PLYMOUTH GREAT WOOD

History, Geology and Biodiversity

This guide shows you some of the interesting features in Plymouth Great Wood. These include a quarry, birds and beasts and a colourful range of plants and trees. Click on the 'icons' to find out more....

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Telephone: 029 2087 3719
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KEY

- Public Footpath
- Path Network
- Directional signage
- St Fagans Castle and Gardens
- Trees
- History
- Birds
- Quarry
- Butterflies
- Fungi
- Mammals
- Plants
- Moths
- Ferns
- Amphibians

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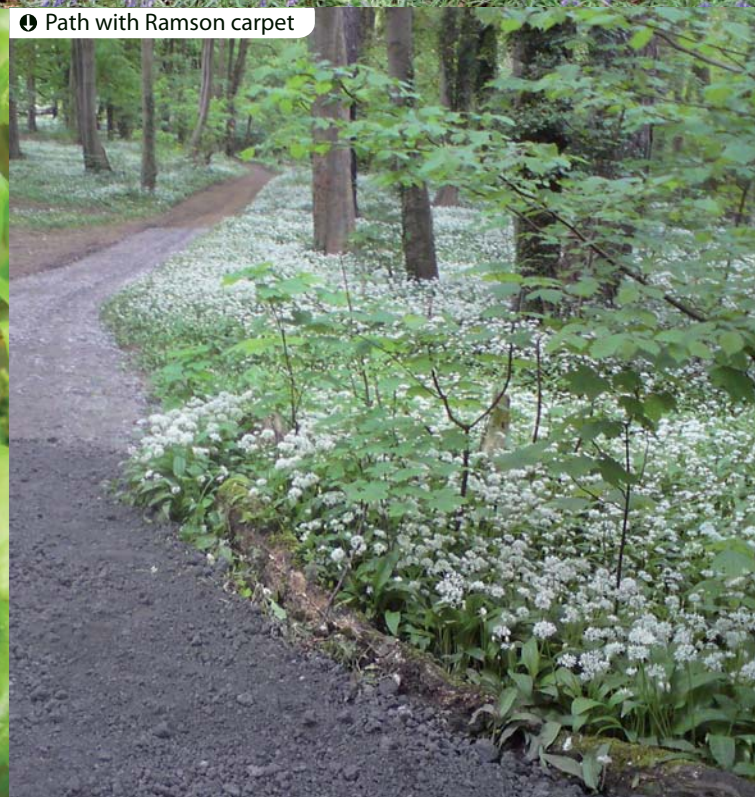
HISTORY

Before the Great War the Great Wood (Coed Mawr), then dense woodland, was a favourite resort of its owner; the Earl of Plymouth. Wood shortages during World War I led to nearly all the large trees being cut down and taken away for use as timber. As fences were taken away to get the wood out, the public, now able to get in, damaged the remaining young trees and uprooted many wild flowers and ferns.

By the 1920's despite earlier harm some fine trees remained, and The Great Wood, was still home to many rare species such as the Snakes-head Lily and Wryneck (a type of bird from the Woodpecker family). Handily situated near the new housing planned for the former Red House Farm site, the Earl of Plymouth gave a large part of the wood to the then Cardiff Corporation. Keeping about 10 acres of the wood at the western end, His Lordship asked that the remainder be made permanently available for public recreation and walks.

Bluebell Carpet

Oak Catkins



Path with Ramson carpet

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Autumn Leaves

Snow and Ivy

HISTORY

During the winter of 1922/23 an iron fence was put up along the western boundary and improvement works were carried out in the woods. This included cleaning of the Larch and Pine plantations, levelling of footpaths and putting in rustic benches. Notices were displayed warning people against damage to trees, the lighting of fires, the uprooting of wild plants and the picking of flowers. The wood, renamed Plymouth Great Wood after the Earl (who died in March 1923), was opened to the public by his son in May 1923.

Rangers were engaged to watch the wood and a shelter built to house them on a site near the quarry chosen by the late Earl in 1928. It was an exact replica of the Hewell summerhouse, at Hewell Grange, Worcestershire, built by the Earl of Plymouth as a family home in 1894-1904. The shelter in the woods has since been demolished and all that remains is a concrete slab near the entrance to the quarry.

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GEOLOGY

The quarry was excavated in the late 1800s to provide building material for the Great Western Railway (now the London to Swansea mainline), running to the north of the wood. It lies just above the uppermost path in the wood, and is visible in the southern section of the wood accessible from Llewellyn Avenue, Ely.

