

NOTES ON MEXICAN BUTTERFLIES, IV

BY F. MARTIN BROWN

NYMPHALIDÆ—I

*Heliconiinae*230. *Heliconius ismenius telchinia* Doubleday.

G. & S. (1), 1: 149, 667.

S. (2), p. 380, pl. 72b.

H. (3), p. 672.

Ojo de Agua, Vera Cruz, 1600 ft., 1 ♂ v.12.41 (R.P.).

237. *Heliconius petiverana* Doubleday & Hewitson.

G. & S., 1: 153, 668.

S., p. 392, pl. 78b.

H., p. 673.

El Bañito Valles, San Luis Potosi, 200 ft., 3 ♂♂ vii.22.39;
1 ♂ 1 ♀ iv.28-29.40 (H.H.).El Pujal, San Luis Potosi, 100 ft., 2 ♂♂ 2 ♀♀ vii.18-20.39
(H.H.).

Ojo de Agua, Vera Cruz, 1600 ft., 1 ♂ v.12.41 (R.P.).

Rio Blanco, Vera Cruz, 2200 ft., 1 ♂ 1 ♀ v.10.41 (R.P.).

El Sabino, Uruapan, Michoacan, 1 ♂ vii.15-30.36
(H.D.T.).

The broad red bar on the forewings of the Vera Cruz specimens is more rosy red than on the San Luis Potosi specimen. On the latter the bar is tomato red. Is this a real difference or one due to the age of the specimen? In each of the above series there are fresh and flown specimens; females seem to be smaller and more worn than the males.

238. *Heliconius charithonia* Linnaeus.

G. & S., 1: 151.

S., p. 394, pl. 79a.

H., p. 673.

Hda. Vista Hermosa, Villa Santiago, Nuevo Leon, 1600
ft., 3 ♂♂ 1 ♀ vi.16-20.40 (H.H.).

- nr. Villagran, Tamaulipas, 1 ♂ 1 ♀ iv.28.41 (R.P.).
 60 mi. So. of Victoria, Tamaulipas, 1 ♂ vii.6.36 (H.D.T.).
 Jacala, Hidalgo, 4500 ft., 1 ♂ vi.29.39 (H.H.).
 El Sol, Tamazunchale, San Luis Potosi, 400 ft., 4 ♂♂
 6 ♀♀ v.28-29.41 (R.P.).
 El Mante, San Luis Potosi, 1 ♂ iv.29.41 (R.P.).
 El Bañito, Valles, San Luis Potosi, 200 ft., 1 ♂ 1 ♀
 vii.22.39, 2 ♂♂ 2 ♀♀ vi.26-27.40 (H.H.); 1 ♀
 iv.31.41 (R.P.).
 El Pujal, San Luis Potosi, 100 ft., 3 ♂♂ 1 ♀ vii.17-31.39
 (H.H.).
 Tuxpango, Vera Cruz, 1500 ft., 1 ♀ v.9.41 (R.P.).
 Fortin, Vera Cruz, 1600 ft., 4 ♂♂ v.3.41 (R.P.).
 Ojo de Agua, Vera Cruz, 1600 ft., 1 ♂ 4 ♀♀ v.12.41
 (R.P.).
 Orizaba, Vera Cruz, 2000 ft., 1 ♂ 1 ♀ v.6.41 (R.P.).
 Rio Blanco, Vera Cruz, 2200 ft., 1 ♂ v.10.41 (R.P.).
 Acahuato, Michoacan, 3000 ft., 1 ♂ viii.2.40 (H.H.).

All of the females show a distinct rusty flush over the yellow bars, it is most intense toward the margins. Among these specimens the females seem to be more worn than the males.

243. *Eueides aliphera gracilis* Stichel.

G. & S., 1: 163, 669 (as *aliphera*).

S., p. 399.

H., p. 673.

Tuxpango, Vera Cruz, 1500 ft., 1 ♀ v.9.41 (R.P.).

Ojo de Agua, Vera Cruz, 1600 ft., 1 ♀ v.12.41 (R.P.)

244. *Eueides cleobæa zorcaon* Reakirt.

G. & S., 1: 165, 670.

S., p. 368.

H., p. 674.

Galeana, Nuevo Leon, 6500 ft., 2 ♂♂ 1 ♀ iv.29.41 (R.P.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 4 ♂♂
 v.29.41 (R.P.).

El Bañito, Valles, San Luis Potosi, 200 ft., 2 ♂♂ 3 ♀♀
 vii.22.39; 1 ♂ 1 ♀ vi.28.40 (H.H.).

El Pujal, San Luis Potosi, 100 ft., 1 ♂ 3 ♀♀ vii.12-21.39
 (H.H.).

Fortin, Vera Cruz, 1500 ft., 1 ♂ v.3.41 (R.P.).

Rio Blanco, Vera Cruz, 2200 ft., 3 ♂♂ 3 ♀♀ v.10.41 (R.P.).

