

## **GYMNADENIA CONOPSEA**

It is now generally accepted that the three subspecies formerly recognised within *G. conopsea* merit specific rank (e.g. Bateman *et al.* 1997, Campbell *et al.* 2007). The best characters are the shape and proportions of the labellum, the side lobes of the labellum (not easy to quantify) and the lateral sepals. There appears to be little or no hybridisation between the species, and they rarely grow in mixed populations. Due to morphological variation, a range of characters must be used.

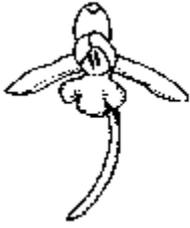
*Gymnadenia conopsea* (L.) R. Br. is found in dry lowland calcareous grassland on chalk, Oolite and Magnesian limestone northwards to Durham. *Gymnadenia densiflora* (Wahlenb.) A. Dietr. occurs in calcareous fens (and also north facing chalk grassland) W to Somerset and Devon and N to Anglesey and Westmorland. *Gymnadenia borealis* (Druce) R. M. Bateman, Pridgeon & M. W. Chase is the predominant taxon in the N and W where it grows in relatively lime-poor hill pastures, but it also occurs in the New Forest on marl bogs and in Ashdown Forest. Better information is needed on the distribution of all three taxa.

	<i>G. conopsea</i>	<i>G. densiflora</i>	<i>G. borealis</i>
Labellum width	(4.5-)5.5-6.5(-7) mm, without shoulders	(5.5-)6.5-7(-8) mm, with distinct shoulders	(3-)3.5-4(-5) mm, narrow
Labellum length	(4-)5-6(-6.5) mm	(3-)3.5-4(-4.5) mm	(3.5-)4-4.5(-5) mm
Max. width across floret	(7-)10-11(-13) mm	(10-)11-13(-14.5) mm	(7-)8-10(-12) mm
Spur length	(11-)12-14(-17) mm	(13-)14-16(-17) mm	(8-)11-14(-15) mm
Lateral sepals	Linear, pointed at tip, deflexed at <i>c.</i> 30°, <i>c.</i> 1 mm wide × 5-6 mm long	Linear, truncate at tip, held horizontally, <i>c.</i> 1 mm wide × 6-7 mm long	Oval-lanceolate, pointed, deflexed, <i>c.</i> 2 mm wide × 4-5 mm long
Fragrance	Sweet but with an acid “rancid” background	Very sweet (like carnations), no “rancid” background	Very sweet
Height	Normally 20-40 cm, can be more	Normally 30-60 cm, but less in dry chalk grassland	Normally 15-25 cm, rarely more
Flowering time	Early June - mid July	Early July - August	Late June - late July

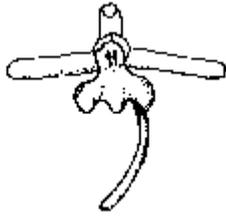
Measurements are ranges (extremes in brackets) normally found in a population. Vegetative characters (height, leaves, etc.) are very plastic and variable, as is the inflorescence density.

# Plant Crib 3

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**a**



**b**



**c**

Florets of (a) *G. conopsea*, (b) *G. densiflora*, (c) *G. borealis*.

**Reference** Campbell, V. V., Rowe, G., Beebee, T. & Hutchens, M. J. (2007). *Botanical Journal of the Linnean Society* **155**:349-360  
Bateman, R. M., Pridgeon, A. M. & Chase, M. W. (1997). *Lindleyana* **12**:113-141

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