UK Fossils Network

https://ukfossils.co.uk/

FIELD GUIDE TO
FOSSIL COLLECTING AT PORT MULGRAVE IN NORTH YORKSHIRE

FIELD GUIDE TO FOSSIL COLLECTING AT PORT MULGRAVE IN NORTH YORKSHIRE

The coast of North Yorkshire surrounding the towns of Whitby and Port Mulgrave is a mecca for Jurassic marine fossils. Virtually any section of the coast from Staithes to Ravenscar will offer up a bounty of ammonites and other wonderfully preserved fossils but Port Mulgrave is probably one off the best locations for fossil collecting in this county. The steep, unstable and rapidly eroding cliffs here provide a plethora of fossils and everything is to be found on the beach or in the scree at the base of the cliff.

The location is famed for its ammonite nodules. The nodules are eroded out of the cliff, which at first are not easy to spot. Train your eyes to look for the dull grey, muddy looking nodules, especially those with a rounded or an oval appearance. The nodules drop out of the eroding cliffs and are further eroded by the sea, often exposing the keel of the fossil ammonite within. Fresher nodules will have the same outer appearance but will be less sea-worn. The nodules are spread over the entire beach section, so remember that one place is as good as another, although competition is fierce in the summer months! Then hit the nodule with a geological hammer, making sure you wear protective glasses or goggles. The nodule should split and in doing so reveal the prize - an ammonite fossil.

As with any coastal location, you will need to check the tides. The tides are your friend and foe. During high tides, the sea may cover the beach and make access both dangerous and impassable. Even when on the beach, pay close attention to the tides and give yourself plenty of time for the return journey. Access can be made to the beach by a footpath leading down the high cliff but note that there are many steps to climb down (and back up with a heavy bag of rocks!). After heavy rainfall, the steps down to Port Mulgrave can be extremely slippery, so extra care is needed.

GEOLOGY

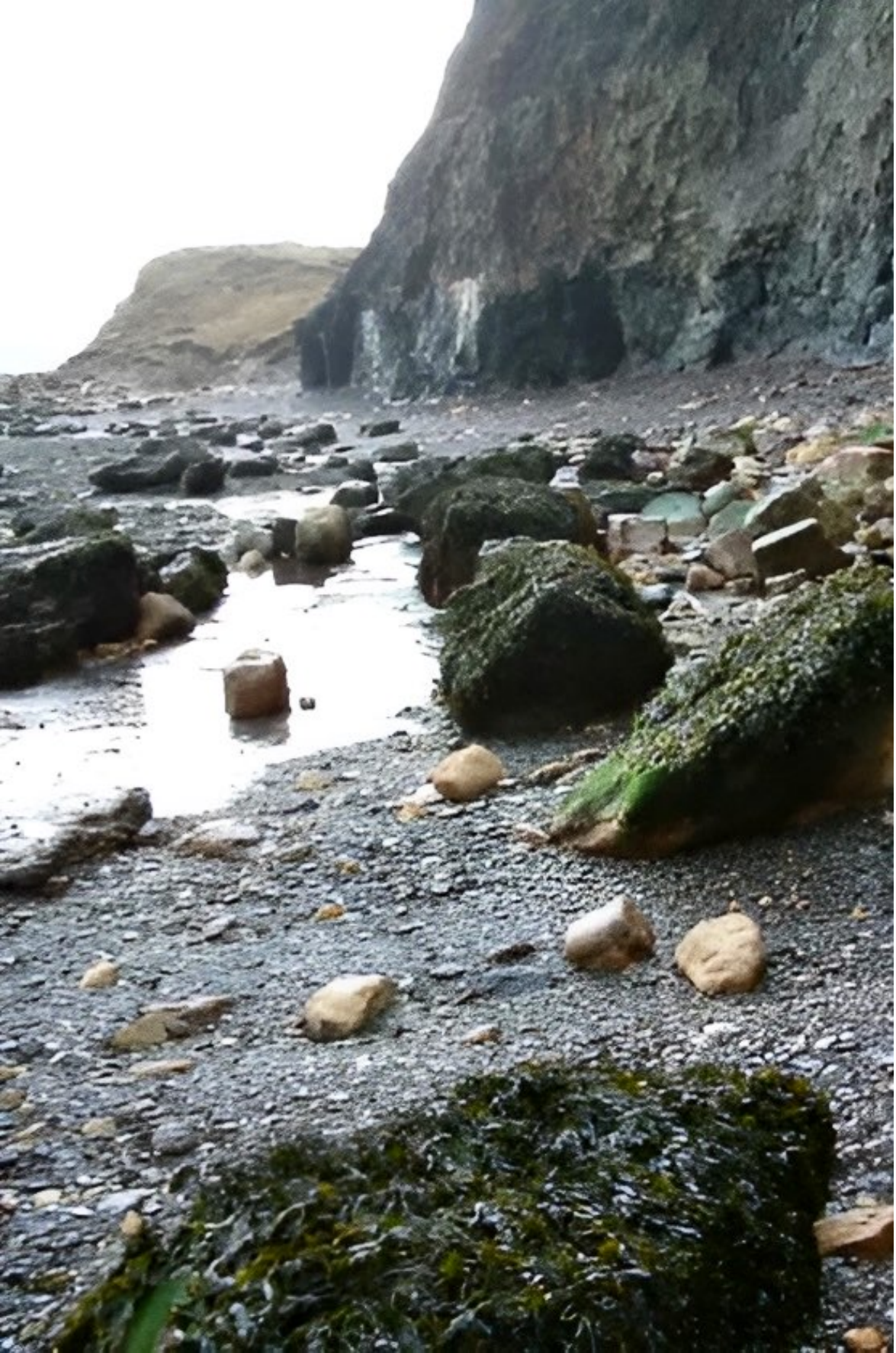
The rocks at Port Mulgrave are of Lower Jurassic age, ranging from the Pliensbachian to the Toarcian stages. The rocks are from the Lias Group and the ammonites from the nodules are 180 million years old.

