

Threatened Arable Plants

# Identification guide



THE  
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CHARITABLE TRUST



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## Introduction

Arable plants are the most critically threatened group of wild plants in the UK. Identifying sites where these rare species remain is essential to ensuring their conservation through sustainable management.

The majority of arable species are annuals and have relatively simple management requirements: annual cultivation without subsequent disturbance until the next year and no application of fertiliser or herbicides. Guidance is provided in this booklet as to whether the plant prefers spring or autumn cultivation.

The survival of these plants depends so much on the people who manage arable farmland. It is vital that farmers, agronomists and advisors tell us if you identify them, so that Plantlife can keep a record and help ensure suitable management is put in place.

The 54 plants within this guide are considered to be at greatest risk of extinction<sup>1</sup> within the UK. They are arranged according to flower colour.

This guide will help you identify which plants you have on your land, with information on what soil type it is most likely to be found on and when it is in flower (the best time for identification). There are a few species groups that are difficult to distinguish in the field (Fumitories, Chamomiles and Goosefoot), and the use of additional flora guides might be useful when identifying these species - see Plantlife's recommendations at the back of this booklet. If any of these threatened species are found on your farm then the site could be considered to be of county or national importance for arable plants, under the Plantlife Important Arable Plant areas methodology<sup>2</sup>.

20 of these plants have been identified as priority species within the UK Biodiversity Action Plan and are government priorities to target for conservation action. 12 are protected under Schedule 8 of the Wildlife and Countryside Act 1981, making it an offence to intentionally pick, uproot or destroy any plants.

If any one or more of these species are identified on a farm please complete the attached form and return to: Plantlife, 14 Rollestone Street, Salisbury Wiltshire SP1 1DX or contact us on 01722 342730 / enquires@plantlife.org.uk with the details, so that we can work together to protect this unique group of plants.

<sup>1</sup>According to *The vascular plant red data list for Great Britain (2005 or 1999)*

<sup>2</sup>For full details of the Important Arable Plant Areas site selection methodology see [www.arableplants.org.uk](http://www.arableplants.org.uk)

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## Key

**Distribution:** Taken from the *New Atlas of British & Irish Flora* (Preston *et al.*, 2002), the number of 10-km squares mapped for native and introduced records for the recording period 1987-99, out of the total number of squares in which that species has been recorded within Britain, the Isle of Man and the Channel Islands.

**Note:** Within the Atlas there is total of 2852 10-km squares for which records were available within Britain, the Isle of Man and the Channel Islands.

### Status:

EX	Extinct
CR	Critically Endangered
EN	Endangered
VU	Vulnerable
LC	Least Concern

Threat status according to vascular plant red data lists for Great Britain by Cheffings & Farrell 2005, Wigginton 1999 and Perring & Farrell 1983.

**Protection:** UK BAP PRIORITY - UK Biodiversity Action Plan priority species  
SCHEDULE 8 PROTECTED – Protected under Schedule 8 of the Wildlife and Countryside Act 1981

**Cornflower *Centaurea cyanus***



Flowers 'cornflower blue' and borne at the ends of branched stems, to 80cm. The leaves are long and narrow, and the whole plant is sparsely covered with long white hairs. Seeds are similar size and shape as cereal grains with a fringe of short hairs around the apex. Flowers June - August.

CULTIVATION TIME	Autumn
SOIL TYPE	Sandy loams
DISTRIBUTION	396/889 10-km squares, distribution distorted due to recent introductions, remaining natural sites scattered.
STATUS / PROTECTION	EN, UK BAP PRIORITY

**Purple Viper's-bugloss *Echium plantagineum***



Softly hairy biennial, to 75cm. The leaves are narrowly oval, forming a rosette at the base of the stem, also occurring along the stem. Flowers are large, arranged in a spike, have light purple petals fused into a tube, with hair confined to the veins and petal margins with a lipped opening and two projecting stamens (Viper's-bugloss has flowers which are hairy on the outside and 4-5 stamens). Flowers June - September.

CULTIVATION TIME	Autumn & Spring
SOIL TYPE	Sandy loams
DISTRIBUTION	41/86 10-km squares, remains in Jersey, W. Cornwall and Isles of Scilly - elsewhere casual.
STATUS / PROTECTION	EN

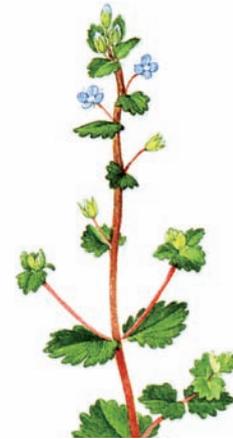
**Henbane *Hyoscyamus niger***



Stout, foul smelling poisonous biennial, to 80cm, covered with sticky white hairs. Lower leaves are broad, with a few large teeth, upper leaves narrower, more toothed and unstalked. Flowers are solitary pale yellow, purple in the throat, netted with purple veins, and anthers purple. Flowers June - August.

CULTIVATION TIME	Spring
SOIL TYPE	Sandy loams and clay soils
DISTRIBUTION	282/801 10-km squares, scattered, concentrated in the south and around coast.
STATUS / PROTECTION	VU

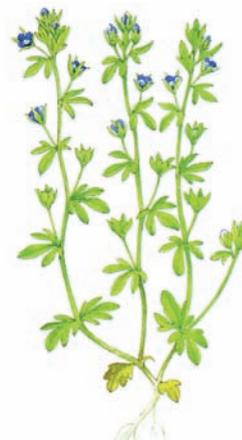
**Breckland Speedwell *Veronica praecox***



Highly localised Breckland species with erect, sometimes branched flowering stem, to 20cm. The leaves are toothed but not deeply divided. Flowers are small (3mm across), light blue with dark streaks, on long stalks, borne in the axils of leaf-like bracts. Flowers March - May.

