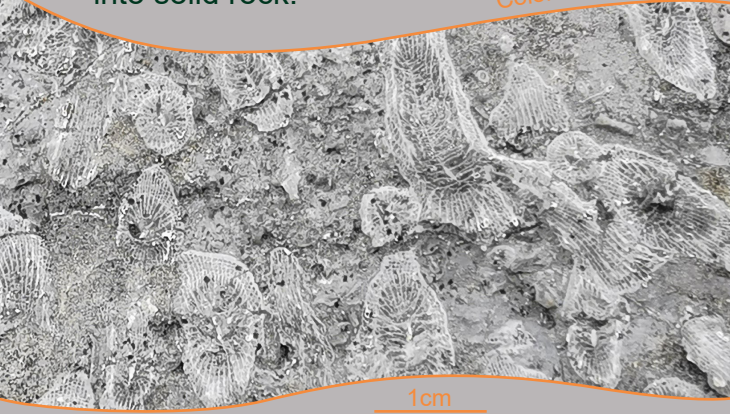


Carboniferous Limestone

Carboniferous limestone formed 350 million years ago in warm shallow seas with coral reefs.

The climbing cliffs and crags of Gower all are made up of Carboniferous Limestone. The layers of sand, mud and dead organisms from the reefs built up into layers which eventually became buried and compressed into solid rock.

Colonial coral



1cm

Back in the Carboniferous era the continent containing Britain was located in the tropics near the equator. Since then, plate tectonic movements shifted Britain to its current position. Tectonic movement also caused the once horizontal limestone to be deformed into huge folds meaning the layers or 'beds' of limestone often create steep slabs for climbing.

Geology for Climbers



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Sponsored by the Holloway Award

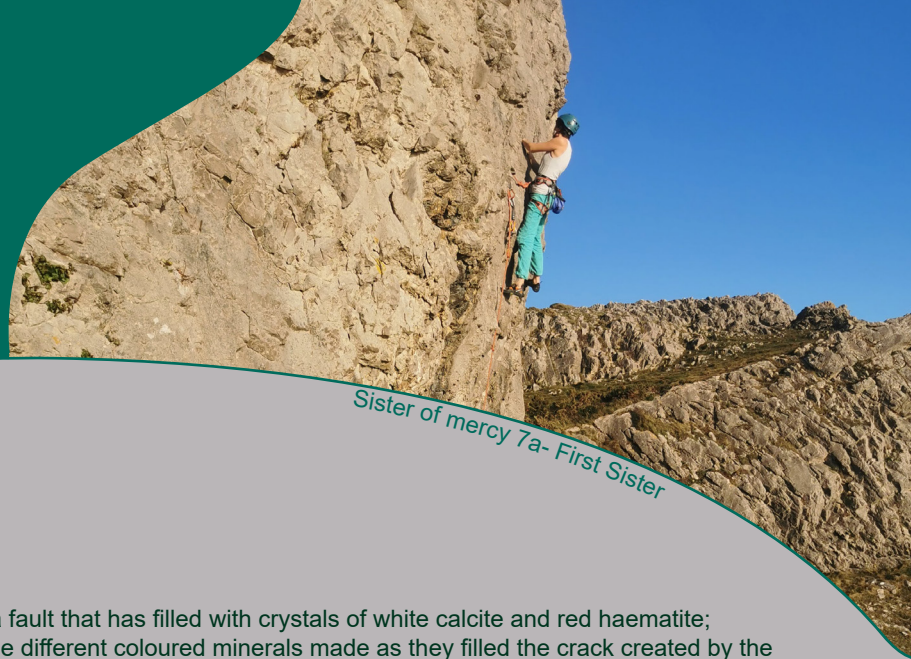


Gower



Fist full of tenners 4- Mermaid Hill

Limestone makes up some of the most popular climbing destinations in Europe such as Kalymnos, southern Spain, Pembrokeshire and the Dolomites. It is known for its steep caves with tufa, crimp walls and cracked slabs and has a reputation for polishing easily.



Sister of mercy 7a- First Sister

Quarries

Limestone is a very useful rock, being used in steel making (South Wales), cement (Peak District) and as building stone (Portland). This means there are lots of limestone quarries, many of which are climbed on.

See quarried limestone at Rhossili upper, for example Trial wall is part of a very old quarry where the rock would have been taken away by boat.

Bedding

Limestone is laid down in layers called beds. These represent periods of sediment deposition and the gaps between them often form breaks and ledges. Usually beds are deposited horizontally, however with the shifting of the continents they often become deformed. Many classic limestone slab routes follow bedding surfaces that have been tilted.

Look for bedding at Third Sister area, where the bedded limestone has been folded and is now dipping at around 45 degrees.

Fossils

Since limestone is mainly made from the bodies of calcareous organisms it is often full of fossils! The fossils help identify the age of the limestone. In the Carboniferous the most common fossils include: Brachiopods (valved sea shells), Crinoids (related to starfish and nick-named sea lilies) and Corals (both solitary and colonial species).

You can find so many crinoids at Rhossili upper that the limestone there is actually called crinoidal limestone. The grains in the limestone are so large here it almost feels like climbing on grit!

Routes to look out for

Watchhouse East

Staining pitch F6b+

This crag is formed by a fault that has filled with crystals of white calcite and red haematite; admire the patterns the different coloured minerals made as they filled the crack created by the fault.

Three Cliffs Bay

Under Milkwood VS 4a

This route starts in the arch, climbs up a bedding plane then through a hole in the rocks! Limestone is made of calcium carbonate so it can be weathered away by water over time. This is why there are so many caves on Gower.

Foxhole Cove

The power of the leopard skin leg warmers F3

Climb a slab made by a steeply dipping bedding plane and admire several large (15cm) colonial corals on your way up! There are also solitary corals, brachiopods and crinoids to find here!

Paviland

Shelob HS 4b

Small cave systems often form in limestone and on this route you get to climb through one!



Strain drain 7a-Watchhouse East



Crinoidal limestone
1cm

