

Cambridgeshire Plant Notes

Field Handbook 1st Edition 2016

Revised for vc29 from the version for vc68 written by Chris Metherell

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Introduction

This field guide is intended for the use of botanists in Cambridgeshire. It is extensively based on a handbook created by Chris Metherell for use in North Northumberland. The vc web page at <u>https://legacy.bas.ac.uk/met/jds/cnhs/vc29.htm</u> has additional information, including recording guidelines, rare plant lists, a recording card optimised for Cambridgeshire etc. It is hoped that recorders will take this booklet out into the field, and use the contents to assist the survey process.

It must be stressed that this booklet is only intended for use in vc29 as the species, subspecies and hybrid lists and details have been optimised for Cambridgeshire and may well not apply elsewhere. The notes are mostly to help with identification and the formal keys in Stace or Poland should be used to confirm identification.

This edition is a preliminary draft, produced by Jonathan Shanklin, who takes responsibility for all the errors present. It is being tested during 2016, with a view to producing printed copies in 2017. The aim is to restrict it to a 16-page booklet, though with the inclusion of a cover, additional material could be added. Please report any errors or recommend improvements to:

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The booklet contains four sections below.

Taking Specimens gives general advice.

The **Species** section deals with the recording of a few of the more difficult taxa. The **Subspecies** section lists those subspecies which may be expected to occur in vc29 and gives identification details.

The **Hybrids** section provides similar information for a small selection of the more common hybrids.

Taking specimens

The usual rule is that specimens should not be collected, unless the plant is common, or if a specimen is needed for determination by an expert and the population will not be adversely affected. Always take an 8 figure grid reference in such circumstances. Details of what to collect are given with the species where necessary.

Species

Amaranthus

Amaranthus bouchonnii is the commonest species in vc29. The seeds are not easily shed, hence the English name Indehiscent Amaranth.

Amaranthus retroflexus is the second most common species and its seeds are shed easily. *Amaranthus hybridus* has four recent records and differs from *A. retroflexus* in that its stem is hairless.

Other species are known from vc29, so if you have something that looks different take a specimen for identification.

Arenaria

Here the problem lies in distinguishing two species which, until recently, were subspecies of *A. serpyllifolia*. Both are known to occur in v.c.29. Both species have petals shorter than the sepals. A further problem at least for the recorder is that MapMate does not distinguish the aggregate.

Arenaria serpyllifolia - sepals 3-4x1-1.8mm. Bulbous capsules

Arenaria leptoclados - sepals 2-3x0.5-0.8mm, whole plant generally slenderer. Straight sided capsules.

Brassicaceae

Several yellow-flowered crucifers are often confusingly similar.

Brassica juncea looks very similar to *Sinapis arvensis*. It is grown in the north-western fens, and has escaped onto several drain banks in TF. Rare elsewhere. It is more slender with erect branches, is generally glabrous and the sepals are nearly erect.

Brassica napus is widespread as Oilseed Rape. The buds overtop or equal the open flowers.

Brassica nigra has pods that are closely appressed to the stem and is usually a tall plant. Mostly found in the fens. Can be confused with *Sinapis arvensis* and *Herschfeldia incana*.

Brassica oleracea is rare in the county. It has clasping upper leaves and large, pale yellow flowers in a lax raceme.

Brassica rapa has some scattered records. Differs from *B. napus* in having darker yellow flowers, which overtop or equal the buds.

Herschfeldia incana is thinly scattered across the county. The pods are closely appressed, but unlike *B. nigra* have a swelling at the end (like an old fashioned clothes peg).

Sinapis arvensis is common. It is often abundant on newly disturbed ground, and slowly declining thereafter. The pods have a long beak.

Sinapis alba is similar to *S. arvensis* but has dissected leaves. More frequent in the south-centre of the county.

Conyza

C. canadensis and *C. sumatrensis* are widespread in the county, particularly in and around Cambridge. *C. floribunda* has a similar distribution, but is much less common. There is one record for *C. bonariensis*. The species hybridize with each other, and also cross with *Erigeron acris*. Different authorities have differing views on the characteristic features, particularly on whether *C. floribunda* hairs are straight or curved.

Conyza canadensis – hairless (more or less) bracts, leaf marginal hairs straight, ligules overtop the phyllaries.

Conyza sumatrensis – hairy bracts, softly hairy greyish leaves, marginal hairs curve *Conyza floribunda* – hairless bracts, hairs on leaf margins curve towards tip, ligules do not overtop phyllaries

Conyza bonariensis – basal leaves not ciliate, leaves softly hairy, red-tipped phyllaries

Cotoneaster

There are lots of Cotoneasters, but only a few are found in the wild in vc29. A few of the more common ones are given here, but there are many others that have been (rarely) found in vc29.

