

# A New US Record for the tropical fruit-piercing moth *Eudocima serpentifera* (Walker, [1858])

by  
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A single specimen of the large noctuidae moth *Eudocima serpentifera* (Walker) (Fig. 1) was captured in an ultra-violet light trap at sec.24T6SR12E, 4.2 mi NE of Abita Springs, Louisiana on October 25, 2006.



Fig. 1. *Eudocima serpentifera* (Walker) a: dorsal view, b. ventral view.

This female appears to be the first reported record for this tropical species in the United States. The type locality of *serpentifera* is the Dominican Republic and Brazil. *E. serpentifera* is significantly larger (wing length: 52 mm) than the other known occasional tropical migrant *Eudocima apta* (Walker, [1858]) (wing length: 45 mm) (Fig.2).

I previously reported on *apta* (Fig. 2) under the name *materna* (Brou, 1994), recording two males and one female specimens taken at ultra-violet light traps at the same Abita Springs, Louisiana study site. Subsequently, I have taken a fourth specimen, a male of *apta* on March 31, 2000 captured at Red Dirt National Wildlife Refuge, Kisatchie National Forest, Natchitoches Parish, Louisiana.

Numerous species of adult *Eudocima* are listed as pests of various fruit species worldwide. Davis, et.al. (2005) reported adult *Eudocima fullonia* Clerck, to feed on economically important fruits as citrus, apple, pear, stone fruits, grape, melon, mango, tomato, papaya, pineapple, and strawberry. *E. fullonia* is a pest species recorded from, Africa, Asia, Oceania, and the Indo-Australian region, including Hawaii and Australia. Davis, et.al. (2005) reported larvae of *fullonia* to feed on foliage of plants in the families Menispermaceae and Fabaceae. Zilli and Hogenes (2002) stated *Eudocima phalonia* (Linnaeus, 1763) comb. n. must be used for the species currently known as *Eudocima fullonia* (Clerck, [1764]) relegated to synonymy.

There appears to be eight species of *Eudocima* Billberg in the new world: *Eudocima anguina* (Schaus), TL [type locality]: Costa Rica; *Eudocima apta* (Walker), TL: Brazil; *Eudocima collusoria* (Cramer), TL: Surinam; *Eudocima colubra* (Schaus), TL: Costa Rica; *Eudocima memorans* (Walker), TL: West Coast of Americas (probably Ecuador); *Eudocima proculus* (Cramer), TL: Surinam; *Eudocima serpentifera* (Walker) TL: Dominican Republic and Brazil, *Eudocima toddi* (Zayas) TL: Cuba. This is quite contrasting to the seven *Eudocima* species reported to occur in northeastern Queensland alone. Davis, et.al. (2005) make note of one specimen of *Eudocima proculus* (Cramer) intercepted in Miami on chrysanthemum originating from Colombia. I question the validity of this determination as I will note later in this article. To the New World *Eudocima* species we can add the Palearctic species, *Eudocima tyrannus* (Guenee), a specimen

captured and released in 2001 from Buldir Island, Aleutian Islands, Alaska, which was reported and illustrated by Kruse (2002).

Walker's (1858) original description of *Ophideres serpentifera* is: "Ferruginous-brown. Abdomen luteous. Forewings with a purplish bloom, with several undulating dark bands, and with a blackish and more complete regular submarginal band; two blackish marks near the base, and a blackish discal patch; the latter is near the interior side of the reniform spot, which is ferruginous, oblong and well defined, and emits a branch in front, a large ferruginous patch by the interior angle; exterior border not denticulated; interior border excavated. Hindwings bright luteous, brown at the base; a somewhat abbreviated serpentine discal black band, and a black border which is abbreviated hindward, and end opposite the band...".

*Eudocima serpentifera* (Walker, [1858]) is well illustrated by Druce, 1890, in Godman and Salvin, "Biologia Central-Americana" (plate 31, figure 14) and also in Seitz, 1919-1944, "Die Grosse Schmetterlinge der Erde" (plate 88, figure a.) In Seitz the figure "a" represents a row on the plate and there are two specimens (two sexes) in each row. The two figures of *serpentifera* were identified incorrectly in Seitz as *Eudocima procus* (Cramer, 1777) (Martin Honey, personal communication).

Plate 88, figure b has two pictures of *apta* (Walker) and these were identified incorrectly by Seitz as *serpentifera*. The left specimen is a male and is an excellent match for my (Fig. 2a) below and the right image of the female matches my (Fig. 2b) below as *apta*. This misidentification of *serpentifera*, *apta*, and *procus* in Seitz has led to much confusion in the identification of these species.