There is considerable variation in this species. The ground color varies from rich fulvous brown to faun. The apical light spots are either concolorous with the rest of the wing or lighter. Seitz (*l.c.*) states that in the females these spots are "rather pale yellow." They do tend to be lighter in the females but yellow apical spots are not restricted to females nor do all females have yellow spots.

There is a peculiar variation in the color of the antennæ. The females have antennæ that are almost wholly yellowish. The males have dark antennæ that are yellow tipped.

Dioninæ

246. *Dryas julia delila* Fabricius.

G. & S., 1: 168, 670.

S., p. 400.

H., p. 674.

60 mi. So. of Victoria, Tamaulipas, 1 ♀ vii.6.36 (H.D.T.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 15 ♂♂ v.28-29.41 (R.P.).

Arroyo del Calabozas, San Luis Potosi, 250 ft., 1 ♂ iv.30.41 (R.P.).

El Bañito, Valles, San Luis Potosi, 200 ft., 3 ♂♂ 1 ♀ vii.22.39 (H.H.); 1 ♂ iv.30.41 (R.P.).

El Pujal, San Luis Potosi, 100 ft., 3 ♂♂ vii.17.39 (H.H.).

Fortin, Vera Cruz, 1600 ft., 1 ♂ v.3.41 (R.P.).

Ojo de Agua, Vera Cruz, 1600 ft., 1 ♀ v.12.41 (R.P.).

Rio Blanco, Vera Cruz, 2200 ft., 6 ♂♂ v.10.41 (R.P.).

El Sabino, Uruapan, Michoacan, 1 ♂ vii.15-30.36 (H.D.T.).

The black apical streak, characteristic of *julia* is present in a reduced fashion on males from El Sol, El Bañito, El Pujal and Rio Blanco, and on both females.

248. *Dione junio huscama* Reakirt.

G. & S., 1: 170, 670 (as *juno*).

S., p. 401, pl. 84e.

H., p. 674.

Galeana, Nuevo Leon, 6500 ft., 2 ♂♂ iv.29.41 (R.P.).

Jacala, Hidalgo, 4500 ft., 1 ♀ vi.21.39 (H.H.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 6 ♂♂
1 ♀ v.28-29.41 (R.P.).

El Sabino, Uruapan, Michoacan, 1 ♂ vii.15-30.36
(H.D.T.).

Tancitaro, Michoacan, 6000 ft., 1 ♂ 1 ♀ vii.20.40 (H.H.).

In general all of these are more boldly marked with black than Seitz' figured specimen but not quite so boldly as his figure of *juno juno*. The El Sol series is reasonably fresh; the others are worn.

249. *Dione vanillæ* Linnæus.

G. & S., 1: 171, 671.

S., p. 401, pl. 84f.

H., p. 674 (as *v. insularis* May).

Jacala, Hidalgo, 4500 ft., 4 ♂♂ 3 ♀♀ vi.15-vii.3.39
(H.H.)

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♂
v.29.41 (R.P.).

El Bañito, Valles, San Luis Potosi, 200 ft., 2 ♂♂ vii.22.39
(H.H.).

Tuxpango, Vera Cruz, 1500 ft., 1 ♂ v.8.41 (R.P.).

Rio Balsas, Guerrero, 2400 ft., 1 ♂ v.26.41 (R.P.).

Apatzingan, Michoacan, 1050 ft., 1 ♀ viii.5.40 (H.H.).

El Sabino, Uruapan, Michoacan, 1 ♀ vii.15-30.36
(H.D.T.).

None of these specimens is *insularis*; all have fully developed markings along the margins of the hindwings. The males of the Jacala series lack the small black dot between M_3 and Cu_1 close to the cell on the hindwings. This dot is present on all of the other males and on all of the females.

NYMPHALINÆ

Tribe Argynnidi

251. *Euptoieta claudia* Cramer.

G. & S., 1: 174, 671.

S., p. 403, pl. 85a.

H., p. 674.

Ojo de Agua, Sabinas Hidalgo, Nuevo Leon, 1000 ft., 1 ♀
vi.14.40 (H.H.).

Hda. Vista Hermosa, Villa Santiago, Nuevo Leon, 1600
ft., 2 ♂♂ 1 ♀ vi.16-18.40 (H.H.).

60 mi. So. of Victoria, Tamaulipas, 1 ♂ vii.6.36 (H.D.T.).

Galeana, Nuevo Leon, 6500 ft., 1 ♂ viii.3.39 (H.H.).

Jacala, Hidalgo, 4500 ft., 2 ♂♂ vi.25.39 (H.H.).

El Bañito, Valles, San Luis Potosi, 200 ft., 2 ♂♂ 1 ♀
vi.27-28.40 (H.H.).

Tuxpango, Vera Cruz, 1500 ft., 1 ♀ v.9.41 (R.P.).

Chichen Itza, Yucatan, 1 ♀ viii.30.36 (H.D.T.).

