

BUILDING STONES OF WIVELISCOMBE, WEST SOMERSET

D. D. CLARK-LOWES



Clark-Lowes, D.D. 2026. Building stones of Wiveliscombe, West Somerset. *Proceedings of the Ussher Society*, 16(1), 69–74.

A brief description is given in this paper of the main traditional building stones of Wiveliscombe. These are the Devonian Pickwell Down Sandstones of the late Devonian to early Carboniferous Exmoor Group and the Triassic 'Milverton Conglomerates'. These 'Milverton Conglomerates', which are mainly pebbly sandstones and are related to the Budleigh Salterton Pebble Beds, are now attributed to the Chester Formation. Also described are the traditional roofing slates used in the area, the Devonian Morte Slates, as well as some building stones that were brought in from elsewhere.

*Nubian Consulting, Oak Court, Silver Street, Wiveliscombe, Taunton,
Somerset TA4 2PA
(d.clarklowes@nubianconsulting.co.uk)*

Keywords: Budleigh Salterton Pebble Beds, Pickwell Down Sandstones, Morte Slates, Wiveliscombe, Milverton, Somerset, Building Stones

INTRODUCTION

Wiveliscombe lies at the west end of Taunton Vale close to the unconformable geological boundary between the Permo-Triassic red beds to the east and the underlying Upper Paleozoic sandstones, slates and limestones of the Culm Basin to the west (Fig. 1). The building stones of West Somerset have been described by Prudden (2003) and Dawson and Wright (2018, 2021) whilst, in King *et al.* (2011), the results of an

impressive regional atlas of building stones prepared by the 'Strategic Stone Study Group' is presented.

The red soils of the gently sloping fields that lie eastwards from Wiveliscombe, past Milverton (a neighbouring village lying three miles to the east of Wiveliscombe), and on towards Taunton bear witness to iron-rich calcareous red sandstones of the Permo-Triassic succession that fill the lower parts of the landscape (Prudden, 2001). Within this succession are the Lower Triassic pebbly sandstones of Castle Hill (a Neolithic

