

# Flora Protection Order - bryophytes

## *Meesia triquetra*

**Status:** Regionally Extinct; listed on the Flora Protection Order

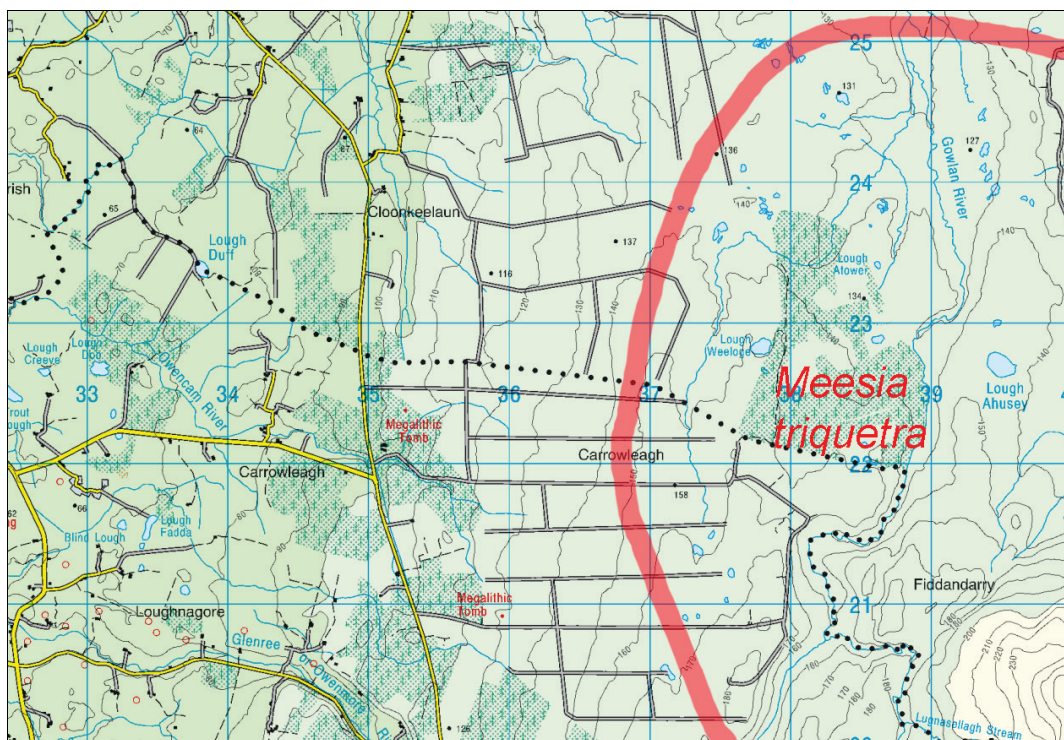
**Location:** Fiddandarry, Co. Sligo

## Species Records

Taxon	Vice County number	Taxon Site	Locality / habitat	Grid Reference	Date	Recorder	Protected site
<i>Meesia triquetra</i>	28	02	Fiddandarry Bog, Ox Mountains	G32	2012/06/14	Hodd, R.L. & Muldoon, C.S.	SAC002006
<i>Meesia triquetra</i>	28	02	Fiddandarry	G32	2016.11.27	Rory Hodd	SAC002006

Although *Rare and Threatened Bryophytes of Ireland* (2012) lists this plant as Regionally Extinct, this recent record means that, if reassessed, its status in Ireland would be Critically Endangered. This is the only known extant site for this plant in Ireland.

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



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## Location (6" map)

No map available.

