

**CASTNIINAE (LEPIDOPTERA: CASTNIIDAE)
FROM VENEZUELA. V: *Castnia* FABRICIUS
AND *Telchin* HÜBNER**

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Abstract. Information is given for three species of Castniinae (Lepidoptera: Castniidae) found in Venezuela: *Castnia fernandezi*, *Castnia invaria penelope* and *Telchin licus*. Clarifying notes on the genera *Telchin* and *Castnia* are provided. Both genera are widely found in Venezuela and contain species that are pests on three major crops.

Key words: Lepidoptera, Castniidae, *Castnia*, *Telchin*, pests, Venezuela.

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Resumen. Se presenta información sobre tres especies de Castniinae (Lepidoptera: Castniidae) que se encuentran en Venezuela (*Castnia fernandezi*, *Castnia invaria penelope* y *Telchin licus*). Se incluyen notas aclaratorias sobre los géneros *Telchin* y *Castnia*. Ambos géneros se encuentran ampliamente distribuidos en Venezuela y contienen especies que son plagas de tres cultivos de importancia.

Palabras clave: Lepidoptera, Castniidae, *Castnia*, *Telchin*, plagas, Venezuela.

Recibido: 14 Junio 2002 / Aceptado: 18 Diciembre 2003
Received: 14 June 2002 / Accepted: 18 December 2003

INTRODUCTION

Although the diurnal or crepuscular moths of the Castniinae (Lepidoptera: Castniidae) include some well known pests on important crops and ornamental plants (González 1981, Miller 1986, González and Fernández Yépez 1993, Lamas 1993,) the limited taxonomic and biological knowledge, and scarcity of specimens in collections worldwide has led many researchers to name and describe many forms and subspecies. Not even pests species have escaped from this problem, adding to the general confusion recognized in this subfamily (Miller 1986, González 1996). This led authors to mention most species under *Castnia* s.l. (Miller 1972, González 1981, González 1996, González 1999). A better knowledge of more appropriate names and relationships between genera became possible after the works of Miller (1986,1995) and Lamas (1995). This paper presents information about the genera *Castnia* and *Telchin*. The two genera are widely found in Venezuela and contain two well-known species that are pests of three major Venezuelan crops.

MATERIALS AND METHODS

The information presented here comes from the study of species in the wild, as well as specimens in private and public collections. The following collections in Venezuela were examined: Museo del Instituto de Zoología Agrícola of the UCV (Aragua), Facultad de Agronomía UCLA (Lara), Museo La Salle (Distrito Metropolitano), Museo de Ciencias Naturales (Distrito Metropolitano), Mattei Family (Amazonas), Mrs. Gadou (Aragua), Romero Family (Aragua), J.C. De Sousa (Lara), Manrique family (Táchira, now in Mérida). The USA collections were: Cornell University (Ithaca, N.Y.) and American Museum of Natural History (A.M.N.H.) (New York, N.Y.) were also examined. Generic assignments are based on Lamas (1995) and González (1996) and the subspecies treatment of *Telchin licus* follows that of Miller (1986, 1995).

***Castnia* Fabricius, 1807**

Castinia Rafinesque, 1815

Acacerus Billberg, 1820

Elina Houlbert, 1918

Castnia fernandezi González, 1992 (Figures 1, 4a)

Diagnosis: Forewing length: 38-40 mm. Small to mid-sized moth. Dark brown dorsally with green hues. A cream band, located at 1/3 of the wing base, extends from the costal margin to the inner angle, but stops in the middle of the wing near M_1 and M_2 . Another cream band, in the sub apical area extends from the costal margin to the lateral margin, but ends when it touches M_1 . A third, sinuous, light brown band starts at the anal lobe, close to the wing base, extends to the middle of the wing where it spreads and goes to the inner angle without touching it. Dorsal part of hindwing with orange base (the first third of the wing); rest of wing is dark brown. There is an extradiscal band of orange spots, as well as two other pale orange spots (a larger one located between M_1 and M_3 , and a smaller one below M_3).



FIGURE 1. *Castnia fernandezi* González. Dorsal view of male Holotype.

Distribution: The Holotype, two paratypes and three other specimens are known, all from Amazonas State, Venezuela.

