than *cacao* or *simiarum*. The dense, thick tomentum (pod wall external surface) may represent a suitable oviposition substrate for *Ectomyelois muriscus*, but other surface textures must also be suitable given the marked difference in this feature between *Theobroma cacao* and *T. simiarum*. Larvae of *Ectomyelois muriscus* most likely tunnel through the woody epicarp and softer mesocarp tissues of the pod. Yet they may infest pods once the latter are into advanced stages of decay, perhaps rendering pod-wall tissues more penetrable to larvae.

Near the end of the rainy season at this locality, mature pods of various species of *Theobroma* are available, in addition to those of *T. cacao*, the most abundant species due to large commercial plantations. When the dry season arrives near the end of December, dryness may trigger a large moth emergence, a pattern somewhat different than that observed in the office. The very dry conditions of the office may have mimicked the dry season for moth larvae and pupae present inside the *T. simiarum* pod, leading to a staggered emergence as conditions became increasingly dry.

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ALLEN M. YOUNG, *Invertebrate Zoology Section, Milwaukee Public Museum, Milwaukee, Wisconsin 53233.*

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THE FEMALE OF *PAPILIO XANTHOPLEURA* GODMAN & SALVIN (PAPILIONIDAE)

Before 1985, literature concerning *Papilio xanthopleura* Godman & Salvin stated that its female occurs in two forms: a "normal" female resembling the male, and a large yellow one, form *diaphora* Staudinger (Staudinger 1891, Deut. Entomol. Z. [Iris] Lepid. 4:61–158; Rothschild & Jordan 1906, Novit. Zool. 13:412–752; Jordan 1907, *in* Seitz, Macrolepidoptera of the World, Vol. 5, Alfred Kernen Verlag, Stuttgart, 592 pp.; Munroe 1961, Can. Entomol. Suppl. 17, 51 pp.; D'Almeida 1965, Catalogo dos Papilionidae Americanos, Soc. Braz. Entomol., Sao Paulo, 366 pp.; D'Abrera, Butterflies of the Neotropical Region, Part 1, Papilionidae and Pieridae, Lansdowne Editions, East Melbourne, 172 pp.). None of the literature illustrates a *xanthopleura* female.

Johnson, Rozycki and Matusik (1985, J. N.Y. Entomol. Soc. 93:99–109), examined the type and other specimens of *diaphora*, and showed that the type and all known representatives of *diaphora* are males, and male genital and wing characters in *diaphora* indicate it is not conspecific with *xanthopleura*. As a result, *diaphora* was accorded species status, it became apparent that females of *diaphora* are presently unknown in collections, and no "normal" females of *xanthopleura* were in the following major collections: Allyn Museum of Entomology, American Museum of Natural History (AMNH), British Museum (Natural History), Carnegie Museum of Natural History, Collection of David Matusik (Skokie, Illinois), Collection Dep. de Zoologia, Universidade Federal do Paraná (Brazil), Collection of Ernesto W. Schmidt-Mumm (Bogotá, Colombia), Collection of Rick Rozycki (Chicago, Illinois), Collection Tommasso Racheli (Rome, Italy), Instituto de Zoologia Argricola Maracay (Venezuela), Museu Nacional, Rio de Janeiro (Brazil), Museo de Historia Natural "Javier Prado" (Lima, Peru), National Museum of Natural History (Smithsonian Institution), and the collection of a commercial dealer noted for his holdings in unusual Papilionidae.

Therefore, we borrowed a female of *xanthopleura* (Fig. 1A, C) from the Staudinger Collection (Zoologisches Museum der Humboldt Universität, Berlin, German Democratic Republic [ZMH]). The female resembles male *xanthopleura* on the wing undersurface but, contrary to the above literature, differs markedly from the male on the upper surface of the wings. Males of *xanthopleura* are black above except for brilliant "powder green"

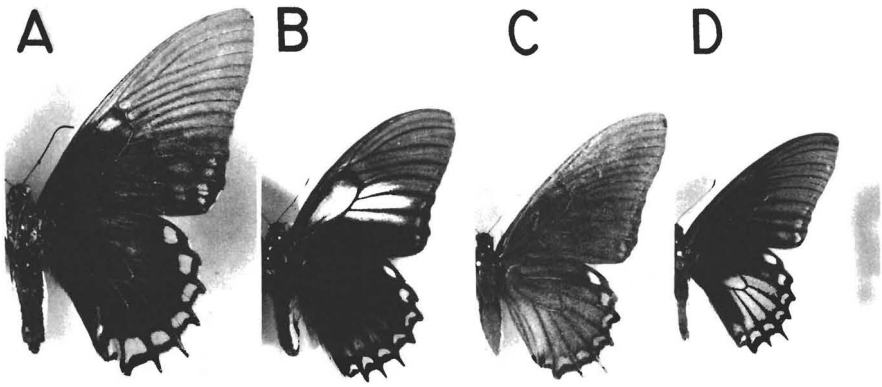

FIG. 1. *Papilio xanthopleura* and *P. diaphora*, with forewing length (base to apex) in parentheses, B–D, upper surfaces of wings, to same scale, A, undersurface, to different scale. A, *P. xanthopleura* female (67.0 mm), Iquitos, Peru, ZMH; B, *P. diaphora* type male (71.0 mm), Manicoré, Brazil, ZMH; C, *P. xanthopleura* female (of 1A); D, *P. xanthopleura* male (57.0 mm), Campana [sic], Brazil, AMNH.

in the vein interspaces of the hindwing (Fig. 1D); females are powder green over the entire upper surface of both wings (Fig. 1C). Female *xanthopleura* are larger than male *xanthopleura*, but neither exceeds the large size of male *diaphora*. As noted by Johnson, Rozycki and Matusik, the mean single forewing length (base to apex) of known *diaphora* males exceeds that of examined *xanthopleura* males by 12.3 mm and the examined *xanthopleura* female by 3.0 mm. Thus, wing character differences in the genders of these taxa vary far more than the literature has indicated.

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KURT JOHNSON, *Department of Entomology, American Museum of Natural History, Central Park West at 79th Street, New York, New York 10024;* RICK ROZYCKI, *5830 South McVicker Avenue, Chicago, Illinois 60638;* AND DAVID MATUSIK, *Department of Entomology, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605.*