EARLY STAGES OF MEXICAN LEPIDOPTERA.

By WM. SCHAUS.

Papilio Daunus, Bdv. LARVA.—Length when mature 15/8-21/4 inches. Head pale brown. On segment 2 are very long retractile tentacles of a brownish color. Body smooth, the fourth and fifth segments being very inflated, the other segments are rather small; color apple-green; on fourth segment are dorsally two small spots of a lighter green, edged by a fine black line and beyond these spots on each side are larger irregular spots of light green also edged by a black line; these latter spots enclose a spot of apple-green edged with black but having also a tiny blue central point; on segment 5, are four dorsal blue points and the segment is bordered posteriorly with light yellow; the sixth segment has anteriorly a broad transverse velvety black band, which joins the fifth segment; segments 8, 9, 10 and 11 have each four small dorsal blue points and segment 13 has a transverse yellowish ridge: laterally beginning at segment 4 is a pale blue point below stigma which is yellow and below these points the ground color is mottled with grayish points and lines. Underneath whitish, prolegs white, abdominal legs pale green. Before pupation the colors change, the apple green becoming rich brown, and the light green, yellow; the abdominal legs become gray. The pupa being already known I do not redescribe it. The imago is rare at this low elevation, * being found chiefly on the plains above.

Papilio Pilumnus, Bdv. LARVA.—Length 2 inches, rather slight, though general formation is the same as in the other species of this group. Segments 3, 4 and 5 are thicker, but not so inflated as in Daunus. Head, which is small, and anterior half of second segment are pale brown; second segment has centrally a transverse yellow ridge and the posterior portion as well as entire rest of body, dorsally, bright green. Anteriorly on segment 4 are two large fawn-color spots, edged with a very fine black line and having within each two black spots, the outer one large and round, the inner one very small and irregular. Dorsally on segments 5 to 12, under side, are four rows of little blue rings placed rather outwardly. Laterally, extending from transverse vellow ridge on segment 2 and passing through stigma and right around last segment is a yellow line; below this and underneath the color is light brown; prolegs and abdominal legs the same. Just below vellow line on segments 6 to 12, inclusive, is a brilliant and rich blue round spot, finely, almost imperceptibly, edged with a black line. Be-

* Vicinity of Vera Cruz.-Ed.

fore pupating, larva becomes dorsally of a very pale brown, and then gradually becomes paler, till segments 6 to 13 are dorsally pink. The lateral coloring and spots remain unchanged. Feeds on Laurel.

Pupa: length 1½ inches. Wing cases projecting slightly; on head two small conical projections and a smaller one on thorax. Laterally ridged; pupa very slightly rough, pale green or pink; lateral ridges, conical projections and a sub-dorsal line purple. To either side of sub-dorsal line at segment one a large purple spot, and on following segments two rows of purple dots, the outer ones almost imperceptible; on leg cases a few purplish markings also. Before emerging, the markings on wings of Imago become distinctly visible. Pupal state lasts from four to six weeks, and although the larva is rare, the butterfly is common during the entire year.

Papilio Helleri, Feld.—General appearance and size the same as Daunus. Head pale gray, second segment the same, with a broad pale-green transverse band. Segments 3, 4 and 5 dorsally grayish green; anteriorly on fourth segment a broad, gray, transverse band enclosing a few black spots, and outwardly two buff ones; posteriorly green, edged by a white line, interrupted by four pale blue spots; between this line and anterior gray band the green is thickly dotted with white; laterally and posterior portion of fifth segment dorsally, gray; between fifth and sixth segments is a transverse black band as in Daunus. Segments 6 to 13 dorsally green, laterally gray. The green is dorsally interrupted on segments 8 to 11 by two large triangular gray spots, having their apices sub-dorsally between ninth and tenth segments. These triangles enclose each a large green spot on segments 9 and 10; posteriorly on segment 13 is a white transverse ridge; laterally on segment 13 and underneath gray; abdominal legs gray; prolegs brownish.

Pupa: Length 1½ inches, very similar to Daunus, but shorter and stouter, and the projections on head are a little less conspicuous; en-

tirely dark brown and mossy green, mottled.

Double brooded, but uncommon at all times.

Smyrna Karwinskii, Hübn. Larva.—Length when mature two inches, body rather stout and flattened dorsally. Head round, black, having two long, very rough, truncate horns. Body smooth, brown, with four irregular black dorsal streaks; on each segment are six small spines of a dirty yellow, forming four dorsal and a lateral row; these lateral spines are wanting on segments 2, 3 and 4; just above abdominal feet are a few stiff hairs of same color as spines.

