

## **The Castniidae (Lepidoptera) in the collection of the Natural History Museum of the Institute of Systematics and Evolution of Animals of the Polish Academy of Sciences in Krakow**

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**ABSTRACT. The Castniidae of the Natural History Museum of the Institute of Systematics and Evolution of Animals of the Polish Academy of Sciences in Krakow.**

The material representing 14 species and subspecies belonging to the Castniidae (Lepidoptera) deposited at the Natural History Museum of the Institute of the Systematics and Evolution of Animals of the Polish Academy of Sciences (ISEA PAS) in Krakow has been studied. A brief comment on the history of the Museum is given. General comments on natural history, and the distribution data and other details are presented for each studied species (or subspecies).

**KEY WORDS:** giant-butterfly moths, Castniidae, South America, biodiversity, Neotropics.

### INTRODUCTION

The Natural History Museum of the Institute of Systematics and Evolution of Animals of the Polish Academy of Sciences (ISEA PAS) has a complicated and long history (RAZOWSKI 2000). Back in 1865, the Krakow Scientific Society founded the Physiographical Commission with the idea of first gathering information from the immediate region and then from the rest of Poland. To do that, they requested amateur collectors to lend them their minerals, plants, animals, and paleontological collections for systematic cataloguing (KOŚCIUSZKO & PAWŁOWSKI 1995). The reaction of many natural history collectors was highly positive, but the commission soon found out they lacked enough specialists to study such a large number of specimens; thus, the collections were housed in the Zoological Laboratory of the Jagiellonian University to be later transferred to a building of the Krakow Scientific Society while waiting for proper identification (KOŚCIUSZKO & PAWŁOWSKI 1995, RAZOWSKI 2000). Most materials that were not returned formed the nucleus of the newly founded Museum.

The Physiographical Commission activities had a hiatus of about five years during WWI and virtually ended in 1919. Then the Zoological Museum of the Polish Academy of Sciences and Letters (PASL) took over to be later replaced by the Polish Academy of Sciences (PAS) (RAZOWSKI 2000). The collections of the Natural History Museum were then divided. The botany section went to the Institute of Botany PAS, the geological collection helped formation of the Institute of Geology PAS, and only the zoological

specimens remained in the original building of the PASL in Krakow becoming a branch of the Zoological Institute PAS, Warsaw (KUBIAK 2008). The new conception of the Museum was defined by modern standards and professionally designed exhibitions (ŚWIECIMSKI 1966, 1989).

During the 1960's, the Institute was named The Department of Systematic Zoology, and later that decade it became The Department of Experimental Zoology (RAZOWSKI 2000). New changes would be done in the next decades until 1989 when the Department changes and improved its status to become the Institute of Systematics and Evolution of Animals, having four Departments and auxiliary units (KOŚCIUSZKO & PAWŁOWSKI 1995, RAZOWSKI 2000).

Their insect collection, which is the heart of the Department of Invertebrate Zoology, contains numerous historically important materials to which personnel kept adding insects collected in numerous scientific expeditions. Most insect material comes from the Palearctic realm, but certainly Nearctic, Oriental, and Neotropical specimens are found among their holdings (RAZOWSKI 2000).

Among the Neotropical Lepidoptera hosted in the ISEA PAS, there is a small collection of Castniidae: 17 specimens belonging to 14 species and subspecies representing nine genera. With exceptions, most have valuable data that allow us to determine their geographic origin. Castniidae is an interesting pantropical family of diurnal or crepuscular moths. In the Neotropics about 88 species in less than 20 genera are distributed from Mexico throughout Central America and South America down to Argentina and Chile (MILLER 1986, GONZÁLEZ & COCK 2004, MORAES & DUARTE 2014). Based on the labels of the specimens, some were traded or bought from dealers, but quite a few seem to have been donated or collected by explorers or researchers associated with the Museum.

