

NOTES ON THE BIOLOGY OF CERTAIN EUMENID WASPS.*

By PHIL RAU, Kirkwood, Mo.

Odynerus perennis Sauss. Twigs collected in January, 1928, in St. Louis County, Mo., gave forth three adults, June 1 to 5, of the same year. The three that emerged came from the top cells in the twig; the lower three cells contained dead adults that apparently could not bite their way through the mud partitions.

Odynerus designatus Cress. One specimen feeding on flowers of white snakeroot on banks of the Meramac River at Allenton, Mo.

Odynerus (*Stenodynerus*) *pedestris* Sauss. A sumac twig taken at House Springs, Mo., August 7, 1932, when opened was found to have two adults in the cells ready to emerge. The twig was excavated by some other insect, and reused by this wasp. The partitions were made of mud and were very thin; the cells measured three-fourths inch in length and there was a two-inch vestibule between the outside plug and the first cell-wall.

Odynerus pennsylvanica Sauss. A twig containing a nest of this species was taken May, 1928. One June 5, 1928, a wasp of this species emerged and a month later a parasitic fly emerged from another cell in this nest. The fly was identified by Mr. C. T. Greene as *Spogostylum oedipus* Fab.

Odynerus foraminatus Sauss. This species does not spin a cocoon when ready to pupate as do many of the sister species, but the larvae do show vestiges of this spinning habit, which of course indicates that sometime, somewhere, possibly in other climes or places, cocoon spinning was a normal occurrence. In opening up a hollow stem containing a nest of this species on July 27, 1930, I found all of the pupae naked, but I also found that each larva before pupating had used what little spinning material it possessed in making an attempt to revive this old habit. The male in cell No. 3 had spun a diagonal sheet upon which it rested, the female in cell No. 1 had had enough material to build a wall in front of her head, while the female in cell No. 2 had spun a very thin web across the floor. The larvae of other species in this genus, *O. dorsalis* for instance, which over-winters in the ground, spins tough waterproof cocoons, but here, at least in the summer brood of a twig dwelling *Odynerus*, we see no need for this protection; therefore *O. foraminatus* has almost entirely lost the habit of cocoon spinning.

* All specimens of wasps were identified by Dr. Grace Sandhouse.

However, *O. foraminatus* may have a second generation that winters over in the larval stage, if so it would be interesting to compare the spinning propensities of those that over-winter with those that mature during the summer.

Ancistrocerus (*Pseudodynerus*) *quadrisectus* Say. On September 1, 1930, six female wasps were seen carrying caterpillars to their nests at Wickes, Mo. The nests were in the abandoned burrows of the carpenter-bee *Xylocopa virginica*.

Ancistrocerus (*Ancistrocerus*) *catskillensis* Sauss. This species was introduced about my home in the nests of the common mud dauber collected in St. Louis County. While the introduced stock nested in mud-daubers cells, their progeny nested in old nail- and key-holes about the house. At St. Albans, Mo., several mothers were seen carrying caterpillars to their nests in the abandoned burrows of the mining bee, *Anthophora abrupta*, in a clay bank.

Ancistrocerus waldeni Viereck. At Devils Lake, Wisconsin, on May 20, 1932, I removed a mud wall covering a small "V" shaped depression in a rock, and found this mother wasp, a half dozen

