

Phytomyza arnicae Hering, 1925 (Diptera, Agromyzidae) in Norway – an agromyzid fly exclusively associated with *Arnica montana* L.

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The agromyzid fly *Phytomyza arnicae* Hering, 1925 is reported from Norway for the first time. This species is exclusively associated with *Arnica montana* L., where the larvae are leaf-miners. Mining larvae were collected in June–July 2011 and imagos hatched in April 2012 after hibernation. Successful hatchings were conducted from Kongsberg municipality in Buskerud (BØ) and Tokke municipality in Telemark (TEI). Further notes on distribution and biology are given. The host plant is declining almost all over its distribution area including Norway, and this may cause problems for insect species associated with the plant.

Key words: Agromyzidae, *Phytomyza arnicae*, *Arnica montana*, Asteraceae, Norway.

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Introduction

Arnica montana L. is a long-lived perennial plant species, whose distribution is restricted to Europe (Hultén & Fries 1986). The species is found in extensively managed, acidic and nutrient-poor meadows. *A. montana* is becoming rarer, largely due to increasingly intensive agriculture. Its habitat has been maintained in traditional farming systems, but these are changing due to over-grazing, intensification, abandonment, use of nitrogen fertilizers and reforestation. The plant species has been declining the last five decades. It has, thus, got the status «vulnerable» (VU) on the National Red List (Kålås et al. 2010). The decline of *A. montana* also affects insect species exclusively associated with the plant. Well known examples are the tephritid fly *Tephritis arnicae* (Linnaeus, 1758) and the microlepidoptera

Digitivalva arnicella (Heyden, 1863) (White 1988, Bjureke & Greve 1996, Nieuwerkerken & Koster 1999). An increased focus on these changes has come up recently, and thus, rescue programs have been initiated many places in Europe, including Norway. This study is a part of the Norwegian action plan program.

This paper deals with the first records of the agromyzid fly *Phytomyza arnicae* Hering, 1925 from Norway, another species exclusively associated with *A. montana* (Spencer 1976).

The records

Leaves of *Arnica montana* with mining larvae were picked and placed in plastic bags. These were stored outside during the winter, but moved to a heated room for hatching in March