

Flora Protection Order - bryophytes

Bryum uliginosum

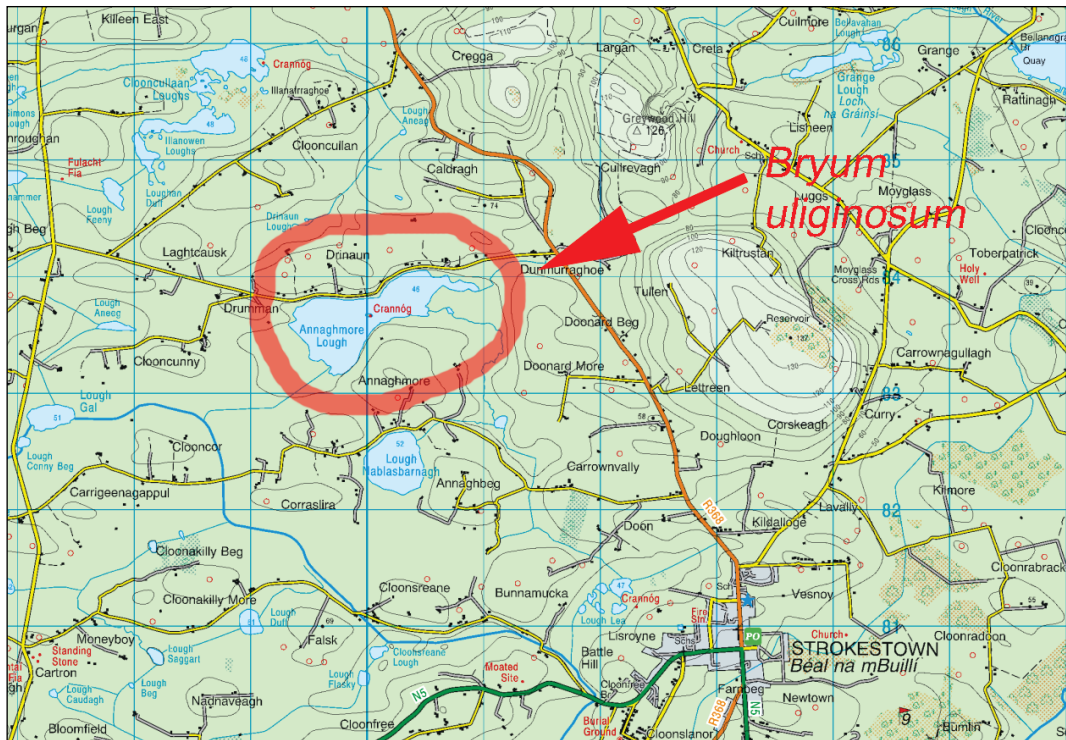
Status: Endangered; listed on the Flora Protection Order

Location: Annaghmore Lough, Co. Roscommon

Species Records

Taxon	Vice County number	Taxon Site	Locality / habitat	Grid Reference	Date	Recorder	Protected site
<i>Bryum uliginosum</i>	25	08	Annaghmore L., 3 miles NW of Strokestown: among Schoenus on peat-covered limestone	M98	1968.	Rubers, W.V., et al.	SAC001626

Location (1:50,000 Discovery map)



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Location (6" map)

No map available. Not found by Nick Hodgetts during fieldwork in 2002.

Field Data Sheet

None available.

Aerial photograph

No aerial photograph available.

Site photographs

None available.

Management & Conservation

General

- Drainage
- Eutrophication, fertiliser input and pollution
- More intensive management of riverbanks and lake margins

Potential site-specific threats/issues

- *B. uliginosum* needs to be refound at this site; the habitat still looked intact in 2002, so it is possible that this moss could re-occur here

Excerpt from:

Lockhart, N., Hodgetts, N. & Holyoak, D. (2012). *Rare and Threatened Bryophytes of Ireland*. Belfast: National Museums Northern Ireland Publication No. 028.

RARE AND THREATENED BRYOPHYTES OF IRELAND

Bryum uliginosum (Brid.) Bruch & Schimp.

Ceruous Thread-moss

Syn. *Bryum cernuum* (Hedw.) Lindb., *Ptychostomum cernuum* (Hedw.) Hornsch.

Status in Ireland: Endangered (B2a, bii, iv); **Status in Europe:** Regionally Threatened

Identification

Bryum uliginosum is a large, handsome acrocarpous moss that grows in tufts. Like many other species of *Bryum*, it has ovate to ovate-lanceolate leaves with a shortly excurrent costa and border of narrow cells. It is larger than many species of the genus with leafy stems up to 30 mm tall and a long seta, which may be 45 mm high. It has long capsules that are narrowly ellipsoid, slightly

curved with an oblique mouth, and ceruous to pendulous. A combination of several microscopic characters needs to be carefully checked for reliable identification, including autoicous sexuality (both sexes on same plant: female inflorescences at shoot tip; male inflorescences on branch apices), lack of red bases to leaves, capsule shape, inner peristome structure (cilia rudimentary) and large spores (22–30 µm). Other *Bryum*

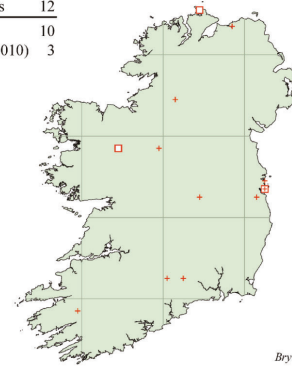


species can be easily mistaken for *B. uliginosum*, although few of its more common relatives are as large with curved capsules having an oblique mouth. Large plants of the much more common *B. pallens* can look very similar but they have dioicous rather than autoicous inflorescences and may have appendiculate cilia. *B. pseudotriquetrum* occurs in similar habitats and can also be tall and handsome, but it has red leaf bases, dioicous or synoicous sexuality, appendiculate cilia and smaller spores.