Pupa.—Length one inch, rather stout, slight ridge on thorax, and depression at first segment. This depression is colored deep brown, and there are two velvety dark brown spots on either side of thorax. Dorsally on segments are four rows of short conical protuberances,

the two inner rows being the most prominent; except spots mentioned the color is pale brown, slightly mottled with darker brown; on each wing case is a discal cuneiform spot of brown, very small and indistinct.

Larva feeds on Malhombre.

Pupal state lasts about six weeks, and the Imago is very common, especially during the summer months.

Smyrna Bloomfildia, Fab. Larva.—Length 1½-1¾ inches, rather slight in formation. Head flattened and entirely brown, two thick and rough truncated horns of same color; skin of body smooth, with three or four transverse folds on posterior portion of each segment. Segment 2 has two dorsal and two lateral bristles. Segments 3 and 4 have each two dorsal and one lateral spine, and the other segments to twelfth have each three dorsal and two lateral spines. Segment 12 has four dorsal spines, the inner two being sub-dorsal, one anterior and one posterior. The anal segment has also four, two being extremely short. The color is dorsally black, with two narrow irregular yellow streaks, which join at each sub-dorsal spine, and there are also numerous small yellow spots where the segments join. Laterally the body is pale yellow, with a greenish streak, interrupted on each segment by a black stigma. Underneath greenish white.

Pupa: very similar to *Smyrna Karwinskii*, but the segments are quite smooth, and without any protuberances. The velvety spots on the thorax are the same, but the depression at first segment is not so conspicuous nor darkly colored. The general color is brown, mottled

with minute black lines.

Larva feeds on Malhombre.

This species and *Smyrna Karwinskii* are commonly called by the natives "Caseras," owing to the frequency with which they alight on the walls and eaves of the houses.

Anisota Suprema, Hy. Edw. Larva.—Length 2½ inches. Head, second segment and anal segment yellow, other segments dorsally black, the third having, however, a yellowish sub-dorsal line. The second segment has three dorsal spines, the centre one having a red spot at its base; this segment has also four small black spots dorsally and one laterally. Beginning on third segment are four dorsal and a lateral row of short pointed spines, black. The two inner dorsal spines on segment 3 are, on the contrary, long and blunt at tips; anteriorly on each of these segments are four, and posteriorly two patches of small white spots; laterally on first three segments of body the color is yellow, and on successive segments reddish brown, showing between the same the black spots which mark the exterior portion of the abdomen. Abdominal legs yellowish, with a small black spot at extremity, and at base a short black line and circle of small white spots. Underneath segments 2, 3 and 4 are yellow, the following segments

having a yellow line; centrally and exteriorly a large black spot. The anal segment is covered with horny excrescences. The young larvæ differ in being dorsally of a greenish black and not having the patches of white spots.

Feeds on Oak.

PUPA similar to our northern species of Anisota.

ON A COPY OF "PEALE'S LEPIDOPTERA AMERI-CANA" IN THE LIBRARY OF THE ZOOLOGICAL DEPARTMENT OF THE BRITISH MUSEUM.

By W. F. KIRBY, Assistant in Zool. Dept., B. M.

Peale's "Lepidoptera Americana" is so rare in Europe that the present copy is the only one which I have seen. It is chiefly known to European Entomologists, owing to Duncan and others having copied or referred to Peale's account of *Saturnia Promethea*. Percheron and Englemann have not noticed the work, and Agassiz's reference is curiously inaccurate. Hagen refers to 16 pp. and 4 colored plates, but our copy consists of wrappers of Vol. 1, No. 1, 14 pages of text, 8 colored plates (not consecutive) and 5 plain plates, not numbered, one being a duplicate of a colored one. The title on the wrapper is as follows:

Lepidoptera Americana;

or

original figures of the moths and butterflies

of

North America:

in their various stages of existence, and the plants on which they feed. Drawn on stone, and colored from nature, with

their characters, synonyms and remarks on their habits and manners.

By Titian R. Peale, Curator of the Philadelphia Museum.

Vol. I, No. I.

Philadelphia:
Printed by William P. Gibbons,
S. W. corner Sixth & Cherry Sts.,
1833.



Schaus, William. 1884. "Early stages of Mexican Lepidoptera." *Papilio* 4(5/6), 100–103.

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