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INSECTS, WIREWORM, &c.

It is in the larva state that the ravages of insects are most felt, and this requires a word or two of explanation.

BUTTERFLIES, MOTHS, and many other insects, undergo a succession of changes, or transformations, prior to their assuming their last and frequently gorgeous form under which we see them fluttering from flower to flower. Of course I speak now more particularly of the butterfly. The moths are usually, though, no doubt, many of them are extremely beautiful much more sober in their movements, and less gaudy in their plumage. They are, also, principally of nocturnal habits, and consequently come less frequently, and less strikingly, under our notice.

The female moth or butterfly deposits an egg, which gradually ripening to maturity, becomes a maggot, grub, or caterpillar. This is called the larva and it is in this stage that the insects prove most noxious to the farmer's crops. These larvæ are excessively voracious, and their ravages terminate only with their next transformation into the state of *pupa* or *chrysalis*. Prior to assuming this state, the caterpillar forsakes its food, and seeks some retired and safe retreat, usually burying itself for this purpose underground. The head then gradually bends forward, and the face is embraced by the upper or thoracic ket; the body likewise becomes contracted in its dimensions, more particularly in its length, and also gradually becomes covered with a firm and shell like coat or case. This is a thickening and induration of the skin of the grub, not of the *epidermis* or *cuticle*; for that is gradually cast as a slough, in proportion as the work of transformation proceeds. The chrysalis is soon formed; some insects envelop themselves in a web, as the silkworm, &c; others do not. During this stage, the insect is, of course, perfectly harmless. In course of time, the perfect insect is formed within its belly sheath; it now commences the work of breaking open its prison, having effected which, it emerges in all the beauty of insect perfection.

CATERPILLARS do not prey indiscriminately on all sorts of herbage or farming produce. Each species has its favorite plant, or plants; and not even star-

vation will induce it to transgress these limits that instinct has assigned to its appetite, or eat of a plant of another sort.

One of the most destructive grubs which infests the fields of the agriculturist, or renders futile the care and skill of the gardeners, is, perhaps, that well known larvæ—the WIREWORM. I may here observe that the general name of wireworm is given to the larvæ of many species of beetle, all, however, very similar in habits and appearance, and so equally gifted as to their destructive powers, that it would be difficult, indeed, to draw any distinction in this respect between them.

Scarcely any land is free from the ravages of some one or other of the wireworms; and there is scarcely any description of crop upon which they will not prey with equal greediness. Wherever grass or any sort of herbage will grow, there will the greedy wireworm be found. The beetles, of which the wireworms are the larvæ, are those called the ELATERS; also spring-beetles, skipjacks, and click or snip-beetles. From the power they possess of springing up with a click or snap-like noise when placed upon their backs. The eggs of the wireworm are very minute and are deposited in the earth at the roots of the young plants. When first hatched they are invisible to the naked eye, but attain nearly the length of an inch when full grown, and in this state of larvæ they remain for nearly five years. No wonder, therefore, that, between their longevity and rapacity, they should be deemed by farmers so very pestilent a scourge. During the continuance of their larvæ state, these worms cast their outer skin several times, being white in color, and very tender for a short period after each sloughing; at other times they are covered with a hard and solid coat of a horny consistence, so firm and impenetrable as to render them proof against most of the ordinary remedies that might be used for their destruction.

Wireworms are somewhat more than half an inch in length, and resemble the meal worm in appearance but are more angular, less perfectly cylindrical, more flattened above and below. Their head is horny and formed for perforation, and the mouth, though small, is furnished with a most effective pair of very powerful jaws. There are six feet on the upper portion of the thorax, and one at the extremity or tail. The former are called pedicel or thoracic, the latter, anal.