

SHORTER CONTRIBUTION

A REVIEW OF STONEWORTS IN THE SOMERSET LEVELS AND MOORS

Stoneworts, or charophytes as they are sometimes known, comprise a group of green algae which grow submerged in fresh or sometimes brackish water. They have a complex structure and some species can grow up to 1m in length. They have a superficial resemblance to some aquatic vascular plants; indeed, one of their earliest English names was ‘Stinking Water Horsetail’, implying a link to the pteridophyte genus *Equisetum* (horsetails). As a result they have frequently been recorded by vascular plant botanists and are the only non-vascular plants included within the remit of the Botanical Society of the British Isles. This has meant that their distribution and ecology is much better known than any other algal group.

There are only 33 species of stonewort in Britain, but nearly half of these are extremely rare or threatened. Stoneworts are very sensitive to nutrient levels in the water and soon succumb if levels of nitrates or phosphates are raised. This is very often the case in lowland Britain, either due to agricultural run-off or to sewage inputs (which often have high phosphate levels even after treatment).

Stewart (2004) identified a number of key areas for stoneworts in the UK. The Somerset Levels and Moors were assessed to be of European importance because of the diversity of species they contain, including two Red List species (*Tolypella intricata* and *T. prolifera*) and three others that are Nationally Scarce (*Chara aculeolata*, *Nitella mucronata* and *Tolypella glomerata*). A further species, *Tolypella salina*, has only recently been noted as present in Britain from an old herbarium specimen from the

Portbury area and is likely to be extinct. *Nitellopsis obtusa*, another Red List species, was discovered in 2011 in Cheddar Reservoir on the edge of the Levels.

In recent years, information on stonewort distribution in the Somerset Levels and Moors has been extremely patchy. A few moors have been quite well studied, particularly where there are known populations of the Red-listed species (eg Southlake Moor), but many others are completely lacking in recent records. In some cases this is no doubt due to local extinctions, but in many areas the apparent absences are almost certainly due to lack of recording. Various ditch surveys for Natural England, for example, have indicated scattered records for ‘*Chara* sp.’ without identifying to species. Table 1 provides a summary of our current state of knowledge, and gives an indication of where further surveys may be needed.

The sites have been grouped together in areas working from north to south. Moors not included in the list have no records, or only records for ‘*Chara* sp.’. The dates given are those of the most recent record for that species; further detail for many of the records in North Somerset (VC6) can be found in Lansdown *et al.* (2006). Recent records (since 1985) are shown in bold. Some of the older records were poorly localized and in many cases it has not been possible to pinpoint the exact sites.

I would be pleased to receive any records of stoneworts in the Somerset Levels and Moors, and to determine material or visit sites to look at plants *in situ*.

TABLE 1: THE MOST RECENT RECORDS OF STONEWORT SPECIES IN DIFFERENT PARTS OF THE SOMERSET LEVELS AND MOORS

	<i>Chara aculeolata</i>	<i>Chara aspera</i>	<i>Chara contraria</i>	<i>Chara globularis</i>	<i>Chara hispida</i>	<i>Chara virgata</i>	<i>Chara vulgaris</i>	<i>Nitella mucronata</i>	<i>Nitella opaca</i>	<i>Nitella translucens</i>	<i>Nitellopsis obtusa</i>	<i>Tolypella glomerata</i>	<i>Tolypella intricata</i>	<i>Tolypella salina</i>	<i>Tolypella proliferata</i>	
<i>Gordano</i>																
Near Portbury					1887		1907									1922
Clapton Moor			1922	1902	1903	2001	2003					1922				
Walton Moor	2002			2002	2002	2002	2002		1989							
Weston Moor	2002			2004	2004	2004	2004						1989			
<i>Clevedon to Yatton</i>																
Near Clevedon				1883	1887		1896									
Tickenham Moor							1912									
Nailsea Moor	1880				1902	1921	2005									
Kenn Moor				1912	1904		2007									
Near Yatton					1887		1912									
<i>Yatton to Mendip Gap</i>																
Kingston Seymour							1981									
West Hewish							1990									
N of Banwell							1990									
Weston airport							1990									
<i>Bleadon to Stert Point</i>																
Brean							1882									
Berrow Dunes				2010			2010									
Burnham							1912									
Pawlett Hams				2007			2007									
Fenning Island							1979									
<i>Brent Knoll to Cheddar</i>																
Cheddar Reservoir	2011	2011	2011					2011			2011					
<i>Highbridge to Glastonbury</i>																
Mark Moor							1915									
Tealham Moor				1992			2007						2003			
Tadham Moor							2003									
Chilton Moor							2007	2007								
Edington Heath							1915									
Catcott Grounds							1937									
Catcott Heath							2007	2007								
Westhay Level				1995												
Ashcott/Shapwick Heaths				1902		1937	1912			1922						
Street Heath								1989								
Butt Moor						2003	2006									2006
<i>Bridgwater to Compton</i>																
<i>Dundon</i>																
Horsley Level							2004									
Moorlinch Moor				2009	2007		2009									
King's Sedge Moor			1986	2007	2007		2008	2007				1899				
Street/Compton Dundon Moors						1891										
Somerton Moor													1907			
Southlake Moor				2002			2008									2003

TABLE I: CONTINUED

	<i>Chara aculeolata</i>	<i>Chara aspera</i>	<i>Chara contraria</i>	<i>Chara globularis</i>	<i>Chara hispida</i>	<i>Chara virgata</i>	<i>Chara vulgaris</i>	<i>Nitella mucronata</i>	<i>Nitella opaca</i>	<i>Nitella translucens</i>	<i>Nitellopsis obtusa</i>	<i>Tolypella glomerata</i>	<i>Tolypella intricata</i>	<i>Tolypella salina</i>	<i>Tolypella prolifera</i>
<i>North Newton to Langport</i>															
West Sedgemoor				2007			2008								
AllerMoor															2005
West Moor				1987											
<i>Langport to Ilchester</i>															
Near Long Load							1891								

References

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