

Flora Protection Order - bryophytes

Radula holtii

Status: Near Threatened; listed on the Flora Protection Order

Location: Ben Gorm, Co. Mayo

Species Records

Taxon	Vice County number	Taxon Site	Locality / habitat	Grid Reference	Date	Recorder	Protected site
<i>Radula holtii</i>	27	13	Ben Gorm; Skirragohiffern N side of	L86	1901.	Letts, Rev. H.W.	SAC001932
<i>Radula holtii</i>	27	13	Ben Gorm, roadside & streams	L86	1970.	Paton, J.A.	SAC001932
<i>Radula holtii</i>	27	13	Ben Gorm, ravine on N	L86	1987.	Long, D.G.	SAC001932
<i>Radula holtii</i>	27	13	Ben Gorm, ravine on S side	L8663	1987.	Long, D.G.	SAC001932
<i>Radula holtii</i>	27	13	Ben Gorm; Skirragohiffern	L8693263067	2015.06.26	Rory Hodd	SAC001932
<i>Radula holtii</i>	27	13	Ben Gorm; Skirragohiffern	L8690263118	2015.06.26	Rory Hodd	SAC001932
<i>Radula holtii</i>	27	13	Ben Gorm; Skirragohiffern	L8689663130	2015.06.26	Rory Hodd	SAC001932
<i>Radula holtii</i>	27	13	Ben Gorm; Skirragohiffern	L8686063171	2015.06.26	Rory Hodd	SAC001932

The grid square specified in the second 1987 record is shown on the Discovery map below, but the first record suggests that *R. holtii* may also occur elsewhere on the hill.

Location (1:50,000 Discovery map)



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Field Data Sheet – Survey of FPO Bryophytes 2015

Species <i>Radula holtii</i>	County Mayo	6" Map Ma115	Discovery Map 37
Locality/ Site name Skirragohiffern, Ben Gorm	Vice-county (No.) H27	SAC/NHA 001932 Mweelrea/Sheefry/Erriff Complex SAC	
Grid ref (GPS, National Grid) (i) L8693263067(±3)	2005 Aerial Photo 2525-D	Recorder(s) R.L. Hodd	
Elevation (m) 15	Solid geology Sandstone	Survey date 26/06/2015	
Site description	This site consists of a deep, steep-sided wooded rocky ravine incised through the slopes of Ben Gorm, above Killary Harbour.		
Population description	Growing in a few location on the undersides of boulders by and in the flow of the stream, and on a damp rockface above the stream (at (ii)), as medium sized pure patches projecting out from the substrate. Occasional perianths are present.		
Associated species	Growing with <i>Jubula hutchinsiae</i> and <i>Scapania undulata</i> .		
Vegetation (after Fossit, 2000)	ER1 Exposed siliceous rock/ER3 Siliceous loose rock		
Current management	The surrounding slopes are grazed by sheep, some of which have ventured into the ravine.		
Threats	Minor threats from eutrophication and erosion due to grazing. Any potential hydro schemes or water abstraction would also be a threat, but would be unlikely to take place. Clearance of the shading woodland would also be detrimental. A small amount of <i>Gunnera tinctoria</i> was noted in the vicinity, expansion could be detrimental to <i>R. holtii</i> .		
Conservation measures	Removal of <i>Gunnera tinctoria</i> in the vicinity would be beneficial, and removal of trees should be avoided.		
Ownership	Located on commonage.		
Access	There is a large layby located at the base of ravine from where there is easy access.		

GPS readings for the species

National Grid Letter	Easting	Northing	Comments
L	86902	63118	(±4) (ii) 40m alt.
L	86896	63130	(±4) (iii) 45m alt.
L	86860	63171	(±8) (iv) 60m alt.

Synonymous habitat/vegetation types :

First record and other comments:

R. holtii was first recorded at this site by H.W. Lett in 1901, and subsequently by J.A. Paton in 1970 and D.G. Long in 1987.

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

Photographs:



Photograph 1: Ravine in which populations of *Radula holtii* grow, as viewed from parking area on the shores of Killary Harbour.



Photograph 2: Habitat of population (i) of *R. holtii* in dark recess under ricks behind a small waterfall.



Photograph 3: Location of population (ii) of *R. holtii*, where it grows under a number of rocks and on a humid rockface.



Photograph 4: Rockface, at location (ii), on which a number of strong populations of *R. holtii* grow.

Maps and Aerial Photographs:



Figure 1: OSI Discovery Series map showing the locations of *R. holtii* (marked by red dots) at Skirragohiffern, Ben Gorm (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).

