

Flora Protection Order - bryophytes

Adelanthus lindenbergianus

Status: Vulnerable; listed on the Flora Protection Order

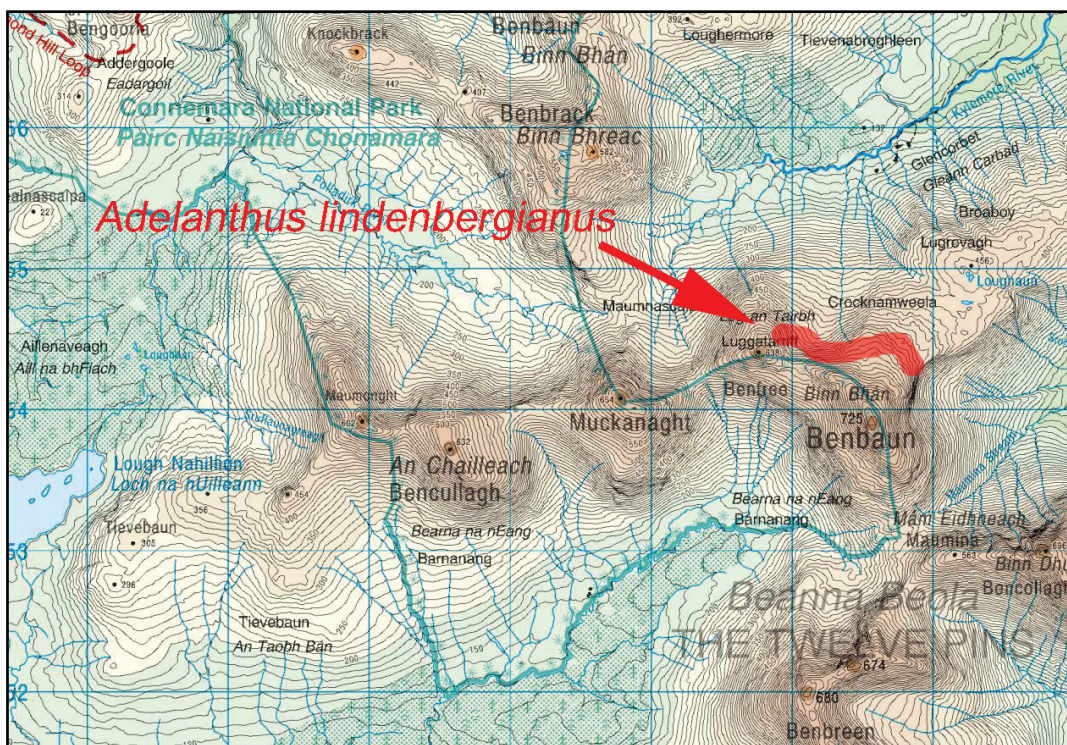
Location: Benbaun, Co. Galway

Species Records

Taxon	Vice County number	Taxon Site	Locality / habitat	Grid Reference	Date	Recorder	Protected site
<i>Adelanthus lindenbergianus</i>	16	04	N ridge of Benbaun, Twelve Bens, in bryophyte turf amongst boulders on exposed hillside; ca 520 m alt.	L7854	1984.04.22	Long, D.G.	SAC002031

The record is not very accurately localised, but it is accurate enough to know the general area where *A. lindenbergianus* was recorded. However, it was not be refound during targeted surveys in 2004, nor in 2015.

Location (1:50,000 Discovery map)



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Location (6" map)

No map available.

Field Data Sheet

A. lindenbergianus was not refound here during targeted survey work in 2004 and 2015.

References Long, D.G. 2010. The tragedy of the Twelve Bens of Connemara: is there a future for *Adelanthus lindenbergianus*? *Field Bryology* **100**: 2–8.

Aerial photograph

No aerial photograph available.

Site photographs

None available.

Management & Conservation

General

- Balanced grazing regime required, not too intensive, so that cover of ericaceous shrubs is maintained; overgrazing almost wiped this species out in Connemara
- Afforestation
- Burning
- Climate change?

Potential site-specific threats/issues

- *A. lindenbergianus* has probably been eliminated from this site by overgrazing, as described in the Red Data Book (below). However, a reduction in grazing may result in its re-appearance, so further survey work should take place periodically.

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

Adelanthus lindenbergianus (Lehm.) Mitt.

syn. *Adelanthus dugortiensis* Douin & Lett, *Jungermannia lindenbergiana* Lehm.

