## Abundance of *Micromus variegatus* (Fabricius, 1793) (Neuroptera, Hemerobiidae) in SE Norway as indicated by light-trap catches

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The abundance of *Micromus variegatus* (Fabricius, 1793) as indicated by light-trap catches between 2000 and 2008 is presented and discussed, together with the status of the species in Norway as well.

Key words: Micromus variegatus, light-trapped material, distribution, abundance, global warming.

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## Introduction

In 1984 a study was begun to describe variations in abundance over a long period of time for common, phototactic Lepidoptera and other insects at a single locality (Kobro 1991). Preliminary results on abundance of Neuroptera and Raphidioptera for the period 1988–1996 were discussed by Greve & Kobro (1998). 32 species of Neuroptera and 2 species of Raphidioptera were collected by the light trap. The light-trapping has continued all years up to present time. The presence of one species *Micromus variegatus* (Fabricius, 1793), not included by Greve & Kobro (1990) is discussed here.

## Material and methods

The light-trap used is a simple funnel type (Jalasmodel (Söderman & Tahvanainen 1994)) with a mixed light bulb (Osram HWL 160W/235V). The trap was hung one meter above the ground at exactly the same place (EPSG 59.74758, 10.59246) every year from 1984 up to now. A new

bulb was installed in the beginning of each season. The trap was situated in an edge habitat at AK: Nesodden, Fagerstrand, between old coniferous forest, temperate deciduous forest, open grassland and a garden. The site is a shaded area and only to a small extent exposed to direct moonlight. The trap was usually operated the three first nights each week from late June to late October. Average number from nine nights (three nights in each of three consecutive weeks) is used as average of abundance each year.

## Distribution

Micromus variegatus was first recorded from Norway in 1989 (Greve 1989). A single male was netted near Grimstad (AAY) in 1984. In the following years 22 specimens were recorded from a total of 7 localities in Ø, AK, VE and AAY (Greve 2004). Of these 10 males and 7 females are from the light-trap at Nesodden where the first specimens were captured in 2000.

Additional material from later dates in Natural