

Přídolí Series, Silurian, Wales

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In Přídolí times, coastal and eventually fluvial/alluvial environments dominated the patterns of sedimentation. In mid Přídolí times, brief marine incursions encroached across the Midlands into the Welsh Borders, but farther west the Old Red Sandstone molasse facies spread across the emergent landmass. The classic localities of the Přídolí sequence lie in the Welsh Borders and particularly around Ludlow, where it comprises ripple-laminated sandstone and olive-green lenticular siltstone (Downton Castle Sandstone Formation). At its base, the Ludlow Bone Bed Member less than 0.3 m thick, contains five or more thin beds, each a few millimetres thick, with fish and brachiopod fragments, which formed as lag sand concentrates in the intertidal zone. Westwards, Přídolí strata crop out in the outliers around Clun Forest and Knighton, and are extensively exposed across the Black Mountains and Mynydd Eppynt. The olive-green mudstone and grey-green micaceous sandstone (Temeside Mudstone Formation and equivalents) are overlain by red-brown to purple-brown micaceous mudstone (Raglan Mudstone Formation; [P916178](#)). The latter include subordinate sandstones, which, in association with common calcretes, are stained green and purple. The sandstones form the bases of fining-upwards, alluvial cycles that are rich in minerals and rock fragments typical of a metamorphic terrain, possibly derived from north-west Scotland. The sedimentological features suggest deposition from streams meandering across a coastal plain. These beds, of mid Přídolí age, have yielded a diverse flora of early plant megafossils.

Calcretes are distinctive and common in the Raglan Mudstone Formation. They range from scattered limestone nodules to rubbly and massive limestones, and record periods of emergence and soil development. Some are estimated to have developed over 10 000 years, in relatively hot climatic conditions with low seasonal rainfall. At the top of the succession, the massive 'Psammosteus Limestone' is persistent throughout south Wales and the borders and, on miospore evidence, the Silurian-Devonian boundary is considered to lie slightly below it. The 'limestone' has been shown to be diachronous relative to the fish zones from which the name was derived. About the Wye valley, the unit has been renamed the Bishop's Frome Limestone Member. To the south-west, the Přídolí sequence gradually oversteps the underlying Silurian strata. In Pembrokeshire, the Old Red Sandstone facies was probably established in Ludlovian times (Red Cliff Formation), and north of Milford Haven the boundary is conformable. The Přídolí lies within the lower part of a sequence of calcareous mudstone and siltstone with common calcretes (Milford Haven Group) [\(P916178\)](#), which are interpreted as deposits of marginal marine and distal fluvial environments. Thin beds of variably coloured distal air-fall tuffs (termed 'magenta beds' by the early geological surveyors) are common, for example in the road section on the east side of Sandy Haven. The tuffs vary from fine-grained, 'greasy' weathered dust tuffs to coarse-grained crystal tuffs with flinty fine-grained tops. Most of these tuffs cannot be correlated with confidence but two, the Townsend Tuff and Pickard Bay Tuff beds, have been used extensively as marker horizons. These tuff beds are well exposed on either side of the Ritec Fault, at Little Castle Head, on the north shore of Milford Haven and along Pickard Bay, west of Freshwater West. Both horizons are composite, consisting of three beds of graded, crystal lithic tuff to dust tuff with parallel laminations and rippled tops. The Townsend Tuff Bed can be traced through the Black Mountains, where it lies some 50 m below the Bishop's Frome Limestone, and into the Welsh Borderlands. In the Cardiff inlier, the Raglan Mudstone Formation rests on a thin bone bed that is correlated with the Ludlow Bone Bed.

Bibliography

- CAVE, R, and HAINS, B A. 2001. Geology of the country around Montgomery and the Ordovician rocks of the Shelve area. *Memoir of the British Geological Survey*, Sheet 165 Montgomery with part of Sheet 151 Welshpool (England and Wales).
- CAVE, R, and LOYDELL, D K. 1997. The eastern margin of the Aberystwyth Grits Formation. *Geological Journal*, Vol. 32, 37-44.
- COCKS, L R M, WOODCOCK, N H, RICKARDS, R B, TEMPLE, J T, and LANE, P D. 1984. The Llandovery Series of the type area. *Bulletin of the British Museum, Natural History*, Vol. 38, 131-182.
- COCKS, L R M, HOLLAND, C H, and RICKARDS, R B. 1992. A revised correlation of Silurian rocks in the British Isles. *Geological Society of London Special Publication*, No. 21.
- COPE, J C W, INGHAM, J K, and RAWSON, P F. 1992. Atlas of palaeogeography and litho-facies. *Memoir of the Geological Society of London*, No. 13.
- DAVIES, J R, FLETCHER, C J N, WATERS, R A, WILSON, D, WOODHALL, D G, and ZALASIEWICZ, J A. 1997. Geology of the country around Llanilar and Rhayader. *Memoir of the British Geological Survey*, Sheets 178 and 179 (England and Wales).
- DAVIES, J R, WILSON, D, and WILLIAMSON, I T. 2004. The geology of the country around Flint. *Memoir of the British Geological Survey*, Sheet 108 (England and Wales). (London: HMSO.)
- ELLES, G L. 1900. The zonal classification of the Wenlock Shales of the Welsh Borderland. *Quarterly Journal of the Geological Society of London*, Vol. 56, 370-414.
- FORTEY, R A, and COCKS, L R M. 1986. Marginal faunal belts and their structural implications with examples from the Lower Palaeozoic. *Journal of the Geological Society of London*, Vol. 143, 151-160.
- HOLLAND, C H, and LAWSON, J D. 1963. Ludlovian facies patterns in Wales and the Welsh Borderland. *Liverpool and Manchester Geological Journal*, Vol. 3, 269-288.
- MERRIMAN, R J. 2006. Clay mineral assemblages in British Lower Palaeozoic mudrocks. *Clay Minerals*, Vol. 41, 473-512.
- WARREN, P T, PRICE, D, NUTT, M J C, and SMITH, E G. 1984. Geology of the country around Rhyl and Denbigh. *Memoir of the British Geological Survey*, Sheet 107 and parts of sheets 94 and 106 (England and Wales).
- WOOD, A, and SMITH, A J. 1959. The sedimentation and sedimentary history of the Aberystwyth Grits (Upper Llandoveryan). *Quarterly Journal of the Geological Society of London*, Vol. 114 (for 1958), 163-195.

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