five labels, and the data found in each are presented inside 'keys,' which maintain the writing style (i.e. specific epithets with capital letters). The FMNH collection catalog number for each specimen is also on a label, but not included in the 'keys.' All data is complemented with information added by the authors, which is included within square brackets.

Annotated list of species and label information of the examined specimens

CASTNIINAE: CASTNIINI: CASTNIINA

Eupalamides cyparissias cyparissias (Fabricius, 1776) (Fig. 3.7)

All species in this genus are easily recognized by their large size, with the exception of *E. boliviensis* (Houlbert, 1917). *Eupalamides c. cyparissias* is mainly crepuscular and can also be recognized by the dark brown coloration of its wings. The flight of at least one of the species in the genus resembles that of some bats (J.M. González, unpublished observations on *E. guyanensis* (Houlbert) in coconut plantations in Carabobo state, Venezuela). *Eupalamides c. cyparissias* has interspersed, iridescent blackish-green scales (MILLER, 1986). The species also has long and threadlike scales that cover half of the ventral surface of the forewing, which distinguishes it from *E. guyanensis* (also known in Northern South America) (GONZÁLEZ, 1999; GONZÁLEZ & COCK, 2004; GONZÁLEZ & FERNÁNDEZ YÉPEZ, 1993). *Eupalamides c. cyparissias*, like others in the genus, has been named as a pest of oil palm (*Elaeis guineensis* L.), coconut (*Cocos nucifera* L.), and other palms (Arecaceae) (GONZÁLEZ & COCK, 2004; MILLER, 1986, 1987).

There are two specimens in Strecker's collection and they were obtained from Heinrich Benno Möschler (1831-1888), a German entomologist, who specialized in Lepidoptera. Möschler collected primarily in Surinam and Puerto Rico. Most of his collections were eventually deposited at the Museum für Naturkunde, Berlin, Germany, with the exception of the Microlepidoptera which are at the Staatliches Museum für Naturkunde Görlitz, Görlitz, Germany. He and Strecker corresponded from October 1871 through May 1882. His last letter, dated May 1882, includes an extensive species list where each plate and species is hand numbered (Fig. 2.2).

Material examined: 1 ♂, {*Castnia Daedalus* Cram[er], Surinam, H.B. Möschler, Seitz - 6, 7.}, {"*Castnia daedalus* Cram., Surinam, H. B. Möschler." Strecker Colln. 25619, Field Museum Nat. Hist.}, FMNH-INS 0000 041 473; 1 ♀, {*Castnia Daedalus* [sic], Surinam, H. B. Möschler, Seitz - 6, 7.}, {"*Castnia daedalus* Cram., Surinam, H. B. Möschler." Strecker Colln. 25620, Field Museum Nat. Hist.}, {70}, FMNH-INS 0000 041 474.

Eupalamides cyparissias amazonensis (Houlbert, 1917)

This subspecies is closely related to the previous one. It appears to be distributed along the Amazonian Basin in Northern Brazil but also reaches into western Peru (MILLER, 1986). Larvae of this species also feed on palms (Arecaceae), as do all species in the genus (MILLER, 1986). It is worth noting that one of the specimens in the FMNH collection bears a note stating that it was attracted to a light.

Material examined: 1 ♀, {Nov[ember], 7, 1961, Rio Ucayali, Pucallpa, Peru, S[outh] America. To light}, {South America}, FMNH-INS 0000 041 475; 1 ♂, No data, FMNH-INS 0000 041 476.

Amauta cacica procera (Boisduval, [1875]) (Fig. 3.1)

This is a Central American subspecies. It was originally described (as *Castnia procera*) from material apparently collected in Guatemala (BOISDUVAL, 1874; WESTWOOD, 1877) but ranges from Mexico to Panama (GONZÁLEZ & STÜNNING, 2007). Only two specimens of this subspecies are in the Strecker collection. One of them (1 ♀) was sent to Strecker by Dr. Otto Staudinger (1830-

1900), a German entomologist who was considered to be not only a fine scientist, but one of the largest natural history dealers of his time ([SEEBOLD], 1901). One of Staudinger's most valuable and durable achievements was the publication of three catalogues of European and Palaearctic Lepidoptera, which were used as the basis of faunal lists and stimulated further taxonomic studies ([SEEBOLD], 1901; SEEBOLD, 1902). Staudinger also played a key role as an initiator of entomological and biological exploration in many parts of the globe and published a few works on Lepidoptera from other parts of the world, including a note reviewing a work on the Castniidae (STAUDINGER, 1894, 1899; Fig. 2.3). His private collection (with many types of taxa he described) is in the Zoologisches Museum der Humboldt-Universität, Berlin, while his business collection of Palaearctic Lepidoptera is now at the Staatliches Museum für Tierkunde Dresden, Dresden, Germany ([SEEBOLD], 1901; SEEBOLD, 1902).

The second specimen (1 ♂) of this species, in the Strecker collection, originated from Mexico and was on display for years. As a result, the specimen's coloration is faded from excessive light exposure.

Material Examined: 1 ♀, [Panamá], {*Castnia Cacica* Herr[ich].-Sch[äffer]. Chiriqui, Dr. St[audin]g[e]r, Seitz - 6, 7. A.}, {“*Castnia cacica* Her.-Sch. Dr. Stgr.” Strecker Colln. 25624, Field Museum Nat. Hist.}, FMNH-INS 0000 041 440; 1 ♂, {Mexico Nov. 13, 1908, Saturniidae: *Castnia cacica* Butterfly Exhibit #1034 H. Strecker Field Mus. Nat. Hist.} [Faded due to years of light exposure], FMNH-INS 0000 041 441.

Lapaeumides ctesiphon (Hübner, [1820]) (Fig. 4.3)

This species has been collected from only a few localities south of the Amazon River in Central Brazil, and based on scarcity of known specimens, both museum and otherwise, it may be assumed that the local population numbers could be low (MILLER, 1986).

Several specimens of Castniidae were sent by Mrs. Oliver C. James, who lived in Rio de Janeiro, Brazil. The James' were both avid insect collectors and exchanged numerous lepidopterans with Strecker.

Material Examined: 1 ♂, [Brazil], {*Castnia Scheibersii* [Last “i” marked through] Mikan, *C. latreilli* [sic] God[ar]t, *C. ctesiphon* Hüb[ner]., Rio Janeira [sic], Mrs. O. C. James. Seitz - 6, 9. A.}, {“*Castnia schreibersi* Mikan, Rio de Janiero [sic], Mrs. O. C. James”, “*C. latreilli* [sic], Godt.; *C. ctesiphon*, Hub.”, Strecker Colln. 25623, Field Museum Nat. Hist.}, FMNH-INS 0000 041 518.

Lapaeumides zerynthia (Gray, 1838)

This species appears to be restricted to Southeast Brazil where it is sympatric with the congeneric species *Lapaeumides actor* (Dalman, 1824) (MILLER, 1986). As with the previous species, this species is probably also associated with lowland tropical forests (MILLER, 1986), but since the number of specimens known is so low, not much can be said for any of the species in the genus.

Material Examined: 1 ♂, [Brazil], {*Castnia Zerynthia* G. R. Gray, Brazil, W. F. Kirby. Seitz - 6, 9. A.}, {2}, {“*Castnia zerynthia* G. R. Gray, Brazil. W. F. Kirby”, Strecker Colln. 25625, Field Museum Nat. Hist.}, FMNH-INS 0000 041 519.

Corybanthes mathani (Oberthür, 1881) (Fig. 3.4)

This relatively uncommon species has an Amazonian distribution (GONZÁLEZ, 1999). Individuals of this species are known to fly during the morning hours (09:00 - 12:00) in Puerto Ayacucho, Amazonas state, Venezuela (Renato and Roberto Mattei, Francisco de la Villa, pers. comm.). MOSS (1945) mentions that “a neighbor” collected a recently-emerged specimen at 15:00, September 12, 1929, on a small bush close to a spiny palm, known in Brazil as Mucujá, *Acrocomia aculeata* (Jacq.) Lodd. ex Mart. He supposed the palm could have been a possible host, as well as the “tuberous roots of an adjacent Lily.” Several specimens have been collected in Puerto Ayacucho, Amazonas, Venezuela “falling” from tall trees with an abundance of Bromeliaceae (*Tillandsia* ?) on their branches (GONZÁLEZ, 1990, 1999; Renato and Roberto Mattei and Francisco de la Villa, pers. comm.).

Material Examined: 1 ♀, [Brazil], {*Castnia*, Amaz[onas] Sup[er]ior [Upper Amazon], Dr. Fariasi},

{ "*Castnia*, Amaz[onas] Sup[erior], Dr. Fariasi." Strecker Colln. 25621, Field Museum Nat. Hist. }, FMNH-INS 0000 041 472.

Athis clitarcha (Westwood, 1877) (Fig. 3.2)

This is possibly the rarest and largest of the Central American *Castniids* in the "*inca*" complex (MILLER, 1972). This species appears to be quite common in the Chiriqui area of Panama. However, specimens from other Central American countries are also known (MILLER, 1972; WESTWOOD, 1875). The only Strecker specimen, erroneously considered a female, was traded with Otto Staudinger.

