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A NEW SUBSPECIES OF *APODEMIA HYPOGLAUCA* (GODMAN & SALVIN) FROM THE YUCATAN PENINSULA (LYCAENIDAE: RIODININAE)¹

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INTRODUCTION

Apodemia hypoglauca was originally described in 1878 by Godman and Salvin as *Lemonias hypoglauca*. The female holotype, collected in Mexico, was selected from a specimen then in the collection of H. Druce. In a subsequent publication (BCA, 1879-1901) Godman and Salvin repeated the description of this taxon (in Latin) under the genus name *Apodemia*. They again cited Mexico as the type locality with no exact site designated, and illustrated the type specimen in plate 45, figs. 13-14.

The Druce specimen selected as the holotype was placed eventually in the British Museum (N.H.), as was also a male specimen collected in the Mexican state of Veracruz with the specific locality given as Atoyac, and presumed to be along the Atoyac River, south of the city of Veracruz. In addition to the Druce specimen, Godman and Salvin acknowledged the presence of specimens in the collections of the Berlin (1878) and Vienna museums (BCA).

Through some sort of curatorial lapse, both the true female holotype and the male specimen noted above had British Museum holotype labels attached to their pins. Figs. 1-3 show the female holotype and its associated labels. The male is shown in Figs. 4-5, with its associated British Museum round "H.T." label. The label was apparently attached to the specimen in error by someone who assumed that the male was the holotype. From the labels shown in Fig. 3, there is no doubt that this specimen is the type. The specimen bears a Druce Collection label, and there are three pin type labels; two printed ones, and one that is handwritten. One of the type labels indicates that the

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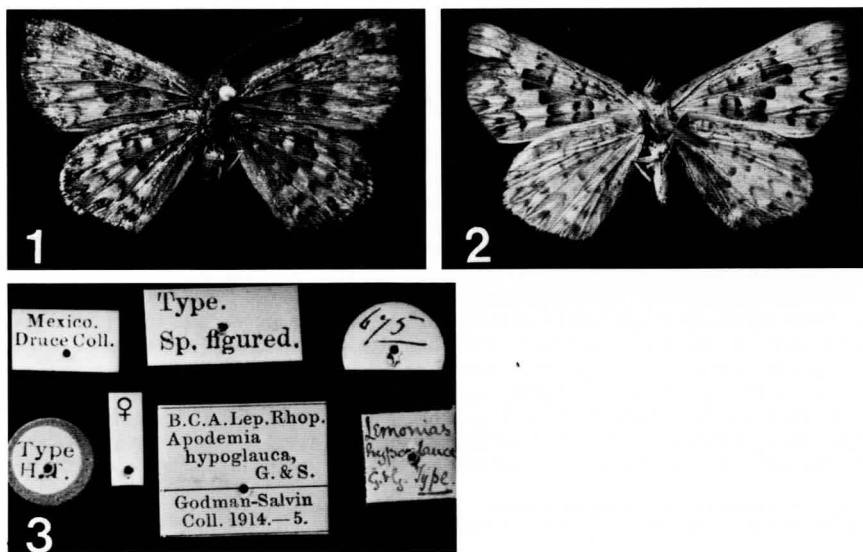
associated specimen was illustrated in BCA, and the plate in that publication clearly depicts a female. The male was not figured.

For reference, the original description from Godman and Salvin (1878) is now repeated:

"♀. Exp. 1.15 in. Outer margin of primaries curved outwardly; the apex slightly falcate: above grayish brown with blackish spots dispersed over the surface of both wings, those within and below the cell of the primaries the largest; the spots on the secondaries are arranged in two submarginal rows which follow the curvature of the outer margin; and an irregular cluster in and about the end of the cell: beneath whitish, with spots corresponding to those of the upper surface, those on the primaries dark, those on the secondaries rufous. *Hab.* Mexico. *Mus.* H. Druce. Besides this specimen in Mr. Druce's collection, we have seen others in the Berlin Museum."

Some years ago, Eduardo C. Welling M. sent a series of *Apodemia* specimens, which he thought to be a new species, to the late Harry K. Clench at the Carnegie Museum of Natural History. In correspondence with Welling, Clench indicated that he was planning to name this butterfly as a new species. A description was never published, however, and no notes related to the new taxon were found in his papers following his death in 1979 (*vide* L. D. Miller).

