

Flora Protection Order - bryophytes

Lejeunea mandonii

Status: Endangered; listed on the Flora Protection Order

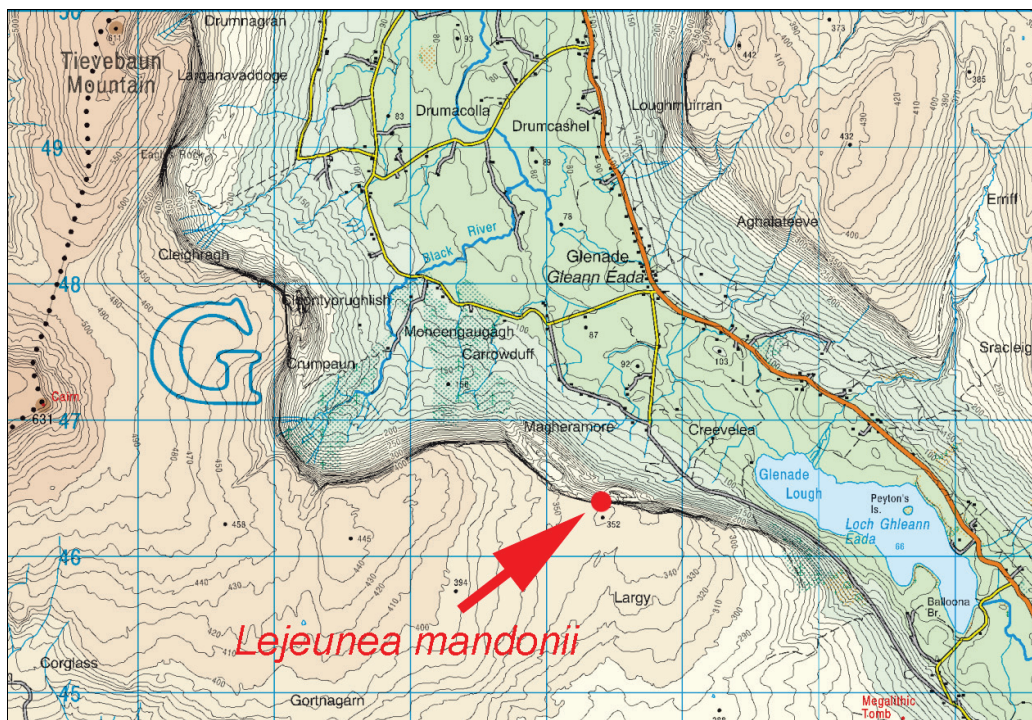
Location: Peakadaw, Co. Leitrim

Species Records

Taxon	Vice County number	Taxon Site	Locality / habitat	Grid Reference	Date	Recorder	Protected site
<i>Lejeunea mandonii</i>	29	03	Peakadaw, Glenade, with Cololejeunea rossettiana, shaded limestone rock crevices at 900 ft alt.	G84	1963.	Fitzgerald, J.W. & Perry, A.R.	SAC000623
<i>Lejeunea mandonii</i>	29	03	Glenade, 8km SSW of Kinlough; Peakadaw	G84	1963.07.	Fitzgerald, Fitzgerald & Perry, A.R.	SAC000623
<i>Lejeunea mandonii</i>	29	03	Peakadaw	G84	1965.	Fitzgerald, J.W.	SAC000623
<i>Lejeunea mandonii</i>	29	03	Peakadaw; landslip facing main cliffs	G84	1967.	Birks, H.J.B. & Ratcliffe, D.A.	SAC000623
<i>Lejeunea mandonii</i>	29	03	Peakadaw	G84	1969.	Paton, J.A.	SAC000623
<i>Lejeunea mandonii</i>	29	03	Peakadaw: small ledges in crevices on S.-facing limestone crag at base of and shaded by large N.-facing crag	G804464	2000.07.21	Holyoak, D.T.	SAC000623
<i>Lejeunea mandonii</i>	29	03	Peakadaw, Magheramore	G8044046440	2016.12.07	Rory Hodd	SAC000623

