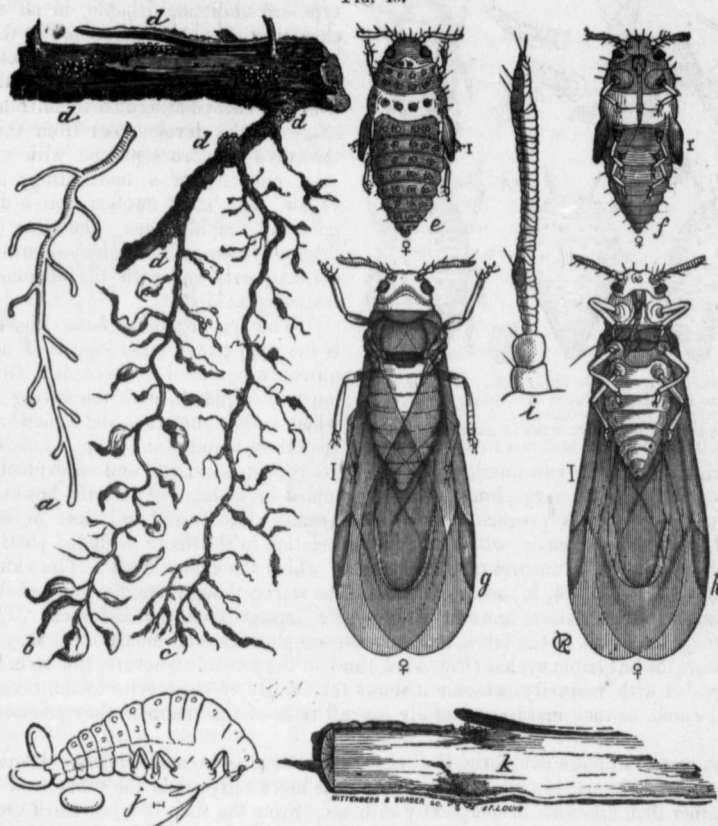


suckers. As soon as the ground thaws and the sap starts in the spring, these young lice work off their winter coat, and, growing apace, commence to deposit eggs. All, without exception, become mothers, and assume the degraded form (A) already described.

FIG. 45.



TYPE RADICICOLA:—a, shows a healthy root; b, one on which the lice are working, representing the knots and swellings caused by their punctures; c, a root that has been deserted by them, and where the rootlets have commenced to decay; d, d, d, show how the lice are found on the larger roots; e, female pupa, dorsal view; f, same, ventral view; g, winged female, dorsal view; h, same, ventral view; i, magnified antenna of winged insect; j, side view of the wingless female, laying eggs on roots; k, shows how the punctures of the lice cause the larger roots to rot.

"At this season of the year, with the exuberant juices of the plant, the swellings on the roots are large and succulent, and the lice plump to repletion. One generation of the mother form (A) follows another—fertility increasing with the increasing heat and luxuriance of summer—until at last the third or fourth has been reached before the winged form (B) makes its appearance in the latter part of June or early in July. Such are the main features which the development of the insect presents, to one who has studied it in the field as well as in the closet.

"Since I proved, in 1870 (adds Mr. Riley), the absolute identity of these two types by showing that the gall-lice become root-lice, the fact has been repeatedly substantiated by different observers. Yet, strange to say, no one has heretofore succeeded in making gall-lice of the young hatched on the roots, though I formerly supposed that Signoret had done so. It is, therefore, with much satisfaction that I record the fact of having succeeded this winter in obtaining galls on a young Clinton vine from young *radicicola*, and of thus establishing beyond

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