CULTIVATION TIME	Autumn
SOIL TYPE	Calcareous sands
DISTRIBUTION	5/6 10-km squares, Breckland
STATUS / PROTECTION	EN

**Fingered Speedwell *Veronica triphyllos***



Low-growing, occasionally branched plant, to 15cm. Leaves up to 1cm long and deeply divided into 3-7 parallel-fingered lobes. Upper leaves are stalkless, lower leaves have short stalks. Deep blue flowers are borne in the axils of the upper leaf-like bracts and are shorter than the surrounding calyx. The fruit capsule is deeply bilobed, about 6-7mm long. Flowers March - May.

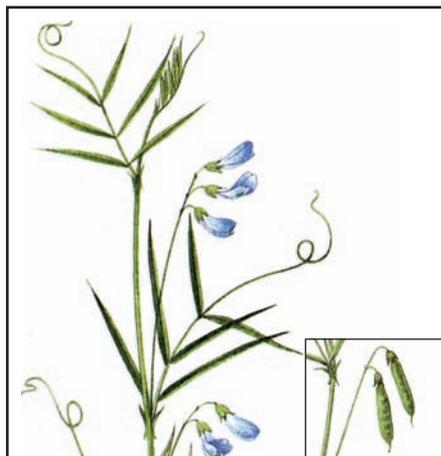
CULTIVATION TIME	Autumn
SOIL TYPE	Sandy, calcareous soils
DISTRIBUTION	3/33 10-km squares, Breckland
STATUS / PROTECTION	EN, UK BAP PRIORITY, SCHEDULE 8 PROTECTED

**Spring Speedwell *Veronica verna***



Highly localised Breckland species with erect, sometimes branched stem, to 15cm. The leaves are pinnately-lobed with 5-7 segments. Flowers are very small (2-3mm across), sky blue and are borne in the axils of leaf-like bracts. Flowers in May - September.

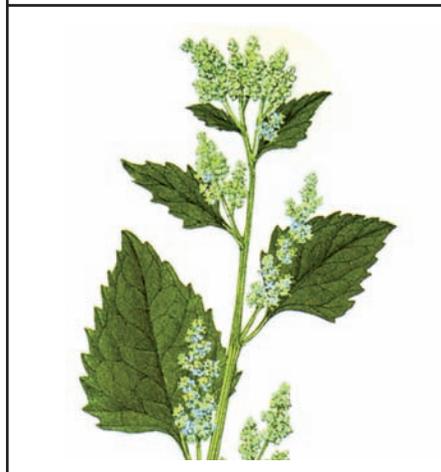
CULTIVATION TIME	Autumn
SOIL TYPE	Sandy, calcareous soils
DISTRIBUTION	2/9 10-km squares, Breckland
STATUS / PROTECTION	EN, UK BAP PRIORITY



**Slender Tare *Vicia parviflora***

Scrambling annual, to 60cm. Leaves are divided into 2-5 pairs of leaflets, each up to 2.5cm long. Flowers are pale purple and 6-8mm long, borne on long stalks. Each flower gives rise to a 5-8 seeded pod about 3mm wide. Flowers June - August.

CULTIVATION TIME	Autumn
SOIL TYPE	Calcareous clay loams
DISTRIBUTION	52/161 10 km-squares, east and SW England
STATUS / PROTECTION	VU



**Nettle-leaved Goosefoot *Chenopodium murale***

Erect annual, with red streaked stem, to 70cm, **mealy**. Inflorescences in loose leafless clusters with powdery appearance. The flowers are petalless and have yellow stamen and tiny green **minutely toothed** sepals. Leaves are sharp toothed and diamond shaped with smooth upper surface and powdery underside. Flowers July - October.

CULTIVATION TIME	Spring
SOIL TYPE	Light sandy loams and clay soils
DISTRIBUTION	127/425 10-km squares, mostly south and SE England, often coastal.
STATUS / PROTECTION	VU



**Upright Goosefoot *Chenopodium urbicum***

Erect annual, to 100cm, **not mealy** (unlike common Fat Hen). Inflorescences in loose leafless clusters. The flowers are petalless and have yellow stamen and tiny green **untoothed** sepals. Leaves are toothed and triangular. **Seeds are black.** Flowers August - September.

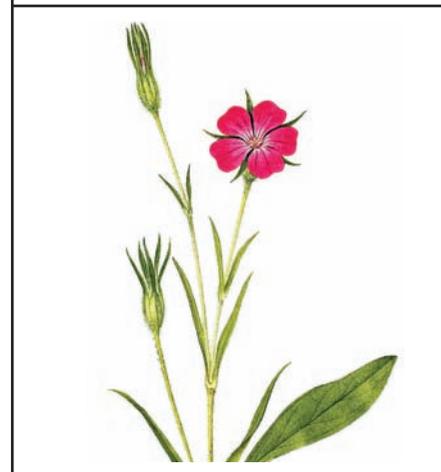
CULTIVATION TIME	Spring
SOIL TYPE	Light sandy loams and clay soils
DISTRIBUTION	10/239 10-km squares, central, southern and east England, often only casual.
STATUS / PROTECTION	CR, UK BAP PRIORITY



**Annual Knawel *Scleranthus annuus***

Low spreading annual, to 20cm, linear pointed leaves joined in pairs around the stem. Clusters of minute flowers 4mm across, grey-green with white margins. Flowers June - August.