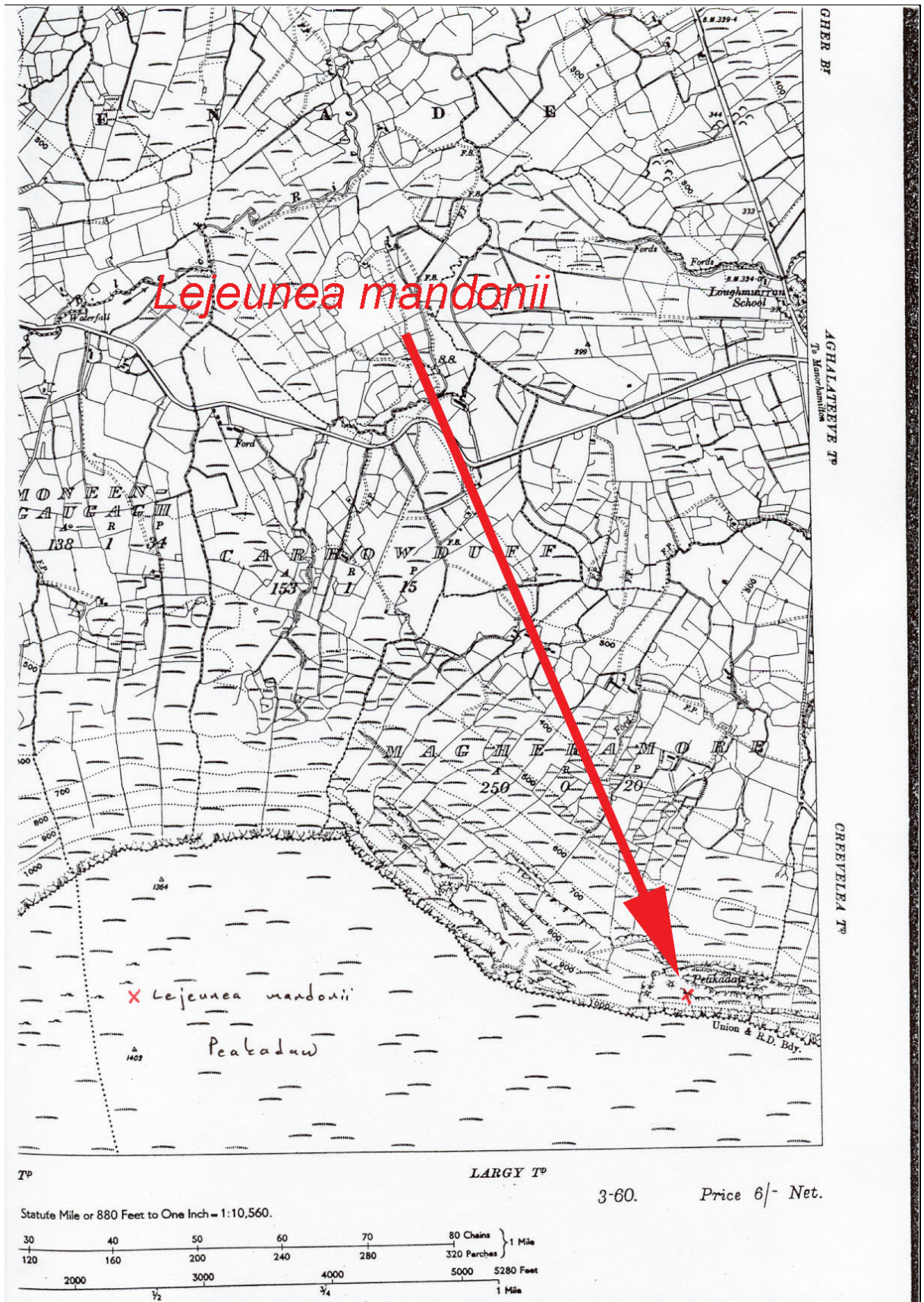
The 1963 records are probably essentially duplicates.

Location (1:50,000 Discovery map)



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Location (6" map) - Rare and Threatened Bryophyte Survey 2000



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Field Data Sheet - Rare and Threatened Bryophyte Survey 2000

