A NEW *AUTOMERIS* FROM THE MANANTLAN RESERVE IN MEXICO (LEPIDOPTERA: SATURNIIDAE: HEMILEUCINAE)

MANUEL A. BALCÁZAR-LARA
Colección Nacional de Insectos, Instituto de Biología
Universidad Nacional Autónoma de México
Apdo. Postal 70-153, C. P. 04510, México, D. F., MEXICO
mabl@servidor.unam.mx

ABSTRACT

Automeris manantlanensis new sp. is described from the Biosphere Reserve Sierra de Manantlán between Jalisco and Colima states in western Mexico. It belongs to the *Automeris io* group, and is the darkest species in the group. Male and female genitalia are figured, and specific characters are compared with those of closely related species.

Key Words: *Automeris manantlanensis* new sp., Colima, distribution, Jalisco, Lepidoptera

RESUMEN

Automeris manantlanensis especie nueva es descrita de la Reserva de la Biosfera Sierra de Manantlán entre los estados de Colima y Jalisco en el occidente de México. Pertenece al grupo de *Automeris io*, y es la especie más obscura del grupo. Se ilustran los genitales masculinos y femeninos, y se discuten y comparan caracteres específicos con los de las especies más cercanas.

The Neotropical genus *Automeris* Hübner contains 124 described species (Lemaire 1996). The "ocellar patches" on the hindwings and the cryptic leaf-like pattern of the forewings can easily identify most species in this genus. Lemaire (1971, 1973, 1974) summarized all the information known for the genus in his outstanding revision. However, it is very interesting that in 20 years, 21 new species have been described.

Recent trips to mountain ranges in southwestern Mexico have resulted in the discovery of several new species of saturniids, such as this one, endemic to mid-elevation montane forests (Lemaire 1992, Lemaire and Wolfe 1993). In his review of the genus, Lemaire proposed eight species groups; of these, the *A. io* group contains 13 described species distributed from Northern US south into Costa Rica. The new species belongs in this group of small to medium sized saturniids characterized by the yellow or gray periocellar area.

Automeris manantlanensis Balcázar, **New Species**
(Figs. 1-4)

DIAGNOSIS.—This new species is closely related to *Automeris stacieae* Lemaire & Wolfe, but can be easily separated from it and any other species in the group by its very dark ground color.

Description.—Forewing length: ♂ 31-32 mm ($\bar{x}$ = 30.8, n = 6). ♀ 35-41 mm ($\bar{x}$ = 39.7, n = 7).

Male (Fig. 1).—*Head:* Cinnamon brown; frontal area amber; labial palpi three-segmented, amber; antennae cinnamon brown, quadripectinate almost to the apex (first

Figs. 1-2. *Automeris manantlanensis* Balcázar, new sp.: 1) Holotype ♂ (forewing length: 31 mm), dorsum. 2) Allotype ♀ (forewing length: 40 mm), dorsum.

30 segments, only last two are not pectinated). *Thorax:* Cinnamon brown; legs amber; tibiae very hairy; epiphysis present, reaches almost to tip of tibia; hind tibia with one pair of apical spurs, with two subapical spurs (one shorter). *Abdomen:* Cinnamon, not ringed. *Forewing:* Dorsally cinnamon brown; antemedial line very faint; postmedial line dark brown, straight, continuous, reaching costa about 5-6 mm from apex; proximally underlined with tawny; submarginal band lunular, dark brown, distally under-

lined with tawny; discal spot dark brown, surrounded with five to seven small black dots. Forewing ventrally clay color, with a pale pinkish area along the inner side of the wing; antemedial line absent; postmedial line clearly marked, reaches costa about 3 mm from apex, black, concave; discal spot strong, black around a small white center; veins clay color turning black from the postmedial line towards the outer margin. *Hindwing:* Dorsally clay color, with a brick red to pinkish area along the inner margin; postmedial line black, convex, not underlined; submarginal band cinnamon; basomedial area brick red to pink; costal area pale pinkish; marginal area clay; inner side clay; fringes clay; area between postmedial line and submarginal band yellowish clay; ocellus typical of the *A. io* group, black with central diffuse white spot. Hindwing ventrally clay color, costal area with a burnt umber narrow area with a cream line on the margin; postmedial line black, straight, not underlined; discal spot weak, a small white dot without black, black ring of dorsal ocellus not visible. *Male genitalia* (Fig. 3): Uncus very prominent, bent ventrally, with two apical folds; valves with two lobes, apical process bent medialy, inner spine prominent; gnathos reduced to a subtrapezoidal plate (very sclerotized); saccus very long; vinculum with anterolateral borders prominent; aedeagus straight, delicate, bulbus ejaculatorius about two thirds as long as aedeagus.

