

# Flora Protection Order - bryophytes

## *Gymnomitrium concinnatum*

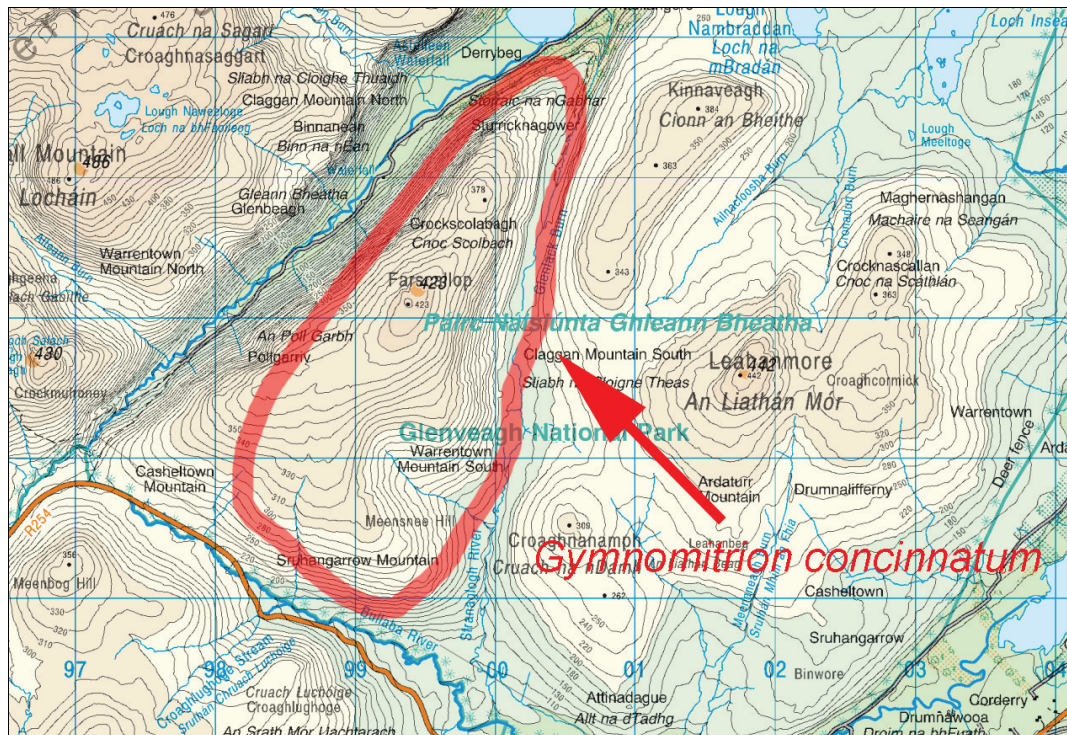
**Status:** Endangered; listed on the Flora Protection Order

**Location:** Glenveagh, Co. Donegal

### Species Records

Taxon	Vice County number	Taxon Site	Locality / habitat	Grid Reference	Date	Recorder	Protected site
<i>Gymnomitrium concinnatum</i>	35	04	Glenveagh, above W side of Glenlack	C02	1962.	British Bryological Society meeting	SAC002047
<i>Gymnomitrium concinnatum</i>	35	04	Farscallop, Glenveagh	B9940717253	2016.06.30	Rory Hodd	SAC002047
<i>Gymnomitrium concinnatum</i>	35	04	Farscallop, Glenveagh	B9941717218	2016.06.30	Rory Hodd	SAC002047
<i>Gymnomitrium concinnatum</i>	35	04	Farscallop, Glenveagh	B9944317204	2016.06.30	Rory Hodd	SAC002047

### Location (1:50,000 Discovery map)



Ordnance Survey of Ireland Licence No EN 0059214  
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## Field Data Sheet – Survey of FPO Bryophytes 2016

