



WILDLIFE NOTES

Yucca moth



The silvery winged moth

(*Tegeticula*) is a genius among insects. Without ever having studied horticulture, she knows how to fertilize undeveloped ovules. She packs pollen into the yucca's pistil, just as a gardener pushes seeds into a hole in the soil, and pats it down. Thanks to her, yuccas decorate slopes and mesas in New Mexico.

"The facts here set forth can be observed by anyone who will take the trouble to investigate them," wrote C.V. Riley in 1892. No doubt the professor was responding to a chorus of doubts that had greeted his reports on the moth 20 years earlier. He was the first to record the pollinating ritual.

A yucca flower can't pollinate

itself or be pollinated by just any insect. Its six pollen-bearing stamens are shorter than the pistil they circle, and they curve away from it. Pollen would have to leap through the air to reach the pistil's stigma, where pollen grains germinate. The flower's heavy, sticky makeup cannot be readily spread by insects or wind.

Enter the yucca moth. Daytime finds the moth resting inside the half-closed

blossoms. In the evening, when flowers open, the moths mate. The male spends his last days flying around,

and the female undertakes the pollinating ritual observed by Professor Riley.

Equipped with a lantern, Riley watched a moth march up a stamen in the flower, bend her head over the anther at its top, and collect pollen with her powerful tongue and a pair of curved tentacles. She tackled one, two, three stamens, amassing a pollen ball three times the size of her head. She patted it smooth with her front legs, then flew away, bearing her gift to another flower.

The second flower must be susceptible to pollination — one that opened the same night or the

previous night. If examination satisfies the moth that no other moth has preempted her, she moves down to the flower's ovary, pierces the tissue, and deposits her egg, rarely piercing an ovule. Then she runs up the pistil, where she uses her head and mouth to pack pollen into the stigma.

"She works with a vigor that would indicate combined pleasure and purpose and makes every effort to force the pollen into the tube," wrote Riley, adding that experiments had proved fertilization a difficult process without the presence of the moth.

In approximately a week, as many as 21 moth larvae hatch and feed on perhaps a dozen seeds, leaving hundreds. In a month the grubs bore escape holes, drop to the ground, and hibernate in tough cocoons under the surface. They emerge over three seasons — a survival insurance against years that have no blossoms. Come autumn, the capsule opens, and spills shiny black seeds onto the ground.

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Department of Game and Fish
PO Box 25112
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(505) 476-8119
