

Flora Protection Order - bryophytes

Encalypta ciliata

Status: Critically Endangered; listed on the Flora Protection Order

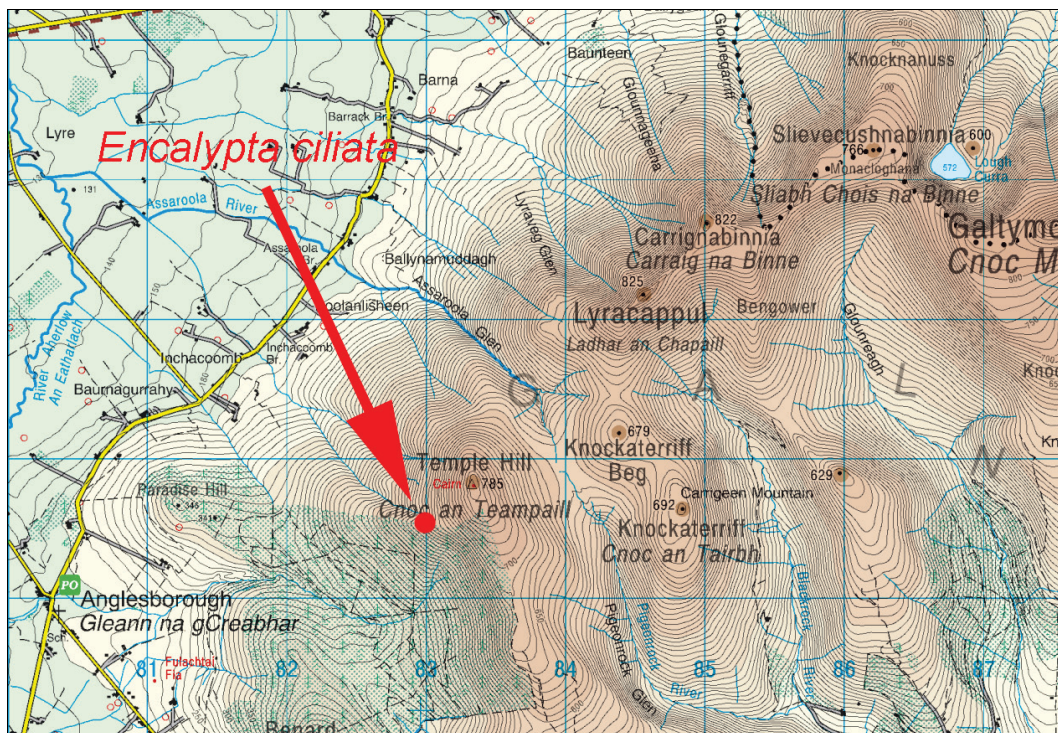
Location: Temple Hill, Co. Limerick

Species Records

Taxon	Vice County number	Taxon Site	Locality / habitat	Grid Reference	Date	Recorder	Protected site
<i>Encalypta ciliata</i>	08	01	Galtees; gully below Corrignabinnia	R82	1945.	Meikle, R.D.	SAC000646 ?
<i>Encalypta ciliata</i>	08	01	Paradise+Temple Hills	R82	1966.	Corley, M.F.V. & Parker, J.S.	SAC000646 ?
<i>Encalypta ciliata</i>	08	01	Galty Mountains, Temple Hill, Shanaghaun Rock	R83032153	2005.06.27	Hodgetts, N.G.	Not protected
<i>Encalypta ciliata</i>	08	01	Temple Hill; Shanaghaun Rock	R8303321526	2015.05.26	Rory Hodd	Not protected

