

## DESCRIPTIONS OF THE EARLY STAGES OF SOME MEXICAN LEPIDOPTERA.

BY WILLIAM SCHAUS, JR.

### PAPILIO THYMBRÆUS. Boisd.

Feeds on chirimoya. Length when mature,  $1\frac{1}{2}$  inches; head small, slightly flattened, white, with black markings. The body is rather stout, and segments contracted. The skin is velvety in appearance, and owing to the variety of color, the larva is very handsome. Retractable tentacles red. Segments one and two are dorsally black, with numerous small turquoise blue spots, some of these having a yellow centre. Laterally these segments are white, with a small bright orange spot on each, above which is an irregular black line. Segments 2 and 3 are considerably enlarged. Segment 3 is black dorsally, with two sub-dorsal blue points placed one before the other. On either side of the anterior blue point is a large yellow spot, and again beyond this three smaller spots, two white and one blue, with orange centre. To either side of the posterior blue point are three white spots. Laterally this segment is pale blue, with three orange spots, one anteriorly and two posteriorly, and separated from one another by a black line. Segment four is very similar to the third segment, but differs in having anteriorly only two spots beyond the large yellow one, and posteriorly in having a sub-dorsal white band, which continues to 12th segment. This is edged with black, and then to either side comes another white dorsal band; beyond these comes a rather broad black band, then a dark green one, and finally a narrow black one. In the sub-dorsal white band on each segment is anteriorly a pale blue spot and posteriorly a yellow one. In the other two white dorsal bands on each segment is a central yellow spot. These last two white bands are replaced on segments ten, eleven, twelve anteriorly by a yellow spot edged with black, and posteriorly by a few pale blue spots. Laterally, beginning at fifth segment, the larva is turquoise blue, which is formed into four bands by three black lines. The blue ground color is more or less spotted with yellow and green. Prolegs and abdominal legs vermilion red, with an orange spot near base. Larva, when about to transform, fastens itself at anal segment by a silken thread passed around shoulders, and in 48 hours becomes a chrysalis. Length of latter, three-fourth to seven-eighth inch, stout, especially abdomen, but tapering to a point at anal segment. At 1st seg. the body is greatly compressed as though a string had been passed around it and then tightly pulled. On thorax is a long cylindrical protuberance. Surface slightly rough. Color, pale green, with a few brown spots on thorax, and dorsally on segments. In the winter, the chrysalis state lasts four months, and in summer from one to two months. The butterfly is only found in the open country, and here chiefly frequents Macuiltepec, a high hill near the town, and covered with very low vegetation. It is to be found the entire year.



## PAPILIO POMPEIUS.

*Var. Pandion.* Feld.

Length when mature, two inches. Head round, brownish green with a few small pale yellow spots. The first three segments increase rapidly in size, the third being the largest. The skin is smooth, and dorsally are two rows of small fleshy protuberances. There is also a single row of these laterally on segments one, two and three. The general color above is olive green, mottled with brown and many irregular small white lines, which give it no regular pattern. Sub-dorsally and posteriorly on each segment is a darker brown spot, which continues on to following segment, making a small dash of color on it. On segment four this brown spot has two small brown spots anteriorly to it. On segments six, ten and eleven laterally the white lines are thicker and more of a cream color. The protuberances are edged on the inner side by a minute lilac line. Prolegs yellowish. Abdominal legs are white, with three gray spots laterally, and covered with short white hairs. Underneath the color is white, except first four segments, which are greenish yellow. Larva fastens itself by tail and a silken thread around shoulders. The retractile tentacles are flesh color. Transforms in 48 hours.

*Pupa.*

Length,  $1\frac{1}{4}$  inches. It bears the greatest resemblance to a piece of bark, being rough and mottled brown and gray, except outer half of wing cases, which is moss green. In shape it is cylindrical, truncated at top and abdominally tapering rapidly beneath from eighth segment, and forming a slight hollow. On thoracic region are also two depressions. Dorsally on segments are several spiny protuberances,

The imago emerges at end of six weeks. The first specimens out were the largest, the last out the smallest, and also differing in having more white on primaries. From 39 larvæ all emerged in good condition. This is not a rare species here, and is double brooded. Generally met with along the forest roads.

Feeds on *orange and Japote Blanco*.

AGRAULIS (JUNO) v. HUASCAMA. Reak.

*Larva.*

Length when mature,  $1\frac{1}{2}$  inches. Very slight in build. Head black, slightly bilobed, surmounted by two small black horns. Body smooth, black, with numerous irregular reddish brown markings, which are largest on anterior portion of each segment. There are also six rows of black spines of equal length, and placed two dorsally and two laterally. On first three segments the lateral spines are wanting, but seemingly between segments one and two, and between segments two and three is a single lateral spine. The spines are slightly rough. The larva suspends itself by tail, and in about 24 hours transforms.

