
Geotrail from Cemaes to Llanbadrig church

[Fully illustrated PDF](#)

[Welsh version](#)

Enjoy the fascinating geology and the magnificent views on this beautiful and spectacular walk in north Anglesey.

Dr John Conway (Royal Agricultural College) and Dr Margaret Wood, GeoMon/Anglesey Geopark

This walk starts in the carpark [1][SH 37028 93370] by the harbour in Cemaes and follows the coastal footpath round to Llanbadrig church along a beautiful stretch of coastline with small bays and rocky headlands over some of the most colourful and stunning geology on Anglesey. Cars can be parked at either end, but there are no other facilities at Llanbadrig.

As soon as you leave the road, the rocks beneath your feet are Precambrian, some of the oldest on Anglesey — or in Wales for that matter — around 600 to 700 million years old. For the first section, as far as [2][SH 37135 94058] most rocks are a bluish-grey limestone, slowly being eroded by the sea.

Cross the fields and stand looking down at [3][SH 37199 94158], a narrow inlet with a disused limekiln. At low tide you will see several large rounded hollows on the rocky platform — these are the bottom of ancient pot-holes, created by solution of the limestone by groundwater. Descend to the shore and look back, and you will see a cross section through the largest of these, now infilled with Miocene sediment (about 20 million years old) which makes them unique in Wales. You can detour into the quarry behind [3a][SH 37301 94069] and see the largest of the quarries that supported one of Cemaes' largest industries, the export of lime and stone.

Continue round the coastline to [4][SH 37577 94450] where you can descend to the shore if the tide is low. The rocky pinnacle in the bay, known locally as the White Lady, is iron-stained quartzite. Near [5][SH 37391 94539] there is what looks like a mass of rusting iron on the shore, but it is natural and reminds us of the small ironstone deposits that were exploited around the coast. Walk up onto the grass round to [6][SH 37252 94571] where most of the rocks are a bright white quartzite, originally very pure quartz sandstone.

By the time you get to [7][SH 37379 94671] you may be confused — the rocks seem to be a complete jumble, with huge lumps of white quartzite, bluish and buff limestone and other rocks set in a greenish or brown matrix. Geologists have argued over their origin ever since Edward Greenly mapped the area and called them "melange". The most likely explanation is that the original rocks (sandstone, limestone and mudstone) were little deformed as they descended only a short distance down the deep ocean trench at the destructive plate margin, unlike the pillow lavas under the Marquess of Anglesey's Column which went very deep down. The sedimentary rocks seen here were scraped off the ocean floor as it descended down the trench and were fastened onto the trench wall and so were little altered by pressure in subsequent years like most Precambrian rocks on Anglesey which are folded, contorted and metamorphosed (see earlier Geotrails for full details). Look carefully amongst them and you may find fragments of a blood red stone, jasper, a semi-precious stone that was used to make ornaments and jewellery.

Near to point [7][SH 37379 94671] is a very bright orange layer of rock, yet if you spot a recent break it will appear very dark blue; this is siderite, an iron carbonate which is a very useful source of iron (please do not hammer it).

At [8][SH 37541 94650] a small indistinct track across the field reaches the coast and leads into a small quarry in the side of the hill. Look carefully and you will see a small dyke, or wall-like intrusion of dolerite [an igneous rock that flowed in whilst molten and solidified] in limestone which is full of small rounded bodies the size of pinheads. This quarry is world famous as the locality where microfossils of algae were first discovered, enabling the dating of these rocks. This was the first time that some sedimentary rocks in Anglesey were proved to be Precambrian in age and they contain many fossil

stromatolites (algae) as well as the small rounded bodies (vesicularites).

Just before the churchyard [9][SH 37620 94700] down amongst the cliffs is the cave, complete with a small debris-filled pool, where local legend says St Patrick took refuge after being shipwrecked on the small island offshore whilst on his way to convert Ireland. (Please note that the cave is not accessible on the walk). The church, dedicated to him, dates from 440AD and contains some very early Christian carved stones, though the present structure is somewhat younger. This is one of the locations for the Demi Moore film "Half Light".

The cliff top path continues through stunning scenery and equally fascinating geology (to be continued in the next issue...) but our walk stops here.

You can walk back along the coast, or follow the lanes back to Cemaes to the Heritage Centre for a snack, or even visit Llanbadrig vineyard, olive grove and café nearby.

Figures

[See PDF](#)

Route map Cemaes to Llanbadrig church.

Potholes eroded in limestone [3]

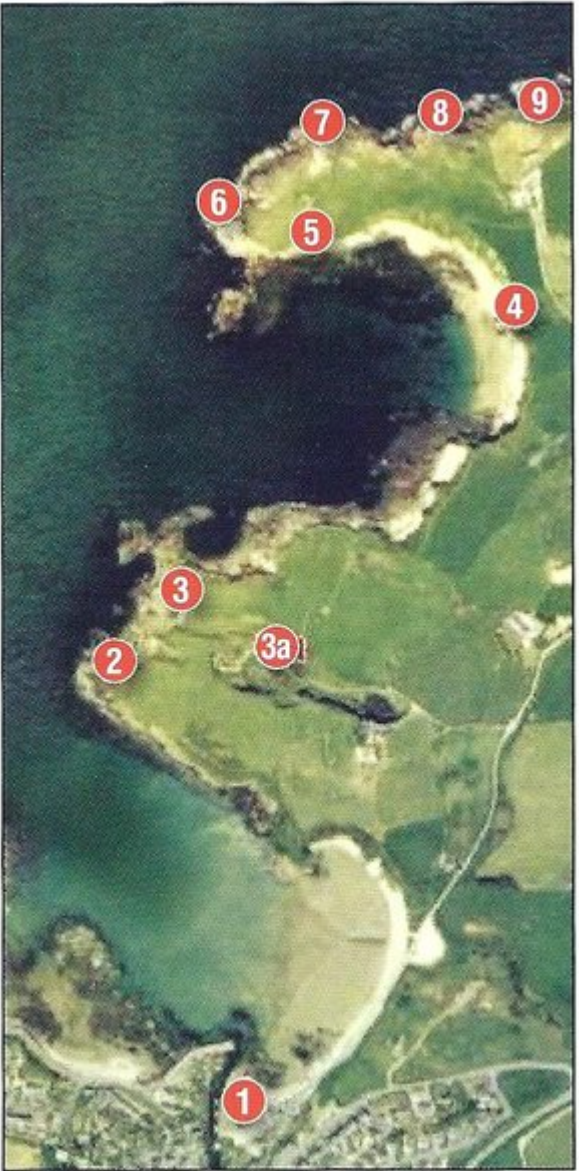
Llanbadrig church [9]

Mélange seen from the sea

Siderite

St. Patrick's cave

View from [6] Llanbadrig Point looking towards [3] across Porth Padrig.



Route map Cemaes to Llanbadrig church.



View from [6] Llanbadrig Point looking towards [3] across Porth Padrig.