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TWO NEW *CHLOSYPNE* (NYMPHALIDAE) FROM MEXICO

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The two of us have been working independently on this paper for the past two years, or more. Once we realized that our efforts were duplicating one another's, we decided to collaborate on the paper that follows.

These two *Chlosyne* are unlike others we have seen in a great bulk of specimens of this genus that have passed through our hands. They, furthermore, are rather well known among collectors of Mexican Lepidoptera, and the names given herein are in rather common use by these lepidopterists. It is imperative that we validate these names without further delay.

Chlosyne gaudialis wellingi, new subspecies

Figures 1, 2 (♂), 3, 4 (♀), 5 (♂ genitalia)

Male: Head, thorax and abdomen covered with short black hairs above, slightly paler ones below with an ill-defined pale gray ventral median stripe. Antenna black. Palpus black with a white lateral stripe on the second segment. Legs black, but prothoracic leg has a white anterior stripe.

Forewings above jet-black with six white spots placed around the cell, as follows: four small spots in R_5 - R_4 , Rs - M_1 , M_1 - M_2 and M_2 - M_3 ; a somewhat larger one in M_3 - Cu_1 and another about twice the size of the previous one in Cu_1 - Cu_2 .

Hindwings above also jet-black with a large yellow central patch from costa to inner margin broken in Cu_1 - Cu_2 and three white spots forming an extradiscal row from M_2 - M_3 to Cu_2 -2A (the anterior of these very poorly defined).

Forewings below likewise jet-black with the spots of the upper surface repeated and additionally a small red spot mid-cell and a dull yellow spot just outside cell from Sc - Rs to M_1 - M_2 .

Hindwing below jet-black with markings of upper surface repeated and additionally a yellow spot at base of Sc + R_1 - Rs , the extradiscal white spotband continued anteriorly into Rs - M_1 and a single submarginal yellow spot in Rs - M_1 .

Fringes checkered black and white.

Length of forewing of Holotype ♂ 25.9 mm.

♂ genitalia as illustrated and identical with those of *C. g. gaudialis* (Bates).

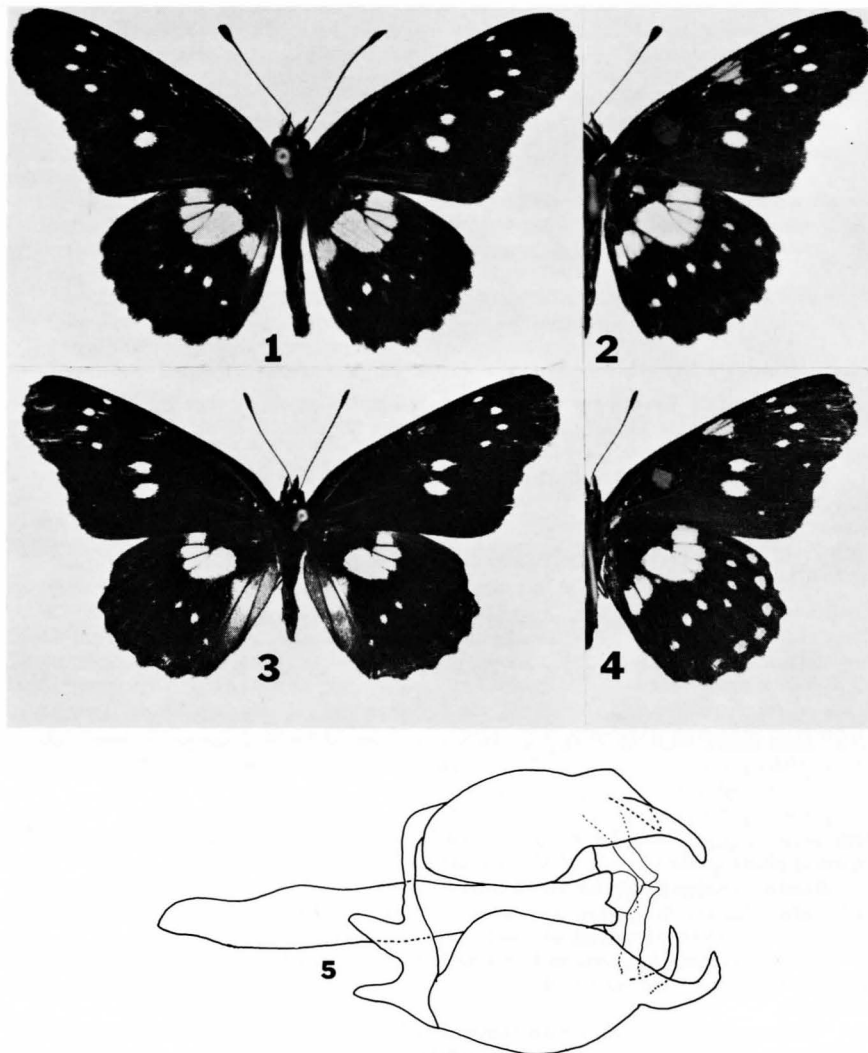
Female: Similar to ♂, but differing in the following: spots generally larger, especial-

