

Ground-pine

Ajuga chamaepitys



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Lifecycle

Ground-pine is an annual or a short-lived perennial, which flowers from May to October. Seeds can germinate throughout autumn, winter and spring but seedlings are not thought to be frost hardy. Despite this, plants have been known to survive mild winters and there are examples of Ground-pine within autumn cultivated arable fields. It is thought that ground-pine seeds can lay dormant for up to 50 years, germinating when the soil is disturbed. Seed dispersal is limited, with seeds falling close to the adult plant meaning that this species does not expand readily or colonise new sites often. Ground-pine tends to exhibit years of abundance and years of little or no growth and it is thought that it might have complex requirements to break seed dormancy, such as heat.

Ground-pine is an odd-looking member of the mint and dead-nettle family, Lamiaceae. It is a small grey-green annual herb, 5-20 cm tall, which often resembles a pine seedling. It smells of pine resin when the foliage is trampled or crushed, and the flower smells similar. The plant is often branched at the base. Stem leaves are softly hairy and divided into three narrow, linear, blunt lobes. Small yellow flowers, two per whorl, sit close to the stem, which is reddish in colour. Tiny red dots are often also present on the lower lip of the flower.

It was a well-known plant to the Tudors who exploited the resins contained in its leaves. Ground-pine is also known as bugleweed, carpet bugle and yellow bugle.

Habitat

This species grows on chalky, drought-prone soil which is slow to be colonised by plants. It requires occasional disturbance to expose soil and buried seed. Habitats include bare tracks, arable field margins and open chalk downland. It can also be found growing on areas that have been disturbed due to construction works or sites where scrub removal has taken place.

GB status and rarity

Classified as endangered, with a high risk of it becoming extinct in the wild in the UK.

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 is also listed under Schedule 8 of the Wildlife and Countryside Act 1981, meaning that it is an offense to pick, uproot or destroy any plants.

Survey method

Ground-pine is present from April to November (usually flowering from May to September), as such it is recommended that it is surveyed within this time frame, ideally whilst flowering. Where possible a count of the individual plants should be carried out, but where this is not possible an estimation could be made or where particularly dense the area covered calculated.

Distribution

In the UK, Ground-pine is mainly found in the southeast of England and the main populations occur in the North Downs in Kent and Surrey. This species is at its northern edge of its range in the UK.



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

Reasons for decline

The reasons for decline are variable depending on habitat type. Populations associated with arable land have been affected by agricultural intensification e.g. loss of arable field margins

and use of herbicides and fertilisers or in some instances conversion of arable to other habitats, for example through woodland creation or development of urban areas. In grassland habitats populations of Ground-pine have been negatively affected by reduction in grazing pressure, increases in coarse plant growth, quarrying, loss of chalk downland and in some places over grazing.



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Habitat management

This species requires regular soil disturbance and scrub clearance can be important in order to maintain Ground-pine populations in grassland habitats. Scrub clearance and grazing with cattle or ponies can provide bare ground required for germination. Scrub management through light ploughing or harrowing has also been successful.

Disturbance should not be so frequent as to destroy germinated seedlings and no disturbance should be carried out during the flowering and seeding period. Plants retain seeds into the winter, so clearance work should not be carried out too early, and attention should be paid to the disposal of cuttings.

In arable habitats cultivated and uncropped margins and plots provide suitable habitat as well as unsprayed headlands. As Ground-pine seedlings do not survive frosts it is recommended that cultivation occurs in spring. It is unknown if this species requires ploughing or if minimum tillage provides adequate disturbance.