

Though some weevils emerged from hibernation throughout the winter, no record of emergence was kept until March 1. On this date all the weevils which were out of hibernation were removed from the cage and recorded. Daily observations and removal of those weevils which emerged continued until August 9. The last weevil to emerge appeared on July 16, having spent 257 days without food in the hibernation cage. Of the 5000 weevils placed in the cage, 11.24 percent, or 562 weevils, emerged.

In order to determine the greatest number of post-hibernation days that weevils would live, all the weevils emerging after June 14 were provided with fresh cotton squares and placed individually in lantern globes. The globes were kept in an insectary where "normal" conditions were simulated as nearly as possible.

The accompanying table gives the record of all weevils which emerged after June 14. The following individuals are of interest: weevil No. 54 which spent 257 days without food in the hibernation cage; weevil No. 31 which lived 143 days after emerging from hibernation; and weevil No. 48 which lived a total of over 372 days. This is respectively 17, 13 and 37 days longer than the previously cited records for *Anthonomus grandis* Boh.

A NEW JUNIPER APHID FROM UTAH¹

WITH NOTES ON A FEW OTHER SPECIES

GEORGE F. KNOWLTON

Utah Agricultural Experiment Station

Minuticornicus gen. nov.

Head without prominent antennal tubercles; antennae shorter than the body, six-segmented and armed with round sensoria; front wings with the media twice branched; hind wings with both media and cubitus present; cornicles very small, wider than high, and situated on slightly swollen bases; cauda well developed, tapering gradually and armed with a number of fine sensilla; anal plate rounded.

This genus resembles *Siphonatrophia* Swain in general form but has one more segment in the antennae. *Minuticornicus* has a shorter and somewhat different type of cornicle than *Pergandeidia* Schoutenden, although the cauda is very similar.

¹Contribution from the Department of Entomology, Utah Agricultural Experiment Station.

Publication authorized by Director, December 8, 1928.

Type *Minuticornicus gravidis* Knowlton.—This genus belongs to the tribe Aphidini.

Minuticornicus gravidis n. sp.²

This tiny green aphid attacks the red cedar, *Juniperus virginiana* L., apparently feeding on the scale-like needles of the smaller twigs. While abundant during June and July of certain years, no apparent damage results from the feeding.

This aphid was pointed out to the writer by Mr. A. C. Burrill,³ who had been observing the black attending ants and was interested in knowing the name of the aphid.

The tiny cornicles, the plump abdomens of the wingless females, and the well-developed cauda are the most interesting structures of this aphid. The aphids are especially difficult to find in early June, when they closely resemble the tiny buds that are abundant on the twigs. Both the winged and wingless forms are ordinarily quite inactive, and it is especially difficult to disturb the apterous forms.

The winged forms were abundant during 1928 from June 18 until early July and then they became decreasingly abundant until mid-August. The apterous forms are present earlier but disappear at about the same time. The writer so far has not been able to find this aphid in early spring or after the first of September. Many of the wingless forms become parasitized, and the dry bodies of these individuals remain over winter on the trees.

Apterous vivipara.—Size 1.25 to 1.7 mm. long; rostrum long, extending between the third coxae; antennae greenish to slightly dusky on distal segments, and hardly half the length of the body; antennal III, 0.13 to 0.15 mm. long; IV, 0.09 to 0.1 mm.; V, 0.1 to 0.11 mm.; VI, 0.09 + 0.11 to 0.1 + 0.12 mm.; legs short and inconspicuous; hind tibia 0.45 mm. long; abdomen broadly rounded and highly arched, resembling a diminutive green pea in shape and color; cornicles hardly more than elevated pores on slightly swollen bases, usually less developed than in alate forms, and hidden from above under the broadly extended sides of the abdomen; cauda large, green to dusky, sometimes slightly constricted high up near the base, and armed with numerous fine sensilla; anal plate rounded.

²The writer wishes to thank Dr. P. W. Mason for his opinion concerning this form.

³A. C. Burrill, Curator of Missouri Resources Museum, Jefferson City, Missouri.