Material Examined: 1 ♂, [Panama] { *Castnia Clitarcha* West. Chiriqui, Stgr. Aug. 1894, 955.956 ♀, Seitz - 6, 11. A. }, {956}, { "*Castnia clitarcha* Westw. Chiriqui. Aug. 1894. St[audin]g[e]r.", Strecker Colln. 25618, Field Museum Nat. Hist. }, FMNH-INS 0000 041 466.

Athis inca dincadu (Miller, 1972)

This is a very distinctive subspecies known only from Panama (most known specimens (the type series) are specifically from the Canal Zone (MILLER, 1972)). The Strecker specimen appears to be from the Chiriqui area, a new locality for the species.

Material Examined: 1 ♂, [Panama], { *Castnia Clitarcha* West. Chiriqui, St[audin]g[e]r. Aug[ust] 1894, 955.956 ♀, Seitz - 6, 11. A. }, {955}, { "*Castnia clitarcha* Westw. Chiriqui. Aug. 1894. Stgr.", Strecker Colln. 25617, Field Museum Nat. Hist. }, FMNH-INS 0000 041 445.

Athis inca orizabensis (Strand, 1913) (Fig. 3.5)

This subspecies is commonly found in the Xalapa to Cordoba-Orizaba region of the state of Veracruz, but is also present in Puebla and Tamaulipas (GONZÁLEZ, 2009, GONZÁLEZ *et al.*, 2008a; MILLER, 1972; STRAND, 1913). Two of the specimens in the FMNH collection were originally collected in, or around, Orizaba, the Veracruz State town from which the subspecies was originally described by STRAND (1913).

A third specimen has a label stating that it is from Cuba and was either collected by or is from the collection of Reakirt. Tryon Reakirt (1844-?) was a businessman involved in imports and sales of medical drugs (BROWN, 1964). He became interested in Lepidoptera at a young age and wrote the first treatise on butterflies of the Rocky Mountains area (BROWN, 1964; REAKIRT, 1866). Reakirt bought Lepidoptera from many places around the world to enhance his own collection, and he eventually hired Herman Strecker to mount many of the specimens he received (BROWN, 1964). In a moment of financial need, Reakirt gave his collection to Strecker in order for Strecker to sell it to anyone interested and after some time, for Strecker to buy it (BROWN, 1964). Even as a young man, Reakirt apparently collected butterflies in the Rocky Mountains area and in some California localities; in later times, he did not do extensive field collecting (BROWN, 1964; ESSIG, 1965). Reakirt published a few papers in which he described species not only from the US but from the Philippines and Central America (STRECKER, 1878).

It is curious that the Reakirt specimen of *A. i. orizabensis* was supposedly collected in Cuba. According to John Rawlins (pers. comm.), who has studied the Strecker collection in detail, 197 of Strecker's specimens are marked as being from this Caribbean island, and all except this one are known from Cuba. Could the accuracy of Cuban records in the Strecker collection mean that this particular specimen was actually from Cuba? *Castniidae* are rare in the Caribbean islands and only Hispaniola and Martinique are known to have one endemic species each, while Tobago, Margarita, and Trinidad harbor taxa (one, two and 11 respectively) of continental origin (GONZÁLEZ & COCK, 2004; GONZÁLEZ *et al.*, 2006; MILLER, 1986; PIERRE & PIERRE-BALTHUS, 2003; PIERRE *et al.*, 2008). The Strecker collection contains 626 specimens originally from the Reakirt Collection that were either collected or described by Reakirt. Of those, quite a few are from the Greater Antilles, especially Cuba and Hispaniola (mainly Haiti). Could this also mean that a Cuban record in the Strecker Collection is likely? The presence of *Castniidae* has never been reported in Cuba (Gerardo Lamas, Jacqueline Y. Miller, Rayner Núñez, and John Rawlins, pers. comm.). The 'Cuban' specimen is clearly *Athis inca orizabensis* (its

identity was corroborated by Jacqueline Y. Miller), which is a subspecies commonly found in the state of Veracruz, Mexico, even though records exist from two other Mexican states, as mentioned above. However, it does not seem likely that the distribution of this subspecies necessarily includes the island of Cuba.

How can we explain the ‘presence’ of a ‘Cuban’ specimen of Castniidae in Strecker’s collection? Cuba and Mexico have traditionally had a wide commercial exchange (GONZÁLEZ *et al.*, 2008b). Since the main Mexican sea port on the Caribbean is in the city of Veracruz, it is quite possible that some pupae inside plant material from Veracruz were brought to Cuba and eventually emerged on the island, were collected by some of Reakirt’s business associates in Cuba, and were later sent to the entomologist with other insects from the island. However, it is also possible that a mislabeling occurred since Reakirt handled material from different parts of the world, including Mexico and Cuba. Additionally, Strecker himself handled material from different sources and localities, so it is even feasible that it was he who mislabeled the specimen.

Material examined: 1 ♂, [Mexico, Veracruz State], {Orizaba}, {548}, {“Among unsorted material at end of collection”. Strecker Colln. 47289, Field Museum Nat. Hist.}, FMNH-INS 0000 041 442; 1 ♂, {Mexico: Orizaba, V. C. [Veracruz] Castniidae: *Castnia inca*, Nov. 13, 1908 Butterfly Exhibit # 1037 H. Strecker, Field Mus. Nat. Hist.} [Faded due to years of light exposure], FMNH-INS 0000 041 443; 1 ♂, {Cuba, Coll. Reakirt}, {*Castnia clitarcha* Westw. Cuba. Reakirt. Strecker Colln. 25616, Field Museum Nat. Hist.}[Highly improbably locality], FMNH-INS 0000 041 444.

Hista fabricii (Swainson, 1823)

Not much is known of this species, which is of common occurrence in southern Brazil (GONZÁLEZ & STÜNNING, 2007; MILLER, 1986; MORAES *et al.*, 2010). Individuals of this species are known to feed on “cravo-do-mato”, *Tillandsia aeranthos* (Loisel.) L. B. Sm. (Bromeliaceae) (ENSLEN, 1920; BIEZANKO, 1961b; MORAES *et al.*, 2010). It appears that they either pupate in the ground at the base of trees covered with epiphytic bromeliads or fall into tall grasses around those trees upon emergence (MILLER, 1986). Even though LAMAS (1995) considered three valid subspecies, detailed studies by MORAES *et al.* (2010) concluded that there is lack of evidence to support that assumption. Specimens depicting several geographic variations of this species can be observed in MORAES *et al.* (2010).

Material Examined: 1 ♂, [Brazil], {*Castnia Besckei* Mén[étriés], [*Besckei* Men. Marked through], *boisduvali* W[al]k[e]r, Sta. Catharina, Stgr., Aug. 1894, 960, Seitz - 6, 11. A.}, {960}, {“*Castnia Besckei*[sic] Men. Sta. Catharina. Aug. 1894 Stgr.”, Strecker Colln. 25648, Field Museum Nat. Hist.}, FMNH-INS 0000 041 503; 1 ♂, {Brazil: Rio de Janeiro, Itatiaya. Field Must [sic] Nat. Hist.}, {*Castnia boisduvali*[sic] *besckei* ♂}, FMNH-INS 0000 041 507; 1 ♂, [Brazil], {*Castnia boisduvali* ♂, Sii., 20-3-1925}, {CNHM (Mares Colln.), Pres[ented]. By Ill. Nat. Hist Surv.}, FMNH-INS 0000 041 504; 1 ♂, [Brazil], {*Castnia boisduvali* ♂, s., 5-III-1926}, {CNHM (Mares Colln), Pres[ented]. By Ill. Nat. Hist Surv.}, FMNH-INS 0000 041 505; 1 ♂, [Brazil], {*Castina* [sic] *boisduvali*, Feb. 1, 1976, Santa Caterina (sic), Brazil, South America.}, {From the collection of David Matusik}, FMNH-INS 0000 041 506.

Hista hegemon (Kollar, 1839)

As with the previous one, not much is known about this species. It also occurs in south-southeastern Brazil and is rarely found in the field or in insect collections (MORAES *et al.*, 2010). LAMAS (1995) included three subspecies, but their validity has been questioned (MORAES *et al.*, 2010). Specimens depicting several geographic variations of this species can be observed in MORAES *et al.*, (2010).

Material Examined: 1 ♂, [Brazil], {*Castnia hegemon*, Koll[ar], Rio de Janiero[sic], Seitz - 6, 10. A.}, {“*Castnia hegemon* Koll., Rio de Janiero[sic], Strecker Coln. 25632, Field Museum Nat. Hist.}, FMNH-INS 0000 041 555.

Yagra fonscolombe (Godart, [1824]) (Fig. 4.10)

This is a sexually dimorphic species whose flight resembles that of *Caligo* (Nymphalidae: Morphinae) (MILLER, 1986). Individuals of this species have been detected flying as high as 7 - 12 meters above ground along forest cuts in southeast Brazil (MILLER, 1986).

One of the specimens of this species was originally in the Mares collection, which was given to the Illinois Natural History Survey (INHS). The main objective of the INHS has been to research and document biological resources of Illinois and other areas, in addition to acquiring and providing natural history information that can be used to promote the common understanding, conservation, and management of these resources. The Field Museum has received specimens from the INHS over the years, including those in the collection of Mr. Adolf Mares. Since the INHS was interested only in North American specimens, all the exotics (2,815 butterflies, 1,225 moths, 3,432 beetles and 47 miscellaneous insects) in Mares' collection were given to the Field Museum; a few Castniidae were among them.