C. horizontalis – widespread. Low shrub with small leaves, often found on wall tops. Side branches spread in a herring-bone pattern at >70. Note there is an aggregate that includes *C. hjelmqvistii* and other non net-veined, small-leaved species currently

unknown in vc29, so if it doesn't quite match and you are uncertain which plant it is, then record *C. horizontalis agg*.

C. franchetii – widespread, particularly around Cambridge. Leaves evergreen shiny dark green above and woolly below, to 4cm. Secondary veins not sunken.

C. hjelmqvistii – Rare. Deciduous, rounded leaves to 2cm. Branches not in herring-bone pattern.

C. lacteus – Most records near Cambridge, otherwise rare. Evergreen tall shrub or tree with leaves over 5cm.

C. salicifolius – Uncommon. Evergreen, arching shrub to 5m. Leaves narrowly lanceolate, to 10cm.

C. simonsii – Scattered, more frequent near Cambridge. Leaves similar in shape to *C. franchetii*, but smaller, deciduous or semi-evergreen and hairless below.

C. sternianus – Uncommon, more frequent near Cambridge. Similar to *C. franchetii* but has sunken secondary veins above.

C. x watereri – Scattered. The hybrid of C. frigidus x C. salicifolius and forming a spectrum of intermediate plants. Semi-evergreen and arching shrub to 8m, with leaves to 14cm and 2.5-5cm wide.

Crataegus

There are many alien species planted in Cambridgeshire hedgerows. Some are easy to spot, such as the Cockspurthorns, which have long thorns, and *C. pentagyna* with black haws. Others present in the county include *C. rhipidophylla*, *C. x macrocarpa* (*C. rhipidophylla x laevigata*) and *C. x subsphaerica* (*C. monogyna x rhipidophylla*), which has haws > 11mm long. Birds seem to be able to tell the difference between them!

Dryopteris affinis group

The group has a reputation, deservedly, for being difficult. Both *D. affinis* and *D. borrerii* occur in the southern half of vc29 but are scarce, with *D. borrerii* slightly more common.

Score one for each of the following:

Plant dull, not glossy Pinnae thin and soft Pinnules lobed Pinnules adjacent to rachis slightly longer than next pair Pinnules adjacent to rachis more or less stalked Pinnules square ended Pinnules with conspicuous, acute apical teeth Indusium when rine splits and shrivels into a shape like a

Indusium when ripe splits and shrivels into a shape like a chanterelle mushroom A score of five or more suggests *D. borrerii*, anything less may be a different species. If a sample is needed for determination cut a frond with ripe sporangia from the base of the stipe. Folding is quite OK.

Elodea

E. nutallii is now generally much more frequent than *E. canadensis*. In summer it usually has narrow, recurved and twisted leaves with an acute tip. In the autumn and winter *E. nutallii* seems to develop leaves very similar to *E. canadensis*, which are much more triangular and erect.

Euphrasia

Our two common species are *E. nemorosa* and *E. pseudokerneri*, with the hybrid being a possibility. *E. confusa* has been reported from Chippenham Fen, though not yet confirmed and *E. nemorosa x confusa* is known from Waterbeach Airfield. Unfortunately *Euphrasia* responds dramatically to its environment and plants of the same species can look very different from habitat to habitat and small, condensed specimens may be impossible to place. They also hybridise which complicates matters considerably. Where determination is necessary, six specimens, preferably with roots, flowers and fruiting capsules are required.

The following is a key to the species of *Euphrasia* found in vc29, with a few extras thrown in from the original key.

1	Corolla upper lip >7mm	E. pseudokerneri
	Corolla upper lip <= 7mm	2
2	Lowest flower at node 9 or above	3
	Lowest flower at node 8 or below	4
3	Lowest bract with aristate teeth	E. nemorosa
	Lowest bract with obtuse to acute teeth	E. confusa
4	Cauline internodes mostly 2-6 times as long as leaves	5
	Cauline internodes mostly < 2 times as long as leaves	(E. tetraquetra)
5	Basal teeth of lower bracts patent	(E. arctica)
	Basal teeth of lower bracts directed towards tip of bract	E. confusa

Hieracium

Hieracium are generally rare (or rarely recorded) in vc29. For many species there are only one or two records. Those with the most records are *H. maculatum agg*. (a few heavily spotted basal leaves which may wither at flowering and 2-8 stem leaves, occasionally more), *H. sublepistoides* (scattered in the south-east, many basal leaves, often spotted but only 0-2 stem leaves) and *H. umbellatum* (no basal rosette at flowering, more than 15 sessile, non-clasping leaves). A specimen will usually be required for formal determination. Take a typical plant and cut from above the tap root.

