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Notes on some *Athis inca* ssp. collected in Mexico (Lepidoptera: Castniidae)

J. M. González, F. Hernández-Baz & R. Vinciguerra

Abstract

Information on two Mexican subspecies of *Athis inca* (*A. inca inca* and *A. inca orizabensis*), as well as a possible natural hybrid of both, is presented.

KEY WORD: Lepidoptera, Castniidae, *Athis inca*, Mexico.

Notas sobre *Athis inca* ssp. colectados en México (Lepidoptera: Castniidae)

Resumen

Se presenta información general sobre dos subespecies de *Athis inca* (*A. inca inca* y *A. inca orizabensis*) de común ocurrencia en México, así como un posible híbrido natural de ambas.

PALABRAS CLAVE: Lepidoptera, Castniidae, *Athis inca*, México.

Note su *Athis inca* ssp. collezionate in Messico (Lepidoptera: Castniidae)

Riassunto

Forniamo informazioni su due sottospecie di *Athis inca* (*A. inca inca* e *A. inca orizabensis*) diffuse in Messico, e di un possibile ibrido naturale di entrambe.

PAROLE CHIAVE: Lepidoptera, Castniidae, *Athis inca*, Messico.

Introduction

Since the appearance of MILLER's (1995) and LAMAS's (1995) checklists interest in the Castniidae has increased. Recent studies have enhanced knowledge of the castniids for certain regions and partially resolved taxonomic confusion in the group (GONZÁLEZ & COCK, 2004; GONZÁLEZ & STÜNNING, 2007; LAMAS, 2004).

About 10-11% of the known taxa of Neotropical Castniidae occur in Mexico (MILLER, 2000) representing 15-16 taxa, of which seven are endemic. Six of those are known to occur in Veracruz (GONZÁLEZ, 2008; HERNÁNDEZ-BAZ & IGLESIAS-ANDREU, 2001; MILLER, 2000). However, this family is poorly represented in collections and its knowledge is incomplete (LAMAS, 1993; VINCIGUERRA, 2008). The best known castniids are those of economic importance (GONZÁLEZ, 1996; GONZÁLEZ & COCK, 2004; LAMAS, 1993).

Data recorded for a few specimens of *Athis inca inca* (Walker, 1854) and *Athis inca orizabensis* (Strand, 1913) collected in Mexico are reported herein.

Material examined

Athis inca inca (Walker, 1854)

1 ♀, Mexico, Veracruz. Soteapan (18 13' N, 94 52' W), 17-V-1986, (F. Hernández-Baz leg.) (Fig. 1a).

Collected at noon on a sunny day inside a butterfly trap with fermented fruit (ripe plantain, sugar and beer) as bait. This specimen bears the label SEMARNAT / CITES / CP-0026-VER / 05 and it is deposited at the Wild Life Specimens Collection in Xalapa, Veracruz, Mexico.

Athis inca orizabensis (Strand, 1913)

1) 1 ♀; Mexico, Veracruz, Emiliano Zapata, Colonia Perseverancia (19 29' N, 96 51' W), 1.199 m. s. n. m., 15-VI-2008 (F. Hernández-Baz leg.) (Fig. 1b).

This specimen was collected around 11:25 - 11:30 a.m. during a partially cloudy day with no strong winds. It had rained during the previous night.

The specimen was flying fast in a circular fashion for about five minutes before landing on the container of a butterfly trap with fermented fruit, where it remained for about three minutes without feeding. It flew from the trap to a nearby creek and landed on a small bush of *Bidens pilosa* L., 1753 (Compositae) where it fed on the flowers and was collected.

The collecting site is an ecotone undergrowth area between a coffee (*Coffea arabica* L.) plantation and a low tropical subcaducifolios forest.

2) 1 ♀, Mexico: Escalantongo, Puebla, VII-2003, Local Coll. In Coll. Vinciguerra (Fig. 1c); 1 ♀, Escalantongo, Puebla, VII-2004, Local Coll. In Coll. Vinciguerra; 1 ♂, La Ceiba, Puebla, VII-2006, Local Coll. In Coll. Vinciguerra; 1 ♂, 1 ♀, Escalantongo, Puebla, VII-2006, Local Coll. In Coll. Vinciguerra; 3 ♀ ♀, Escalantongo, Puebla, VIII-2006, Local Coll. In Coll. Vinciguerra; 1 ♂, 3 ♀ ♀, Escalantongo, Puebla, VII-2007, Local Coll. In Coll. Vinciguerra; 1 ♂, 1 ♀, La Ceiba, Puebla, VIII-2007, Local Coll. In Coll. Vinciguerra.

Athis inca inca / orizabensis (?)

3) 1 ♂, Mexico: Escalantongo, Puebla, VII-2004, Local Coll. In Coll. Vinciguerra (Fig. 1d); 1 ♀, La Ceiba, Puebla, VIII-2006, Local Coll. In Coll. Vinciguerra.

Athis inca inca appears to be the most common and widespread member of the *inca* complex in Mexico (MILLER, 1972). *Athis inca orizabensis* has a more restricted geographical range; although MILLER (1972) recorded it only from the state of Veracruz, specimens studied by one of the authors (JMG) from various Museum collections in USA and Mexico, clearly indicate that it also occurs in Puebla (see above) and Tamaulipas (GONZÁLEZ, 2008).

A combination of characters were stated by MILLER (1972) to separate *Athis inca orizabensis* from *Athis inca inca*. These include the reduction in size of the subapical hyaline spot in R5-M1 on the forewing and also the prominent brown markings outside the transverse postmedian line in M3-Cu1a and Cu1b-Cu2 (compare figures 1a, 1b and 1c). The dark extradiscal spotband on the hindwing is enlarged in *A. inca orizabensis* (Fig 1c) and extends from Rs-M1 to 2A.

Even though the known specimens of *A. inca orizabensis* are variable, most of those in Vinciguerra's collection collected in two locations in Puebla, (only one of them is shown; Fig. 1c) are clearly members of this ssp. However, two specimens collected at the same locations (Fig. 1d) have the forewing brown markings distal to the transverse line somewhat lighter than in typical *orizabensis*. The markings toward the end of the forewing cell are also lighter. These two specimens appear somewhat intermediate to *A. inca inca* and *A. inca orizabensis*. Could this mean that both ssp. (*A. inca inca* and *A. inca orizabensis*) are producing natural hybrids in the field?

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