

Field-identification of the *Caligo* Butterflies (Nymphalidae, Brassolinae) of Trinidad and Tobago

Three species of *Caligo* are found in Trinidad: *C. brasiliensis minor* Kaye (forest mort bleu), *C. teucer insulanus* Stichel (cocoa mort bleu), and *C. illioneus illioneus* (Cramer) (cane mort bleu) (Barcant 1970, Cock 2014). The first two are also found in Tobago (Cock 2017). Together with the morpho, *Morpho helenor insularis* Fruhstorfer (Nymphalidae, Satyrinae), they are the largest Trinidad and Tobago butterflies, with a wing length of 6-8 cm. *Caligo* spp. are easily recognised by the large eye spots on the ventral hindwing, which have been likened to the eyes of owls, frogs and lizards (Stradling 1976, Quesnel and Stradling 2012).

Caligo brasiliensis and *C. teucer* are conspicuous members of the forest fauna, while the latter is associated with area where sugar cane is found, including housing. Hence they are frequent subjects for photography by naturalists (e.g. <https://www.inaturalist.org>). In life, these butterflies always rest with their wings closed and only the ventral wing surface visible. Although Barcant (1970) provides guidance for their identification based on characters of the dorsal surface, identification based on the ventral surface alone has not been documented. This note is intended to fill that gap and enable all three species to be identified in the field and from photographs of butterflies at rest.

The total impression of the ventral hindwing and the definition of the lizard head (i.e. the discal band incorporating the eye spots) are useful, particularly when making field observations. In *C. brasiliensis* the overall impression is lighter in colour, more evenly striated and the lizard head is scarcely defined. These characters alone will normally suffice to recognise *C. brasiliensis*. The other two species are similar, but *C. teucer* is generally slightly darker and the brown lizard head is less well defined, whereas the brown lizard head of *C. illioneus* is more uniform and clearly defined.

There are diagnostic details that can be used, particularly with images. Fig 1. shows ventral views of males and females of the three species, with arrows to indicate selected diagnostic features. Although *C. illioneus* is smaller than the other two species, and males are smaller than females, these are all shown the same size, since relative size will not be a useful diagnostic in the field or in images. The following features are indicated:

1. The inner submarginal line of the forewing is irregular in *C. brasiliensis* and *C. teucer*, but is a regular series of arcs in *C. illioneus*.
2. There is a pale discal line, immediately beyond the dark discal line in *C. teucer* and *C. illioneus*, but not *C. brasiliensis*. This line is usually stronger and straighter in *C. illioneus*.
3. The area central to the costal eye spot is scarcely different from the rest of the hindwing in *C. brasiliensis*, slightly darker in *C. teucer* and brown in *C. illioneus*, uniform with the rest of the discal band.
4. The dark inner submarginal band of the hindwing is more sharply and strongly defined in *C. teucer* and *C. illioneus*.
5. A pale elongate patch is evident in the discal band of *C. teucer* and *C. illioneus*.

Using these characters, most field images of adults can be readily identified (Figs. 2-4), and I hope this guidance will be of value to naturalists and photographers in Trinidad and Tobago. I have not attempted to evaluate these characters for mainland populations of *Caligo* spp., although they may provide a useful starting point.

Guppy (1904) illustrated the early stages of *C. illioneus illioneus* on sugar cane in Trinidad, but the other two species, which feed on banana (*Musa* spp. Musaceae) and related species such as *Heliconia* spp. (Heliconiaceae) in Trinidad (Barcant 1970, J.O. Boos pers. comm., F.C. Urich pers. comm.) have not been documented. This would be a useful addition to our knowledge of Trinidad butterflies.