The nodules are found south of the old harbour, in the Mulgrave Shale Member which can be seen in the cliffs. This is made up of the Jet Rock, which used to be mined heavily many years ago and the remains of the old jet harbour area can still be seen today. The Mulgrave Shale Member is also made up of bituminous shales, which can be seen exposed on the foreshore further south past Rosedale Wyke Bay.

Towards the north side of Port Mulgrave at Brackenberry Wyke, the Cleveland Ironstone Member can be seen well exposed in a large landslips. The blocks of Ironstone yield plant remains. The Formation is split into the Penny Nab Member and, above this, the Kettleness Member.

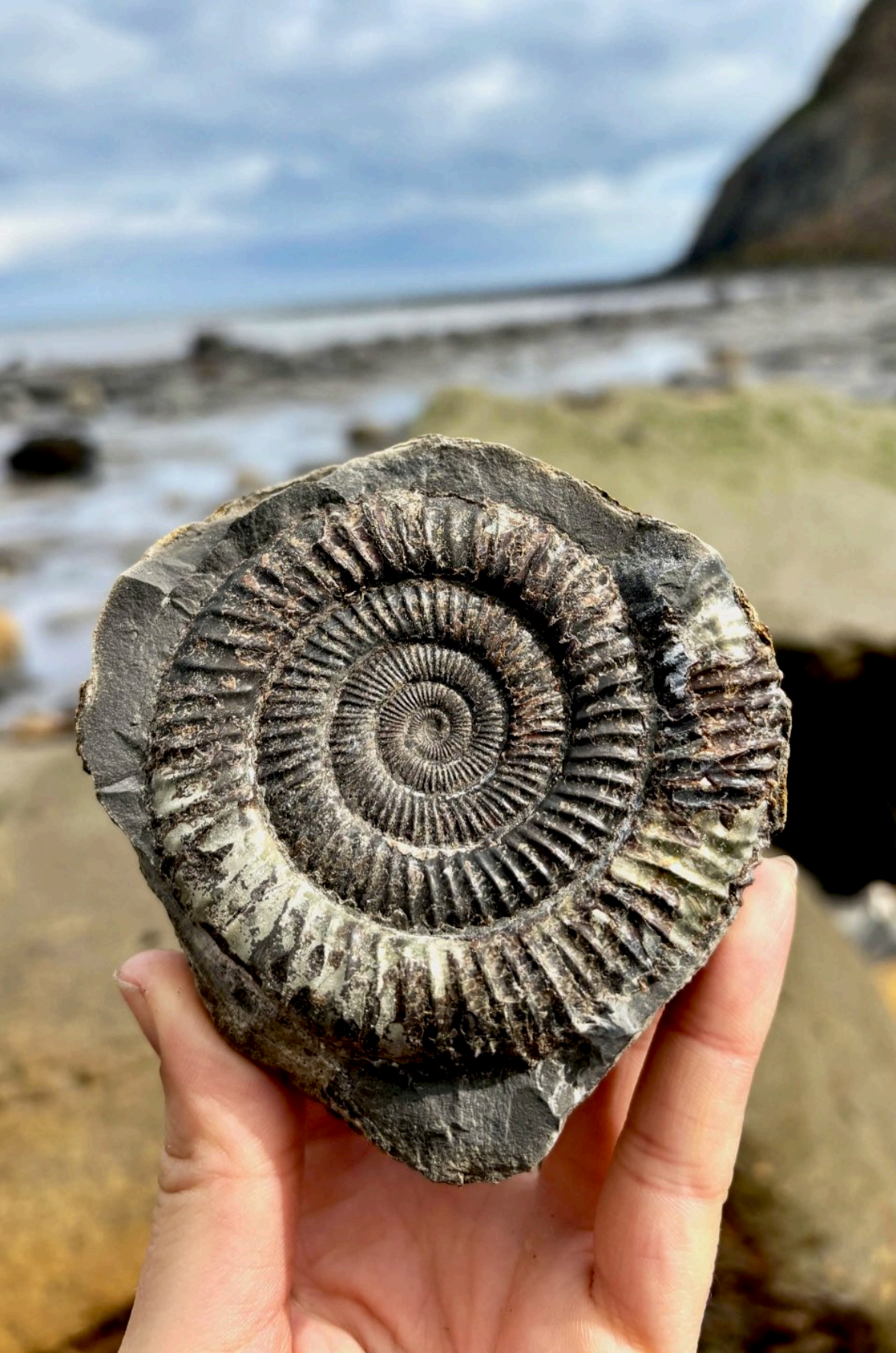
On the foreshore, exposed both north of the old harbour and in the middle of Rosedale Wyke Bay, the Grey Shale Member can be seen. Pockets of belemnites and shells tend to be found grouped together in death assemblages and small colonies, respectively.