Female (Fig. 2).—*Head:* Mars brown; antenna shortly bidentate (rami very reduced). *Thorax:* Mars brown; legs mars brown; tibiae hairy; epiphysis absent; hind tibia with one pair of apical spurs; with a single subapical spur. *Abdomen:* Tawny; not ringed. *Forewing:* Dorsally mars brown; antemedial line very faint; medial band grayish next to the postmedial line; postmedial line dark brown; proximally underlined

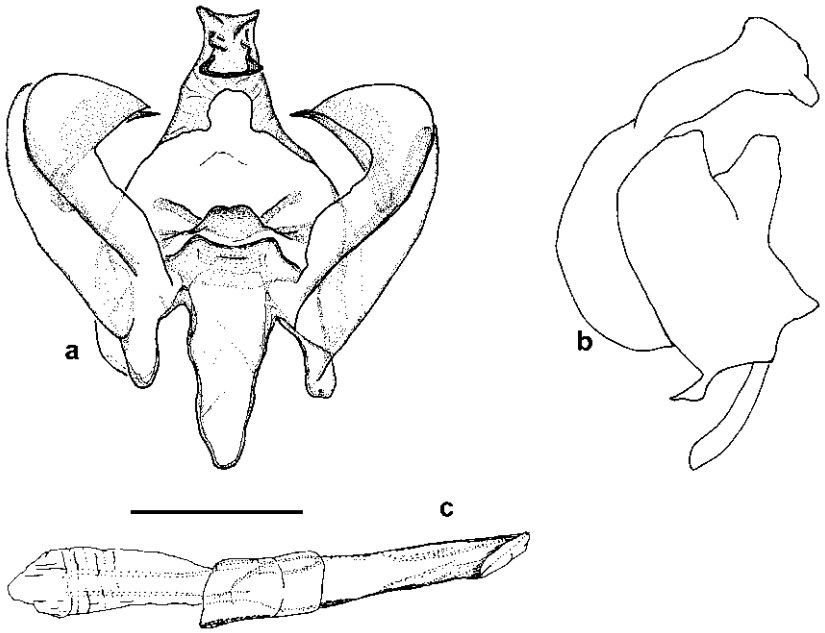

Fig. 3. *Automeris manantlanensis* Balcázar, new sp., ♂ genitalia: a) ventral view, aedeagus removed; b) lateral view; c) lateral view of aedeagus (line = 1 mm).

with tawny, straight; submarginal band continuous, very wavy, dark brown, distally underlined with tawny; discal spot dark brown, surrounded with four to six small black dots. Forewing ventrally antique brown; antemedial line absent; postmedial line clearly marked, black, concave; discal spot very strong, black around a small white center; veins clay color turning black from the postmedial line towards the outer margin. *Hindwing:* Dorsally clay color; with a brick red to pinkish area along the inner margin; postmedial line black; submarginal band dark grayish brown; basomedial area brick red to pink; costal area pale pinkish; marginal area clay; inner side very pale pink; fringes cinnamon rufous; area between postmedial line and submarginal band clay; ocellus typical of the *A. io* group, black with central diffuse white spot. Hindwing ventrally antique brown; costal area burnt umber with a cream line on the margin; postmedial line black, straight; discal spot weak, a small white dot without black, black ring of dorsal ocellus visible; veins clay color turning black from the postmedial line towards the outer margin. *Female genitalia* (Fig. 4): Ventral plate trident shaped, with medial plate very short, lateral branches long, slightly recurved anteriorly; postapophyses-anapophyses about the same length; ductus bursae membranous, short; corpus bursae almost twice as long as anapophyses; ductus seminalis arising right.

IMMATURE STAGES.—Unknown.

TYPES.—*Holotype* ♂: MEXICO: Jalisco, Autlán, Sierra de Manantlán, 19°41'30"N, 104°22'30"W, 1450, 18-20 Jun 1995 (coll. G. Nogueira)—CNIN LEP 066626.

Allotype ♀: MEXICO: Jalisco, Autlán, Sierra de Manantlán, 19°41'30"N, 104°22'30"W, 1450, 18-20 Jun 1995 (coll. G. Nogueira)—CNIN LEP 066617.