<b>Species</b> <i>Gymnomitrium concinnatum</i>	<b>County</b> Donegal	<b>6" Map</b> dg043d	<b>Discovery Map</b> 6
<b>Locality/ Site name</b> Farscallop, Glenveagh	<b>Vice-county (No.)</b> H35	<b>SAC/NHA</b> 002047 Cloghernagore Bog and Glenveagh National Park SAC	
<b>Grid ref (GPS, National Grid)</b> (i) B9940717253(±3)	<b>2005 Aerial Photo</b> 0230-B	<b>Recorder(s)</b> R.L. Hodd	
<b>Elevation (m)</b> 410	<b>Solid geology</b> Granite	<b>Survey date</b> 30/06/2016	
<b>Site description</b>	Broad undulating summit ridge, with numerous slabby outcrops of rock along northern side of ridge.		
<b>Population description</b>	Numerous patches of varying size, mostly pure, at three locations in shallow crevices of sloping granite rock surfaces.		
<b>Associated species</b>	<i>Andreaea rothii</i> , <i>Marsupella emarginata</i> , <i>Diplophyllum albicans</i> , <i>Gymnomitrium crenulatum</i> , <i>Deschampsia flexuosa</i> and <i>Cladonia subcervicornis</i> .		
<b>Vegetation</b>	ER1 Exposed siliceous rock		
<b>Current management</b>	Within Glenveagh National Park, so little management, except deer grazing.		
<b>Threats</b>	None apparent.		
<b>Conservation measures</b>	Retain in current condition		
<b>Ownership</b>	Glenveagh National Park		
<b>Access</b>	Accessed by parking at the head of Glenveagh on R254 road, following path through deer fence and striking off up broad boggy ridge along east side of Glenveagh to the summit of Farscallop.		
<b>Other remarks</b>			

GPS readings for the species

National Grid Letter	Easting	Northing	Comments
B	99417	17218	(±4) (ii) 420m alt.
B	99443	17204	(±4) (iii) 420m alt.

**Synonymous habitat/vegetation types :**

**First record and other comments:**

**References:**

Hodd, R.L. 2016. *Survey of Flora Protection Order Bryophytes 2016*. Unpublished report to National Parks and Wildlife Service. Dublin.

**Photographs:**



Photograph 1: The location of population (i) of *G. concinnatum* in crevices in granite rock, indicated by red arrow.



Photograph 2: Close-up of *G. concinnatum* growing in crevices at location (i).



Photograph 3: Habitat of *G. concinnatum* at (iii), location of extensive population indicated by red arrow.



Photograph 4: patch of *G. concinnatum* in crevice shown in Photograph 3.

## Maps and Aerial Photographs:

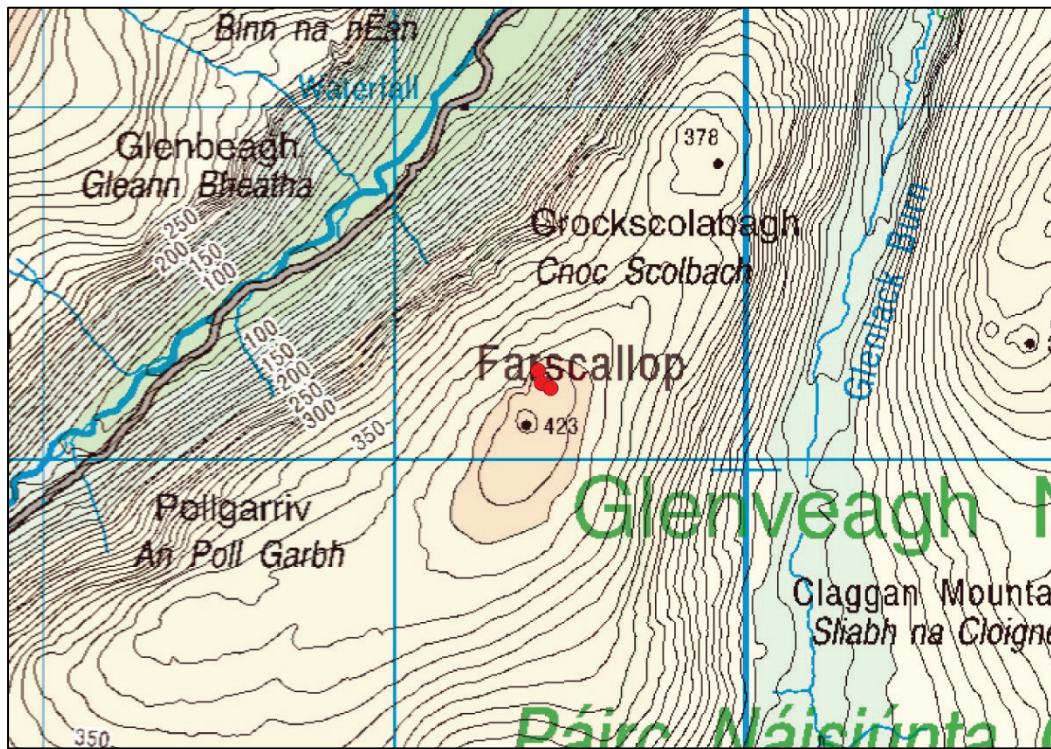


Figure 1: OSI Discovery Series map showing the locations of *G. concinnatum* (marked by red dots) on Farscallop (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).