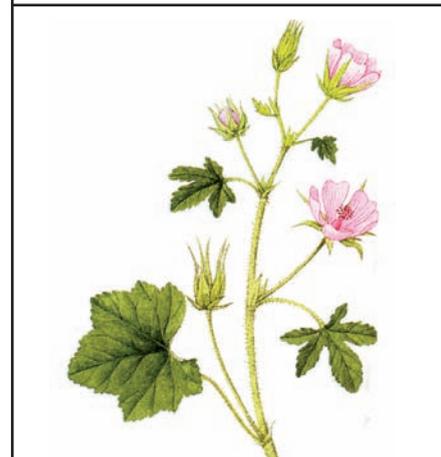
CULTIVATION TIME	Autumn
SOIL TYPE	Dry, sandy, lime free soils
DISTRIBUTION	320/1000 10-km squares, widespread, except far north
STATUS / PROTECTION	EN, UK BAP PRIORITY



**Corncockle *Agrostemma githago***

Tall, to 100cm, hairy erect plant with long, narrow and undivided leaves which taper to a point. Flowers are large (2-5cm across) and trumpet-shaped, bright pink with dark streaks and occur singly on long stems. Flowers June - August.

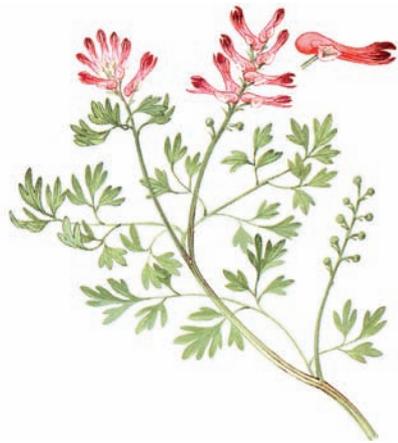
CULTIVATION TIME	Not Seasonal
SOIL TYPE	Sandy loams
DISTRIBUTION	245/820 10-km squares, extinct as natural arable species, now only recent introductions from wildflower mixes.
STATUS / PROTECTION	EX



**Rough Marsh-mallow *Althaea hirsuta***

Bristly annual or biennial, bristles have swollen bases, can vary from 8-60cm in height. Lower leaves stalked kidney shaped, and bluntly five-lobed, upper leaves deeply cut. Characteristic Mallow flowers (2.5cm across) - lilac, petals scarcely notched and outer sepal ring forming a lobed cup. Flowers in May - July.

CULTIVATION TIME	Autumn
SOIL TYPE	Open, shallow soils
DISTRIBUTION	28/89 10-km squares, scattered, mainly southern England
STATUS / PROTECTION	EN, SCHEDULE 8 PROTECTED



**Common Ramping-fumitory** *Fumaria muralis* ssp. *neglecta*

Large-flowered fumitory, to 40cm, with relatively broad and flat blue-green leaf segments. Flowers 9-11mm long, pinkish-red with darker red tipped petals, 12-15 flowers per raceme, raceme longer than stalk. The pale sepal is toothed mainly at the base (2mm x 4mm) and half the length of the flower. Fruits are spherical with a rounded apex. Flowers June - October.

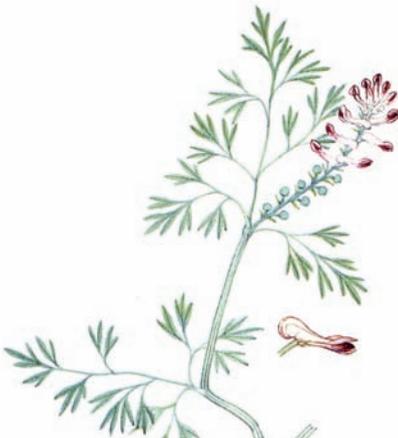
CULTIVATION TIME	Spring & Autumn
SOIL TYPE	Free draining and acidic loams
DISTRIBUTION	1/9 10-km squares, Isles of Scilly
STATUS / PROTECTION	VU



**Western Ramping-fumitory** *Fumaria occidentalis*

The most vigorous Ramping-fumitory, scrambling and much branched, to 40cm. Flowers 12-15mm long, white, becoming pink with blackish-red tipped lateral petals, 12-20 flowers per raceme, raceme same length as stalk. The sepal is white and toothed at the base (3.5mm x 5.5mm). The leaves are green-blue, irregularly divided, broad and flat. Flowers May - October.

CULTIVATION TIME	Autumn
SOIL TYPE	Sandy loams
DISTRIBUTION	24/31 10-km squares, W Cornwall & Isles of Scilly
STATUS / PROTECTION	LC



**Fine-leaved Fumitory** *Fumaria parviflora*

A typical fumitory, to 40cm, with blue-green leaves, irregularly divided into very narrow and channelled segments. Flowers 5-6mm long, white with reddish-black tipped petals, 16-20 flowers per raceme. The sepals are small (0.8mm x 1mm), white and irregularly toothed. Fruits are spherical, sometimes with short beak at apex. Flowers June - August.

CULTIVATION TIME	Spring
SOIL TYPE	Chalky loams
DISTRIBUTION	47/128 10-km squares, mostly SE England
STATUS / PROTECTION	VU



**Purple Ramping-fumitory** *Fumaria purpurea*

Large-flowered fumitory, to 40cm, with relatively broad and flat green-blue leaf segments. Flowers 10-13mm long, pinkish-purple with petals tipped darker purple, 20-25 flowers per raceme, raceme same length as stalk. The sepal is white, toothed and oblong. Sepals (6mm x 3mm) are half the length of the flower. As fruits ripen the stalks can become variably but gently-recurved. Flowers April - August.