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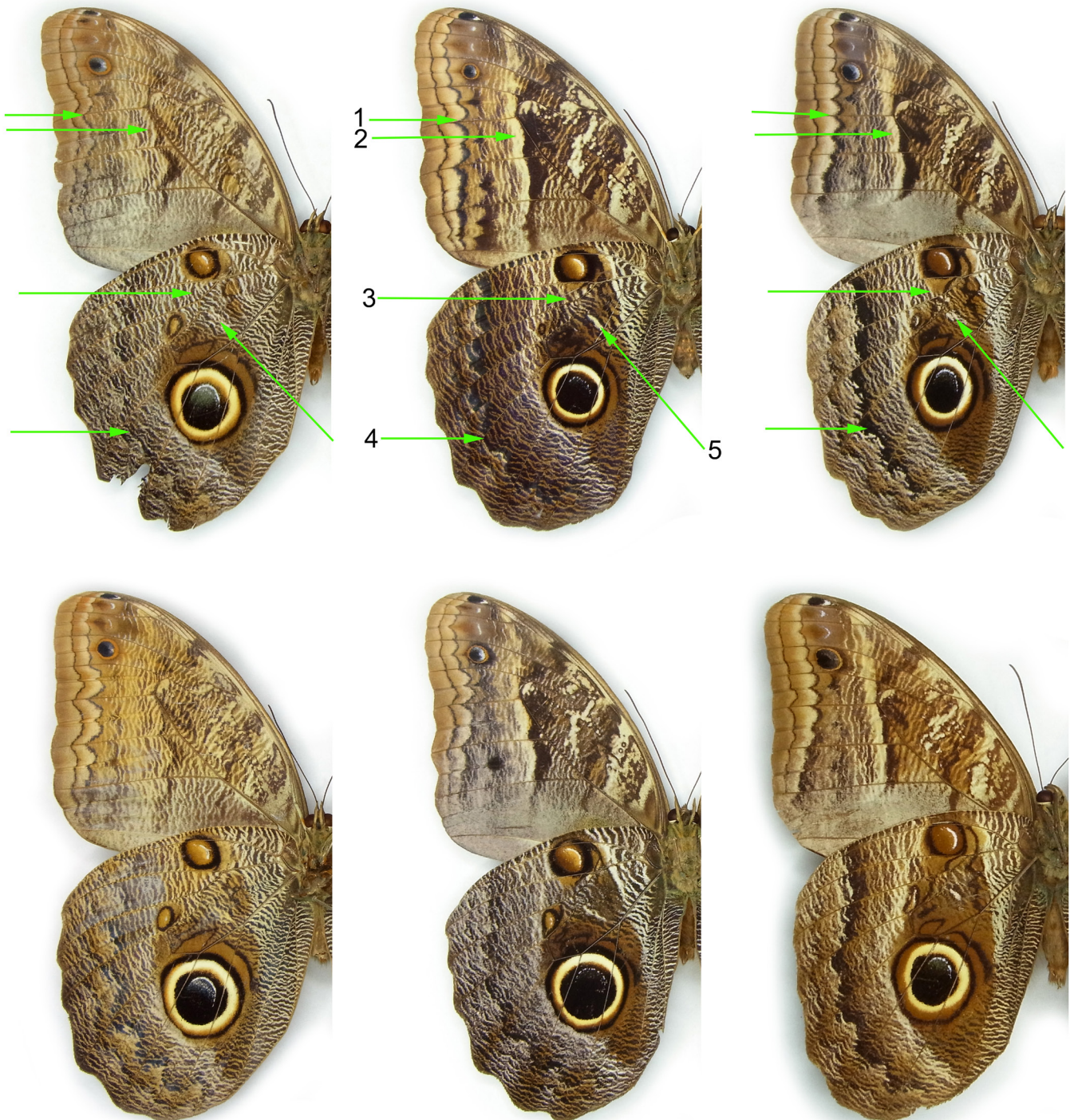


Fig. 1. Ventral view *Caligo* spp. of Trinidad and Tobago. From left to right *C. brasiliensis minor*, *C. teucer insulanus*, and *C. illioneus illioneus*; upper row males, lower row females. All specimens from Trinidad. Not to scale. See text regarding numbered diagnostic features.