Lemna

Check your *Lemna* carefully! *Lemna minuta* is widespread, particularly in ponds. *Lemna* that looks like *L. minor* needs to be checked for large cells in the centre as *Lemna* gibba does not always have inflated cells. Other alien species may also be present and are worth looking for.

Lycium

Probably best determined using the floral key in Stace. *L. chinense* has much branched dark veins in a corolla that is divided >1/2 way to the base. *L. barbarum* often has thorns and narrow leaves. Unless you are certain you can tell the difference between the two species record as *Lycium agg*.

Myriophyllum

Check for turions, as only *M. verticillatum* produces them.

Polypodium

P. vulgare has a transparent area adjacent to the rachis between the pinules. The pinules in the lower half of the frond are similar in length. Sori are circular.

P. interjectum has the area between the pinules green. The pinules are longer in the middle of the frond. Sori elliptical.

The hybrid can be variable, but can be distinguished by abortive spores that are white and shrivelled. If a sample is needed for determination, cut a frond with ripe sporangia at the base of the stipe.

Rubus

The following is a draft key to the dozen commonest species of *Rubus* in vc29. More complete notes are given for most of these species, and if the plant you are keying doesn't quite fit the full description it is best to record it as *R. fruticosus agg*, with a note that it appears similar to the keyed species. A bramble growing in full sun can look very different to the same plant growing in the shade. There are many more species that have only a few records in the county and these are not keyed here or described. If a specimen is needed for determination (by Alan) take a section of a first year flowerless shoot or barren stem (primocane) and a flowering branch. Secateurs are a help!

1.	Erect deciduous shrub. Stems with slender, weak, straight	nt prickles and minute
	hairs. Berries red or orange.	R. idaeus.
	More or less prostrate or low deciduous shrub. Stems row	und with sparse, weakly
	curved prickles. Leaves with 3 leaflets. Berries pruinose	e. R. caesius .
	Stems tangled and sprawling, 5-angled at least when you	ng. Leaves with $(3)5(7)$
	leaflets, usually at least some wintergreen. Berries black	R. fruticosus agg. 2
2.	Leaflets deeply dissected	R. laciniatus.
	Leaflets overlapping, basal leaflets sessile/subsessile	Section Corylifolii 3
	Leaflets not overlapping, basal leaflets stalked	Section <i>Rubus</i> 8
3.	Prickles on faces as well as angles, more than 20 per 5cm	n R. tuberculatus
	Prickles on angles fewer than 20 per 5cm	4
4.	Glandular hairs present and often numerous on stem	R. babingtonianus
	Glandular hairs rare or absent from stem	5
5.	Leaflets greyish-white felted beneath	6
	Leaflets chalky-white beneath	7
6.	Terminal leaflet obovate with long cuspidate apex	R. cissburiensis
	Terminal leaflet elliptical with a shorter apex	R. elegantispinosus
7.	Terminal leaflet often sub-rotund	R. conjungens
	Terminal leaflet not like this, sepals long-pointed	R. cantabrigiensis
8.	Glandular hairs absent from stem.	9
	Glandular hairs present on stem	11
9.	Leaflets felted chalky-white beneath	10
	Leaflets not like this	R. fruticosus agg.
10.	Terminal leaflet often more than 10cm; flowers more that	n 3.5cm in diameter.
	Stems often very thick. Berries large and succulent.	R. armeniacus
	Leaflets rather small, with short apex, often elm-leaf shap	ped. R. ulmifolius
11.	Stems more or less densely hairy, glandular hairs less con	nspicuous than eglandular
	hairs	R. vestitus
	Eglandular hairs, if present less obvious than glandular h	airs. Stems rough with
	short sub-equal glandular hairs and acicles	R. radula

R. armeniacus "Himalayan Giant" a garden escape that is now so widely established across the county that it is our second most common Blackberry species. It is a very aggressive bramble that can dominate, with thick, high arching stems, which are shiny and sharply angled. The pale pink flowers are large and it has large succulent berries.

Once seen it won't need keying again, which in part explains why it is frequently recorded.

R. babingtonianus is found on the central Gault Clay and chalk belt and especially in the Fens. It is a bramble of woods and hedges with damp soils. The stem is low arching to prostrate, pruinose, with short stalked glands and slender un-equal prickles. The leaflets are light green, with the terminal leaflet having a lobular margin a bit like a hazel leaf. It has a rather congested panicle of numerous, pale pink flowers and the sepals are erect in fruit. It has a long flowering season, and can still be in flower in August.