The rocks in this quarry are Triassic in age, approximately 203 million years old. There are clues in the quarry that enable you to find out what this area was like all those years ago (see diagram overleaf).

For example the rock, known locally as Radyr Stone, has a distinctive red colour that comes from its high iron content. Iron is red in colour in dry, oxygen-rich environments. This helps geologists deduce that these rocks were formed in a dry, desert-like environment.

The rock is made up of pebbles and boulders, called "conglomerates". The rounded shape of the pebbles suggests that they have been worn while rolling around in a river bed. The large and jumbled nature of the pebbles tells us that this river was fast and powerful.

Looking at the quarry from a distance you can see that the pebbles are arranged in layers, or "beds", and that these beds are often wedge-shaped. Each wedge represents a different river channel. This suggests that the river was subject to periods of intense flooding, with new channels being forged as the flood water surged down the valley.

Plymouth Great Wood Quarry

Pebbles make up the majority of the rock in the Quarry

In Triassic times the area of St Fagans was a dry desert-like environment

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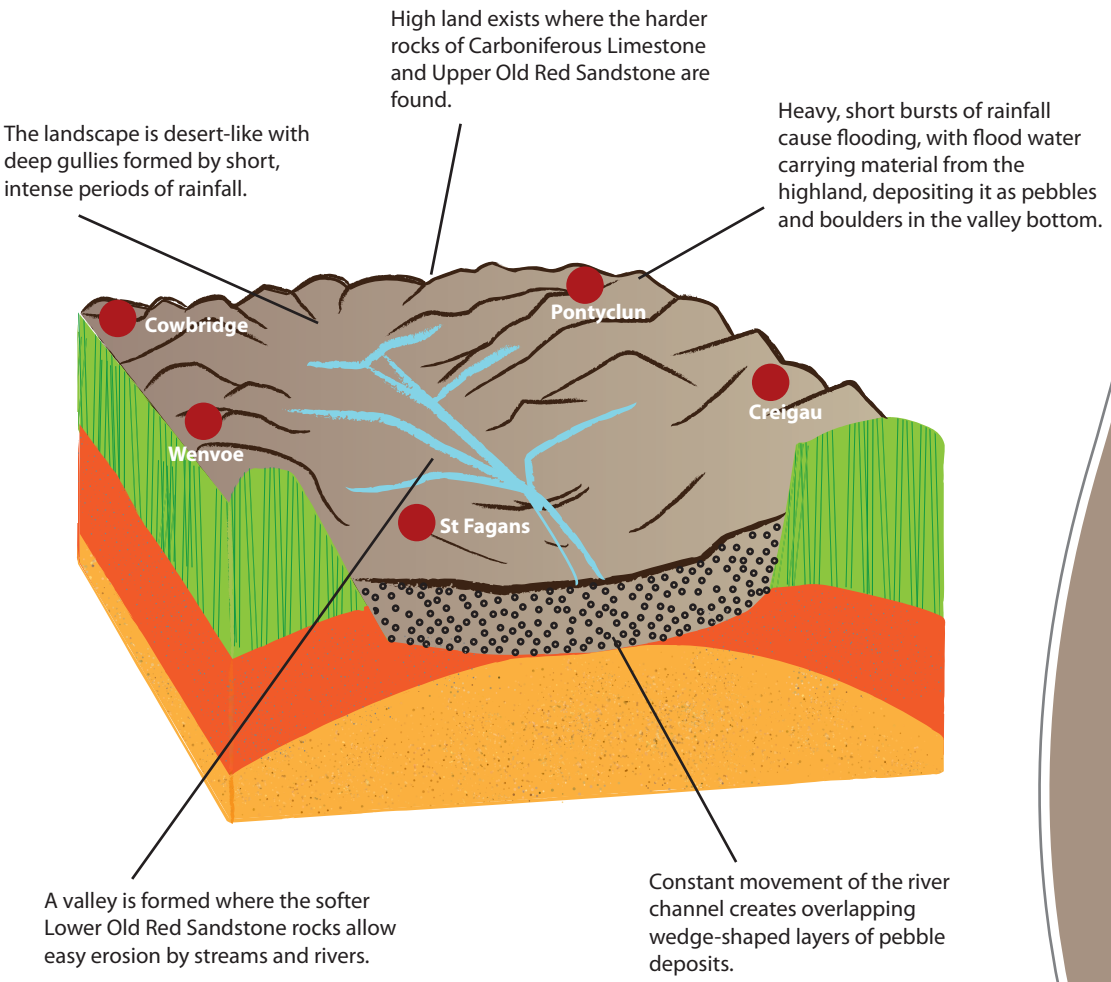
A reconstruction of the environment at the time that the rocks of Plymouth Great Wood Quarry were formed



KEY

- Triassic conglomerates
- Carboniferous limestone
- Approximate position of present day town/ village
- Upper Old Red Sandstone
- Lower Old Red Sandstone

GEOLOGY

All of this information allows construction of a model that illustrates what the area would look like in Triassic times (see diagram).