Material Examined: 1 ♂, [Brazil] {*Castnia fonscolombe* Godard [sic], Rio de Janeiro [sic]}, Strecker Colln. 25633, Field Museum Nat. Hist., FMNH-INS 0000 041 508; 1 ♂, [Brazil], {Rio Janeiro, Mrs. O. C. James}, {315}, {“*Castnia fonscolombe* Godard, Rio de Janeiro [sic]. Mrs. O. C. James.” Strecker Colln. 25615, Field Museum Nat. Hist., FMNH-INS 0000 041 509; 1 ♂, [Brazil], {*Castnia Fonscolombe* btr. [“I” and “btr” marked through] God[ar]t. [besides marked through “btr.”], *Athis Japyx* Hüb[ner]. Sta. Catharina, Stg. 1894, 961 962. Seitz - 6, 13. A.}, {961}, {“*Castnia fonscolombe* Godart, Sta. Catharina. 1894 Stg.” Strecker Colln. 25612, Field Museum Nat. Hist., FMNH-INS 0000 041 510; 1 ♀, [Brazil], {*Castnia Fonscolombe* btr. [“I” and “btr” marked through] God[ar]t. [besides marked through “btr.”], *Athis Japyx* Hüb[ner]. Sta. Catharina, Stg. 1894, 961 962. Seitz - 6, 13. A.}, {962}, {“*Castnia fonscolombe* Godart, Sta. Catharina. 1894 Stg.” Strecker Colln. 25613, Field Museum Nat. Hist., FMNH-INS 0000 041 511; 1 ♂, [Brazil], {*Castnia fonscolombe*, 10-II-[19]26, ♂}, {CNHM (Mares Colln), Pres. Bu Ill. Nat. Hist. Surv.}, {*Castnia fonscolombe* “(S[outh]. Amer[ica])”}, FMNH-INS 0000 041 512; 1 ♂, [Brazil], {*Castina*[sic] *fonscolombe*, Lao Bento, S[anta]. C[atharina]., Brazil, S[outh]. A[merica], 7 Mar[ch] [19]73), (*Castnia fonscolombe* “(S[outh]. Amer[ica])”}, FMNH-INS 0000 041 513.

Imara pallasia (Eschscholtz, 1821)

This is an interesting species that is restricted to southeastern Brazil where it lives sympatrically with the closely related *Imara satrapes* (Kollar) (MILLER, 1986; GONZÁLEZ & STÜNNING, 2007).

Material Examined: 1 ♂, [Brazil] {*Castnia Ardalus* Dalm. [*Ardalus* Marked through] = (*Pallasia* Esch[scholtz].) *pallasia* Esch. [written above marked through *Ardalus*], Brazil. Seitz - 6, 10. A., Var. *lativittata*, Strd., {260}, {10}, {“*Castnia ardalus* Dalm. Brazil.”, “(= *Pallasia*, Ersch.[sic])”, Strecker Colln. 25633, Field Museum Nat. Hist., FMNH-INS 0000 041 517.

Synpalamides orestes (Walker, 1854) (Fig. 4.1)

This is quite a rare species that has been mentioned from Brazil and Venezuela, according to collections made by Henry Walter Bates (1825-1892) and Johann Becker (1788-1859) (HOULBERT, 1918; STRAND, 1913; WALKER, 1854). Only one ‘Venezuelan’ specimen is known to us (from a picture), and it is presently deposited in the Natural History Museum (NHM) in London (Matthew Cock, pers. comm.). The NHM specimen is surely the one mentioned from Becker’s collection by HOULBERT (1918) and WALKER (1854). The species is typically found in southeastern Brazil (MILLER, 1986). After studying the Castniidae deposited in several Venezuelan and worldwide collections and consulting with many Lepidoptera collectors in Venezuela, we assume that Becker’s ‘Venezuelan’ specimen was probably mislabeled. The four specimens at FMNH were originally in Strecker’s collection and all came from Rio de Janeiro, in southeastern Brazil.

Material Examined: 1 ♂, [Brazil] {*Castnia Orestes* Wlkr. Rio [de] Janeiro, Mrs. O. C. James, Seitz - 6, 9. A.}, {2}, {“*Castnia orestes* Wlkr., Rio de Janeiro [sic]. Mrs. O. C. James.” Strecker Colln. 25643, Field Museum Nat. Hist., FMNH-INS 0000 041 514; 1 ♂, [Brazil] {*Castnia Orestes* Wlkr. Rio [de] Janeiro, Mrs. O. C. James, Seitz - 6, 9. A.}, {17}, {“*Castnia orestes* Wlkr., Rio de Janeiro [sic]. Mrs. O.

C. James.” Strecker Colln. 25644, Field Museum Nat. Hist.), FMNH-INS 0000 041 515; 1 ♂, [Brazil] {*Castnia Orestes* Wlkr. Rio [de] Janeiro, Mrs. O. C. James, Seitz - 6, 9. A.}, {14}, {“*Castnia orestes* Wlkr., Rio de Janeiro [sic]. Mrs. O. C. James.” Strecker Colln. 25645, Field Museum Nat. Hist.), FMNH-INS 0000 041 516.

Synpalamides phalaris (Fabricius, 1793)

This species is widely distributed in southern Brazil, Uruguay, and Paraguay, with only a couple of records from northern South America, more specifically from the island of Trinidad (KAYE & LAMONT, 1927; GONZÁLEZ & COCK, 2004). It appears to be restricted to areas of primary forest and may feed on species of *Guzmania* and *Bromelia* (Bromeliaceae) (MILLER, 1986). Various taxa, now synonymized (LAMAS, 1995), have been described mainly because of high seasonal variation, but with such phenotypic variability only a controlled rearing of individuals will clarify its taxonomic confusion (MILLER, 1986).

Material Examined: 1 ♂, [Brazil], {*Castnia Mygdon* Dalm. [last two words marked through], *phalaris* F[abricius]. [above marked through words], (= *C. mimon* Hüb[ner]), Rio de Janeiro[sic], Seitz - 6, 9. A.}, {Rio}, {“*Castnia mygdon* Dalm. Rio de Janeiro[sic]”, “(= *C. mimon*, Hub.)”, Strecker Colln. 25640, Field Museum Nat. Hist.), FMNH-INS 0000 041 528; 1 ♂, [Brazil], {*Castnia Mygdon* Dalm. [last two words marked through], *phalaris* F[abricius]. [above marked through words], (= *C. mimon* Hüb[ner]), Rio de Janeiro[sic], Seitz - 6, 9. A.}, {1}, {“*Castnia mygdon* Dalm. Rio de Janeiro[sic]”, “(= *C. mimon*, Hub.)”, Strecker Colln. 25641, Field Museum Nat. Hist.), FMNH-INS 0000 041 529; 1 ♂, [Brazil], {*Castnia Mygdon* Dalm. [last two words marked through], *phalaris* F[abricius]. [above marked through words], (= *C. Mimon* Hüb[ner]), Rio de Janeiro[sic], Seitz - 6, 9. A.}, {Rio}, {“*Castnia mygdon* Dalm. Rio de Janeiro[sic]”, “(= *C. mimon*, Hub.)”, Strecker Colln. 25642, Field Museum Nat. Hist.), FMNH-INS 0000 041 530.

Feschaeria amycus amycus (Cramer, [1779])

This is a common species distributed in northern South America, including the islands of Trinidad and Tobago (GONZÁLEZ, 1999; GONZÁLEZ & COCK, 2004; GONZÁLEZ & FERNÁNDEZ YÉPEZ, 1993; LATHY, 1923, 1925). The nominate subspecies is distributed in north-northeastern South America, while the subspecies *meditrina*, apparently more variable in its morphology, is distributed in southeastern Brazil and was originally described by HOPFFER (1856) from Rio de Janeiro, the same locality of Strecker’s specimens. In the labels, the species name is attributed to Caspar Stoll (1725/1730?-1791), a Dutch entomologist well-known for his works on stick insects; he also published a few relevant works on Lepidoptera (LAMAS *et al.*, 1995). It is known that Pieter Cramer (1721-1776) started a series of 34 issues in 4 volumes with 400 plates of drawings, accompanied by descriptions of the insects using the binomial naming system recently developed by Carl Linnaeus (1707-1778). That work, *De Uitlandische Kapellen*, was commissioned by the society, *Concordia et Libertate*, of which Cramer was a member. However, Cramer died before the publication was completed, and Stoll took over the entire responsibility for the rest of the project. The species name is correctly assigned to Cramer, not to Stoll (MILLER, 1995; LAMAS, 1995).

Material Examined: 1 ♂, [Rio][de Janeiro, Brasil], {*Castnia Amycus* Stoll, Rio [de] Janeiro, Mrs. O.C. James. Seitz - 6, 13. A.}, {“*Castnia amycus* Stoll, Rio de Janeiro”, Strecker Colln. 25646, Field Museum Nat. Hist.}, FMNH-INS 0000 041 494.