R. cantabrigiensis is the county bramble; from around Newmarket on the chalky boulder clay and scattered elsewhere. The stems are sharply angled, glaucous green and pruinose, becoming dull purplish. They are more or less glabrous, and rarely with a few short-stalked glands or pricklets. The prickles are numerous, strong, 6-7mm, patent, with a slightly upturned tip, coloured like the stem with the tip often yellow. The leaflets are dull grey-green above, greenish-grey felted and softly hairy below. The terminal leaflet is variable in appearance on the same bush.

R. cissburiensis is locally common in Cambridge and March. Found in hedgebanks and wood borders. Stems red or green with distinctive dull red blotches. The inflorescence is rounded at the apex, rather conspicuously leafy and the petals are a very pale pink. *R. conjungens* has scattered records across the county. It is a plant of hedgerows and banks. It is a somewhat variable plant, but the diagnostic characteristics are given as stem angled, prickles strong, terminal leaflet ovate or nearly round, finely serrate. Flower heads compact, petals pink (usually). The leaves are grey-felted below, with short and very short simple and tufted hairs giving the leaves a very soft feel beneath.

R. elegantispinosus is mostly found in the Fens, but is quite widespread. It is probably of horticultural origin. Found in woods, railway banks, and by roadsides especially in suburban areas. Stems dark purple, furrowed, glabrescent. Prickles up to 8mm, slender and straight. Leaflets dark green above with wavy margins. Flowers pale pink, fading to white in the sun, petals elliptic, sepals reflexed. Young druplets hairy.

R. radula is mostly found in the most southern third of the county from woods and hedgerows. Petals about half as long as broad. Leaflets finely serrate dentate. Stem dark red, thinly hairy, with numerous short acicles and stalked glands giving it a "rough" feel. The prickles are needle like.

R. tuberculatus seems to be mostly found around Cambridge, but also in March. Habitat is hedgerows, wood borders, waste ground and railway embankments. It is a low arching shrub with very prickly stems. The leaves are noticeably rugose, with 3-5 leaflets, the terminal one often with with straight sides below the middle. Large white flowers are held in conspicuous, compact clusters. Panicle prickles patent and straight.

R. vestitus is also found around Cambridge and widely scattered on the fringes of the county. Habitat is woods (particularly the boulder clay woods in the SE, eg Borley Wood), wood margins and hedgebanks, often on calcareous or clay soils. Stem violet-purple and densely hairy, acicles on panicle few or none. Leaflets dull/dark green, hairy above and densely hairy and soft beneath, often white felted. The terminal leaflet is nearly round. Petals may be pale pink or deep rose red.

R. ulmifolius is our most common bramble. It is frequent in hedgerows, waste ground etc, particularly on the chalk and rare in mature woodland. The berries are good to eat. It forms often sterile hybrids with *R. caesius*; these are normally recorded as *R. fruticosus agg*.

Descriptions are taken from Bull (Looking at Brambles), Sell & Murrell, Stace, Watson and Nature in Cambridgeshire 16 & 44. See also <u>http://www.british-wild-flowers.co.uk/index%20brambles.htm</u> for images.

Subspecies

The following notes outline subspecies which may, or are likely to be, found in vc29. The list is not exclusive but all those most likely to be encountered should be here. Remember to take 8 figure grid references if the subspecies is not on the main list. Specimens may be helpful in some of those cases if circumstances are appropriate.

Aethusa cynapium

ssp. agrestis – Stems to 20cm, longest pedicels about as long as bracteoles *ssp. cynapium* – Stems to 100cm, longest pedicels mostly less than half the length of bracteoles

ssp. elata - rounded stems to 200cm,

Anthyllis vulneraria

ssp. vulneraria - decumbent to ascending, stems rarely hairy below, leaflets equal sized, calyx with red tip, corolla yellow or red. Six records in vc29.

ssp. polyphylla – upright, stems hairy below, leaflets equal sized, calyx usually without red tip, corolla pale yellow. Introduced as forage etc. – only one record in vc29. *ssp. carpatica* – Upright, large (up to 1m), leaflets unequal, concentrated at base of stem, calyx with red tip, corolla yellow or white. Introduced as forage etc. In vc29 and the most frequently recorded.

ssp. lapponica - decumbent to ascending, leaflets unequal, calyx hairy with red tip, corolla yellow. Mountains and rocks near sea. Not known from vc29.

Arctium minus

There are scattered records for both subspecies in the county.

ssp. minus – capitula 15-25mm, peduncles 0-0.8cm.

ssp. pubens – capitula 20-32mm, peduncles 0.5-4(12)cm. Leaves and capitula hairier than ssp. minus.

