

lays several eggs in the outer sheath of the stalk, above the joints. After they hatch, the worms commence feeding within the sheath, and the constant irritation produced by them forms a woody gall, or rather succession of galls, in the cavity of each of which lies a small footless maggot, about the seventh or eighth of an inch in length, having a body with thirteen segments, and of a pale, glossy, yellowish color. The number of worms in each cluster of galls varies from four to ten, or even more. The substance of the stalk attacked becomes brittle, and either partially or entirely fills its central cavity, and frequently distorts it into various irregular shapes. I have often observed young rootlets putting out immediately below a joint thus affected. The worms on the stalks of wheat, when examined in February last, were yet in the larva, but early in March several had assumed the pupa state. They were about an eighth of an inch in length, of a pale yellow color, which, as the pupæ were near coming out, became afterwards nearly black. These pupæ had the rudiments of wings, legs, and antennæ, as in the perfect fly, but were motionless. Late in April and the beginning of May, the flies made their appearance through holes gnawed through the tough woody covering of the gall-like excrescence in which they had passed the winter. This transformation, however, took place in a warm room. These flies are about an eighth of an inch in length, of a black color, the knees, joints, and feet, being tinged with yellow. The males, according to Dr. Harris, vary from the females by being smaller, and in having no piercers. The joints of the antennæ are likewise longer, and surrounded with whorls of little hairs. The hind body is shorter, less pointed at the extremity, and is connected with the thorax by a longer stem. He also says that among fifteen females only one male was found. This corresponds with what I have observed, as out of sixty to eighty Joint Worm Flies, produced from diseased stalks of wheat, I only procured one male, answering to his description, and eight parasites not quite a tenth of an inch in length, of a dark metallic shade, with yellow legs, and the antennæ much thicker at the end. These flies were furnished with four transparent dotted wings. If the small insect figured in the plate is the male, it is somewhat incomprehensible how it happens that so many females appear at the same time without more males.

“Another four-winged fly also made its appearance from the same stalks, of about an eighth of an inch in length, with an abdomen and legs of a bright yellow. The head and thorax were of a dark color, and somewhat metallic lustre. The wings were transparent, dotted, and fringed with short hairs, and the piercer reached to the middle of the under part of the abdomen.

“Dr. Harris states that it has been found in Massachusetts, that ploughing in the stubble has no effect upon the insects, which remain alive and uninjured under the slight covering of earth, and easily make their way to the surface, when they have completed their transformation. A free use of manure and thorough tillage,