

1: Nectar-plant flowering and consumption in the Clouded Apollo butterfly (*Parnassius mnemosyne*)

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4: Clouded Apollo butterflies spend much of their adult lifetime on feeding floral nectar. They might be important pollinators of several plants on colline meadows. Their nectar plant usage is largely unknown. We aimed to (i) estimate the abundance of nectar plants and their consumption by Clouded Apollos and (ii) describe the dynamics of flowering and consumption for the most frequently used plant species throughout the 3–4-week flight period.

Our study site was a 0.6 ha meadow in the Visegrádi-Mts, Hungary. Data were collected in 2009–2012, May. We listed flowering species and estimated their abundance and flowering rate along a random walk each 3 days. Nectar consumption of individually marked butterflies was recorded daily. Clouded Apollos fed on 36 of 66 insect-pollinated plant species. Cumulative consumption rate of the four most frequently used species was 72–89% in different years. Consumption rate varied between and within years and was not directly determined by nectar plant abundance: most of the preferred species were relatively rare, while some abundant plants were not consumed.

Butterflies changed from an early-flowering disk flower *Fragaria viridis* to any of the three tube-like flowers *Ajuga genevensis*, *Silene viscaria* and *Dianthus giganteiformis*, as soon as any of them became abundant.

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