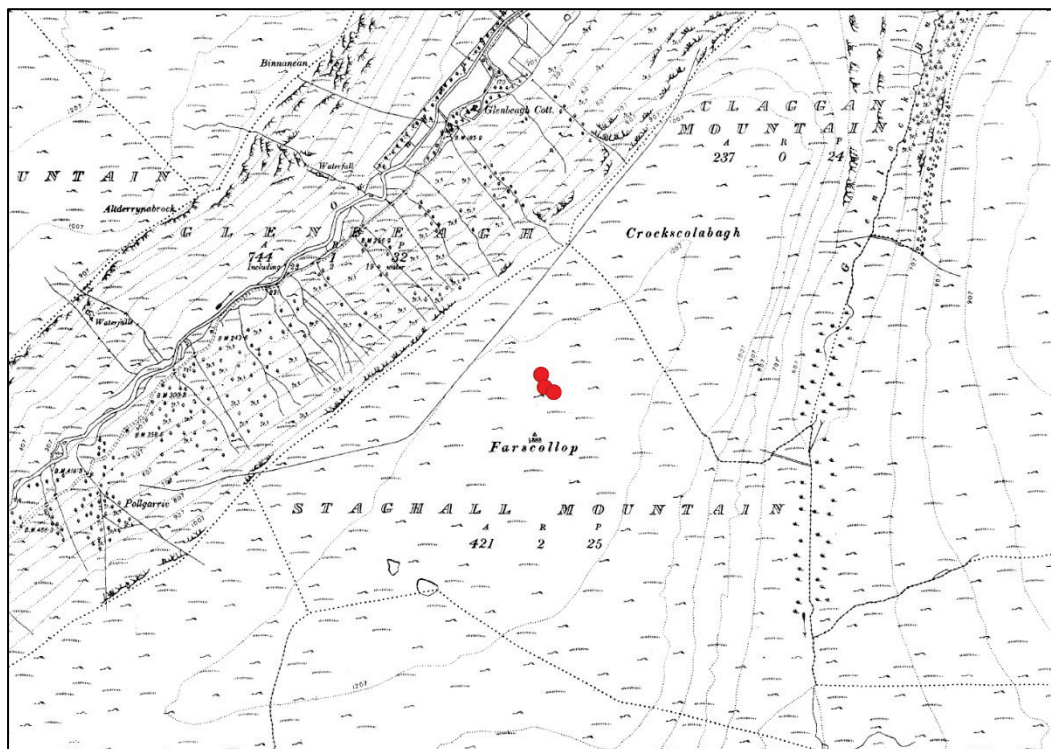


Figure 2: 6-inch map showing the locations of *G. concinnatum* (marked by red dots) on Farscallop (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 3: 1:5,000 map showing the locations of *G. concinnatum* (marked by red dots) on Farscallop (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).