This note is part of our effort to list some Lepidoptera holdings (see GONZÁLEZ *et al.* 2013a, b, DOMAGAŁA *et al.* 2015) that are present but not commonly known from Polish Museums. In naming the species, we basically follow MILLER (1995) and LAMAS (1995), and for genera, except for *Amauta*, we follow MORAES & DUARTE (2014). Even though the genera follow the phylogenetic arrangement of MILLER (1995) and LAMAS (1995), the species are ordered alphabetically. The name of every species is followed by the information on the labels of the studied specimens. Then we include some natural history comments or historical background on the species or some of the specimens examined. All data from the labels are presented maintaining the writing styles of the collectors or curators, but it is complemented with information added by the authors and included within square brackets.

## ANNOTATED LIST OF EXAMINED SPECIES AND SUBSPECIES

**Castniidae** BLANCHARD, 1840

**Castniinae** BLANCHARD, 1840

**Castniini** BLANCHARD, 1840

***Eupalamides guyanensis* (HOULBERT, 1917)**

**Material examined:** 1♂, St. Laurent Maroni Fluß, Franz Guayana [French Guyana], 800 m., Januar – März.

**Comments:** This is a species frequently found along coastal regions in northern South America where it attacks coconut plants *Cocos nucifera* L. (Arecaceae) (GONZÁLEZ & FERNÁNDEZ YÉPEZ 1993, BENELUZ & GALLARD 2012). However, the species has been also found in other palms such as *Attalea* sp. and possibly *Coccothrinacs* sp. (Arecaceae) (GONZÁLEZ 1999). Their larvae bore very damaging galleries inside the stipe of coconut palms and when ready to pupate they gather plant material to build a protective cocoon at the base of leaves, between petiole and stipe (BENELUZ & GALLARD 2012, GONZÁLEZ & FERNÁNDEZ YÉPEZ 1993). BENELUZ & GALLARD (2012) observed that different females tend to lay eggs on the same damaged plant as grubs of different instars, as well as pupae and imagines were found in coexistence within the same plant. Imagines flight at dusk and their flight resembles that of certain bats (JMG unpublished).

***Amauta cacica cacica* (HERRICH-SCHÄFFER, [1854])**

**Material examined:** 1♂, *Castnia cacica*, Rio Magdalena, Alpe, Cauca Tal [Cauca valley], Colombia.

**Comments:** The species *A. cacica* includes three subspecies distributed from Guatemala to Ecuador (LAMAS 1995). The nominate subspecies is found around the mid Magdalena River area and all the way down to the Cauca Valley region, where some phenotypical variations might occur (SALAZAR 1999). Unfortunately, not much is known about the natural history of the species and its subspecies due to lack of enough material with adequate data (MILLER 1986, MILLER & SOURAKOV 2009).

***Imara pallasia* (ESCHSCHOLTZ, 1821) (Fig. 1)**

**Material examined:** 1♀, Santa Catharina, Serra do Mar, Blumenau, [Brasil], 400m Dez. – März, 762; 1♂, *Castnia umbratula*, Santa Caterina, Serro do Mar, 400m, Blumenau, Brasilien.

**Comments:** This is a species restricted to cloud forests of southeastern Brazil where it lives sympatrically with the closely related *Imara satrapes* (KOLLAR) (MILLER 1986, GONZÁLEZ & STÜNNING 2007). MILLER (1986) mentions that the species seems to be a visual mimic of *Parides ascanius* (CRAMER, 1775) (Papilionidae) and researchers have seen it hilltopping with some Nymphalidae species including a couple of *Morpho* spp.

***Imara satrapes* (KOLLAR, 1839) (Fig. 2)**

**Material examined:** 1♀, Pelotas, [Rio Grande do Sul, Brasil], 1.II. [19]52, C. Biezanko leg., *Castnia satrapes* KOHLAR, 1839, C. Biezanko det.; 1♂, Pelotas. [Brasil], 24-1-[19]53, C. Biezanko leg., *Castnia satrapes* KOLLAR, C. Biezanko det.; 1♂, Pelotas, 12/1/1968, R.[io] G.[rande] do Sul, Brasil, C.M. Biezanko leg., *Castnia satrapes* KOLLAR, C. Biezanko det.