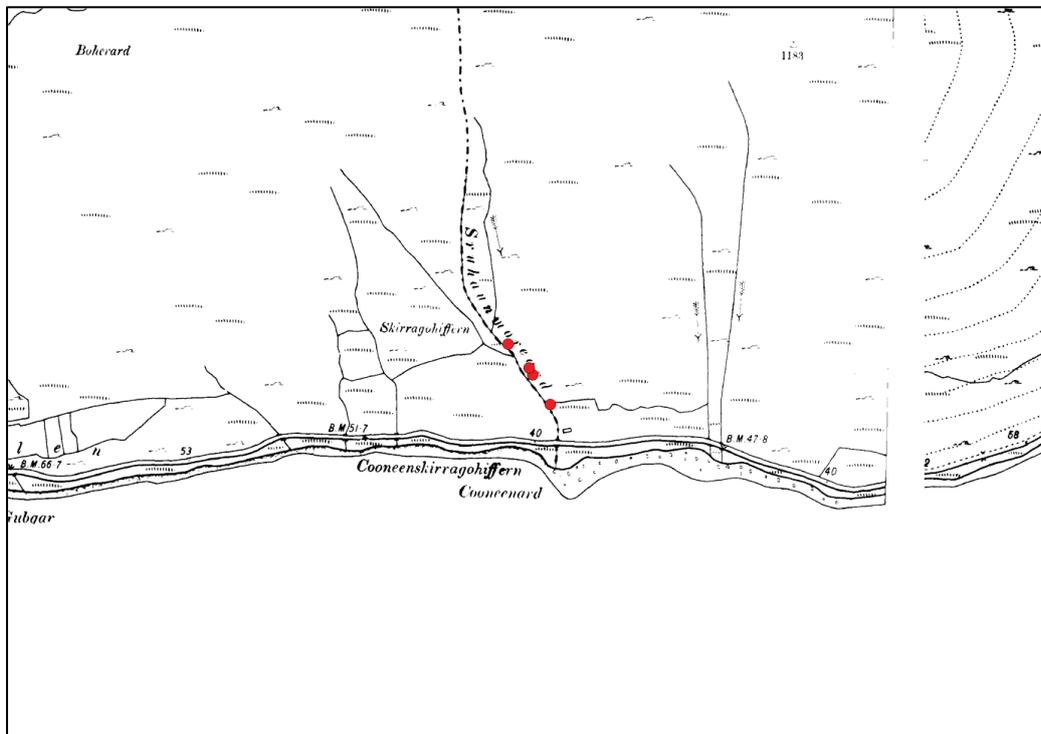


Figure 2: 6-inch map showing the locations of *R. holtii* (marked by red dots) at Skirragohiffern, Ben Gorm (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 3: 1:5,000 map showing the locations of *R. holtii* (marked by red dots) at Skirragohiffern, Ben Gorm (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).

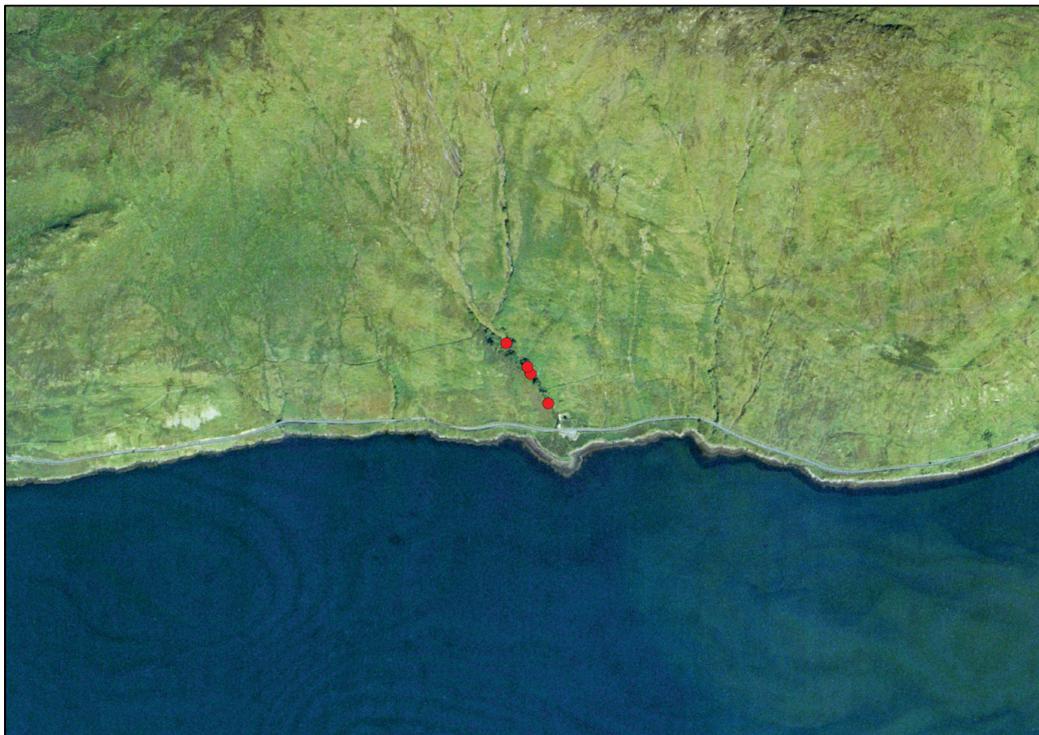


Figure 4: 2005 aerial photo showing the locations of *R. holtii* (marked by red dots) at Skirragohiffern, Ben Gorm (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 5: Satellite image showing the locations of *R. holtii* (marked by red dots) at Skirragohiffern, Ben Gorm (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

- Water abstraction for hydroelectric schemes could endanger this species at some sites
- New survey needed at many older sites, as this species was not targeted specifically during recent fieldwork

Potential site-specific threats/issues

- Minor threats from eutrophication and erosion due to grazing.
- Any potential hydro schemes or water abstraction would also be a threat, but would be unlikely to take place.
- Clearance of the shading woodland would also be detrimental.
- A small amount of *Gunnera tinctoria* was noted in the vicinity, expansion could be detrimental to *R. holtii*. Removal of *Gunnera tinctoria* in the vicinity would be beneficial.

