

Antitrichia curtispindula in a Cambridgeshire orchard

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Discovery of *Antitrichia* in Cambridgeshire

On 12 February 2006 the Cambridgeshire BBS Group met near Wisbech, Cambridgeshire (v.-c. 29) in the heart of fen country, a venue chosen to allow Robin Stevenson to demonstrate his methodology for surveying orchards. His recent recording has shown that the East Anglian orchards can be surprisingly rich in epiphytes. This was demonstrated at one of the sites we visited, White Engine Hall, Leverington Common (TF4310), where we found species such as *Orthotrichum tenellum*, *Syntrichia papillosa* and *Ulota phyllantha*. Most remarkably, on one tree there was a healthy patch of *Antitrichia curtispindula*, the first time this moss had been recorded in East Anglia for many years.

The patch of *Antitrichia* appeared to be in good health, coloured dark green and with no obvious necrosis, and measured about 10 cm across (Figure 1). In the field it looked at first rather like a dark-coloured *Brachythecium rutabulum*, but examination with a $\times 20$ hand lens revealed the characteristic recurved teeth at some of the leaf apices, and microscopic examination of a small voucher specimen confirmed the identification. It was not fertile. The *Antitrichia* tree was a Bramley apple, planted in 1976. The associated species were *Amblystegium serpens* (occasional), *Brachythecium rutabulum* (frequent), *Bryum capillare* (abundant), *Dicranoweisia cirrata* (occasional), *Grimmia pulvinata* (rare), *Hypnum cupressiforme* (occasional), *Orthotrichum affine* (occasional), *O.*



Figure 1. *Antitrichia curtispindula* on a Bramley apple tree in White Engine Hall orchards, Wisbech, Cambridgeshire. Photo: Robin Stevenson.

diaphanum (abundant) and *Rhynchostegium confertum* (rare).

Discussion

The discovery of *Antitrichia* in Cambridgeshire is astonishing, as it has become one of the classic examples of a declining bryophyte. As the published distribution map (Hill, Preston & Smith, 1994) shows, it formerly grew at scattered sites throughout south-east England, an area from which it has now virtually disappeared. In the London area it was recorded in Enfield Forest, Middlesex in ca 1725 and in Epping Forest in 1800. Further from the metropolis, the last records suggest a decline in the first half of the 19th century in south-east England: it was apparently plentiful and fruiting in Bagley Wood

(Berkshire, v.-c. 22) in 1843 but 'almost gone' by 1860 (Jones, 1953), and was last recorded from Hertfordshire (v.-c. 20) in 1841, Oxfordshire (v.-c. 23) in 1861 and North Essex (v.-c. 19) in 1874. Further west, the dates are rather later: it was last seen in Monmouthshire (v.-c. 35) in 1880 (records from v.-c. 35 are erroneously mapped as 1950 onwards by Hill *et al.*, 1994), Herefordshire at about the same time and Dorset in *ca* 1900 (Hill & Edwards, 2003). There are no historic records from Cambridgeshire, though it was recorded from two of the neighbouring vice-counties, Hertfordshire (see above) and Northamptonshire (one record, in 1892). Although it survives in south-west England, north Wales and from Yorkshire northwards, the only recent (post-1950) records further south and east that we have traced are from Heyshott Down, West Sussex (v.-c. 13), where it grew in north-facing chalk grassland (Rose *et al.*, 1991), from the coast of East Kent (v.-c. 15), where it survives on *Prunus spinosa* on the shingle beach at Dungeness (Duckett, 2001), and from Ashorne, Warwickshire (v.-c. 38), where T. Laflin found it on the horizontal branch of an ash in a hedgerow in 1969 (Laflin, 1971).

The occurrence of *Antitrichia* in the Fens is less surprising if viewed in the light of improving air quality. Its decline was attributed by Rose & Wallace (1974) to a sensitivity to sulphur dioxide, coupled with forest clearance and the felling of old trees. Its reappearance in eastern England can probably be regarded as the most remarkable example of the process that has seen the re-invasion of many pollution-sensitive species into formerly polluted areas (Adams, 2005). These have included *Cryphaea heteromalla*, *Orthotrichum yellii*, *O. pulchellum*, *O. tenellum*, *Uloa bruchii* and *U. phyllantha*. Many of these species are very ready colonists, given half a chance. The origin of this particular colony of *Antitrichia* can only be a matter for speculation. It may be that it comes from a wind-blown spore from the continent, in an area infamous for its cold easterly winds. This colony of *Antitrichia* is

certainly closer to Dutch populations than it is to its British stronghold in northern Scotland, so Holland or southern Scandinavia are perhaps more likely sources than the small relict populations in Kent, south-west England and northern England. The orchard habitat is interesting, as *Antitrichia* tends to occur as an epiphyte on 'stunted trees in open habitats' (Hill *et al.*, 1994), an apt description of an orchard where the trees are 'stunted' by genetics and pruning rather than by the natural environment.

In the Low Countries *Antitrichia* has staged a marked recovery in recent years. In Flanders it was rediscovered in 1997 on a fallen willow in a willow thicket near the Schelde River in Antwerp (De Beer, 1998), the first record since 1882. Since then it has been found in several other places, always in willow carr, but it is still very rare and has not been found fertile (H. Stieperaere, in litt.). In the Netherlands only four post-1950 sites were mapped by Touw & Rubers (1989), whereas the current Dutch distribution map (www.blwg.nl) shows records from 1980 onwards in 23 5-km grid squares.

If *Antitrichia* can recolonise eastern England, what else might we expect? One plant to look for is *Orthotrichum speciosum*, which in Britain is currently confined to north-east Scotland but formerly grew in eastern England and is widespread in the Netherlands (Touw & Rubers, 1989). It fruits freely and has been noted as a recent colonist in the Dutch polders. How long will it be before it is recorded again in England?

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Reports of BBS meetings

Throughout the following account, new vice-county records are indicated with an asterisk (*). Nomenclature follows Paton (1999), *The liverwort*

flora of the British Isles, and Smith (2004), *The moss flora of Britain and Ireland*, 2nd edition.

AGM and Bryological Symposium 2005, Bangor

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The Annual General Meeting and Bryological Symposium were held at the University of Wales, Bangor, on 9-11 September 2005. Between 1950 and 2000, under the impetus of Paul Richards, who was Professor of Botany from 1950 to 1976, the university had been one of the major academic institutions in Britain with a strong bryological specialisation. Many prominent British bryologists of the last fifty years have worked or been trained at Bangor. Although students are no longer exposed to

bryological research, there is a rich and well-studied bryophyte flora to explore in north-west Wales.

Some 45 participants attended the meeting, and it was a particular pleasure to welcome to Bangor three foreign BBS members – Sanna Laaka-Lindberg and Alain Vanderpoorten (who both gave presentations at the symposium) and Herman Stieperaere (a BBS Council member).