

# Diurnal flight activity of codling moth, *Cydia pomonella*, (Lepidoptera: Tortricidae) males in relation to temperature and twilight

May-Guri Sæthre & Trond Hofsvang

Sæthre, M.-G. & Hofsvang, T. 2005. Diurnal flight activity of codling moth, *Cydia pomonella*, (Lepidoptera: Tortricidae) males in relation to temperature and twilight. *Norw. J. Entomol.* 53, 75-90.

Timed catches of *Cydia pomonella* (L.) males in sex pheromone traps were used to investigate the influence of twilight and climatic parameters on the flight activity of the moths at different latitudes. Traps were operated from 15 May until 31 July at several locations between 59°N and 60°N in southeastern Norway, and at Sogndal (61°N) in western Norway, during 1997-2000. Time and duration of twilights were calculated from May-August for each trap-location, and compared with the activity of *C. pomonella*. Flight response appeared to be determined by the daily photoperiod, corresponding to time of sunset at the different latitudes involved in the study. This response began about two hours before sunset, and declined around 23:00 and 24:00 hours in the evening, in western and eastern Norway, respectively.

Main flight activity in both eastern and western Norway was recorded when temperatures were in the range 10-20 °C, the relative humidity was above 50 %, and at wind speeds below three m/s at the time of capture. In Norway, light conditions are suitable for *C. pomonella* flight activity all night long during the entire lifetime of the adult moths. It is concluded that temperature is the limiting factor for flight at high latitudes.

**Key words:** *Cydia pomonella*, diurnal flight activity, twilight, sunset, temperature, 59°-61°N, sex pheromone traps.

*May-Guri Sæthre & Trond Hofsvang, The Norwegian Crop Research Institute, Plant Protection Centre, Department of Entomology and Nematology, Høgskolevn. 7, N-1432 Ås, Norway. (Contact: Dr. May-Guri Sæthre. E-mail: may-guri.saethre@planteforsk.no)*