There are a few recent records for *A. nemorosum* in county, though it is clearly rare. A key difference from *A. minus* is the shape of the central hollow to the petiole. *A. minus* has a circular hollow, with a semi-circular channelled petiole. *A. nemorosum* has a flat based channelled petiole, with a matching flat to the central hollow. The achenes in *A. nemorosum* are >6mm.

Bromus hordeaceus

Two subspecies, a variant and a hybrid occur in vc29.

	ssp. hordeaceus	var.	ssp. thominii	B x. pseudothominii
		longipedicellatus		
Habit	To 80cm. Erect.	To 150cm. Erect.	To 8(12)cm.	To 60cm.
			Prostrate to	
			ascending.	
Habitat	Widespread.	Widespread	Sand, inland and	Grassland, rough
			on coast.	ground, verges.
Spikelet	12-25mm.	Panicle branches	8-18mm.	8-25. Often hairy,
	Usually hairy.	over 6.5cm.	Glabrous.	sometimes
				glabrous.
Awns	4-11. \pm straight.	4-10. \pm straight.	2-5.5. Straight to	3-7. Straight.
			recurved.	

Lemma	8-11mm. Hairy.	7.5-10.5mm. Hairy.	6.5-7.5mm. Usually glabrous.	6.5-8mm. Usually glabrous.
vc29	Common	Rare	Rare	Rare

Calystegia sepium

ssp. sepium – the common ssp.

ssp. roseata – most often seen in fenland ditches, but may occur elsewhere. Has pink stripes on the petals and hairs on the young shoots.

C. x lucana, the hybrid with *C. silvatica* may occur, sometimes without the parents. It often has deformed, slightly overlapping bracts.

Cornus sanguinea

ssp. sanguinea – hairs on lower leaf surface mostly 2 armed but many unevenly so and with 1 arm directed away from surface. Native.

ssp. australis - hairs on lower leaf surface all with $2 \pm \text{arms}$, both appressed to surface. Introduced.

There is also *C. koenigii*, which is similar to ssp. *sanguinea*, but with larger leaves and a longer petiole.

Dactylorhiza incarnata

ssp. incarnata – to 40cm, flowers a rather fleshy pink, no anthrocyanin (red pigment) present. Occasional spots on leaves. Most records are from Wicken Fen.

ssp. ochroleuca – to 50cm, flowers cream to pale yellow, no anthrocyanin present. No spots on leaves. All records are from Chippenham Fen.

ssp. pulchella - 20-40cm, flowers reddish purple, anthrocyanin present. Sometimes a few spots on leaves. Most records are from Wicken Fen.

The hybrid *D. x grandis* (*D. fuchsia* x *D. pratermissa*) is not uncommon. *D. x wintoni* (*D. incarnata* x *D. praetermissa*) is only slightly less common.

Deschampsia cespitosa

ssp. parviflora - spikelets 2-3.5mm, hairs at base of rachilla shorter than rachilla itself. Generally a shade tolerant plant, often in woodland, with leaves bright green on top surgace. Has been recorded in woods in the east of the county.

ssp. cespitosa - spikelets 3.5-6mm, hairs at base of rachilla longer than rachilla itself. Generally a plant of more open habitats, with leaves bluish-green green on top surface.

Ficaria verna

ssp. verna and *fertilis* are both frequent. The other two may be present as introductions/escapes.

	ssp. verna	ssp. fertilis	ssp. ficariiformis	ssp. chysocephala
Tubers in leaf axils after flowering	Yes	No	Yes	No
Petals	6-11mm	10-20mm	17-26mm	18-25mm

Fumaria officinalis

ssp. officinalis – racemes 20-60 flowered, sepals >2.5mm long. In vc29. *ssp. wirtgenii* – racemes 5-20 flowered, sepals <2.5mm long. Common.

Galium palustre

ssp. palustre – most leaves <20mm, inflorescence ±cylindrical, flowers 2-3.5mm. Common.

ssp. elongatum – most leaves >20mm, inflorescence ±conical, flowers 3-4.5mm. Less common.

Lamiastrum galeobdolon

ssp. argentatum – leaves with large, bright silvery blotches. Rampant with long stolons. Frequent garden escape.

ssp. montanum – leaves with dullish silver grey flecks. Less vigorous, although creeping. Hairs on flowering stems on faces as well as angles. Woodlands. *ssp. galeobdolon* – leaves often without silver markings. Hairs on flowering stems only on 4 angles. Not known from vc29.