CULTIVATION TIME	Autumn, Spring and into Summer
SOIL TYPE	Sandy loams
DISTRIBUTION	71/193 10-km squares, mainly western regions Britain
STATUS / PROTECTION	LC, UK BAP PRIORITY



**Martin's Ramping-fumitory** *Fumaria reuteri*

Large-flowered fumitory, to 40cm, with relatively broad and flat green-blue leaf segments. Flowers 11-13mm long, pink with blackish-red tipped petals, 15-20 flowers per raceme, raceme longer than stalk. The sepal is white, with very few teeth (2.5mm x 4mm). Flowers June - August.

CULTIVATION TIME	Spring & Summer
SOIL TYPE	Sandy loams
DISTRIBUTION	3/14 10-km squares, Cornwall & Isle of Wight
STATUS / PROTECTION	EN, SCHEDULE 8 PROTECTED



**Few-flowered Fumitory** *Fumaria vaillantii*

A typical fumitory, to 40cm, with blue-green leaves, leaf segments are relatively flat. Flowers 5-6mm long, pale pink with reddish-black tipped petals, 6-16 loosely arranged flowers per raceme, raceme longer than stalk. The very small sepal (0.5mm x 1mm) is toothed and pale purple. Fruits are spherical, rounded at apex. Flowers in June - August.

CULTIVATION TIME	Spring
SOIL TYPE	Chalky loams
DISTRIBUTION	50/116 10-km squares, southern England
STATUS / PROTECTION	VU



### Red Hemp-nettle *Galeopsis angustifolia*

An attractive annual, 25-50cm high. A member of the nettle family with narrowly spear-shaped leaves that are toothed and covered in soft hairs. Large pinkish-red flowers in dense clusters on leaf axils with white patches at base of petals. Flowers have hooded upper lips and three-lobed lower lips. Each flower produces four seeds. Flowers July - September.

CULTIVATION TIME	Spring
SOIL TYPE	Light chalky soils
DISTRIBUTION	91/616 10-km squares, mostly south & SE England
STATUS / PROTECTION	CR, UK BAP PRIORITY

### Smaller Tree-mallow *Lavatera cretica*

Very similar to Common Mallow but distinguished by the outer sepal-ring forming a lobed cup and the leaves being a paler green, less lobed and smooth. The 5 petaled flowers are pink-lilac. It is also annual/biennial where Common Mallow is perennial, it can reach 1.5m high. Flowers June - July.



CULTIVATION TIME	Autumn
SOIL TYPE	Sandy, stony loams
DISTRIBUTION	22/41 10-km squares, scattered
STATUS / PROTECTION	VU

### Grass-poly *Lythrum hyssopifolium*

Low-growing with a branched stem, to 20cm. Leaves are stalkless, near the stem-base are oval, gradually narrowing higher up the stem. The uppermost leaves are very narrow and parallel-sided. Single pink flowers (up to 5mm diameter) are in the axils of the leaves. This distinguishes it from similar more widespread Knotgrass which usually has 2-3 flowers in each leaf axil. Flowers June - July.



CULTIVATION TIME	Spring
SOIL TYPE	Water retentive soils - wet in winter and dries out in spring
DISTRIBUTION	17/120 10-km squares, scattered southern England
STATUS / PROTECTION	EN, UK BAP PRIORITY, SCHEDULE 8 PROTECTED



### Field Cow-wheat *Melampyrum arvense*

Erect plant with branching stems, to 60cm, leaves are glossy-green, spear-shaped and stalkless, often with a few teeth at the base. Flowers are bright coloured, borne in dense, cylindrical, terminal spikes and have a yellow corolla-tube and two mainly purple pink lips above a strongly toothed pinkish-red bract. Flowers June - September.

CULTIVATION TIME	Autumn
SOIL TYPE	Thin soils over chalk, calcareous clays
DISTRIBUTION	7/50 10-km squares, scattered southern England
STATUS / PROTECTION	EN, SCHEDULE 8 PROTECTED

### Weasel's-snout *Misopates orontium*

A downy annual, to 40cm with narrow, pointed leaves that are dull green. Large pink snapdragon like flowers. Fruit capsule is oval, opening with three holes at the apex. Flowers June - August.



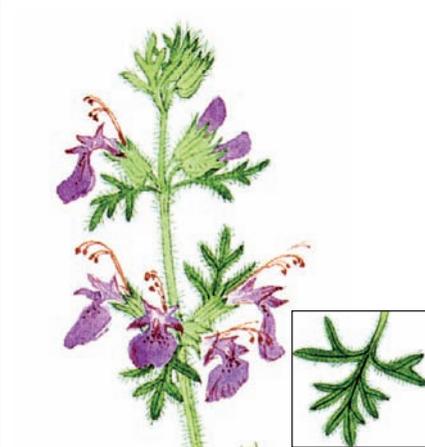
CULTIVATION TIME	Spring
SOIL TYPE	Sandy loams
DISTRIBUTION	237/499 10-km squares, mostly SW, south and eastern England, west coast Wales.
STATUS / PROTECTION	VU

### Night-flowered Catchfly *Silene noctiflora*

An erect annual, to 40cm, lower parts of the stems are hairy, while the upper parts and sepals are covered with sticky glands. Leaves are dull green and rough in texture, with the lower leaves being broader than upper. Flowers open mainly at night, during the day the flowers remain tightly rolled. The upper sides of the petals are pale pink, while the backs are creamy yellow. Flowers in July - September.



