

The Kent Euphrasia Key

Kent Eyebrights

The Eyebrights are a very difficult group and one would normally have to work through a long key and navigate down a selection of multiple couplets before arriving at a satisfactory determination.

The key below is a rather simplified and in no way infallible guide to help determine the five Kentish eyebrights that one might find, including *Euphrasia tetraquetra* which is now considered probably extinct in the county. It does not, however, allow for hybrids and/or possible discoveries of other species.

It is suggested that for a good chance of correct determination, at least 5 or 6 well grown (not stunted or spindly) and undamaged plants bearing some fruits as well as open flowers should be examined from a population. Ranges of measurements, rather than means, from these should be used.

The following key and accounts are mostly taken from the third edition of *The New Flora of the British Isles* by Clive Stace (Cambridge University Press). They in turn are based upon the views of P.F. Yeo as modified by A.J. Silverside. Additional references come from *The Vegetative Key to the British Flora* by John Poland and Eric Clement (John Poland in association with The Botanical Society of the British Isles), *The Flora of Great Britain and Ireland, Volume 3* by Peter Sell and Gina Murrell (Cambridge University Press) and from A.J. Silverside's articles in the *Wild Flower Society's Magazine* 1990-91.

- 1 Middle and upper stem leaves with **glandular** hairs with stalk (6) 10-12x as long as head.
***E. officinalis* ssp. *anglica*.**
- 1 Middle and upper leaves without glandular hairs, or with glandular hairs with stalk $\leq 6x$ as long as head. 2
- 2 Leaves fleshy; on sea cliffs only. ***E. tetraquetra*.**
- 2 Leaves not fleshy; mostly inland. 3
- 3 Stems and branches **flexuous**; leaves near base of branches usually very small; (lower **bracts** mostly alternate), (**capsule** usually about same length as **calyx**). ***E. confusa*.**
- 3 Stems and branches usually straight or gradually curved; leaves near base of branches not much smaller than others. 4
- 4 Teeth of bracts mostly long bristle-tipped; capsule much shorter than calyx.
***E. pseudokernerii*.**
- 4 Teeth of bracts **acute** to **acuminate**; capsule usually slightly shorter than calyx. (lower bracts mostly opposite) ***E. nemorosa*.**

Euphrasia officinalis ssp. anglica

English Eyebright

FLOWERING
TIMES

JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC

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STEMS

Stems stout, **flexuous**-erect, to 20(30)cm.

BRANCHES

(0)1-4(6) pairs, flexuous or **arcuate**, usually again branched with **internodes** shorter than to 2.5x as long as the leaves.

LEAVES

Darkish green, the middle and upper with long-stalked **glandular** hairs.

FLOWERS

Corolla from (5)6.5 to 8(10)mm with lowest flower at **node** 5-8.

FRUIT

A **capsule**, 4-5.5mm, **truncate** or **retuse** at apex with long, more or less numerous hairs in the upper part.

HABITAT

In grassy areas, usually on sandy or acid soils but has been found on chalk grassland.

STATUS

Listed as 'Endangered' in the Red List and quite rare in Kent. Now down to 10 tetrads from 19 (Philp 2010). See **RPR accounts E** for details.



Euphrasia tetraquetra

Western Eyebright



FLOWERING TIMES

JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC

Above photographs by kind permission from Roger Wasley. [VISIT HIS SITE HERE](#)

STEM

Stems erect, stout, shortish (to 15(20)cm).

BRANCHES

0-5(8) pairs, usually rather short and erect or ascending, but may be almost as tall as the main stem, sometimes branched again, forming a compact plant.

LEAVES

Fleshy, glossy green, hairless to densely hairy (sometimes **glandular** hairy).

FLOWERS

Corolla (4)5-7(8)mm, with usually white (sometimes lilac) lower and white or lilac upper lip; lowest flower at **node** (3)5-7(9); **distal** teeth of lower **bracts** not incurved; **inflorescence** dense and four-sided (but its habit may be mimicked by *E. nemorosa*).

FRUIT

Capsule usually ≤ 5.5 mm, straight, **truncate** to slightly **emarginate** and usually shorter than the **calyx**.

HABITAT

In grassland on chalk cliffs at the coast.

STATUS

Last recorded from above Dover harbour TR34G (Philp1982) and could perhaps be expected to be found in similar habitats nearby, for which there are historic records. *E. tetraquetra* is included here also to aid in the process of elimination of plants found in suitable habitats, especially of plants that could 'mimic its distinctive 'squat' growth-form'.

Euphrasia nemorosa

Common Eyebright



FLOWERING TIMES

JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC

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STEM

Stems erect, to 35(40)cm, green or flushed purple, usually branched above the middle.

BRANCHES

1-9 pairs, ascending, straight and shorter than the stem, often again branched and rather rigid.

LEAVES

Darkish green (sometimes purplish) and glossy, usually hairless, rarely densely hairy, with **acute** to **aristate** teeth

FLOWERS

Corolla 5-7.5(8.5)mm; lowest flower at **node** (5)10-14.