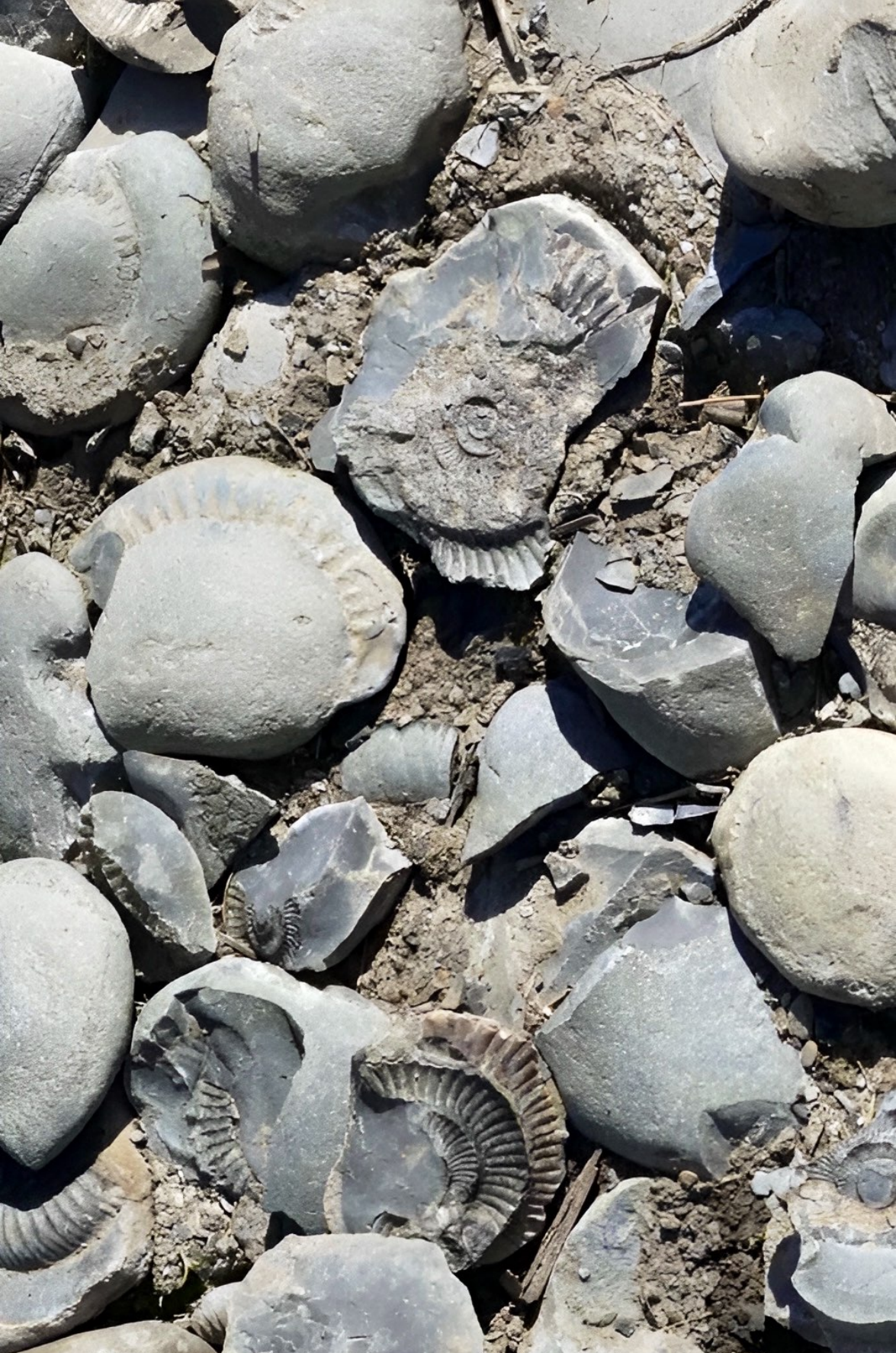
Typical nodule from Port Mulgrave



A good example of a split nodule revealing a pair of *Dactylioceras* ammonites- a positive and the negative print