## Field Data Sheet – Survey of FPO Bryophytes 2016

<b>Species</b> <i>Meesia triquetra</i>	<b>County</b> Sligo	<b>6" Map</b> sl023b	<b>Discovery Map</b> 24
<b>Locality/ Site name</b> Fiddandarry	<b>Vice-county (No.)</b> H28	<b>SAC/NHA</b> 002006 Ox Mountains Bogs SAC	
<b>Grid ref (GPS, National Grid)</b> Withheld	<b>2005 Aerial Photo</b> 1251-B	<b>Recorder(s)</b> R.L. Hodd	
<b>Elevation (m)</b> 120	<b>Solid geology</b> Grey limestone, thin shale	<b>Survey date</b> 27/11/2016	
<b>Site description</b>	Small iron-rich flush, part of series of three, amongst extensive area of lowland blanket bog in broad valley sloping down to stream.		
<b>Population description</b>	Three large patches occur over an area of 3 x 2m at head of flush where water upwells, largest patch ca. 1 x 1.5m, more or less pure. No discernible change in extent since site was last visited in 2013.		
<b>Associated species</b>	Growing with <i>Calliergonella cuspidata</i> , <i>Cratoneuron filicinum</i> , <i>Scorpidium cossonii</i> , <i>Tomenthypnum nitens</i> , <i>Marchantia polymorpha</i> subsp. <i>polymorpha</i> , <i>Holcus lanatus</i> , <i>Agrostis stolonifera</i> , <i>Cardamine pratensis</i> and <i>Cerastium fontanum</i> .		
<b>Vegetation</b>	FP1 Calcareous spring		
<b>Current management</b>	This area is grazed by sheep and there is mechanised turf cutting taking place within 200m of the population. There are also drains running through the flush, which have become overgrown since being dug and seem to be having little impact on the wetness levels of the flush.		
<b>Threats</b>	A number of threats exist. Most pressing of these is turf cutting, which could lead to the loss of this population in a very short period of time, or at least do irreparable damage to the habitat. Since 2013, an area within 200m of the population has been extracted by sausage machine, and there are extensive excavations of peat within 500m. Although grazing levels are not damaging the habitat overall, there is evidence of direct impact on the population, as there is evidence of poaching of the mat of <i>M. triquetra</i> by sheep, leading to the death of shoots on a small scale.		
<b>Conservation measures</b>	It is imperative that turf cutting does not take place in vicinity of the population. The only way to ensure this is to inform landowners/turbary rights holders of the presence of <i>M. triquetra</i> and <i>Saxifraga hirculus</i> , which also grows in this flush, and prevent them from cutting in this area.		
<b>Ownership</b>	Commonage		
<b>Access</b>	It is possible to park beside a bridge on a rough track to the north of this population, beside an area of extensive turf cutting, and walk across rough bog to the flush system.		
<b>Other remarks</b>			

**Synonymous habitat/vegetation types :**

**First record and other comments:**

First recorded here by C.S. Muldoon and R.L. Hodd in 2012.

**References:**

**Photographs:**



Photograph 1: Mossy spring in which *M. triquetra* grows, main patches shown by red arrows.



Photograph 2: Close-up of *M. triquetra*, forming pure weft.



Photograph 3: Largest patch of *M. triquetra*, with clear evidence of trampling by sheep.



Photograph 4: Damage to *M. triquetra* patch caused by sheep trampling.



Photograph 5: Old drainage ditch through flush, with recent nearby mechanical extraction of turf indicated by red arrow.

## Management & Conservation

### General

- Peat extraction
- Drying-out of flushes
- Drainage
- Afforestation

### Potential site-specific threats/issues

- This site is regarded as confidential; NPWS has more detailed information.
- A number of threats exist. Most pressing of these is turf cutting, which could lead to the loss of this population in a very short period of time, or at least do irreparable damage to the habitat. Since 2013, an area within 200m of the population has been extracted by sausage machine, and there are extensive excavations of peat within 500m. Although grazing levels are not damaging the habitat overall, there is evidence of direct impact on the population, as there is evidence of poaching of the mat of *M. triquetra* by sheep, leading to the death of shoots on a small scale.
- It is imperative that turf cutting does not take place in vicinity of the population. The only way to ensure this is to inform landowners/turbary rights holders of the presence of *M. triquetra* and *Saxifraga hirculus*, which also grows in this flush, and prevent them from cutting in this area.