Ornithogallum umbellatum

ssp. umbellatum – leaves per bulb ≤ 10 , flowers ≤ 20 , outer tepals 20-30mm. In vc29. *ssp. campestre* – leaves per bulb ≤ 35 , flowers ≤ 12 , outer tepals 15-20mm. Common in vc29.

Pilosella aurantica

ssp. carpathicola – basal leaves 6-10cm, phyllaries 5-8mm. Stoloniferous. Slightly more common.

ssp. aurantica – basal leaves 10-20cm, phyllaries 8-11mm. Rhizomatous.

Plantago major

ssp. major – leaves subcordate to cordate at base, 5-9 veined, capsule with <13 seeds. Common.

ssp. intermedia – leaves cuneate, 3-5 veined, capsule with 13+ seeds. Present in vc29.

Potentilla erecta

The plant has not been recorded to subspecies in the county.

ssp. erecta – weak, often decumbent, stems to 25cm, petals 2.5-4.5mm, stem leaves serrate in distal half.

ssp. strictissima – erect, stems to 45cm, petals 4-6mm, stem leaves serrate over most of length. A much more robust, coarse looking plant. An upland plant unlikely to be present in vc29.

Rhinanthus minor

ssp. minor – intercalary leaves (ie between topmost branches and lowest bract) mostly 0(1) pairs, lowest flower at node 6-9, leaves mostly with parallel sides. Present in vc29. *ssp. stenophyllus* – intercalary leaves 1-2(4) pairs, lowest flower at node 8-13, leaves mostly tapering from near base, stems <50cm with several pairs of long flowering branches from basal and middle parts, corolla yellow. Present in vc29. *ssp. monticola* - intercalary leaves 1-2(4) pairs, lowest flower at node 8-13, leaves mostly tapering from near base, stems <25cm with several pairs of long flowering branches from near base, stems <25cm with several pairs of long flowering branches from near base, corolla dull- or brownish-yellow. An upland plant not known from vc29.

Rosa caesia

ssp. caesia – stems green or somewhat red, leaflets rugose, scarcely glaucous, hairy on lower side. Very rare in vc29.

ssp. vosagiaca - stems often strongly red, leaflets scarcely rugose, glaucous, glabrous. Not known in vc29.

Rumex crispus

ssp. crispus – achene 1.3-2.5mm, tubercules usually <2.5mm, often only one developed. Common.

ssp. littoreus – achene 2.5-2.5mm, tubercles <3.5mm, usually subequal. Maritime. May occur on or near salted road verges.

Solidago canadensis

Rarely recorded to subspecies in vc29.

ssp. canadensis – stems hairy just in upper half, ligules 6-12mm. Probably in vc29. *ssp. altissima* – stems hairy throughout, ligules 10-15mm. Recorded once.

Sparganium erectum

Ripe, brown fruits are needed for identification. The subspecies has been rarely recorded in vc29, but all four have been noted at least once, with *ssp. erectum* and *ssp. neglectum* having the most records.

ssp. erectum – fruits with a distinct shoulder beneath the beak, but flat topped.

ssp. microcarpum – fruits with a distinct shoulder beneath the beak, but domed.

ssp. neglectum – fruits gradually tapered beneath the beak.

ssp. oocarpum – fruits sub-globose, abruptly contracted to the beak. Few fruits form and may be a hybrid of *S. erectum ssp. erectum x neglectum*

Tragopogon pratensis

ssp. minor – ligules shorter than phyllaries. Common. *ssp. pratensis* – ligules as long or longer than phyllaries. Rare.

Veronica hederfolia.

The two subspecies can be difficult to distinguish. Even using a combination of characters many plants will be impossible to name. Both occur in vc29. *ssp. hederifolia* – leaves thick, dark green, apical leaf wider than long, corolla mostly \geq 6mm, anthers blue, 0.7-1.2mm, fruiting pedicels 2-4x as long as calyx, calyx with marginal hairs mostly \geq 9mm.

ssp. lucorum – leaves thin, light green, apical leaf longer than wide, corolla mostly ≤ 6 mm, anthers white to pale blue, 0.4-0.8mm, fruiting pedicels >3.5x as long as calyx, calyx with marginal hairs mostly ≤ 9 mm.

Vicia sativa

ssp. nigra – strongly heterophyllous (leaflets of upper leaves much, and abruptly, narrower than those of lower leaves), flowers ±concolorous usually bright pink- purple. Occasional. It may be confused with *Vicia lathyroides*, which has simple, not branched tendrils.

ssp. sativa - \pm isophyllous (leaflets of upper leaves little, and gradually, narrower than those of lower leaves), flowers bicolorous. A much bigger plant than *ssp. segetalis*. Rare.

ssp. segetalis - \pm isophyllous (leaflets of upper leaves little, and gradually, narrower than those of lower leaves), flowers bicolorous. Common.

