

MICROFOSSILS FROM THE WOOTTON BASSETT MUD SPRINGS (WILTSHIRE, UK)

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On the 6th January 1997, the mud springs at Templars Firs, Wootton Bassett (Wiltshire) were designated a Site of Special Scientific Interest (SSSI) under Sections 28 of the Wildlife and Countryside Act 1981 (as amended). The springs are notified on the basis of their hydrogeological interest, although the fossils brought to the surface by the springs are well-known and show exceptional preservation (often with the original aragonite still present). In autumn 2003, spring 2004 and summer 2005 a series of samples were collected with the permission of English Nature and these have been studied for their microfossil content. While foraminifera and ostracoda are exceptionally preserved, we have also found many specimens of otoliths (fish “ear bones”) that are quite rare in Jurassic strata. Their occurrence in our samples is, therefore, interesting. The fauna is dominated by forms identified as *Otolithus (Leptolepididarum) cf. simplex* Frost, 1924.

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INTRODUCTION

On the 6th January 1997 the mud springs at Templars Firs, Wootton Bassett (Wiltshire) were designated a Site of Special Scientific Interest (SSSI) under Section 28 of the Wildlife and Countryside Act 1981 (as amended). The springs are notified as an SSSI on the basis of their hydrogeological interest, although they are probably best known for their palaeontological interest. Water seeping through the Lower Calcareous Grit and Coral Rag (of Oxfordian age) liquefies the Ampthill Clay Formation which then migrates to the surface in a series of mud springs. Many of the fossils brought to the surface still display their aragonitic shells and are quite beautifully preserved. In autumn 2003, spring 2004 and summer 2005, a series of samples were collected with the permission of English Nature (now Natural England) and these have been washed for foraminifera, ostracods and other microfossils. The microfauna has been described in a BGS Report (Wilkinson, 1996) and by Harding *et al.* (2000), although the foraminiferal assemblage is much more extensive and yields all the taxa associated with this stratigraphical interval (see Henderson, 1997; Oxford, 2004). Many aragonitic taxa (epistominids) are beautifully preserved, including some of the stratigraphically significant taxa. Large agglutinated foraminifera (especially *Ammobaculites coprolithiformis*) appear to dominate one of the mud vents and are in an exceptional state of preservation. In the literature, many of these have been referred to modern taxa, although this is almost certainly incorrect. The material from Wootton Bassett should allow for a more appropriate determination of these taxa.

LOCATION AND GEOLOGICAL SETTING

In the years prior to designation as an SSSI, there was a period of relatively sustained media interest. In 1988 W.I. Stanton reported that his knowledge of the Wootton Bassett mud springs dated back to 1974 when, as the River Authority geologist, he had visited the Templars Firs site where a small

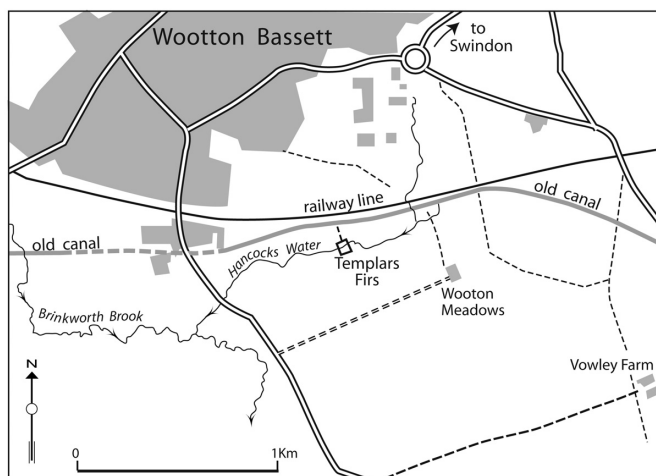


Figure 1. Location of the Wootton Bassett Mud Springs SSSI.

stream (Hancocks Water) had been obstructed by a mass of grey clay. As workmen had tried to clear the clay from the stream, grey liquid mud “gushed into the channel from beneath tree roots”. The mud is reported to have spurted ~ 30 cm into the air at a rate estimated at ~ 8 litres per second. As the village of Wootton Bassett was expanding at that time (mid-1970s), Stanton contacted the Nature Conservancy Council with a view to the site being recognised as an SSSI (Figure 1).

Stanton’s (1988) article prompted a reply from R.P. Gosnell, a local resident of Wootton Bassett, who had recently visited the site to check if things had changed since 1974. Gosnell (1989) reported the occurrence of the brachiopod *Rbactorbynchia inconstans*, specimens of which had been identified by B.M. Cox of the British Geological Survey. Stanton (1996) described the changes to the site since his visit in 1974 and reported that the springs were about to be designated an SSSI by the NCC.