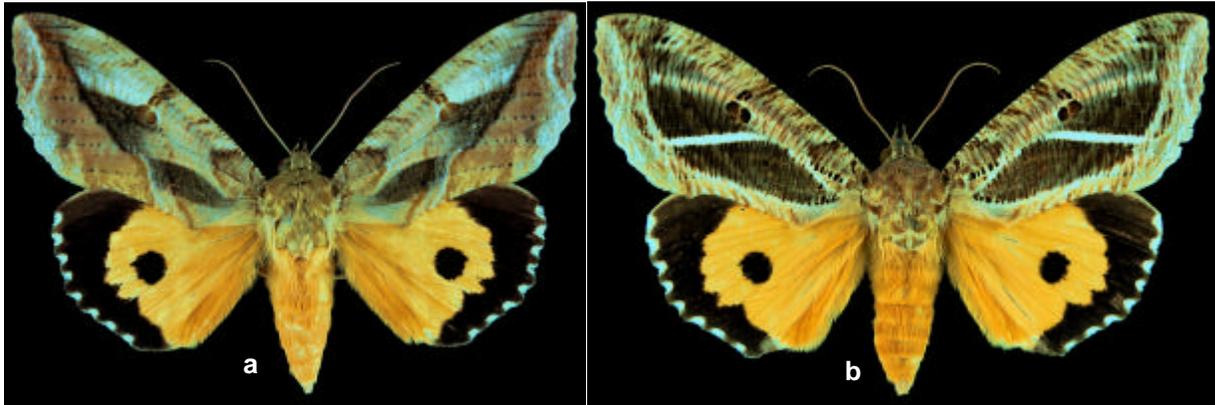


Fig. 2. *Eudocima apta* (Walker) captured at the Abita Springs study site: a. male, b. female.

*Eudocima materna* (Linnaeus) TL: "Indiis" is now regarded as an exclusively Old World species and the New World species is now known as *Eudocima apta* (Walker), including all past US records reported as *materna* (L.) (Zilli and Hogenes 2002). In the past, *materna* was considered to be a pantropical species but these recent findings show that *materna*, described from India, is not the same as the New World species called *apta*.

*Eudocima apta* (Walker, [1858]) = *Eudocima materna* of authors, not Linnaeus, 1767. Previous authors have incorrectly listed *apta* as a synonym of *materna*. *Eudocima materna* (Linnaeus, 1767) is not a synonym of *apta*, but is its Old World counterpart. A simple visual comparison of Old World *materna* (L.) and New World *apta* (Walker) reveals the obvious differences of the two species in both sexes. Zilli and Hogenes (2002) report "*Eudocima apta* (Walker,[1858]) sp. rev. is considered a distinct species from *Eudocima materna* (Linnaeus, 1767)" and they also report genitalic differences between the two species, most notably in the bursa.

In their revisionary work on the genus *Eudocima* Billberg, Zilli and Hogenes (2002) described four new species of *Eudocima*, three from the Philippines and one from New Guinea. These authors basically followed Poole's listing (1989). These authors state "not all species could be studied in detail, noticeably those from Madagascar and some American taxa". Though, these author's did give a detailed discription concerning the confusion of *materna* vs *apta*, and discuss how European workers have long considered the two species to

be distinct, but this view was not accepted by recent American workers Franclemont & Todd (1983) and Poole (1989), who listed *apta* as a synonym of *materna*. They also discuss the visual and genitalic differences

### *Eudocima* Billberg, species according to Zilli &

*anguina* (Schaus, 1911)  
*apta* (Walker, [1858])  
*aurantia* (Moore, 1877)  
*bathyglypta* (A.E.Prout, 1928)  
*behouneki* Zilli & Hogenes, 2002  
*boseae* (Saalmuller, 1880)  
*cajeta* (Cramer, 1775)  
*cocalus* (Cramer, 1777)  
*collusoria* (Cramer, 1777)  
*colubra* (Schaus, 1911)  
*discrepans* (Walker, [1858])  
*divitiosa* (Walker, 1869)  
*euryzona* (Hampson, 1926)  
*formosa* ((Griveaud & Viette, [1962])

*homaena* (Hubner, [1823])  
*hypermnestra* (Stoll, 1780)  
*imperator* (Boisduval, 1833)  
*iridescens* (T.P.Lucas, 1894)  
*jordani* (Holland, 1900)  
*kinabaluensis* (Feige, 1976)  
*kuelni* (Pagenstecher, 1886)  
*materna* (Linnaeus, 1767)  
*mazeii* Zilli & Hogenes, 2002  
*memorans* (Walker, [1858])  
*mionopastea* (Hampson, 1926)  
*muscigera* (Butler, 1881)  
*nigricilia* (A.E.Prout, 1924)  
*okurai* (Okano, 1964)

*paulii* (Robinson, 1968)  
*phalonia* (Linnaeus, 1763)  
*procus* (Cramer, 1777)  
*prolai* Zilli & Hogenes, 2002  
*salaminia* (Cramer, 1777)  
*serpentina* (Walker, [1858])  
*sikhimensis* (Butler, 1895)  
*smaragdipicta* (Walker, [1858])  
*splendida* (Yoshimoto, 1999)  
*srivijayana* (Banziger, 1985)  
*toddi* (Zayas, 1965)  
*treadawayi* Zilli & Hogenes, 2002  
*tyrannus* (Guenee, 1852)

of these two species. One fact which appears to have caused confusion among members of this genus is the sexual dimorphism in many of the species. Zilli and Hogenes (2002) discuss throughout their investigation the discrepancies of author's and literature, including those concerning the species *apta*, *materna* and *serpentina* highlighted in this article. Though these authors did not fully investigate and address all members of the genus, their investigation will greatly aid to the knowledge of this most interesting genus of large and colorful moths and most certainly form a basis for future workers.

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