Comments: Little is known about this species and the only known specimens were collected in flight close to noon. The Holotype and paratypes were collected at the top of cerro Aracamuni, and the other three known specimens were collected in Puerto Ayacucho. During larval stages, most species in the genus *Castnia* are normally associated with Bromeliaceae (Miller 1986), so it is possible that *C. fernandezi* uses some species of this family (found around the main camp in Aracamuni.-A. Michelangeli, pers. comm.) as hosts. Female are very similar to males in color pattern, but larger in size. One males collected in Puerto Ayacucho is a melanic form so all wing coloring is lacking. Host plant and other biology information about this species are unknown. González (1992) gives a complete description of the morphology and genitalia of this species.

Material examined: 3 ♂♂, Territorio Federal Amazonas, Arakamuni Norte, 1° 32' N, 65° 49' W, 1415 m, 24-30-X-1987, Expedición Terramar; 2 ♂♂, 1 ♀, Pto. Ayacucho, Amazonas, IX-1994, Col. Mattei.

Castnia invaria penelope Schaufuss, 1870 (Figures 2, 4b)

Diagnosis: Forewing length: 62-80 mm. Mid sized moth; grayish brown dorsally with blue-green hues. Hindwing with two parallel whitish bands that extend from the costal margin toward the inner angle (the lower band) or the anal margin (the upper band). A third, shorter and thinner, apical band extends from the costal margin to the inner angle, but ends half way before touching the superior parallel band. Hindwing reddish with a grayish-brown base and two black or dark brown bands that form two extradiscal bands of reddish spots (Figure 2).

Distribution: It is found in the Amazon and Orinoco basin, from Venezuela to the Guianas and southward to Paraguay and Chile



FIGURE 2. *Castnia invaria penelope* Schaufuss. Dorsal view of female.

(Miller 1986). The species is commonly found throughout Venezuela, attacking various terrestrial Bromeliaceae.

Comments: This species is widely known in Venezuela as *Castnia icarus*, and more recently as *Castnia penelope* (González and Fernández Yépez 1993, Bastidas and Zavala 1995) or *C. p. penelope* (Osuna 2000). It is an occasional pest in Pineapple (*Ananas* spp.), and can also be found in wild terrestrial Bromeliaceae (Miller 1986, González and Fernández Yépez 1993, Orellana and Erazo 1999). According to several collectors, this species has been collected during daylight hours, mainly from mid morning to noon. It flies very rapidly between plants, making it difficult to collect. Some color and pattern variations occur. Leading some authors to describe different species, subspecies and forms. Lamas (1995) gives a complete account of synonyms.

Material examined: 1 ♂, Suapure, Caura river, Venezuela, 1899, Col. E.A. Klages; 1 ♂, Margarita Island, Venezuela, 20-II-1917, C.U. Lot 259; 1 ♂, Güigüe, Carabobo, ex-larva en piña, 20-VI-1950, P. Guagliumi; 2 ♂♂, 4 ♀♀, *idem*, 22-VI-1950; 3 ♂♂, Bejuma, Carabobo, 18-VII-1951, ex-larva en piña, F. Fernández

Yépez; 1 ♂, Sabana de Guacuco, Nueva Esparta, 21-VIII-1953, Exp. La Salle; 1 ♂, El Limón, Aragua, 450 m, 22-II-1954, R. Bandres; 1 ♂, 1 ♀, cerca Puerto La Cruz, Anzoategui, 11-VII-1959, en Bromeliaceae, C.J. Rosales; 1 ♂, Campo Experimental, Barquisimeto, Lara, 28-II-1961, Col. R. Gil Páez; 1 ♂, El Limón, Aragua, 17-VI-1964, ex larva en piña, Col. F. Fernández Yépez; 1 ♂, Cata, Aragua, 26-VI-1964, C. Marín; 1 ♂, Maracay, Aragua, 450 m, 26-III-1966, Col. A. Moro; 1 ♀, El Limón, Aragua, 4-VIII-1971, Col. A. Martínez; 1 ♀, Boquerón, Tabasca, Monagas, 27-V-1974, V. Vargas; 1 ♂, cerca Maturín, Monagas, en plantación de piña, 19-VIII-1978, J.M. González; 1 ♀, Portachuelo, Rancho Grande, Aragua, 28-V-1980, J. Clavijo y A. Chacón; 1 ♂, La Entrada, Las Trincheras, Carabobo, 23-XII-1980, L.D. Otero.

