

**Title: *Gymnadenia conopsea* in Belgium**

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**Summary:** *Gymnadenia conopsea* is one of the iconic orchid species in many of our calcareous meadows in Belgium. Starting around the second half of May, this beautiful orchid colors the vegetation on calcareous meadows with its pink-violet flower spikes. It is generally known that the



flowering period of this species extends from May till half of July although its flowering period seems to produce two flowering optima. The early flowering populations are characterized by relatively small plants with a moderately dense flower spike while the most populations that flower end of June and July have a much larger habitus with very dense flower spikes, often composed of more than 150 flowers. Whereas the May and early June populations produce a sweet but rather weak fragrance, the June-July plants possess a very intense perfume.

Since several years, research has been conducted in Europe to investigate whether these two populations, the late-flowering often reported as var. *densiflora*, represent one or two independent species. Results from eastern Europe point to a “Strong genetic differentiation between *Gymnadenia conopsea* and *G. densiflora* despite morphological similarity” (Plant Syst Evol (2011) 293:213–226).

The current proposal aims to investigate if the Belgian populations of *Gymnadenia conopsea* present the same split in cytotypes by using morphometric, flowcytometric and molecular techniques. All populations in Belgium (both Flanders and Wallonia) will be sampled and measured. Samples will be processed in the molecular lab of the Meise Botanic Garden.

**Keywords:** Belgium, *Gymnadenia conopsea*, orchids, morphometrics, genetic characterization,

**Practical info:** This proposal includes both field and laboratory work, mainly in the months May-June-July. As most of the research will be performed in Meise Botanic Garden, disposing of a personal car is a plus.