

# Life history, egg cold hardiness and diapause of *Argyresthia retinella* (Lepidoptera: Yponomeutidae)

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During the first half of the 1990-ies, the microlepidopteran *Argyresthia retinella* Zeller (Lepidoptera: Yponomeutidae) had an outbreak in mountain birch (*Betula pubescens* Ehrh. ssp. *czerepanovii* (Orlova) Hämet-Ahti) forests along the coast of northern Norway. In these regions, *A. retinella* has a univoltine life history and passes the winter as diapausing eggs, contradictory to previous reports from more southern latitudes of Europe, where newly hatched larvae overwinter. Eggs were deposited under lichen, mainly on branches and twigs, and avoided freezing by their ability to supercool. The mean supercooling points (SCPs) from October to March ranged between -35.5 and -36.5 °C (lowest in January), and the eggs did not survive exposure below these temperatures. Diapause was terminated in the middle of February, and in April and May the SCP rose to about -30 °C. Pre-freeze mortality was evident and had a significant impact on survival when eggs were exposed to temperatures above the SCP.

Key-words: Egg diapause, cold hardiness, life cycle, pre-freeze mortality, *Argyresthia retinella*, Yponomeutidae

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