Paratypes: MEXICO: Jalisco, Autlán, Sierra de Manantlán, 19°41'30"N, 104°22'30"W, 1450, 18-20 Jun 1995 (coll. G. Nogueira)—CNIN LEP 066635 ♂; 15-16 Jun 1996 (coll. G. Nogueira)—CNIN LEP 066618 À, CNIN LEP 066619 ♀, CNIN LEP 066620 ♀, CNIN LEP 066621 ♀, CNIN LEP 066622 ♀, CNIN LEP 066623 ♀, CNIN LEP 066624 ♂, CNIN LEP 066625 ♂, CNIN LEP 066627 ♂, CNIN LEP 066628 ♂.

The holotype and allotype are deposited in the National Collection of Insects (CNIN), Instituto de Biología, UNAM; one male paratype will be deposited in the United States National Museum, the Muséum national d'Histoire naturelle (Paris) and another one in the Natural History Museum (London).

ETYMOLOGY.—The name of this species refers to the region of Manantlán.

DISTRIBUTION.—*A. manantlanensis* is known only from the Manantlán Reserve at moderate elevation (1450 m) in a *Quercus resinosa* forest.

FLIGHT PERIOD.—The type specimens were collected in June in 1995 and 1996.

VARIATION.—Almost no variation was observed among the type series; while 6 females are 40-41 mm in forewing length, one is smaller (35 mm); one male has a pale yellowish cast.

DISCUSSION

This new species belongs to the *A. iris* subgroup within the *A. io* group of species as defined by Lemaire & Wolfe (1993), which presently includes five species besides the new one (*A. iris* (Walker), *A. daudiana* Druce, *A. boudinotiana* Lemaire, *A. lemairei* Beutelspacher and *A. stacieae* Lemaire & Wolfe), distinguished from other species in the group by the continuous, instead of lunular, postmedial line of the forewing. *A. manantlanensis* is the darkest species in the group; both sexes have falcate forewings, but the pointed apex is less produced than in *A. stacieae.* It has a straight postmedial line on the forewings as *A. lemairei*, but the latter is larger and the darker specimens are light tan in the male and light brown in the female.

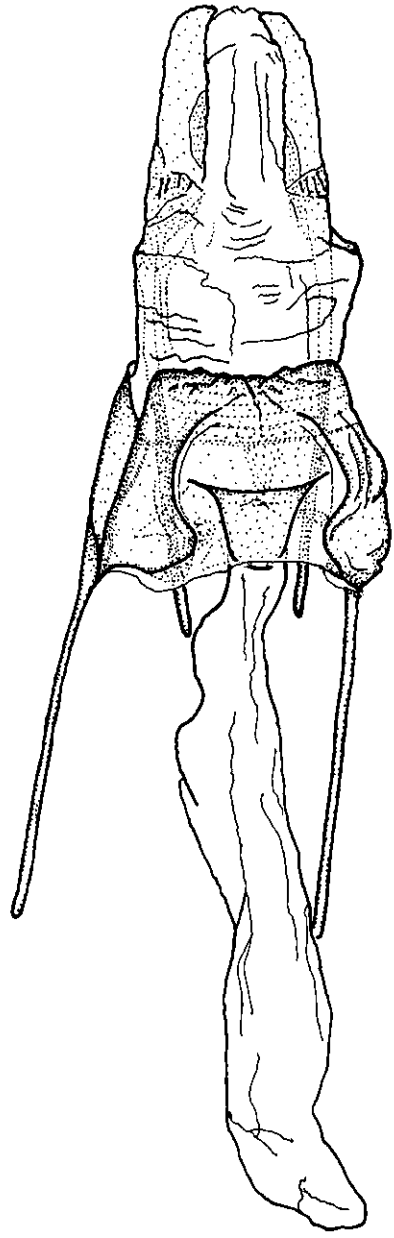

Fig. 4. *Automeris manantlanensis* Balcázar, new sp., ♀ genitalia, ventral view (line = 1 mm).

The male genitalia of *A. manantlanensis,* similarly to that of *A. stacieae,* has a less dorsally folded uncus than *A. iris* and *A. lemairei*; the rounded and slightly spatulate extreme of the uncus is unique.

The Biosphere Reserve Sierra de Manantlán is an area with a high richness and concentration of endemic species. In spite of the difficult access to the area, good faunistic studies have been done for several zoological groups (especially vertebrates), since the reserve was established in 1987 (CONABIO 1999). At least nine species of insects have been described recently from this quite isolated and topographically complex region (Vargas F. 1998).

Acknowledgments

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