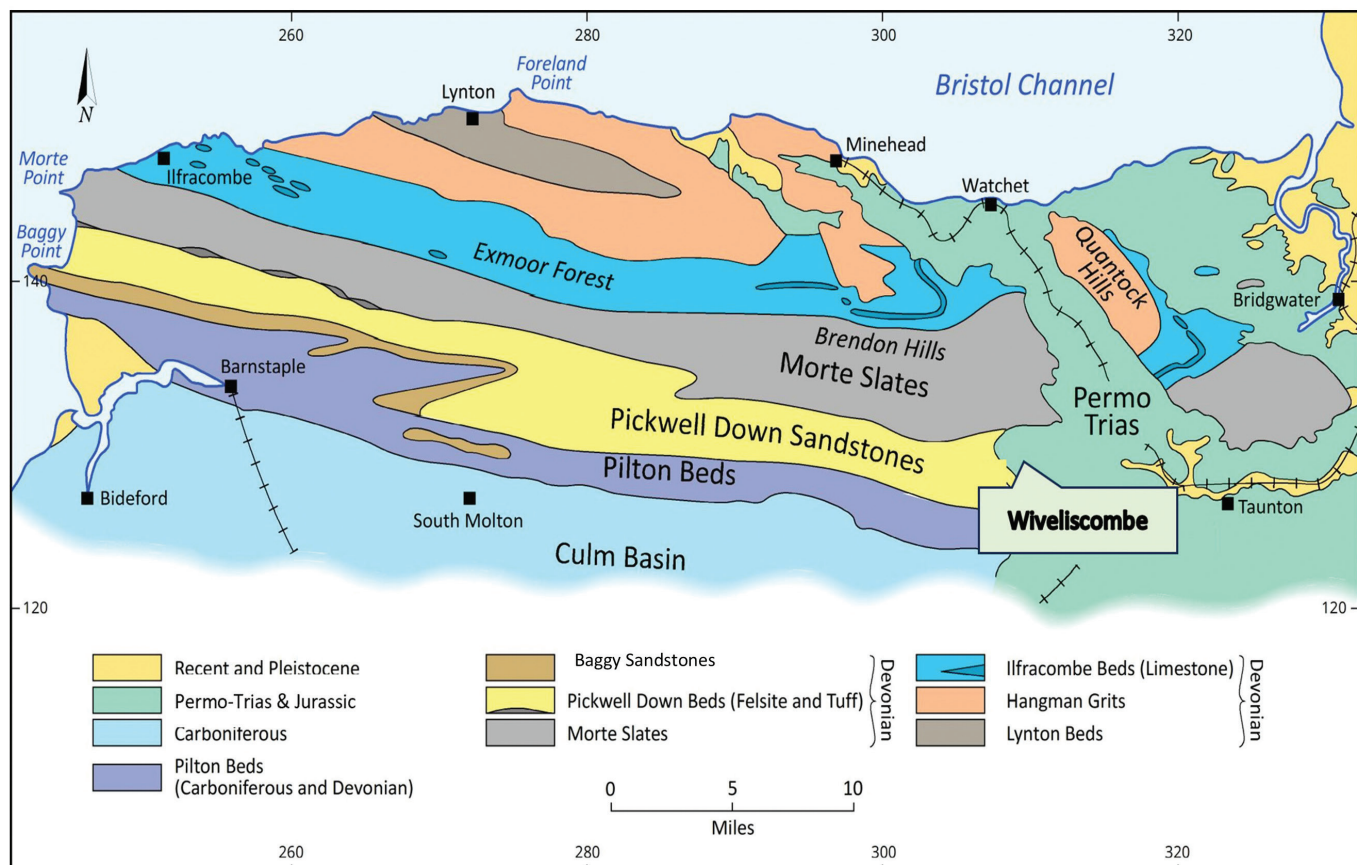


Figure 1. Geological map of north Devon and west Somerset after Edmonds, McKeown and Williams (1975).



Figure 2. *Morte Slates-cladding a west facing wall of one of the taller buildings of Wiveliscombe.*

hill fort located between Wiveliscombe and Milverton) where lime kilns can be seen and weathered cliffs reveal the former existence of major building stone quarries (eighteenth and nineteenth centuries). These calcareous pebbly sandstones were easy to cut but commonly somewhat friable, being, in many cases in the town, highly degraded. At Castle Hill a large proportion of the pebble clasts are limestone, differentiating these beds from the Budleigh Salterton Pebble Beds where the great majority of clasts comprise a distinctive purple metaquartzite.

To the west of Wiveliscombe, in the Brendon Hills, the Devonian succession has a southerly dip so that from north to south successively younger formations are exposed until the sandstones and limestones of the Carboniferous 'Culm Basin' appear southwest of the town. Slates and sandstones are present in the Devonian succession that have been used extensively in the past for building and roofing. These include the Morte Slates, used for roofing, and sandstones of the Pickwell Down Sandstone Formation, the most important building stone of Wiveliscombe.

DEVONIAN BUILDING STONES AND SLATES

North of Wiveliscombe the Upper Devonian Morte Slates are exposed, the slate being named after Morte Point, where these slates are present along strike (Fig. 1), shipwrecks off the dangerous headland having given rise to the name. The slates are silvery-grey to green coloured and there are subordinate sandstones and siltstones. The well-developed cleavage has removed what fossils there may have been in the original submarine muds. The slate was extracted at Oakhampton Quarry and used extensively for roofing and slate-cladding on west facing walls of the taller buildings in Wiveliscombe (Fig. 2). The quarry closed in the 1920s, better-quality slate being available from further afield. Although Oakhampton Quarry is unsuitable for geological visits, the Morte Slates can be viewed at Clatworthy Reservoir where a terrace cut for the positioning of a winding station during the construction of the dam in 1959 provides good exposure. Access is being facilitated by Wessex Water as part of a local conservation programme (Fig. 3).

