EXTREME ABUNDANCE OF *ARACHNIS ZUNI* (ARCTIIDÆ) LARVÆ NEAR ALBUQUERQUE, NEW MEXICO

by NOEL MCFARLAND

Arachnis zuni (Neum.) is usually considered to be a scarce "Tiger-moth", but many thousands (conservative estimate) of the larvæ were seen in various areas to the south and east of Albuquerque, N. M., in September, 1957. In some spots, they were so abundant as to be easily seen from a car going 50-60 m.p.h.. Most were at an altitude of 6000′-7000′ where Piñon Pine, Juniper, Yellow Pine, and Gambel Oak occur together. They were especially abundant on X Pigweed, which was growing under the Junipers and other trees. They were also observed feeding on various weeds along the sides of the roads and upon various native shrubs. Some were seen feeding in Chinese Elms. They were crossing the roads in considerable numbers, although most remained on plants. This was mid-September. By early October, they began climbing up into trees and shrubs where they would sit, exposed on branches and on the trunks. At this time, many hundreds were observed in the ends of large drains, which went under the highway.

Approximately 200 larvæ were taken in mid-September. They were in the last instar, nearly full-sized. They consumed quantities of Sweet Clover (*Melilotus alba* Desr.), Pigweed, and other available plants. In October most had finished feeding and settled down in fixed positions, within the box. No cocoon was made. When cold weather arrived, they remained exactly the same. They were housed in an open garage all winter, near the area where they were captured. All winter they remained motionless. In late April, after several weeks of warm weather, they began spinning sticky, web-like cocoons. The "web" was filled with tiny droplets of a clear, viscous substance. A more perfect cocoon of this material was spun within a larger, outer cocoon. Larval hairs were not used in construction of the cocoon. About a week after spinning, pupation occurred. About three weeks later, most emergences occurred. The greatest number emerged between May 26th and May 30th.

Considering the extreme abundance of the larvæ, parasitism was surprisingly low. Of 191 larvæ, 48 were parasitized by a Tachinid fly and a few by a large Ichneumon wasp. Parasitism was about 25%. Most of the fly maggots came out of the larvæ just before pupation in April, and made their own puparia within the cocoon of the larva. The Ichneumon wasps killed their host before winter and made their cocoon within the larval skin.

A number of the pupæ (about 10) still had not emerged by June 9th. These pupæ looked healthy, but all eventually died without hatching. They may possibly represent what would have been a small, second emergence. I suspected this possibility when collecting the larvæ, because there were quite a few larvæ only half-grown, while the great majority were much larger. These smaller larvæ may have been from eggs laid by moths emerging in July or August, instead of late May.

X = Chenopodium sp.

Δ In Sep. 1958 I revisited all these same localities again and found NOT a SINGLE larva! (The summer of 1957 was said to have been an unusually rainy one for the Albuquerque area.)

Without exception, all pupæ emerged between 3:30 and 7:00 p.m., the greatest number between 5:00 and 6:00 p.m. All the pupæ were removed from their cocoons and taped individually to the roughened sides of a cardboard box. Some of the early ones, which were left in their cocoons, damaged themselves in pushing through the very sticky cocoons. All the taped ones emerged in perfect condition.

I now have a fine series of this strikingly beautiful moth. There is considerable variation.

In raising these larvæ, I noted great similarity to *Arachnis picta* (Pack.) larvæ, in general ~~form and~~ pattern of development. *A. p. picta* and *A. picta hampsoni* (Dyar) also make the very same kind of cocoon, and they also have a long dormant period before spinning the cocoon or pupating. In the case of *Arachnis p. picta* in southern California, its period of growth is just the reverse of *A. zuni,* but follows the same pattern. The moths fly in October. The eggs hatch soon after and the young larvæ grow slowly all winter, feeding on annual plants that have started to grow with the early winter rains. In late May and June, *A. picta* larvæ are full-grown. They then spend all summer (which is ~~very~~ hot and dry) in a dormant condition. In September they begin spinning their cocoons, emerging shortly-thereafter (October).

The *A. zuni* larvæ were typical of the other members of this genus in general appearance. The skin was black; the stiff hairs were glistening black. There was no other color but for the spiracles, which were bright red. In *A. p. picta* the hair is more of a dark brown, the prolegs magenta. In *A. picta hampsoni* the hair is a rich, red brown, or rusty golden brown.

Here are details on areas where the larvæ were extremely abundant:

1) from about 4.6 mi. E. of Tijeras, Bernalillo Co., N. M., to about 7.6 mi. E. of Tijeras, on Hwy. 66 (quite apparent from a moving car).

2) from Tijeras, N. M., south on Hwy. 12 for 4 to 5 miles; the whole strip — both sides of the road.

3) Along the "Torreon Canyon Loop Rd.", west out of Torreon, Torrance Co., N. M. (Manzano Mts.). Δ

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