<p><u>Lejeunea mandonii</u></p> <p>Peakadaw</p>		<p>Vice-County Number: <u>429</u> Vice-County: <u>Co. Leitrim</u></p> <p>Land Owner/Occupier: _____</p>
<p>Grid Ref: <u>G 804 464</u></p>	<p>Area (Ha): _____ Date: <u>21/7/00</u></p>	<p>Recorder: <u>D.T. Holyoak</u></p>
<p>Sketch Map of Site Showing Location of Species</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> </div> <div style="width: 35%; text-align: right;"> <p>Indicate North</p> <p>↑</p> <p><u>L. mandonii</u>: on small ledges at E. side of large crevice in S.-facing limestone crag and in oblique fissure 1m to east; all at base of and shaded by large north-facing crag</p> <p>ca 290 m a.s.</p> </div> </div> <p style="text-align: center;">photograph : 19 shows site</p>		
<p>Size of Population</p>	<p>ledge 1.5m up has several patches totalling ca. 70cm², with more on steeper shaded surfaces behind and more in oblique fissure; presence of larger <u>Lejeunea</u> sp. prevents detailed estimates</p>	
<p>Locality Map (1:50,000)</p> <p>abstract of sheet 16 on following page</p>	<p>Associated Species</p> <p>Mainly growing directly on limestone rock (near-horiz. to near-vertical), close to much <u>Lejeunea ?lanceolata</u>. Also present close by were weak growths of <u>Thamnobryum alopecurum</u> and <u>Pleurophyllum interruptum</u> and scattered stems of <u>Marchesia macZarii</u>. Less shaded rock nearer entrance to crevice had <u>Ctenidium molluscum</u> and <u>Marium Thomsonii</u>.</p>	
<p>Other Data</p> <p>Voucher: <u>DTH 00-450^v</u></p> <p>species first recorded at Peakadaw 1963-5; older records may include some from another location as <u>Mniocella</u> was found as associate then but not now.</p>	<p>Threats and Proposed Conservation Measures</p> <p>small population here is potentially at risk from specimen collecting, or overgrowth by other bryophytes, or accidents</p>	

Aerial photograph - Rare and Threatened Bryophyte Survey 2000



Site photograph – Rare and Threatened Bryophyte Survey 2000



Field Data Sheet – Survey of FPO Bryophytes 2016

Species <i>Lejeunea mandonii</i>	County Leitrim	6" Map le003d	Discovery Map 16
Locality/ Site name Peakadaw, Magheramore	Vice-county (No.) H29	SAC/NHA 000623 Ben Bulben, Gleniff And Glenade Complex SAC	
Grid ref (GPS, National Grid) G8044046440 (estimate from map as GPS position poor)	2005 Aerial Photo 0810-C	Recorder(s) R.L. Hodd	
Elevation (m) 260	Solid geology Dark fine-grained cherty limestone	Survey date 07/12/2016	
Site description	Rocky hidden valley behind a series of small calcareous pinnacles and rocky outcrops, at base of sheer north-facing cliff.		
Population description	Scattered patches in large crevice of low south-facing rockface facing main cliff, small patches of not more than 1 x 1cm scattered across small ledge of crevice over area of ca. 50 x 50cm.		
Associated species	Most patches epiphytic on <i>Thamnobryum alopecurum</i> , with <i>Cololejeunea rossettiana</i> , <i>Pedinophyllum interruptum</i> , <i>Lejeunea lamacerina</i> and <i>Heterocaldium heteropterum</i> var. <i>flaccidum</i> intermixed.		
Vegetation	ER2 Exposed calcareous rock		
Current management	The surrounding slopes are intensively grazed by sheep.		
Threats	Few impacts are likely to this population, due to its inaccessible location on rockface, although random rockfall or erosion could destroy these populations.		
Conservation measures	-		
Ownership	Possibly commonage		
Access	Can be reached from small road that runs to the south of Glencar Lough, with ample parking in a small area of forestry to south, from where it is possible to contour across steep grassy slopes below the cliffs.		
Other remarks	The population seems to be smaller than when it was described by D.T. Holyoak from this crevice in 2000, although no changes in conditions are apparent. Conditions were very wet when site was visited on this occasion, so that it was difficult to determine the details of many patches of bryophyte, meaning some patches may have been overlooked.		

First record and other comments:

First recorded at this site by J.W. Fitzgerald *et al.* in 1963, and in the same precise location by D.T. Holyoak in 2000.

References:

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

Holyoak, D.T. 2000. *Survey of Rare and Threatened Bryophytes in Co. Leitrim*. Unpublished report to National Parks and Wildlife Service, Dublin.

