

Short communication — Kurze Mitteilung — En bref

**Rubiginous larvae of *Hyles hippophaes* (Esper, 1793), an autosomal recessive variety (Lepidoptera : Sphingidae)**

E. A. LOELIGER

Hofdijck 48, NL-2341 ND Oegstgeest, The Netherlands

Aberrant colouration of the caterpillar of *Hyles hippophaes* (Esper, 1793) has so far only been reported by Pittaway (1993), who mentions that "in a very rare colour form, all green colouration is replaced by pinkish-brown". Due to the lack of further information, the following observations seem to be worth reporting.

In 1982, a rubiginous-coloured young L<sub>5</sub> caterpillar of *H. hippophaes*, was observed openly sunning itself on a twig of *Hippophae rhamnoides*, near the Swiss village of Susten, in the Rhône Valley (Fig. 1a). The caterpillar was highly conspicuous against the olive-green coloured plant. The caterpillar and pupa developed normally. A normal male emerged in 1983 and mated with a female originating from an olive-green larva which had been found in the same region. The resulting F<sub>1</sub> larvae were all olive-green, the pupae well-shaped. From the subitaneous pupae a first F<sub>2</sub> was obtained in the same year, consisting of 30 L<sub>5</sub>, of which 6 were rubiginous. A second F<sub>2</sub> was not achieved until 1985, because many of the F<sub>1</sub> pupae remained in diapause for more than one year. Rearing this time outdoors on *Eleagnus angustifolia*, produced almost three times as many L<sub>5</sub> were obtained, 28.5% (23/80) being of the rubiginous variety (all instars, but most obvious in L<sub>5</sub>), a percentage which is consistent with the hypothesis of a hereditary, recessively transmitted colour variety. The crucial F<sub>3</sub> was finally raised in 1986, both parents coming from rubiginous larvae. One hundred percent of the caterpillars (resulting in 24 male and 22 female pupae) were rubiginous, paler when reared on *Eleagnus angustifolia* (Fig. 1b) and darker on Dutch *Hippophae rhamnoides* (Fig. 1c), confirming the aforementioned hypothesis of an autosomal recessive trait.

Since the lower surface of the leaves of many *Hippophae rhamnoides* plants is also rubiginous, we believe that the gene responsible for this larval variety of *hippophaes* is adaptive rather than being a mutation caused by, for instance, toxic pollution of the atmosphere by the chemical industry in the region.

**References**

- PITTAWAY, A. R., 1993. The Hawkmoths of the Western Palaearctic. 240 pp. Harley Books, Colchester.

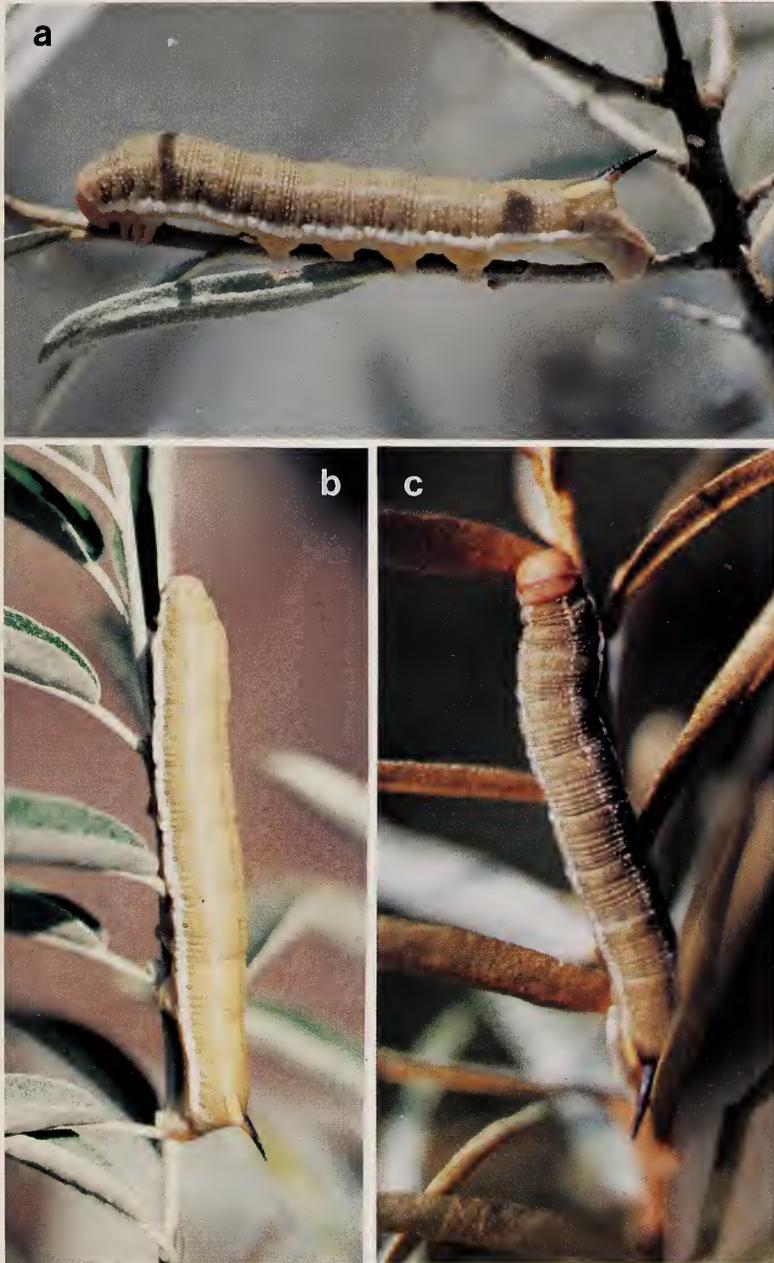


Fig. 1. Larvae of *H. hippophaes*. a — Propositus larva on *Hippophae rhamnoides*, Susten, VS, Switzerland, 1982; b — Rubiginous F<sub>2</sub> larva on *Eleagnus angustifolia*; c — Larva of the F<sub>3</sub> generation on Dutch *Hippophae rhamnoides*. Colouration approximating that of the dark rubiginous lower surface of the leaves.

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Autor(en)/Author(s): Loeliger E. A.

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