
'The Cliff', Gedgrave, Suffolk

[TM 3972 4863]

Highlights

The locality at The Cliff', Gedgrave, provides, in a single section, the opportunity to examine the rich shelly fauna of the Ramsholt Member and to see the cross-bedded Sudbourne Member which overlies it. This is the most southerly exposure of the main Coralline Crag outcrop.

Introduction

The exposure of Coralline Crag on the bank of the Butley River at The Cliff' has been known since at least 1890 when it was recorded by Reid in his synopsis of the British Pliocene deposits. It was later recorded by Harmer (1898) and is shown on his map of Coralline Crag localities as 'locality 3'. Baden-Powell (1960) drew attention to the rich fauna from this locality and observed that as a collecting site it had previously always been overshadowed by the famous 'Gomer' pit a short distance to the north which had by then been long infilled.

Description

The exposure at 'The Cliff' is at the extreme southernmost end of the main Coralline Crag outcrop which stretches northwards as far as Aldeburgh where it is cut by the River Alde. To the south of the Butley River only small isolated outliers of Coralline Crag are known to occur, as at Tattingstone, Ramsholt Cliff and Rockhall Wood, although Coralline Crag is alleged to have been present in former workings on Boyton Marshes, just across the Butley River from this locality.

The exposure at the present time shows a section of just over 3 m of Coralline Crag. The uppermost 2.4 m consist of leached bioclastic sands showing large-scale cross-bedding (Figure 10.14). The largest cross-bedded set is 1.5 m thick. The upper surface of the Coralline Crag here formerly showed an undulose upper contact with solution pipes overlain by dark reddish brown sand. This sand probably represented the insoluble residue after dissolution of the Coralline Crag sediments.

This exposure of the Sudbourne Member is at the extreme southern end of the main outcrop of that member. The sediment is composed of finely comminuted and extremely abraded bioclastic debris with a high percentage (approximately 35%) of terrigenous sediment, mostly quartz. The high terrigenous content is characteristic of the Coralline Crag around Gedgrave and the abraded nature of the bioclastic material is indicative of prolonged transportation of biogenic carbonate derived from the north. Few macrofossils are identifiable in this Member except in its northern part (e.g. at Red House Farm). Most of the Member has suffered from aragonite dissolution but the lowermost part may occasionally still contain aragonitic shell material.

About 0.6 m of silty, unleached Coralline Crag can be seen underlying the Sudbourne Member at this locality. These sediments belong to the Ramsholt Member of the Coralline Crag. The boundary between the two facies here is indistinct but small silty clasts within the basal part of the Sudbourne Member are evidence of contemporaneous erosion.

The fauna of the Ramsholt Member is very rich and well preserved at this locality. Well-preserved bivalves, occasionally with both valves articulated, are conspicuous. These include *Lucinoma borealis*, *Aequipecten opercularis*, *Nucula* sp., *Astarte* sp., *Cyclocardia scalaris* and *Arctica islandica*. *Palliolium gerardi*, which is fairly common at this locality, has been used by some authors as evidence of the equivalence between the Coralline Crag and the Belgian 'zone a *Pecten gerardi*' (Cambridge, 1977). This locality is particularly known for the occurrence of specimens, often articulated, of the large brachiopod *Terebratula maxima* (*Terebratula grandis* of early authors) which at lengths of over 100 mm is the world's largest known species of terebratulid (Figure 10.15). Calcareous nannofossils from this locality have been

described by Hamilton and Hojjatzadeh (1982).

Interpretation and evaluation

The section at 'The Cliff', Gedgrave, is one of the few localities on the main Coralline Crag outcrop where the relationship between the cross-bedded Sudbourne Member and underlying Ramsholt Member can be examined. The only other locality where this contact is presently exposed is at the Broom Hill Pit approximately 1.5 km to the north. The selective dissolution of aragonitic shell material may be related to primary porosity differences between the two members (Balson, 1983). At this locality the interface between aragonite-bearing and aragonite-free sediments lies a little above the contact so that there is a rare opportunity at this locality to examine the aragonitic fauna of the Sudbourne Member of the Coralline Crag.

A few hundred metres to the north, a small exposure in the Ramsholt Member can be seen which is also very shelly but which includes some species like *Dosina casina* and *Venericardia aculeata scaldensis* which are uncommon in the exposure at the southern end of The Cliff. This indicates the way in which two Coralline Crag localities which may be in the same facies and at the same vertical elevation may differ in fauna despite being separated by only very short distances. This feature of the Crag faunas was first noted by Charlesworth in 1835 who drew comparison with the rapid lateral variations in fauna which are observable on modern sea floors.