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

***Meesia triquetra*** (A.Richter) Ångstr.

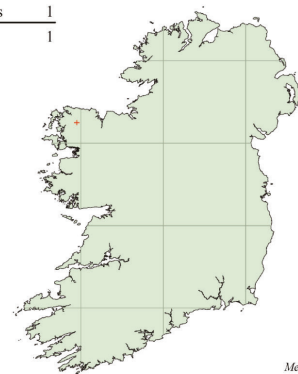
syn. *M. trifaria* H.A.Crum *et al.*, *M. tristicha* Bruch

**Status in Ireland:** Regionally Extinct; **Status in Europe:** Least Concern

Three-ranked Hump-moss



Number of Heetads	1
+ Old (pre-1970)	1



*Meesia triquetra*

**Identification**

This is a handsome moss that grows in large lax bright green patches with stems up to 5 cm high. The leaves are trifarious, squarrose, with an erect sheathing basal part, narrowly triangular lamina and a strong costa. Leaf margins are plane, sharply serrate almost from the base. The leaf cells are smooth, pellucid, shortly rectangular in the upper part of the leaf and rectangular near leaf base. Capsules are narrowly pyriform, asymmetrical, erect but curved and exserted on a long thin seta. It somewhat resembles *Dichodontium palustre* or *D. pellucidum* in the field, but differs from both in the trifarious leaves. Other differences are that the former species has untoothed leaf margins; the latter has papillose upper leaf cells.

**Distribution in Ireland**

Discovered in 1957 by A.L.K. King in W. Mayo in 'T.A.E. Bog stretching N. of the road between Dooleeg and Bellacorick' where a stream called Sruffaunnamuingabatia is deflected by a low gravel ridge. It was seen there again in 1958. Although the immediate vicinity of the site has been protected, the blanket peat was subsequently removed from surrounding areas by Bord na Móna. Despite repeated searches the population has not been refound since 1958 and by 2003 the flushed ground had become drier, so the population is almost certainly extinct. The species is also known in Ireland as a Littletonian (postglacial) fossil in Kildare (Barry & Synnott 1970).

**Ecology and biology**

*M. triquetra* formerly grew in a calcareous flush that was rich in iron on very gently sloping peaty ground within an extensive area of blanket bog. It occurred in five almost pure patches with some *Sphagnum denticulatum* growing through them. The site was near small areas of open water in the wettest and richest part of the flush, close to patches of luxuriant growth of *Rhizomnium pseudopunctatum* (Warburg 1958a, King & Scannell 1960). In Fennoscandia 'it is not generally common in the Scandes but must be considered as a normal component of subalpine and low-alpine rich fens' (Mårtensson 1956).

The species grows as perennial patches. It is dioicous and capsules (unrecorded in Ireland) mature in summer. Gemmae and tubers are unknown.

**World distribution**

Widespread in N. and C. Europe from Iceland, Svalbard and Fennoscandia southwards, but only on mountains further south, including Pyrenees, Spanish Central Ranges and Caucasus. It is listed as *Extinct* in the Netherlands, *Critically Endangered* in the Czech Republic

and Germany, Serbia and Spain, and *Near Threatened* in Switzerland. In Europe, it is assigned to a Circumpolar Boreo-arctic montane floristic element. Elsewhere, it is recorded in N. Africa, N. Asia, China, Greenland, N. America and SE Australia.

**Threats**

There can be little doubt that *M. triquetra* became extinct in Ireland due to drying of the flush where it grew as a consequence of large-scale mechanised extraction of peat from surrounding areas of blanket bog.

**Conservation**

Peat extraction by Bord na Móna has ceased in the Bellacorick area and ecological restoration of the areas involved has commenced. It is possible that surveys to find this plant may yet be successful, as apparently suitable habitat remains in some neighbouring, intact blanket bog flushes.

**Protected sites with recent records:** none; **Unprotected sites with recent records:** none.