

Amblystegium radicale in England and Wales: an update

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Background

Amblystegium radicale is an example of a freely-sporing autoicous moss with a wide distribution (Europe, Japan, North America and Ecuador) but which nevertheless appears to be rare across much of its range. In Britain it has been recorded from just two localities, one in south-west England and the other in Wales. Church *et al.* (2001) listed it as 'critically endangered' in Britain since it had either apparently declined or was not refound when the localities had been recently revisited. The purpose of this note is to draw attention to the most up-to-date information about *A. radicale* in Britain, and hopefully to stimulate attempts to find it elsewhere in similar habitats.

The species was first reported from Britain as *A. saxatile* Schimp. by Crundwell & Nyholm (1964), and it is described under that name in Smith (1978), although Crum & Anderson (1981) treat it as *Campylium radicale* (P. Beauv.) Grout. Hedenäs (1997) has shown that it is best placed in the genus *Amblystegium* and that the correct name is *A. radicale*. It is distinct from all other British species of *Amblystegium* and *Campylium* in the longly, but sometimes narrowly, decurrent bases to the stem leaves.

Occurrence in England

Mrs Jean Paton discovered *A. radicale* new to Britain in 1962 in an old china-clay works at Lavreanbridge, east of Bugle, in East Cornwall

(v.-c. 2; grid reference SX0359) (Crundwell & Nyholm, 1964). Notes made by Mrs Paton (pers. comm.) record that on 23 June 1962 and 1 June 1963 it grew in several small scattered patches 'amongst and on dead stems of *Juncus* in a marshy hollow' and that it 'was nearly exterminated by flooding in late 1960s'.

A visit by DTH on 18 April 1995 revealed that the original locality and its surroundings had become heavily shaded inside mature *Salix cinerea* carr. A few patches of *Juncus effusus* persisted at the shaded edge of a shallow pool, but there was no *A. radicale* associated with them or nearby. Widespread searching eventually disclosed small amounts of *A. radicale* *c.fr.* about 50 m away in a shallow ditch at the edge of the carr, growing with other pleurocarpous mosses (*Amblystegium serpens*, *Eurhynchium praelongum* and *Sanionia uncinata*) on the bark of small rotting *Salix* branches lying on the ground in places that occasionally flood. It occurred thinly on fewer than ten branches within a total area of only two or three square metres and was still present but scarce in the same small area in May 1997.

A. radicale was not refound during a visit with Dr Fred Rumsey on 24 January 2002, although sparse stems would be difficult to detect before the setae lengthen in the spring. This visit revealed that considerable damage had occurred recently to the site as a result of clearance of *Salix* carr and bulldozing to create a roughly circular track that was intended for use by motorcycles. Subsequent discussions involving

the landowners (IMERYS, formerly ECC International), the holder of an agricultural tenancy on neighbouring land, and English Nature, has apparently prevented any further damage to the habitat. A detailed survey is now required to check whether *A. radicale* still survives here and, if it does, to establish its distribution, status and habitat requirements as steps towards conservation management of the population.

Occurrence in Wales

The Welsh locality for *A. radicale* is a partially drained and cut-over peat bog in the upper part of the Cwmnantcol valley in Merioneth (v.-c. 48). Several patches of the moss were found in 1987, principally among litter or near the bases of *Molinia caerulea* tussocks in a peat cutting measuring about 50 x 6 m. The water level had been at or slightly above the peat surface. Further details are outlined in Yeo & Blackstock (1988).

The locality was revisited during the spring meeting of the BBS in 1996. Unfortunately, the weather conditions at the time were poor and, despite a reasonably careful search, *A. radicale* was not refound (Blackstock & Yeo, 1997).

Most recently, the site was visited on 10 October 2002 by a group of specialist ecological staff of the Countryside Council for Wales (CCW). The visit was part of a staff outing for which Cwmnantcol was chosen as it is a particularly beautiful and wild part of Wales, and also with the specific aim of trying to refind *A. radicale*. It is pleasing to report that the *Amblystegium* was relocated quite readily.

