

Spilosoma lubricipeda (Lepidoptera: Arctiidae) feeding on the aquatic macrophyte *Stratiotes aloides*

A. SMOLDERS & G. VAN DER VELDE

SMOLDERS, A. & G. VAN DER VELDE, 1996. *SPILOSOMA LUBRICIPEDA* (LEPIDOPTERA: ARCTIIDAE) FEEDING ON THE AQUATIC MACROPHYTE *STRATIOTES ALOIDES*. – *ENT. BER., AMST.* 56 (2): 33-34.

Abstract: Caterpillars of *Spilosoma lubricipeda* were observed feeding on emergent leaves of the Water soldier *Stratiotes aloides*. Also pupae were found attached to the *Stratiotes* plants, but they will drown when the plants sink totally under the water surface at the end of the season.

Department of Ecology, Laboratory of Aquatic Ecology, University of Nijmegen, Toernooiveld, 6525 ED Nijmegen, The Netherlands.

According to Gaevskaya (1969) there are no records of arctiid caterpillars feeding on aquatic plants. In The Netherlands, *Spilosoma lubricipeda* (Linnaeus) is very common and usually feeds on ruderal vegetation consisting of herbaceous plants like *Mentha* sp., *Rumex* sp. and *Polygonum* sp. (Carter & Hargreaves, 1987; De Wilde, 1991).

Although *S. lubricipeda* is normally restricted to land, in September 1994 caterpillars of this species were encountered on emergent leaves of *Stratiotes aloides* L. in a ditch in the nature reserve "De Bruuk" (located near the village of Groesbeek, province of Gelderland, The Netherlands). On at least 15 plants one to three caterpillars were observed

while pupae were observed on two plants. Fig. 1 shows the typical damage patterns of *Stratiotes* leaves on which *S. lubricipeda* was feeding.

Although several drowned caterpillars were found in the water, caterpillars that fell into the water were observed to remain floating and usually managed to crawl onto an emergent leaf. Apparently, the hairs that cover the body retain some air, enabling the caterpillars to remain floating for some time. Although the caterpillars seemed to be able to survive on *Stratiotes*, the pupae will not survive when attached to the leaves. The *Stratiotes* plants sink at the end of the season and remain submerged until spring. Consequently, the pupae will

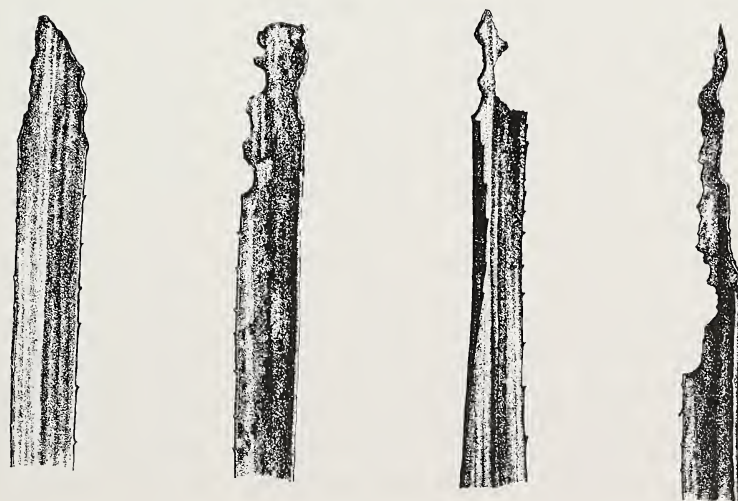


Fig. 1. Some leaves of *Stratiotes aloides* damaged by caterpillars of *Spilosoma lubricipeda* (drawings by R.P.W.H. Felix after photographs).

drown in winter. Although no caterpillars of *S. lubricipeda* were observed to feed on *Typha*, two pupae were found on *Typha latifolia* L. stalks bordering the *Stratiotes* stand. Perhaps they had fed, prior to pupation, on the *Stratiotes* leaves and had accidentally reached a *Typha* stalk after falling into the water. Only these pupae might survive the winter.

Few species of Lepidoptera have been known to feed on *Stratiotes aloides*, all belonging to the Pyralidae. A well-known example is *Paraponyx stratiotata* Linnaeus, which mainly feeds on *Stratiotes aloides* (Gaevska-ya, 1969). Van der Velde (1988) has described how *Cataclysta lemnata* Linnaeus, which normally feeds on Lemnaceae, can survive for several years feeding on other macrophytes, including *Stratiotes aloides*. Their hydrophobic larval stages have been observed to gnaw the emerging leaves at the water surface, after which the leaves were consumed and parts of it used for case building. Another pyralid spe-

cies, *Nymphula nymphaeata* Linnaeus, has been observed to damage the *Stratiotes* leaves for the building of cases in a stand of *Hydrocharis morsus-ranae* L., on which most of its caterpillars were feeding (Van der Velde, personal observation).

References

- CARTER, D.J. & B. HARGREAVES, 1987. *Rupsen. Europese Dag- en Nachtvinders*: 1-296. Thieme, Baarn.
- GAEVSKAYA, N.S., 1969. *The role of higher aquatic plants in the nutrition of the animals of fresh-water basins. vol. I-III*: 1-629. National Lending Library for Science and Technology, Boston, Spa, Yorkshire England.
- VELDE, G. VAN DER, 1988. *Cataclysta lemnata* L. (Lepidoptera, Pyralidae) can survive for several years consuming macrophytes other than Lemnaceae. – *Aquat. Bot.* 31: 183-189.
- WILDE, A. DE, 1991. *Rupsentabel deel 1*: 1-142. Jeugdbondsuitgeverij, Utrecht.

Accepted 31.x.1995.