

Notes on the Life History of *Catoblepia berecynthia berecynthia* (Cramer) (Lepidoptera: Brassolidae)

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ABSTRACT

THE larva and pupa of *Catoblepia b. berecynthia* (Cramer) are figured, the latter for the first time. Significant differences between the larva and pupa and those known in the genus *Opsiphanes* are discussed, as further possible diagnostic features to separate the genera. A method of obtaining ova in captivity is also discussed.

INTRODUCTION

In January 1980, a larva of *Catoblepia b. berecynthia* was collected on the leaves of the palm, *Maximiliana caribaea* Crisebach & Wendl., on the edge of secondary jungle at Sangre Grande, Trinidad by F.C. Urich (Fig.1). The larva was cleansed of visible parasite eggs (possibly tachinid flies) adhering to its surface near the head and along its body, mainly at the base of the legs, and was raised to pupation on palm leaves. The pupa was brown and possessed a significant pair of cephalic horns (Fig. 2). As far as is known, this is the first record of the pupa of the genus *Catoblepia*.

Subsequently, females of this butterfly were captured in secondary forest at bait mostly shortly after dawn, but sometimes just after dusk, in the Parrylands oilfield S. Trinidad, by J.O. Boos. They were confined in a plastic container in which the lower half was dark green, the upper half transparent, with adjustable ports for ventilation. Freshly cut palm leaves were laid on the bottom and a small dish containing a mixture of over-ripe fruit, syrup and a small amount of white rum was initially placed in the container, but the butterflies fouled themselves in the mixture while attempting to escape during their active periods at dusk and dawn. The dish was then removed and the butterflies were fed by removing them individually from the container with wings closed and placing them on the food. If they did not feed voluntarily, their probosces were uncoiled into the liquid by careful manipulation with a pin. This usually caused feeding to commence immediately. They were fed twice a day and given water after feeding.

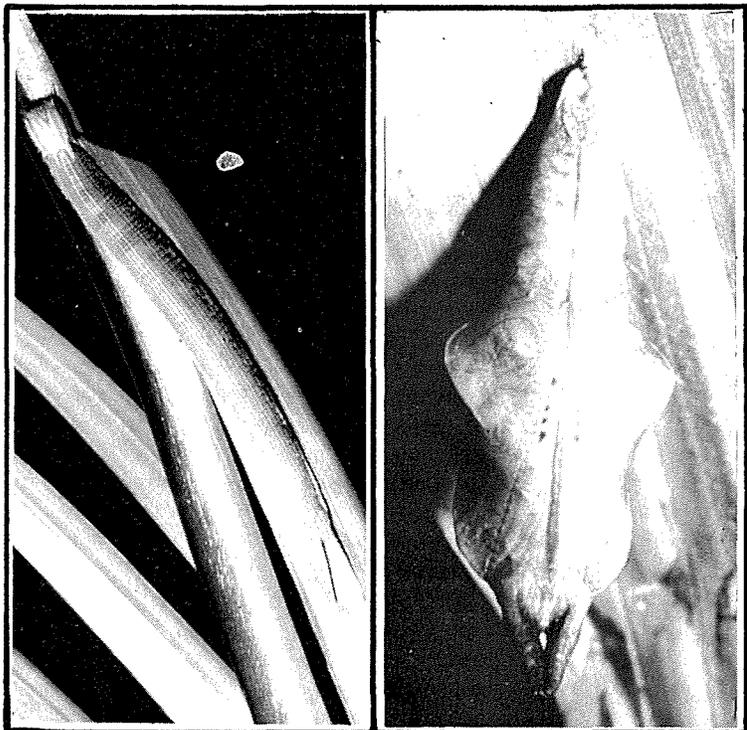
Depending on their reproductive condition upon capture, they laid from two to six eggs per day over a one week period. The larvae were easily raised on a variety of palm species, and as noted by Bristow (1981, p.146, Fig. 10) were very variable both between instars and between individuals of the same instar. All larvae possessed only three pairs of cephalic horns in all instars.

