FIELD NOTES ON WESTERN CLEAR WING MOTHS (AEGERIIDAE).*

By Geo. P. Engelhardt, Brooklyn, N. Y.

The following species, collected on a western trip during the pust summer, were exhibited and discussed:

Melittia gloriosa H. Edw.—This, the largest and perhaps the most beautiful of all the N. A. clearwing moths, was observed on July 27 near Corvallis, Oregon, by myself, in company with B. G. Thompson and W. J. Chamberlin, both of the Oregon Agricultural College. The moths in their swift, graceful flight much resemble the cicada killer wasp, *Sphecius speciosus*. The larvae are borers in the enormous tubers of "Man in the ground," a cucurbitaceous plant of which the vines suggest their near relationship to the wild balsam apple (*Micrampelis*) of the East. The tubers, sometimes two to three feet long and a foot or more thick, are usually under three to ten inches of clayey soil, which becomes hard and dry by mid-summer, requiring a pick-ax for excavating. Large tubers may harbor several dozen larvae, which confine their tortuous channels to parts nearest the surface. On reaching maturity they leave their burrows to construct a tough, oblong cocoon placed vertically about two or three inches below the surface of the soil. To permit emergence of the moth the pupa must tunnel to the top of the hard-baked soil and for this purpose it is provided with structures extraordinary for strength and arrangement. Thus the head armaments might be compared to a combination of chisel and spade, while rows of strong spines on the abdominal segments pointing downward furnish the needed leverage during digging operations. The moths emerge during the early morning hours and on warm, sunny days soon begin their rapid, strong flight. The finding of *M. gloriosa* at Corvallis, Oregon, adds another State to the range of this species, heretofore recorded from California and Arizona. Further investigations should show a distribution in general following that of cucurbit plants with large root tubers, west of the Mississippi.

Synanthedon tacoma Beut.—One hundred or more specimens of this pretty species were collected by W. J. Chamberlin and

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myself on open meadows on the rim of Crater Lake, Oregon, August 3–4. The males were actively flying about in search of the females, which were found, with few exceptions, resting upon the leaves of an abundant plant as yet only determined as "*Polygonum* species." Several Aegeriid larvae and one pupa, the latter unfortunately crushed, were taken out of the thick, fibrous roots of this plant. Considering the great number of the moths, many of them freshly emerged, it was surprising that not more of the living pupae or any of the empty pupal shells could be found. This indicates some obscure habit during the final development which lack of time did not permit us to unravel. *S. tacoma* is a high altitude species recorded from near timberline on Mount Rainier, Jefferson, Adams and other peaks of the Pacific slope.

Synanthedon frageria H. Edw.—One male from Many Glaciers, Glacier Park, Montana, July 6, and one female from Kirk, near Klamath Lake, Oregon, August 5, were collected. The specimens from Kirk, Ore., were captured on the flower clusters of a yellow aster. Search for a possible food plant revealed several Aegeriid pupal shells protruding from the root crown of a *Malva* species, a prostrate red-flowering plant growing along an old logging road. With this as the probable food plant of *S. frageria* it should not be difficult for a western collector to work up the life history of this and possibly of several closely allied species distributed throughout the Rocky Mountain system and on the Pacific Coast from California to Alaska.

Synanthedon americana Beut.—Numerous pupal shells observed on August 7 protruding from the trunks of alder trees along the path leading from the Railroad Station at Shasta Springs, to the hotel above, extend the known range of this species from Alaska southward to northern California. In habits this species is very much like the maple borer, *S. acerni,* boring below the bark and preferably in places which have been bruised or otherwise injured.

Albuna pyramidalis H. Edw.—This common species ranging throughout the N. A. continent, excepting the southern states and desert regions of the West, was encountered during July in Glacier Park, Mon., and in the Cascade Mountains of Washington and Oregon. In spite of its abundance and wide distribution nothing is known concerning its food plant and habits. A specimen in the U. S. National Museum collection is labelled "bred

from stem of Rumex," but careful investigations of plants of this family have failed to duplicate this record.

Gaea solituda H. Edw.—A fine series of this rare species was received from Mr. E. J. Oslar, who reports that the specimens were collected in early August in Turkey Creek, Jefferson Co., Colorado, elevation about 6,000 feet. Females were observed ovipositing on a blue-flowering figwort (Scrophulariaceae) not yet determined.

ERRATA IN ANNECTANT BUGS.

P. 70. Authority and bibliographical reference for genus *Idiotropus* are omitted. They are as follows: Fieber, F. X., Wien. Ent. Monatschr., 4, No. 9, Sept., 1860, p. 261, pl. vi, fig. C. [Monobasic, *I. tristis* n. sp., genotype. Bohemia.]

P. 75. Heading: Genus Isometopus Fieber, omitted; should have been set on p. 75 and not on 76.

P. 77. Omit words " from above " in first line of second paragraph.

P. 77. Transfer heading: Genus Sophianus Distant, to its proper place and add heading Genus Lidopus Gibson.

P. 78. For heertofore read heretofore.

P. 79. For *liberatus* read *libertus.*

P. 82. The genus name under Poppius' first work should be Isometopidea. Transpose the figures 76 to second line above.

NOTE ON PAPILIO AJAX MARCELLUS.

A male specimen of *Papilio ajax* form *Marcellus* in somewhat battered condition was taken at Fall River, Bristol County, Massachusetts, July 12, 1923. When seen it was feeding on milkweed honey.—W. P. Rogers, Fall River, Mass.

Engelhardt, George Paul. 1924. "Field notes on western clear-wing moths (Aegeriidae)." *Bulletin of the Brooklyn Entomological Society* 19, 125–127.

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