***Telchin* Hübner, 1825**

Castnia Illiger, 1807

Graya Buchecker, 1880

Castnia (*Leucocastnia*) Houlbert, 1918

Telchin licus (Drury, 1773) (Figure 3, 4c)

Diagnosis: Forewing length: 64-80 mm. Mid-sized moth. Dark brown with bluish or greenish hues. A whitish-cream transverse band and an apical whitish spotted band are present in the forewing. This last one is evident in females but almost unnoticeable in most males. Hindwing dark brown with a whitish-cream secondary postmedian band, narrower toward the costal margin, but wider toward the inner angle. A spotted band along the lateral margin is normally present. The spots are red or reddish with the middle spots larger in size.

Distribution: It is found in most of South America from Colombia, Venezuela and the Guianas, throughout the Amazon basin in Brasil and Perú. In Venezuela it is found in most parts of the country, normally associated with Musaceae.



FIGURE 3. *Telchin licus* Drury. Dorsal view of female.

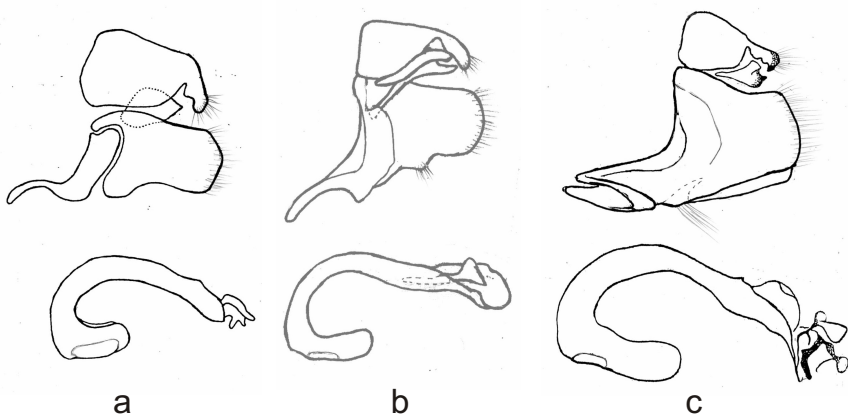


FIGURE 4. Male genitalia of: a. *Castnia fernandezi*; b. *Castnia invaria penelope*; c. *Telchin licus*. Genital capsule is shown on top, aedeagus on bottom (not to scale when species are compared).

Comments: This is possibly the most common species of this family in collections, and many subspecies and forms have been described. It has been commonly known as *Castnia licus* (Drury), *Castnia licoides* (Boisduval), *Castnia* complex *licus/licoides*,

Castniomera licus licus (Drury) (Miller 1986, González and Fernández Yépez 1993, Bastidas and Zavala 1995, Lamas 1995, Miller 1995).

The generic name *Telchin* used by Hübner was ignored by most authors but it is the oldest available to designate for *Papilio licus* Drury (Lamas 1995). This is a genus more closely related to *Castniomera* than to *Castnia*, but I have placed it in this note to clarify confusions. Lamas (1995) thinks that *T. licus* and *Castniomera atymnius* are probably conspecific. It is also closely related to *Erythrocastnia syphax* and even though their coloration patterns are different, their genitalia are somewhat similar, which led Miller (1986, 1995) to place them in the same genus.

Three supposed “forms” or “subspecies” can be found in Venezuela [*T. l. licus* (Drury), *T. l. licoidella* (Strand) and *T. l. pauperata* (Strand) (Lamas 1995)]. Strand (1913) briefly described *T. l. licoidella* as “most easily distinguished by the different markings on the forewing.” and provides a figure, and also described *T. l. pauperata* by mentioning that it is “otherwise like *licoidella*, but has only two distinct reddish yellow spots on the hindwing (in cellules 2 and 3)”. Thanks to this species being a pest, large numbers of specimens can be found in some collections. These later “forms” or “subspecies” and intermediates between them and the typical *T. licus*, can be found together in many collecting sites, from many different areas in Venezuela and other countries, something not likely to be found if they were indeed subspecies. I believe that those supposed forms (and their intermediates) are just regular “color pattern” variations of the population. Thus, I follow Miller (1986, 1995) by considering them as synonyms of *T. l. licus*.

