

## INTRODUCTION.

Cutworms cause more widespread injuries and are responsible for more inquiries on the part of farmers, market gardeners and others who cultivate the soil, than most classes of injurious insects. Taking them as a class, they rank in importance with such well-known pests as the San Jose Scale, the Codling Moth, and the Hessian-fly—all of which are among our most destructive insect enemies. There are certainly few insects which, year after year, do such widespread damage to garden and field crops as the various caterpillars known commonly as cutworms. The annual loss occasioned by these insects in Canada amounts to hundreds of thousands of dollars. In one year (1900), the Variegated Cutworm alone destroyed in British Columbia crops to the value of \$168,000, and, if we add the losses in the same season in Manitoba and Ontario, the figures would easily reach \$200,000. Chittenden has estimated that the total damage caused by this cutworm in the above year in the United States and Canada amounted to the enormous sum of \$2,500,000.



FIG. 1.—a, Moth of Yellow-headed Cutworm, *Hadena arctica*; b, moth of Clover Cutworm, *Mamestra trifolii*; c, moth of Pale Western Cutworm, *Parasagrotis orthogonia*; d, moth of Dingy Cutworm, *Feltia ducens*—all natural size. (Original).

The moths of these cutworms belong to the family Noctuidæ, of which in North America there are over two thousand different kinds. In Canada, fortunately, not more than about twenty-five of these have ever appeared in numbers, as cutworms, to do serious damage to growing plants. The moths in general are similar in appearance, being of a grayish or dull-brownish colour, the front pair of wings being usually crossed with four or five irregular lines. On each of these wings, also, are two characteristic marks, the one nearest the body, about halfway down the wing, being round or orbicular in shape and the other, nearer the tip of the wing, larger and reniform or kidney-shaped. In size, they expand from about an inch to two inches in width, when the wings are spread. When at rest, the wings lie folded over the body. Being nocturnal in habit, they are seldom seen during the day time, but in the early evening they appear in search of the nectar of flowers. They are readily attracted to lights and, for this reason, the bright lights, such as are used along the city and town streets, are often visited by entomologists for the purpose of securing the moths for study. At night the eyes of these moths shine brightly, and owing to this and their nocturnal habit, they were given the popular name of "owlet-moths."

In England cutworms are known as "Surface Grubs" or "Surface Caterpillars." In Germany they receive the popular names of "Erdräupen," "Wurzelräupen" and "Grasräupen" which may be translated respectively as "Ground Caterpillars," "Turnip Caterpillars" and "Grass Caterpillars." The French popular name "Ver Gris" (Grey Grubs) is very descriptive; the moths are generally known as "Les Noctuelles."