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

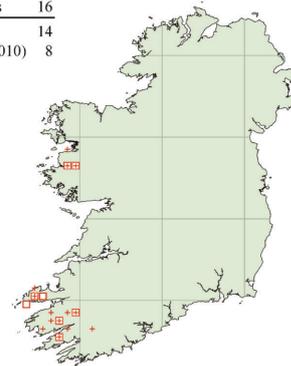
Radula holtii Spruce

Holt's Scalegwort

Status in Ireland: Near Threatened; **Status in Europe:** Rare



Number of Hectads	16
+ Old (pre-1970)	14
□ Recent (1970–2010)	8



Radula holtii

Identification

Like all species of *Radula*, *R. holtii* is a rather fleshy leafy liverwort with a rounded leaf lobe much larger than the almost square lobule beneath, and no underleaves. It is yellowish-green in colour and the shoots grow up to c. 2 cm long and 1.8 mm wide. Although superficially similar to the much more common *R. complanata* and *R. lindenbergiana*, the antical leaf margin of *R. holtii* does not cross the stem, and gemmae are very rare, whereas they are very common in the other two species. Furthermore, the perianths are characteristically trumpet-shaped, with a narrow base and a wide mouth; the other two species have oblong perianths. Finally, the cell walls of the stem medulla are thin-walled rather than collenchymatous.

Distribution in Ireland

R. holtii is confined to the extreme west and south-west, with recent records from 11 localities in four vice-counties: S. Kerry (Brandon Mountain, 1961–2008; Lough Anscaul, 2006; Loch an Duin, 2006; An Loch Dubh, Ballysitteragh, 2006; Mount Eagle, 2006; Ballaghbeama Gap, 1967–1983); N. Kerry (Muckcross-Ross Island, 1905–1983; Torc Cascade, 1885–2005); W. Cork (Glenbeg Lough and Lackawee, 1955–1979) and W. Mayo (Ben Gorm, 1901–1987; Devil's Mother, 1901–1987). There are older records from a further 11 localities in: S. Kerry (Lough Currane, 1967; Lough Coomeathcun, 1951; Coomasaharn, 1961; Inchiquin

Lough, 1967; Uragh Wood, 1967; Cummeenduff Glen, 1967; O'Sullivan's Cascade, 1912–1935); N. Kerry (Eagle's Nest, 1911–1925; Derrycunihy Wood, 1967); W. Cork (Pass of Keimaneigh, 1967) and W. Mayo (Old Head Wood, 1901–1909). It is not clear whether there has actually been a decline in the species, since *R. holtii* was not on the original list of target species for recent fieldwork and little effort has therefore been made to re-find it at old localities. This plant is described as Southern Atlantic by Ratcliffe (1968).

Ecology and biology

R. holtii is a hyperoceanic species that grows in shade, usually deep shade, on wet rocks in ravines, woodland, by lakes, in small caves or under overhangs, usually by streams and waterfalls, especially where permanently wet from spray. It is a lowland plant, recorded in Ireland from near sea level to c. 330 m. Associates include *Jubula hutchinsiae*, *Lejeunea* spp., *Plagiochila exigua*, *Porella pinnata*, other *Radula* spp., *Trichostomum hibernicum* and *Trichomanes speciosum*.

Paroicous and often fertile, sporophytes are frequent in this species. Gemmae are very rare.

World distribution

This plant is recorded from the Azores, Madeira and the Canary Islands, where it is not on any list of rare or threatened species, and also from Spain and Portugal, in

Hornworts and Liverworts

both of which it is listed as *Vulnerable*. It is absent from Britain. It is classified as a Holarctic Southern-temperate floristic element and is apparently endemic to Europe and Macaronesia.

Threats

There are probably few real threats to *R. holtii*, but water abstraction for hydroelectric schemes could endanger this species at some sites.

Conservation

This species has a very restricted distribution and the

Irish populations are of global importance for conservation. Efforts should be made to target this species for resurvey, in particular the many localities described from the 1960s. Populations at the more important sites should be monitored.

Protected sites with recent records: Glanmore Bog SAC; Killarney National Park; Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC; Maumtrasna Mountain Complex pNHA; Mount Brandon SAC; Mweelrea/Sheeffry/Erriff Complex SAC;

Unprotected sites with recent records: Mount Eagle.