Near the entrance to the quarry lie the remains of what appears to be two limekilns. Limekilns were commonplace in the 19th century, and were found wherever limestone could be quarried. Limestone was baked in these kilns, creating lime that could then be spread on farmland that suffered from acid soils, making it better for growing crops.

However, this seems an unlikely place to have limekilns, as the quarry is in sandstone. It could be that small beds of limestone, known as calcretes, were found in the quarry in large enough quantity to feed the kilns. On the other hand, the limestone could have been brought over from the nearby Coed Bychan Quarry, where Jurassic limestone was quarried.

During excavation of the quarry in the 1860s a Bronze Age hoard was discovered. It comprises two spearheads, five axes and part of a sword blade that once belonged to the people who lived in Wales after 2,500BC until the middle of the first century AD. During excavations the quarry was enclosed by fences which have since been removed. Today the quarry has been cleared of tonnes of rubbish and the quarry face is clearly visible.

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BIODIVERSITY

Plymouth Great Wood is semi-natural ancient woodland. Although it has been managed the ground flora is typical of natural woodland. Because of this the wood has been designated as a Site of Importance for Nature Conservation, which gives it protection through the planning system. Today, the wood is managed by the Council Parks Services in liaison with the local community. It is home to a wide variety of interesting species. You may spot some of these while walking through the woodland.

Main Map


Magpie Fungus

Rob Nottage


White Ermine Caterpillar


Chaffinch


Grey Squirrel


Arum


Peacock Butterfly


Pine Cones


Common Frog


Ferns


Song Thrush


Robin


Chaffinch


Green Woodpecker


Nuthatch


Blackbird


Blue Tit

BIRDS

The woodland is home to many bird species. In the winter you may hear Blackbirds throwing around leaves looking for bugs to feed on. You may also hear a Song thrush hitting a snail on a stone to break its shell. If you look in the treetops you might see mixed flocks including Great tit, Long-tailed tit, Blue tit and Chaffinches moving around eating seeds and bugs.

In the spring many birds sing in the woodland. Blackcaps are summer visitors with a beautiful warbling song. Chiffchaffs also arrive in spring and have a distinctive "chiff-chaff" call.

In the summer birds will be busy bringing up their young. You may see Robins darting around with a beak full of worms. Green woodpeckers leave the woodland to hunt for ants in the fields; they have a loud "yaffling" call.

In the autumn the birds are getting ready for the winter. Coal tits like to hide nuts, like squirrels. They have an excellent memory. Jays also hide nuts and acorns. These bright birds are well camouflaged in the woods but their call is a loud screech. Their Welsh name is Ysgrech y Coed – screech of the woods!

Most birds are in the woodland all year round. Look out for Nuthatches that climb up and down tree trunks and Treecreepers that climb up trees in a spiral.