Rio Balsas, Guerrero, 2400 ft., 1 ♀ v.26.41 (R.P.).

El Sabino, Uruapan, Michoacan, 1 ♀ vii.15-30.36
(H.D.T.).

Tancitaro, Michoacan, 6600 ft., 1 ♀ viii.14.40 (H.H.).

This is probably one of the most adaptable of American butterflies. I have found it breeding from sea-level in the tropics to 11,800 ft., in the lower margin of the alpine-arctic zone in Colorado. In that state it is not uncommon far above tree line, at 13,000 ft. or more. I feel that this species is a true archaic ancestor of the genus *Argynnis*. I know of no structural differences between *Euptoieta* and *Argynnis* that are of generic value.

The species *claudia* is also found in the South Temperate Zone. I can find no reliable character to separate material from the Argentine (*hortensia* Blanchard) from the material before me. In this respect the two forms are analogous to *Phæbis eubule* and *amphitrite*.

252. *Euptoieta hegesia* Cramer.

G. & S., 1: 175, 671.

S., p. 404, pl. 85a.

H., p. 674.

Sabinas Hidalgo, Nuevo Leon., 900 ft., 1 ♂ vi.15.39
(H.H.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♂
iv.31.41; 2 ♂♂ 1 ♀ v.29.41 (R.P.).

- El Bañito, Valles, San Luis Potosi, 200 ft., 1 ♀ vii.21.39;
 3 ♂♂ 1 ♀ vi.28.40 (H.H.).
 Fortin, Vera Cruz, 1600 ft., 1 ♀ v.4.41 (R.P.).
 Orizaba, Vera Cruz, 2000 ft., 2 ♂♂ v.6.41 (R.P.).
 Rio Blanco, Vera Cruz, 2200 ft., 1 ♂ 1 ♀ v.10.41 (R.P.).
 Chichen Itza, Yucatan, 2 ♂♂ 1 ♀ viii.30.36 (H.D.T.).
 Rio Blanco, Guerrero, 2400 ft., 1 ♀ v.26.41 (R.P.).
 Sta. Lucrecia, 2 ♂♂ 1 ♀ iv.24.39 (H.D.T.).
 Acahuato, Michoacán, 3000 ft., 1 ♂ viii.2.40 (H.H.).
 El Sabino, Uruapan Michoacan, 1 ♂ 1 ♀ vii.15-30.36
 (H.D.T.).

266. *Melitæa definita* Aaron (?).

G. & S., 2: 676, pl. 108, ff. 11, 12 (as *schausi*).

S., p. 433 (p. 434, pl. 88h, as *schausi*).

H., p. 676.

Cuidad Victoria, Tamaulipas, 1 ♂ vi.19.39 (H.H.).

Jacala, Hidalgo, 4500 ft., 1 ♂ vi.24.39 (H.H.).

These two specimens come fairly close to Texan *definita* but are by no means typical. The upper side gives the impression that they are *Euphydryas* and the underside continues the impression. I suspect that this is a paleonearctic species and may be closely related to the archaic species from which our North American *Euphydryas* have sprung. The Jacala specimen extends the known range of the species.

270. *Melitæa theona* f. *theona* Ménètries.

G. & S., 1: 192, 2: 677 (as *Phyciodes*).

S., p. 438, pl. 89g (as *Phyciodes*).

Ha. (4), p. 26 (as *Phyciodes*).

H., p. 676.

Hda. Vista Hermosa, Villa Santiago, Nuevo Leon, 1500 ft., 2 ♂♂ vi.15-16.40 (H.H.).

Galeana, Nuevo Leon, 6500 ft., 1 ♂ iv.29.41 (R.P.).

Jacala, Hidalgo, 4500 ft., 2 ♂♂ 1 ♀ vi.19-vii.3.39 (H.H.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 4 ♂♂
 3 ♀♀ iv.31; v.29.41 (R.P.).

El Bañito, Valles, San Luis Potosi, 200 ft., 1 ♀ vii.22.39;

1 ♀ vi.26.40. (H.H.); 1 ♂ iv.30.41 (R.P.).

270a. *Melitæa theona* f. *thekla* Edwards.G. & S., 2: 677 (as *theona*).

S., p. 433, pl. 88f.

Ha., p. 26 (as *Phyciodes theona* in part).

H., p. 676.

Ojo de Agua, Sabinas Hidalgo, Nuevo Leon, 1500 ft.,
1 ♂ vi.14.40 (H.H.).

Las Adjuntas, Nuevo Leon, 3000 ft., 1 ♂ vi.21.40 (H.H.).

Arroyo del Meco, Tamaulipas, 1520 ft., 1 ♀ iv.28.41
(R.P.).— *Melitæa* sp.

Two battered specimens of the *gabbi* group were taken by Potts, Cumbres, Vera Cruz, 8000 ft., v.17.41, and Rio Balsas, Guerrero, 2400 ft., v.26.41.