**Comments:** The species is also distributed in areas of southern Brazil where it lives sympatrically with *I. pallasia*, however, some populations reach Paraguay and the region of Misiones, Argentina (GONZÁLEZ & STÜNNING 2007, PENCO 2011, RÍOS & GONZÁLEZ 2011). From November to February it has been observed flying from the noon hours until around 3 p.m. (BIEZANKO 1961a, PENCO 2011, RÍOS & GONZÁLEZ 2011). The species is known to

feed on terrestrial and epiphytic bromeliads (Bromeliaceae) along its geographic range (BIEZANKO 1961b, MILLER 1986, PENCO 2011, RÍOS & GONZÁLEZ 2011). Interestingly enough, the three specimens at ISEA PAS were collected, as well as those from other species (see below), by the worldwide recognized Polish entomologist Czesław Marian Bieżanko (1895–1986) who appears to have kept close contact with the Museum.

### *Synpalamides amycus meditrina* (HOPFFER, 1856) (Fig. 3)

**Material examined:** 1♂, Rio [de] Janeiro, [Brasil], 763.

**Comments:** Beautiful diurnal small species that flies in a fashion that resembles that of certain Hesperiidæ (MILLER 1986). While the nominate subspecies is distributed in northern South America, including the island of Trinidad (LATHY 1923, 1925, GONZÁLEZ & FERNÁNDEZ YÉPEZ 1993, GONZÁLEZ 1999, GONZÁLEZ & COCK 2004), *S. amycus meditrina*, originally described from Rio de Janeiro, is commonly found in southeastern Brazil and have been also collected in Argentina (MILLER 1986, GONZÁLEZ *et al.* 2010, PENCO 2011). The specimen at ISEA PAS fits perfectly the specimen of “*Castnia amycus f. tristicula*” illustrated by STRAND (1913), which was synonymized as subspecies *meditrina* by LAMAS (1995).

### *Synpalamides fabricii* (SWAINSON, 1823) (Fig. 4)

**Material examined:** 1♂, *Castnia boisduvali/beskei* R.[io] d.[e] Janeiro, [Brasil]; 1♂, Rio [de] Janeiro, [Brasil], 761.

**Comments:** A highly variable species distributed in areas of Atlantic forest of south/southeast Brazil, from the states of Bahia and Goiás, down to Rio Grande do Sul (MORAES *et al.* 2010). Not much is known of its natural history, but larvae have been reported foraging in *Tillandsia aeranthos* (LOISEL.) L.B. SM. (Bromeliaceae) and pupae have been recovered from the ground at the base of trees covered with other epiphytic bromeliads (ENSLER 1920, BIEZANKO 1961b, MILLER 1986). Imagoes emerge mainly from December to February but could even reach April, with flight periods commonly from 1 p.m to 3 p.m. (BIEZANKO 1961b, MILLER 1986). Their flight pattern resembles that of some Sphingidae, moving around trees (MILLER 1986). They perch high above ground (12 to 15 meters) in the typical stegopterous position (MILLER 1986).

### *Synpalamides phalaris* (FABRICIUS, 1793) (Fig. 5)

**Material examined:** 1♀, Itabuna, Bahia, Brasil, I. [19]67, V. Becker leg.

**Comments:** This is a species highly variable phenotypically (MILLER 1986). The specimen at the Museum is particularly small (Fig. 5). Most known specimens come from southeastern Brazil, but the species has also been recorded from other regions of Brazil, as well as Bolivia, Uruguay, Paraguay, Argentina, Trinidad, French Guiana and Venezuela (GONZÁLEZ & WORTHY 2017). Little is known about the life history of the species, but females have been observed laying eggs in bromeliads of the genera *Guzmania* and *Bromelia* (Bromeliaceae) (MILLER 1986). The species have also been associated with pineapple (Bromeliaceae) and bananas (Musaceae) (JØRGENSEN 1930, PENCO 2011, RÍOS & GONZÁLEZ 2011). It is probably bivoltine since it flies from October to November and January to February in Brazil and Paraguay (BIEZANKO 1961b, MILLER 1986, RÍOS & GONZÁLEZ 2011). They seem to fly from 10 a.m. to the noon at around 8 – 15 meters above the ground and their fluttery pattern resembles that of certain Satyrinae (Nymphalidae) (MILLER 1986).