This species is widely recognized as a pest of sugarcane (*Sacharum officinarum*), bananas and plantains (*Musa* spp.), platanillos (*Heliconia* spp.) and Rattlesnake plants (*Ichnosiphon* spp.) (Moss 1945, Miller 1986, González and Fernández 1993, Bastidas and Zavala 1995).

Material examined: 1 ♂, Suapure, Caura River, 6-IX-1899, E.A. Klages; 1 ♂, *idem*, 29-IX-1899, E.A. Klages; 1 ♂, *idem*, 9-IV-1900, E.A. Klages; 1 ♂, *idem*, 29-IV-1900, E.A. Klages; 1 ♂, *idem*, E.A. Klages; 1 ♂, *idem*, 28-VI-1900, E.A. Klages; 1 ♂, *idem*, 3-VIII-1900, E.A. Klages; 1 ♂, Km. 88, Carretera El Dorado-Sta. Elena, Bolívar, 160 m, 11-VIII-1957; 1 ♂, *idem*, 3-IX-1957, F. Fernández Yépez y C.J. Rosales; 1 ♂, Caño Guayo, Territorio Federal Delta Amacuro, 5-I-1961, R. Lichy y A. Pérez; 1 ♂, Cumanacoa, Sucre, 22-VII-1952, C.J. Rosales y J.R. Requena; 1 ♀, La Vergareña, sur Ciudad Bolívar, Bolívar. 17-VII-1955, ex larva en cambures, P. Fenjyes; 2 ♂♂, 1 ♀, Central Tacarigua, Carabobo, 15-IV-1962, ex larva en Caña de Azucar, P. Guagliumi; 1 ♂, Km. 109, El Dorado-Sta. Elena, Bolívar, 6-IX-1964, P.J. Salinas; 1 ♀, El Pao, Bolívar, 1-VII-1965, M. Gadou; 2 ♂♂, El Pao, 7-IX-1966, M. Gadou; 1 ♂, Km. 125, El Dorado-Sta. Elena, Bolívar, 24-IX-1967, C.J. Rosales y M. Gélvez; 5 ♂♂, Km. 88, El Dorado-Sta. Elena, Bolívar, 26-IX-1967, C.J. Rosales y M. Gélvez; 1 ♂, El Pao, IV-1968, M. Gadou; 1 ♂, Caracas, Distrito Federal, 2-IX-1968, A. Fernández Y.; 1 ♂, *idem*, 26-IX-1968, A. Fernández Y.; 1 ♂, El Encanto, cerca Los Teques, Miranda, 9-X-1968, C.J. Rosales y A. Montagne; 4 ♂♂, 1 ♀, Reserva Forestal Caparo, Campamento Cachicamos, Barinas, 100 m., 6-14-VIII-1969, J. Salcedo y F. Zambrano; 1 ♀, Km. 84, El Dorado-Sta. Elena, Bolívar, IX-1971, M. Gadou; 2 ♂♂, La Morita, Táchira, 300 m, 8-14-IV-1972, A. D'Ascoli y A. Montagne; 1 ♂, La Morita, Táchira, 300 m., 13-17-V-1972, J. Salcedo y A. Fernández B., 3 ♂♂, carretera Caicara-San Juan de Manapiare, Bolívar, 21-30-XII-1973, J.L. García; 1 ♂, El Bochínche, reserva Forestal Imataca, Bolívar, 500 m. 13-17-XII-1974, Expedición I.Z.A., U.C.V.; 1 ♀, La Florida, Caracas, Distrito Federal, 7-II-1975, R. de Armas; 1 ♀, Salto Pará, Río Caura, Bolívar, 250 m., 20-22-XI-1978, A. Chacón; 2 ♂♂, Anacoco, Bolívar, 60 m., 10-30-VIII-1979, Expedición La Salle; 1 ♀, El Blanquito, Sanare, Lara, 23-IX-1980, A. Escalona; 1 ♂, Río Caura, Salto Pará, Bolívar, 250 m., 8-10-XI-1980, J. Clavijo; 2 ♂♂, Río Negro, Táchira, 11-13-XII-1980, J. Clavijo y A. Chacón; 1 ♂, Río Frío, Táchira, 11-13-XII-1980, J. Clavijo y A.

