Bracelet Bay, Gower, West Glamorgan

[SS 629 872]

Introduction

The Bracelet Bay GCR site [SS 629 872] lies 500 m west of Mumbles Head on the south Gower coast. The site is important for its well-exposed section of the Holkerian Hunts Bay Oolite which includes a sponge bioherm. The site (also known as 'Broadslade') is mentioned by Dixon and Vaughan (1911) and briefly described by Owen (1971). Although the Holkerian succession on the Gower Peninsula has been studied generally by Ramsay (1987) and Scott (1988) there is no published detailed description and interpretation of this site.

Description

Bracelet Bay lies on the hinge of the eastwards-plunging Langland Anticline (George, 1940) and exposes the higher part of the Holkerian Hunts Bay Oolite (Owen, 1971). On the southern limb of the fold, about 80 m of strata can be seen on the foreshore and in the low cliffs along the western side of the bay (Figure 9.26). Near the base of the succession a biostrome up to 0.5 m thick occurs. The biostrome is dominated by the demosponge *Chaetetes,* together with disarticulated productoids, solitary rugose corals, *Syringopora* and cerioid stems. The chaetetid sponges formed columnar- and domal-shaped colonies, some of which were clearly inverted before final deposition. In many of the colonies the early stages of development show a meandrine growth form whereas later stages show the more typical cerioid form.

About a third of the way up the succession, oncoidal packstones and wackestones with bands containing *Composita ambigua* are prominent (Figure 9.27). Some specimens of *Composita* have been weathered to show their internal structure. In the uppermost part of the succession chaetetids re-appear, together with beds of disarticulated but unbroken productoids, alternating with cross-stratified and planar-laminated grainstones up to a metre thick.

Interpretation

The Holkerian sequence records the establishment and southwards migration of a linear oolitic sand-belt orientated parallel with the contemporary shoreline, with sand-flat and lagoonal deposits occurring on the northern, landward, protected flanks of this sand-body (Ramsay, 1987). The oncoidal and bioclastic wackestones and packstones which dominate the upper part of the Hunts Bay Oolite, including those seen at Bracelet Bay, are interpreted as part of the barrier platform interior, bordering the lagoon, by Ramsay (1987).

The biostrome at Bracelet Bay contains chaetetid sponges that have been toppled over or inverted, but the rich faunal association of large sponges together with disarticulated but unfragmented brachiopods suggests that the assemblage has not been transported any great distance. Other bioherms are known from the Hunts Bay Oolite, including examples dominated by lithostrotionid corals, such as that exposed on Spaniard Rocks in the north-west of the peninsula (Ramsay, 1987), but biostromes dominated by *Chaetetes* are not known elsewhere on Gower.

Conclusions

Bracelet Bay offers one of the best and most accessible sections of the Hunts Bay Oolite in eastern Gower and is important for its well-exposed faunas, including a small biostrome characterized by *Chaetetes.* It also shows the muddier, lower energy facies of oncoidal and bioclastic limestones in the Hunts Bay Oolite, interpreted as back-barrier deposits.

References

(Figure 9.26) General view of the Hunts Bay Oolite (Holkerian) at Bracelet Bay, Gower. (Photo: P.J. Cossey.)

(Figure 9.27) Oncoids associated with Composita ficoidea in the Hunts Bay Oolite (Holkerian) at the Bracelet Bay GCR site. (Photo: A.E. Adams.)