Lying stratigraphically above the Morte Slates are sandstones of the Uppermost Devonian Pickwell Down Sandstones Formation. The sandstones are purple and reddish brown in colour, hard and irregular, showing evidence of mild metamorphism. This is the predominant building stone for buildings and boundary walls in Wiveliscombe (Dawson and Wright, 2018), the Permo-Triassic sandstones being subsidiary, save for the Parish Church which, when rebuilt in c.1828, was constructed almost entirely with the local Triassic pebbly sandstone.



Figure 3. *North side of Clatworthy Dam showing main Variscan cleavage in the Devonian Morte Slates dipping to left (south); soil creep above has deformed the beds; inset is crenulation cleavage seen on south side of dam.*



Figure 4. *The most common building stones in Wiveliscombe: the Devonian Pickwell Down Sandstones, exhibited here in the Old Reading Rooms; inset shows regularly shaped blocks of ashlar. Note use of Ham Hill Stone for the surrounds of windows and the door.*



Figure 5. *Abbotsfield House with neat courses of ashlar.*



Figure 6. Disused quarry in the grounds of Abbotsfield House.

The Pickwell Down Sandstones are cut into neat blocks for the creation of courses of ashlar in some buildings whilst elsewhere it is present in irregular-shaped blocks, especially in boundary walls. The Old Reading Rooms in Silver Street and the Collard family's large country house, Abbotsfield, on the hill to the west of Wiveliscombe, have neat courses of Pickwell Down ashlar (Figs 4, 5).

An overgrown quarry only a few hundred metres from the house is presumed to have been the source of this building stone (Fig. 6). Only the grander buildings could afford the neat courses of ashlar. The walls of houses in West Road display the more common irregularly shaped blocks (Fig. 7).

The Pickwell Down Sandstones and the Morte Slates belong to the Exmoor Group (late Devonian to early Carboniferous in age). The slates are formed from submarine muds whilst the Pickwell Down Sandstones developed in shallow marine conditions. Cross bedding and ripple lamination are commonly displayed.

The Pilton mudstone beds and overlying Westleigh Limestone of the 'Culm Basin' that lie above the Pickwell Down Sandstones and outcrop to the southwest of Wiveliscombe (Fig. 1) are not known to have been used as building stone in and around Wiveliscombe, but the Westleigh Limestone was used extensively for buildings in Taunton.

TRIASSIC BUILDING STONES

The main Triassic building stone of Wiveliscombe was given the name 'Milverton Conglomerates' by Laming (1968,



Figure 7. Typical building style exhibited in West Road with inset showing irregular arrangement of building stones.

see also Laming, 1966) (Fig. 8). In the most recent BGS map of the area (Edmonds and Williams, 1984), these beds are shown as Budleigh Salterton Pebble Beds (BSPB), overlain by the Otter Sandstone (see also Edmonds and Williams, 1985). Wiveliscombe is shown as being situated on the underlying Wiveliscombe Sandstones – a basal Permo-Triassic unit sitting unconformably on Devonian strata. Although the Wiveliscombe Sandstones have been used for building in a number of cases, including the town's brewery (Edmunds and Williams, 1985, pp. 29–30, 67), this building stone is subsidiary to the widely used BSPB. The Wiveliscombe Sandstones are separated from the BSPB by the Vexford Breccias and the Littleham Mudstone (Fig. 8). Neither of these are thought to have been used for any significant building work. These stratigraphical names go back to the nineteenth century when, in the 1870s, William Augustus Edmond Ussher mapped the area (Ussher, 1889).

Smith and Edwards (1991) commented on the differences between the BSPB at Milverton and at Budleigh Salterton, mapping this unit from south to north through East Devon and west Somerset showing that the distinctive exotic purple metaquartzite pebble clasts that are the dominant component of the conglomerate at Budleigh Salterton largely die out northwards at a position east of Tiverton, the metaquartzites being replaced by locally derived clasts. Pebbles of the purple metaquartzite have, however, been reported much further north, in Staffordshire (Dimes and Timms, 1990).

