

Pasqueflower

Pulsatilla vulgaris



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Pasqueflower is a member of the Buttercup (Ranunculaceae) family. It is a low-growing hairy perennial plant that grows from deep roots up to 25 cm tall. A series of growth points arise from root stock buds producing feathery leaves. The large single flowers are a ring of rich-purple coloured sepals (not petals!), 5-8 cm across and bell-shaped, enclosing many golden anthers. After flowering the flower heads then develop into silky plumes of seeds.

The flowers bloom around Easter, hence the name "Pasque" meaning "like Paschal", of Easter. According to legend, Pasqueflower springs from the blood of Viking Warriors and grows upon their graves. Pasqueflowers do tend to grow on barrows, but mainly because they are often found on undisturbed chalk grassland, and the steep southern sides of mounds often have thin soils with the naturally short vegetation that Pasqueflower prefers.

Lifecycle

Pasqueflower is an early flowering plant in March-May, depending on the year. It favours grassland with a southern aspect, although it can occur on other aspects if the turf is thin enough. Pasqueflower thrives on the thinnest soils where there might be brashy limestone or chalk scattered across the surface.

Pasqueflower is a perennial that arises from a central rather deep-seated vertical yet branched

root stock. In cultivation, a single plant can have 30 or more knobby and almost woody root stock buds. In the wild, each plant is likely to have five or fewer buds.

It reproduces mainly through adventitious buds forming daughter rosettes close to the mother plant. Although viable seed is produced most years, it requires perfect habitat conditions to germinate and, like most members of the Buttercup family, the seed is short-lived in the soil seed bank.

Habitat

Pasqueflower is a species of short calcareous grassland typically with a southerly aspect, and is associated with open downland, earthworks and small borrows pits. The sward is usually quite rich where Pasqueflower occurs, with Bird’s-foot-trefoil *Lotus corniculatus*, Harebell *Campanula rotundifolia*, Horseshoe Vetch *Hippocrepis comosa*, Burnet-saxifrage *Pimpinella saxifraga* and Wild Thymes *Thymus* sp.

Distribution

Populations are found in the Cotswolds, Chilterns, East Anglia and Lincolnshire. The largest population is in Hertfordshire with up to 100,000 plants.

GB status and rarity

Vulnerable

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.

It was classified as Vulnerable in the Great Britain Vascular Plant Red List and the England Vascular Plant Red List as the more southern populations are in decline.

Survey method

A count of flowering plants should be undertaken between late March and May at the height of flowering. The second half of April is usually the period with the most flowering plants. Sites with hundreds to thousands of plants should be estimated.

Reasons for decline

Historically, the main cause of decline in Pasqueflower populations is agricultural intensification, including re-seeding grasslands, fertiliser and herbicide applications and intensive grazing. More recently, lack of management, particularly the decline and cessation of mixed grazing, has affected Pasqueflower populations with numbers declining in grasslands with rank swards. Seed is unlikely to remain viable for more than a year, making recolonisation of lost populations from the soil seed bank unlikely.



Pasqueflower 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.



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Habitat management for Pasqueflower

Flower production decreases as competition from tall grasses increases. In particular, there is a sharp fall in flowering following an increase in the average height of the vegetation above 10-15 cm. This may be through the development of tussock-forming grasses that shade out the lower-growing Pasqueflower.

At extant sites, management should involve establishing a regime that maintains a short sward. Mixed livestock should be removed for the flowering period, or grazed extensively, followed by heavier grazing from late summer through the autumn. Sheep grazing undertaken during the winter can result in a massive increase in Pasqueflower numbers. A sward height of around 5 cm is ideal for Pasqueflower so that the flowers can stand clear of the surrounding vegetation. The continuation of grazing year-on-year is necessary as Pasqueflower quickly declines if grazing ceases.

Although some colonies regularly produce considerable amounts of viable seed, establishment from seed is a rare event. This may be due to the lack

of bare ground for germination and seedling establishment without competition. The seed is thought to be short-lived, like other members of the Buttercup family, so the creation of small scrapes and sowing seed, if there is a lack of alternative dispersal mechanism such as grazing animals, can aid the expansion of colonies. Seed appears to take four to six weeks to ripen, therefore grazing from early June onwards would benefit Pasqueflower.

It is suspected that Pasqueflower root stock can survive up to around 10 years in coarse rank vegetation, but becomes weaker as the leaves are unable to seek the sun and eventually the plant rots. Pasqueflower is unlikely to reappear from buried seed once it is extinct at a site.

Colonisation of new sites is unknown, partly because of lack of a dispersal mechanism but, more importantly, because of the combination of special requirements for germination and establishment. The only new colonies that have been established are by translocation of seed or plants.



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