

**WHAT TO LOOK FOR?**

A 4-8 cm tall fruiting body with brown irregularly saddle-shaped pileus and smooth white stipe, in GB&I in sandy soils of dune coastal habitats in the later stages of succession, typically but not exclusively where *Populus* spp. are present. This species is morphologically distinct from potential lookalikes in its coloration, relatively large ascospores, smooth unribbed stipe, and habitat. Fruitbodies can be solitary or gregarious.

**WHEN TO LOOK?**

April and May based on GB&I and European records. Fruiting bodies have been reported from February to June in other parts of the world.

**WHERE TO LOOK?**

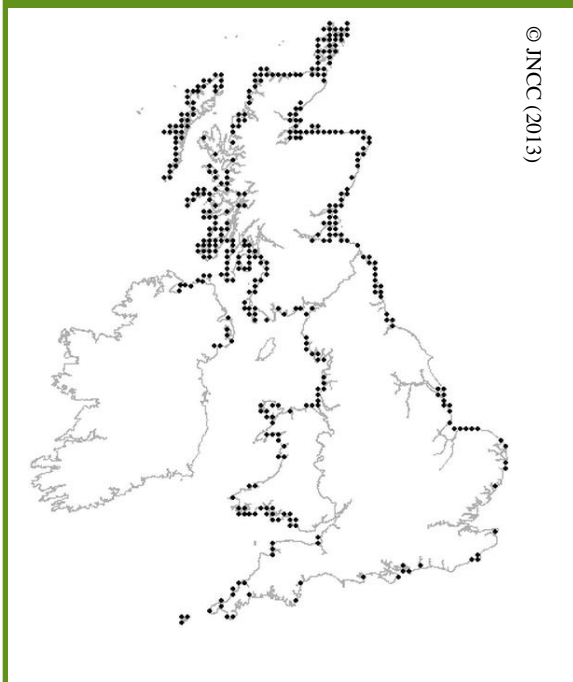
In sandy regions where *Populus* spp. are present [also recorded under pine]. All records from GB are from coastal Wales, but records in Europe are also from sandy soils near rivers. *H. leucopus* may form mycorrhizae with *Populus* spp., so fruit-bodies will likely be near these trees. In GB&I, only known from recent collections at two localities. One of these has been successfully resurveyed several times since its original discovery. The site is a NNR and designated SSSI so enjoys some degree of statutory protection., but requires surveillance.

Other likely locations may include similar sandy coastal soils in a late stage of succession elsewhere in the UK.



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**Known or predicted distribution of H2130**  
Fixed dunes with herbaceous vegetation ('grey dunes')



*Helvella leucopus* – known distribution



# *Helvella leucopus*

## General description

**Ascomata** discomycetous, stipitate. **Cap** (10-)25-35 mm diam. and 17-40 mm high, saddle-shaped or mitre-like with two or three distinct irregular lobes. **Hymenium** brown-black to black (black when dry), sometimes with purple or chocolate brown tinges. **Outer surface** white to pale grey, glabrous. **Ectal excipulum** (outer surface layer) 85-150 µm thick, composed of chains of angular hyaline cells, the outermost cells cylindrical to clavate, 20-60 x 6-20 µm in size. **Internal tissue** (below the hymenium) 200-300 µm thick, composed of interwoven hyphae 3-6 µm diam., interspersed with thicker-walled hyphae 6-10 µm diam. **Stipe** 20-55 × 7-10 mm, generally squat, often expanded at the base (to 15-20 mm), round in section, sometimes slightly furrowed below, hollow, white, sometimes stained pale grey or brown with age, glabrous, which may be partly buried. **Interascal tissue** of unbranched paraphyses with swollen apices to 5-9 µm diam., containing a brown pigment. **Asci** 310-360 × 14-17 µm, cylindrical, fairly thick-walled, the apex rounded, operculate, 8-spored. **Ascospores** 20-24 × 13-15(-16) µm, mean length/breadth ratio 1.5, ellipsoidal to broadly ellipsoidal, fairly thin-walled, hyaline, smooth, containing a large central lipid droplet surrounded by smaller ones, without a gelatinous sheath or appendages.

**Note:** Description adapted from Dissing (1966) and van Vooren (2010).

## Habitat:

In sandy soil among grass in wooded areas, often near *Populus* sp., but not exclusively. Found across temperate regions in the Northern Hemisphere, most commonly in North America and continental Europe. In GB, currently only known from two coastal dune areas of Wales. The species is likely to be localized and faithful to specific sites, and populations therefore require surveillance.

## Conservation status

Not formally assessed, but considered as Vulnerable / B in the current but unofficial "Red Data List of Threatened British Fungi" (Evans *et al.*, 2006).

## Associations

In GB&I, reported to be associated with species of the *Populus alba* group (identified as *P. ? canescens*), *Salix repens*, and *Pinus nigra* ssp. *laricio*. Elsewhere considered to associate with *Populus* spp., *Pinus* and *Larix* on sandy soils.

## Look-alikes

Distinct from other spring-fruiting *Helvella* spp. in the characters of stipe with round cross section, habitat, and ascomata coloration.

- *Helvella lacunosa* is much more common and has similar coloration to *H. leucopus*, but has a heavily ribbed stipe, and occurs during summer/autumn. Ascospores of *H. lacunosa* are also notably smaller than those of *H. leucopus*.
- *H. queletii* has similar coloration and has been reported once in the UK from sand dunes, but has a strongly ribbed stipe.
- *H. acetabulum* is spring fruiting but has a strongly furrowed stipe and often prominent branching ribs resembling a cabbage leaf.
- *H. corium* is entirely blackish grey (although the stipe may vary towards a lighter grey) with a typically cupulate hymenium.
- *H. leucomelaena* is deeply cupulate.

## Known sites in GB&I

- 1985. Pembrey forest, Carmarthenshire (VC:44), Wales., coll.: P. Jones. Grid ref: SN39030205. Note: in *Pinus nigra* ssp. *laricio* plantation, in disturbed sandy soil, approx. 30 fruitbodies present.
- 2006. Merthyr Mawr, Glamorganshire (VC:41), Wales, coll.: A.M. Ainsworth. M. Rotheroe. Grid refs: SS87037670, SS8777. Note: found during surveys of second nearby site within Merthyr Mawr in 1996, 1998, 2003, coll: M. Rotheroe and P.M. David.

## References

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- Dissing, H. (1966). The Genus *Helvella* in Europe with special emphasis on the species found in Norden. *Dansk Botanisk Arkiv* 25(1): 172 pp.
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- JNCC (2013). Third Report by the UK under Article 17 on the implementation of the Habitats Directive from January 2007 to December 2012. Peterborough: JNCC. Available from: [www.jncc.gov.uk/article17](http://www.jncc.gov.uk/article17)
- Van Vooren, N. (2010) Notes sur le genre *Helvella* L. (Ascomycota Pezizales). Le sous-genre *Elasticae*. Bulletin trimestriel de la Fédération mycologique et botanique de Dauphiné-Savoie 199: 27-60.