Status in Ireland: Vulnerable (A2c, B2a, biii, iv); **Status in Europe:** Vulnerable

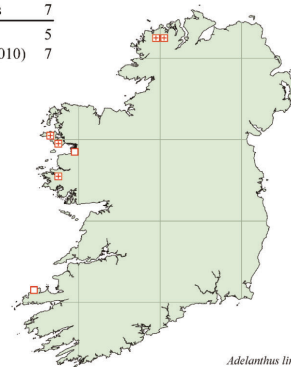


Identification

This is a medium-sized to large, reddish or brownish leafy liverwort, forming lax tufts of erect shoots 2–10 cm long. The leaves are curved downwards and are imbricate, ovate and unlobed, with a strongly incurved antical margin (a unique feature) and a toothed postical margin. There are no underleaves. While *A. lindenbergianus* superficially resembles a species of *Plagiochila*, this leaf structure and arrangement makes it an easy plant to identify in the field. It also bears some resemblance to

Lindenberg's Featherwort

Number of Hectads	7
+ Old (pre-1970)	5
□ Recent (1970–2010)	7



Adelanthus lindenbergianus

Anastrepta orcadensis, which has adaxially convex leaves with an edentate postical margin and commonly produces conspicuous red gemmae.

Distribution in Ireland

This plant is confined to the extreme west, with recent records from 10 localities in four vice-counties: S. Kerry (Brandon Mountain, 2008, 2009); W. Galway (Benbreen, 1961–1994; Bengower, 1961–2007; Benbaun, 1984); W. Mayo (Slievemore, 1903–2003; Corraun

Peninsula, 1965–2008; Croagh Patrick, 1987) and W. Donegal (Errigal, 1962–2002; Mackoght, 1962, 2002; Muckish Mountain, 1962–2009). Ratcliffe (1968) places it into the Northern Atlantic group.

Ecology and biology

One of the suite of Northern Atlantic hepatic mat species, *A. lindenbergianus* is confined to N.- and NE-facing slopes in the hills in hyperoceanic areas. It often grows under sparse heather and in boulder scree at medium to fairly high altitudes (300–800 m recorded in Ireland). It is normally associated with other oceanic liverworts such as *Bazzania tricrenata*, *Scapania gracilis*, *Herbertus aduncus*, *Mylia taylorii* and *Pleurozia purpurea*.

Only male plants of this dioicous species are known in Europe (Paton 1999, correcting Hill *et al.* 1991). Gemmae are known to occur, but have not yet been found in European material. Vegetative reproduction by fragmentation probably takes place.

World distribution

Elsewhere in Europe, this species is restricted to a single site on Islay in SW Scotland (listed as *Endangered* in Britain). It is assigned to an Oceanic Boreal-montane floristic element in Europe and is disjunct in montane parts of Africa (the Rift Valley highlands and South Africa (Wigginton & Grolle 1996)), Madagascar, Mauritius, Réunion (Grolle 1995), C. and S. America, Tristan da Cunha, Juan Fernandez and the subantarctic islands.

Threats

Overstocking in the uplands has affected this plant severely, in recent years almost eliminating it from its W. Galway sites (Long 2010). Whereas Ratcliffe (1962) measured the average height of the *Calluna* layer on the north slope of Bengower at '9 inches', more recent visits showed that the *Calluna* had been completely lost, along with virtually all the Northern Atlantic hepatic mat species (Holyoak 2006b). This damage has been repeated throughout the Twelve Bens and, to a lesser extent, elsewhere. Botanical collecting might be a threat at sites where populations are small.

Conservation

This is a disjunct species with a very restricted distribution, so the Irish populations are of global importance. Reinstatement of a less intensive grazing regime at its key sites should be a priority. The system of EU farm subsidies, which has largely been responsible for overstocking of sheep in the uplands over the last few decades, is now changing, and hopefully, this will rescue the habitat before it is all destroyed. Populations require monitoring to document their continued survival.

Protected sites with recent records: Cloghernagore Bog and Glenveagh National Park SAC; Corraun Plateau SAC; Croagh Patrick pNHA; Croaghau/Slievemore SAC; Glenveagh National Park; Mount Brandon SAC; Muckish Mountain SAC; The Twelve Bens/Garraun Complex SAC; **Unprotected sites with recent records:** none.