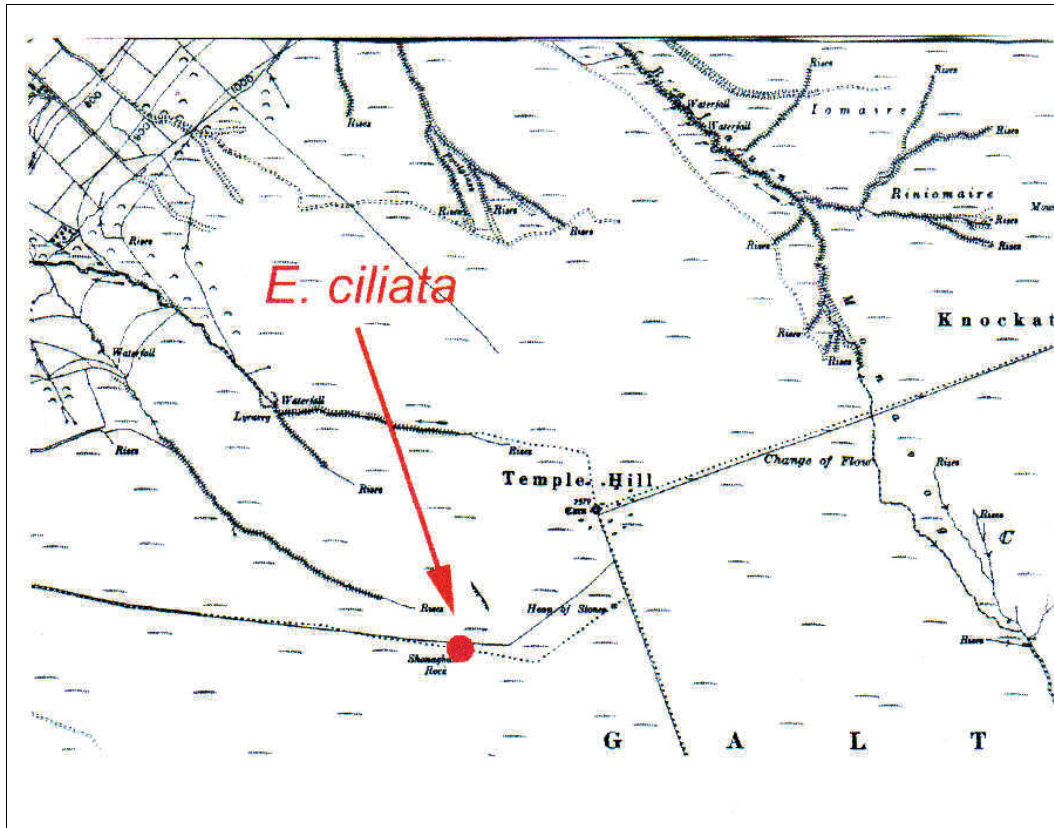
Although these four records are all treated as being from the same site, the information on the 1945 record suggests that it is probably from further to the north-east. It is not unlikely that *E. ciliata* could be found elsewhere on base-rich rocks in the Galty Mountains.

Location (1:50,000 Discovery map)



Ordnance Survey of Ireland Licence No EN 0059214
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Location (6" map) - Rare and Threatened Bryophyte Survey 2005



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Field Data Sheet – Rare and Threatened Bryophyte Survey 2005

2005-138

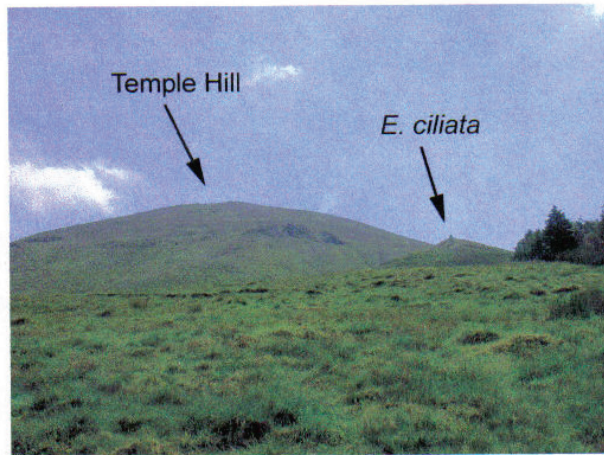
Species <i>Encalypta ciliata</i>		Vice-county number H8		Vice-county Limerick
Locality Galty Mountains, Temple Hill, Shanaghaun Rock		Land Owner/Occupier		cSAC/pNHA? no
Grid Ref. R83032153	GPS? Yes	alt. (m) 640	Date d/m/y 27/6/05	Recorder Nick Hodgetts
Sketch Map of site showing Location of Species: indicate North (arrow) and scale			Describe substrate(s), e.g. rock/soil/tree type; wet/moist/dry, sunny/shaded habitat features e.g. aspect, slope, vegetation cover/height	
			Relatively sheltered declivity in prominent exposed rock pinnacle on middle-altitude slopes.	
Size of population Scattered shoots in an area of ca. 8 x 4 cm		Sporophytes present (stage) Yes, immature.		
Locality Map (1:50 000 if possible)		Associated species		
		<ul style="list-style-type: none"> <i>Ctenidium molluscum</i> <i>Tortella tortuosa</i> <i>Isoetecium myosyruoides</i> var. <i>brachythecioides</i> <i>Bryum capillare</i> <i>Schistidium strictum</i> <i>Anomobryum julaceum</i> var. <i>concinatum</i> <i>Lejeunea lamacerina</i> 		
Photographs Yes		Threats and proposed Conservation Measures Site immediately threatened: No		
New record at this site/older record refound		The population is so small that it must be vulnerable to chance catastrophes. Note this is not within the pcSAC & pNHA.		
Voucher specimen no. Hodgetts 6134				

