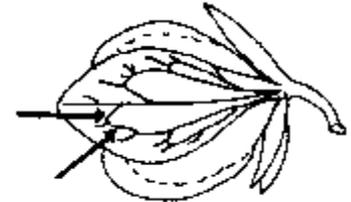


POLYGALA

1. *Polygala vulgaris* (*P. oxyptera*)

The revision of *Polygala* by Heubl (1984) has shown that *P. vulgaris* subsp. *oxyptera* is a central European - sub-Mediterranean taxon which does not occur in the British Isles. It seems that plants previously referred to *P. oxyptera* auct. in Britain are best referred to *P. vulgaris* subsp. *collina*, and detailed records are required to assess their distribution (specimens of subsp. *collina* were cited from v.cc. 1, 13, 17, 41 & 57 by Heubl). The appropriate part of Heubl's key is abstracted as below. Anastomising veins are the little veins which join the bigger veins together.



Anastomising
veins (arrowed)

P. vulgaris subsp. *vulgaris*: Flowers blue or purplish; plants \pm erect, robust, many stemmed; upper stem leaves conspicuously larger than lower leaves, 25-40 mm long, basal leaves elliptical; wings 6-8.5 \times 3.5-5 mm, abruptly contracted at the base with a short tail, approximately as wide as the capsule, with 6-20 anastomising veins; lobules on the corolla 14-32; style as long as the ovary.

P. vulgaris subsp. *collina* (Rchb.) Borbás: Flowers white; plants \pm ascending to ascending-erect, more slender with few stems; upper stem leaves little larger than lower leaves, 10-30 mm long; wings 4-6 \times 2-3.5 mm, gradually tapering toward the base, a little narrower and as long as or longer than ripe capsule, with 4-8 anastomising veins; lobules on the corolla 8-16(-22); style longer than ovary.

Reference Heubl, G. R. (1984). *Mitt. Bot. Muenchen* **20**: 205-428.

Author J. Kirschner, February 1998.

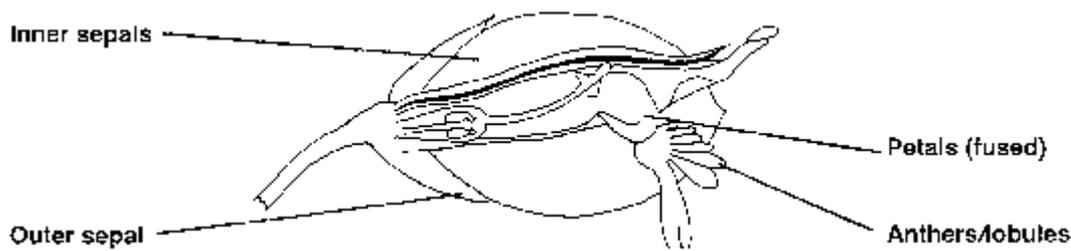
2. *Polygala serpyllifolia* / *P. vulgaris*

Good, healthy material of *P. serpyllifolia* and *P. vulgaris* can be separated by at least some of the lower leaves (and occasionally the upper leaves too) being opposite to sub-opposite in the former, and all leaves alternate in the latter. *Polygala serpyllifolia* is also generally smaller, with smaller, blue to slatey-blue flowers, whilst *P. vulgaris* is more robust with larger flowers which are more variable in colour (blue, white or pink). *Polygala vulgaris* appears to have been widely over-recorded.

In many cases it is not so clear and further examination may be required. The lower leaves, which are shorter and broader than the upper leaves, are often very crowded and it is then difficult to tell if they are opposite or not. If some of these lower leaves have dropped off, the relative positions of the nodes must be examined with a lens. The following Table has been compiled from *CTM* and *Flora Europaea*.

Plant Crib

	<i>P. serpyllifolia</i> J. A. C. Hose	<i>P. vulgaris</i> L.
Lower leaves	At least some opposite or sub-opposite	All alternate
Racemes	3-10 flowered	10-40 flowered
Sepals	Outer 1.5-2.5 mm, inner (=wings) 4.5-5.5 mm long	Outer <i>c.</i> 3 mm, inner (=wings) (3-)4-7(-8) mm long
Capsules	Shorter and wider than wings	About as long and narrower or as wide as wings
Seeds	Ovoid (excluding appendage)	Oblong-ellipsoid (excluding appendage)



3. *Polygala calcarea* / *P. vulgaris*

In chalk or limestone grassland these two species are regularly confused, especially later in the season when rosettes have disappeared. As a rule until June, if you are uncertain if it has a basal rosette or not, then it is probably not *P. calcarea*. The species look different, yet it is often difficult to put the differences into words; often the distinctive differences in flower colour can allow the taxa to be readily named from a distance once your eye is in. Basal rosette/lower stem leaves are obovate and obtuse in both species despite what the floras say; the differences between the stem leaves are better but require careful comparison.