In late 1981, Welling sent me a series of specimens of this insect and asked that I examine it relative to its taxonomic status. The project was delayed until photographs of the type of *hypoglauca* could be obtained, which in turn were delayed until renovations to the collection areas at the British Museum were completed and the specimen could be photographed. In November 1984, I was able to visit the Allyn Museum/Florida State Museum to compare my series of specimens from Welling against a series of *hypoglauca*. The Allyn Museum/FSM specimens matched the photographs from the British Museum (Figs. 1-2, 4-5). While distinct pattern differences were immediately apparent between the Welling material and the Allyn Museum/FSM specimens, dissection of the male genitalia demonstrated no obvious structural differences. Three males of the Welling material were dissected; two from Pisté, Yucatan (one shown in Fig. 10), and one from Quintana Roo. These genitalic dissections were compared with a male of



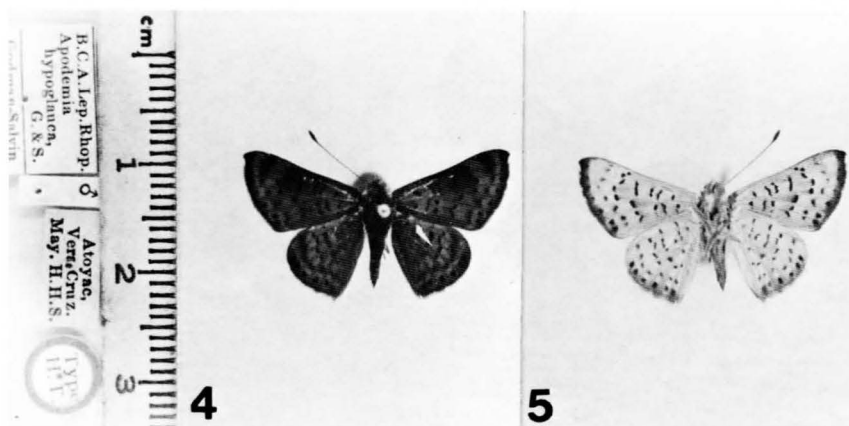
Figures 1-3: *Apodemia hypoglauca hypoglauca*. 1-2. Holotype ♀, D (1) and V (2). 3. Specimen labels for holotype. Specimen in BMNH.

nominate *hypoglauca* from 4 mi. w. of Chilpancingo, Guerrero. On this basis, the new taxon is described as a subspecies of *hypoglauca*.

***Apodemia hypoglauca wellingi*, new subspecies**

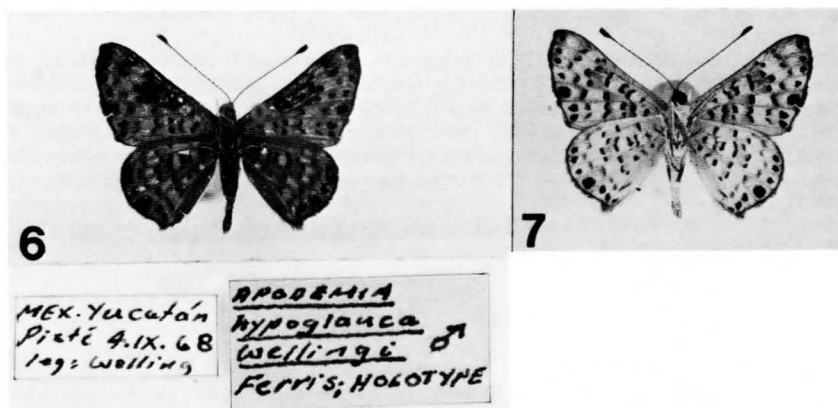
Types and Location: This subspecies is described from 18 ♂♂ and 25 ♀♀ collected in the states of Yucatan and Quintana Roo in Mexico. The specimens were provided by Eduardo C. Welling M. of Merida, Yucatan. The male holotype was collected at Pisté, Yucatan, Mexico, 20 m, 4.ix.68. The female allotype was collected at X-cán Nuevo, Quintana Roo, Mexico, 25.viii.75. The forty-one paratypes were collected as follows: MEXICO, Yucatan, Pisté, 20m. 1967: 15.vii. 2 ♀; 29.vii. 1 ♀; 3.viii. 1 ♀; 23.ix. 1 ♂. 1968: 24.vii. 1 ♂; 26.vii. 1 ♂; 2.viii. 1 ♀; 6.viii. 1 ♂; 7.viii. 1 ♀; 15.viii. 1 ♂, 2 ♀; 16.viii. 2 ♂; 17.viii. 1 ♂; 20.viii. 1 ♂, 1 ♀; 21.viii. 1 ♂, 1 ♀; 4.ix. 1 ♂; 6.ix. 1 ♂; 7.ix. 1 ♀. 13.viii.75, 1 ♂. 29.viii.78, 1 ♀. X-cán. 13.vii.67, 1 ♀. 10.vii.68, 1 ♀. 1971: 3.viii. 2 ♀; 5.viii. 2 ♀. X-cán Nuevo. 7.viii.73, 1 ♀. 26.vii.74, 1 ♂. 1975: 13.viii. 2 ♀; 16.viii. 1 ♂, 1 ♀; 18.viii. 2 ♀; 25.viii. 1 ♂; 28.viii. 1 ♀; 2.ix. 1 ♂. 14.vii.78, 1 ♀. The holotype male and allotype female are placed in the collection of the Allyn Museum of Entomology/Florida State Museum, Sarasota, Florida. The paratypes are placed in the C.D. Ferris and Eduardo C. Welling M. collections.