Aerial photograph

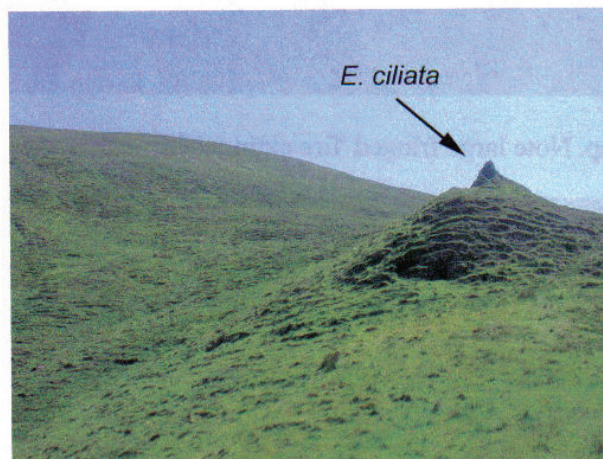
No aerial photograph available.

Site photographs – Rare and Threatened Bryophyte Survey 2005

1. Position of *E. ciliata*, from road near Anglesborough.



2. Position of *E. ciliata* - Shanaghaun Rock from below.



3. Position of *E. ciliata* on north side of Shanaghaun Rock.



4. *E. ciliata* colony on north side of Shanaghaun Rock.



5. *E. ciliata* close-up. Note large fringed 'fire extinguisher' calyptrae.



Field Data Sheet – Survey of FPO Bryophytes 2015

Species <i>Encalypta ciliata</i>	County Limerick	6" Map Li058	Discovery Map 74
Locality/ Site name Shanaghaun Rock, Temple Hill	Vice-county (No.) H8	SAC/NHA -	
Grid ref (GPS, National Grid) R8303321526(±4)	2005 Aerial Photo 5420-D	Recorder(s) R.L. Hodd	
Elevation (m) 645	Solid geology Conglomerate	Survey date 26/05/2015	
Site description	Isolated rock outcrop, ca. 3m high, on steep ridge on broad slope west of the summit of Temple Hill.		
Population description	11 patches, each consisting of ca. 5-10 shoots, 9 of which are fruiting, on southwest side of rock, scattered over area of ca. 3x3m, another large, non-fruiting patch, consisting of 100s of stems, on N-facing side of rock, in recess.		
Associated species	Growing with <i>Festuca rubra</i> , <i>Anthoxanthum odoratum</i> , <i>Amphidium mougeotii</i> , <i>Tortella tortuosa</i> , <i>Schistidium strictum</i> , <i>Pogonatum urnigerum</i> , <i>Tritomaria quinquedentata</i> , <i>Isothecium myosuroides</i> var. <i>brachythecioides</i> , <i>Ctenidium molluscum</i> and <i>Racomitrium lanuginosum</i> .		
Vegetation (after Fossit, 2000)	ER2 Exposed calcareous rock		
Current management	The surrounding slopes are heavily grazed, but there is no management directly affecting the species.		
Threats	This site is potentially threatened by afforestation, as it is within 200m of the top of the nearby forestry plantation.		
Conservation measures	The boundary of the Galtee Mountains SAC should be extended to include this site, and any plans to extend the nearby forestry should be stopped.		
Ownership	This site is likely to be commonage.		
Access	Access is by following forestry tracks from the forest entrance near Benard, until the edge of the forest is reached, and climbing up steep grassy slopes. The pinnacle on which <i>E. ciliata</i> grows is easily located in clear conditions.		
Other remarks			