Feschaeria amycus meditrina (Hopffer, 1856) (Fig. 4.8)

Both subspecies, *F. amycus amycus* (Cramer, [1779]) and *F. amycus meditrina*, can be found from December to February (MILLER, 1986). This particular subspecies is not common and seems to be distributed in southeastern Brazil, from Espirito Santo to Santa Catarina. The few specimens known by us, including the one in Strecker’s collection, come mainly from Rio de Janeiro.

Material Examined: 1 ♀, [Rio][de Janeiro, Brasil], {*Castnia Amycus* Stoll, Rio [de] Janeiro, Mrs. O. C. James. Seitz - 6, 13. A.}, {“*Castnia amycus* Stoll, Rio de Janeiro”, Strecker Colln. 25647, Field

Museum Nat. Hist.), {genitalia vial no. M-3447, Jacqueline Y. Miller}, {Allyn Museum Photo No. 8407819}, {Slide No. M-6737, ♀ appendages, Jacqueline Y. Miller}, FMNH-INS 0000 041 556.

Spilopastes galinthias (Hopffer, 1856) (Fig. 4.2)

This is another species found in southeastern Brazil, and it is so distinctive that it can easily be separated from the rest of Castniinae based on its wing maculation (HOPFFER, 1856; HOULBERT, 1918; MILLER, 1986). In fact, HOULBERT (1918) designated the genus based on the characteristic forewing markings. The known females are larger than the males, but other than size, there is not evidence of sexual dimorphism (MILLER, 1986).

The specimens of this species in the Strecker collection, as well as two of *Prometheus cochrus* (see below), were originally traded/exchanged with Josef (José) G. Foetterle, and they appear in a list of specimens dated May 20, 1898. Foetterle was an Austrian entomologist who died in August 1929 in Petrópolis, Rio de Janeiro, Brazil, where he was living (HOFFMANN, 1930; Gerardo Lamas, pers. comm.). He corresponded with Strecker from April 1897 through July 14, 1901.

Material Examined: 1 ♂, [Brazil], {*Castnia Galinthias*, Rio de Janeiro [sic], (Petropolis), 1898, Seitz - 6, 12. A.}, {“*Castnia galinthias* Rio de Janeiro [sic]” 1898, Strecker Colln. 25634, Field Museum Nat. Hist.}, FMNH-INS 0000 041 524; 1 ♂, [Brazil], {*Castnia Galinthias*, Rio de Janeiro, (Petropolis), 1898, Seitz - 6, 12. A.}, {“*Castnia galinthias* Rio de Janeiro [sic]” 1898, Strecker Colln. 25635, Field Museum Nat. Hist.}, {Petropolis}, FMNH-INS 0000 041 525; 1 ♂, [Brazil], {*Castnia Galinthias*, Rio de Janeiro [sic], (Petropolis), 1898, Seitz - 6, 12. A.}, {“*Castnia galinthias* Rio de Janeiro [sic]” 1898, Strecker Colln. 25636, Field Museum Nat. Hist.}, FMNH-INS 0000 041 526; 1 ♂, [Brazil], {*Castnia Galinthias*, Rio de Janeiro [sic], (Petropolis), 1898, Seitz - 6, 12. A.}, {“*Castnia galinthias* Rio de Janeiro [sic]” 1898, Strecker Colln. 25637, Field Museum Nat. Hist.}, FMNH-INS 0000 041 527.

Ircila hecate (Herrich-Schäffer, [1854]) (Fig. 4.6)

This is an interesting species endemic to the island of Hispaniola and found in both Haiti and the Dominican Republic (MILLER, 1986; GONZÁLEZ *et al.*, 2006; VINCIGUERRA, 2008). Even though efforts have yielded a somewhat large number of specimens (John Rawlins and Jason Weintraub, pers. comm.), this species is poorly represented in collections, and not much is known about its biology and ecology (MILLER, 1986; VINCIGUERRA, 2008).

Material Examined: 1 ♂, [Dominican Republic], {Nov[ember] - 18 - [19]77, Alma Rosa, Tuju Dod}, FMNH-INS 0000 041 542.

Castnia eudesmia Gray, 1838

The only Castniidae known from Chile, the species feeds mainly on *Puya chilensis* Molina and also on *P. alpestris* (Poepp.) Gay (Bromeliaceae) (ANGULO & OLIVARES, 1993; CROWLEY, 1884; GAZULLA & RUIZ, 1928; REED, 1935; PHILIPPI, 1863). It is frequently mentioned as *Castnia psittacus* Molina (ANGULO, 1998; ANGULO & OLIVARES, 1993), an incorrect name based originally on a comment by Rudolph Philippi (1808-1904) about the description of a butterfly by the Chilean Jesuit priest and naturalist, Juan Ignacio Molina (1740-1829), in his work about the geographical, natural, and civil history of Chile; the wrongfully assigned name was unfortunately later corroborated by other authors (MOLINA, 1782; PHILIPPI, 1867; REED, 1935; URETA, 1955). The brief description of the Chilean *Papilio psittacus* from a list written by Molina corresponds to what is now known as *Battus polydamas psittacus* (Molina) (LAMAS, 2004; MOLINA, 1782). A beautiful specimen of *C. eudesmia* is located in the FMNH collection and can be seen in BOONE *et al.* (2010).

It is interesting that at least two of Strecker's specimens were traded with George Robert Gray (1808-1872), the British zoologist who actually described this species (Fig. 2.4) (GRAY, 1838; LAMAS, 1995; MILLER, 1986). Another of the studied specimens of this species was obtained from the collection of Irving “Bunny” Dobkin, of Highland Park, Illinois. His collection, donated to the Field Museum by his wife in August 1993, contained approximately 10,000 specimens and was very diverse, including many exotic specimens of insects and arachnids. The collection was assembled for aesthetic

rather than scientific purposes and thus was not organized in systematic fashion; most species were unidentified and many had no associated data or scientific value. The Field Museum selected 2,465 specimens for accession, and the remaining 80% of the collection was given by Mrs. Dobkin to local elementary schools and/or sold to private collectors.

Material Examined: 1 ♂, [Chile], {*Castnia eudesmia* G[eorge]. R[obert]. Gray, Valparaíso, Seitz - 6, 13. A.}, {*Castnia eudesmia* G. R. Gray, Valparaíso(sic)."} Strecker Colln. 25626, Field Museum Nat. Hist.}; FMNH-INS 0000 041 487; 1 ♀, {*Castnia eudesmia* G. R. Gray, Valparaíso, [Chile], Seitz - 6, 13. A.}, {*Castnia eudesmia* G. R. Gray, Valparaíso(sic)."} Strecker Colln. 25627, Field Museum Nat. Hist.}; FMNH-INS 0000 041 488; 1 ♂, [Chile], { "*Castnia eudesmia* G.R. Gray, Valparaíso [sic]", Strecker Colln. 25628, Field Museum Nat. Hist.}, FMNH-INS 0000 041 492; 1 ♀, [Chile], {Irving Bunny Dobkin Collection 1993, Accession # 18,584, Field Museum}, {*Castnia psittachus* ♀, same data as ♂}, FMNH-INS 0000 041 467; 1 ♂, {F.M.NH. Coll. No. 1036 (Strecker Coll.), {Nov. 13, 1908, Castniidae: *Castnia eudesmia* Butterfly Exhibit # 1036, H. Strecker, Field Mus. Nat. Hist.}, FMNH-INS 0000 041 489.

Catsnia invaria volitans Lamas, 1995 (Fig. 3.3)

This species is found in northern South America, north of the Amazon River and along the Orinoco River Basin (GONZÁLEZ *et al.*, 2006). As with the other subspecies (*C. i. invaria* Walker, 1854, *C. i. penelope* Schaufuss, 1870, and *C. i. trinitatis* Lathy, 1925), it is associated with terrestrial Bromeliaceae and is considered a minor pest of pineapples [*Ananas comosus* L. (Merr.)] (GONZÁLEZ & COCK, 2004; GONZÁLEZ & FERNÁNDEZ YÉPEZ, 1993; GONZÁLEZ *et al.*, 2006; MILLER, 1986).

Material Examined: 1 ♂, {122}, {*Castnia Icarus* Cram[er]. Surinam. Seitz - 6, 8. A.}, { "*Castnia icarus* Cram. Surinam" Strecker Coll. 25622, Field Museum Nat. Hist.}, FMNH-INS 0000 041 490.

Telchin atymnius atymnius (Dalman, 1824) (Fig. 4.5)

For the generic assignment of this and the next four subspecies, we follow MORAES & DUARTE (2009). This subspecies is commonly found in southeastern Brazil and is known as a pest of bananas (*Musa* spp.: Musaceae) (GONZÁLEZ & STÜNNING, 2007). Even though the species is sometimes confused with the sympatric *Telchin licus* (Drury), enough evidence has been provided to demonstrate that *T. atymnius* and *T. licus* are two different taxa (GONZÁLEZ & COCK, 2004; GONZÁLEZ & STÜNNING, 2007; MILLER, 1986, 1995; SOUZA & DUARTE, 2009).

Material Examined: 1 ♂, [Rio de Janeiro, Brazil], {Rio de Janeiro [sic], Mrs. O. C. James}, {*Castnia atymnius* Dalm[an]. Rio de Janeiro [sic]}. Mrs. O. C. James." Strecker Colln. 25606, Field Museum Nat. Hist.}, {*Castnia atymnius*(sic), Dalm[an], C[entral] & So[uth]. Amer[ica]., Seitz - 6, 8. A.}, FMNH-INS 0000 041 464.

