A NEW HAWKMOTH FROM QUINTANA ROO, MÉXICO

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ABSTRACT. A new species of Manduca Hubner is described in its adult stage. This species is similar in maculation to Manduca morula (Drury) and M. pellennia (Herrich-Schäffer). Differences in size, wing shape and genitalia prove it to be distinct.

Manduca wellingii, new species
(Figs. 1–5)

Wing length. Males: 41 mm (35–44 mm, n = 64); females: 46 mm (44–50 mm, n = 10). M. wellingii two-thirds size of morula (Drury). Rothschild and Jordan (1905:70) treated morula as being synonymous with pellennia (Herrich-Schäffer). A review of the original description of morula makes it clear that this is incorrect.

Wing maculation and shape. Color and maculation of wellingii very similar to those of morula. Both species show about same degree of color variation when series compared. Forewing of wellingii light, sandy brown to tawny, with confluent series of black hattorn patches in median space, forming large, semicircular band, ends of which internexit costal

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Fig. 1. Manduca wellingii, n. sp. Holotype, male. Nuevo Xcán, Quintana Roo, México. 27 Sept. 1981 (L. C. Wellling, M., U.S. N.M.N.H.).
margin. Most evident are crescent-shaped, off-white stigma, distinct, oblique, zig-zag, black apical dash, crenulate subterminal line that essentially parallels postmedian band, which, as in morulæ, consists of two, closely parallel lines. Both postmedial and antemedial bands double and may appear triple as they are parallel to median space by usually less distinct, diffuse, subterminal line. Base pale, with one or two minute tufts of nearly white scales, enclosed by dark basal band that may be bisected by short, diffuse basal dash. Basal space with dark spot near middle. Nearly black hindwing crossed by two pale bands corresponding in position to antemedial and postmedian. Outer one runs from anal angle to costal margin just beyond middle, and inner one is small curved band enclosing black basal area. Light-brown outer margin becomes obscured distally. Forewing beneath is dark gray. In males, entire dark ventral surface heavily sprinkled with light-brown scales except for outer marginal band where light colored scales are wanting. Hindwing below exhibits same features, although light-brown scales dominate entire surface to much greater degree. Dark outer marginal band present and more distinct than on forewing. In females, amount of light-brown scales greatly reduced or
nearly absent on underside of forewing, and outer marginal band is hardly distinguishable. Hindwing similar to that of male. Both sexes have set of three submarginal black lines which arise at common point at anal angle of hindwing and terminate costal margin of forewing. Wing shape of both sexes generally different from that of *Pellonella* and *Morula* (Fig. 2).

Other markings. Thorax dorsally off-white, ventrally brown, completely surrounded by heavy black line. Tegulae are broad and essentially concordant with forewings. Palpi black on segment 3, but segment 2 and 1 mixture of light and dark brown. Abdomen typical for genus, with dorsal area similar in color to forewings, with distinct, full-length, medial black line; laterally black with large yellow patch on segments. Obsolescent sixth spot, more noticeable in females, sometimes evident. Below and between each yellow patch are small, narrow, white intersegmental bands. Ventral surface off-white with brown scales throughout and usually with medial row of 1 to 4 small black spots.

**Genitalia.** *Genitalia of Pellonella* have been illustrated in Rothschilid and Jordan (1903) and Musser (1934) and are sufficiently different not to be confused with those of either *Morula* or *Morula*.

In *Paulina* (Fig. 3) apex of sacculus serrated and sometimes narrower than in *Morula*. Process of sacculus acuminate and curved toward move in *Pellonella*. Hooked apex of gnathos minimal, unlike that of *Morula*, which has pronounced hooked apex. In female of *Pellonella* (Fig. 4), lamella postvaginalis large and posterior margin only slightly indented. Lamella postvaginalis of *Morula* (Fig. 5) reduced in size and posterior margin strongly emarginate, unlike *Pellonella*.

**Flight period.** Adult specimens have been taken each month from 2 April to 2 November, the greatest number being counted during June.

**Types.** *Holotype* (Fig. 1) Nuevo Xicu, Quintana Roo, MEXICO. 27 Sept. 1948, E. C. Welling, M. collector. USNM type no. 100723. *Allotype* 5, same locality, 27 July.

Holotype and allotype deposited in the U.S. National Museum of Natural History; paratypes in American Museum of Natural History, British Museum of Natural History, Universidad Central de Venezuela, Instituto de Biología, Mèxico, D.F., Mèxico, and in the collections of E. C. Welling M. and V. A. Broc.

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LITERATURE CITED


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