GPS readings for the species

National Grid Letter	Easting	Northing	Comments

Synonymous habitat/vegetation types :

First record and other comments:

First recorded on the Galtees, below Carrignabinnia, in 1945 by R.D. Meikle, and on Temple Hill by M.F.V. Corley and J.S. Parker in 1966. Refound at this location by N.G. Hodgetts in 2005.

References: Hodd, R.L. 2015. *Survey of Flora Protection Order Bryophytes 2015*. Unpublished report to National Parks and Wildlife Service. Dublin.

Hodgetts, N.G. 2005. *Survey of Rare and Threatened Bryophytes in Cos. Limerick and Tipperary*. Unpublished report to National Parks and Wildlife Service, Dublin.

Photographs:



Photograph 1: Shanaghaun Rock, marked by red arrow, as viewed from nearby forest track.



Photograph 2: View of Shanaghaun Rock from below, with location of *E. ciliata* population indicated by red arrow.



Photograph 3: Habitat of *E. ciliata* on conglomerate rockface of pinnacle.



Photograph 4: Healthily fruiting patch of *E. ciliata* on Shanaghaun rock.

Maps and Aerial Photographs:

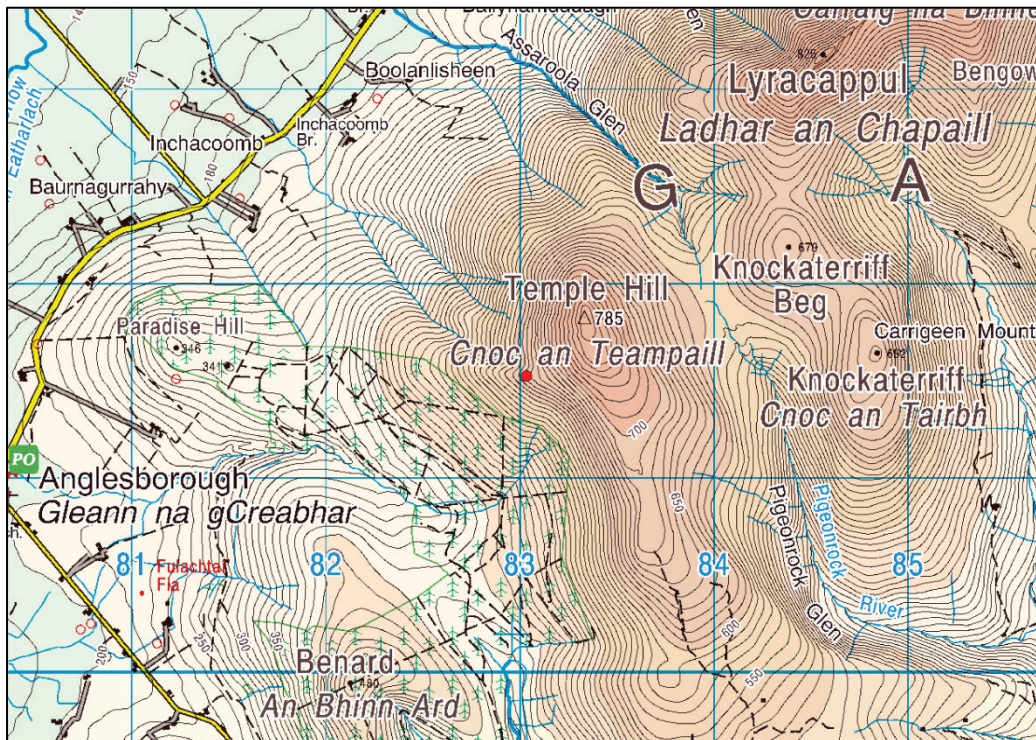


Figure 1: OSI Discovery Series map showing the location of *E. ciliata* (marked by red dot) at Shanaghau Rock, Temple Hill (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).

