

Wildlife and geology

John Tucker¹

TUCKER, J. (1987). Wildlife and geology. *Proceedings of the Shropshire Geological Society*, **6**, 5. The account of a lecture describing in the context of Shropshire how a knowledge of botany and zoology and habitats of organisms enhances knowledge of geology and helps to clarify the nature of underlying bedrock when there are no exposures.

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Certain plant species are indicative of the underlying bedrock of their habitat. Distribution maps from the '*Ecological Flora of Shropshire*' show how the Bee orchid only grows on soils overlying limestones, corresponding closely to Wenlock Edge. Gentian showed the same distribution, as did Quaking Grass (locally called 'totter grass') which also favoured agriculturally unimproved land. In comparison, Heath Grass occurred in patches on dry acid sands and acid areas in uplands. Mat grass occurred on upland areas and acid moorland and was a sure indicator of old rocks weathering slowly and thus corresponded to igneous and old rocks such as found on the Brown Clee. The Sundew plant favours acid soils and supplemented the lack of nutrients by catching and devouring small insects.

Insects too are indicative of the underlying bedrock, as some are specialist feeders, i.e. monophagous, and live on only one or two plants. If these plants are only found in certain areas so too are the insects. Illustrating this point the author described a butterfly called the Large Heath which feeds on White Beak Sedge which occurs only on Whixall and Wem Mosses – mosses are meres which have become clogged up and filled.

Certain snails are indicative of limestone and thus birds whose main diet is snails make such areas their habitat. Snailbeach is supposedly named after snails which occur in great numbers on the limestone outcropping in that valley.

Bats, which prefer cave-dwelling, are indicative of rocks which produce natural caves.

Some recent work on a site at Hartlebury Common between- Kidderminster and Worcester on the River Severn Terraces involved research into the geology and flora and fauna of the region.

There is evidence of a kettle hole where it is believed that a block of trapped ice slowly melted leaving a depression in the surrounding sandy soil; pollen samples in the vicinity can be carbon dated and give weight to this theory.

An old quarry at Stoney Hill, at the top of Jiggers Bank north of Coalbrookdale, has been worked-out and left to nature. Several different species have colonised the area. Slides show the Fir Club moss which only occurs elsewhere in Shropshire at Titterstone Clee. On the south-facing bank of Stoney Hill the soil is particularly acid having a pH as low as 2.6. Here Stagshorn Clubmoss is able to survive and only 12 other sites of suitable habitat are known in the UK.

Botanists have also been delighted at the discovery of Alpine Clubmoss at Stoney Hill as it had been extinct in Shropshire for two centuries. Certain areas of this site have been colonised by the Spotted orchid and the Bee Orchid.

It was interesting to note that from a naturalists point of view it was preferred to allow old mining and quarrying sites to be left for nature to 'deal with' rather than for them to be landscaped and grassed-over as nature tended to produce a rich and diverse flora and fauna.

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