The locally derived clasts found in the pebble beds north of Tiverton and in the Milverton area are thought to have been

Period	Group name	Lithostratigraphic names		
		Ussher (1902)	Edmonds & Williams, 1985 (and references within), BGS lexicon (accessed Aug 2026)	
Triassic	Sherwood Sandstone Group	Upper Sandstones	Helsby Sandstone Formation	Otter Sandstone
		Pebble Beds and Conglomerates	Chester Formation	Milverton Conglomerates / Budleigh Salterton Pebble Beds
	Aylesbeare Mudstone Group	Lower Marls	Littleham Mudstone Formation	Littleham Mudstones
		Breccio-Conglomerates	Exmouth Sandstone-and-Mudstone Formation	Vexford Breccias
Permian	Exeter Group	Lower Sandstones	Clyst Sands and equivalent breccias	Wiveliscombe Sandstones

Figure 8. Simplified Permo-Triassic stratigraphy of the Wiveliscombe area; the right-hand lithostratigraphic column shows informal terminology; the left-hand column is the terminology of Ussher (1902); the central column gives current terminology (Edmonds and Williams, 1985, and BGS Lexicon of Named Rock Units).

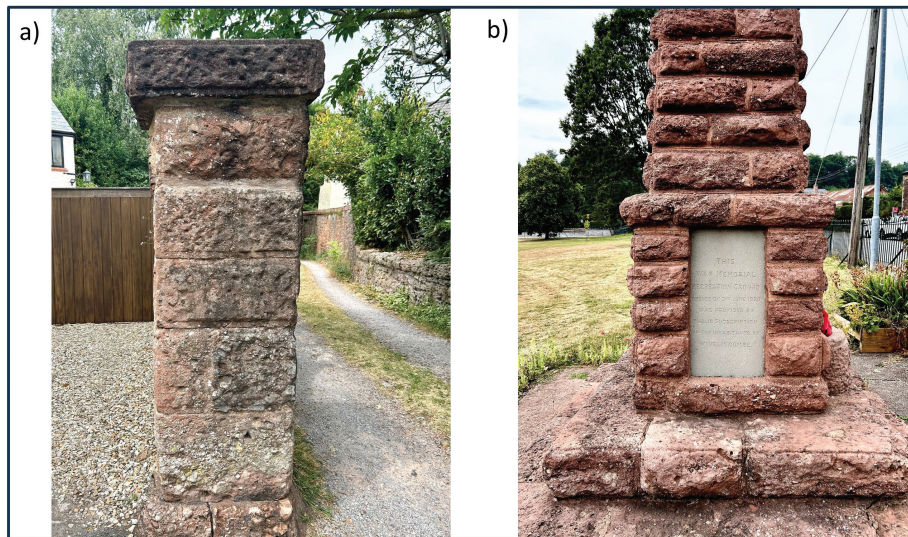


Figure 9. Examples of the use of rectangular blocks of the pebbly sandstone facies of the Budleigh Salterton Pebble Beds in a) gateway pillar and b) the town's war memorial.

transported laterally into the alluvial system from a hinterland which lay to the west and north-west, where Devonian and Carboniferous sandstones and limestones were being eroded. The relatively soft sandstone and limestone clasts of this calcareous sandstone ensured the rock could be cut into building stone blocks with some ease, indeed being cut decoratively in certain instances (Fig. 9). When weathered the cobbles of sandstone and limestone disaggregate and can still be found along field margins, despite them having been culled extensively in the past for 'cobbling' of footpaths.

Three facies groups may be identified. The first is the pebbly calcareous sandstone with rounded pebbles and cobbles, mainly of limestones and sandstones, the second is a gritty breccia with angular clasts of quartz and lithic fragments and the third is a cross-bedded sandstone. Building stone examples of these from Wiveliscombe are illustrated in Figure 10. To the east of Wiveliscombe, where the BSPB is exposed at Castle Hill and west of Milverton, there are numerous overgrown quarries, and even cave systems, where these facies groups may be studied. Landowner permission is required to gain access.