Hybrids

It is not possible to consider all but the most common hybrids here. However it is hoped that the following may assist.

Elytrigia hybrids

These can be difficult, but are currently unknown in vc29. *E. atherica* does crop up in places, particularly salted road verges, so the hybrid is possible.

	E. repens	E. atherica	E. x drucei (E. repens x E. atherica)
Fertility	Fertile	Fertile	Male Sterile
Rachis	Tough. Rough on angles	Tough. Rough on angles	Tough. Rough on angles
Sheath margins	Glabrous	Middle and lower sheath margins with minute hairs.	Middle and lowers sheath margins with few minute hairs.
Leaf blades	Few long hairs	Scabrid	

Epilobium hybrids

For many combinations of parents there is only one recent record in the county, however many hybrids are likely to occur. They usually show characteristics of both parents, and are often larger and more branched, show a longer flowering season, may have unusually large or small flowers which are darker at the petal tips, and partially or entirely sterile fruits. The hybrids in the county with more than one recent record are: *E. x floridulum (E. ciliatum x E. parviflorum)*

E. x interjectum (E. ciliatum x E. montanum), which is probably the commonest hybrid in Britain.

E. x palatinum (E. parviflorum x E. tetragonum)

Geranium x oxonianum

Widely planted in gardens it frequently escapes. A pink large-flowered Geranium is most likely this.

Glyceria x pedicillata

The hybrid between *G. fluitans* and *G. notata* is scattered in the south of the county, where *G. notata* is also found, and both are absent from TF. *G. declinata* is rare, and some of the recent records are probably erroneous.

	G. fluitans	G. x pedicillata	G. notata
Fertility	Fertile	Sterile. No pollen. Spikelets remain attached.	Fertile
Lemmas	>5.5mm, pointed	5.0-5.5mm, variable	<5mm, blunter at apex
Sheath	Often reddish	Not reddish	Not reddish
Leaf blades	4-6mm, shallow ribs, fresh green	5-10mm, dull dark-green	>5mm, deeply ribbed, yellow-green
Panicle	Sparsely branched, narrow	Some branches	Much branched and open

Hyacinthoides x massartiana (*H. non-scripta x H. hispanica*)

The hybrid is variable and very common, whereas pure *H. hispanica* is uncommon.

	H. hispanica	H. non-scripta	H. x massartiana
Leaves	10-35mm	7-15mm	10-30mm
Inflorescence	Not 1-sided, erect or	1-sided, drooping at	Not 1-sided, usually
	spreading	tip	spreading
Perianth	Segments widely	Segments parallel	Segments moderately
	spreading, flowers	sided, flowers	spreading, flowers
	becoming saucer-	appearing tubular	bell-shaped
	shaped		
Tips of perianth	Not reflexed	Strongly reflexed	Scarcely reflexed
segments			
Anthers	Blue	Cream	Variable
Outer filaments	Inserted below	Insterted just above	Inserted just below
	middle of perianth	middle of perianth	middle of perianth
	segment	segment	segment.

Hypericum x desetangsii (*H. perforatum x H. maculatum*)

Would key out as *H. perforatum*, however the tips of the sepals are denticulate, with an apical apiculus, whereas in *H. perforatum* they are entire. The petals are often black streaked. Widespread, particularly in the south of the county.

Larix x marschlinsii (L. decidua x L. kaempferi)

Very commonly planted. Often originating anew in mixed plantations.

	L. decidua	L. kaempferi	L. x marshclinsii
Female cone scales	Erect	Tips recurved	Tips somewhat
			recurved
Cones	Ovoid	Globose	Ovoid
Leaf undersides	Inconspicuous greenish stripes	White stripes	Grey or white stripes
Young twigs	Straw coloured	Reddish	Pink brown

Lolium x boucheanum (L. perenne x L. multiflorum)

Lolium multiflorum is often recorded when a *Lolium* with awns is found. These plants are often the hybrid, which is in seed mixes. First check the number of florets in the spikelet, and whether is an annual or not.

Nasturtium x sterilis (*N. officinale x N. microphyllum*)

Differs from the parent species in having <5 seeds per fruit (species have >10) and very little pollen.

Populus hybrids

P. x canadensis is our third most common hybrid. Widely planted. *P. x canescens* comes fourth and is also widely planted.

