

Short communication — Kurze Mitteilung — En bref

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

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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 L₅ 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 F₁ larvae were all olive-green, the pupae well-shaped. From the subitaneous pupae a first F₂ was obtained in the same year, consisting of 30 L₅, of which 6 were rubiginous. A second F₂ was not achieved until 1985, because many of the F₁ pupae remained in diapause for more than one year. Rearing this time outdoors on *Eleagnus angustifolia*, produced almost three times as many L₅ were obtained, 28.5% (23/80) being of the rubiginous variety (all instars, but most obvious in L₅), a percentage which is consistent with the hypothesis of a hereditary, recessively transmitted colour variety. The crucial F₃ 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 Palearctic. 240 pp. Harley Books, Colchester.

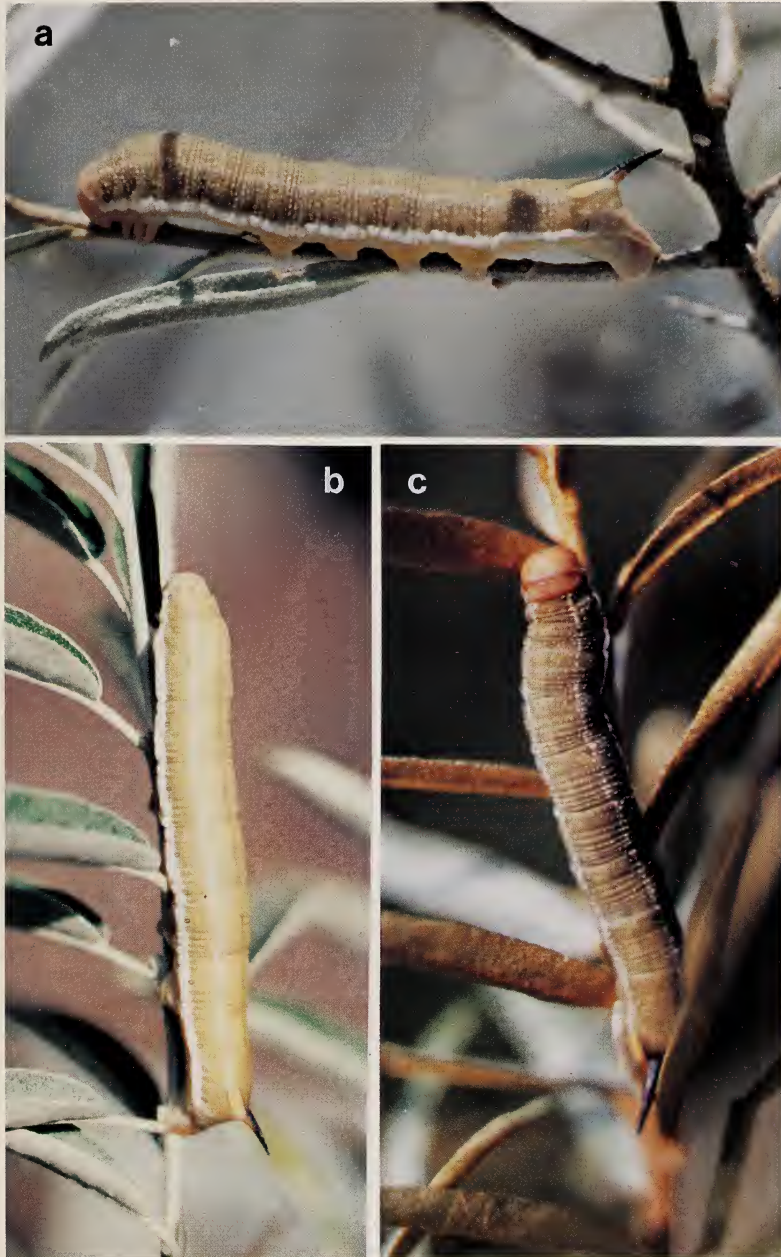


Fig. 1. Larvae of *H. hippophaes*. a — Propositus larva on *Hippophae rhamnoides*, Susten, VS, Switzerland, 1982; b — Rubiginous F₂ larva on *Eleagnus angustifolia*; c — Larva of the F₃ generation on Dutch *Hippophae rhamnoides*. Colouration approximating that of the dark rubiginous lower surface of the leaves.

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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Nota lepidopterologica](#)

Jahr/Year: 1995

Band/Volume: [18](#)

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

Artikel/Article: [Short communication — Kurze Mitteilung — En bref Rubiginous larvae of *Hyles hippophaes* \(Esper, 1793\), an autosomal recessive variety \(Lepidoptera : Sphingidae\) 304-305](#)