272. *Phyciodes elada elada* Hewitson.

G. & S., 1: 196, 2: 679, pl. 21, ff. 6, 7.

S., p. 437, pl. 89f.

Ha., p. 19.

H., p. 676 (as *Melitæa*).Cumbres, Vera Cruz, 8000 ft. (nr. Km. 295) 1 ♂ v.7.41
(R.P.).Apatzingan, Michoacan, 1050 ft., 2 ♂♂ viii.3–5.40
(H.H.).

Acahuato, Michoacan, 3000 ft., 2 ♂♂ viii.2.40 (H.H.).

The two Acahuato specimens are much larger than the two from Apatzingan. The baso-apical radii of the forewings are 15.0, 14.2 and 12.5, 12.0 mm. respectively. The Cumbres specimen may not be properly placed here, Hoffmann records the species only from the west coast.

272a. *Phyciodes elada callina* Boisduval.

Ha., p. 20.

Sabinas Hidalgo, Nuevo Leon, 960 ft., 1 ♂ vi.15.39
(H.H.).Jacala, Hidalgo, 4500 ft., 10 ♂♂ 3 ♀♀ vi.23–vii.6.39
(H.H.).

This may be a mixed series but I cannot bring myself to splitting it between two names. Hoffmann does not include the race. I suspect that his *ulrica* is really *callina*.

274. *Phyciodes liriopae guatemalena* Bates.G. & S., 1: 198, pl. 21, f. 23 (as *fragilis*).R. (5), p. 435, pl. 89b (as *guatemalae*).

Ha., p. 67.

H., p. 676.

So. of El Mante, San Luis Potosi, 1 ♂ iv.29.41 (R.P.).

El Sol, Tamazunchale, San Luis Potosi, 2 ♂♂ 10.31.41 (R. P.).

Hda. Potrero Viejo, Paraje Nuevo, Vera Cruz, 1500 ft., 1 ♂ 1 ♀ v.5.41 (R.P.).

Ojo de Agua, Vera Cruz, 1600 ft., 2 ♂♂ v.12.41 (R.P.).

Of these specimens only the El Mante specimen is as heavily marked as the figures given by Roeber (*l.c.*). Is *Phycoides mylitta mexicana* Hall (p. 44) synonymous with *guatemalena*?

275. *Phyciodes phaon phaon* Edwards.

G. & S., 2: 677.

R., p. 436, pl. 89c.

Ha., p. 40.

H., p. 677.

Hda. Vista Hermosa, Villa Santiago, Nuevo Leon, 1500 ft., 2 ♀♀ vi.16-17.40 (H.H.).

Monterrey, Nuevo Leon, 1800 ft., 3 ♀♀ iv.27.41 (R.P.).

60 mi. So. of Victoria, Tamaulipas, 1 ♀ vii.6.36 (H.D.T.).

Jacala, Hidalgo, 4500 ft., 1 ♂ vii.2.39 (H.H.).

The Jacala specimen and two of the Monterrey specimens are typical *phaon*, the others are f. *aestiva* Edwards. The known range is extended by the Jacala specimen.

276. *Phyciodes picta pallescens* Felder.

G. & S., 1: 195, 2: 678, pl. 21, ff. 18, 19.

R., p. 437, pl. 89e.

Ha., p. 50.

H., p. 676.

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♀ v.28.41 (R.P.).

El Sabino, Uruapan, Michoacan, 1 ♀ vii.15-30.36 (H.D.T.).

The El Sol specimen establishes a new northern record for this form on the east coast of Mexico, extending the range given by

Hoffmann. Hoffmann lists *pallescens* (#276) as a distinct species, separate from *picta* (#281).

277. *Phyciodes tharos* Drury.

G. & S., 1: 193, 2: 436.

R., p. 436, pl. 89f.

Ha., p. 35.

H., p. 676.

Hda. Vista Hermosa, Villa Santiago, Nuevo Leon, 1500 ft., 1 ♂ 2 ♀♀ vi.17-18.40. (H.H.).

Galeana, Nuevo Leon, 6500 ft., 1 ♂ viii.2.39 (H.H.).

El Sol Tamazunchale, San Luis Potosi, 1 ♂ 1 ♀ v.28 & iv.31.41 (R.P.).

None of these is f. *marcia* Edwards.

280. *Phyciodes vesta vesta* Edwards.

G. & S., 1: 195, 2: 678.

R., p. 436, pl. 89c.

Ha., p. 50.

H., p. 677.

Sabinas Hidalgo, Nuevo Leon, 960 ft., 3 ♂♂ 1 ♀ vi.15.39 (H.H.).

Hda. Vista Hermosa, Villa Santiago, Nuevo Leon, 1500 ft., 1 ♂ vi.18.40 (H.H.).

Hda. Sta. Engracia, Nuevo Leon, 1 ♂ vii.25.39 (H.H.).

nr. Villagran, Tamaulipas, 2 ♀♀ iv.28.41 (R.P.).

