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## ***Corybantes mathani* (Oberthür) (Lepidoptera: Castniidae), an Addition to the Insect Fauna of Trinidad, West Indies, and a Probable Oviposition on Moriche, *Mauritia flexuosa* (Arecaceae)**

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## NATURE NOTES

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### *Corybantes mathani* (Oberthür) (Lepidoptera: Castniidae), an Addition to the Insect Fauna of Trinidad, West Indies, and a Probable Oviposition on Moriche, *Mauritia flexuosa* (Arecaceae)

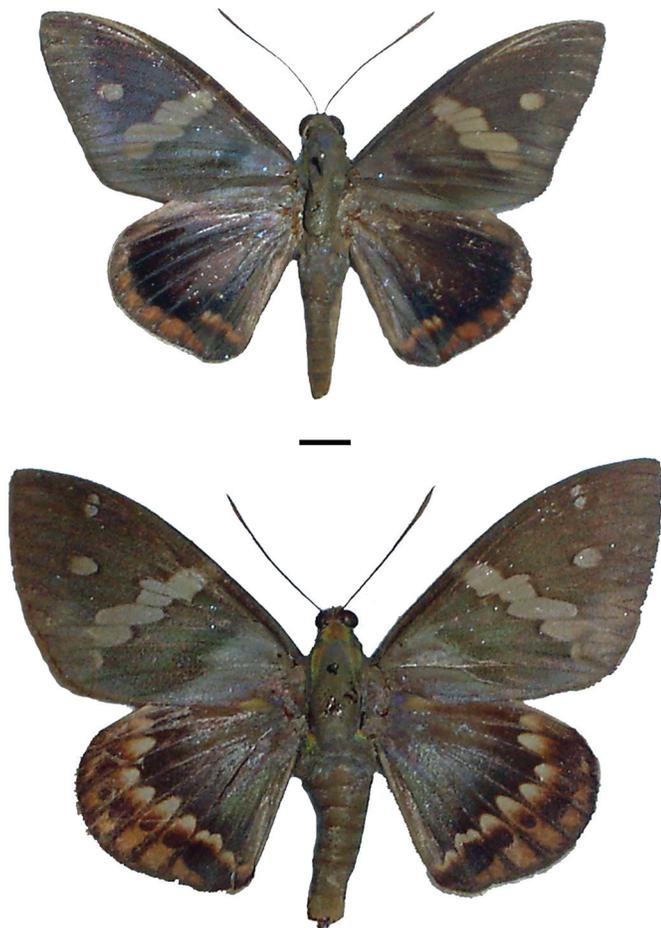
Castniidae is a family of large to very large moths, which mostly fly by day and can be brightly coloured. The Neotropical Castniidae comprises 87 described species in 33 genera (Vinciguerra *et al.* 2011). González and Cock (2004) provide a synopsis of the family in Trinidad and Tobago, reporting 11 species, originally included in nine genera, but now known to be only eight genera, since *Castniomera* Houlbert has been made a synonym of *Telchin* Hübner (Moraes and Duarte 2009). The genus *Corybantes* (Hübner) was not amongst those known from Trinidad and Tobago.

*Corybantes mathani* (Figs. 1, 2) is a rare species found in the Amazon and Orinoco Basins (Houlbert 1918; González 1999). Most known specimens are from Peru,

Brazil, French Guyana and Venezuela (Houlbert 1918; Moss 1945; González 1999). This is the first record from Trinidad. The forewing ground colour is brown with an irregular transverse band that extends from the mid-costa to the anal angle. Hindwing ground colour is also brown and there is a prominent postdiscal spotted band near the margin. The abdomen is slightly longer than the anal margin of the hindwings. There is some sexual dimorphism shown by the size, subtle differences in shading of the forewings, as well as enlargement of spots that form the hindwing postdiscal band in females (Fig. 1).

In Brazil, *C. mathani* is known to fly in February and October, and Venezuelan specimens have been collected in March to May and November (González 1999), thus it appears to be a bivoltine species. It flies from 0900-1200 h, at least one specimen is known to have emerged at 1500 h in the state of Pará, Brazil (Moss 1945; González 1999), while a freshly emerged couple was collected at 1815 h in March, 2006 in Puerto Ayacucho, Amazonas State, Venezuela (R. and R. Mattei, pers. comm. 2011). The caterpillars of other castniids are known to feed internally on a variety of monocotyledonous plants including sugar cane, *Heliconia* spp., bananas, bromeliads, orchids and palms (Moss 1945; González and Cock 2004). Based on circumstantial evidence, Moss (1945) suspected that the host of *C. mathani* could be the spiny palm *Acrocomia aculeata* (Arecaceae) or possibly a lily (Liliaceae), but he could find no proof of the latter when he examined putative food plants (Moss 1945). Most known Venezuelan specimens of *C. mathani* have been collected in the vicinity of either tall trees covered with bromeliads (González 1999) and orchids, or several species of palm trees (R. and R. Mattei, pers. comm. 2011).