***Yagra fonscolombe*** (GODART, 1824) (Fig. 6)

**Material examined:** 1♂, Itabuna, Bahia, Brasil, V., I. [19]57, Becker leg., *Castnia fonscolombe* GODART, V. Becker det.

**Comments:** Together with some species of economic importance, this species is frequently found in long series in collections worldwide (MORAES *et al.* 2011). Unfortunately, not much is known about the biology and natural history of this species that is commonly collected in South-Southeast Brasil and Argentina (MORAES *et al.* 2011). They flight at around 7 – 12 meters above ground in a weak pattern, similar to species of *Caligo* (Nymphalidae) mainly at noon in overcast days (MILLER 1986). During the flight at that altitude they also perch with head upright in the stegopterous position on trees with grayish bark (MILLER 1986).

***Castnia invaria penelope*** SCHAUFUSS, 1870

**Material examined:** 1♂, Manaus, Amazonas, [Brasil].

**Comments:** This subspecies seems to be widely spread in Brazil, south of the River Amazon, reaching Bolivia, Paraguay and Argentina (GONZÁLEZ & STÜNING 2007). It is a frequent associate of pineapples [*Ananas comosus* (L.) MERR.] and other terrestrial Bromeliaceae along its geographic distribution (MILLER 1986, PASTRANA 2004, GONZÁLEZ & STÜNING 2007).

***Telchin atymnius atymnius*** (DALMAN, 1824)

**Material examined:** 1♀, No Data.

**Comments:** This is a subspecies commonly found in eastern-southeastern Brazil and is a known pest of bananas (*Musa* spp.: Musaceae) (GONZÁLEZ & STÜNING 2007). Unfortunately the specimen in the ISEA PAS museum has no labels and we just assume it came from Brazil.

***Telchin diva chiriquiensis*** (STRAND, 1913)

**Material examined:** 1♂, *Castnia diva*, Brasilien, 995.

**Comments:** Recently placed in the genus *Telchin*, this is a beautiful species distributed in eastern Mexico, Central America, and northwestern South America (Colombia and Ecuador) (STRAND 1913, MILLER 1986, VINCIGUERRA 2010, MORAES & DUARTE 2014, GONZÁLEZ *et al.* 2017). The subspecies *chiriquiensis* is typically found in Panama, thus it seems strange that this specimen has a label stating that it came from Brazil since the species (and subspecies) is not known from that country. A specimen of the same subspecies supposedly from Brazil can be found in the Strecker Collection (Field Museum of Natural History, Chicago) which was sold or traded by the German entomologist and dealer Otto Staudinger (1830-1900) to the American Herman Strecker (1836-1901) (GONZÁLEZ *et al.* 2010). In this case, as in that of the Strecker collection, we believe the specimen was mislabeled.

***Telchin licus*** (DRURY, 1773)

**Material examined:** 1♂, Tingo Maria, Peru 4.IV.1987, Les M.J. Kopeć; 1♂, Peru, Iquitos, 16.01.1980., leg. Maciej Kopeć.

**Comments:** A highly variable species known to attack bananas (*Musa* spp.: Musaceae) and heliconia plants (Heliconiaceae) but also recognized as an important pest of sugarcane

(*Saccharum officinarum* L.: Poaceae) (GONZÁLEZ & COCK 2004, GONZÁLEZ & STÜNING 2007). The taxonomy of its several subspecies is confusing, and studies have been done to try to clarify it, even though more details are needed to establish the taxonomy of the group (MORAES & DUARTE 2009, SILVA-BRANDAO *et al.* 2013).