60 mi. So. of Victoria, Tamaulipas, 1 ♀ vii.6.36 (H.D.T.).

El Mante, San Luis Potosi, 1 ♂ iv.29.41 (R.P.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♂ 1 ♀ v.28.41 (R.P.).

El Bañito, Valles, San Luis Potosi, 200 ft., 2 ♂♂ vii.22.39; 1 ♂ vi.27.40 (H.H.).

El Pujal, San Luis Potosi, 100 ft., 1 ♀ vii.21.39 (H.H.).

The San Luis Potosi specimens tend toward f. *boucardi* G. & S.
The Nuevo Leon specimens are almost typical *vesta*.

282. *Phyciodes texana texana* Edwards.

G. & S., 1: 200.

R., p. 442, pl. 90c.

Ha., p. 96.

H., p. 677 (as *Athanassa*).

Sabinas Hidalgo, Nuevo Leon, 690 ft., 1 ♂ vi.15.39 (H.H.).

Ojo de Agua, Sabinas Hidalgo, Nuevo Leon, 1000 ft., 1 ♂ vi.14.40 (H.H.).

Hda. Vista Hermosa, Villa Santiago, Nuevo Leon, 1500 ft., 5 ♂♂ 2 ♀♀ vi.16-18.40 (H.H.).

Monterrey, Nuevo Leon, 1600 ft., 2 ♀♀ iv.27.41 (R.P.).

Galeana, Nuevo Leon, 6500 ft., 1 ♀ vii.30.39 (H.H.); 1 ♂ iv.29.41 (R.P.).

nr. Villagran, Tamaulipas, 1160 ft., 1 ♂ 1 ♀ iv.28.41 (R.P.).

60 mi. So. of Victoria, Tamaulipas, 1 ♀ vii.6.36 (H.D.T.).

Jacala, Hidalgo, 4500 ft., 5 ♂♂ 1 ♀ vi.23-vii.2.39 (H.H.).

This is the only member of this particular section of the *Phyciodes* that is easily recognized. The broad orange-brown area at the base of the forewing beneath is the characteristic which at once identifies it.

285. *Phyciodes ptolyca* f. *ptolyca* Bates.

G. & S., 1: 201 (in part), pl. 21, ff. 32, 33.

Ha., p. 91.

H., p. 677.

Galeana, Nuevo Leon, 6500 ft., 9 ♂♂ 1 ♀ iv.29.41 (R.P.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 2 ♂♂ 3 ♀♀ v. 29.41 (R.P.).

El Bañito, Valles, San Luis Potosi, 200 ft., 1 ♂ vii.22.39; 1 ♂ vi.26.40 (H.H.).

Hda. Potrero Viejo, Paraje Nuevo, Vera Cruz, 1500 ft., 1 ♂ v.5.41 (R.P.).

Ojo de Agua, Vera Cruz, 1600 ft., 2 ♂♂ v.12.41 (R.P.).

285A. *Phyciodes ptolyca* f. *amator* Hall.

Ha., p. 92.

60 mi. So. of Victoria, Tamaulipas, 1 ♂ vii.6.36 (H.D.T.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♀ iv.31.41; 1 ♂ v.28.41 (R.P.).

El Bañito, Valles, San Luis Potosi, 200 ft., 2 ♂♂ 2 ♀♀ vi.26-27.40 (H.H.).

Hda. Potrero Viejo, Paraje Nuevo, Vera Cruz, 1500 ft.,
1 ♂ 1 ♀ v.5.41 (R.P.).

Fortin, Vera Cruz, 1600 ft., 1 ♀ v.6.41 (R.P.).

Orizaba, Vera Cruz, 2000 ft., 1 ♀ v.6.41 (R.P.).

El Capiríe, Michoacan, 500 ft., 1 ♀ viii.3.40 (H.H.).

El Sabino, Uruapan, Michoacan, 1 ♂ vii.15-30.36
(H.D.T.).

Hall considers this the western race of *ptolyca*. I believe it is only a pale form. Roeber, in Seitz', confused this species, *ptolyca*, with a form of *drusilla*, *lelex*. In general *ptolyca* is smaller than either *ardys* or *drusilla alethes* with which it is easily confused. I know of no good character for separating this species, but in series there are several intangible differences.

285a. *Phyciodes cortez* Hall.?

Ha., p. 93.

Ojo de Agua, Vera Cruz, 1600 ft., 1 ♀ v.12.41 (R.P.).

I believe that I have correctly placed this species. The type hails from Cuautla (4000 ft.) in S. W. Mexico. It may be a white form of *tulcis*. This species is not included by Hoffmann in his list.

287. *Phyciodes ardys* Hewitson.

G. & S., 1: 204, 2: 681, pl. 22, ff. 4, 5.

R., p. 442, pl. 90d.

Ha., p. 90.

H., p. 677.