CULTIVATION TIME	Spring & Autumn
SOIL TYPE	Light, chalky or sandy loams
DISTRIBUTION	238/687 10-km squares, mostly south and eastern England
STATUS / PROTECTION	VU



**Cut-leaved Germander *Teucrium botrys***

A member of the mint family with a much-branched, erect, leafy stem, to 30cm. Whole plant is hairy. Leaves are long (2.5cm) and oval, deeply divided into parallel sided segments. Pinkish-red flowers, very small upper lips and a long lower lip, occurring in whorls in the axils of the leaves. Flowers July - September.

CULTIVATION TIME	Unknown
SOIL TYPE	Thin soils over chalk and Jurassic limestone
DISTRIBUTION	6/12 10-km squares, SE England
STATUS / PROTECTION	VU, SCHEDULE 8 PROTECTED



**Pheasant's-eye *Adonis annua***

An attractive annual, to 50cm, with deep red anemone-like flower with central black spot and black anthers. Bright green, finely divided leaves. Elongated oval seed head bears approximately 30 olive green seeds, similar in shape to a grape pip. Flowers June - July.

CULTIVATION TIME	Autumn & Spring
SOIL TYPE	Calcareous, silty and clay loams
DISTRIBUTION	28/236 10-km squares, scattered southern England, now mostly restricted to Wiltshire & Hampshire.
STATUS / PROTECTION	EN, UK BAP PRIORITY



**Prickly Poppy *Papaver argemone***

A delicate annual, to 50cm, leaves deeply cut into narrow branched segments. Flowers are pale orange with petals that only slightly overlap. Anthers contain blue pollen. Seed pod longer than it is broad and covered by upward pointing spines. Flowers June - July.

CULTIVATION TIME	Autumn & Spring
SOIL TYPE	Free draining chalk and sandy loams
DISTRIBUTION	342/880 10-km squares, scattered, mostly within England
STATUS / PROTECTION	VU



**Corn Chamomile *Anthemis arvensis***

Aromatic annual or perennial herb, covered in **short hairs**, ranges 10-50cm in height. Leaves are finely divided with narrow, parallel-sided segments, pointed at tip and give off a chamomile scent. Flowers resemble a daisy, larger than other mayweeds - among the central yellow florets are **numerous small chaff-like scales** approx 2.5mm long and 1mm wide, tapering to a point. Flowers June - July.

CULTIVATION TIME	Autumn
SOIL TYPE	Chalky or sandy soils
DISTRIBUTION	21 1/703 10-km squares, scattered, concentrated in east England
STATUS / PROTECTION	EN



**Stinking Chamomile *Anthemis cotula***

Erect, unpleasant smelling annual, 10-50cm high, **mostly hairless**. Leaves are finely divided. Flowers resemble a daisy, smaller (12-25mm) than common Scentless Mayweed, the bracts whitish green. Among the central yellow florets are numerous **very narrow** chaff-like scales. Flowers July - September.

CULTIVATION TIME	Autumn
SOIL TYPE	Loamy and clay soils
DISTRIBUTION	542/1 109 10-km squares, mostly south & central England and east Wales
STATUS / PROTECTION	VU



**Red-tipped Cudweed *Filago lutescens***

A small short lived grey-green annual, sometimes with a yellow tinge, to 15cm. Upper leaves often extend beyond flowering head. Flowers are clustered with minute red tipped bristles. Often confused with Common Cudweed which lacks red tips and has slightly narrower leaves that do not overtop the flowers. Flowers in July - October.

CULTIVATION TIME	Autumn/Winter
SOIL TYPE	Sands and sandy loams
DISTRIBUTION	22/89 10-km squares, SE England
STATUS / PROTECTION	EN, UK BAP PRIORITY, SCHEDULE 8 PROTECTED

**Broad-leaved Cudweed *Filago pyramidata***

An attractive, silvery-green plant that holds heads of 8 - 15 tiny hidden flowers on the tops of short stems, to 15cm. Flower heads appear as a cluster of tiny pyramids formed of grey scales. Leaves have rounded tips, are broader near the top than base. Often confused with Common Cudweed which has more pointed leaves. Flowers July - August.



CULTIVATION TIME	Autumn & Spring
SOIL TYPE	Chalky, sometimes sandy soils
DISTRIBUTION	16/134 10-km squares, SE England
STATUS / PROTECTION	EN, UK BAP PRIORITY, SCHEDULE 8 PROTECTED

**False Cleavers *Galium spurium***

Similar to Common Cleavers but with shorter and narrower leaves, can sprawl to 100cm. Flowers are greenish-white, 1mm across and the flowering/fruitlet stalk is straight. Fruits are **less than 3mm across**, blackish when ripe, bases of its hooked bristles **not swollen**. Flowers July - September.



CULTIVATION TIME	Spring
SOIL TYPE	Sandy loams and clay soils
DISTRIBUTION	3/55 10-km squares, E England
STATUS / PROTECTION	EN

**Corn Cleavers *Galium tricornutum***

Sprawling, 4-angled prickly stems, to 100cm. Leaves linear/lanceolate in whorls. Flowers cream (1-1.5mm across) in groups of 3. Fruit occur in groups of 3, are covered with minute projections rather than hooked bristles with stalks strongly arched downwards. Very similar to False Cleavers which are darker green. Flowers June - August.



CULTIVATION TIME	Autumn
SOIL TYPE	Calcareous clay loams
DISTRIBUTION	12/386 10-km squares, scattered south & east England
STATUS / PROTECTION	CR, UK BAP PRIORITY

**Wild Candytuft *Iberis amara***

Erect with much branched stem, to 40cm. Lower leaves spoon-shaped, while the upper leaves are broader near the tip than the base, with 2-4 blunt teeth. The flowers are in open clusters at the ends of branches, each flower having four white (or lilac) petals of unequal size. Fruits circular with projecting wings that are triangular lobe-shaped and distinguish the species from other members of the cabbage family. Flowers May - August.