A. radicale was found to be scattered throughout much of the peat cutting (SH620267), mostly around the bases of *Molinia* tussocks, which still dominated the vegetation in the cutting. Other vascular plants present included *Angelica sylvestris*, *Cirsium palustre*, *Filipendula ulmaria*, *Galium palustre*, *Hydrocotyle vulgaris*, *Juncus* cf. *x surrejanus* and *Phalaris arundinacea*. Among the associated

bryophytes were *Calyptogeia arguta*, *C. fissa*, *Riccardia chamedryfolia*, *R. multifida*, *Atrichum crispum*, *Calliergon cordifolium*, *Eurhynchium praelongum* and *Sphagnum palustre*. Vegetation in the peat cutting had been burnt earlier in the spring of 2002; it had also been burnt in 1987.

A. radicale was also observed on a nearby peaty ditch-bank growing with *Calyptogeia arguta*, *Cephalozia bicuspidata*, *Fossombronina foveolata*, *Pellia* sp., *Eurhynchium praelongum*, *Hookeria lucens* and *Sphagnum fallax*.

Immature sporophytes were present on the *Amblystegium* plants, and a few post-mature capsules were also seen.

Conclusions

A. radicale has persisted in its Welsh locality since it was first observed in 1987. That it was not found on the BBS visit in 1996 may mean that it had then become much reduced in frequency or, perhaps more likely, that we did not search with sufficient determination. It is a salutary lesson that failure to refind a rare bryophyte in these circumstances does not necessarily imply that the species has become locally extinct.

The habitats in which *A. radicale* occurs in Britain appear to be quite ordinary and are very widely distributed. It would be worth looking for this moss in other similar damp places and to concentrate searches among dead and decaying plant material. The species is most obvious in late spring and summer when the capsules mature. Its decurrent stem-leaf bases provide a useful identification character but these are difficult to detect in the field, when leafy stems appear rather nondescript. They are somewhat larger than in *Amblystegium serpens* but less robust than in well-grown *Leptodictyum riparium*.

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Various members of the CCW party made helpful contributions, and Sam Bosanquet in

particular quickly got his eye in during the quest for *A. radiale* in 2002; access permission was readily given to CCW by the local farmers. Mrs Jean Paton MBE kindly made unpublished information available on records of *A. radiale* at its Cornish locality.

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Notes on British and Irish *Grimmia* species

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Introduction

Recent publications (Muñoz, 1998, 1999; Muñoz & Pando, 2000) indicate changes in the status and nomenclature of certain British and Irish *Grimmia* species. Details are given below.

Grimmia sessitana, *G. alpestris* and *G. ungeri*

In 1870, the Rev. John Fergusson collected a plant near Ballater that he identified as *G. ungeri* Jur., new to Scotland. Braithwaite (1888-1895) says about this plant 'Chalubinski's acute observations on this species are quite sufficient to satisfy us that *G. Ungerii* is not specifically distinct from *G. alpestris*.' Thereafter British bryologists referred to the species as *G. alpestris* (F. Weber & D. Mohr) Schleich.

British material of *G. alpestris* was renamed *G. sessitana* De Not. by Greven (1995a). It was later shown by Muñoz (1999) that the correct name

of *G. sessitana* was *G. reflexidens* Müll. Hal. However, in the meantime, Munoz (1998) reported that the Scottish material was *G. ungeri*, thus confirming Fergusson's original identification. So, *G. sessitana* must be replaced by *G. ungeri* in the list of British mosses.

Muñoz (1998) reported *G. alpestris* from Wales on the basis of a specimen in the Farlow Library and Herbarium of Cryptogamic Botany, Harvard University, Cambridge, Massachusetts (FH). Details are: Marros, Carmarthenshire, 29 March 1907, H.H. Knight. The altitude of the Marros locality is approximately 150 m. A recent search of the site failed to locate *G. alpestris* although *Coscinodon cribrosus* was found (Sam Bosanquet, *in litt.*). According to an unpublished manuscript bryophyte flora of Carmarthenshire by H.H. Knight in the National Museum of Wales, Knight collected what he first determined as *G. montana* Bruch & Schimp. from Marros but the specimen was later renamed *C. cribrosus*.