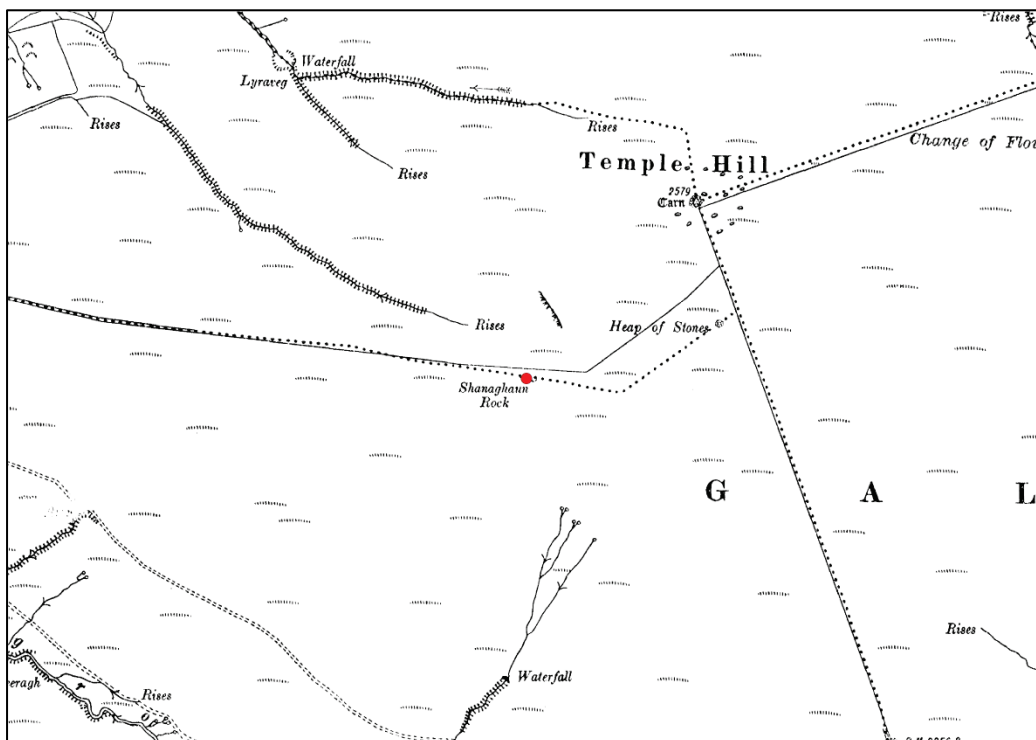


Figure 2: 6-inch map showing the location of *E. ciliata* (marked by red dot) at Shanaghau Rock, Temple Hill (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).