CULTIVATION TIME	Autumn
SOIL TYPE	Chalky soils
DISTRIBUTION	39/213 10-km squares, mainly concentrated in the Chilterns, with a few outlying sites.
STATUS / PROTECTION	VU, UK BAP PRIORITY

**Corn Gromwell *Lithospermum arvense***

A tall plant found scrambling amongst crops, to 80cm. Small, white flowers are found where the uppermost leaves join the stem. Leaves are grey-green, narrow and pointed. The plant is covered in short bristles. Each flower produces 4 warty pale brown seeds. Flowers May - July.



CULTIVATION TIME	Autumn & Spring
SOIL TYPE	Lime-rich clay and light chalky soils
DISTRIBUTION	216/616, mainly south and eastern England
STATUS / PROTECTION	EN

**Mousetail *Myosurus minimus***

Small hairless annual, to 10cm, leaves are thin and strap shaped forming a rosette at the base of the plant. It has single, inconspicuous, greenish white flowers that have short lived petals. The distinctive long, thin seed bearing receptacle resembles a mouse tail. Flowers in May - July.



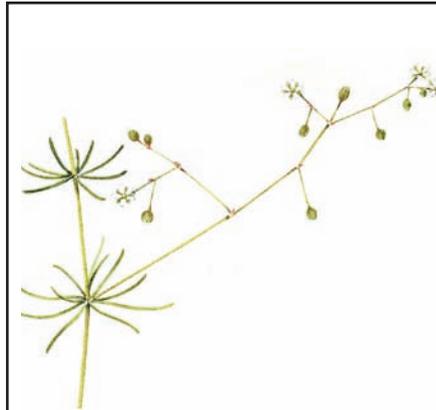
CULTIVATION TIME	Autumn
SOIL TYPE	Wet clay soils
DISTRIBUTION	117/343, scattered, mostly south England
STATUS / PROTECTION	VU



**Cat-mint *Nepeta cataria***

A mint-like aromatic perennial, to 100cm, covered with a thick grey down. Leaves are greyish-green, heart-shaped and toothed. Flowers are white with purplish spots. Flowers June - September.

CULTIVATION TIME	Autumn
SOIL TYPE	Sandy loams
DISTRIBUTION	165/479, scattered, mostly south England
STATUS / PROTECTION	VU



**Corn Spurrey *Spergula arvensis***

Slender and scrambling with a stem branching from the base, to 60cm. Leaves are very long (3cm) and narrow in whorls, they are parallel-sided and covered in glandular hairs. The white, five petaled flowers are in loose, branched clusters at the ends of stems. Flowers June - August.

CULTIVATION TIME	Spring & Autumn
SOIL TYPE	Well drained sandy soils
DISTRIBUTION	1814/2479, throughout Britain
STATUS / PROTECTION	VU



**Shepherd's-needle *Scandix pecten-veneris***

A typical member of the carrot family, to 60cm. Leaves are very finely divided, with narrow parallel sided segments. Flowers are small, white and borne in umbrella-like clusters. Each flower gives rise to a pair of seeds with a needle-like appendage of about 5cm in length. Flowers May - June.

CULTIVATION TIME	Autumn & Spring
SOIL TYPE	Heavy calcareous clay loams
DISTRIBUTION	166/786, scattered, mostly south & east England
STATUS / PROTECTION	CR, UK BAP PRIORITY



**Perfoliate Pennycress *Thlaspi perfoliatum***

Small greyish-green plant, from 3-30cm high. The leaves are waxy, upper leaves are pointed, have no stalk, and the leaf base almost encircles the stem, so the stem appears to perforate the leaf, hence the name 'perfoliate'. The inflorescences are clusters of white 4-petaled flowers occurring at the top of smooth hairless stems. Fruits are heart-shaped and flattened. Flowers March - May.

CULTIVATION TIME	Autumn
SOIL TYPE	Calcareous clay loams
DISTRIBUTION	8/37, mainly found in the Cotswold Hills in Gloucs and Oxon
STATUS / PROTECTION	VU, UK BAP PRIORITY, SCHEDULE 8 PROTECTED



**Small-flowered Catchfly *Silene gallica***

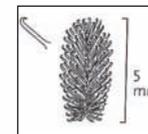
A sticky and hairy plant, to 30cm, with narrow lanceolate upper leaves and spoon-shaped lower leaves. Small white or pink flowers 10-12mm across occasionally with red spots are borne singly on leaf axils. Petals shallow & notched. Flowers June - October.

CULTIVATION TIME	Autumn & Spring
SOIL TYPE	Sandy loams
DISTRIBUTION	93/466 10-km squares, greatest concentration coasts SW England and Wales.
STATUS / PROTECTION	EN, UK BAP PRIORITY



**Spreading Hedge-parsley *Torilis arvensis***

An annual member of the carrot family, to 50cm, with greyish-green pointed leaves, covered in short bristles, giving a frosted appearance. White or pinkish flowers are borne in dense, compound heads. The characteristic fruit are covered with numerous hooked spines (4-6mm long). Flowers in July - August.



CULTIVATION TIME	Autumn
SOIL TYPE	Clays and calcareous clay loams
DISTRIBUTION	77/389, scattered southern England
STATUS / PROTECTION	EN, UK BAP PRIORITY



**Narrow-fruited Cornsalad *Valerianella dentata***

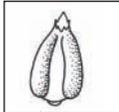
Slender, often much branched plant, to 20cm, with narrow, spear-shaped leaves, sometimes with a few teeth near base & hairless. Flowers in terminal clusters often solitary in branch axils; symmetrical, white, occasionally tinged with pink, 2mm across & with 5 petals. **Fruits 0.75mm across with single tooth at apex.** Flowers June - August.