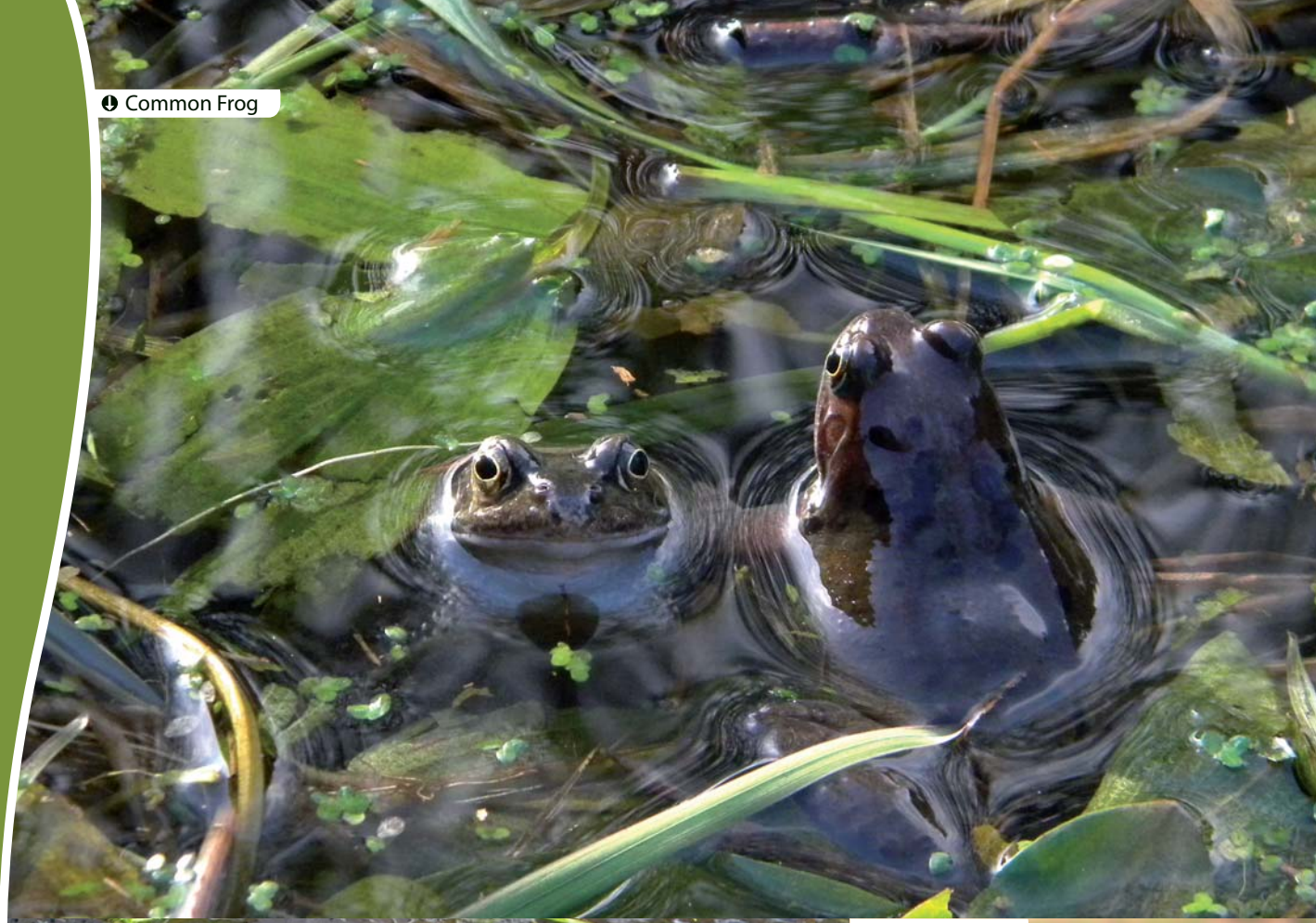
Main Map

AMPHIBIANS

Common frogs are easily recognisable. They have smooth skin with many colour variations including grey, olive green, yellow and brown. They lay eggs in clumps called frog spawn. When the tadpoles hatch they eat their egg. Over the next 12 weeks the tadpoles turn into frogs. While each female lays 1000-4000 eggs only 5 out of every 2000 will survive to become adult frogs. Adults can live up to 6 years and can breathe through their skin as well as their lungs. Frogs eat invertebrates (no back bone) such as slugs, worms and flies which they catch with their long, sticky tongues.

Palmate newts are the most common newt in Cardiff. Sometimes mistaken for lizards they spend a lot of time on land only visiting ponds in the breeding season. They grow up to 9cm and the males have dark, webbed back feet which is where they get their name 'palmate' (having a shape similar to that of a hand with its fingers extended). Unlike frogs, newts lay single eggs which they wrap up in leaves. Newt tadpoles and adult newts eat insects and worms on land and water snails and 'frog tadpoles' in the water.

Main Map


Common Frog


Frog Spawn


Palmate Newt

Harts Tongue Spores

Hard Fern

Harts Tongue

FERNS

Ferns are ancient plants appearing in the fossil record around 400 million years ago. They are found all over the woodland; in the undergrowth, high up on trees and on the rock face in the quarry.

They do not create seeds and, therefore, do not have flowers. Instead they reproduce using tiny spores. These are dust-like cells that are so small that 25 lined up together would only reach 1 millimetre in length. The spores are stored in capsules called Sporangia, you may be able to see these lines up on the underside of the fern.

