Lost and Found Fungi Datasheet
Sporomega degenerans

WHAT TO LOOK FOR?

An ascomycete fungus on dead or senescing attached twigs of *Vaccinium uliginosum* ("bog bilberry"), visible as discrete raised black elliptical to elongate fruit-bodies 0.8 – 2 (– 3) mm long with irregular slits, often parallel to the twig, that open up when mature and in moist conditions to expose grey discs surrounded by a thin black border formed from stromatal tissue. Present on both larger and smaller twigs, which are often redder than neighbouring uninfected branches, with or without attached leaves.

WHEN TO LOOK?

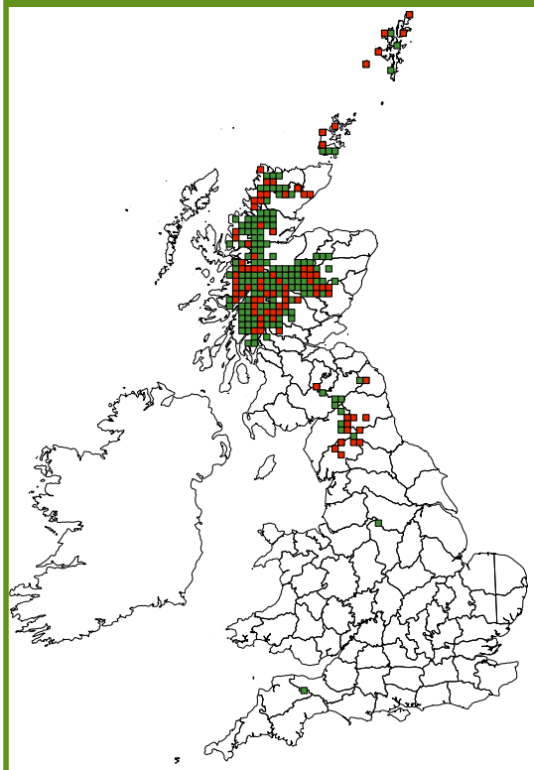
June to October (based on the few GB&I records available). Specimens collected to date in October are overmature and lack ascospores. The fruiting time may well extend several months or more either side of June, as seen in records from Sweden, Denmark and Norway.

WHERE TO LOOK?

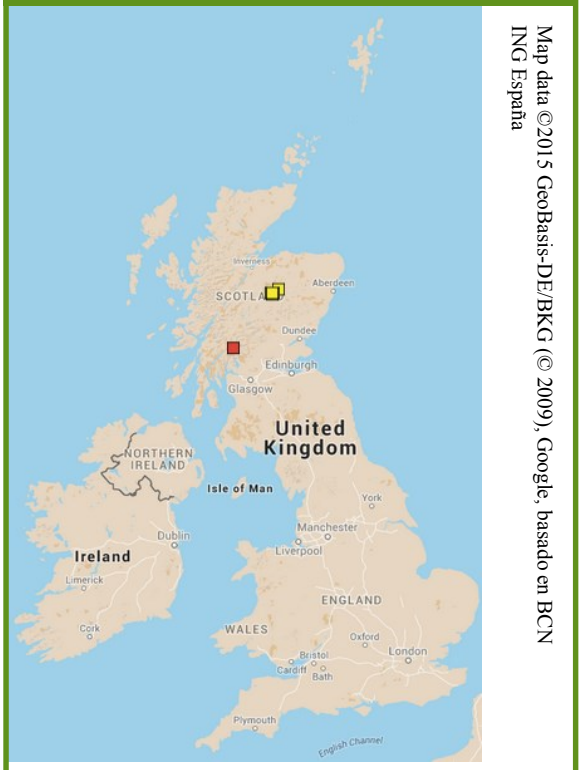
In GB&I, *Vaccinium uliginosum* is primarily reported throughout northern and western Scotland, and is present but much rarer in northern England. It tends to occur in damper places than other species of *Vaccinium*.

Top: colonised twigs in the field (image © S. Taylor); middle and bottom: unopened and opened fruit-bodies (images by B. Douglas, CC BY-NC 3.0).