ly the forewing ones in M_3 - Cu_1 and Cu_1 - Cu_2 ; hindwing below with a more or less complete row of yellow submarginal spots from $Rs-M_1$ to Cu_1 - Cu_2 .

Lengths of forewings of ♀ Paratypes range from 30.5 to 33.5 mm.

Described from 15 specimens, three males and 12 females, from Candelaria Loxicha, Oaxaca, Mexico.

HOLOTYPE ♂: MEXICO: OAXACA: Candelaria Loxicha, 500 m.; 5.iii.1969 (E. C. Welling M.); ♂ genitalia preparation M-3785V (Lee D. Miller).



Figures 1-5: *Chlosyne gaudialis wellingi*, new subspecies. 1-2, Holotype ♂, upper (1) and under (2) surfaces; MEXICO: OAXACA: Candelaria Loxicha (Allyn Museum photos 071477-11/12). 3-4, Paratype ♀, upper (3) and under (4) surfaces; same data as Holotype (Allyn Museum photos 083077-8/9). 5, ♂ genitalia of Holotype; preparation M-3785-V (Lee D. Miller).

PARATYPES: 2 ♂ 12 ♀ same locality as Holotype; ii-iii, ix-xi one ♂, nine ♀ (all collected by E. C. Welling M.).

Disposition of type series: Holotype ♂ and five ♀ Paratypes in Allyn Museum of Entomology; one ♂ and two ♀ Paratypes in collection of E. C. Welling M.; one ♀ Paratype in American Museum of Natural History; one ♀ Paratype in collection of Bernard Rotger; one ♂ and three ♀ Paratypes in collection of Alberto Diaz Frances.

We take great pleasure in accepting the suggestion of Dr. Tarsicio Escalante to name this distinctive subspecies after its discoverer, Mr. Eduardo C. Welling M. of Mérida, Yucatán, Mexico. Mr. Welling has provided collections with some of the most important material to ever have come out of Mexico with adequate data. His continuing cooperation with both of us makes this dedication of the insect to him an enjoyable task.

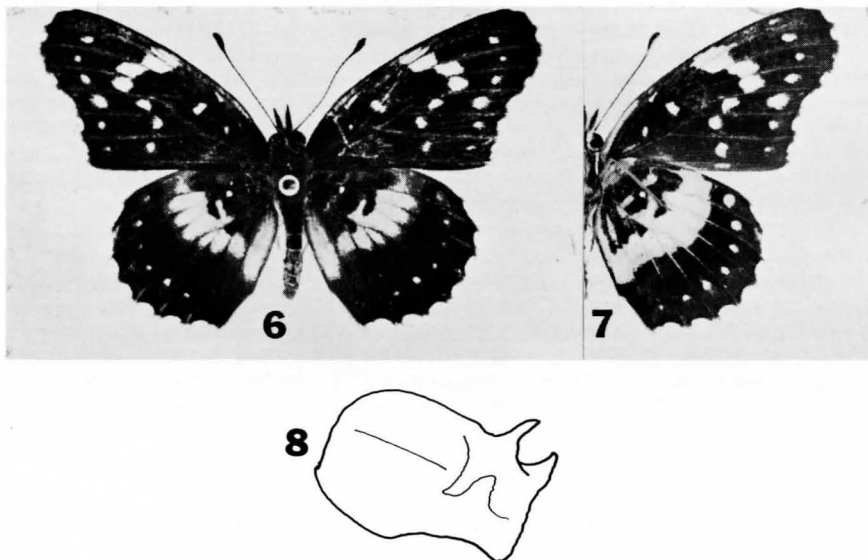
Chlosyne gaudialis wellingi may be immediately distinguished from other *gaudialis* subspecies by the total absence of red on the upper surface forewing. Its presence at Candelaria Loxicha is somewhat surprising because the very different *C. g. gaudialis* (Bates) is found in other parts of Oaxaca (Rio Saribia, Chimalapa), as well as east of the Cordillera and in Chiapas.