Diagnosis and Description: This subspecies is primarily characterized by the prominent spot (D and V) in HW space Cu₁-Cu₂. The holotype is illustrated in Figs. 6-7. **Holotype male.** Forewing costa 11 mm. WINGS. Dorsal ground color slightly paler than Cinnamon-Brown (Smithe #33). The darker maculation is near Fuscous (#21). As shown in Fig. 6, the dorsal pattern consists of elongate and nearly circular spots, with a dark post-cell FW patch. There is a postmedian band on both wings that is slightly

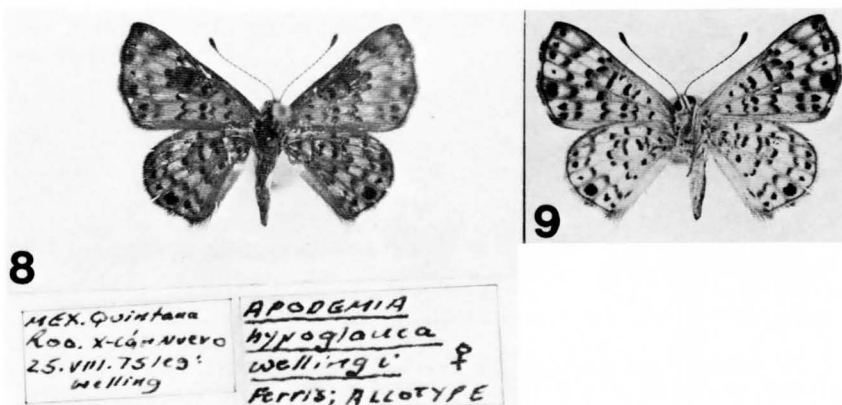


Figures 4-5: *Apodemia hypoglauca hypoglauca*, false holotype ♂ and specimen labels. D (4) and V (5). Specimen in BMNH; AME/FSM photographs.

paler than the ground color. The cilia are checkered brown-and-white. Ventrally the ground color is nearly white with the dorsal maculation duplicated ventrally (with the FW patch much attenuated). The brown color of the maculation, however, is considerably paler ventrally. The apices of the FW are slightly falcate. HEAD. Antenna 8 mm (73% of FW costa length); shaft similar D and V and alternately ringed with near Fuscous and white; tip of club bare and near Spectrum Orange (#17), remainder of club near Fuscous. Palpi white with brown tips; frons white with a sparse scattering of brownish-gray hairs. Eyes smooth and approximately Russet (#34). THORAX. Fuscous dorsally and laterally; white ventrally. LEGS. Prothoracic legs reduced and covered with white hairs. Femur and tibia of meso- and metathoracic legs covered with white hairs; tarsomeres covered with white hairs and interspersed brown hairs; tibia and tarsomeres inwardly brown and spinose. The pin labels are illustrated in Fig. 6. The locality label is white inscribed in black. The holotype label is red inscribed in black. *Allotype female*. Forewing costa 13 mm. In nearly all respects, the female allotype is similar to the male holotype. It is slightly larger than the male and slightly paler in color dorsally. The wings are more rounded marginally than in the male. The



Figures 6-7: *Apodemia hypoglaucia wellingi*, holotype ♂. D and specimen labels (6) and V (7).



Figures 8-9: *Apodemia hypoglaucia wellingi*, allotype ♀. D and specimen labels (8) and V (9).

antennae are 7 mm in length and represent 54% of the costal length. The prothoracic legs are normally developed. The pin labels are illustrated in Fig. 8. The locality label is white inscribed in black. The allotype label is yellow inscribed in black.

Variation in the Males: The males of this subspecies are relatively uniform in facies. The major variations are: intensity of the post-cell FW dark patch which is nearly obsolete in a few specimens; spot in HW cell Cu_1-Cu_2 (not enlarged in one specimen); dorsal ground color which varies slightly in saturation; length of FW costa (10-13 mm).

Variation in the Females: The females of this subspecies also are relatively uniform in facies. The major variations are: intensity of the post-cell FW dark patch; dorsal ground color that varies slightly in saturation; length of FW costa (11-13 mm).

Flight Period: January; early July - late September.



