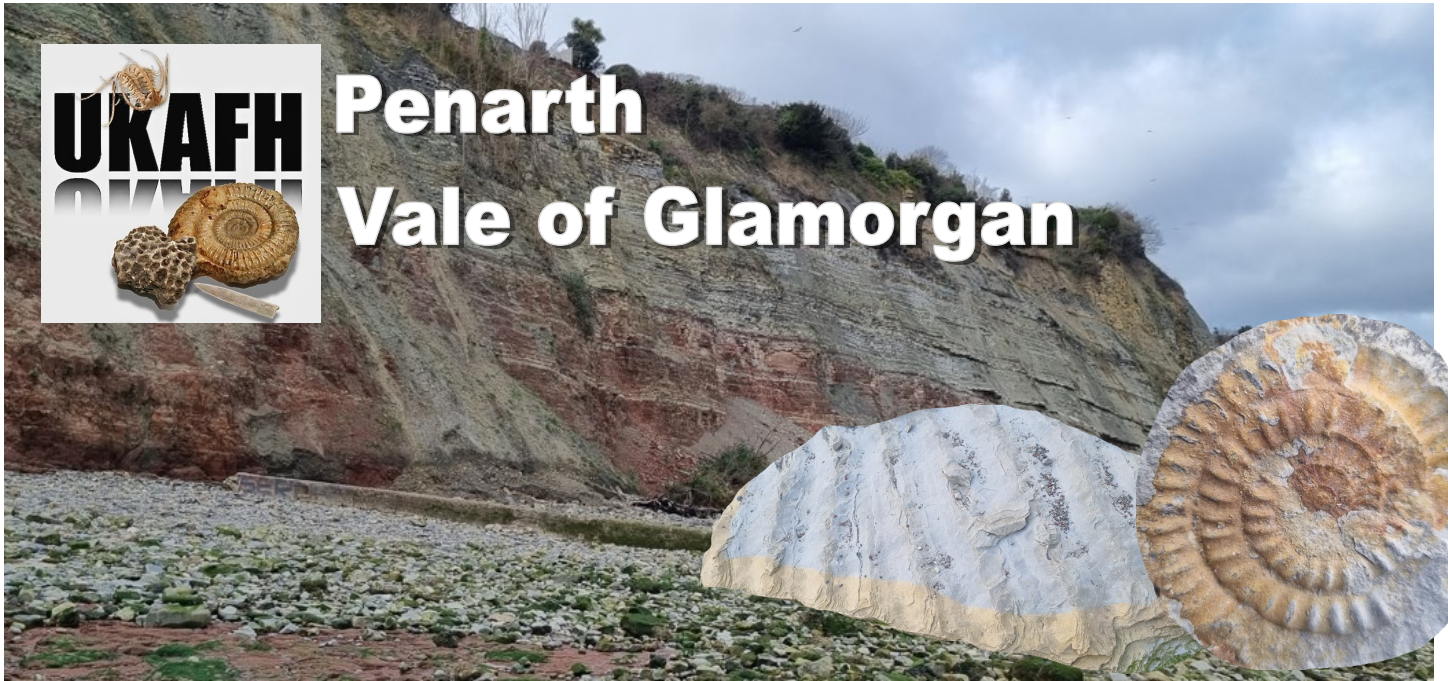




Penarth Vale of Glamorgan



INTRODUCTION TO PENARTH

Thank you for enrolling on our fossil hunting event.

Penarth is one of the most popular locations in South Wales for fossil hunting. The rocks here are rich in fossils from the Upper Triassic and Lower Jurassic Periods.

If you have visited sites such as Lavernock Point to the South, or Watchet on the English side of the Bristol Channel, the cliffs here will look familiar, with their red mudstone bases giving way to alternating limestone and mudstone layers towards the top.

On the foreshore at Penarth, fossils from the Penarth Group and the Blue Lias, deposited during the Late Triassic and Early Jurassic, can be found. The most common fossils here are bivalves and ammonites, but other fossils such as gastropods, crinoids, echinoids (sea urchins), and the bones and teeth of fish and marine reptiles, can also be found here. You may even find coprolites (fossilised fish or reptile poo, containing small bones and scales).

If you walk north along the beach, you will eventually arrive at Cardiff Bay Barrage. Fossils can also be found by walking along the beach towards Lavernock to the South.

Although the fossiliferous rocks are high up on the cliff face, regular cliff falls due to erosion by the sea ensure that there are plenty of fossils to be found on the foreshore. The cliffs themselves are unstable and should not be approached.

THE GEOLOGY

The red mudstones that make up much of the cliffs at Penarth are unfossiliferous. These belong to the Mercia Mudstone Group from the Middle Triassic, and were deposited in large shallow desert lakes. Fine examples of white and pink gypsum (alabaster) from these rocks can often be collected on the beach.

The limestones and mudstones higher up the cliff, from the Westbury and Lilstock Formations of the Upper Triassic Penarth Group, were deposited in warm, shallow seas. The Westbury Formation includes a thin bone bed - a layer of sandstone that is rich in pyrite (often giving it a rusty appearance when it is weathered) and contains bones and teeth of fish and marine reptiles. You can also find slabs from the Lilstock Formation on the foreshore, that show ripple marks.

Right at the top of the cliff are the layered limestones and mudstones of the Blue Lias Formation (Upper Triassic to Lower Jurassic). Limestone pebbles from the Blue Lias are abundant on the foreshore, and many contain ammonites and other fossils.



WHAT FOSSILS MIGHT YOU FIND?

At any fossil hunting event, you cannot be guaranteed to find fossils. The frequency of fossils depends on the rates of erosion of the cliffs by the sea and weather and of course, on whether others have already scoured the site beforehand.

A variety of ammonites and bivalves can be found here. Examine fallen blocks for these, and for rarer bones and teeth from fish and marine reptiles.



The Upper Triassic bivalve *Liostrea bristovi*.



Chlamys valoniensis bivalves (Upper Triassic).



A *Caloceras* ammonite (Lower Jurassic).



If you're extremely lucky, you may find ichthyosaur bones.



Brittle stars can occasionally be found.



Ripple marks from the Lilstock Formation.

We hope you enjoy your day at Penarth.

Please visit our web site for further events which might be of interest to you at ukafh.com

Our book, with over 50 other sites across Wales and England, can be purchased here:

<https://earthlines.com/product/a-guide-to-fossil-collecting-in-england-and-wales/>