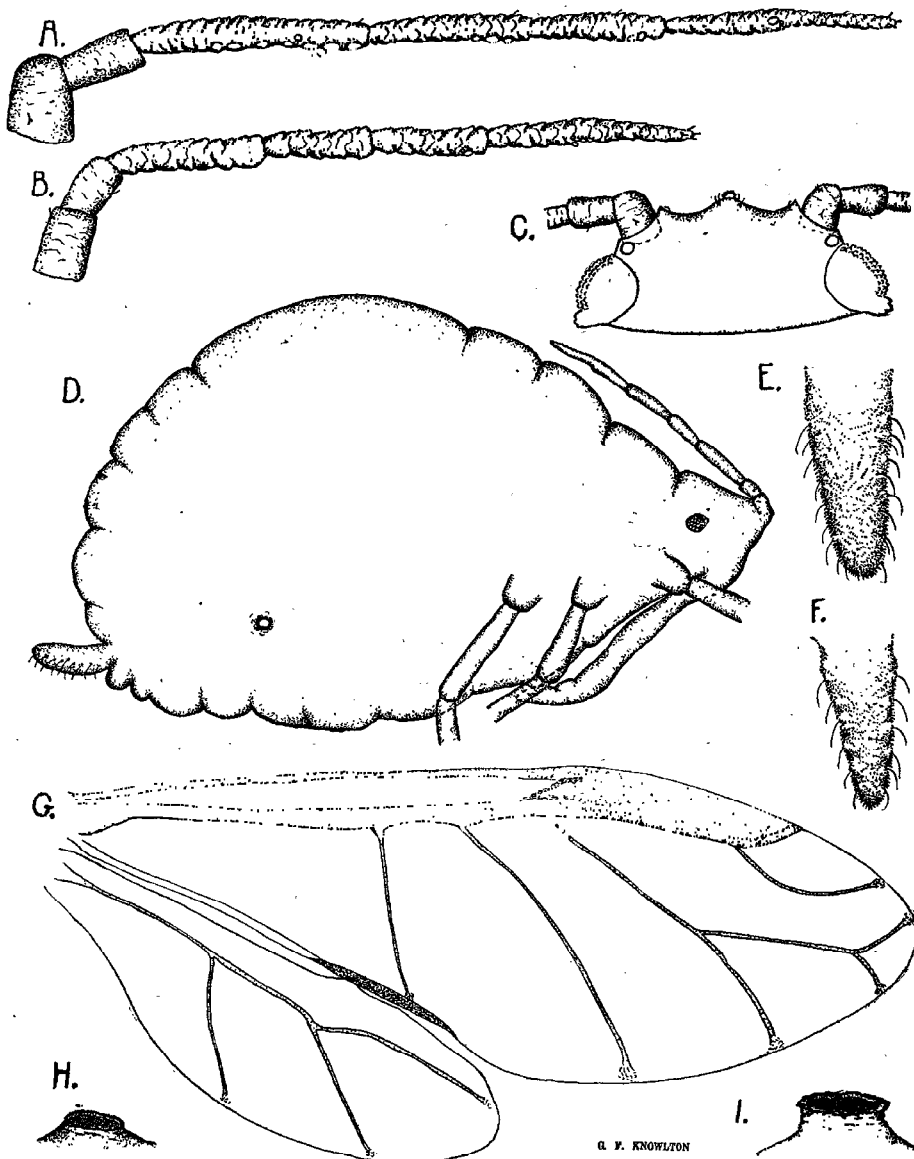


Fig. 1.—*Minuticornicus gravidis* n. sp. A, Antenna of alate female; B, antenna of apterous female; C, head of alate female; D, apterous female; E, cauda of apterous female; F, cauda of alate female; G, wings of alate female; H, cornicle of apterous female; I, cornicle of alate female.

Alate vivipara.—Size small, 1.1 to 1.6 mm. long; rostrum long, reaching between third coxae; antennae dusky, reaching to about the middle of the abdomen; antennal III, 0.17 to 0.21 mm. long and armed with 4 to 9 (usually about 7) round sensoria; IV, 0.1 to 0.13 mm., with 1 to 3 sensoria; V, 0.11 to 0.13 mm.; VI, 0.09 + 0.11 to 0.1 + 0.13 mm.; legs rather short; hind tibia

0.55 mm. long; front wings with two-branched media (but showing a decided tendency to abort the second branch in many cases); hind wings with both media and cubitus present (occasionally either is absent); abdomen moderately broad; cornicles slightly more than raised pores on moderately swollen bases; cauda prominent, dusky, tapering gradually, and armed with a number of fine sensilla; anal plate dusky and broadly rounded.

Type locality, campus of the Utah Agricultural College, Logan.

In addition to the collection of the writer, cotypes are in the collections of the U. S. National Museum and the Utah Agricultural Experiment Station.

Aphid bonnecillensis Knowlton

In examining material in the aphid collection of Mr. A. C. Burrill, two slides of this species were found, collected on the edge of Soap Lake, Washington, August 16, 1919. The writer collected this form at Malad, Idaho, on July 17, 1928.

During the latter part of September, 1928, winged and wingless forms were collected at Goshen and at Delta, Utah. These are the first fall alates collected by the writer. The wingless forms taken in the fall are a faded yellowish-green and resemble the faded leaves of the greasewood as closely as the darker spring forms resemble the darker coloring of the plant in the early part of the season.

Alate vivipara (fall migrant).—Size small, 1.12 to 1.2 mm. long; rostrum long, extending between third coxae; antenna greenish to slightly dusky and slightly more than half the length of the body; antennal III, 0.17 to 0.19 mm. long, and armed with 2 to 5 round sensoria (usually with 4 or 5); IV, 0.11 to 0.13 mm.; V, 0.11 to 0.13 mm. VI, 0.09 + 0.07 to 0.95 + 0.09 mm.; wing venation normal; legs short; hind tibia 0.45 mm. long; cornicles short, 0.067 to 0.085 mm. long; cauda long and tapering.

(To be continued)

SEMI-TROPICAL ARMY WORM OUTBREAK

The outbreak of *Xylomyges eridania* Cramer noted in our last issue persisted up into November, but the numbers of the worms gradually diminished. During November their attacks were most noticeable on snap beans for the fall market. The behavior of the worms on beans was rather characteristic. They much