Moriche palm *Mauritia flexuosa* is widespread in northern South America, east of the Andes, reaching Trinidad (Henderson *et al.* 1995). It is associated with periodically inundated lowlands in Trinidad, and the largest populations are in the Aripo Savannas – Long Stretch area and Nariva Swamp – with scattered populations in the south-west peninsular (Comeau *et al.* 2003). The branching inflorescences are very large and woody, and individual moriche palms bear either male flowers or female flowers, but not both (Henderson *et al.* 1995; Comeau *et al.* 2003). Each inflorescence consists of a central, primary branch or rachis about 2 m long, which



**Fig. 1.** Adult *Corybantes mathani* from Puerto Ayacucho, Amazonas State, Venezuela. **Top:** male; **Bottom:** female. Scale bar = 10 mm.

supports two rows of pendulous flowering secondary branches more than 1m long (Fig. 3). In the male inflorescence, these branches consist of a long series of small tertiary branches, each bract on the secondary branch enclosing the base of a densely packed tertiary branch of male flowers and the base of the next bract (Fig. 4).

During a visit to the Aripo Savannas, Trinidad on 15 October, 2011, a rather worn female of *Corybantes mathani* (Oberthür) was seen and photographed by MJWC on a moriche palm *Mauritia flexuosa* (Arecaceae) (Fig. 2). The palm was in the KP Quarry section of Aripo Savannas (N10°36.352, W61°12.384) and was rather isolated from the main stands of moriche in that area, and the only one flowering for at least 100 m in all directions.



**Fig. 2.** Adult female *Corybantes mathani*, at rest on dead male inflorescence of moriche palm *Mauritia flexuosa*, Aripo Savannas, 15 October, 2011. **Top:** at 1123 h with head up; **Bottom:** at 1127 h with head down.

The palm (Fig. 3) was about 10 m tall at the crown, and had several young male inflorescences not yet releasing pollen and several old male inflorescences that

were dead, dried and hard. The moth was first seen flying around the base of one of the oldest inflorescences, after which she was kept under observation using binoculars while she rested near the base of one of the most basal secondary branches of the inflorescence (Fig. 3 arrow), moving position slightly at least once during the period she was under observation. She stayed at rest on the inflorescence for a little more than five minutes, based on the time of photographs recorded by the camera from 1122 h to 1127 h. When first observed (Fig. 2 above), she was resting head up on the secondary branch, but then moved slightly upwards and rested with the head downwards (Fig. 2 below). As we prepared to place a bamboo ladder against the palm to sample the inflorescences, the moth flew off at about 5 m height with what seemed a relatively slow wing beat compared to that of Trinidad's commonest castniid, *Telchin licus* (Drury) (M.J.W. Cock, unpublished observations).



**Fig. 3.** The crown of the moriche palm *Mauritia flexuosa* showing the male inflorescences and lower right, the dead male inflorescence on which the *Corybantes mathani* was photographed (indicated by arrow), Aripo Savannas, 15 October, 2011.

As she was clearly in rather worn condition (Fig. 2), this female of *C. mathani* could not have been newly emerged. The behaviour on a dead male inflorescence for five minutes, suggests that the female may have been ovipositing or investigating possible oviposition sites. The obvious place to oviposit on the secondary inflorescence branch would be under the bracts (Fig. 4); the initial head up position of the moth (Fig. 2 above) would not be suitable for this, but the position subsequently adopted (Fig. 2 below) would be. The location near the crown of the palm resting at the bottom part of a basal secondary in-

florescence branch may be significant. The hatching caterpillar could bore into the branch and move from there into the rachis, and either develop there or continue to the crown of the palm. The photographs were not carefully examined at the time, nor this chain of reasoning developed, so that when we subsequently sampled the inflorescences of this palm, the basal secondary branch on which the *C. mathani* female had been resting was not included in our sample, and so could not be checked for ova. Noting also the close overlap of the geographical ranges of *C. mathani* and *M. flexuosa* in South America, we consider it rather likely that *M. flexuosa* is a food plant of *C. mathani*.



**Fig. 4.** Detail of part of the dead, dried, male inflorescence of the moriche palm *Mauritia flexuosa* shown in Fig. 3. Within the bract around the base of each tertiary branch and the next bract would seem the obvious place for oviposition by *Corybantes mathani*. The tertiary branches are about 4-5 cm long.

Both Aripo Savannas and Nariva Swamp, the two main habitats for moriche palm in Trinidad, are important conservation areas, and *C. mathani* is a rare species now associated with the former, but likely to occur in the latter.

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