	P. tremula	P. x canescens	P. alba
Leaves from	Rounded and shallow	Deeply toothed, white felted	Palmately 3-5 lobed,
main tree	toothed	when young	white felted beneath
Petiole	1-4cm	<3cm	3-6cm
Bracts	With long silky hairs	Laciniate	Sub-entire to dentate
Twigs	Hairy	Soon hairless	Soon hairless
Suckers	Can orms sucker	Weak sucker growth	Dense sucker growth
	thickets		
Bark	Base: Grey and ridged	Base: Dark brown with	Smooth grey
	Upper: Smooth with	ridges	
	horizontal bands of	Upper: Pale with horizontal	
	pits.	lines and diamond shaped	
		pits.	

Quercus x rosacea (*Q. petraea x Q. robur*)

It has been suggested that hybrids form up to 13% of populations, possibly considerably more. Accordingly the hybrid should be carefully considered when identifying specimens.

Mick Crawley provides this method:

	Score
Sessile acorns	1
Pedunculate acorns	2
Simple hairs or none in axils	2
of leaf veins	
Stellate hairs in axils of leaf	1
veins	
Leaf base lobed	2
Leaf base cuneate	1
Leaf base lobed on 1 side	1.5
and cuneate on other	
Petiole <1cm	2
Petiole >1cm	1

Add the scores up:

8 points = Q. robur 5-7 points = Q. x rosacea 4 points = Q. petraea

Rumex hybrids

R. x pratensis (R. crispus x obtusifolius) is scattered across the county, but probably under-recorded. It is highly fertile and backcrossing is likely. Intermediate between parents, the leaves are wider than normal *R. crispus*, but with undulate margins and hairy petioles and midribs. Fruits generally have fewer lateral teeth than *R. obtusifolius* (2-4 typically).

Other hybrids may well be found, with *R. x abortivus* (*R. conglomeratus x R. obtusifolius*) and *R. x dufftii* (*R. sanguineus x R. obtusifolius*) the more likely ones.

Salix hybrids

Salix hybridise frequently and can give rise to a spectrum of plants between the various parents.

Salix x fragilis sens. lat. is our most common hybrid, though it is an aggregate of several species.

Salix x reichardtii (S. caprea x S. cinerea) is common in the county, and shows intermediate leaf shape and indumentum to the parents. There are ridges under the bark of 2^{nd} year twigs.

Salix x smithiana (S. caprea x S. viminalis) is scattered in the county. 2^{nd} year twigs have no ridges under the bark. Leaves 6-12cm x 1.3-3cm, nearly glabrous when mature. Salix x holosericea (S. cinerea x S. viminalis) is scattered in the county. It will have weak ridges under the bark of 2^{nd} year twigs. Leaves weakly hairy underneath, 4-10cm x 0.8-2.5cm.

Salix x calodendron (S. caprea x S. cinerea x S. viminalis) is scattered in the county. Its leaves are densely grey-hairy underneath and broader than the previous two hybrids at 7-18cm x 2.5-5cm.

Silene x hampeana (S. dioica x S. latifolia)

Widespread. Often occurring without the *S. latifolia* parent. It is highly fertile and hybrid swarms are also common. Normally easily told by its pink petals, however, some *S. dioica* plants also have pink petals and the calyx teeth should also be checked in fruit if possible (rolled back in *S. dioica*, recurved in *S. x hampeana*).

Symphytum x uplandicum (*S. officinale x S. asperum*)

Very common, and somewhat variable. There are a couple of records for the *S. asperum* parent in vc29. The hybrid can be told from *S. officinale* as follows:

S. officinale – upper leaf bases broadly decurrent, flowers usually cream, but may be purplish, calyx \pm half as long as corolla. S.officinale ssp. bohemicum has.....

S. x uplandicum – upper leaf bases sessile, shortly decurrent or clasping stem, flowers blue to violet or purplish, calyx > half as long as corolla. Generally a much more bristly plant. Often patch forming and in drier habitats.

Tilia x europaea (*T. cordata x T. platyphyllos*)

Commonly planted – it is the second most common hybrid recorded in the county. Told from *T. platyphyllos* by the presence of tufts of hairs in the vein axils on the undersides of the leaf (T. *platyphyllos* leaves are hairy all over undersides). Told from *T. cordata* by its pendant cymes (erect in *T. cordata*) and mostly larger leaves (3-6cm in *T. cordata*, 6-9cm in the hybrid). It also has prominent tertiary veining on the tops of the leaves. It often has many dense twiggy shoots around the base.

Veronica x lackschewitzii (V. anagalis-aquatica x V. catenata)

Not infrequent. It is usually a big plant. The flowering racemes continue elongating through the season. May be present without the parents.

V. anagalis-aquatica often has blue flowers, pedicels erecto-patent in fruit

V. catenata usually has pink flowers, with pedicels patent in fruit