### Gazerini HOULBERT, 1918

#### *Prometheus heliconioides dodona* (H. DRUCE, 1896) (Fig. 7)

**Material examined:** 1♀, Iquitos, Omaguas, [Loreto, Peru], 150 m, 262, linus Cr.

**Comments:** Not much is known about the natural history of this species and its subspecies.

This subspecies is found in certain areas of Ecuador and Peru (LAMAS 1995, MILLER 1986, 1995). The different subspecies seem to be part of mimetic circles that include butterflies such as *Ituna*, *Methona* and *Thyridia* (Nymphalidae) and the moth *Notophyson heliconides* (SWAINSON, 1833) (Arctiidae) (MILLER 1986). The species appears to be bivoltine, they are not frequent flyers but do so any time of the day if disturbed (MILLER 1986).

#### *Prometheus cochrus* (FABRICIUS, 1787) (Fig. 8)

**Material examined:** 1♀, pelotas, [Rio Grande do Sul, Brasil], 19-1-52, C. Biezanko leg., *Castnia garbei* FOETTERLE, 1902, C. Biezanko det.

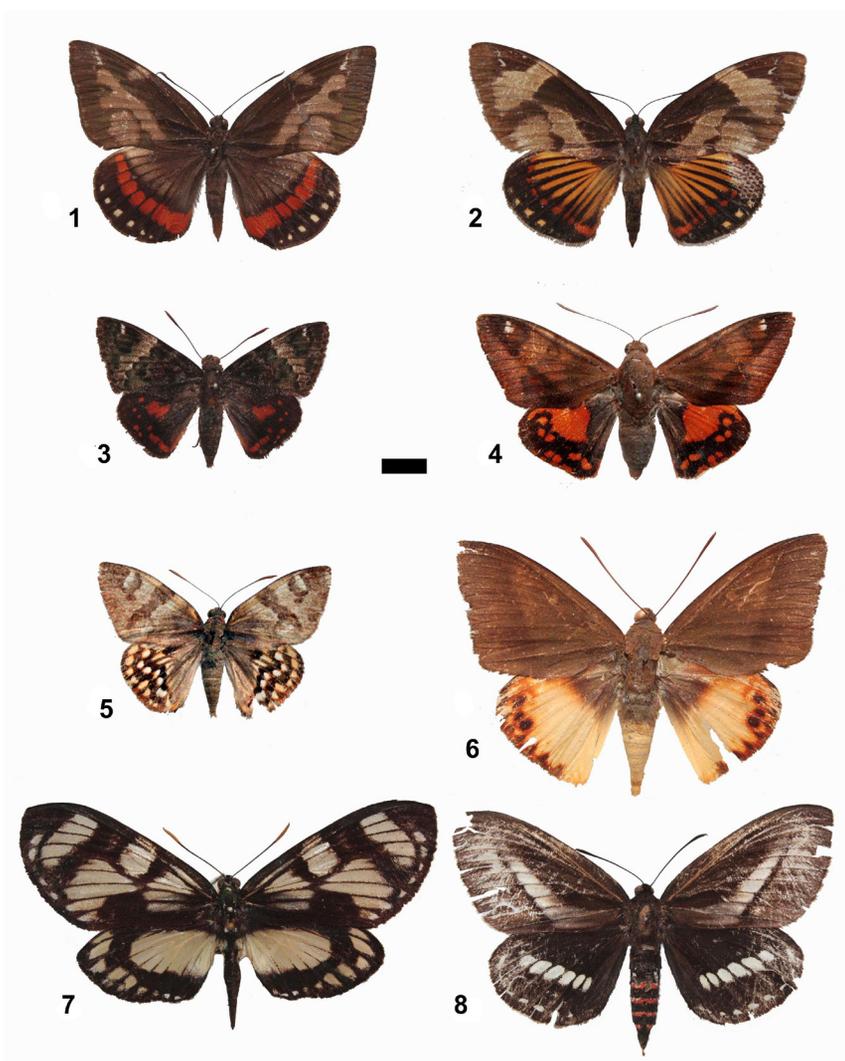
**Comments:** Resembling some neotropical papilios mainly in the genus *Parides* (Papilionidae), this species seems to be restricted to southeastern Brazil (MILLER 1986). Their larvae attack several Bromeliaceae in the genera *Bromelia* and *Tillandsia* (BIEZANKO 1961a). BIEZANKO (1961a) also mentions that the species feeds on pineapple (*Ananas sativus* SCHULT. & SCHULT.: Bromeliaceae), but attempts to rear a few first instar larvae on another *Ananas* sp. proved to be unsuccessful (MILLER 1986).