CULTIVATION TIME	Spring
SOIL TYPE	Light calcareous loams
DISTRIBUTION	168/604, scattered, mostly south and eastern England
STATUS / PROTECTION	EN

**Broad-fruited Cornsalad *Valerianella rimosa***

Slender, often much-branched plant, to 20cm, with narrow, spear shaped leaves, sometimes with a few teeth near base & hairless. Flowers in terminal clusters, often solitary in branch axils; symmetrical, white, occasionally tinged with pink, 2mm across & with 5 petals. **Fruits are nearly spherical with a conspicuous tooth.** Flowers June - August.



CULTIVATION TIME	Spring & Autumn
SOIL TYPE	Calcareous soils and clays
DISTRIBUTION	17/181, SW and southern-central England
STATUS / PROTECTION	EN, UK BAP Priority

**Ground-pine *Ajuga chamaepitys***

Small, 5-20cm high, often sprawling plant shaped like a tiny pine tree, with a reddish stem, long, narrow, hairy green leaves (often tinged yellow through to red) and little yellow flowers nestling close to the stem. Pine-resin smell when bruised. Flowers May - October.



CULTIVATION TIME	Autumn & Spring
SOIL TYPE	Thin soils, over chalk
DISTRIBUTION	16/51, SE England, mainly North Downs of Kent and Surrey
STATUS / PROTECTION	EN, UK BAP PRIORITY, SCHEDULE 8 PROTECTED



**Small Alison *Alyssum alyssoides***

Erect plant, branched from the base, to 30cm. Leaves are spear-shaped, narrower at the base and covered with minute star-shaped hairs. The flowers are borne in a terminal spike and are small with four yellow petals, which fade to white as they dry. Flowers May - June.

CULTIVATION TIME	Autumn
SOIL TYPE	Sandy soils
DISTRIBUTION	9/196, mainly found East Anglia
STATUS / PROTECTION	EN, SCHEDULE 8 PROTECTED



**Corn Marigold *Chrysanthemum segetum***

Tall annual herb, to 60cm, with deeply lobed leaves, greyish-green in colour and water-resistant waxy foliage. Large daisy like flower-head, **all yellow.** Seed production can be prolific with disc florets producing cylindrical seeds and ray florets broad, winged seeds. Flowers June - August.

CULTIVATION TIME	Autumn
SOIL TYPE	Sandy and sandy loam soils
DISTRIBUTION	887/1692, scattered across Britain
STATUS / PROTECTION	VU



**Large-flowered Hemp-nettle *Galeopsis speciosa***

The largest, reaching 100cm high and bushiest Hemp-nettle, with nettle like leaves that are ovate and toothed. Flowers (30mm long) are pale yellow, the lower lip darker, usually with a purple central lobe. Sepals are green. Flowers in July - September.

CULTIVATION TIME	Spring
SOIL TYPE	Moist loamy soils
DISTRIBUTION	402/999 10-km squares, scattered northern Wales, England and throughout Scotland
STATUS / PROTECTION	VU



### Smooth Cat's-ear *Hypochaeris glabra*

Small, dandelion-like annual with a rosette of leaves at the base and several erect, flowering stems, to 40cm. Leaves are narrow, spear-shaped, with occasional teeth, broader near the tip than the base and **hairless**. Flower-heads are clusters of tiny yellow flowers. Each with a single conspicuous yellow petal about twice as long as broad - only spreading in full sunshine. Flowers June - October.

CULTIVATION TIME	Autumn
SOIL TYPE	Non-calcareous sands
DISTRIBUTION	127/294 10-km squares, scattered throughout Britain, concentration in East Anglia
STATUS / PROTECTION	VU



### Yellow Vetchling *Lathyrus aphaca*

A waxy grey-green scrambling member of the pea family, to 40cm. True leaves are absent in mature plants, but the stipules are enlarged to replace leaves. These are large and triangular, borne in pairs along the stem with a flower and single tendril at each node. Yellow flowers, typical of pea family are borne singly on long stems in the leaf axils. Seed pod 2-4cm long. Flowers June - August.

CULTIVATION TIME	Autumn
SOIL TYPE	Calcareous and clay loams
DISTRIBUTION	92/354 10-km squares, scattered, mostly southern England, especially near the coast.
STATUS / PROTECTION	VU



### Corn Buttercup *Ranunculus arvensis*

An upright slender buttercup, to 60cm, with the upper leaves deeply dissected and lower shallowly lobed. It has small, lemon yellow flowers. Highly distinctive beaked seeds are large, up to 8mm long and covered with conspicuous spines. Flowers May - June.



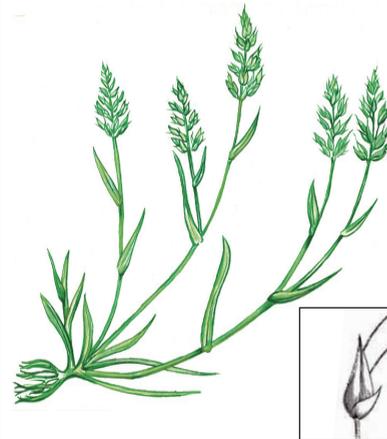
CULTIVATION TIME	Autumn
SOIL TYPE	Heavy clay soils
DISTRIBUTION	157/827 10-km squares, scattered, mostly central England
STATUS / PROTECTION	CR, UK BAP PRIORITY



### Greater Yellow-rattle *Rhinanthus angustifolius*

Very similar to Yellow Rattle but more robust and branched, to 50cm. Leaves are linear, toothed and unstalked. It has yellow flowers with a horizontal lower lip and protruding stigma. Its name comes from the ripe fruit rattling in the inflated joined sepals. Flowers June - July.

