Geology of the Sidmouth District

by R. A. Edwards and R. W. Gallois, 2004

A brief explanation of the Geological Map sheets 326 and 340 Sidmouth,
ISBN 08527224772, (paperback), British Geological Survey, Keyworth, £9, 30pp

If it were necessary, the new style Mini-Memoir, *Geology of the Sidmouth District* by R. A. Edwards and R. W. Gallois from the BGS, makes a strong case justifying this approach in publication. In the normal way of publication. we might have waited for the production effort needed for the full length Memoir, appearing with the copy of the revised map to Sheet 326 and sheet 340, however long they needed completion. As it is. however. we have the meat from the two presented in a palatable form at a final price which is reasonable, both points which have an appeal.

From the combined areas, we have the welcome coverage for the Trias spectacular of the Dawlish Warren and the cliff coast at Salcombe, surely the most impressive outcrops of this neglected system. Neglected only by the fossil hunters, but outstanding for dune cross-bedding interlaced with contrasting river channel units which are also cross-bedded. Also within the memoir boundaries are the unrivalled Lias cliffs of Lyme Regis, once again a balance between potentially the best fossil collecting and the contemplation of the mysteries of rhythmic sedimentation in Jurassic shallow seas.

The system successions are given graphically in litho-log form: Triassic, Jurassic and Cretaceous. giving a direct summary of the sequences at a glance. The Jurassic here is virtually only the Lias base to the system, which brings home a time gap referred to by Eduard Suess as one of 'the greatest breaks in world stratigraphy' the erosion and overstepping by the Albian across older rocks. Here in the Sidmouth succession, it amounts to the cutting out of the bulk of the Middle and Upper Jurassic which is so much a feature of the now World Heritage Coast.

The Cretaceous rocks above the break are the chalks of the Beer cliffs which involve lithologies other than the pure white limestones we meet further east along the south coast. Rubbly chalks the result of active bioturbation; other crusty layers which are hard grounds produced by pauses and karstification of the lime muds, diversify the succession. The Beer succession is striking in another way in the spectacular Hooken Landslips between Beer and Branscombe. Whole sections of the tall cliffs have slid towards the sea in drunken attitudes, a geomorphology which can't fail to impress walkers on the South West Coast Path threading its way the entire width of the Sidmouth sheet *en route* for Dorset.

It is a feature of mini-memoirs that they offer a chapter on applied geology, and so it is here for Sidmouth. This allows focus upon Beer Stone, one of the more important of our chalks which have been used as building stone since the Norman Conquest, featuring in most south country cathedrals, along with the Greensand Sindon Sandstone which figures so prominently in Exeter Cathedral. Greensand also provided good sharpening stone in the days before carborundum, whilst the hydraulic cement value of Lias limestones also deserved mention as a national resource before the appearance of Portland type Cements of our present age. Landslip problems and history and coastal erosion round off local geology as it impinges upon everyday life. Much of this is summarized in a two-page table which looks at the engineering characteristics of local rocks in a way is novel and something of an innovation for Survey Memoirs.

For many reasons, this should be a 'good buy' for anyone walking the Coastal Path, and heading for the well-publicized Jurassic Coast, for which a similar mini-memoir would be a useful adjunct to the colourful literature which that project has generated.

Eric Robinson

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(Many thanks to Peter Doyle, Editor of *Geology Today* , for allowing us to reprint this review, and to Eric for making us aware of the publication. I'm sure that Ramues' mini-memoir is going to be valuable to OUGS SW members. Dee)