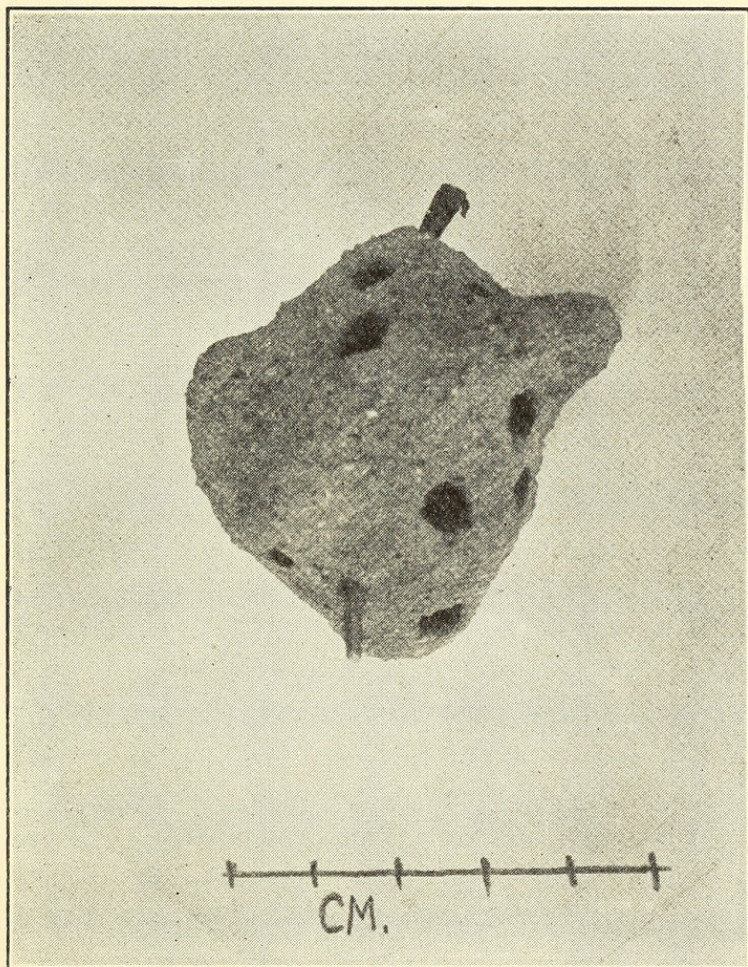


FIG. 1.

small green caterpillars, and an egg hanging from the roof by a silken thread. The egg was evidently deposited before food was provided, and the mother was still bringing in her prey when her work was interrupted. The caterpillars were very active and remained alive for several days, the last survivor dying six days later.

Ancistrocerus birenimaculatus Sauss. A mud nest taken at Flushing, N. Y., and sent to me by Mr. Kenneth W. Cooper gave forth eight adults (5 females and 3 males) between May 20 and June 1, 1930. The nest, attached to a stem (fig. 1) was taken in the open and was undoubtedly made by this species. This masonry habit of nest building is unusual for members of this genus; the nest resembles somewhat in appearance that of our common mud dauber *Sceliphron caementarium*; the latter, however, at least in St. Louis climate, do not build nests exposed to the weather.

Ancistrocerus fulvipes Sauss. This wasp is frequently seen about my garden, sometimes flying to her nest with a caterpillar dangling from her jaws. When the prey is too large it impedes her flight, and on one occasion I saw a mother wasp meet the situation in a very intelligent way. The caterpillar was unusually long and unwieldy; I saw her rest on a leaf, deliberately fold the prey in half; then grab its middle in her jaws, and by tucking the two dangling ends flat against her thorax and holding them in place with the middle pair of legs, she flew without difficulty to her nest. This was in an old bee burrow in the clay bank.

Erratum: On page 67, 4th line from bottom, "Fig. 1" should read "Fig. 3."

A Psocid, *Psoquilla slossonae* (Banks), (*Psocinella slossonae* Banks) was found last October in great numbers on the plastered walls of a bungalow in Mobile, Ala. The house had been closed for some months and the minute booklice were found hiding in nearly every little pit and pinhole on the wall. When disturbed they jumped clear and out of sight, but with a reading glass and a vial of alcohol in one hand and a camelhair brush in the other I managed to satisfy Mr. A. N. Caudell, of the National Museum, of the identity of the species, which until I got it under the microscope and saw it had wings—two well developed and two vestigial, I took to be a springtail. It seems this is the third record of the species in the United States, the type specimens were found by Mrs. Slosson on butterflies drying on her spreading boards in 1900, and a later record also from Florida came from a library in Jacksonville.—H. P. LÖDING, Mobile, Ala.



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