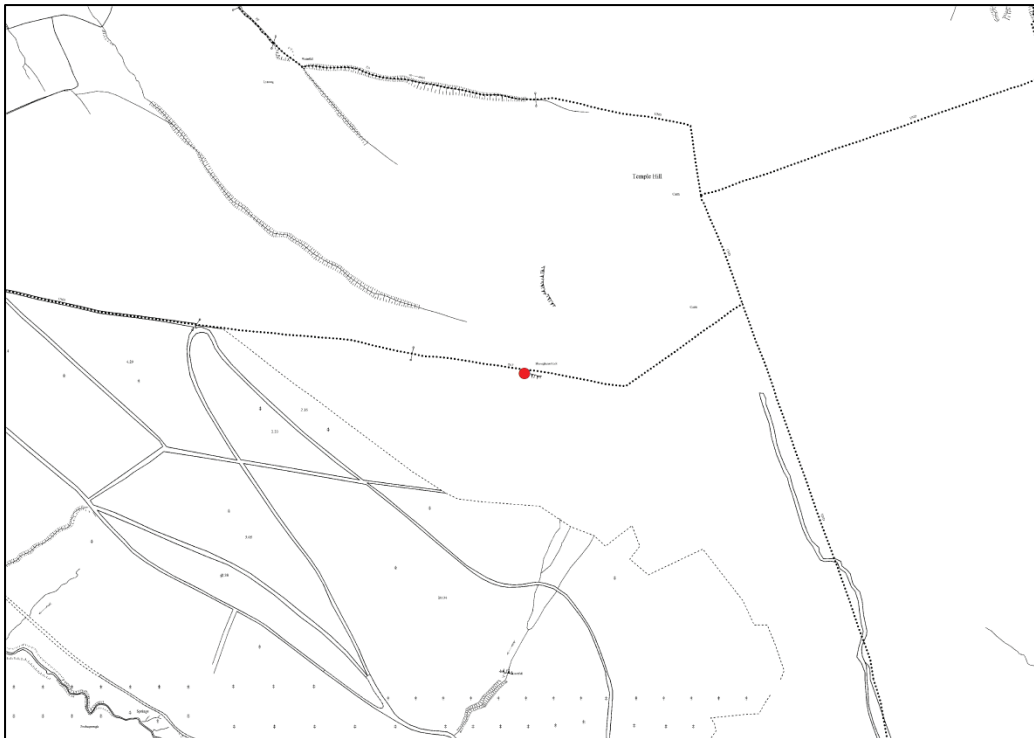


Figure 3: 1:5,000 map showing the location of *E. ciliata* (marked by red dot) at Shanaghaun Rock, Temple Hill (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 4: 2005 aerial photo showing the location of *E. ciliata* (marked by red dot) at Shanaghaun Rock, Temple Hill (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).

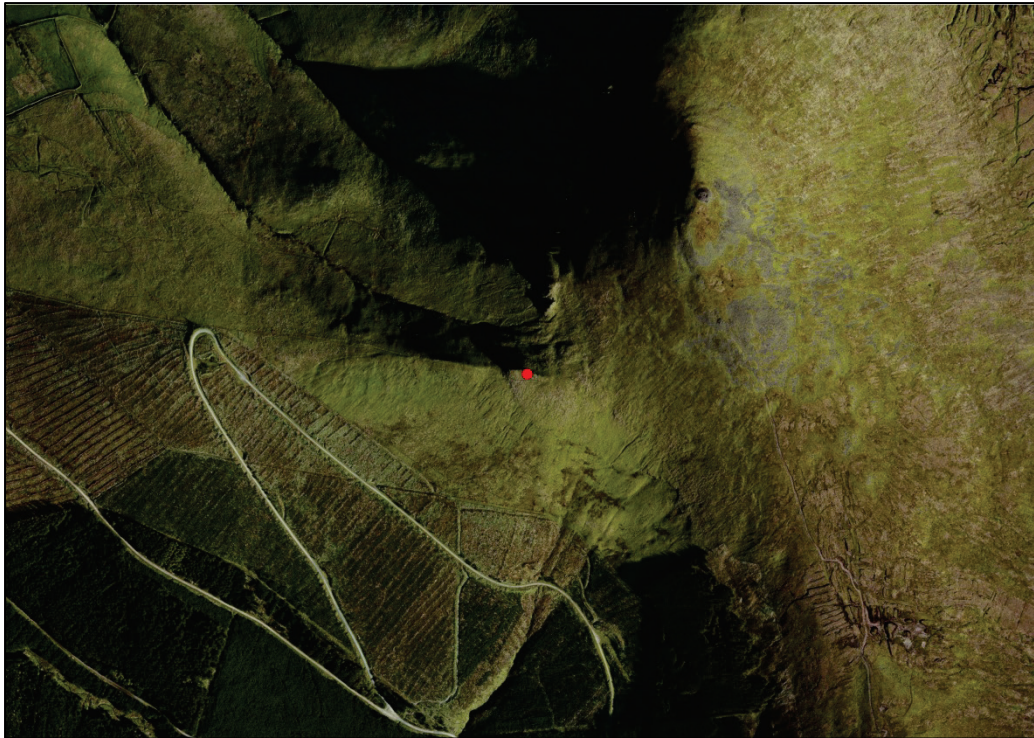


Figure 5: Satellite image showing the location of *E. ciliata* (marked by red dot) at Shanaghaun Rock, Temple Hill (Basemap source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community).

