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A BILATERAL GYNANDROMORPH OF *PIERIS RAPAE*
(PIERIDAE)

A bilateral gynandromorph of the Imported Cabbage Butterfly, *Pieris rapae* Linnaeus, was taken September 18, 1969 at the Ithaca, New York city dump (Tompkins Co.). It turned up in a large, randomly collected sample of *P. rapae* taken for other purposes, and was not recognized as a gynandromorph until already dead. There is thus no information available on its behavior. Nearly all of the butterflies in the sample were taken in flight or on blossoms of Great Burdock (*Arctium lappa* Linnaeus).

The specimen is female on the left side and male on the right, similar to one taken in Bedfordshire, England in 1938 (S. H. Kershaw, *Proc. S. Lond. ent. nat. Hist. Soc. 1954-55*, p. 33). All secondary sexual color and pattern characteristics, including the pteridine pigments, are normally developed on the half of appropriate sex. There is no irregular mosaicism. The external genitalia are also bilaterally asymmetrical, with a somewhat aborted clasper on the male side. The internal anatomy was not studied.

A quick survey of the British aberrational literature suggests that gynandromorphs are much rarer in *P. rapae* than in at least some populations of the *P. napi* complex. Bilateral gynandromorphs also seem to be very rare in *P. brassicae* Linnaeus, though irregular mosaics are rather frequent. My specimen is the first of its kind to appear among perhaps 75,000 wild and bred *Pieris* I have examined in recent years, including some 12,000 wild *P. rapae* from the northeastern United States.

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A NOTE ON THE SYSTEMATIC POSITION OF *PAPILIO*
ANTIMACHUS

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Recently, the Honorable Miriam Rothschild and Professors J. von Euw, and T. Reichstein (1970) have been able to prove the presence of cardenolide heart poisons in *Papilio antimachus* Drury. *P. antimachus* is very unusual in its appearance, with very long wings and a pattern which makes it look something like a giant *Acraea*. The unusual appearance of the butterfly, and the presence of the cardenolides (heart poisons which also

are called cardiac glycosides), led Dr. Rothschild to write to me concerning the systematic position of *antimachus*. I had not been able to examine a specimen of this unusual butterfly in the course of previous work on the higher classification of the Papilionoidea (Ehrlich, 1958; Ehrlich and Ehrlich, 1967), but Dr. Rothschild was able to arrange the loan of a specimen for dissection from the British Museum, through the courtesy of Dr. T. G. Howarth.

Papilio antimachus turns out to be a quite typical member of the family Papilionidae, subfamily Papilioninae. It conforms entirely to the diagnosis of the family (Ehrlich, 1958, pp. 336-337) with the exception of characters number 42 and 43 for which no information is available. Similarly, it agrees entirely with the subfamily diagnosis (pp. 338-339) except for character P on which no information is available. Further information on the family characters is as follows: 6, antennae close together; 11, anterior tentorial arms bearing very small crest; 13, cervical sclerites united beneath neck by unbroken sclerotic band; 15, spinasternum produced in much the manner of that of *Papilio machaon* (Fig. 34 of Ehrlich, 1958) except that areas of sclerotization heavier; 19, patagia membranous; 27, mesothoracic anepisternum not a separate sclerite; 32, caudal part of metathoracic epimeron broad; 34, postspiracular bar absent. Additional information on subfamily characters is as follows: H, prodiscrimen represented by a prominent anterior spine; L, lamella of metadiscrimen curved downward to base of furca; O, tarsal claws symmetrical and simple.

In the most recent treatment of the tribes of the Papilionidae (Ehrlich and Munroe, 1960) *P. antimachus* falls into the tribe Papilionini. At the moment the placement of *antimachus* by Munroe (1961) in the genus *Papilio* seems entirely appropriate, although examination of the early stages may require revision of the generic and tribal position.

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