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# Upper Millichope

[SO 5190 8977]–[SO 5213 8935]

## Introduction

Upper Millichope is a small hamlet about 12 km north-east of Craven Arms, Shropshire. For about 500 m to the north-west from the hamlet, the banks of a minor stream intermittently expose a section through the Middle Elton Formation of the Elton Group, Gorstian Stage, Ludlow Series (Figure 5.40). The Lower and Upper Elton formations are also displayed in the stream section but do not form part of the GCR site.

Upper Millichope is situated just to the southwest of the central part of the dip slope of the Wenlock Series scarp of Wenlock Edge. Shirley (1952) and Greig *et al.* (1968) have reported on the geology of the locality, which also appears in the field guides of Whittard (1958, locality 79) and Siveter *et al.* (1989; locality 2.9). The key studies of the section are the PhD work of Shergold (1967) and the findings of Shergold and Shirley (1968). Upper Millichope is chiefly celebrated as a richly fossiliferous locality; in particular, its trilobite faunas have long been prized. Its macrofaunal assemblages (Watkins, 1978a, 1979, p. 258, section 1E, fig. 22) and palynomorphs (Lister, 1970, text-figs 8, 11, 12) have received detailed attention.

## Description

The Lower Elton Formation consists of shaly, shelly-dominated siltstones. The junction with the Middle Elton Formation is drawn at the change to more compact, blue- and olive-grey, brown-weathering, blocky calcareous siltstones and silty mudstones, which here are approximately 100 m thick and dip at 10–12° to the south-east (Shergold and Shirley, 1968). The Middle Elton beds characteristically show irregular or conchoidal fracture; layers of argillaceous carbonate nodules are common in the formation, which also has about 15 bentonite layers.

Several of the shelly species found in the Lower Elton Formation, for example the brachiopod *Dicoelosia biloba* and the trilobite *Dalmanites myops*, range up into the basal 3–10 m of the Middle Elton. The lithological change from Lower to Middle Elton in the sequence coincides with the introduction of graptolites of the combined biozones of *Neodiversograptus nilssoni* and *Lobograptus scanicus*, with no less than 14 graptolite species recorded (Shergold and Shirley, 1968). *Saetograptus varians* and *N nilssoni* are common, *Colonograptus colonus colonus*, *Saetograptus chimaera chimaera*, *Monograptus uncinatus uncinatus*, *Monoclimacis micropoma*, *Saetograptus roemeri*, *Spinograptus spinosus*, *Pristiograptus dubius*, *Bohemograptus bohemicus*, *Saetograptus incipiens* and *Pristiograptus aff. tumescens* also occur. The trilobites *Leonaspis*, *Ananaspis*, *Rhaphiophorus* and *Dalmanites* are also well represented. Several brachiopod taxa are present (e.g. *Glossia*, *Aegiria* and *Isorthis*), as are acritarchs and chitinozoans (Lister, 1970), rarer orthoconic and cyrtoconic nautiloids, bivalves, gastropods and solitary corals and a largely undescribed fauna of ostracods (see Shergold and Shirley, 1968; Watkins, 1979). Watkins (1979) collected a faunal assemblage from 15.8 m of Middle Elton strata at Upper Millichope and assigned it to his *Glossia obovata* Association (Figure 5.41).

## Interpretation

The early Gorstian was a time of possible (eustatic) sea-level rise (e.g. see Hurst, 1975b; Bassett, 1976; Dorning, 1981a; Siveter *et al.*, 1989; Johnson *et al.*, 1991). The fine elastics of the Elton Group of Shropshire, which succeed late Wenlock bedded limestones and reefs, accumulated on the outer parts of the marine shelf (/shelf slope ?) of the Midland Platform area bordering the eastern margin of the Welsh Basin (see Siveter *et al.*, 1989, figs 8–10; Bassett *et al.*, 1992, fig. S4a). The volcanic centre for the source of the bentonites present at Upper Millichope and at other nearby Wenlock and Ludlow localities is unknown.

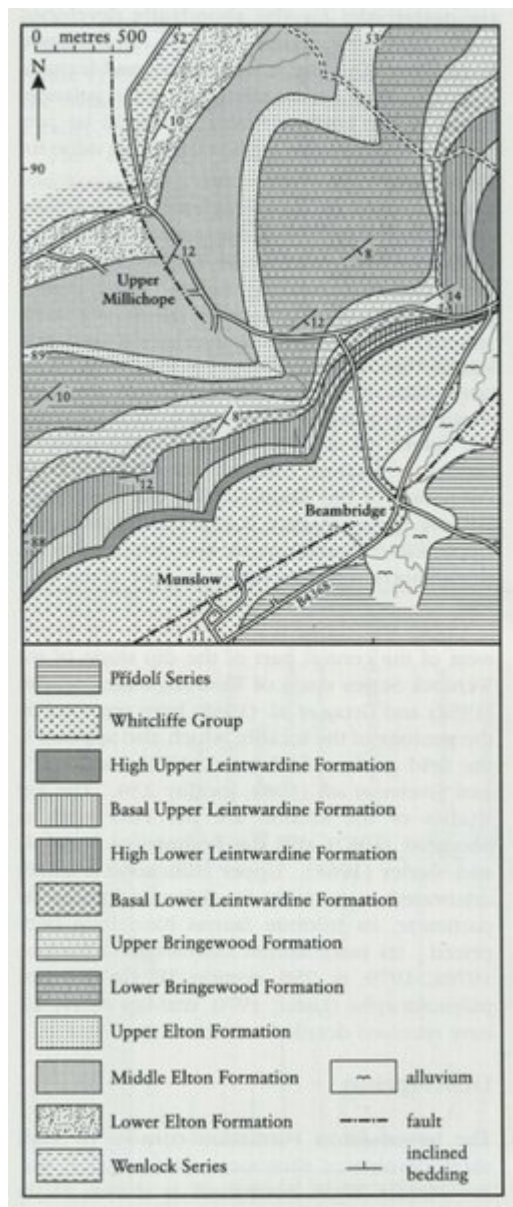
Though pelagic faunal elements (graptolites, nautiloids) are present in some numbers in the sequence at Upper Milliehope, the co-occurrence of brachiopods and characteristically disarticulated but nevertheless relatively locally derived (see Siveter *et al.*, 1989) trilobites and other associates indicates that bottom conditions were conducive to benthic life at such periods.