Hda. Vista Hermosa, Villa Santiago, Nuevo Leon, 1 ♂
1 ♀ vi.18.40 (H.H.).

Tuxpango, Vera Cruz, 1500 ft., 2 ♂♂ v.9.41 (R.P.).

Fortin, Vera Cruz, 1600 ft., 1 ♂ 1 ♀ v.4.41 (R.P.).

Orizaba, Vera Cruz, 2000 ft., 3 ♂♂ 2 ♀♀ v.6.41 (R.P.).

One pair *in copula*.

Cumbres, (Km. 295) Vera Cruz, 8000 ft., 1 ♀ v.7.41
(R.P.).

El Sabino, nr. Uruapan, Michoacan, 1 ♂ vii.15-30.36
(H.D.T.).

This species may be separated from the following by the band on the upperside of the hindwing which is broken into spots on *ardys*. The Michoacan record is an extension of the known range.

287A. *Phyciodes drusilla alethes* Bates.G. & S., 1: 201 (as *ptolyca* in part).R., p. 443, 8c as *lelex* on pl. 90, f. d.

Ha., p. 88.

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♀
v.28.41 (R.P.).El Sabino, Uruapan, Michoacan, 4 ♂♂ 2 ♀♀ vii.15-30.36
(H.D.T.).

This race of *drusilla* closely resembles *ptolyca*. It differs from that species in the following respects: the light markings on the upper side are duller; the submarginal markings on the upper side of the forewings are more frequently complete; the underside of the hindwing is less contrasty. Hall states (p. 92) that the most important character is "the enlargement of the submarginal spot at the anterior angle of hindwing above" on *ptolyca*. I find this to be true in about 80% of my specimens.

This species is not included by Hoffmann in his list. He may have confused it with *ptolyca*.

290. *Phyciodes atronia atronia* Bates.G. & S., 1: 202, 207, 2: 681, pl. 22, ff. 19-23 (as *atronia*,
argentea, *cassiopeia*).R., p. 441, pl. 90a (as *obscurata* & *cassiopeia*) p. 443, pl.
88i (as *atronia* & *argentea*).

Ha., p. 108.

H., p. 677 (as *Athanassa*).

Ojo de Agua, Vera Cruz, 1600 ft., 3 ♂♂ v.12.41 (R.P.).

I have followed Hall (*l.c.*) in respect to this very variable species. My specimens are what Roeber (*l.c.*) called *cassiopeia*.

293. *Phyciodes myia myia* Hewitson.

G. & S., 1: 188, 2: 674.

R., p. 444, pl. 90e.

Ha., p. 136.

H., p. 678 (as *Eresia*).

Tuxpango, Vera Cruz, 1500 ft., 2 ♂♂ v.9.41 (R.P.).

Fortin, Vera Cruz, 1600 ft., 2 ♂♂ 1 ♀ v.4.41 (R.P.).

Ojo de Agua, Vera Cruz, 1600 ft., 7 ♂♂ 5 ♀♀ v.12.41
(R.P.).

El Sabino, Uruapan, Michoacan, 1 ♀ vii.15-30.36
(H.D.T.).

These are all typical *myia*. Hall records a single specimen of the slightly different race *griseobasalis* Bates from Western Mexico, Sierra Madre de Tepec. My single female from Michoacan does not show any indication of being that race.

297. *Phyciodes eranites* Hewitson.

G. & S., 1: 185, 2: 673.

R., p. 446, pl. 92c & d (as *evanites*).

Ha., p. 164.

H., p. 678.

Fortin, Vera Cruz, 1600 ft., 1 ♂ v.4.41 (R.P.).

Ojo de Agua, Vera Cruz, 1600 ft., 1 ♀ v.12.41 (R.P.).

298. *Phyciodes phillyra* Hewitson.

G. & S., 1: 184, 2: 674.

R., p. 448, pl. 92c.

Ha., p. 167.

H., p. 678.

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♀
iv.31.41 (R.P.).

Tuxpango, Vera Cruz, 1500 ft., 1 ♂ 2 ♀♀ v.9.41 (R.P.).

Ojo de Agua, Vera Cruz, 1600 ft., 1 ♂ v.24.41 (R.P.).

Orizaba, Vera Cruz, 2000 ft., 2 ♂♂ v.6.41 (R.P.).

The Tuxpango females are much larger and the coloring less intense than on the El Sol female. Not previously reported from San Luis Potosi.

299. *Chlosyne janais* Drury.

G. & S., 1: 178, 2: 671.

R., p. 451, pl. 91f.

H., p. 678.

Ojo de Agua, Sabinas Hidalgo, Nuevo Leon, 1000 ft.,
1 ♂ vi.15.40 (H.H.).

Sabinas Hidalgo, Nuevo Leon, 960 ft., 1 ♀ vi.15.40
(H.H.).

Hda. Vista Hermosa, Nuevo Leon, 1500 ft., 1 ♀ vi.17.40
(H.H.).

