

The effect of application by *Bacillus thuringiensis* var. *israelensis* (H14) on bloodsucking blackflies (Diptera, Simuliidae) in Lithuania

Rasa Bernotiene

Bernotiene, R. 2001. The effect of application by *Bacillus thuringiensis* var. *israelensis* (H14) on bloodsucking blackflies (Diptera, Simuliidae) in Lithuania. *Norw. J. Entomol.* 48, 115-120.

Bloodsucking blackflies (Simuliidae) have become very abundant in the south-eastern part of Lithuania since the middle of the 1980's. There are 20 species of blackflies recorded from Lithuania and three of them are confirmed being bloodsuckers: *Odagmia ornata* (Meigen, 1818), *Simulium reptans* (L., 1758), and *Byssodon maculatus* (Meigen, 1804). The last one is the most pestiferous species. The larvae of *B. maculatus* are abundant in the Nemunas River from the Belorussian - Lithuanian border to Kaunas water reservoir. Two microbiological preparations based on *Bacillus thuringiensis* var. *israelensis* (H14) were used. The biopreparation Baktokulicid was sprayed in the Nemunas River in one locality in 1998. The effect of *B. thuringiensis* var. *israelensis* on blackfly larvae was determined in the river 11 km downstream from the place of application. Only few imagines of *B. maculatus* were observed in the locality at a distance of 7 km downstream from the place of application after one week. The biopreparation VectoBac 12AS was sprayed in the middle reaches of the Nemunas River in 1999. A river segment of 90 km was treated. Blackfly larvae were affected by *B. thuringiensis* var. *israelensis* in the whole river segment applied and 96 km downstream. The mortality of blackfly larvae was $99.8 \pm 0.8\%$. The biopreparation had no significant effect on macrobenthos in the Nemunas River. *B. maculatus* bites from the middle of May to early July in Lithuania. In 1999, it started to attack people from 10 June. The abundance of attacking blackflies correlated with the distance from the investigated localities to the untreated segment of the Nemunas River (in Belarus).

Key words: Simuliidae, Lithuania, pest control, *Bacillus thuringiensis*.

Rasa Bernotiene, Institute of Ecology, Akademijos 2, LT-2600 Vilnius, Lithuania.