

deposit eggs on the under side of the leaves, among their downy hairs, beneath the loosened bark of the branches and trunk, or in crevices of the ground about the base of the vine. The complete life history of this insect, which is extremely interesting and curious, may be found in the 5th, 6th, 7th and 8th Reports on the Insects of Missouri, by Prof. C. V. Riley.

The gall-inhabiting type of this insect may be subdued by picking off the infested leaves and destroying them, but the root-inhabiting type is a much more difficult form to deal with. Various applications to the soil have been recommended, such as bisulphide of carbon, and carbolic acid diluted with water and poured into holes made in the soil about the roots; soot, lime and ashes have also been suggested, strewed around the vines.

Several species of predaceous insects prey on this louse. The larva of a small fly, an undetermined species of *Diplosis*, deposits its eggs within the gall, in which the larval and pupal stages are also passed. The larva of this friendly species, although destitute of legs, is very active, and groping about within the hollow of the gall, seizes on the young lice as hatched and sucks them dry. I have found no evidence of its attacking the parent lice, the newly born and tender progeny being more to its taste, and in sufficient abundance to furnish it with a constant supply of fresh food. In some instances one larva, in others two are found in a single gall, but in no instance have I found living lice with the chrysalids, an evidence that its beneficial work is completed before this change takes place. An active mite, *Tyroglyphus phylloxera*, the larva of a Syrphus fly, *Pipiza radicans*, also the larva of a small dull-colored Lady-bird, a species of *Scymnus*, all aid in keeping in subjection the root-inhabiting form.

Most of our American vines are much more vigorous than the European sorts, and hence are likely to endure the inroads of this insect much better. As the insect is native to our country, our vines must have always been subject more or less to its attacks, and hence probably have developed a hardier constitution, with greater capacity for endurance or resistance. Last year I observed on some Concord vines evidences of unhealthiness, which I now believe arose from the presence of *Phylloxera*; this season most of them seem to have recovered their natural vigor. This inspires the hope that our vines may be able to endure the presence of this pest without very serious injury or loss.

During the month of July I received from Prof. J. A. Lintner, State