DISCUSSION

As discussed by Bristow (1981) there has been disagreement among various authors on the validity of Stichel's (1902) separation of *Catoblepia* from *Opsiphanes* based on the shape and length of the fore- and hind-wing cells and of the wing shape. The length of the male hindwing cell is only half the length of the hindwing in *Catoblepia* but three-fifths in *Opsiphanes*, the reverse being true for the forewings. Also the forewings of *Opsiphanes* are larger than the hindwings and present a top-heavy aspect whereas in *Catoblepia* the fore and hind-wings are of almost equal size. Bristow (1981) concludes that these characters can be used to define an apparently homogeneous natural group.

If the cephalic projections as seen on the pupa of *Catoblepia b. berecynthia* (Cramer) prove constant for other species of *Catoblepia*, (in particular the group *Dyophthalmi* with only two ocelli, like *Opsiphanes*, on the hindwing underside), it may prove to be an additional feature to separate *Catoblepia* from *Opsiphanes*.

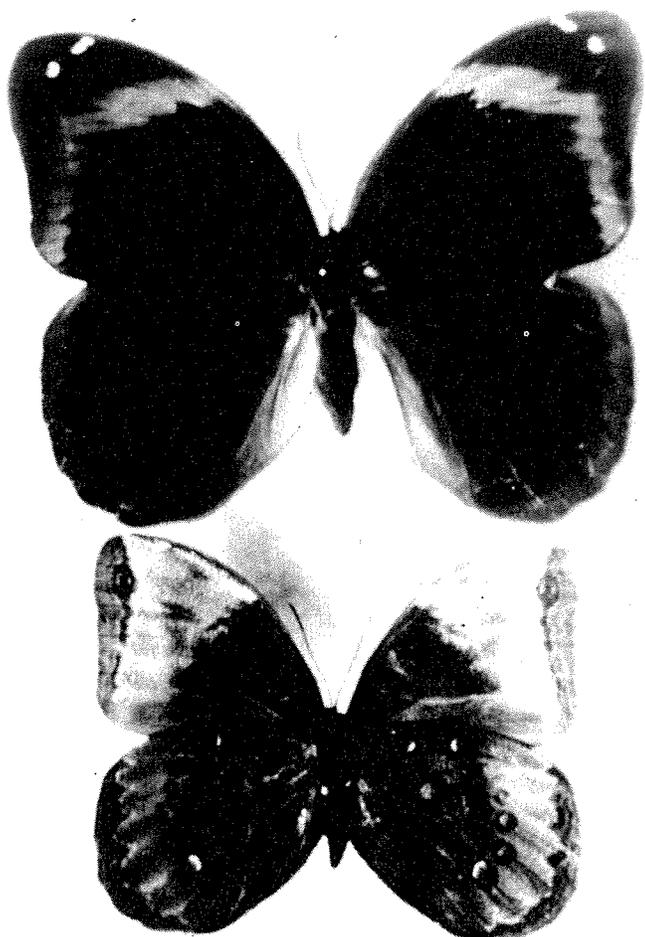
Fig. 1. (Far left) Larva of *C. berecynthia*
Fig. 2. (Left) Pupa of *Catoblepia berecynthia*



The pupae of the following *Opsiphanes* species have been described or figured: *O. cassina fabricii* (Boisduval) (Bates 1932, Young and Muyschondt 1975); *O. cassiae cassiae* (Linnaeus) (Dewitz 1878); *O. cassiae* (as *Pavonia glyceria*) (Jones 1882); *O. cassiae lucullus* Fruhstorfer; *O. b. bogotanus* Distant and *O. invirae remoliatius* Fruhstorfer (Rothschild 1916); *O. t. tamarindi* Felder & Felder (Harrison 1963, Young & Muyschondt 1975). Additionally the authors have examined pupae of *O. cassina merianae* Stichel and *O. c. cassiae* from Trinidad. None has the pupal cephalic projections of *Catoblepia b. berecynthia*.