Telchin atymnius drucei (Schaus, 1911)

Originally described from Costa Rica (as *Castnia drucei*), this subspecies appears to be close to *T. a. humboldti* and could perhaps be considered a synonym. It is curious that a specimen from Brazil is in this group, since the normal distribution of this subspecies includes Central America and northwestern South America (GONZÁLEZ & SALAZAR, 2003; MILLER, 1986). However, various "reddish" specimens of other *T. atymnius* ssp., that were identified as *T. a. drucei* have been noted in other regions (HOULBERT, 1918; ROMERO, 1998; SANDOVAL *et al.*, 2007). This could mean that either the specimen was mislabelled or that subspecies actually has a wider range than previously thought. Possibly, it could also mean that this supposed subspecies is just a phenotypic variation of other subspecies in the group.

Material Examined: 1 ♂, {Brazil, Dr. St[audin]g[e]r}, {40}, { "*Castnia humboldti* var. *Rufolimba* St[ran]nd. Brazil. Dr. St[audin]g[e]r", Strecker Colln. 25597, Field Museum Nat. Hist.}, {*Castnia humboldti* B[oi]sd[uvall]. Var: *rufolimba*, St[ra]nd. C[entral] Amer[ica] & S[outh] A[merica]., Seitz - 6, 8. A.}, FMNH-INS 0000 041 470; 1 ♂, {Honduras, Sent 1894 by St[audin]g[e]r as *C. "saluja"*}, {1954}, { "*Castnia humboldti* var. *Rufolimba* St[ra]nd. Honduras." "sent 1894 by St[audin]g[e]r as *C. saluja*" Strecker Colln. 25598 Field Museum Nat. Hist.}, FMNH-INS 0000 041 471; 1 ♂, {C[osta] Rica},

{Costa Rica, Van Patten}, {*Castnia humboldti rufolimba*}, {“*Castnia humboldti* var. *Rufolimba* St[ra]nd. Costa Rica. Van Patten.” Strecker Colln. 25599, Field Museum Nat. Hist.}, FMNH-INS 0000 041 477.

Telchin atymnius futilis (Walker, 1856)

This subspecies is commonly found in Central America and Mexico (GONZÁLEZ, 2009; MILLER, 1986, 2000) and has been associated with bananas (*Musa* spp.: Musaceae), sugar cane (*Saccharum officinarum* L.: Poaceae), and in some cases, considered to be a pest of importance (MILLER, 2000). One of the specimens in the original Strecker collection was collected / traded with Edward T. Owen (1850 - 1931), a French and linguistics professor at the University of Wisconsin, Madison, Wisconsin. He was also a real estate speculator and avid collector, and he corresponded and traded/exchanged specimens with Strecker from January 26, 1879 through December 3, 1895.

Material Examined: 1 ♂, {Guatemala}, {Gua[temala].}, {“*Castnia atymnius* var. *Defasciata* St[ra]nd. Guatemala.” Strecker Colln. 25608, Field Museum Nat. Hist.}, “*Castnia atymnius*, Dalm[an]. Var: *defasciata*, St[ra]nd. Mexico & So[uth America]., Seitz - 6, 8. A.}, FMNH-INS 0000 041 462; 1 ♂, {Mexico, E. J. Owen}, {“*Castnia atymnius* var. *Defasciata* St[ra]nd. Mexico. E. J. Owen.” Strecker Colln. 25609, Field Museum Nat. Hist.}, “*Castnia atymnius* Dalm[an]. Var: *defasciata*, St[ra]nd. Mexico & So[uth America], Seitz - 6, 8. A.}, FMNH-INS 0000 041 463; 1 ♂, {[San] Pedro Sula, Honduras}, {Among unsorted material at end of collection” Strecker Colln. 47504, Field Museum Nat. Hist.}, FMNH-INS 000 041 478; 1 ♂, {Cukra, Colina, Nicaragua, V: 1: 1948, Lewis E. Long leg.}, {Field}, FMNH-INS 0000 041 543.

Telchin atymnius humboldti (Boisduval, [1875])

This subspecies is commonly found in Panama, Colombia, and Venezuela (CONSTANTINO, 1998; MILLER, 1986; SALAZAR, 1999). It has been associated with bananas (*Musa paradisiaca* L.: Musaceae) and wild plantains (*Heliconia* sp.: Heliconiaceae) (CONSTANTINO 1998; LARA 1964A; MILLER 1986). LARA (1964a, 1964b, 1965, 1966a, 1966b) discussed the importance of this subspecies as pest of bananas and studied its morphology, bionomics, circadian rhythms, ecological relationships, sampling methods, and cultural control. ESQUIVEL (1981) established synonymies between this subspecies (as *Castniomera humboldtii*[sic]) and *Telchin licus* (as *Castnia licoides* Boisduval, *Eupalamides licus* Drury and *Leucocastnia licus* Drury) and mentions that it is a pest of sugarcane (*Saccharum officinarum* L.: Poaceae). However, ESQUIVEL’s (1981) conclusions are in doubt since he attributes to *Telchin licus* (as *C. licus*) ‘his’ descriptions and drawings of larvae, pupae, and imago of the species, but they are clearly copies of those of *T. a. humboldti* originally presented by LARA (1964a) (GONZÁLEZ & STÜNNING, 2007).

A female in the Strecker collection bears a label that reads “Det. B.J. Clark”. Benjamin Preston Clark (1860-1939) was in the mining, smelting, and manufacturing business but was interested in zoological studies and became highly knowledgeable of Lepidoptera, specializing in the Sphingidae. He published numerous papers, describing 232 hawkmoths (RAHN, 1997; REHN, 1939). He was associated with the Carnegie Museum of Natural History in Pittsburgh, the American Museum of Natural History in New York, and the Smithsonian Institution in Washington, D.C. and formed an important entomological collection that was deposited at the Carnegie Museum (RAHN, 1997; REHN, 1939).

Material Examined: 1 ♀, [Panama], {Chiriqui, Dr. St[audin]g[e]r}, {953}, {“*Castnia atymnius* Dalm[an]. Chiriqui, Dr. St[audin]g[e]r.” “Det. B[enjamin]. P[reston]. Clark”, Strecker Colln. 25596, Field Museum Nat. Hist.}, {*Castnia Atymnius* [marked through] Dalm[an]. ? *C[astnia]*. *Futilis* W[a]lk[er], [*Castnia*] *humboldti*, B[oi]sd[duval] [above marked through “*Atymnius*”]}, FMNH-INS 0000 041 468; 1 ♀, {Surinam, Möschler}, {*C. atymnius*(sic), Surinam}, {119}, {“*Castnia atymnius* Dalm[an]. Surinam, Moschler.” Strecker Colln. 25607, Field Museum Nat. Hist.}, {*Castnia atymnius*(sic), Dalm[an]. C[entral]. & So[uth] Amer[ica]., Seitz - 6, 8. A.}, FMNH-INS 0000 041 465.

Telchin atymnius newmanni (Houlbert, 1917)

This subspecies also attacks bananas (*Musa* sp.: Musaceae) along a range from Panama to

Colombia and Venezuela (GONZÁLEZ & COCK, 2004; GONZÁLEZ & FERNÁNDEZ, 1993; SANDOVAL *et al.*, 2007).

Material Examined: 1 ♀, {COLOMBIA: Magd[alena]; El Pueblito area, elev[ation]. 400-800 m. II: 20: 1970 leg. B. Malkin}, FMNH-INS 0000 041 469.

Telchin licus (Drury, 1773)

This highly variable species is known to attack bananas (*Musa* spp.: Musaceae) and *Heliconia* plants (Heliconiaceae) but is widely recognized as a pest of sugarcane (*Saccharum officinarum* L.: Poaceae) (GONZÁLEZ & COCK, 2004; GONZÁLEZ & STÜNNING, 2007; SANDOVAL *et al.*, 2007). The taxonomy of its several subspecies is confusing, and studies have been done in an attempt to clarify it. However, a detailed study is needed to clearly establish the taxonomy of the group (GONZÁLEZ, 2003; GONZÁLEZ & COCK, 2004; GONZÁLEZ & STÜNNING, 2007; MILLER, 1986, 1995; SANDOVAL *et al.*, 2007).

