

NOTES ON THE LIFE-HISTORY OF *HESPERIA COMMA* L. *MANITOBA* SCUD. (LEPIDOPTERA, RHOPALOCERA) ON VANCOUVER ISLAND

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The following notes are supplementary or confirmatory to what is known concerning the life-history of this skipper. I am not aware that the life-history has been worked out for the Vancouver Island representative of the species.

Ova can easily be obtained by confining a female under a sleeve of netting enclosing a tuft of grass. She will lay her eggs on the grass, netting, and the twigs supporting the net. One female thus confined laid forty eggs. Another group of three laid fifty eggs within a day or two.

Egg.—Size 1 mm. by 0.80 mm. Hemispherical, attached to the grass by the broad base; smooth, slightly depressed in micropylar area, and with fine microscopic reticulations. Colour, a dull chalky white.

The following notes were obtained by observing the development of one individual from egg to adult. A female was observed fluttering slowly about the grass in a neglected corner of my lawn in a manner very different from the usually swift and erratic flight common to the skippers. After a short time she settled well down at the base of a grass stem and, curving her ovipositor forward, made one or two trial thrusts before depositing an egg on the stem. She then fluttered a short distance away and repeated the process. I collected an egg and placed it in a glass tube where the subsequent metamorphosis took place.

As the larva developed very slowly during the early phases, the moults were not all observed with certainty, hence a chronological account follows:—

September 19, 1952. The egg, laid on dead grass stem, was placed in a glass tube for observation.

April 24, 1953. Egg hatched. Larva, 2 mm. in length; head very large in proportion to the rest of the body, jet black;

body fairly stout, spindle-shaped, pale beige or putty colour.

April 29. Larva very sluggish but nibbles sparingly at the grass.

May 23. Length 4 mm. Since April 29 it seems to have had only one moult. It spends most of the time in a slight silken cell constructed among the grass blades, from which it makes sorties in search of food.

May 27. As before. I have to keep on changing the grass, very carefully placing the fresh food alongside the cell, as the larva does not venture far away.

June 5. Length, 5 mm. Head black, roughened with minute papillæ. The first thoracic segment very small and narrow and looks like a black ring round the body. Body putty-coloured, thickly dotted with tiny black papillæ. Prolegs black, claspers same colour as body. Two white spots on under-side between segments 10-11 and 11-12. Under the microscope these spots appear to be made up of finely shredded white scales.

July 1. Length, 8 mm. Probably in third moult. Although growing slowly, the larva is evidently in good condition. Colour and markings as before.

July 14. Length, 17 mm. Obviously growing faster as size increases; remains most of the time within its cell, which is enlarged to match growth.

July 18. Length, 20 mm. I saw the larva in the process of moulting. Colour is darker.

August 7. Length, 30 mm. Possibly the fifth moult. Head black with two light-coloured vertical marks on vertex. Surface of head roughened with minute papillæ, body smooth, dull buff colour.

August 11. Length, 30 mm.; width, 6 mm. Evidently in last moult. Body reddish, spiracles black.

August 16. Size as before. Body has a tinge of brownish-purple with an obscure dark dorsal line.

August 24. Pupated in the last larval cell. **Pupa:** Length, 20 mm.; width, 6 mm. Wing-cases bluish-black, abdominal segments a dull pink, each segment with a double row of transverse fuscous dashes. Cremaster a tuft of many outwardly recurved hooked hairs. The pupa reposed in the cell vertically, head uppermost.

September 17. Pupa much darker in colour, the transverse abdominal markings have become merged into the general ground colour.

September 19. **Imago** emerged from the pupa exactly one year from the day the egg was laid. The adult was a female, normal as to size and colour.

Summary

The skipper *H. comma* L. *manitoba* Scud. passed a period of seven months in the egg stage, i.e., September 19, 1952, to April 24, 1953. The larval period required four months; growth was remarkably slow in the early stages. When feeding, the larva never went far from its silken cell unless the food-supply ran out, then it built a new cell among fresh growth, *Lolium* and *Bromus* sp.

I was unable to ascertain what function, if any, the four white spots on the underside of the larva may fulfil, although they seem to be of a structural nature rather than due to pigmentation. Could they be scent glands?

The pupal stage lasted for one month, and the pupa was enclosed in the old feeding tent of the larva, an unusual feature in butterfly pupæ.