Photographs:



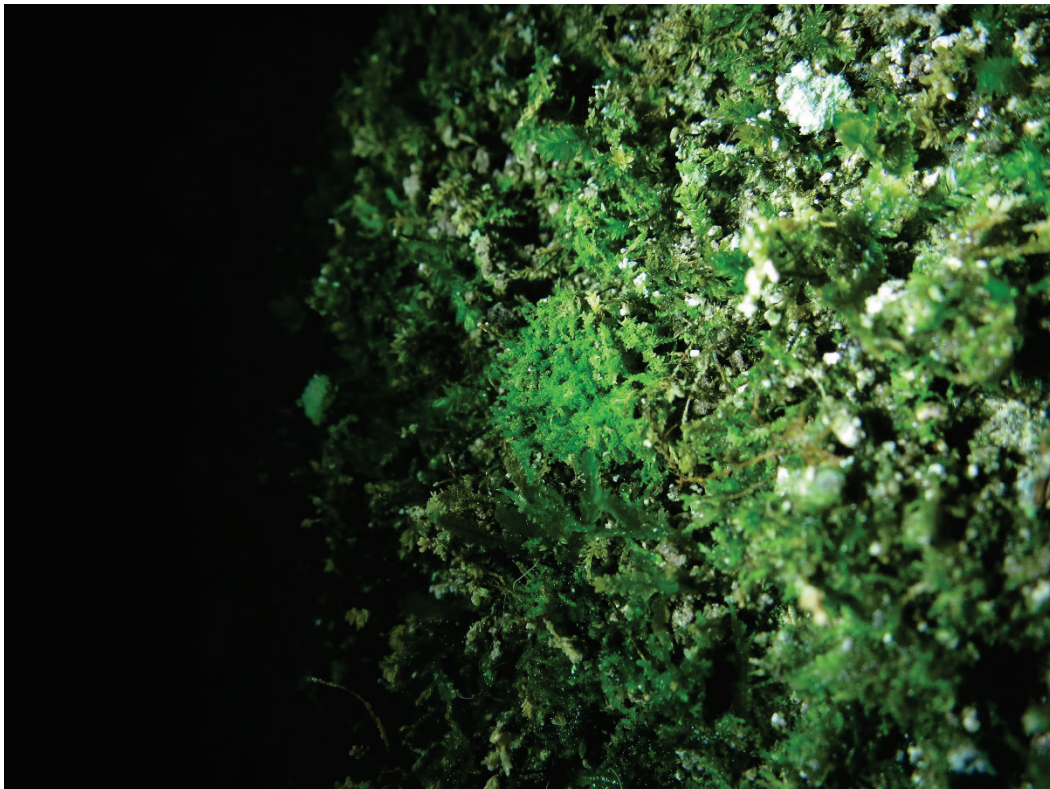
Photograph 1: View of the pinnacles at Peakadaw, with location of *L. mandonii* marked by red arrow.



Photograph 2: Habitat of *L. mandonii*, the crevice within which it grows indicated by red arrow.



Photograph 3: Crevice within which scattered patches of *L. mandonii* grow.



Photograph 4: Small patch of *L. mandonii* on wall of crevice amongst and on other bryophytes.

Maps and Aerial Photographs:

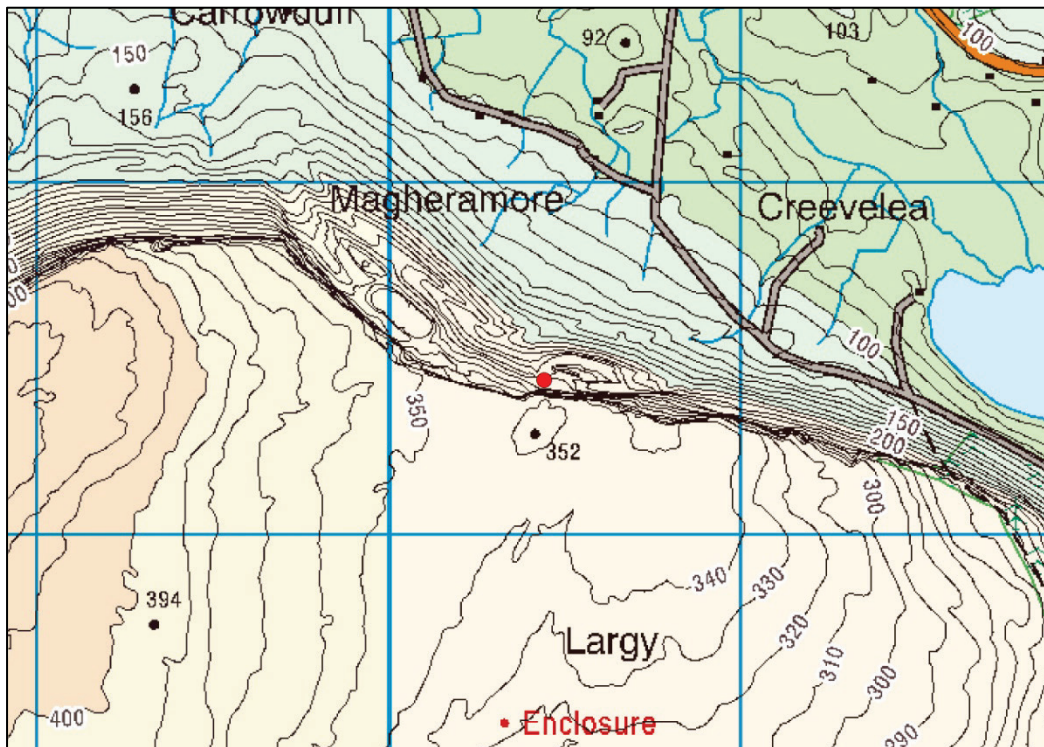


Figure 1: OSI Discovery Series map showing the location of *L. mandonii* (marked by a red dot) at Peakadaw (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).

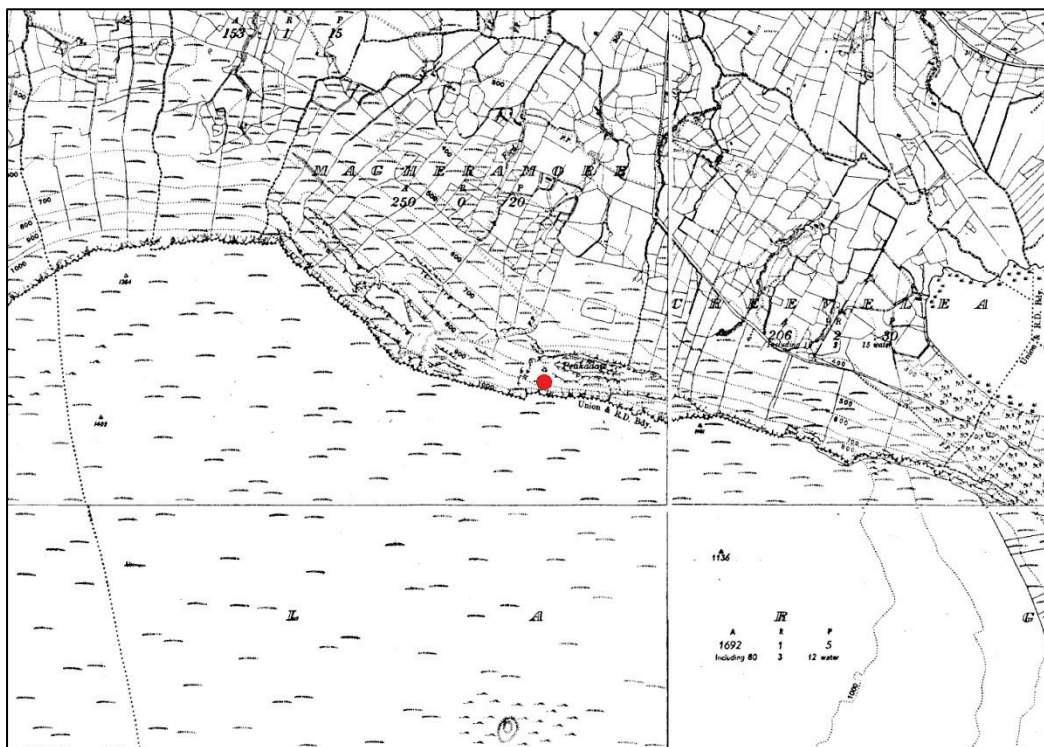


Figure 2: 6-inch map showing the location of *L. mandonii* (marked by a red dot) at Peakadaw (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 3: 1:5,000 map showing the location of *L. mandonii* (marked by a red dot) at Peakdaw (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 4: 2005 aerial photo showing the location of *L. mandonii* (marked by a red dot) at Peakdaw (Ordnance Survey Ireland Licence No EN 0059214 © Ordnance Survey Ireland/Government of Ireland).



Figure 5: Satellite image showing the location of *L. mandonii* (marked by a red dot) at Peakdaw (Basemap source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community).