These facies characteristics are thought to provide evidence of deposition in the Wiveliscombe area on proximal alluvial fans feeding into a local river system (Smith and Edwards, 1991). These local rivers are thought to belong to a major river system that had its source in northern France and which

extended far northwards, at least to the Cheshire Basin, and which has been named the 'Budleighensis River system' (Ruffell and Hounslow, 2006; Radley and Coram, 2016) (Fig. 11). The aforementioned distinctive purple metaquartzites of the BSPB provide the evidence of a French source for these clasts, from the Armorican Massif uplifted in the Variscan Orogeny (Kellaway, 1970).

Research on the BSPB by Radley and Coram (2016) focussed on the 'triggers' for the early Triassic influx of coarse clastic detritus and of the possibility that climate may have been the driving force (as opposed to tectonics). Just as Bryan Lovell has suggested that the Hertfordshire Puddingstone was a product of the Paleocene Eocene Thermal Maximum (PETM), a time of high levels of atmospheric carbon dioxide and consequent aridity (Lovell, 2009), so Radley and Coram (2016) considered an extreme climate event may explain the characteristics of the BSPB. They considered the 'Budleighensis river system' to be a response to an extreme Early Triassic greenhouse climate characterised by high temperatures, aridification, de-vegetation, heavy floods and high erosion rates. Some authors suggested that there may have been 'oases' within this desert environment (Gallois, 2004) and evidence suggestive of this concept is present in one of the Wiveliscombe walls where a large cobble containing flowstone, such as that present at an arid spring, is present (Fig. 12).

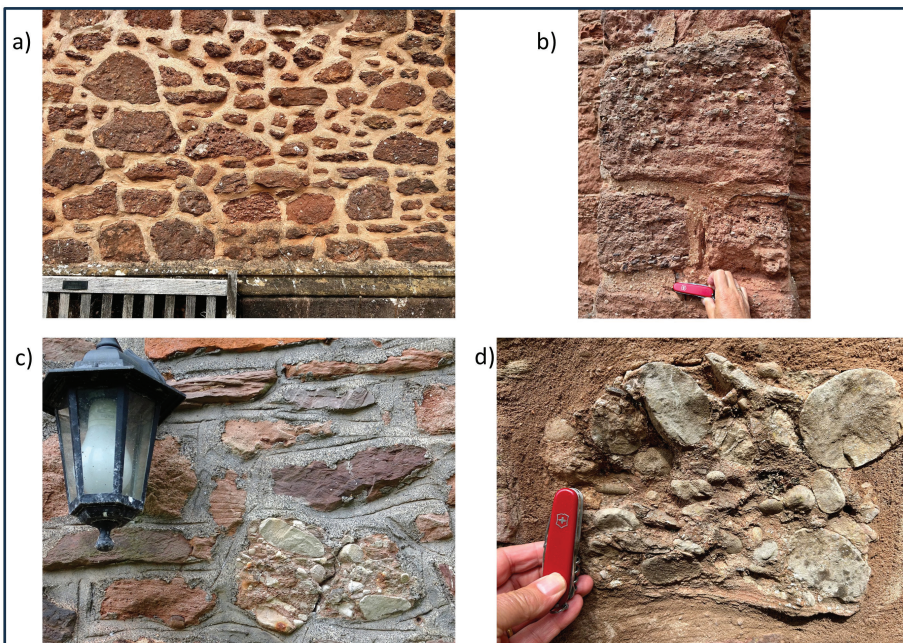


Figure 10. Examples of the different facies of the BSPB in Wiveliscombe buildings.

a) and b) irregular blocks of the gritty breccia predominate in the walls of Wiveliscombe's Georgian Church; c) wall constructed with a mixture of the darker Pickwell Down Sandstones and the lighter BSPB sandstones, some cross bedded and some conglomeratic and d) another example of the conglomeratic sandstone with very well-rounded limestone cobbles.