There are other GCR sites in the region that also have Middle Elton strata and are of like facies, such as Goggin Road, Burrington Farm Stream Section, Wigmore Road and Elton Lane in the Ludlow Anticline to the south.

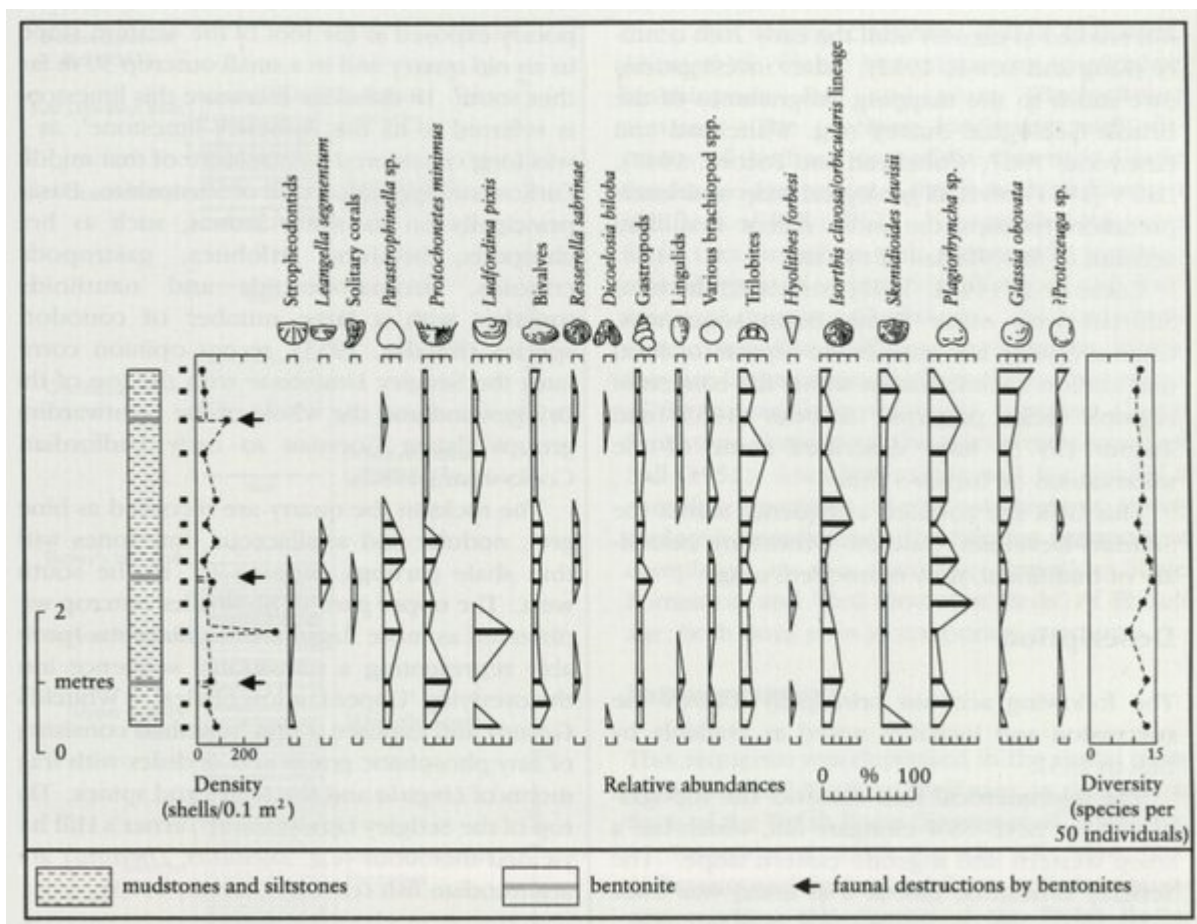
## Conclusions

This is a well-known site that provides a long, notably fossiliferous section through the Elton beds in ground contiguous with that of the type Wenlock Series. Its capacity to yield high numbers of finely preserved fossils is well documented; unfortunately, indiscriminate and excessive collecting has resulted in damage to the exposure. Its scientific value remains high, but access to the locality is granted only by special permission of the land owners and is strictly limited to small parties of *bona fide* researchers.

## References



(Figure 5.40) The geology of the Upper Millichope area, Shropshire (modified from Shergold and Shirley, 1968).



(Figure 5.41) Faunal profile of 15.8 m of Middle Elton Formation strata at Upper Millichope, Shropshire (modified from Watkins, 1979): the *Glassia obovata* Association of Watkins (1979).