Material Examined: 1 ♀, {Brazil: Rondônia, Fazenda Rancho Grande nr. Ariquemes, Rio Pardo, 23 October 1993, Coll. D.H. & A.C. Kistner}, {*Castnia licoides* Bdv., det. Comp[ared] with BUNH, Collection. D. Kistner [19]’94}, FMNH-INS 0000 041 446; 1 ♂, {“Upper Amazon, [Brazil], Staudinger”}, {“*Castnia licus* var. *licoidella* Stgr., Upper Amazon. Staudinger.” Strecker Colln. 25604, Field Mus. Nat. Hist.}, {*Castnia licus*, Drury. Var: *licoidella*, St[ra]nd., So[outh] & Cen.[tral] Amer.[ica], Seitz - 6, 8. A.}, FMNH-INS 0000 041 447; 1 ♂, {Surinam, H. A. Möschler.}, {*Castnia licus* var. *licoidella* Stgr. Surinam, H[einrich].B[enno]. Möschler, Strecker Colln. 25605, Field Museum Nat. Hist.}, FMNH-INS 0000 041 448; 1 ♀, {Field Museum Nat. Hist., Bolivia: Beni Prov[ince], Rio Benicito, Chocobo Indian Village, 66° ‘Wx12’ ‘20’S, (31-VII) - (2-VIII) - 1960, Borys Malkin # 199}, FMNH-INS 0000 041 449; 1 ♂, {Brazil: Mato Grosso, Confluence of Rio Araguaia, (22-28)-XI-1960, Borys Malkin #86, Field Museum Nat. Hist.}, FMNH-INS 0000 041 450; 1 ♂, {Brazil: Mato Grosso, Confluence of Rio Araguaia, (22-28)-XI-1960, Borys Malkin #86, Field Museum Nat. Hist.}, FMNH-INS 0000 041 451; 1 ♀, {Field Museum Nat. Hist., Bolivia: Beni Prov[ince], Rio Benicito, 66° ‘Wx12’ ‘20’S, (10-14)-VII-1960, Borys Malkin #185}, FMNH-INS 0000 041 452; 1 ♂, {Field Museum Nat. Hist., Brazil: Mato Grosso, Confluence of Rio Araguaia & Rio Tapirape, (23-24)-XII-1960, Borys Malkin #56}, FMNH-INS 0000 041 453; 1 ♂, {Perú: Dept. Loreto, Colonia Calleria on Rio Calleria, 20 km from Ucayali, (10-30)-IX-1961, Borys Malkin #88, Field Museum Nat. Hist.}, FMNH-INS 0000 041 454; 1 ♂, [Locality Unknown], [F.M.N.H. Coll., No. 1035], {Castniidae: *Castnia licus licoides* Nov. 30, 1917, Butterfly Exhibit # 1035, Aug. Sala, Field Museum Nat. Hist.}, FMNH-INS 0000 041 455; 1 ♂, {Amaz[onas]. Sup[er]ior., Dr St[audin]g[e]r, [Upper Amazon, Brazil], {*Castnia Licus* Fabr[icius]. [Marked through] Drury [besides marked through “Fabr.”], Surinam, H.B. Möschler, Seitz - 6, 8. A.} [It appears that in handling the collection two labels belonging to two different specimens ended up in this one], {*Castnia licus* Fabr. Amaz. Sup. Dr. Stgr.” Strecker Colln. 25603, Field Museum Nat. Hist.}, FMNH-INS 0000 041 456; 1 ♂, {Rio Janiero (sic), Mrs. O. C. James}, [Brazil], {*Castnia Licus* Fabr[icius]. [Marked through] Drury [besides marked through “Fabr.”], Surinam, H. B. Möschler, Seitz - 6, 8. A.} [It appears that in handling the collection two labels belonging to two different specimens ended up in this one], {*Castnia licus* Fabr. Rio de Janiero (sic), Mrs. O.C. James”, Strecker Colln. 25602, Field Museum Nat. Hist.}, FMNH-INS 0000 041 457; 1 ♂, {*Castnia Licus* Fabr.[marked through] Drury [besides marked through “Fabr.”], H.B. Möschler, Seitz - 6, 8. A.}, {“*Castnia licus* Fabr. Surinam. H.B. Moschler(sic), Strecker Colln. 25600, Field Museum Nat. Hist.}, FMNH-INS 0000 041 458; 1 ♂, {*Castnia Licus* Fabr.[marked through] Drury [besides marked through “Fabr.”], H. B. Möschler, Seitz - 6, 8. A.}, {“*Castnia licus* Fabr. Surinam. H. B. Moschler(sic), Strecker Colln. 25601, Field Museum Nat. Hist.}, FMNH-INS 0000 041 459; 1 ♂, {Lote 138 1932, Rio Perene}, {CNHM (Mares Colln) Pres. by Ill. Nat. Hist. Surv.}, FMNH-INS 41460; 1 ♀, {Peru, La Merced, Chanchamayo, Lote 152, Peru, 1932}, {*Castnia licus*}, {C[hicago] N[atural] H[istory] M[useum] (Mares Colln) Pres. By Ill[inois]. Nat[ural]. Hist[orical]. Surv[ey].}, {Peru}, {South America} [Both specimens with wings repaired], FMNH-INS 0000 041 461.

Telchin syphax (Fabricius, 1775)

This species is widely distributed in Trinidad and south of the Orinoco River along the Guiana Highlands as well as in the Guyanas and down to the lower Amazon (GONZÁLEZ, 1999; GONZÁLEZ & COCK, 2004; GONZÁLEZ & STÜNNING, 2007; MILLER, 1986).

Material Examined: 1 ♀, {*Castnia Harmodius* Cram. [*Harmodius* Cram. Marked through], *Syphax F[abricius]*. [above *Harmodius* Cram.], Amazons, Dr. St[audin]g[e]r}, {770}, {“*Castnia harmodius* Cram. Amazons, Dr. Stgr.”, Strecker Colln. 25610, Field Museum Nat. Hist.}, FMNH-INS 0000 041 491; 1 ♀, {*Castnia Harmodius* Cram. [*Harmodius* Cram. Marked through], *Syphax F[abricius]*. [above *Harmodius* Cram.], Amazons, Dr. St[audin]g[e]r}, {770}, {“*Castnia harmodius* Cram. Amazons, Dr. Stgr.”, Strecker Colln. 25611, Field Museum Nat. Hist.}, FMNH-INS 0000 041 493; 1 ♂, {“*Castnia harmodius* Cram[er], Amazons, Dr. St[audin]g[e]r”, Strecker Colln. 25611, Field Museum Nat. Hist.}, {Amaz[zons]}, FMNH-INS 0000 041 493.

Xanthocastnia evalthe evalthe (Fabricius, 1775) (Fig. 4.4)

This subspecies is widely distributed in most of South America along and north of the Amazon basin, where species of *Bromelia* (Bromeliaceae) and *Heliconia* (Heliconiaceae) have been suggested as hosts (HOULBERT 1918; MILLER 1986; MOSS 1945).

Material Examined: 1 ♂, [Colombia], {*Castnia Dardanus* [marked through] Cram[er], O. K., P. Evalthe Fabr., Colombia, St[audin]g[e]r. 1894, 958, Seitz - 6, 8. A.}, {958}, {“*Castnia dardanus* Cram. Colombia, 1894, Stgr.”, Strecker Colln. 25650, FMNH-INS 0000 041 532.

Xanthocastnia evalthe euphrosyne (Perty, 1833)

Also widely distributed, this subspecies is also found along the Amazon basin, part of the Orinoco basin, and even reaches southeastern Brazil (HOULBERT, 1918; GONZÁLEZ, 1990; MILLER, 1986). A detailed study is needed to clearly determine the validity of the subspecies names in the group.

Material Examined: 1 ♂, [Brazil], {*Castnia euphrosyne*, P[er]ty., Rio de Janiero[sic], Seitz - 6, 9. A.}, {Rio}, {“*Castnia euphrosyne* Pty., Rio de Janiero [sic]”, Strecker Colln. 25649, Field Museum Nat. Hist.}, FMNH-INS 0000 041 531.

Xanthocastnia evalthe viryi (Boisduval, [1875])

Distributed from southern Mexico and Central America down to Colombia and Venezuela (HOULBERT, 1918; MILLER, 1986), this species is easily distinguished from others in the group by the presence of a single, mid-dorsal transverse band (MILLER, 1986).

Material Examined: 1 ♂, [Honduras], {*Castnia Viryi* Bdl., Honduras, Stgr. 1894, 959, Seitz - 6, 9. A.}, {959}, {“*Castnia viryi* Bdl. Honduras. 1894. Stgr.”, Strecker Colln. 25651, Field Museum Nat. Hist.}, FMNH-INS 0000 041 533.

Geyeria decussata (Godart, [1824]) (Fig. 3.6)

This species is distributed in southeastern Brazil, specifically along the coast, from Rio de Janeiro southward (GODART, [1824], MILLER, 1986) and has been recorded flying from November to March at mid-day (MILLER, 1986). Little else is known about the biology of this species.

Material Examined: 1 ♂, [Brazil], {*Castnia Decussata* Latr[eille]. Stgr. 1894, 957, Seitz - 6, 12. A.}, {957}, {“*Castnia decussata* Letr. Sta. Catharina. 1894. Stgr.” Strecker Colln. 25638, Field Museum Nat. Hist.}, FMNH-INS 0000 041 534; 1 ♂, [Brazil], {Rio [de] Janeiro, Mrs. O. C. James”}, {[Blank Mrs. James’ label]}, {Rio 1877}, {“*Castnia decussata* Ltr. Rio de Janiero[sic]. Mrs. O. C. James.” Strecker Colln. 25639, Field Museum Nat. Hist.}, FMNH-INS 0000 041 535.

Geyeria hubneri (Gray, 1834)

Distributed in southern Brazil, not much is known about this species (MILLER, 1986).