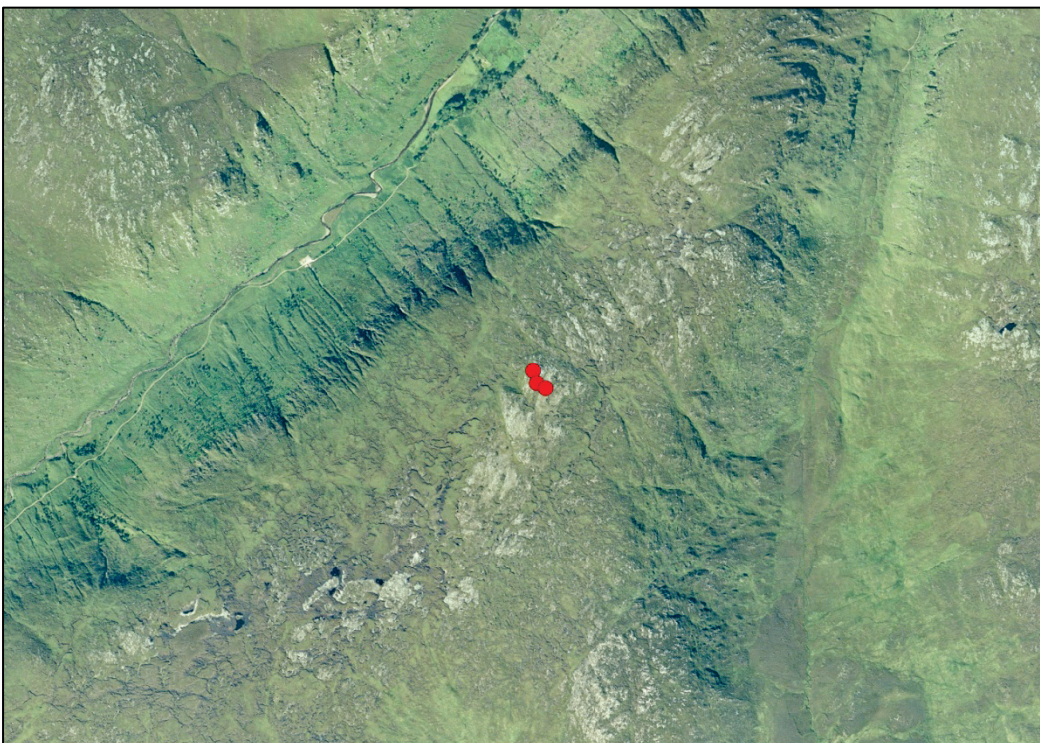


Figure 4: 2005 aerial photo showing the locations of *G. concinnatum* (marked by red dots) on Farscallop (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 5: Satellite image showing the locations of *G. concinnatum* (marked by red dots) on Farscallop (Basemap source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community).

## Management & Conservation

### General

- Overstocking in the uplands
- Climate change?

### Potential site-specific threats/issues

- None apparent

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

## *Gymnomitrium concinnatum* (Lightf.) Corda

Braided Frostwort

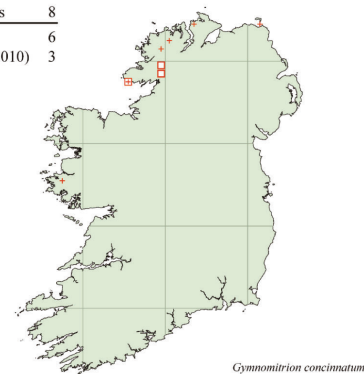
syn. *Acolea concinnata* (Lightf.) Dumort., *Cesia concinnata* (Lightf.) Lindb.,

*Gymnomitrium concinnatum* var. *intermedium* Limpr., *Jungermannia concinnata* Lightf.

**Status in Ireland:** Endangered (B1a, bi, ii, iv, B2a, bi, ii, iv); **Status in Europe:** Least Concern



Number of Hectads	8
+ Old (pre-1970)	6
Recent (1970–2010)	3



### Identification

This is a small cushion-forming, pale yellowish-green leafy liverwort, with the individual shoots up to 2 cm long and 0.5 mm wide. The leaves are transversely inserted, more or less oval, densely imbricate and notched (divided

to c.  $\frac{1}{10}$ – $\frac{1}{3}$ ), forming almost terete shoots in which individual leaves are often difficult to distinguish. The leaf lobes are acute, unlike the rounded leaf lobes of *G. obtusum*, a plant that can normally also be distinguished by its whitish colour. The cuticle is densely papillose.

**Distribution in Ireland**

Recent records are confined to four localities in W. Donegal: the summit ridge of the Lavagh Beg–Binnacally massif, Binnasruell and Meenaguse in the Blue Stack Mountains (2001, 2008) and Slieve League (1970). It apparently used to be more widespread, but has either been somewhat overlooked during recent fieldwork, or its range may have contracted. Accepted older records are from W. Galway (Muckanaght, 1933); E. Donegal (Bulbin Mountain, 1968); W. Donegal (Slieve Snaght, 1962; Glenveagh, 1962) and Antrim (Fair Head, 1951, 1964). Old records from Down (Slieve Donard, 1884–1928; Slieve Commedagh, 1884) are regarded as suspect until confirmed by checking voucher specimens.

**Ecology and biology**

This is a plant of exposed mountain rocks and peaty crusts among rocks, often on mountain summits and ridges, avoiding strongly base-rich substrata, but recorded on basalt at Fair Head. Associates in Ireland include *Gymnomitrium obtusum*, *Kiaeria blyttii*, *Marsupella adusta*, *M. sphacelata* and *M. sprucei*. Essentially upland, it is normally recorded at altitudes from c. 500–600 m in Ireland, with one record (Fair Head) from below 100 m.

Although dioicous, it is usually fertile and sporophytes are frequent. Gemmae are absent.

**World distribution**

In Europe, *G. concinnatum* is frequent in montane areas, but much more common in the north than in the south, being widespread in Fennoscandia (except Denmark), northern Russia (including Novaya Zemlya and Franz Josef Land), montane parts of C. and W. Europe (Alps, Carpathians, Pyrenees) and the Caucasus. It is *Near Threatened* in the Czech Republic. It is assigned to a Circumpolar Arctic-montane floristic element in Europe. Elsewhere, it has been recorded in Asia, N. and S. America and Greenland.

**Threats**

Climate change is perhaps the main threat to this species in Ireland: its range may have contracted northwards, and this will possibly continue. Overstocking in the uplands may also be a potential threat.

**Conservation**

Populations should be monitored. *G. concinnatum* is listed as a Northern Ireland Priority Species.

**Protected sites with recent records:** Meenaguse Scragh SAC; Slieve League SAC; **Unprotected sites with recent records:** Meenaguse.