

NOMOPHILA NOCTUELLA, SCHIFF.

ORDER LEPIDOPTERA. FAMILY PYRALIDINA.

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This is one of the most common insects that flies throughout the summer months. It is also widely distributed; adults have been taken in widely separated parts of Europe, in Algeria, Caffraria, Bengal, Pondicherry, Brazil, and in the eastern and western parts of the United States. Packard writes of the species thus:—"Such cosmopolitan forms give rise to the suspicion that they are relics of a past geologic age, which is borne out by the fact that quite a gap separates it from its nearest allies." In spite of its wide distribution, this insect seems to be one of these common species that has escaped observation, very little having been published on its life history.

On the 15th of last September the writer found among the grass and clover in a pasture several pale greenish larvæ (Fig. 2, b) with black heads and numerous black tubercles. Upon being disturbed they quickly disappear, with a peculiar wriggling, jerking motion, under the grass; they seem to move with equal facility either backward or forward. When not feeding the larvæ can be found under a slight web in the centre of a clump of grass. Later observations show that the larvæ live almost wholly upon clover leaves, eating out the soft parenchyma and leaving the veins; they will eat grass if clover is not within reach, and one larva was observed to seize an Aphid and devour it, though there was plenty of food within reach. J. H. Leach in his "British Pyralids" gives *Polygonum aviculare* (knot grass) as the food-plant in Scotland. As the larvæ become full grown they may be seen wandering around and slowly assembling under chips, stones, etc., where they pupate; when in pastures, dried cow dung seems to be the favourite resort. On the 21st of September both larvæ and pupæ were abundant in these retreats; ten pupæ (Fig. 1, c, d) were taken from a piece of cow dung one-fourth the size of a man's hand. Before pupating the larvæ spin around them a thin, white, loose cocoon.

After remaining in the pupa state about ten days the insects emerge. The adults (Fig. 1, e) are of a sombre brown and a tawny yellow colour, with black markings. They have a peculiar jerky flight, and when disturbed they fly up suddenly about four feet, and usually alight within two rods of where they started. When at rest (Fig. 2, f) they are usually on a leaf with the wings folded flat over the back and the antennæ extend-