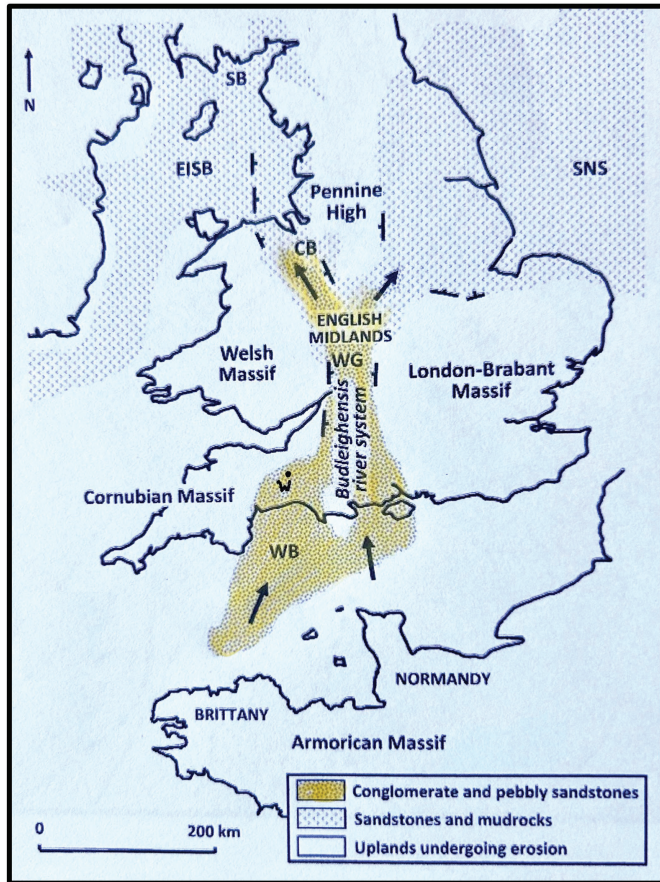


Figure 11. Palaeogeographical reconstruction of the Budleighensis River system. W, Wiveliscombe; WB, Wessex Basin; WG, Worcester Graben; CB, Cheshire Basin; EISB, East Irish Sea Basin; SB, Solway Basin; SNS, Southern North Sea. After Radley and Coram (2016).

OTHER BUILDING STONES

Finally, several building stones are present in Wiveliscombe that were brought from elsewhere. In particular, Middle Jurassic Bath Stone and Lower Jurassic Ham Hill Stone were used decoratively as quoins and window surrounds in buildings that justified the additional expense. Bath Stone, a cream-coloured oolitic limestone, was used in the Old Reading Rooms, for a 'false' arch (Fig. 4), and extensively at Abbotsfield (Fig. 5). Ham Hill Stone, quarried at Ham Hill in east Somerset in the Ham Hill Limestone Member of the Bridport Sand Formation, is a honey-coloured oolitic and shelly limestone that was used, for example, in the construction of the old Lloyds Bank building in the High Street of Wiveliscombe (Fig. 13).

CONCLUSIONS

The Devonian Pickwell Down Sandstones, dark red and hard, are the predominant building stone of Wiveliscombe. The subordinate building stone comprises sandstones, gritty breccias and pebbly conglomerates of the Triassic Budleigh Salterton Pebble Beds (Chester Formation). These red and orange lithologies are paler in colour than the Devonian building stones and are relatively soft. The locally quarried Devonian Morte Slates have been used in the past for roofing and cladding walls. Building stones brought in from elsewhere include Bath Stone and Ham Hill Stone, these being used predominately for decorative purposes.



Figure 12. Large cobble containing flowstone present within a boundary wall composed of both Pickwell Down and BSPB sandstones.



Figure 13. The former Lloyds Bank building in Wiveliscombe with elegant display of Jurassic Ham Hill Stone.

