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NOTES

SAND SEDGE IN THE HAMPSHIRE AVON VALLEY

ABSTRACT

Contemporary field surveys combined with historical records detail the extensive distribution of sand sedge within the Hampshire Avon Valley. These colonies are associated with broken sandy soils and former inland dunes. Processes currently generating windblown sand are identified. The presence of sand sedge within the floodplain is noted and considered unparalleled in Britain.

Sand sedge (*Carex arenaria*) is a dominant plant of fixed dunes and windblown sand usually with a low lime content, forming characteristic communities with lichens. In Britain the sedge is predominantly distributed around the coast with a small number of scattered inland sites. The largest inland stands of the sedge are in the East Anglian Brecklands with other notable colonies on the Lincolnshire heaths and around Frensham in Surrey (Jermy & Tutin 1982).

Historical records of the sand sedge in the Avon Valley may be found in Townsend's *Flora of Hampshire* (Townsend 1904) and Linton's *Flora of Bournemouth* (Linton 1900).

Townsend noted the following localities -

> 'Frequently on the sandy heaths in many parts of the Stour watershed, Dudmore Moor (part of Herne Common) a little above Sopley; east of Herne Station.'

In addition Linton records -

> 'Steep river bank 2 miles N of Herne and west of Herne Station.'

These historic localities were resurveyed between 1984 and 1986 as part of an extensive review of the lower Avon Valley carried out by the Nature Conservancy Council (NCC). The NCC surveys located the sedge in some of its historic stations and added a number of new locations. These records were then supplemented by those of local naturalists.

The sedge was found to be present in a variety of vegetation types and over a range of topographical features. The common factor of all colonies was the soil being dominated by fine sands. The most extensive areas of sand sedge were found on low terraces adjacent to the floodplain. Other colonies were located on small sandy knolls and ridges lying within the floodplain. The origin of these knolls and ridges is unclear. A buried soil at Jocktrills Common suggests they may be of relatively recent, probably windblown origin. Although not a feature of the sand sedge colonies identified in 1984–86, extensive wind erosion is a contemporary problem on some arable lands lying on the East bank of the Valley (Manners *pers comm*). On Sopley Common and Town Common, both lying on the western terraces of the Valley, there is abundant broken ground created by pedestrian and vehicular erosion. During the winter of 1986–87 windblown sand was found to be deposited on the crest of snowdrifts in this area. With the thawing of the snow these deposits formed ridges of sand overlying established vegetation. These sandy ridges were abundant along the edges of the arable fields flanking the eastern side of the Valley.

When the above factors are considered and combined with other small scale disturbances such as tracks and rabbit burrows it becomes apparent that sand erosion and deposition is still an active, albeit small scale, geomorphological process within the Valley.

The topography of areas within the former common lands occasionally resembles that of stabilised sand dunes. Sand dunes form where sufficient windblown sand is progressively trapped by vegetation. The extensive depasturing of commonable beasts in the past would have led to soil erosion on these fragile soils. Another contributory factor may have been semi-domestic rabbits. Two fine areas of sand

Table 1. The Distribution of Sand Sedge in the Avon Valley

Site	National Grid Reference	Abundance	Topography	Dominant Vegetation	Recorder	Historic Site
Kingston North Common	SU 150 031	Locally Dominant	Terrace	Grass heath	AJB 1985	
Bisterne Warren	SU 142 015	Locally Dominant	Terrace	Grass heath	CC 1986	
Bisterne Warren	SU 147 003	Rare	Terrace	Grass heath	CC 1986	
Week	SU 133 009				RW 1987	
Week Common	SZ 133 997			Heathland	RW 1987	
Avon Hams	SZ 143 988	Frequent	Knoll within Floodplain	Acid grassland	CC 1986	
Sopley Common (Avon Causeway)	SZ 135 975			Heathland	RW 1987	Townsend Linton
Sopley Common	SZ 137 972	Frequent	Terrace	Scrub heathland	CC/CB 1986	Townsend
(A 338)	SZ 137 968	Occasional	Terrace	Road verge	CC/CB 1986	Townsend
Jocktrills Common	SZ 153 974	Frequent	Terrace and knolls within Floodplain	Acid grassland and bracken	RJG 1984	Townsend
The Decoy	SZ 145 971	Rare	Knoll within Floodplain	Acid grassland woodland	RMG 1986	
Town Common	SZ 142 968	Occasional	Terrace	Heathland	CC/CB 1986	Townsend
	SZ 143 968	Occasional	Terrace	Heathland	CC/CB 1986	Townsend
	SZ 145 966	Frequent	Terrace	Heathland	CC/CB 1986	Townsend
Knoll	SZ 147 966	Rare	Knoll in Floodplain	Acid grassland woodland	CC/CB 1986	
Cowards Marsh	SZ 152 949		Terrace	Acid grassland	FW 1984	
	SZ 152 952	Rare	Ridge in Floodplain	Acid grassland	CC 1986	
Town Common	SZ 150 949	Occasional	Terrace	Scrub heathland	CC/AJB/RF1987	Townsend

Key to recorders:

AJB	A J Byfield	CB	C Black
CC	C Chatters	RG	R Gibbons
RF	R Fitzgerald	RMG	R McGibbon
RW	R Walls	FW	F Woodhead

sedge 'dune' are known from the former Bisterne Warren where rabbits still contribute to providing open sand. Unfortunately until the emergence of documentary evidence or the analysis of buried peat soils one may only speculate as to when these dunes were last active.

Where the sand sedge communities are well developed one may begin to draw parallels with the Breckland flora of East Anglis. The more mature, stable areas become colonised with heather *Calluna vulgaris*, bell heather *Erica cinerea* and bracken *Pteridium aquilnum*. Disturbed areas support an abundance of mossy stonecrop *Crassula tillaea* along with a wide variety of clovers including *Trifolium ornithopodioides, T. striatum, T. subterraneum* and *Ornithopus perpusillus*. Elsewhere may be found the true chamomile *Chamaemelum nobile*, sand spurrey *Spergularia rubra*, sheeps bit *Jasione montana*, prickly sedge *Carex muricata* and lesser quaking grass *Briza minor*. In their turn the sand sedge communities grade into a variety of other open grassland habitats including heath, wet and dry acid grassland, poached pond fringes and base enriched riparian grasslands.

Sand sedge occurs regularly within the surviving fragments of heath adjoining the Avon Valley. Within living memory heathland was the dominant land use of the Valley's terraces between Ringwood and Christchurch. There are no grounds to doubt that the destruction of heaths within this area has obliterated unrecorded colonies of the sedge.

With the progressive fragmentation of the semi-natural vegetation within the Valley, the inter-relationship of the sand dependent vegetation with the river, heaths and farmlands is being obscured. There is the possibility that with the disruption of traditional land-use patterns, the processes which have sustained the sand sedge communities will not be perpetuated. The inevitable consequence of such dramatic change in land use will be further reductions in the species' distribution and vigour.

The abundance of sand sedge vegetation within the Avon Valley may be favourably compared with the colonies on the Lincolnshire and Surrey heaths. Of particular interest is the peculiar association of open sand communities to a major river valley. Such features as the isolated colonies within the floodplain are without parallel in Britain. Although dramatically modified by recent events the sandy heaths and grasslands of the Avon are a most interesting and valuable part of our native vegetation.

REFERENCES

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Author: Clive Chatters, Nature Conservancy Council, 1 Southampton Road, Lyndhurst, Hampshire SO43 7BU.