

## *Crepis praemorsa* (L.) Walther

### Leafless Hawk's-beard

*Crepis praemorsa* has a rosette of yellow-green leaves that are shallowly toothed in the lower part, leafless and finely grooved flowering stems, and pale-yellow flowers. In Britain *C. praemorsa* is known from a single locality, where it was discovered in 1988 growing in limestone grassland by Orton Beck in Westmorland. Across its global range it is a species of calcicolous hay meadows, pastures, steppe grassland, subalpine scrub and species-rich wood meadows, with a distribution extending eastwards from south-east Norway and south-east France to central Siberia. It was assessed as 'Vulnerable' in the England Red List based on a population estimate of ca 1775 shoots, although the number of genets is unknown and may be considerably less.



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#### IDENTIFICATION

*Crepis praemorsa* has a rosette of yellowish-green basal leaves (5–20 × 1.5–5.5 cm) that are entire in the upper half but shallowly denticulate in the lower half, hispid-hairy on the upper side and much more so on the lower side. Hairs are simple, short, and often bent or strongly curved (Roberts, 2009). Leaves are broadest near the tip, gradually (sometimes abruptly) narrowing to the base (i.e. obovate) and have a blunt, rounded leaf-tip that is minutely apiculate (Halliday, 1997; Stace, 2010). The leaf-blade often becomes slightly concave, resembling a wide and very shallow boat (Roberts, 2009).



*Crepis praemorsa* at Orton Pasture SSSI, Westmorland ©Jeremy Roberts

Flowering stems are tall (to 75 cm), hairy, leafless (but sometimes with tiny bracts) and finely grooved (Sell & Murrell, 2006). The numerous ±glabrous capitula, arranged in a narrow elongated raceme, open in bright sunlight to reveal pale-yellow flowers up to 3 cm in diameter (Halliday, 1997).

#### SIMILAR SPECIES

All other *Crepis* species in Britain have leaves on the flowering stem. However, *C. praemorsa* flowers early and sporadically. If not in flower, the species can be distinguished by its rosette of obovate leaves that are shallowly-toothed in the basal part (Halliday, 1997).

There are a few other genera whose leaves may be confused with *C. praemorsa*. *Leontodon* leaves are a darker green, narrower, with a margin at least sinuate or more strongly lobed, and with denser, longer hairs that are forked or stellate. *Hypochaeris* leaves are a duller green, narrower, with a sinuate or lobed margin much like *Leontodon*. It has simple hairs like *Crepis*, but these are longer and sparser. *Centaurea* leaves have a somewhat sinuate margin but do not have a blunt, rounded tip.

#### HABITATS

At its sole British locality *C. praemorsa* occurs on the sloping banks of limestone drift by Orton Beck, about a metre above the stream level, in short and rather open turf (Roberts et al., 1999). It is present with a wide range of associates, including *Avenula pubescens*, *Briza media*, *Campanula rotundifolia*, *Carex ornithopoda*, *Danthonia decumbens*, *Gentianella amarella*, *Koeleria macrantha*, *Pimpinella*

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*saxifraga*, *Scabiosa columbaria*, *Serratula tinctoria*, *Succisa pratensis* and *Thymus polytrichus*.

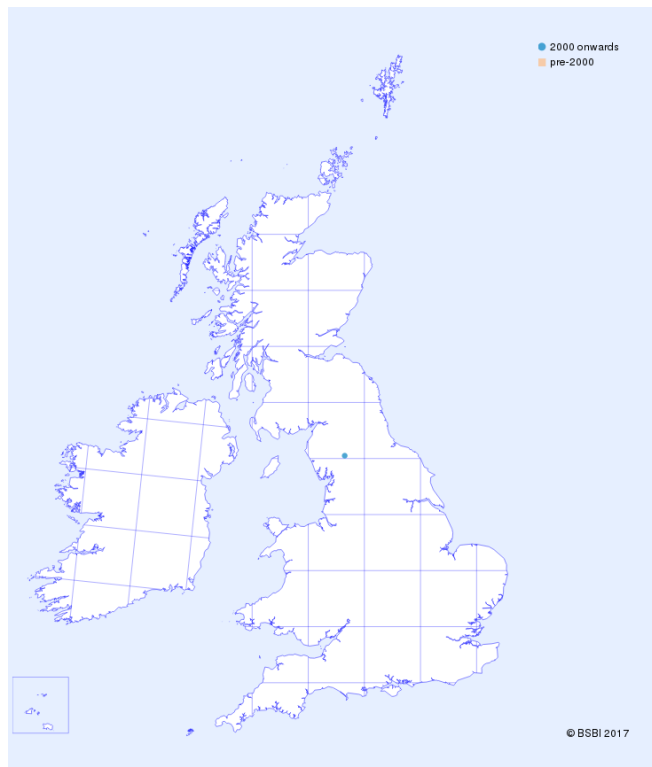
Across its global range *C. praemorsa* is found in a wide variety of habitats, including semi-dry upland, boreal and alpine calcicolous hay meadows, pastures and steppe grassland, open subalpine scrub, and species-rich wood meadows.