Management & Conservation

General

- Afforestation
- Over-stocking leading to nutrient enrichment and growth of rank vegetation

Potential site-specific threats/issues

- This site is so small that it must be vulnerable to chance catastrophes
- Afforestation
- The boundary of the Galtee Mountains SAC should be extended to include this site, and any plans to extend the nearby forestry should be stopped.

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

Mosses

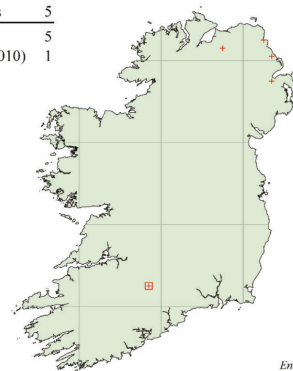
Encalypta ciliata Hedw.

Fringed Extinguisher-moss

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



Number of Hectads	5
+ Old (pre-1970)	5
□ Recent (1970-2010)	1



Encalypta ciliata

Identification

E. ciliata is an acrocarpous moss with broad (lingulate-spathulate), opaque green leaves and a calyptra that covers the entire capsule, a characteristic of the genus. Shoots grow up to 5 cm tall but are usually much less; the leaves are up to 3.5 mm long and lack a hyaline hair-point. The capsules are smooth when moist, not ribbed, and the spores are smooth or ridged, but not papillose. The main feature that distinguishes *E. ciliata* from other

species of the genus in Ireland is the fringed base to the calyptra, and (less importantly) its smooth apex.

Distribution in Ireland

This is a very rare species in Ireland, currently known to occur at only one site, on Temple Hill in the Galty Mountains, Limerick, where it was discovered in 1945 and was still present in 2005. Older records are from Antrim (Lurigethan, pre-1879; Agnew's Hill, pre-1879;

RARE AND THREATENED BRYOPHYTES OF IRELAND

Sallagh Braes, 1873–1938; Cave Hill, pre-1825; Squire's Hill, 1895) and Londonderry (Benbradagh, 1834–1950). Of these, only the record from Sallagh Braes is supported by a specimen, although the species is unlikely to be misidentified.

Ecology and biology

This is a moss of base-rich rock crevices at moderate to high altitudes. At its only currently known site in Ireland, *E. ciliata* grows as a patch of scattered shoots in an area of about 8 × 4 cm in a relatively sheltered declivity in a prominent exposed rock pinnacle on mid-altitude slopes (640 m). Associated species include *Ctenidium molluscum*, *Tortella tortuosa*, *Isoetes myosuroides* var. *brachythecioides*, *Bryum capillare*, *Schistidium strictum*, *Anomobryum concinatum* and *Lejeunea lamacerina*.

Capsules are produced in abundance in this autoicous species. Specialised vegetative reproductive organs are unknown.

World distribution

E. ciliata is frequent in northern parts of Europe, including Fennoscandia and arctic Russia, becoming rarer in the lowlands further south but remaining generally frequent in the mountains. It is listed as *Nationally Scarce* in Britain, *Critically Endangered* in Luxembourg, *Endangered* in Germany, *Vulnerable* in Serbia and Montenegro, *Near Threatened* in the Czech Republic and 'very rare' in Estonia. In Europe, it is assigned to a Circumpolar

Boreal-montane floristic element. It has a northern and montane distribution pattern in Asia and N. America and also occurs in Mexico, the West Indies, S. America, Papua New Guinea and the African mountains; it is also reported in Australia (Victoria: Streimann & Klazenga 2002) and New Zealand (Hill *et al.* 1992).

Threats

The single site for this plant in Ireland is on a rock pinnacle that is relatively prominent in the landscape, on steep sheep-grazed slopes. Although apparently fairly secure, it does not currently receive any form of protection (it is just outside the Galtee Mountains SAC), so may be vulnerable to afforestation of the hillside. Any significant nutrient enrichment might encourage the growth of rank vegetation.

Conservation

The site should be monitored regularly to ensure that the rock pinnacle remains more or less undisturbed. Consideration should be given to extending the boundary of the Galtee Mountains SAC, specifically to include the habitat for this species. Particular vigilance will be necessary to be on the alert for any forestry proposals.

Protected sites with recent records: none; **Unprotected sites with recent records:** Temple Hill, Galty Mountains (just outside Galtee Mountains SAC).