

rows of branching spines, those on the third, fourth, and terminal segments black, with a row of the same colour along each side, close to the under surface; all the other spines pale whitish. Under-surface nearly black, with dots of a pale hue." When fully grown, and an inch and a quarter in length, Mr. Saunders describes it as follows:—"Head reddish black, flat in front, somewhat bilobed, each lobe tipped with a tubercle, emitting five simple black pointed spines; head covered with many small white tubercles mixed with a few blackish ones. Body above, black, thickly covered with streaks and dots of yellowish white. All the segments, except the second, with either four or seven branching spines yellow with blackish branches. Under surface, yellowish grey; feet, black and shining; pro-legs, dull reddish."

The chrysalis is ashy-brown in colour, with the head deeply notched, and surmounted by two projections resembling ears; on the thorax is a long, nose-like prominence, giving the creature the appearance of a grotesque mask; and on the back are eight silvery spots. It is suspended by the tail, frequently under the leaves of the plant, at other times under any convenient projection. In this state the insect remains from twelve to fourteen days; the later brood usually somewhat longer.

This insect is greatly kept in check by a minute parasite belonging to the family of Ichneumonids; it is called by Dr. Harris the *Pteromalus Vanessa*. We have oftentimes been disappointed in our attempt to raise the butterfly of this species by this little fly. Everything apparently goes on well, and the caterpillar assumes the chrysalis state, but by-and-by, instead of a butterfly, out comes, through a hole in the side, a swarm of tiny flies. If it were not for these creatures the caterpillar would soon become a most formidable and destructive pest.

FIG. 24.



There are two other species of American Butterflies, whose larvæ feed upon the hop; one, not uncommon in Canada, the Comma Butterfly (*Grapta Comma*, Harris), is like the preceding species, in general appearance and habits; instead of a semicolon, it has a silvery comma on the middle of the hind-wings beneath.

Fig. 24 represents this butterfly.

The caterpillar feeds also upon the currant and elm. The other species is the Hop vine Thecla (*Thecla humuli*, Harris; *melinus*, Hubner). It ranges from the New England States to Texas and California, but we are not aware that it has yet been taken in Canada.

4. THE HOP-VINE PLUSIA (*Plusia balluca*, GEYER).

LEPIDOPTERA-PLUSIDÆ.

The larva of this very handsome moth feeds upon the hop, and is occasionally found in some numbers; seldom, if ever, however, is it so numerous as to become a source of serious trouble. It is essentially a Canadian insect, being but very rarely observed to the south of us.

The larva was found by Mr. W. Saunders, of London, Ontario, on the 13th of June, 1872, and is thus described by him in the January No. (1873) of the *Canadian Entomologist*:

"Length, 1.20 inch. Body, thickest on middle, and posterior segments tapering towards the front; the body is arched or looped along the middle segments, when in motion. Head rather small, bilobed, of a shining green colour, with a few whitish hairs.

"Body above yellowish green, streaked and spotted with white, intermixed all through with green, thus dividing the white into a series of streaks, dots, and broken lines; there is also a line of greenish white on each side, close to the under surface. Each segment has a few tubercles of a green colour, striped with white; these are small on the 2nd, 3rd, and 4th segments, but much larger from 5th to 12th inclusive, and entirely wanting on the terminal segment. On each of the hinder segments, with the exception of the last,

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