Bristow (1981, p.147) includes a previously unpublished painting by the Rev. A. Miles Moss which shows the larva of *C. berecynthia* to have three pairs of cephalic horns; the larva of *Catoblepia b. berecynthia* from Trinidad also possesses three pairs of horns, as against four pairs on the two Trinidad species of *Opsiphanes*, *O. cassina merianae* and *O. c. cassiae*, on *O. cassiae* from Venezuela (Dewitz 1878), *O. t. tamarindi* from Costa Rica (Harrison 1963, Young & Muyschondt 1975) and *O. cassiae* from Brazil (Jones 1882). It is thought that this might be another useful feature in separating the genera, but on the illustrations of the four species of *Opsiphanes* larvae figured by Rothschild (1916), the number of horns varies from one pair to three pairs. These illustrations appear rather crudely done and may not be accurate, but Young (1977) includes a sketch of a head capsule of fifth instar *O. quiteria quirinus* which also has only three pairs of cephalic horns.

Adult *Catoblepia b. berecynthia*. Female above, male below.



It would be relatively simple for any student in the field to bait and capture females of the more common forms of *Catoblepia* (of particular interest would be one of the *Dyophthalmi*) and using the method described here obtain ova, larvae and pupae and so determine whether the cephalic projections on the pupa are constant for the genus *Catoblepia*.

Barcant (1970) mentions the delicacy of the wing membranes of *Catoblepia*, a fact to which collectors of *Catoblepia berecynthia* can testify. It is of interest that, at least in Trinidad, the only other brassolid that also has very delicate wings, *Eryphanis p. polyxena*, also has very large cephalic projections in the pupal stage. Prominent cephalic pupal horns are also present in at least one species, *cassiope*, of *Selenophanes* (Bristow 1982, Smart 1976).

ACKNOWLEDGMENTS

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REFERENCES

- BARCANT, M. (1970) *Butterflies of Trinidad & Tobago*. London: Collins.
- BATES, M. (1932) Notes on the metamorphosis of the Brassolidae (Lepidoptera) *Bull. Brooklyn Ent. Soc.* 27: 155-163.
- BRISTOW, C.R. (1981). A revision of the brassoline genus *Catoblepia* (Lepidoptera: Rhopalocera). *Zool. J. Linn. Soc.* 72: 117-163.
- BRISTOW, C.R. (1982). A revision of the brassoline genus *Selenophanes* (Lepidoptera: Rhopalocera). *Zool. J. Linn. Soc.*, 76: 273-291.
- DEWITZ, H. (1878). Entwicklung einiger Venezuelanischer Schmetterlinge nach Beobachtungen von Gollmer. *Archiv. Naturgesch.* 44: 1-36.
- HARRISON, J. O. (1963). On the biology of three banana pests in Costa Rica (Lepidoptera: Limacodidae, Nymphalidae). *Ann. Ent. Soc. Am.*, 56: 87-94.
- JONES, E. O. (1881). Metamorphoses of lepidoptera from Santo Paulo, Brazil, in the Free Public Museum, Liverpool. *Proc. Lit. Phil. Soc. Liverpool*, 36 326-377.
- ROTHSCHILD, W. (1916). Notes on Amathusiidae. Brassolidae. Morphidae, etc. with descriptions of new forms. *Novit. Zool.* 23: 299-318.
- SMART, P. (1976). *The Illustrated Encyclopaedia of the Butterfly World*. Hamlyn, London, 275 pp.
- STICHEL, H. (1902). Aufteilung der Gattung *Opsiphanes* Westw., Beschreibung neuer Brassoliden und synonymische Notizen. *Berl. Ent. Z.* 46: 487-524.
- YOUNG, R.M. (1977). Notes on the defoliation of Coconut Palm (*Cocos nucifera*) by the butterfly *Opsiphanes quiteria quirinus* in northeastern Costa Rica. *Dtsch. Ent. Z.* 24: 353-365.
- YOUNG, A.M. & Muyschondt, A. (1975). Studies on the natural history of Central American Butterflies in the family cluster Satyridae — Brassolidae — Morphidae (Lepidoptera: Nymphaloidea). III. *Opsiphanes tamarindi* and *Opsiphanes cassina* in Costa Rica and El Salvador. *Studies Neotrop. Fauna*, 10: 19-56.