ACKNOWLEDGEMENTS

I am indebted to Garry Dawson and Susanna van Rose for discussions on local building stones. I am grateful to Jenny Bennett and Andy King for their reviews of this paper and to Andy King for Figure 8. Thanks are due to the church wardens for permission to photograph the Wiveliscombe church walls. All the photographs were taken by the author. Thanks go to Gary Warmington for drafting Figure 1.

REFERENCES

- DAWSON, G.J. and WRIGHT, P. 2018. A survey of the use of traditional building stones in west and south Somerset. *South West Heritage Trust, Somerset County Council*.
- DAWSON, G.J. and WRIGHT, P. 2021. A new methodology for collecting and analysing building stone information and its potential benefits to local planning and geology. *Geoscience in South-West England*, 15, 1–11.
- DIMES, F.G. and TIMMS, A. 1990. The building stones and geological background to Lichfield Cathedral. *Guidebook Natural History Museum Field Study Tour*.
- EDMONDS, E.A., MCKEOWN, M.C. and WILLIAMS, M. 1975. *British regional geology: south-west England*. HMSO, London.
- EDMONDS, E.A. and WILLIAMS, B.J. 1984. Geological map of Taunton area. BGS Sheet 295 (Solid and Drift). British Geological Survey.
- EDMONDS, E.A. and WILLIAMS, B.J. 1985. Geology of the country around Taunton and the Quantock Hills. Memoir for 1:50,000 geological sheet 295 (England and Wales).
- GALLOIS, R.W. 2004. The Budleigh Salterton Pebble Bed: a review of its stratigraphy, sedimentology and palaeogeography. *Geoscience in South-West England*, 11, 9–18.

- KELLAWAY, G.A. 1970. The origin of the Budleigh Salterton Pebble Bed. *Proceedings of the Geologists' Association*, 81, 1–26.
- KING, A., PRUDDEN, H., BARR, M. and DONOVAN, D., 2011. A Building Stone Atlas of Somerset and Exmoor. *Strategic Stone Study*. English Heritage.
- LAMING, D.J.C. 1966. Imbrication, paleocurrents and other sedimentary features in the lower New Red Sandstone, Devonshire, England. *Journal of Sedimentary Research*, 36(4), 940–959.
- LAMING, D.J.C. 1968. New Red Sandstone stratigraphy in Devon and west Somerset. *Proceedings of the Ussher Society*, 2, 23–25.
- LOVELL, B. 2009. *Challenged by Carbon: The Oil Industry and Climate Change*. Cambridge University Press, Cambridge, 232 pp..
- PRUDDEN, H.C. 2001. *Geology and Landscape of Taunton Deane*. Taunton Deane Borough Council, 141pp.
- PRUDDEN, H.C. 2003. Somerset building stone – a Guide. *Proceedings of the Somerset Archaeological and Natural History Society*, 146, 27–36.
- RADLEY, J.D. and CORAM, R.A. 2016. The Chester Formation (Early Triassic, southern Britain): sedimentary response to extreme greenhouse climate? *Proceedings of the Geologists' Association*, 127, 552–557. <https://doi.org/10.1016/j.pgeola.2016.08.002>
- RUFFELL, A. and HOUNSLOW, M. 2006. Triassic: seasonal rivers, dusty deserts and saline lakes. In: RAWSON, P. F. and BRENCHLEY, D. P. (eds), *The Geology of England & Wales*. (pp. 295–325). Geological Society of London.
- SMITH, S.A. and EDWARDS, R.A. 1991. Regional sedimentological variations in Lower Triassic fluvial conglomerates (Budleigh Salterton Pebble Beds), southwest England: some implications for palaeogeography and basin evolution. *Geological Journal*, 26, 65–83.
- USSHER, W.A.E. 1889. Geological Map of West Somerset, shewing the relations of the Triassic and Devonian Rocks. *Proceedings of the Somerset Archaeological and Natural History Society*, Vol. XXXV, part 11, 1–36.
- USSHER, W.A.E. 1902. The Geology of the Country Around Exeter:(Explanation of Geological Sheet 325). HMSO, London.