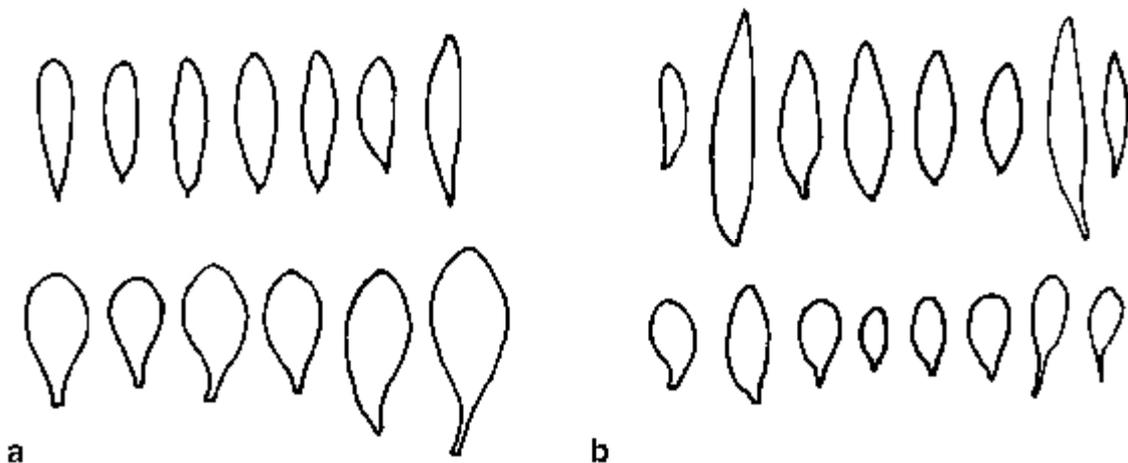
The main problems result from assessing the variation in the three types of leaves on the plant. Basal rosette leaves, if present, form an obvious basal rosette which persists until mid-summer, the leaves yellowing just before they drop. The leaves are typically obovate and have a short, broad, poorly differentiated petiole. Lower stem leaves tend to be similar in shape to the basal leaves but much smaller (1/4-1/3 as long). The upper stem leaves tend to be sessile, narrow and more pointed but are larger than the lower stem leaves. In addition, sterile shoots can be put out from mid summer onwards with leaves rather like rosette leaves; these are best ignored. Another field character is the prominent stamens/lobules of *P. calcarea* which protrude like an African comb (Fig. c). The stamens of *P. vulgaris* and *P. serpyllifolia* are \pm contained in the flower (Fig. d).



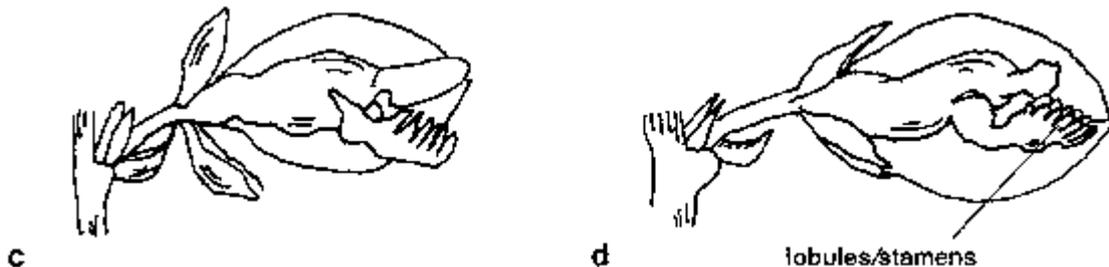
Plant Crib

A hybrid between *P. calcarea* and *P. vulgaris* has also been recorded; it is sterile and intermediate.

	<i>Polygala calcarea</i> F. W. Schultz	<i>P. vulgaris</i> L.
Basal rosette	Conspicuous until mid summer; leaves obovate, obtuse	Absent (small obovate leaves may cluster along the base of the stem)
Upper stem leaves	Oblanceolate to elliptic-ob lanceolate, obtuse (Fig. a)	Linear-lanceolate to \pm elliptical-lanceolate, more acute (Fig. b)
Inflorescence	Erect, short, flowers crowded at apex	Erect to ascending, longer with flowers more spaced
Flowers	Usually deep blue, sometimes whitish, exceptionally pink	Variably white, pink or light blue
Inner sepals of fully open flowers	(3-)4.5-6.0(-6.5) mm long	Subsp. <i>vulgaris</i> 6-8.5 mm long, subsp. <i>collina</i> 4-6 mm long
Stamens/lobules	Exserted (Fig. c)	Contained in flower (Fig. d)



Upper stem leaves (top) and basal stem leaves/rosette leaves (bottom). (a) *P. calcarea*, (b) *P. vulgaris*



Flowers with anthers/lobules (c) *P. calcarea*, (d) *P. vulgaris*.

Authors R. FitzGerald, D. A. Pearman & T. C. G. Rich, February 1998.