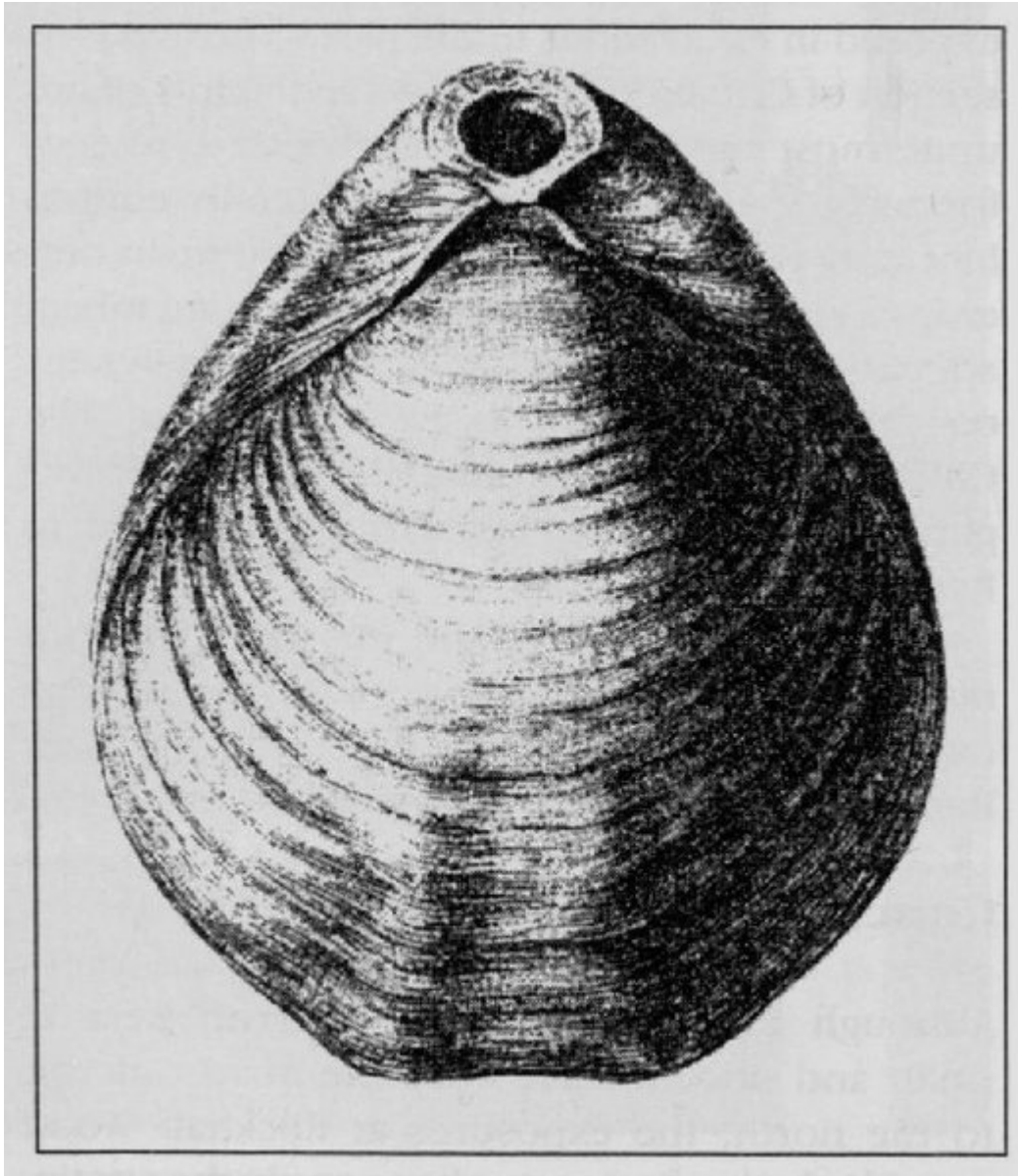
Conclusions

The section at 'The Cliff', Gedgrave, is an, important section for the study of Coralline Crag facies relationships and post-depositional diagenetic processes. It is important in conjunction with other sites to illustrate lateral differences in fauna within the Coralline Crag outcrop.

[References](#)



(Figure 10.14) Cross-bedded calcarenites of the Sudbourne Member overlying the Ramsholt Member at 'The Cliff', Gedgrave. The contact is arrowed. Scale is 1 m long. (Photograph: P Balson.)



(Figure 10.15) *Terebratula maxima* (illustration after Wood, 1848-82). Specimens may exceed 100 mm long. contemporaneous erosion.