Material Examined: 1 ♀, [Brazil], {*Castnia Huebneri*[sic] Latr., S[ão]. Paulo, S[outh] Brazil, [José G.] Foet[terle], 1897, Seitz - 6, 12. A.}, {“*Castnia huebneri*[sic] Latr. S. Brazil, S. Paulo, 1897. Foet.”,

Strecker Colln. 25668, Field Museum Nat. Hist.), FMNH-INS 0000 041 536; 1 ♀ [Brazil], {*Castnia Huebneri*[sic] Latr., S[ão]. Paulo, S[outh] Brazil, [José G.] Foet[terle], 1897, Seitz - 6, 12. A.}, {*Cast[nia]. Huebneri*, S[ão]. Paulo} {“*Castnia huebneri*[sic] Latr. S. Brazil, S. Paulo, 1897. Foet.”, Strecker Colln. 25669, Field Museum Nat. Hist.), FMNH-INS 0000 041 537.

Geyeria uruguayana (Burmeister, 1879)

This is a highly variable species that also exhibits some sexual dimorphism (MILLER, 1986). Due to its variability, several taxa, now synonymized, were described from a few locations from southern Brazil, Uruguay, and Argentina (BIEZANKO, 1961A; BREYER 1929, 1931, 1943; JÖRGENSEN, 1930; MILLER, 1986). The species flies at mid-day from November to February and March (MILLER, 1986). Larvae of this species feed on *Eryngium paniculatum* Cav. & Dombey ex F. Delaroché (Apiaceae) (BIEZANKO, 1961a).

Material Examined: 1 ♂, [Uruguay], {*Castnia Uruguayana* Burm[eister]. Uruguay, Seitz - 6, 12. A.}, {“*Castnia uruguayana* Burm. Uruguay.” Strecker Colln. 25664, Field Museum Nat. Hist.}, {genitalia vial no. M-3788, Jacqueline Y. Miller}, FMNH-INS 0000 041 538; 1 ♂, [Uruguay], {*Castnia Uruguayana* Burm[eister]. Uruguay, Seitz - 6, 12. A.}, {985}, {“*Castnia uruguayana* Burm. Uruguay.” Strecker Colln. 25665, Field Museum Nat. Hist.}, FMNH-INS 0000 041 539.

Riechia acraeoides (Guérin, [1832])

Apparently a mimic of several Acraeinae (Nymphalidae) in the genus *Actinote* (JÖRGENSEN, 1930), this species has been reared from *Tillandsia meridionalis* Baker, *T. didisticha* (E. Morren) Baker (Bromeliaceae) and *Oncidium varicosum* Lindl. & Paxton (Orchidaceae). Females have been seen laying eggs on *Oncidium jonesianum* Rchb. F. (GRÜNBERG, 1909; JÖRGENSEN, 1930)

Material Examined: 1 ♀, [Brazil], {*Castnia Acraeoides* Bdl., Rio de Janiero [sic], Seitz - 6, 15. A.}, {Jardim Botanico}, {“*Castnia acraeoides* Bdl. Rio de Janier [sic].” Strecker Colln. 25667, Field Museum Nat. Hist.}, FMNH-INS 0000 041 499; 1 ♂, [Brazil], {*Castnia Acraeoides* Bdl., Rio de Janiero [sic], Seitz - 6, 15. A.}, {316}, {“*Castnia acraeoides* Bdl. Rio de Janiero [sic]” Strecker Colln. 25666, Field Museum Nat. Hist.}, FMNH-INS 0000 041 500; 1 ♂, {Brazil: Joinville, Santa Catarina, Oct. 1961, Field Mus. Nat. Hist.}, FMNH-INS 0000 041 501; 1 ♂, {*Castinia* [sic] *acraeoides*, ♂, Joinville, Brazil, Jan. 1961}, FMNH-INS 0000 041 502.

Prometheus cochrus (Fabricius, 1787)

This species is distributed throughout southeastern Brazil and appears to fly from November to January (MILLER, 1987). According to Dr. Keith Brown Jr., the species is a perfect behavioral mimic for *Parides ascanius* (Papilionidae), but since this butterfly is so rare, the model must be another species, and they all might be part of a mimetic ring (Miller 1986). Larvae feed on several Bromeliaceae, including some spiny *Bromelia*, Caraguatá (*Bromelia antiacantha* Bertol) and Cravo-do-Mato (*Tillandsia aeranthos* (Loisel) L. B. Smith (BIEZANKO, 1961a; MILLER, 1961). Even though Biezanko (1961a) mentions the species on pineapple (*Ananas sativus* Schult. & Schult.), an attempt to rear a few first instar larvae on another (?) *Ananas* sp. was unsuccessful (MILLER 1986).

Material Examined: 1 ♂, [Brazil], {*Castnia Cochrus* Fab[ricius]., S[ão]. Paulo, S[outh]. Brazil, Seitz - 6, 13. A. [J. G.] Foet[terle]., 1897}, {“*Castnia cochrus* Fab., S. Brazil, S. Paulo., 1897. Foet.” Strecker Colln. 25629, Field Museum Nat. Hist.}, FMNH-INS 0000 041 520; 1 ♂, [Brazil], {*Castnia Cochrus* Fab[ricius]., S[ão]. Paulo, S[outh]. Brazil, Seitz - 6, 13. A. [J. G.] Foet[terle], 1897}, {“*Castnia cochrus* Fab., S. Brazil, S[ão]. Paulo, 1897. Foet[terle].” Strecker Colln. 25630, Field Museum Nat. Hist.}, FMNH-INS 0000 041 521; 1 ♂, [Brazil], {*Castnia Cochrus* Fab[ricius]., S[ão]. Paulo, S[outh]. Brazil, Seitz - 6, 13. A. [J. G.] Foet[terle]., 1897}, {“*Castnia cochrus* Fab., S. Brazil, S. Paulo., 1897. Foet.” Strecker Colln. 25631, Field Museum Nat. Hist.}, FMNH-INS 0000 041 522; 1 ♂, [Brazil], {F.M.N.H. Coll. No. 1033 (Strecker Coll.)}, {Brazil: San Paulo Nov. 13, 1908. Castniidae: *Castnia cochrus* Butterfly, Exhibit # 1033 H. Strecker, Field Mus. Nat. Hist.} [Faded due to excessive light exposure], FMNH-INS 0000 041 523.

Ceretes marcelserres (Godart, [1824])

Ceretes is the only genus in Castniidae that is highly sexually dimorphic (MILLER, 1986; GONZÁLEZ & STÜNNING, 2004). In this species, the forewing pattern of males and females is slightly similar, but the markings are reduced and paler (GONZÁLEZ & STÜNNING, 2004). The hindwing in females is orange-fulvous dorsally and certainly different from males, which are basically brownish. This species is distributed along the coast in southeastern Brazil and down to the region of Misiones, in Argentina (MILLER, 1986; GONZÁLEZ & STÜNNING, 2004). Nothing is known about the larval stages and host plants of this species.

Material Examined: 1 ♂, {Fabrica das Chitas}, [Rio de Janeiro, Brazil], {*Castnia inornata*?, Rio [de] Janeiro, Westw[ood]}, {*Castnia inornata*? Westw[ood]., Rio de Janeiro.” Strecker Colln. 25654, Field Museum Nat. Hist.”}, FMNH-INS 0000 041 479; 1 ♂, {*Castnia inornata*? Westw[ood]., Rio [de] Janeiro}, [Brazil], {314}, {*Castnia inornata*? Westw[ood]., Rio de Janeiro.” Strecker Colln. 25655, Field Museum Nat. Hist.”}, FMNH-INS 0000 041 480; 1 ♂, {Rio} [de Janeiro, Brazil], {*Castnia inornata*? Westw[ood]., Rio [de] Janeiro}, {*Castnia inornata*? Westw[ood], Rio de Janeiro.” Strecker Colln. 25656, Field Museum Nat. Hist.”}, FMNH-INS 0000 041 481; 1 ♂, {*Castnia inornata*? Westw[ood], Rio [de] Janeiro}, [Brazil], {*Castnia inornata*? Westw[ood], Rio de Janeiro [sic].” Strecker Colln. 25657, Field Museum Nat. Hist.”}, FMNH-INS 0000 041 482.

Ceretes thais (Drury, 1782)

A beautiful species that is distributed in southern Brazil (MILLER, 1986), *Ceretes thais* is slightly similar to *C. marcelserres*, specifically the males. Dorsally, the forewing ground color is dark brown with lighter brown markings in males. There is also a lighter midcosta transverse band, recurved and broader towards the costa. The dorsal ground-color is indigo blue outlined with an orange-fulvous ‘band’ near the costal angle and along the anterior portion of the lateral margin. The ground color of the forewing of females is similar to that of males, but paler and the markings are reduced. The ground-color of the female hindwings is orange-fulvous with two postmedian bands that are black with an additional extradiscal spot band (also black).

Material Examined: 1 ♀, {*Castnia Thais*, Corupa, Brazil, July 1965}, FMNH-INS 0000 041 483; 1 ♂, {Petropolis}, [Brazil], {*Castnia Chremes* Jones, Brazil}, {“*Castnia chremes* Jones, Brazil” Strecker Colln. 25652, Field Museum Nat. Hist.}, FMNH-INS 0000 041 484; 1 ♀, {Rio} [de Janeiro, Brazil], {*Castnia*, Brazil}, {“*Castnia* Brazil”, Strecker Colln. 25653, Field Museum Nat. Hist.}, FMNH-INS 0000 041 485.