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### REFERENCES

- BIEZANKO C.M. 1961a. Castniidae, Zygaenidae, Dalceridae, Eucleidae, Megalopygidae, Cossidae et Hepialidae da Zona Sueste do Rio Grande do Sul. *Arquivos de Entomologia, Escola de Agronomia "Eliseu Maciel"* (Pelotas) (A) 14: 1–12.
- BIEZANKO C.M. 1961b. Castniidae, Zygaenidae, Dalceridae, Eucleidae, Megalopygidae, Cossidae et Hepialidae da Zona Missioneira do Rio Grande do Sul. *Arquivos de Entomologia, Escola de Agronomia "Eliseu Maciel"* (Pelotas) (B) 14: 1–12.
- BENELUZ F., GALLARD J.Y. 2012. Les Castniidae de Guyane Française (Lepidoptera: Castniidae). In: LACOMME D. & MANIL L. (Eds.), *Lépidoptères de Guyane - Tome 6: Castniidae, Erebidae (Letis), Saturniidae (Eacles)*: 14–38
- DOMAGALA P., LARYSZ A., DOBOSZ R., GONZÁLEZ J.M. 2015. *Urania sloanus* (CRAMER, 1779), an extinct species in the collection of the Upper Silesian Museum (Muzeum Górnośląskie), Bytom, Poland (Lepidoptera: Uraniidae). *SHILAP Revista de Lepidopterologia* 43(171): 455–460.



Figs 1–8: 1. Female *Imara pallasia* (ESCHSCHOLTZ, 1821), Santa Catarina, Brazil; 2. Female *Imara satrapes* (KOLLAR, 1839), Rio Grande do Sul, Brazil; 3. Male *Synpalamides amycus meditrina* (HOPFFER, 1856), Rio de Janeiro, Brazil; 4. *Synpalamides fabricii* (SWAINSON, 1823), Rio de Janeiro, Brazil; 5. Female *Synpalamides phalaris* (FABRICIUS, 1793), Bahia, Brazil; 6. Male *Yagra fonscolombe* (GODART, 1824), Bahia, Brazil; 7. Female *Prometheus heliconioides dodona* (H. DRUCE, 1896), Loreto, Peru; 8. Female *Prometheus cochrus* (FABRICIUS, 1787), Rio Grande do Sul, Brazil (scale bar = 1 cm).

Ryc. 1–8. 1. Samica *Imara pallasia* (ESCHSCHOLTZ, 1821), Santa Catarina, Brazylia; 2. Samica *Imara satrapes* (KOLLAR, 1839), Rio Grande do Sul, Brazylia; 3. Samiec *Synpalamides amycus meditrina* (HOPFFER, 1856), Rio de Janeiro, Brazylia; 4. *Synpalamides fabricii* (SWAINSON, 1823), Rio de Janeiro, Brazylia; 5. Samica *Synpalamides phalaris* (FABRICIUS, 1793), Bahia, Brazylia; 6. Samiec *Yagra fonscolombe* (GODART, 1824), Bahia, Brazylia; 7. Samica *Prometheus heliconioides dodona* (H. DRUCE, 1896), Loreto, Peru; 8. Samica *Prometheus cochrus* (FABRICIUS, 1787), Rio Grande do Sul, Brazylia (skala = 1 cm).

