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PHYLLAPHIS COWENI, CKLL. (Plate I, Figures 1 to 6).

BY C. P. GILLETTE, FORT COLLINS, COLORADO.

Aphid. Cowen : Bull. 31, Tech. Ser., Colo. Ex. St., p. 125, 1895.

Pemphigus Coweni, Cockerell, CAN. ENT., XXXVII, p. 391, 1905.

Mr. Cowen being unable to place this louse in a genus known to him, did not attach a name to it, though his descriptions of both gall and louse make it certain that he was studying the species under consideration.

The louse has the general appearance and habits of a *Pemphigus*, and was so placed by Prof. Cockerell, who saw only the apterous form and pupæ. On Aug. 5th, 1908, the writer was in the foothills a few miles west of Fort Collins, at an altitude of about 8,000 feet, where Bearberry (*Arctostaphylos uva-ursi*), the host-plant of this louse, grows in great abundance. Apparently every plant was infested, as was evident from the numerous pod-like leaves that were conspicuous everywhere. The galls are formed by about one-third of the leaf surface folding lengthwise upon the other two-thirds, inclosing the lice and becoming swollen so as to resemble minute pea-pods. If the galls were beneath leaves so as to be shaded, they were green in colour, but if exposed to the sun they were more or less deep red in colour. The galls varied between 10 and 20 mm. in length.

Many apterous lice, including stem-mothers, and numerous pupæ, were present in the galls, but no adult alate forms were seen, and apparently all the lice, except stem-mothers, were to become winged. Syrphus larvæ were common in the galls.

Plants bearing galls were taken and placed in the insectary, where syrphus flies and great numbers of the alate viviparous females, alate oviparous* females and alate males were reared. These I have described below.

A glance at either of the alate forms figured in the accompanying plate will be sufficient to see that this can not be a *Pemphigus*, as the fore wing has the cubital vein with two forks, when it should have none. I

*This is the only species, except in *Chermes*, where I have seen alate oviparous females.