***Vaccinium uliginosum*– known distribution**



***Sporomega degenerans*– known distribution**



Sporomega degenerans

General description

Teleomorph: **ascomata** formed in discrete dark brown to black stromata beneath the host twig epidermis (which becomes raised and blackened), generally developing parallel to the long axis of the twig and often in line and/or on opposing sides (esp. on small twigs), 0.8 – 2 (–3) x 0.4 – 0.6 mm, elliptical to elongate, opening with an irregular, often jagged longitudinal slit without lip cells or a preformed opening mechanism, to reveal a brownish-black (dry) to grey (fresh or rehydrated) hymenium bordered by a thin black stromatal layer and broken epidermal tissue. In cross section, **upper wall** ~50 µm thick in the central region, reducing to ~15 µm at the edge next to the host periderm (bark), composed of small dark brown to black thick-walled angular cells 3-4 µm in diam. **Basal layer** composed of an irregular layer of dark hyphal tissue, with a subhymenial layer of entangled hyaline hyphae. **Paraphyses** simple, filiform, 1.5-2 µm diam., straight to hooked to convolutedly coiled at the apex. **Asci** apparently maturing simultaneously, 95-130 µm in length and 8-12 µm diam., unitunicate, clavate, the apex acute to conical-truncate, with a short tapering stipe and a wide truncate base, 8-spored. **Ascospores** 65-75 x 2-2.5 µm, consistently filiform-clavate, the apex rounded and the base gradually tapered to a point, hyaline, aseptate, with a conspicuous gelatinous sheath with a large capitate apical part.

Anamorph: not known.

Habitat:

Forest heaths, moorland, bogs, swamps, or conifer understory, where *Vaccinium uliginosum* occurs. Perhaps more likely to be found fruiting in slightly damper areas.

Conservation status

Not formally assessed. Prior to the project, apparently not recorded correctly from GB&I since 1907 (two more recent records in Kew from Hoy, Orkney were found to be wrongly identified), leaving only one confirmed record. It is an inconspicuous species on a host plant with few known associated fungi, but could potentially be widely distributed throughout the Scottish Highlands.

Associations

Considered to be restricted to *Vaccinium uliginosum*. There have been occasional reports from *Andromeda polifolia* in the USA (Ellis & Everhart, 1892) and Russia (see here), but that association needs further confirmation.

Look-alikes

No lookalikes are known on *Vaccinium uliginosum*, but this species has been poorly investigated as a host. Several superficially similar species can be found on *V. myrtillus*, which often co-occurs with *V. uliginosum*. The two host plants can be distinguished by their leaf margins: finely toothed in *V. myrtillus* and smooth in *V. uliginosum*.

Terriera cladophila is a morphologically similar and more common species found on *V. myrtillus* (see here and here). Macroscopically, it appears to bleach twigs to a lighter shade; differs in the shape of ascomata (consistently coffee-bean shaped, vs. elliptical to elongate); a sometimes clearly delineated dark perimeter line and sometimes paler "lips"; and a smooth longitudinal split. Microscopically the ascospores are narrower than those of *S. degenerans* (filiform but not filiform-clavate), and the paraphyses are simple or branched but not intricately coiled at the apex.

Lophodermium maculare and *L. melaleucum* have also been reported on *V. myrtillus* and other *Vaccinicum* spp., typically on leaves but sometimes on stems. As with *T. cladophila*, these species can be macroscopically distinguished from *Sporomega degenerans* by their smooth well-defined openings and "lips" (the latter creamy white or yellow in *L. melaleucum*); elliptical rather than elongate ascomata; and microscopically by their cylindrical filiform ascospores. Both species are probably under-reported, and new records, collections, and images would be welcomed.

Known sites in GB&I

First recorded in GB&I in 1907 by D.A. Boyd at Glen Falloch, West Perthshire (VC:87), Scotland.

Recently rediscovered in Scotland by Stewart Taylor at two clusters of sites in the Cairngorms National Park, near Cairn Gorm mountain (East Inverness-shire, VC: 96) and in Abernethy Forest (Morayshire, VC:95), where it does not seem to be uncommon.

Literature

- Ellis, J. B., & Everhart, B. M. (1892). The North American Pyrenomycetes: A contribution to mycologic botany. Ellis & Everhart. Chicago. Available online here.
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