

Early Gentian

Gentianella amarella subsp. *anglica*



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Early Gentian is part of the Gentian (Gentianaceae) family. It is a short perennial or biennial flower, growing up to 15 cm. Most of the leaves are in a basal rosette with 1-4 pairs of stem leaves. The distance between the uppermost leaf pairs is 40% or more the height of the plant, if these stem leaves are present! The sepal lobes are nearly equal and pressed against the purple corolla tube. The flowers are usually around 2 cm long and have narrow lobes with a white fringe of hairs at the top of the corolla throat.

Both Autumn Gentian *Gentianella amarella* subsp. *amarella* and Dune Gentian *G. amarella* subsp. *occidentalis* are similar to Early Gentian, and there is ongoing debate about whether Early Gentian is a separate species or whether it should be kept as a subspecies of Autumn Gentian (as stated in the fourth edition of the New Flora of the British Isles, 2019).

Lifecycle

Early Gentian is a spring germinating plant, flowering between April and May.

Numbers of plants vary enormously on an annual basis, which may be in relation to the amount of bare ground available for germinating seeds and soil moisture conditions. Seed viability is thought to be moderate within free-draining soils, as individual plants have appeared after a number of absent years.

Habitat

Early Gentian is found growing within very short swards with bare ground. It is most abundant in downland calcareous turf, with little or no build-up of leaf litter, and is usually along footpaths and rabbit scrapes, for example in Purbeck and Portland. It can also be found growing in quarries on spoil heaps and at cliff edges. Early Gentian seems to have a preference for south or west facing slopes, possibly due to longer sunlight hours.

Distribution

National databases record populations on the Isle of Wight, New Forest and South Lincolnshire. However, it has been recorded from other areas including the Cotswolds, Wessex chalk, Portland, Purbeck and Berkshire Downs. This may be a factor of the undetermined taxonomy, something which may also mask the decline, but Early Gentian is undoubtedly now confined to hotspots.

GB status and rarity

Awaiting classification

Protection under the law

This plant is included as a species “of principal importance for the purpose of conserving biodiversity” under Section 41 (England) of the Natural Environment and Rural Communities Act 2006.

Early Gentian is waiting for classification in both the Great Britain Vascular Plant Red List and in the England Vascular Plant Red List. It is protected under Schedule 8 of the Wildlife and Countryside Act (1981). It is endemic to England.

Survey method

Individual plants of Early Gentian should be counted when it is in flower during April to June. Although it is similar in appearance to Autumn Gentian, it can be separated by its much earlier flowering time.

Reasons for decline

The main reason for decline is development for tourism and agricultural intensification on farmland. Lack of management, particularly grazing animals including horses, cattle, sheep and rabbits, is leading to an increase in rank vegetation shading out Early Gentian.

Early Gentian is a plant with low competitive ability requiring tightly grazed, short open turf with bare ground, which is facilitated through a long continuity of grazing. It is uncertain about the palatability of Early Gentian, so sheep grazing may destroy populations if they find it is edible.

Habitat management for Early Gentian

Reinstatement of mixed grazing at historical locations with Early Gentian to reduce the sward to less than 5 cm and creation of germination niches would aid the recovery of the species. A stocking density of 1.5 cattle per hectare between April and October is ideal, with fewer animals over the winter, adjusting for site conditions, breed and age of cattle. Rabbit grazing is thought to be a significant and useful factor in maintaining a short sward.

The creation of scrapes or cultivated patches to expose bare calcareous soil and start the development of skeletal grassland may trigger buried seed to germinate. Autumn Gentian *Gentianella amarella* has recolonised bare rubble and chalk scrapes within five years in the Chilterns, so it is likely that Early Gentian would have a similar response to comparable management.



Early Gentian distribution across Britain and Ireland. The data used to create this map has been provided under license from the Botanical Society of Britain and Ireland (BSBI) and accessed from the Society's online database.