Distribution in Ireland

Three recent records are accepted: Dublin (small population at North Bull, 2007–2008); E. Mayo (strong population at Island Lake, 2003–2009) and E. Donegal (strong population NW of Malin, 2002–2009). Old records which appear to be correct include those from N. Kerry (Ross Bay, 1861), S. Tipperary (Kedsah Bog near Clonmel, 1852), Dublin (Glen near Killakee, 19th century) and Antrim (Portrush, 1914), although some of the historic specimens involved are too small to confirm that the plants are autoicous. Study of herbarium specimens has shown that many of the older records are errors of identification or suspected errors, including those from: Kildare (1864); Dublin (several of the 19th-century records); W. Mayo (Clare Island, 1909); Leitrim (Lough Allen, 1883); Monaghan (1910); W. Donegal (Melmore and Rosepenna, 1910) and Londonderry (Magilligan, 1904; Benbradagh, 1938). Other old records that have not been checked may well include further errors: S. Tipperary (Caher, 1870); Offaly (Geashill, 1915); Dublin (Malahide, 1860; North Bull, 1858, the latter probably correct) and Fermanagh (Monea, 1905). A record from Roscommon (Annaghmore Lough, 1968)

Number of Hectads	12
+ Old (pre-1970)	10
□ Recent (1970–2010)	3



Bryum uliginosum

was confirmed by the BBS Recorder of Mosses but the species could not be refound there in 2001 or 2002.

Ecology and biology

The habitat is in moist, open, calcareous sites such as dune slacks, stream banks or on lake shores. The recent Irish records are from damp calcareous sand in a foredune slack, soil patches exposed on the steep bank of a small stream near the coast (with soils derived from blown sand), and banks of a drainage ditch/stream dug into the edge of a dried marl lake. All three sites have nutrient-poor soils and short, species-rich vegetation, which includes *Bryum intermedium* at or close to two of the sites and *B. warneum* at one of them.

B. uliginosum is a perennial moss with both sexes on the same plant (autoicous). Capsules are produced freely and spores ripen in late summer and early autumn. It is therefore likely that dispersal of the species occurs mainly or entirely from spores. Gemmae and tubers are unknown.

World distribution

There are widespread correctly identified records in Europe, from Iceland and Fennoscandia south to the Pyrenees, Alps and Balkans, but *B. uliginosum* has often been misidentified. It is assigned to a Circumpolar Boreal-montane floristic element in Europe. The species now appears to be very rare or extinct over most of the lowlands of W. and C. Europe. For example, in Britain, there has been a large decline over the past 100 years and although Church *et al.* (2001) list it as *Critically Endangered*, it may now be extinct since there has been no confirmed record since before 1950. It has also declined greatly and either disappeared or become very

RARE AND THREATENED BRYOPHYTES OF IRELAND

rare in the Netherlands (*Extinct*) (Touw & Rubers 1989), Germany (*Vulnerable*) (Meinunger & Schröder 2007) and the Czech Republic (*Endangered*) (Kučera & Váňa 2003), and *Near Threatened* in Finland. It is listed as *Data Deficient* in Spain. Elsewhere, the species has a wide geographical range with confirmed records from scattered locations in Asia, Greenland, N. America, S. America (Chile, Argentina, S. Georgia) and New Zealand. Reports from Mexico and Africa (Düll 1985) are probably errors.

Threats

There are no detailed data on causes of its decline in Ireland, but drainage has undoubtedly played a part and eutrophication and 'tidying' of farmland areas may also be significant. Reasons for the widespread historic decline of the species elsewhere in Europe are also poorly understood, but include drainage, destruction of coastal dune slacks and development or other alteration of river and stream banks and lake margins. Eutrophication or other pollution of farmland habitats must now limit the scope for its occurrence in many lowland regions. However, the magnitude of its decline in Ireland, Britain and some other countries has probably been somewhat exaggerated by numerous misidentifications in the past, so there may be no need to conclude that it has decreased

'much more than would be expected from normal human activities' (A.C. Crundwell in Hill *et al.* 1994: 87). Suggestions that it may be producing capsules less frequently so that it may be more often overlooked now than in the past are speculation that is not supported by observations at the three populations known in Ireland, which produce abundant viable capsules.

Conservation

The three populations of *B. uliginosum* extant in Ireland should be a high conservation priority because they are among the very few populations left in temperate W. Europe. *Ex-situ* cultivation experiments and research into its genetic variation and ecology in Ireland are being undertaken by NPWS, the National Botanic Gardens, Glasnevin and Trinity College, Dublin. Conservation management of the Irish populations should seek to ensure that the plants do not become shaded as vegetation succession proceeds. Regular intervention may be needed to ensure that patches of open soil are available for the species to colonise.

Protected sites with recent records: Bull Island Nature Reserve; North Dublin Bay SAC; North Inishowen Coast SAC; River Moy SAC; **Unprotected sites with recent records:** none.