

surrounded by black. The discal mark is also pale orange, almost oblong in shape, and surrounded by black band. The posterior line is almost parallel with the margin, slightly sinuate, dentate about the middle, and continued in the same form on the secondaries which are slightly more transparent than the upper wings, bearing also a pale orange discal mark surrounded with black. The under side has the markings of the upper distinctly repeated. In one of the two ♂ examples before me there is a bunch of lemon yellow hairs at base of the primaries beneath, and the same color is continued to the base of the legs and the sides of the lower surface of the margin. This is evidently not the result of discoloration, as the specimens are wonderfully fresh.

♀. Similar to the ♂, but a little larger, and with the four posterior segments of the abdomen, clear white, above and below, the middle segments only being narrowly edged with reddish brown. The stigmata in ♀, are very strongly marked, jet black.

Exp. wings, ♂. 48 m.m. Length of body, 21 m.m.

Exp. wings, ♀. 62 m.m. Length of body, 27 m.m.

2 ♂. ♀. Prescott, Arizona. (I. Doll.)

Types. Coll. B. Neumoegen.

I have no hesitation whatever in placing this remarkable insect in Packard's genus, which it seems to connect in some respects with *Hemileuca*, its remarkable coloration being, however, the very reverse of the latter genus. I regard the species as the handsomest *Bombyx* discovered for many years in the United States, and as such it gives me unusual pleasure to dedicate it to my friend, Mr. B. Neumoegen.

It is to his liberality and boundless enthusiasm in the cause of entomology, that we are indebted for the knowledge, not only of this beautiful insect, but of many other of supreme interest and importance, and the example set by Mr. Neumoegen is in every way worthy of imitation by those who have the power to help the progress of science, not only in this, but in other branches of study. For nearly two years Mr. Neumoegen has kept an earnest and intelligent collector in the field, who has poured into the studios of entomologists unheard of treasures, many of which yet remain to be described. Such devotion to entomology is as honorable as it is rare, and should excite in the minds of all students a feeling of the deepest appreciation.

I hope in some future number to present the readers of "PAPILIO" with a figure of this most charming insect.

## A NEW HEMILEUCA FROM SOUTH-EASTERN ARIZONA.

By B. NEUMOESEN.

HEMILEUCA YAVAPAI. n. sp.

♂ Head and appendages and joints of antennæ dark, rusty brown. Pectinations of antennæ blackish brown. Prothorax



white, with an intermixture of black hairs. Thorax of a deep maroon red, overlaid with grayish hair. Patagiæ black, overlaid with long grayish hair. Abdomen very pilose, being, as well as the male tuft, of the brightest rust red color, but having a lateral layer of blackish hair from first to fourth segments.

Beneath the thorax is rusty red and the abdomen deep black, with a sprinkling of short whitish hair on the segments. The heavy pilose covering of the upper part of the abdomen and the anal tuft overlapping the sides, giving it the appearance of a heavy rust red fringe. Legs black, femora heavily furred with rusty red and the tibiæ having a light black and white hairy tuft.

Primaries opaque brownish black, the costa and fringes being concolorous. The space near anterior margin sparsely powdered with white scales, hardly perceptible. A transverse, small discal spot of light yellow, surrounded by a broad black patch or ring. A transverse extra mesial band of grayish white, starting from subcostal vein and resting on submedian vein. The band is of quite irregular shape, being broadest at the space between discal spot and exterior margin, and narrowest at the intersection of median veins. The inner part of this mesial band, between discal spot and base, being obliterated and indicated only by a grayish white crescent line, just sufficient to round off the shape of the black halo surrounding the discal spot. A whitish subcostal line, commencing at base of wing, and terminating within half of the space between base and discal spot. Costa somewhat concave in the middle. All the veins crossing the mesial band appear black.

Secondaries black, opaque, with concolorous fringes. A minimal discal spot of light yellow with darker indications of a surrounding black patch.

Beneath the wings as above, the mesial band of primaries being dirty gray, and the subcostal vein of primaries, as well as the subcostal and discoidal veins of secondaries, being indicated by light yellow lines.

Expands.  $1\frac{3}{4}$ – $2\frac{1}{8}$  inches.

Length of body.  $\frac{5}{8}$ – $\frac{3}{4}$  inch.

♀. Thorax dark brown-red, heavily overtufted with black and white hair. Patagiæ with very heavy black and white tufts. Abdomen black with short grayish white hair on segments and an anal tuft of bright rusty red with an upper layer of gray and white hair.

Primaries as in the ♂, the middle of the costa also somewhat concave, the extra mesial band broader, and the sub-costal white line from base towards the middle of the wing more conspicuous than in ♂. The powdering of whitish scales between discal spot and anterior margin also more pronounced.

Secondaries brownish black with concolorous fringes. An extremely small, light yellow discal dot; its tint being nearly suffused by the darker black of its surrounding halo. An indication



of a mesial band from costa to anal angle by irregular, detached, whitish powdered spots, being smallest near apex and anal angle, and largest between first and second median nervules.

Beneath, primaries as above. On secondaries the grayish white blotches of the mesial band more pronounced and larger than on upper surface, taking irregular, triangular shapes between first, and second and third veins.

Expands 2.3-16, 2.7-16 inches.

Length of body, 1, 1.7-8 inch.

This beautiful insect is similar in its form to *H. Juno*, Pack., and *H. Diana*, Pack., but is readily distinguishable from both by the glaring red abdomen of the ♂, and the black abdomen of the ♀. Besides, *H. Yavapai* has a white sub-costal line, and other peculiarities, which do not agree with *H. Juno* (see Annual Rep. Peabody Acad. Sci. for 1871, p. 87; published April, 1872).

*H. Yavapai* ♀ approaches *H. Diana*, (see Rep. Zoolog. Coll. Lieut. Carpenter, Colo., 1873, U. S. Govt. Print. Off., 1875, p. 557), but is a much larger insect. It has not the conspicuous white band on secondaries, which is the salient feature in *H. Diana*, but is distinguished by the white sub-costal line.

*H. Juno*, *H. Diana*, *H. Yavapai*, inhabit the same zone, Southern, Southeastern Arizona and Sonora and may have a common pedigree. *H. Yavapai* is the most distinctively marked form. It has been raised by Mr. J. Doll, and of the forty ex l. examples, at present in my possession, not a single one materially deviates from the description herein given.

The habitat of *H. Yavapai* is Sierra Colorado and San Pedro river, Arizona.

Types ♀ ♂. ex l. Coll. B. Neumoegen.

## MOTHS COLLECTED BY PROF. SNOW IN NEW MEXICO, WITH LIST OF EUDRIINI.

By A. R. GROTE.

The following species have been sent to me by Professor Snow from his captures this year in Northern New Mexico. The species are often the same as the Texan, while some of the forms are like those described from Mexico. The dangers of collecting in that region from the Indians are yet quite considerable. Prof. Snow very narrowly escaped capture by bands of the Apaches.

HALESIDOTA LABECULA. n. s.

♂. Abdomen scarlet above, beneath and at the sides yellowish; a stigmal series of black dots and a dorsal series on the terminal segments. Fore wings transparent, speckled with brown and clay colored scales. Five clay spots on the costa mark the inception of the transverse lines. Subterminal line, double, continued, dentate. Hind wings yellowish, transparent, with narrow brown edging.



Neumoegen, Berthold. 1881. "A new Hemileuca from southeastern Arizona." *Papilio* 1(9), 172–174.

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