

## **Peculiarities of *Arachnis* COCOONS:**

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In the genus *Arachnis*, the COCOON is one of the most interesting facets of the life history!....My first puzzlement over the typical *Arachnis* cocoon began to evolve when observing our backyard population of *A. picta*, the result of many captive rearings in the Santa Monica Mts., at 9601 Oak Pass Rd. during the 1950's. The fact that the stiff, sharp (prickly!) larval hairs are NOT AT ALL incorporated into the soft, flimsy, web-like silk of the cocoon still has me mystified; upon pupation, the larval skin is simply shed (all hairs intact), and ends up down in the bottom (tail-end) of the cocoon-enclosure....What a "waste" of (potentially effective) "mouse-nose-repellent"!!....

Looking closer, one can observe yet another peculiarity (unique feature?) of the typical *Arachnis* cocoon: The web-like silk is always coated or impregnated with minute, colorless "droplets", of an oily-moist substance that can easily be seen (and felt)....If the soft and flexible cocoon wall is pushed down against the pupa inside, it will be seen to adhere somewhat to the smooth pupal integument wherever it makes contact (rather like a weak adhesive on thin tape). It might be of considerable interest to learn what is the function and exact chemical composition of this (oily?) droplet-like substance that coats the cocoon-silk. It could be toxic(?) – or, perhaps it has some other repellent feature(s), and/or it may provide some protection against desiccation of the pupa, while at rest in its typically arid habitat(?)....

When the moth emerges from its cocoon, it has to PUSH its way out through this soft and sticky web-like silk, which action often rubs off some of the thoracic or wing scales in the process. To avoid this (minor) damage to future specimens, I

often used to tear open just the front end of each cocoon, so that emergence could be more easily accomplished, with little or no “rubbing”....I did this for all of my (dozens of) *A. zuni* cocoons, reared at U.N.M., Albuquerque, during the spring of 1958 (see McFarland, 1959); these were later donated to the Los Angeles County Museum of Natural History.

The above discussion was drawn from observations made while rearing *A. picta*, *hampsoni*, *zuni*, *aulea*, and *nedyma* over the past 6 decades. It is worth noting that the various *Grammia* (formerly *Apantesis*) spp. also fail to make any “defensive use” of their stiff/prickly larval hairs during cocoon construction. By way of contrast, many (most?) other arctiid genera typically incorporate the larval hairs densely INTO the walls of their cocoons during construction, thereby yielding a bristly fortress in which the pupa can overwinter....