Galeana, Nuevo Leon, 6500 ft., 6 ♂♂ iv.29.41 (R.P.).

Nr. Villagran, Tamaulipas, 1160 ft., 1 ♀ iv.28.41 (R.P.).

Arroyo del Meco, Tamaulipas, 1320 ft., 3 ♂♂ iv.28.41 (R.P.).

Jacala, Hidalgo, 4500 ft., 1 ♂ 1 ♀ vi.24.39 (H.H.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♂ v.28.41 (R.P.).

Ojo de Agua, Vera Cruz, 1600 ft., 2 ♂♂ 4 ♀♀ v.12.41 (R.P.).

300. *Chlosyne lacinia* Geyer.

The multitude of forms of this species are so hopelessly confused and the names proposed for them so numerous that I am unwilling to put names to any without much more material and study. Therefore I shall merely list the specimens under brief descriptions.

a) rufous markings on the upper side of both wings, those of the forewing forming a more or less continuous band as in G. & S. pl. 19, f. 8 & 10: the underside of the hindwings as in f. 7: underside of forewings as in f. 13 with added basal spots. This form I believe is best called *adjutrix* Scudder.

Sabinas Hidalgo, Nuevo Leon, 960 ft., 1 ♀ vi.15.39 (H.H.).

Monterrey, Nuevo Leon, 1800 ft., 3 ♂♂ 1 ♀ iv.27.41 (R.P.).

Jacala, Hidalgo, 4500 ft., 1 ♂ vii.2.39 (H.H.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 2 ♂♂ iv.31 & 3 ♀♀ v.28.41 (R.P.).

El Bañito, Valles, San Luis Potosi, 200 ft., 2 ♂♂ vi.26-27.41 (H.H.).

El Sabino, Uruapan, Michoacan, 1 ♂ vii.15-30.36 (H.D.T.).

The Michoacan specimen is atypical to this extent: the basal spots are absent and the transverse bands are chestnut, narrow and ill-defined on the upper surface.

b) similar to *a)* but lacking the yellow marginal lunules on the underside of the hindwings.

Jacala, Hidalgo, 4500 ft., 1 ♀ vii.2.39 (H.H.).

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♀
iv.31.41 (R.P.).

c) similar to a) on the upper side but lacking the brown markings on the forewing. Underside of hindwing with orange brown spots outside of yellowish buff transverse band—see Seitz' pl. 91d—*mediatrix*.

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 1 ♂
v.28.41 (R.P.).

Fortin, Vera Cruz, 1600 ft., 2 ♂♂ v.4.41 (R.P.).

Orizaba, Vera Cruz, 2000 ft., 1 ♂ v.6.41 (R.P.).

Rio Blanco, Vera Cruz, 2200 ft., 1 ♂ v.10.41 (R.P.).

d) similar to c) but lacking the series of orange brown spots on the underside of the hindwings.

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 4 ♂♂
2 ♀♀ v.28-29.41 (R.P.).

Tuxpango, Vera Cruz, 1500 ft., 1 ♂ v.9.41 (R.P.).

Fortin, Vera Cruz, 1600 ft., 1 ♂ v.4.41 (R.P.).

Orizaba, Vera Cruz, 1600 ft., 1 ♂ v.6.41 (R.P.).

e) similar to c) but brown area on hindwing above diffuse and reduced.

El Sabino, Uruapan, Michoacan, 1 ♀ vii.15-30.36
(H.D.T.).

f) similar to d) and varying from that as e) does from c).

El Sabino, Uruapan, Michoacan, 1 ♀ vii.15-30.36
(H.D.T.).

g) similar to c) on the upper side but brown band reduced to a series of small spots; beneath lacking the yellow transverse band on the hindwing.

El Sol, Tamazunchale, San Luis Potosi, 400 ft., 2 ♀♀
v.28.41 (R.P.).

Fortin, Vera Cruz, 1600 ft., 1 ♀ v.4.41 (R.P.).

h) upper surface lacks all trace of brown: underside with yellow submarginal lunules, transverse band and basal spots on the hindwing (*quehtala* Reakirt?).

Iguala, Guerrero, 1 ♂ v.27.41 (R.P.).

El Sabino, Uruapan, Michoacan, 1 ♂ 1 ♀ vii.15-30.36 (H.D.T.).

i) similar to *h*) but lacking the yellow on the underside of the hindwings (*adelina* Stdgr.?).

Rio Balsas, Guerrero, 2400 ft., 2 ♂♂ v.26.41 (R.P.).

Apatzingan, Michoacan, 1050 ft., 1 ♂ 1 ♀ *in copula* viii.2.40 (H.H.).

El Capiríe, Michoacan, 500 ft., 1 ♂ viii.3.40 (H.H.).

j) white spotted forewing, hindwing with a light area extended at least half way from the base to the outer margin which it parallels. The area is not solidly colored but varies from buff to orange brown. Under side like the upper side (*lacinia* Hübner?).