*Chrysalis.*

Length of largest, one inch. Compressed laterally and rather long,



dark brown. Dorsally two rows of rough excrescences. Thorax with sharp ridge. Head above rather flattened. Apex of wings forming a projecting curve. Antennæ covered with a series of short spiny points. *Imago* emerges in from 20 to 30 days.

A very common species at all times. *Agraulis Moneta* is also abundant, whereas *A. Vanillae* is rather rare.

#### COATLANTONA JANAIS. Dru.

Length when mature, one one-fourth inches. Very slight in build. Head, upper half red, lower half black, thinly covered with rather long black hairs. Body smooth. First segment red; the rest, dorsally light brown, laterally dark grey. The first segment has a lateral short black spine. The second and third segments have four spines, two dorsal and one lateral, and close to prolegs is an almost imperceptible spiny growth. The following segments to the eleventh have each seven spines, the central one being sub-dorsal, and close to abdominal legs is also a growth of short stiff hairs. Segment eleven differs in having eight spines, two being sub-dorsal, one anteriorly and one posteriorly. Segments twelve and thirteen have only two spines each, which are dorsal. The spines are longest on the second segment and are black, with deep blue reflection; they are rather thick at base, which gives them the appearance of growing from a slight wart, and are surrounded at base by a black spot, which thus forms an irregular black transverse band on each segment, to either side of this black band the ground color becomes lighter, forming like a narrow yellowish edge. The larva suspends itself by tail, and in from 24 to 26 hours becomes a chrysalis.

*Chrysalis.* Length,  $\frac{1}{2}$ – $\frac{5}{8}$  of an inch. White, smooth, except on segments where spines of larva are replaced by a rough black point. Wing cases with marginal row of square black spots and several short black dashes. On thorax and pro-thorax are a few black marks, and tongue is also black. Chrysalis state lasts from 18-20 days.

This is the commonest *Coatlantona* found here and is especially abundant from March to October, but even in the winter months a fresh specimen is now and then seen.

#### ECPANTHERIA AULEA. Bdv.

*Larva.* Length when mature  $2\frac{3}{4}$  inches.

Head small, blackish brown, shining. Body smooth dull black. Stigmata reddish brown. Segment one has a few stiff black hairs dorsally, and a lateral small tubercle from which grow stiff black hairs. Segments two and three have four dorsal and two lateral tubercles. The following segments to eleventh inclusive have each six dorsal tubercles placed thus: The two central ones are close together anteriorly, then to either side of these is one placed posteriorly, and then again one anteriorly. Laterally are two tubercles. Seg. 12 has two dorsal and a single lateral tubercle, and segment 13



has only a few bristly hairs. Below, the lower row of lateral tubercles are a few stiff, short hairs on all the segments, except first three. All the tubercles are reddish brown, and thickly covered with rather long black bristly hairs, though in a few rare specimens these hairs are light brown. Underneath the body is black. Prolegs black. Abdominal feet reddish brown. Feeds on all weeds and is exceedingly plentiful. Forms a large very thin silky net, in which are scattered a few hairs, generally under the bark of the liquidamber trees.

*Pupa.* Length,  $\frac{3}{4}$ – $\frac{7}{8}$  inch.

Oval, very slightly rough and shining. Position of tubercles on larva is replaced on segments of pupa by little groups of downy golden brown hairs, which are so short, however, that it is only on careful examination they are visible. This state lasts from three to six weeks. This is a very common species, and is found the entire year. The moth has thus far offered no variation.

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NOTE.—We have great pleasure in printing the above paper from the pen of a young but earnest and talented entomologist, at present pursuing his investigations in Mexico. Mr. Schaus is destined to hold a high rank among our future workers, and will add the knowledge of the life history of many species of that country to the records of our science. We wish him every success in his career, and hope to have our pages hereafter frequently enriched by his valuable contributions.—EDITOR.

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## NOTES ON LEPIDOPTERA.

EGG OF *TOLYPE VELLEDA*.—The eggs of this species are deposited in a long and sinuous string, each one attached to its neighbor by the extreme apex, and all of them covered with the down from the abdomen of the parent. They are ovate, very smooth and shining, olive-brown in color. Even with a very powerful lens, I fail to discover any trace of sculpture, but the eggs are thickly covered with a glutinous substance, which causes the abdominal hairs to adhere closely.

HENRY EDWARDS.

ORGYIA BADIA, HY. EDW.—Some time since I received from my friend, Mr. R. H. Stretch, some larvæ of this form, collected by him in Vancouver Island. He desired me to compare them with those of *O. Antiqua* L., but I had no caterpillar of this species at the time. I have, however, recently received some exquisitely prepared larvæ from Messrs. Watkins & Doncaster of 36 Strand, London, and among them examples of *O. antiqua*. I have made a most careful comparison of these and of the larvæ sent by Mr. Stretch, and I cannot find the smallest difference whatever. I therefore am sustained in the opinion I expressed some time ago (*Papilio*, vol. 1, p. 62), that my



Schaus, William. 1883. "Descriptions of the early stages of some Mexican Lepidoptera." *Papilio* 3(7-10), 186–189.

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