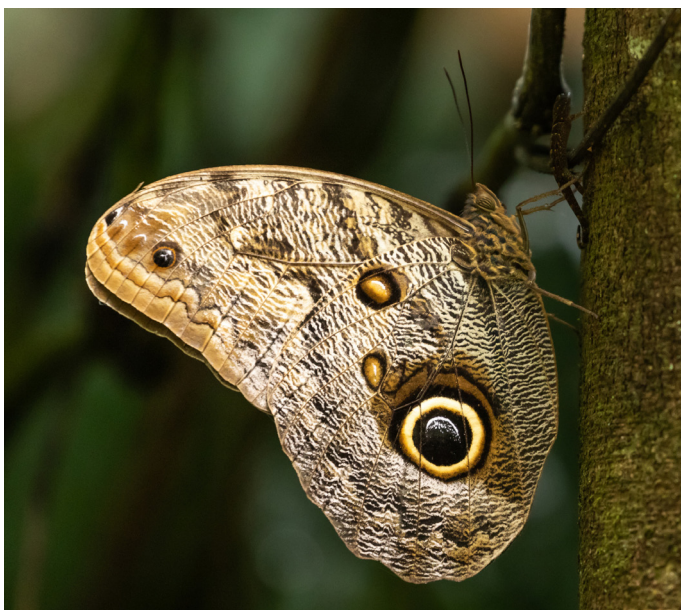


Fig. 2. *Caligo brasiliensis minor*, Asa Wright Nature Centre, 17 December 2018 (N. Norman, <https://www.inaturalist.org/observations/19262347>, Creative Commons Licence CC-BY-NC).



Fig. 3. *Caligo teucer insulanus*, Mt. Tabor, 11 December 2011, (M.G. Rutherford, <https://www.inaturalist.org/observations/9952092>, Creative Commons Licence CC-BY-NC, flipped horizontally).

ACKNOWLEDGEMENTS

I thank the photographers, Nancy Norman, Mike Rutherford and Kris Sookdeo, for sharing their photographs of living *Caligo* spp., directly or through iNaturalist, and Keith Willmott for helpful comments.

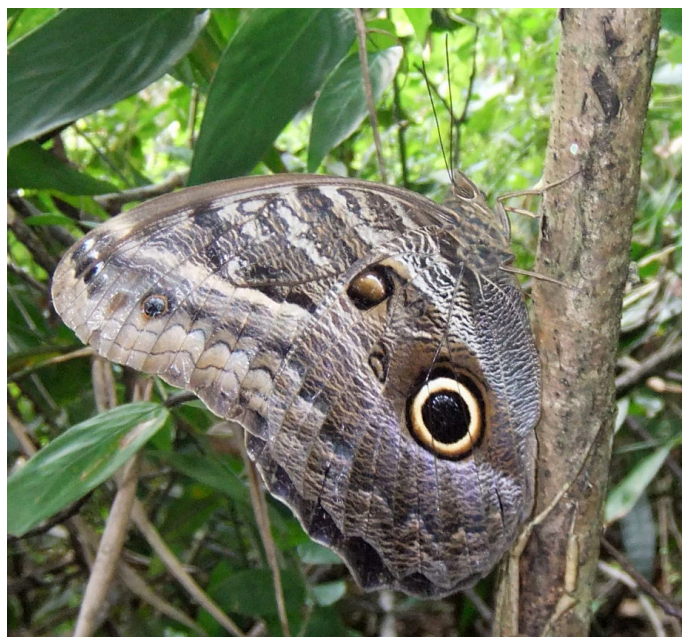


Fig. 4. *Caligo illioneus illioneus*, Rousillac, 10.vii.2010 (K. Sookdeo).

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Matthew J.W. Cock

m.cock@cabi.org / mjwcock@btinternet.com