Management & Conservation

General

- The small size of the populations make them vulnerable to damage
- Botanical collection a potential threat
- Afforestation, overstocking, desiccation and nutrient enrichment leading to out-competition by coarser vegetation are all potential threats

Potential site-specific threats/issues

- Specimen collection, overgrowth by other bryophytes and the small size of the population making it vulnerable to accidents are all potential threats

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

Lejeunea mandonii (Steph.) Müll.Frib.

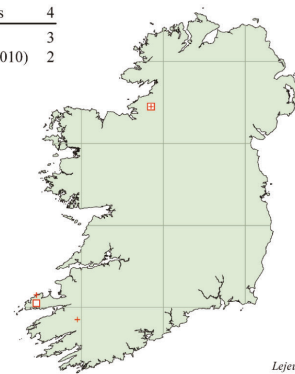
Atlantic Pouncewort

syn. *Inflatolejeunea mandonii* (Steph.) Perss., *Lejeunea macvicari* Pearson, *Microlejeunea mandonii* Steph.

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



Number of Hectads	4
+ Old (pre-1970)	3
Recent (1970–2010)	2



Lejeunea mandonii

Identification

L. mandonii is a very small leafy liverwort forming small mats or creeping among or over other bryophytes, with shoots up to 1.2 cm long and c. 0.6 mm wide. The leaves are more or less oval with sac-like ventral lobules and the underleaves are bilobed. It differs from other species of *Lejeunea* by the relatively long leaves (oval or ovate rather than suborbicular or ovate) and smooth cylindrical perianths. There are c. 8–15 homogeneous to faintly granular and fugacious oil bodies per cell, but this feature has to be observed in fresh material. *L. mandonii* is similar in size and general appearance to *Harpalejeunea molleri*, but that species has a pointed leaf apex and broad, retuse underleaves, whereas in *L. mandonii* the leaf apex is rounded and the underleaves are more or less oval and deeply bilobed.

Distribution in Ireland

A hyperoceanic species confined to the extreme west, and listed as Southern Atlantic by Ratcliffe (1968), *L. mandonii* is very rare. It has recently been recorded from just two localities in two vice-counties: S. Kerry

(Loch an Mhónáin, below Brandon Peak, 2006) and Leitrim (Peakadaw, 1963–2000). There are also older records from S. Kerry (below Brandon Mountain, 1967–1968) and N. Kerry (below Torc Cascade, 1966), where it may persist in small quantity, although recent survey work has failed to refind it.

Ecology and biology

This species is found among base-rich boulders and on crags, in shaded damp crevices with other bryophytes, especially Atlantic species, in oceanic areas. On Brandon Mountain, it was found in a deeply shaded declivity amongst boulders by a mountain stream. At Peakadaw, it grows on small ledges in crevices on a S.-facing limestone crag at the base of, and shaded by, a large N.-facing crag. *L. mandonii* usually occurs in very small quantity. Associates in Ireland include *Cololejeunea rossettiana*, *Fissidens dubius*, *Lejeunea hibernica*, *L. lamacerina*, *L. patens*, *Radula carringtonii* and *Trichomanes speciosum*. In Britain, it also occurs as an epiphyte on Ash, and its normal habitat in Macaronesia is also epiphytic. It is a lowland plant, growing at altitudes up to 275 m in Ireland.

Although this species is autoicous and often fertile, it rarely produces sporophytes. Gemmae are absent.

World distribution

It is also present in England and Scotland (*Endangered* in Britain), Spain and Portugal (*Vulnerable* in both), Madeira and the Canaries. This is a rare species globally, being endemic to Europe and Macaronesia, where its distribution is categorised as Hyperoceanic Southern-temperate.

Threats

The small size of the populations renders them susceptible to damage; only a very small amount was seen during recent fieldwork on Brandon Mountain and only small

patches were found at Peakadaw. Potential threats include thoughtless collection of specimens, afforestation, overstocking, desiccation and nutrient enrichment leading to unsuccessful competition with coarser species and algae.

Conservation

Populations should be monitored, and the localities should be protected from afforestation, overstocking and disturbance generally. *L. mandonii* may occur elsewhere on the west coast, and it should be searched for actively by bryologists, as it is very small and easy to overlook.

Protected sites with recent records: Ben Bulbin, Gleniff and Glenade Complex SAC; Mount Brandon SAC;
Unprotected sites with recent records: none.