### BIOGEOGRAPHY

*Crepis praemorsa* is a Eurosiberian Temperate species with a continental distribution in Europe (Preston & Hill, 1997), extending eastwards from south-east Norway and south-east France to central Siberia (Sell & Murrell, 2006).

In Britain *C. praemorsa* is known from just one locality in Westmorland. Its recent (1988) discovery extended considerably the limits of its range, being a first record for western Europe. Whilst there has been some debate about the status of the plants at this site, it is highly unlikely that they have been introduced, accidentally or otherwise, given the remote location, occurrence in unimproved grassland, and close proximity to relict rarities such as *Bartsia alpina*, *Carex capillaris* and *Polygala amarella* (Halliday, 1990).

Furthermore, given that the British plants rarely if ever produce viable seed (see 'Ecology') and perhaps originate from a very small number of genets, the current spread of plants over a range of ca 440 metres implies very long



Distribution of *Crepis praemorsa* in Great Britain and Ireland.

persistence at this site.

*Crepis praemorsa* is assessed as threatened or near threatened in a number of countries, including Finland, Norway and Poland. Its altitudinal distribution ranges from 200 - 1800 m AOD. The Westmorland plants occur at ca 250 m AOD.

### ECOLOGY

*Crepis praemorsa* is a perennial rhizomatous hemicryptophyte. Plants flower from early May and produce monomorphic glabrous pale-brown achenes (6-7 x 1.1 - 1.3 mm) by mid-summer that are cylindrical, slightly compressed, longitudinally ribbed, and the same length as the white pappus (Bojňanský & Fargašová, 2007).

Achenes are wind-dispersed (it is possible they may also be dispersed short distances in water), and seed release experiments in south-east Norway by Skarpaas *et al.* (2004) found that although the majority were located close to the rosettes of the source plants, some achenes dispersed more than 30 m in updrafts. The study concluded that *C. praemorsa* has a relatively high potential for exploiting favourable wind conditions and for dispersing long distances. However, in Britain, the population usually does not flower and, on the occasions when flowering has been recorded, appears to not produce viable achenes (Geoffrey Halliday pers. comm.), with new plants instead arising via shoots from the established rootstock.

There is little in the way of published information on the ecology of *C. praemorsa*. It is assumed that germination requires bare ground and limited competition from the surrounding vegetation and occurs soon after dispersal, as seeds appear to be short-lived in the soil (Milberg, 1992; Milberg & Hansson, 1994). However, it is probable that vegetative spread is the primary mode of reproduction. Parts of the becksides habitat at Orton are eroding, and it is just possible that lumps of clay with *C. praemorsa* roots could disperse and establish downstream.

### THREATS

Across its range the main threats to *C. praemorsa* are neglect, overgrazing, eutrophication and changes to traditional management practices, and especially the intensification of hay meadow management. In Sweden prescribed 'traditional management' funded by agri-environment schemes has led to the loss of the species at some sites due in part to a requirement to cut and instantly remove the grass at more or less the same date each year. This is counter to past management which allowed for much greater variation in cutting dates between years and meadows (Dahlström *et al.*, 2013).

### MANAGEMENT

British plants occur in three separate fields and there are varied management regimes for each involving grazing with

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sheep and/or cattle. Plants can tolerate quite tall vegetation, and it is probable that light grazing in late summer, with no grazing by livestock in some years, is optimal for the species at this site.

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### AUTHOR VERSION

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### SUGGESTED CITATION

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