- ENSLÉN C. 1920. A biologia das Castniidae: *garbei* e *boisduvalii* (*beskei*). *Revista do Centro de Cultura Científica* 3: 39–41.
- GONZÁLEZ J.M. 1999. Castniinae (Lepidoptera: Castniidae) from Venezuela. III: Genera represented by only one known species. Diagnosis and comments. *Ciencia (Maracaibo)* 7(3): 229–235.
- GONZÁLEZ J.M., COCK M.J.W. 2004. A synopsis of the Castniidae (Lepidoptera) of Trinidad and Tobago. *Zootaxa* 762: 1–19.
- GONZÁLEZ J.M., BOONE J.H., BRILMYER G.M., LE D. 2010. The Giant Butterfly-moths of the Field Museum of Natural History, Chicago, with notes on the Herman Strecker Collection (Lepidoptera: Castniidae). *SHILAP Revista de Lepidopterología* 38(152): 385–409.
- GONZÁLEZ J.M., FERNÁNDEZ YÉPEZ F. 1993. Lista preliminar de las especies de Castniinae (Lepidoptera: Castniidae) del Parque Nacional “Henri Pittier”, Venezuela. Diagnosis y comentarios. *Memorias de la Sociedad de Ciencias Naturales La Salle* 53: 47–53.
- GONZÁLEZ J.M., DOMAGALA P., LARYSZ A. 2013a. The Giant Butterfly-Moths (Lepidoptera Castniidae) of the Upper Silesian Museum (Muzeum Górnośląskie) in Bytom, Poland, with notes on the history of the Museum. *Biodiversity Journal* 4(1): 219–228.
- GONZÁLEZ J.M., DOMAGALA P., CZADERNA R., WANAT M. 2013b. The Giant Butterfly-moths of the Natural History Museum of Wrocław University, Poland, with comments about Friedrich Wilhelm Niepelt and his insect collection (Lepidoptera: Castniidae). *Genus* 24(3-4): 275–290.
- GONZÁLEZ J.M., STÜNING D. 2007. The Castniinae at the Zoologisches Forschungsmuseum Alexander Koenig, Bonn (Lepidoptera: Castniidae). *Entomologische Zeitschrift* 117(2): 89–93.
- GONZÁLEZ J.M., WORTHY B. 2017. First records of *Synpalamides phalaris* (FABRICIUS) (Lepidoptera: Castniidae) in Venezuela, with comments on its natural history. *CheckList* In Press.
- GONZÁLEZ J.M., ANDRADE-C. M.G., WORTHY B., HERNÁNDEZ-BAZ, F. 2017. Giant butterfly moths of the Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá, Colombia (Lepidoptera: Castniidae). *SHILAP Revista de Lepidopterología* in Press.
- JØRGENSEN P. 1930. Los Castniidae de la Argentina y Paraguay. *Revista de la Sociedad Entomológica Argentina* 3(14): 175–180.
- KOŚCIUSZKO H., PAWŁOWSKI J. 1995. The Institute of systematics and evolution of animals of the Polish Academy of Sciences, 130 years of research tradition. Kraków: Wydawnictwa Instytutu Systematyki i Ewolucji Zwierząt, Polskiej Akademii Nauk: 30 pp.
- KUBIAK H. 2008. The Starunia collections in the Institute of Systematics and Evolution of Animals, Polish Academy of Sciences in Kraków. *Geoturystyka* 4(8): 71–80.
- LAMAS G. 1995. A critical review of J. Y. Miller’s checklist of the Neotropical Castniidae (Lepidoptera). *Revista Peruana de Entomología* 37: 73–87.
- LATHY P.I. 1923. Further notes on the Castniinae in the collection of Madame Gaston Fournier (Lepidoptera). *Annals and Magazine of Natural History* (9)12(68): 223–227.
- LATHY P.I. 1925. The Castniidae (Lepidoptera) of Trinidad and Tobago. *Annals and Magazine of Natural History* (9)16: 242–243.
- MILLER J.Y. 1986. The taxonomy, phylogeny, and zoogeography of the Neotropical Castniinae (Lepidoptera: Castnioidea: Castniidae). Ph.D. Thesis. University of Florida, Gainesville, USA. 571 pp.
- MILLER J.Y. 1995. Castniidae, In: HEPPNER J.B. (Eds.), Checklist: Part 2. Hyblaeoidea-Pyraloidea-Tortricoidea. Atlas of Neotropical Lepidoptera. Gainesville, Association for Tropical Lepidoptera/ Scientific Publishers. Vol. 3: 133–137, 176–177.
- MILLER J.Y., SOURAKOV A. 2009. Some observations on *Amauta cacica procera* (BOISDUVAL) (Castniidae: Castniinae) in Costa Rica. *Tropical Lepidoptera Research* 19(2): 113–114.
- MORAES S.S., DUARTE M. 2009. Morfologia comparada das três espécies do complexo *Telchin licus* (DRURY) (Lepidoptera, Castniidae) com uma sinonímia. *Revista Brasileira de Entomologia* 53: 245–265.
- MORAES S.S., DUARTE M. 2014. Phylogeny of Neotropical Castniinae (Lepidoptera: Cossioidea: Castniidae): testing the hypothesis of the mimics as a monophyletic group and implications for the arrangement of the genera. *Zoological Journal of the Linnean Society* 170(2): 362–399.
- MORAES S.S., DUARTE M., GONZÁLEZ J.M. 2010. Revision of *Hista* Oiticica (Lepidoptera: Castniidae) and discussion of the validity of its subspecies. *Zootaxa* 2421: 1–27.
- MORAES S.S., DUARTE M., MILLER J.Y. 2011. Revision of the Neotropical genus *Yagra* Oiticica (Lepidoptera: Castniidae). *Journal of Natural History* 45(25-26): 1511–1531