Divana diva (Butler, 1870)

A beautiful species distributed in eastern Mexico, Central America, and northwestern South America (Colombia) (MILLER, 1986; STRAND, 1913), the only specimen in the FMNH collection was exchanged / traded with Dr. Otto Staudinger, who originally identified it as “*Castnia diva* var. *chiriquiensis*”, a subspecies from Panama, Central America. However, according to its label, it came from Brazil. Since no other known Brazilian specimens of this species have been reported or collected, we suspect the specimen was mislabeled.

Material Examined: 1 ♀, {Brazil, Dr. St[audin]g[e]r}, {39}, *Castnia diva*, B[u]tl[e]r. Var: *chiriquiensis*, Str[an]d, C[osta]. Rica to Brazil, Seitz - 6, 13. A.; {*Castnia diva* var. *chiriquiensis* Strand, Brazil. Dr. St[audin]g[e]r”, Strecker Colln. 25594, Field Museum Nat. Hist.}, FMNH-INS 0000 041 486.

Gazera heliconioides heliconioides Herrich-Schäffer, [1853]

This is a monotypic genus with four subspecies that resemble species in the genera *Lycorea* (Nymphalidae, Danaini), *Thyridia* (Nymphalidae, Ithomiini), and *Chetone heliconides* (Arctiidae) (MILLER, 1986). This subspecies is distributed in Brazil, south of the Amazon basin (MILLER, 1986).

Material Examined: 1 ♂, [Brazil], {*Castnia Linus* Cram. Para}, {“*Castnia linus* Cram. Para.” Strecker Colln. 25658, Field Museum Nat. Hist.}, FMNH-INS 0000 041 496; 1 ♀, [Brazil], {*Castnia*

Linus Cram. Para}, {77}, {"*Castnia linus* Cram. Para." Strecker Colln. 25659, Field Museum Nat. Hist.}, FMNH-INS 0000 041 497; 1 ♂, [Brazil], {Rio [de] Janeiro, Mrs. O. C. James}, {"*Castnia linus* Cram. Rio de Janiero[sic]", "one [of 2] in temp. exhibit." Strecker Colln. 25661, Field Museum Nat. Hist., FMNH-INS 0000 041 498.

Gazera heliconioides obidona (Rothschild, 1919) (Fig. 3.8)

Not much is known about the biology of this subspecies, which is found in the northern Amazon region and northern South America (LAMAS, 1995; MILLER, 1986, 1995).

Material Examined: 1 ♂, [Brazil], {*Castinia Heliconioides*, Ovidos[sic], Brazil, Feb. 1951}, FMNH-INS 0000 041 495.

Zegara zagraea (R. Felder, 1874) (Fig. 4.9)

Little is known about this species, which is found in certain areas of Colombia, Panama, and Costa Rica (LAMAS, 1995; MILLER, 1986). It has been associated to *Aechmea magdalenae* (André) André ex Baker (Bromeliaceae) (MILLER, 1986). According to Keith Brown Jr., this species is a member of a mimetic ring that contains several Heliconiinae, including *Heliconius numata*, as well as *Lycorea halia* (Nymphalidae: Danainae), as models (MILLER, 1986).

Material Examined: 1 ♂, [Colombia], {*Castnia cycna* Westw[ood]. Bogota, Seitz - 6, 16. A.}, {Coll}, {"*Castnia cycna* Westw. Bogota." Strecker Colln. 25662, Field Museum Nat. Hist.}, {genitalia vial no. M-3789, Jacqueline Y. Miller}, FMNH-INS 0000 041 540; 1 ♀, [Panama], {*Castnia Zagraea* Feld[er], Chiriqui, Seitz - 6, 16. A.}, {*C. Zagraea* ♀, Chiriqui}, {327}, {"*Castnia zagraea* Feld. Chiriqui." Strecker Colln. 25663, Field Museum Nat. Hist.}, FMNH-INS 0000 041 541.

CASTNIINAE: CASTNIINI: SYNEMONINA

Synemon collecta Swinhoe, 1892

This appears to be a widespread species in some areas of southeastern Queensland where it lives in open eucalyptus-bull-oak woodlands with undergrowth of mixed, tall grasses (DUNN, 2002).

Material Examined: 1 ♂, [Australia], {F.M.N.H.C. No. 1038, Strecker Collection}, {Australia, Nov. 13, 1908, Castniidae: *Synemon collecta* Butterfly Exhibit, # 1038, H. Strecker, Field Mus. Nat. Hist.}, FMNH-INS 0000 041 544; 1 ♂, [Australia], {F.M.N.H.C. No. 1038, Strecker Collection}, {Australia, Nov. 13, 1908, Castniidae: *Synemon collecta* Butterfly Exhibit, # 1038, H. Strecker, Field Mus. Nat. Hist.}, FMNH-INS 0000 041 545, [The colors in both previously mentioned specimens are faded due to light exposure; both specimens also bear the same number of labels with the exact same information]; 1 ♂, [Australia], {*Synemon Theresa* D[ou]b[e]d[a]y, Australia}, {906}, {"*Synemon theresa* Dbldy, Australia, Strecker Colln. 18150, Field Museum Nat. Hist.}, FMNH-INS 0000 041 547; 1 ♂, [Australia], {*Synemon Theresa* Dbldy, Australia}, {"*Synemon theresa* Dbldy, Australia, Strecker Colln. 18151, Field Museum Nat. Hist.}, FMNH-INS 0000 041548; 1 ♂, [Australia], {*Synemon Theresa* Dbldy, Australia}, {906}, {"*Synemon theresa* Dbldy, Australia, Strecker Colln. 18152, Field Museum Nat. Hist.}, FMNH-INS 0000 041 549; 1 ♂, [Australia], {*Synemon Theresa* Dbldy, Australia}, {906}, {"*Synemon theresa* Dbldy, Australia, Strecker Colln. 18154, Field Museum Nat. Hist.}, {genitalia vial, no. M-3787, Jacqueline Y. Miller}, FMNH-INS 0000 041 550; 1 ♂, [Australia], {*Synemon Theresa* Dbldy, Australia}, {906}, {"*Synemon theresa* Dbldy, Australia, Strecker Colln. 18153, Field Museum Nat. Hist.}, {genitalia vial, no. M-6951, Jacqueline Y. Miller}, FMNH-INS 0000 041 557.

Synemon laeta Walker, 1854 (Fig. 4.7)

This species is commonly found in dry eucalyptus bush in eastern Queensland. The male exhibits territorial behavior, setting up territories around grass stems from which intruding males are chased (COMMON, 1990). The larval host plant is *Lomandra longifolia* Labill (Liliaceae).

Material Examined: 1 ♂, [Australia], {*Synemon Vagans*, Queensland, 547}, {"*Synemon vegans*, Queensland, Strecker Colln. 18155, Field Museum Nat. Hist.}, FMNH-INS 0000 041 551; 1 ♂,

[Australia], {*Synemon Vagans*, Queensland, 547}, {547}, {“*Synemon vagans*, Queensland, Strecker Colln. 18156, Field Museum Nat. Hist.}, FMNH-INS 0000 041 552; 1 ♂, [Australia], {*Synemon Vagans*, Queensland, 547}, {547}, {“*Synemon vagans*, Queensland, Strecker Colln. 18157, Field Museum Nat. Hist.}, FMNH-INS 0000 041 553; 1 ♂, [Australia], {*Synemon Vagans*, Queensland, 547}, {547}, {“*Synemon vagans*, Queensland, Strecker Colln. 18158, Field Museum Nat. Hist.}, FMNH-INS 0000 041 554.

Synemon parthenoides R. Felder, 1874

This is a species of common occurrence in western and southern Australia and Victoria, and its larvae feed on the roots of *Lepidosperma carphoides* F. Muell. ex Benth (COMMON, 1990). Strecker's specimen was traded with William Jacob Holland (1848-1932), an accomplished lepidopterist who became the eighth chancellor of the University of Pittsburgh and director of the Carnegie Museum of Pittsburgh (ALBERTS, 1987).

Material Examined: 1 ♂, [Australia], {*Synemon Parthenoides* Feld[er], Victoria, [William Jacob] Holl[and].}, {“*Synemon parthenoides* Feld., Victoria, Nov., Holl., Strecker Colln. 25670, Field Museum Nat. Hist.}, FMNH-INS 0000 041 546.

Acknowledgements

We are grateful to Gerardo Lamas, Laura Ann McLoud and Mike Toliver for critically reading earlier versions of the manuscript; To Matthew J.W. Cock, Gerardo Lamas, Jacqueline Y. Miller, Roberto and Renato Mattei, Rayner Núñez, John Rawlins, and Francisco de la Villa for providing us with valuable comments and/or information on several species mentioned herein; To Armand Esai for providing us with access to the FMNH archives and valuable assistance with the Strecker correspondences; To S. BradleighVinson for his support and help during several stages of this research.

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(Recibido para publicación / *Received for publication* 22-VI-2010)

(Revisado y aceptado / *Revised and accepted* 13-VIII-2010)

(Publicado / *Published* 30-XII-2010)



Figure 1.– 1. Herman Strecker (1836-1901). 2. An old Herman Stecker at his studio/library/collection room on the upper floor of his house in Reading, Pennsylvania.