***Dactylioceras i*n split nodule**





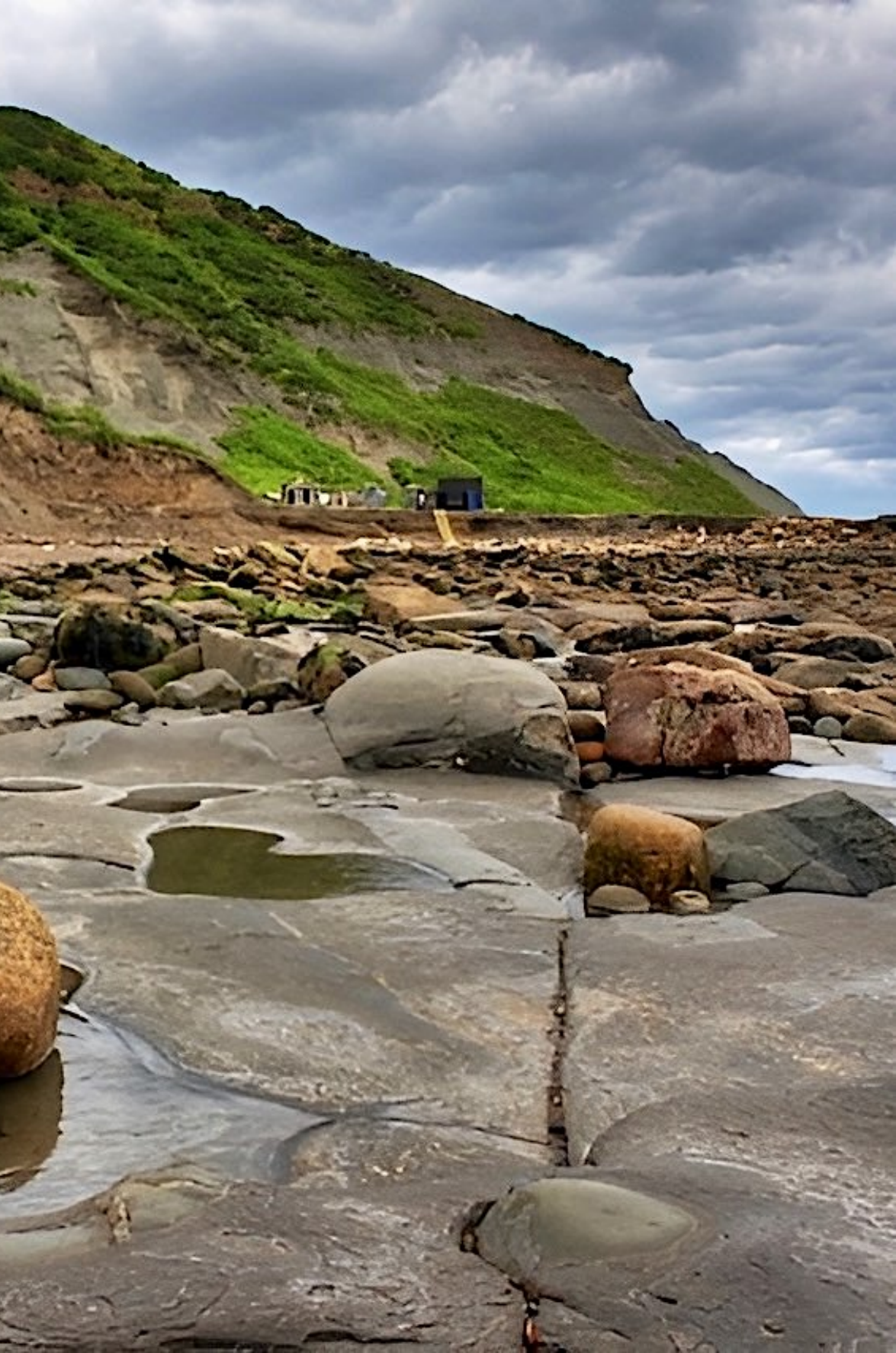
Dactylioceras commune

Dactylioceras athleticum

Peronoceras turriculatum

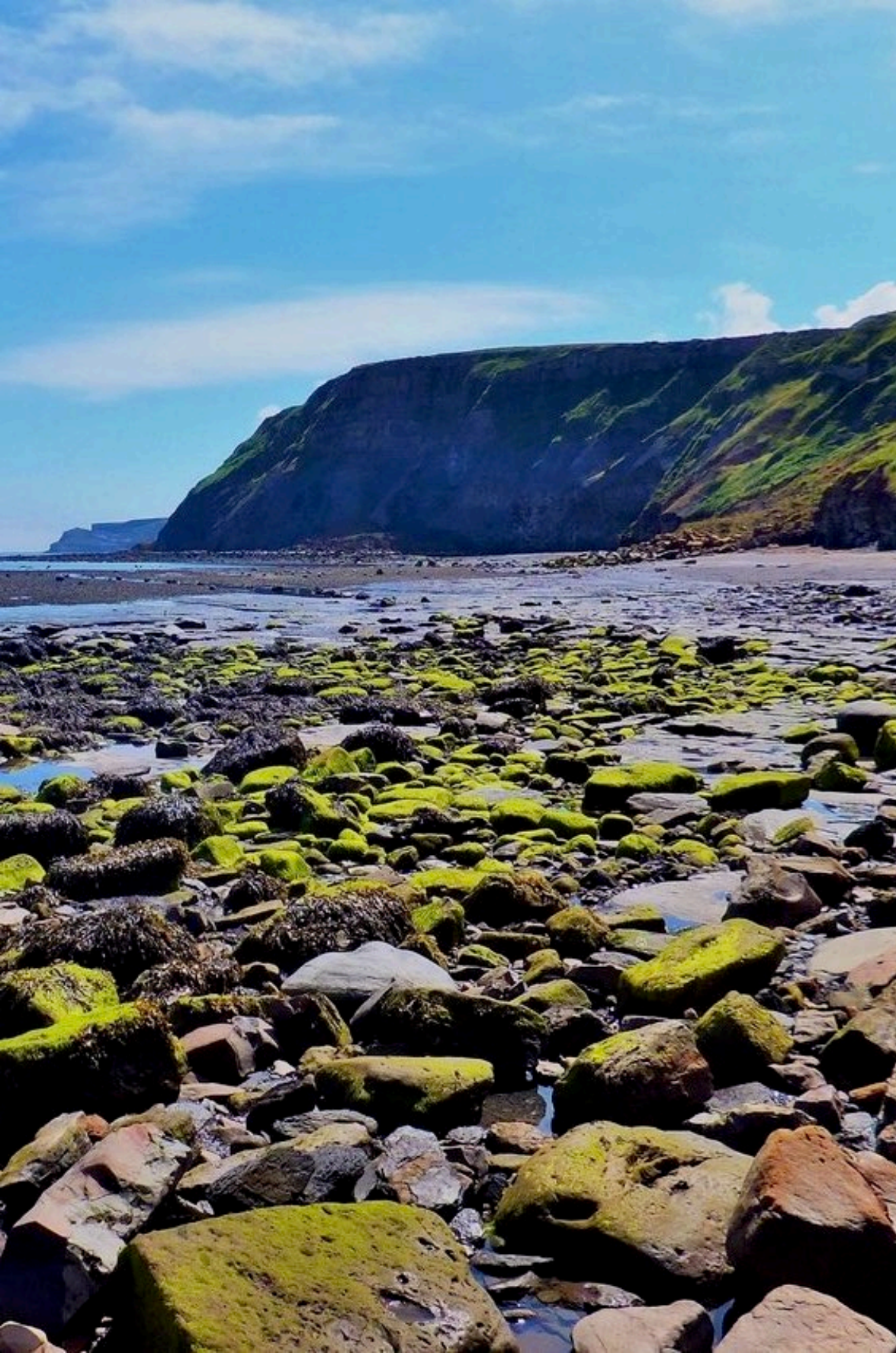
Dactylioceras tenuicostatum

Hildoceras bifrons



Plant fossils from the Cleveland Ironstone Member, north of the harbour.

Ammonite with bivalve fossils and a plant from the Grey Shale Member, north of the harbour.



CLEANING & STORING YOUR FINDS

Cleaning & preservation

Most of the fossils that you will find at Port Mulgrave have already survived 180 million year! They have been buried in sediment and washed around by the tides. The nodules will require no further treatment other than a wash in tap water.

Any fossil found on a beach or exposed to salt water will need some degree of desalination. You do need to wash the seawater out of your fossils as the absorbed salt may lead to long-term damage, particularly of the fossils found in the shales and not in nodules..

Do not be tempted to varnish your fossils as this can leave unsightly surface coating. However, you might need to treat more delicate specimens. For this, simply dilute some PVA in water at a ratio of 1:3 (PVA:water.) and allow to dry.
This will help to harden any delicate specimens.

Storage

Storage is a matter of preference and small boxes of card or plastic are probably a good place to start (See https://earthlines.com**).** Most importantly, your specimens need a label. A fossil collection will be worthless if you do not, at least, record where you found the fossil, even if you don't know the fossil names - you can always name them at a later time. A simple label like this example will be useful.

Name: Dactylioceras athleticum
Location: Port Mulgrave, North Yorkshire
Geology: Mulgrave Shale Member
Age: Jurassic. Toarcian Stage,
Date found: January 2025

DISCLAIMER

This downloadable PDF is one of a series of general guides to fossil collecting localities and not an extensive manual for health and safety when visiting such sites.

Furthermore, because potential hazards may change over time, prior to undertaking any fossil collecting activities, you need to make yourself aware of any RISKS, DANGERS, HAZARDS and LEGAL IMPLICATIONS associated with visiting and collecting fossils at any particular site.

UK Fossils, authors or any associated parties cannot be held responsible for your failure to do so, nor any consequences thereof.

Enjoy your fossil collecting safely and responsibly.

Locations such as this always provide 'spare' fossils which can be donated to schools and are gratefully received. Details can be found here; https://earthheritagetrust.org/fossil-resources-boxes-for-schools/