

insects. Just in the presence of the judicious and sober observations of Dr. Adler, it would not be proper to say more than that it is not difficult to point out galls of *Cecidomyia* similar to both forms of the alternating *Cynips* galls. It is to be presumed that in *Cecidomyia*, as well as in *Cynips*, the form of the ovipositor will be different, but such investigations can scarcely be successful with dry specimens.

I may add one observation made by myself, by which it is at least probable that bisexual species of *Cecidomyia* may also propagate by parthenogenesis. Some twenty years ago, occupied with the study of insects obnoxious to agriculture in Prussia, I had stalks with cocoons of *Cecidomyia destructor* in corked glass tubes. In one of them I raised a single female, and was sure that no other cocoon was present. The female laid a number of eggs on the glass, which after a few days began to develop so far that the embryo and the segmentations of it were clearly visible. By some mischance the glass tube was left in sunlight and the development stopped. Though I have not been able since to repeat the observation, I am sure that I was not mistaken. I think it is justifiable to presume a possible parthenogenesis for *Cecidomyia*, which, if proved, may lead to successful results concerning the destruction of this dangerous pest.

After having studied Dr. Adler's papers, I remembered directly some similar facts given by Mr. Lichtenstein in Stettin. Entom. Zeit, 1877, on the Hemipterous genus *Phylloxera*; the alternation is here very remarkable. The bisexual form originates from pupæ, which are produced by larger winged forms, which possess no external sexual organs and can therefore not copulate. Mr. Lichtenstein calls this form of propagation anthogenesis. A certain similarity with *Cynips* consists in the fact that the different forms of *Phylloxera* emigrate in spring and return in the fall. So the well known *Ph. vastatrix* emigrates from the leaves to the root of the same plant, and needs therefore no special winged forms for the purpose of emigration. But *Ph. quercus* changes to another tree, and needs therefore two winged forms, which are different one from the other. One parthenogenetic form brings the summer colonies from *Ilex* to *Robur*, and another anthogenetic fall form brings them back from *Robur* to *Ilex*. The fact that some species possess two different winged forms will probably reduce the number of the described winged species. Till now it is only known that *Ph. Lichtensteini* is the anthogenetic form of *Ph. quercus*, and *Ph. Signoreti* probably the same form of *Ph. florentina*. Mr. Lichtenstein presumes that many *Pemphigus* and *Adelges* will possess similar