CULTIVATION TIME	Autumn
SOIL TYPE	Light loam soils
DISTRIBUTION	11/90 10-km squares, mostly now restricted to non-arable sites in North Downs.
STATUS / PROTECTION	VU, SCHEDULE 8 PROTECTED

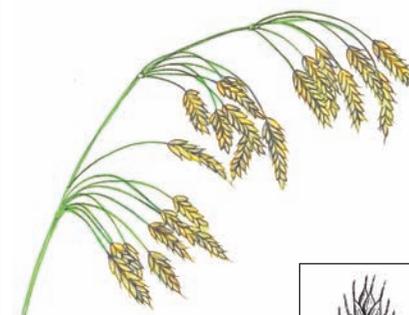


### Annual Vernal-grass *Anthoxanthum aristatum*

Usually solitary but sometimes multiple stemmed annual, to 20cm. Leaves are 2-4mm wide and up to 5cm long, hairless - but tufts of long hair where leaf and stem meet. Spikelets (5-7mm long) have long and conspicuous bent awns and are gathered into a pale green terminal spike. Flowers June - October.

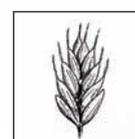


CULTIVATION TIME	Unknown
SOIL TYPE	Sandy loams and sands
DISTRIBUTION	2/94 10-km squares, records from Surrey and Lancs. - probably extinct from arable
STATUS / PROTECTION	EN



### Rye Brome *Bromus secalinus*

Typical Brome grass, leaf and stem are softly and densely hairy, ranges 15-80cm high. Leaves are up to 20cm long, 5mm wide, with blunt ligules up to 4mm long. Inflorescences are much-branched with long stalked loosely clustered spikelets, that are oval and slightly laterally compressed (1.5cm long x 4mm wide). Flowers in June - July.



CULTIVATION TIME	Autumn
SOIL TYPE	Mainly heavy clay loams
DISTRIBUTION	98/407 10-km squares, scattered, mostly southern England and Wales.
STATUS / PROTECTION	VU

## Glossary

<b>Stamen</b>	The male organ in a flower
<b>Papillae</b>	Minute projections
<b>Anthers</b>	The tip of the stamen, producing the pollen
<b>Sepal</b>	Part of the outer ring of the flower; below the petals, around the embryo fruit
<b>Spikelet</b>	The basic flower unit of a grass or sedge
<b>Raceme</b>	An unbranched flower-head in which the flowers are borne on individual stalks
<b>Corolla</b>	The petals when joined
<b>Inflorescence</b>	The complete flowering head of a plant, often with multiple flowers
<b>Stigma</b>	The surface receptive to pollen at the tip of the style
<b>Florets</b>	A small flower, especially in the flower-head of members of the Daisy and related families; or the individual tiny flower in Grasses, Sedges and Rushes.
<b>Stipules</b>	A leaf-like or scale-like appendage at the base of a leaf-stalk, often a pair of them is present.
<b>Bract</b>	A leaf-like structure, usually green, immediately below a flower and located where the flower-stalk joins the stem.
<b>Lanceolate leaf</b>	A long narrow leaf, slightly wider below, gradually tapering to its tip (lance-shaped)
<b>Calyx</b>	The whorl of sepals below an individual flower.

## Acknowledgements

Text compiled using *The Wildflower Key*, Rose, F., 1981, Penguin Books, *New Flora of the British Isles*, 2nd Ed., Stace, C., 1997, Cambridge University Press, *Arable Plants – a field guide*, Wilson, P. and King M., 2003, English Nature and Wildguides, *Wild Flowers of Britain and Ireland*, Blamey, M., Fitter, A. and Fitter, R., 2003, A & C Black.

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Distribution details compiled using Preston, C.D., Pearman D.A., Dines T. (Comps and Eds.) (2002) *The New Atlas of the British and Irish flora*. Oxford University Press, Oxford.

Threat status identified using Cheffings, C.M. & Farrell, L. (2005) Species Status, Report No 7: *The vascular plant red data list for Great Britain*. Joint Nature Conservation Committee, Peterborough, Wigginton, M.J. (1999) *British Red Data Books I, Vascular Plants*. JNCC, Peterborough and Perring, F.H. & Farrell, L. (1983) *British Red Data Book: I Vascular Plants (2nd ed.)* Royal Society for Nature Conservation, Lincoln.

### Other Flora books you may find useful

*The Wildflower Key*, Rose, F., 1981, Penguin Books,

*New Flora of the British Isles*, 2nd Ed., Stace, C., 1997 Cambridge University Press

*Arable Plants – a field guide*, Wilson, P. and King M., 2003, English Nature and Wildguides

*Wild Flowers of Britain and Ireland*, Blamey, M., Fitter, A. and Fitter, R., 2003, A & C Black

*Flora of the British Isles*, 3rd Ed., Clapham A. R., Tutin T. G. and Moore D. M., 1987, Cambridge University Press

*Fumitories of Britain and Ireland*, R.J. Murphy 2009, Botanical Society of the British Isles

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Plantlife Arable plants project funded by,



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Plantlife International - The Wild Plant Conservation Charity  
14 Rolleston Street, Salisbury, Wiltshire, SP1 1DX  
Telephone: +44 (0) 01722 342730 Fax: +44 (0) 01722 329035  
[enquiries@plantlife.org.uk](mailto:enquiries@plantlife.org.uk) [www.plantlife.org.uk](http://www.plantlife.org.uk)

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