- PASTRANA J. 2004. Los Lepidópteros Argentinos. Sus plantas hospedadoras y otros sustratos alimenticios. USDA-Sociedad Entomológica Argentina, Argentina. 334 pp.
- PENCO F.C. 2011. Lepidoptera Argentina. Catálogo ilustrado y comentado de las mariposas de Argentina. Parte I; Castniidae: 41 pp. Author, Morón.
- RAZOWSKI J. 2000. The Institute of Systematics and Evolution of animals, of the Polish Academy of Sciences in Kraków, Poland. *Holartic Lepidoptera* 7(1): 1–4.
- RÍOS S.D., GONZÁLEZ J.M. 2011. A synopsis of the Castniidae (Lepidoptera) of Paraguay. *Zootaxa* 3055: 43–61.
- SALAZAR J.A. 1999. Datos de recolección para 16 especies de Castnidos colombianos (Lepidoptera, Castniidae). *Boletín Científico Museo de Historia Natural, Universidad de Caldas* 3: 43–51.
- SILVA-BRANDÃO K.L., ALMEIDA L.C., MORAES S.S., CÔNSOLI F.L. 2013. Using population genetic methods to identify the origin of an invasive population and to diagnose cryptic subspecies of *Telchin licus* (Lepidoptera: Castniidae). *Bulletin of the Entomological Research* 103: 89–97.
- STRAND E. 1913. Gattung: *Castnia* F., In: A. SEITZ (Eds.), Die Gross-Schmetterlinge der Erde, 6(1), A. Kernen, Stuttgart: 7–17.
- ŚWIECIMSKI J. 1966. Analytical considerations on the development of expositions in the Cracow Natural History Museum. *Przegląd zoologiczny* 10: 339–349.
- ŚWIECIMSKI J. 1989. The development of expositions in the Cracow Natural History Museum: a retrospective from the eighties. *Przegląd zoologiczny* 33: 305–324.
- VINCIGUERRA R. 2010. Observazioni sulla distribuzione di *Divana diva hoppi* (HERING, 1923) (Lepidoptera: Castniidae). *SHILAP Revista de Lepidopterologia* 38: 379–383.

## STRESZCZENIE

### **Castniidae (Lepidoptera) w zbiorach Muzeum Przyrodniczego Instytutu Systematyki i Ewolucji Zwierząt Polskiej Akademii Nauk w Krakowie**

Praca zawiera informacje na temat przedstawicieli rodziny Castniidae znajdujących się w zbiorach Muzeum Przyrodniczego Instytutu Systematyki i Ewolucji Zwierząt Polskiej Akademii Nauk w Krakowie. Łącznie w kolekcji odnaleziono 17 okazów należących do 14 gatunków i podgatunków tej rodziny. Dla każdego z tych taksonów przedstawiono uwagi na temat rozmieszczenia oraz biologii.

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