10

Figure 10: Left lateral view of male genitalia of *Apodemia hypoglaucia wellingi* from Pisté, Yucatan.

Distribution: The Yucatan Peninsula of Mexico in Yucatan and Quintana Roo.

Early Stages: Unknown. The nominate subspecies has been reported by Kendall (1976) to oviposit on *Acacia pennatula* (Schlecht. & Cham.).

Comparison with Nominate Subspecies: There are two major differences between *wellingi* and nominate *hypoglaucha*. The ground color of *wellingi* is paler and warmer than the darker and grayish-brown color of *hypoglaucha*. Both the FW spot in cell Cu_1 - Cu_2 and the HW spot in space Cu_1 - Cu_2 of *wellingi* are prominent as shown in Figs. 6-9. The HW marginal row consists of rather small spots in *hypoglaucha* as shown in Figs. 1-2, 4-5. The male genitalia appear to be identical in both subspecies. Fig. 10 illustrates the male genitalia of *wellingi*. The two subspecies are geographically separated as demonstrated by the distribution map (Fig. 11).

Data from museum specimens indicate that *hypoglaucha* is on the wing in May, June, July, August, and November, which suggests several annual generations for the nominate subspecies.

Etymology: The subspecific epithet *wellingi* is derived from the Latin genitive singular form of the collector's surname.

ACKNOWLEDGMENTS

I would like to thank Eduardo C. Welling M. for supplying the type series for this new subspecies. R. I. Vane-Wright of the British Museum (N.H.) and Donald J. Harvey of the University of Texas at Austin kindly provided data and photographs related to the holotype female and false holotype male of *hypoglaucha*. Special thanks are due Lee and Jackie Miller for making publication of this paper possible, and for their many kindnesses during my visit to the Allyn Museum/FSM and while a guest in their home.

This paper was initially reviewed by Dr. Robert E. Pfadt and Dr. Robert J. Lavigne of the Department of Entomology, University of Wyoming. An anonymous reviewer offered helpful suggestions.

LITERATURE CITED

- Godman, F. duC. and O. Salvin. 1878. Descriptions of new species of Central-American butterflies of the family Erycinidae. *Proc. Zool. Soc. Lond.*, 24: 360-369.
 -----, 1879-1901. *Biologia Centrali-Americana. Zoology: Insecta. Lepidoptera-Rhopalocera*. Taylor & Francis, London, Vol. 1, p. 468; Vol. 2, p. 709.
 Kendall, R. O. 1976. Larval foodplants and life history notes for some metalmarks (Lepidoptera: Riodinidae) from Mexico and Texas. *Bull. Allyn Mus.*, 32: 3.
 Smithe, F. B. 1975. *Naturalist's Color Guide*. American Museum of Natural History, New York.

APPENDIX

MATERIAL STUDIED: Specimens of *Apodemia hypoglaucha hypoglaucha* in the Allyn Museum of Entomology/Florida State Museum were examined as follows: MEXICO. Chiapas: El Chorradero, 26-27.vii.73, 6♂, 2♀. Guerrero: 4 miles E. of Chilpancingo, 1680 m, 30.viii.67, 3♂, 1♀. Michoacan: 8.5 miles S. of Uruapan, 1520 m, 8.viii.73, 1♀. Morelos: Canon de Lobos, xi.67, 1♂; xi.69, 1♂. Veracruz: Presidio, v.45, 1♂; v.51, 2♂, 1♀; x.53, 1♂; exact locality illegible, v.51, 1♀; vi.51, 1♀. Material collected by T. Escalante, L.D. Miller and R. Wind. Godman and Salvin records from Mexico: Atoyac and Jalapa [Veracruz]. Kendall (1976) recorded a female from El Salto Falls, San Luis Potosi, 16.xi.74.

ADDITIONAL MATERIAL: As verified by Dr. C.W. Young, the Carnegie Museum of Natural History, Pittsburgh, PA contains specimens of *A. h. wellingi* sent by Welling to Clench as follows: MEXICO. Yucatan: Pisté, 9.viii. 68, 1♂; Chichen Itza, 17.vi.54, 1 specimen. Quintana Roo: X-cán, 6, 22, 26.viii.67, 1♀ each date. The E. C. Welling collection contains additional specimens from Mexico as follows: Yucatan:

Merida, 9.i.72, 1 ♀, 22.viii.57, 1 ♂, 2 ♀; Pisté, 29.ix.58, 2 ♂, 3 ♀; 15.viii.60, 2 ♂.



11

Figure 11: Presently known distribution of *A. h. hypoglaucia* (triangles) [Chiapas, Guerrero, Michoacan, Morelos, San Luis Potosi, Veracruz] and *A. h. wellingi* (solid circles) [Yucatan, Quintana Roo] in Mexico.

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