Chacón; 1 ♂, Quebrada Guatopo, Parque Nacional Guatopo, Guárico, 28-XII-1980, J.B. Rodríguez; 1 ♂, Chorro del Indio, San Cristóbal, Táchira, IX-1981, R. y G. Manrique; 11 ♂♂, 1 ♀, Río Frío, Táchira, 2-10-IX-1981, F. Fernández Yépez, J. Clavijo y A. Chacón; 2 ♂♂, Cumaquito, Río Siapa, T.F.A. 180 m, 13-X-1987, Expedición Terramar; 1 ♂, San Carlos de Río Negro, T.F.A., XI-1987, Expedición Terramar; 1 ♂, Duicha, cr. Culebra, 20-30-X1988, sobre plantas de Cambur, J.M. González; 1 ♂, Conuco cr. Campamento Yutaje, Amazonas, Venezuela, sobre Caña de Azucar, 14-VII-1996, J.M.González; 1 ♂, Río Frío, Táchira, 17-X-2001, T. Hoare; 1 ♂, *idem*, 20-X-2001, T. Hoare.

ACKNOWLEDGEMENTS

I am grateful to the owners and personnel for allowing access to their collections and to David Jenkins for comments on the manuscript.

REFERENCES

- BASTIDAS P. R. and Y. ZAVALA G. 1995. Principios de Entomología Agrícola. Coro, Ediciones Sol de Barro. 397 pp.
- GONZÁLEZ, J.M. 1981. Contribución al estudio de la familia Castniidae (Lepidoptera) en Venezuela (Trabajo Especial de Grado), Universidad Central de Venezuela, Maracay, Venezuela. 55 pp.
- GONZÁLEZ J.M. 1992. Descripción de una nueva especie del género *Castnia* (Lepidoptera: Castniidae: Castniinae). Mem. Soc. Cienc. Nat. La Salle 42(137): 11-16.
- GONZÁLEZ J.M. 1996. Castniinae (Lepidoptera: Castniidae) de Venezuela, I: Clave para los géneros conocidos en el país. Bol. Mus. Entomol. Valle 4(2): 1-10.
- GONZÁLEZ, J.M. 1999. Castniinae (Lepidoptera: Castniidae) from Venezuela. III: Genera represented by only one known species. Diagnosis and comments. Ciencia 7(3): 220-235.

- GONZÁLEZ J.M. and F. FERNÁNDEZ YÉPEZ. 1993. Lista preliminar de las especies de Castniinae (Lepidoptera: Castniidae) del Parque Nacional "Henri Pittier", Venezuela. *Diagnosis y comentarios*. Mem. Soc. Cienc. Nat. La Salle 53(139): 47-53.
- LAMAS G. 1993. Bibliografía de los Castniidae (Lepidoptera) americanos. *Rev. Per. Entomol.* 35: 13-23.
- LAMAS G. 1995. A critical review of J.Y. Miller's checklist of the Neotropical Castniidae (Lepidoptera). *Rev. Per. Ent.* 37: 73-87.
- MILLER J.Y. 1972. Review of the Central American *Castnia inca* complex (Castniidae). *Bull. Allyn Mus.* (6): 1-13.
- 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, pp. 133-137. In: Heppner, J.B. (Ed.), *Checklist: Part 2. Hyblaeoidea - Pyraloidea - Tortricoidea*. Atlas of Neotropical Lepidoptera, Assoc. Trop. Lepid./ Scient. Pub., Gainesville (USA), pp. 133-137, 176-177.
- MOSS A.M. 1945. The *Castnia* of Pará, with notes on others (Lep. Castniidae). *Proc. Roy. Entomol. Soc. London (B)* 14(3/4): 48-52.
- ORELLANA-B. A.M. and M.C. ERAZO. 1999. *Lepidópteros diurnos (Castnioidea, Papilionoidea, Hesperioidea) del enclave semiárido de Caparú, Lagunillas, Estado Mérida, Venezuela*. Mem. Fund. La Salle Cienc. Nat. 59(152): 121-132.
- OSUNA E. 2000. *Entomología del Parque Nacional Henri Pittier*. Caracas, Fundación Polar. 199 pp.
- STRAND E. 1913. Castniidae, pp 5-19. In: Seitz, A. (Ed.) *The macrolepidoptera of the American Region*. 6. Bombyces and Sphinges. Alfred Kern Verlag, Stuttgart.