Galeana, Nuevo Leon, 6500 ft., 1 ♂ iv.29.41 (R.P.).

60 mi. So. of Victoria, Tamaulipas, 1 ♂ 1 ♀ vii.6.36 (H.D.T.).

El Bañito, Valles, San Luis Potosi, 200 ft., 2 ♂♂ 1 ♀ vi.26-28.40 (H.H.).

303. *Chlosyne hippodrome* Geyer.

(figured as *hyperia* by Seitz' pl. 91f.).

H., p. 679.

Ojo de Agua, Vera Cruz, 1600 ft., 6 ♂♂ 5 ♀♀ v.12.41 (R.P.).

Chichen Itza, Yucatan, 2 ♂♂ viii.30.36 (H.D.T.).

Acahuato, Michoacan, 1 ♂ viii.2.40 (H.H.).

El Sabino, Uruapan, Michoacan, 1 ♀ vii.15-30.36 (H.D.T.).

There is no difference between east and west coast specimens. Hoffmann does not record this species from Michoacan.

305. *Chlosyne erodyle* Bates.

G. & S., 1: 180, 2: 672, pl. 20, ff. 3, 4.

R., p. 452, pl. 91h.

H., p. 679.

Rio Blanco, Vera Cruz, 2200 ft., 1 ♂ v.10.41 (R.P.).

307. *Chlosyne dryope* Godman & Salvin.

G. & S., 2: 672, pl. 108, ff. 3, 4.

H., p. 679.

Iguala, Guerrero, 1 ♂ v.22.41 (R.P.).

Rio Balsas, Guerrero, 2400 ft., 1 ♀ v.26.41 (R.P.).

Hoffmann records this species only from Jalisco.

311. *Chlosyne endeis* Godman & Salvin.

G. & S., 2: 673, pl. 108, ff. 5, 6.

H., p. 679.

Jacala, Hidalgo, 4500 ft., 3 ♂♂ 1 ♀ vi.23–vii.6.39 (H.H.).

The transverse discal band on a fresh specimen is fulvous. On the other three which are flown it appears white. This seems to be due to a great extent to the loss of the fulvous scales which seem to be very loosely attached.

This is the first record of this species on the eastern slope of Mexico.

314. *Microtia elva* Bates.

G. & S., 1: 120, 2: 682, pl. 20, f. 23.

R., p. 453, pl. 88h.

H., p. 669–70.

Sabinas Hidalgo, Nuevo Leon, 960 ft., 1 ♂ vi.18.39 (H.H.).

Hda. Vista Hermosa, Villa Santiago, Nuevo Leon, 1500 ft., 2 ♂♂ vi.17–20.40 (H.H.).

nr. Villagran, Tamaulipas, 1160 ft., 1 ♂ 1 ♀ iv.28.41 (R.P.).

Arroyo del Meco, Tamaulipas, 1320 ft., 3 ♂♂ iv.28.41 (R.P.).

Jacala, Hidalgo, 4500 ft., 6 ♂♂ 5 ♀♀ vi.23–29.39 (H.H.).

So. of El Mante, San Luis Potosi, 1 ♀ iv.29.41 (R.P.).

El Bañito, Valles, San Luis Potosi, 200 ft., 1 ♀ vii.22.39;
2 ♂♂ 1 ♀ vi.26–27.40 (H.H.); 2 ♂♂ 1 ♀ iv.30.41 (R.P.).

Acapulco, Guerrero, 100 ft., 1 ♀ v.26.41 (R.P.).

Iguala, Guerrero, 1 ♂ 1 ♀ v.22.41 (R.P.).

Acahuato, Michoacan, 3000 ft., 1 ♀ viii.2.40 (H.H.).

Apatzingan, Michoacan, 1050 ft., 1 ♀ viii.2.40 (H.H.).

El Capiríe, Michoacan, 500 ft., 1 ♂ viii.3.40 (H.H.).

One of the males from El Bañito, iv.30.41, and the Sabinas Hidalgo male may be termed f. *horni* Rebel. As a matter of fact these two specimens are closer to f. *draudti* Röber which I consider to be merely an intermediate form lying between *elva* and f. *horni*.

The west coast females tend to be generally larger than those from the east coast, 18 mm. vs. 16 mm. baso-apical radius of the forewing. The males are about the same size from both coasts.

315. *Morpheis ehrenbergii* Huebner.

G. & S., 1: 211, 2: 682.

R., p. 454, pl. 93a.

H., p. 670.

Jacala, Hidalgo, 4500 ft., 3 ♂♂ 10 ♀♀ vi.23–vii.24.39 (H.H.).

Tancitaro, Michoacan, 6586 ft., 2 ♂♂ 1 ♀ vii.20–30.40 (H.H.).

Hoffmann carefully listed the States from which this local species has been reported. Neither of the two here noted occurs in his list.

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