Chlosyne mazarum, new species

Figures 6, 7 (♂), 8 (♂ valva)

Male: Head, thorax and abdomen clothed with black dorsal and gray ventral hairs. Antenna Black, yellow under club. Palpus gray margined with black dorsad, ventrad and at tip. Forelegs white; mid- and hindlegs reddish.

Forewing produced at apex, as in *montana* Hall, *rosita* Hall and *riobalsensis* Bauer. Upper surface black with white spots as follows: a small mid-cell spot; a median series of costal spot(s), large rectangular spots in Rs-M₁, M₁-M₂ and M₂-M₃; small medial spots from M₃-Cu₁ to Cu₂-2A; and a submarginal series of small spots from Rs-M₁ to Cu₂-2A following the margin.



Figures 6-8: *Chlosyne mazarum*, new species, Holotype ♂, upper (6) and under (7) surfaces (Allyn Museum photos 071477-1/2) and inner face of ♂ valva (8, preparation M-3780-V [Lee D. Miller]); MEXICO: MORELOS: Paraje, Rancho Viejo.

Hindwing above black, slightly browned toward costa, with a broad transcellular pinkish to yellow band invaded with black proximad as shown in the figure (broadest in anal cell where it occupies the distal two-thirds of the extent of the cell); a series of minute white postdiscal spots at least indicated from near the costa to Cu_1 - Cu_2 .

Forewing beneath black-brown with markings of upper surface repeated, but larger; additionally there is a second white spot at base of cell, and the proximal quarter of the costa is yellow.

Under surface of hindwing as illustrated: basal light yellow patch expanded and invaded by black spots that are partially coalesced; distal black area with white postdiscal spots well developed and a red-brown tornal shade between the yellow patch and the postdiscal spots extending as far anterior as M_3 - Cu_1 .

Fringes of both wings strongly checkered black and white.

Length of forewing of Holotype ♂ 19.3 mm., those of the ♂ Paratypes all about 20 mm., save one specimen in Diaz Frances collection that has a forewing length of but 12 mm.

♂ genitalia as illustrated, differing from the very similar *C. riobalsensis* Bauer (1961: fig. 6) especially in the dorsal and ventral processes of the valva being more widely spread. The ♂ genitalia of *C. montana* Hall are also similar, and that taxon has nothing to do with *C. lacinia*, as suggested by Hall (1924) and Higgins (1960).

Female: Similar to the ♂ in markings, but larger (the only specimen we know of, in the Diaz Frances collection, is of the yellow-banded morph).

Length of forewing of the single ♀ Paratype 22 mm.

Described from 11 specimens, 10 males and one female, from Rancho Viejo, Morelos, Mexico.

HOLOTYPE ♂: MEXICO: MORELOS: Paraje, Rancho Viejo, 26.viii.1966 (R. de la Maza); ♂ genitalic preparation M-3780-V (Lee D. Miller).

PARATYPES: 9♂ 1♀ same locality as Holotype, vii, viii and x.

Disposition of type-series: Holotype ♂ in collection of Allyn Museum of Entomology; 1 ♂ Paratype in collection of Bernard Rotger; 1 ♂ Paratype in collection of the de la Maza family; 7 ♂ 1 ♀ Paratypes in collection of Alberto Diaz Frances.

We take great pleasure in naming this species for the de la Maza family, a group of the most active Mexican lepidopterists, who collected much of the type-series.

Chlosyne mazarum was suggested as a form of *C. riobalsensis* by Roberto de la Maza R., but examination of the male genitalia shows slight, however consistent, differences between the two taxa. Genitalic differences in this section of *Chlosyne* are seldom dramatic, even though populations are biologically distinct. There may well be additional "good" species in *Chlosyne* that are unrecognizable on the basis of gross genitalic characters, and perhaps the most fertile field for future studies in this genus will involve careful comparative biological observation.

ACKNOWLEDGMENTS

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