FRUIT

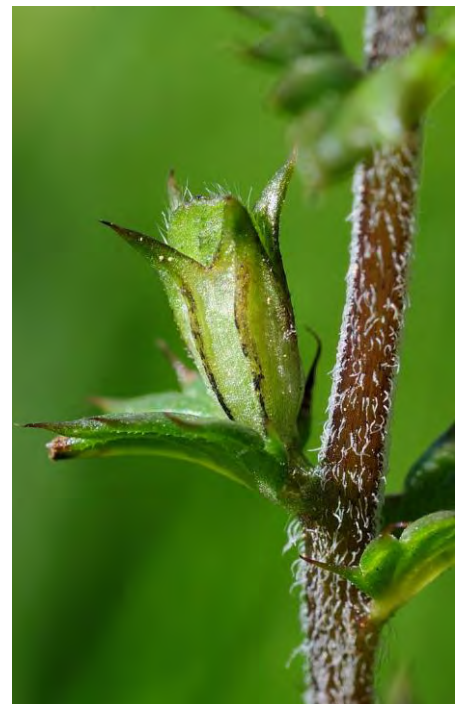
Capsule 5-6mm, rounded-**truncate** or **retuse** at apex, nearly equalling the **calyx** teeth and usually slightly hairy.

HABITAT

In grassland on chalk downs, heaths and woodland rides.

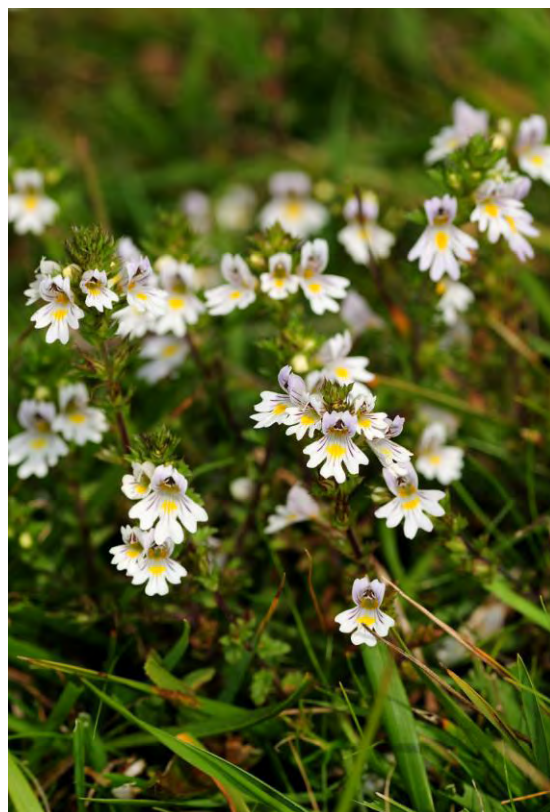
STATUS

The commonest Euphrasia in the county. Frequent on the chalk, but more local elsewhere. (Philp 2010).



Euphrasia pseudokernerii

Chalk Eyebright



FLOWERING TIMES

JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC

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STEM

Stems erect or **flexuous**, to 20(30)cm, usually purplish and much-branched.

BRANCHES

(0)3-8(10) pairs, ascending to **patent**, often again branched.

LEAVES

Glossy dark green above, sometimes purplish or tinged brown, narrow and finely toothed with the upper leaves **glabrous** and lower usually with some stiff hairs.

FLOWERS

Corolla (6)7-9(11)mm (and so relatively large), with an elongated **corolla-tube**, white to pale (rarely deep) lilac; lowest flower at **node** (5)10-16(18); late flowering and at its best in late August or September.

FRUIT

Capsule 3.5-5(6)mm, much shorter than the **calyx**, about 2.5 times as long as wide, **truncate** or **retuse** at apex, **ciliate** and slightly hairy on the surface.

HABITAT

In short grassland along the chalk downs.

STATUS

Its numbers seem to be declining and is considered nationally a scarce plant. In Great Britain it is regarded as 'Endangered' under the Red List and as 'Vulnerable' in England. In Kent it is relatively frequent in the right habitats and the Kent North Downs is considered the British stronghold. See **RPR account E** for details.

Euphrasia confusa

Confused Eyebright



FLOWERING TIMES

JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC

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STEM

Stems **flexuous** or **procumbent** at base, 5 to 20(45)cm, greenish, usually a short plant and with numerous basal branches.

BRANCHES

(0)2-8(10) pairs, usually long, flexuous and ascending, usually branched again;

LEAVES

Mid to deep or greyish-green, sometimes flushed brown or dark violet, especially towards the margins and upper surface, rather narrow, **glabrous** or with some hairs, rarely with sparse **glandular** hairs.

FLOWERS

Corolla 5-9mm (and so relatively large), usually flushed purple, especially on the **corolla-tube**, lowest flower at **node** (2)5-12(14).

FRUIT

Capsule 3.5-5.5(6.5)mm, usually about as long as the **calyx** and 2-3 times as long as wide, **truncate**, **retuse** or **emarginate** at apex, ciliate and slightly hairy on the surface.

HABITAT

In heathy grassland.

STATUS

Known only from the Sandling Park area TR13I & TR13N. Although looked for, it was not re-found on Dartford Heath (TQ57G). (Philp 2010 and 1982). See **RPR account E** for details.