Some species, such as Hard fern, stay green all year round and offer lush winter colours. Heart's tongue fern is also an evergreen, and is easy to recognise with leaves that do not divide. You can see these ferns hanging off the rock face in the old quarry. They give the site a rainforest feel! and walks.

Main Map

BUTTERFLIES

In the summer and autumn you can see butterflies in sunny glades and on the edges of the woodland. Speckled wood are medium sized brown butterflies with a cream specked pattern. The males are territorial and perch in pools of sunlight and quickly fly up to deal with intruders. These butterflies feed on honeydew in the tree tops so you will rarely see them on flowers on the ground.

Peacocks are one of our most striking butterflies. They have red wings with distinctive eyespot markings. Nettles are used for egg laying and their caterpillars cover the plant in a black mass.

Painted lady and Red admiral butterflies can both be found in the woods and both take part in a huge migration each year. In the spring they move north from North Africa and continental Europe. Small tortoiseshell butterflies can be seen on the edge of woodlands. These hibernate in the UK and can sometimes be found in houses and sheds in the winter.

Main Map


Speckled Wood


Red Admiral


Peacock Caterpillar


Peacock


Rosy Bonnet

Rob Nottage


Trametes Versicolor

Rob Nottage


Jelly Ear


Magpie

Rob Nottage

FUNGI

Many of the fungi found in the wood have descriptive common names referring to their colour, shape or texture such as Rosy bonnet, Amethyst deceiver, Sulphur tuft, Turkeytail, Candlesnuff, Jelly ear and Buttercap.

Other names are more sinister due to the fact that some are deadly poisonous including False deathcap, Poison pie and Dead man's fingers.

There are also many bracket fungi in the woods. These grow out of dead and dying wood, looking like shelves or brackets. Birch polypore is a common bracket fungi you can see on Birch trees any time of year.

The Magpie is a black and white toadstool. When it matures it dissolves into a pool of ink.

WARNING: DO NOT EAT ANY FUNGI FOUND IN THE WOODS. Even experts can be fooled by species which look similar and some are deadly!

Main Map

MAMMALS

Although mammals are rarely seen they are never far away in woodland. Although Grey squirrels are not native to this country they are always a welcome sight running through the trees. They are famous for hiding nuts for winter snacks. They are one of very few mammals that can climb down a tree head-first, by turning their feed so their hind paws are pointing backward and can grip the tree bark. Squirrels can be quite noisy and you may hear a strange high pitched barking from the tree tops. Wood mice also collect nuts and sometimes store lots of them in bird boxes.

Other mammals in the woodland include Common shrew. You may hear a very high pitched squeaking from the undergrowth. This is the Shrew using echolocation like bats to investigate their surroundings. Hedgehogs can be heard in the evening snuffling through the undergrowth looking for slugs and worms.

Several species of bat use the woodlands. Brown long-eared bats fly slowly through the wood picking insects off leaves and bark. Sometimes they even land on the ground to catch insects. They are named after their long ears which are nearly as long as their body. When resting they curl them back like rams' horns or tuck them away under their wings.

Along the river Daubentons bats fly low to catch insects from the water. On a bat detector their echolocation sounds like a machine-gun-like series of clicks. They live in small gaps in bridges near the water; these bats are very rarely found in houses.

WARNING: ALL BATS ARE PROTECTED BY LAW FROM DISTURBANCE, KILLING OR INJURING. If you find a bat that looks like it needs help please contact the Bat Conservation Trust.

Main Map


Grey Squirrel


Wood Mouse


Hedgehog


Clouded Drab

Tony Williams


Coxcomb Prominent

Tony Williams


Ptycholoma Lecheana

Paul Parsons


White Ermine Caterpillar


White Ermine


Nut Tree Tussock

Tony Williams


Streamer

Paul Parsons

MOTHS

The Early grey is one of the first moths to emerge in the season. They can be seen from March to May. They are attracted to light and can sometimes be seen in the day on a fence or wall near buildings. White ermines also come to light. The caterpillars are hairy and greyish brown with a distinctive red stripe on the back.

The Streamer moth gets its name from the black marking streaming from the leading edge of the wing. Although the Clouded drab is often overlooked the pattern and colouring of this moth are very interesting. Throughout the country the colours vary from a light grey and pale reddish-ochre to blackish-brown.

The Coxcomb prominent has ways of dealing with potential predators – the caterpillar raises its head over the back when alarmed and the adult feigns death if handled.

Main Map

PLANTS

The woodland is classed as semi-natural ancient woodland. This means that although the trees have been replanted the original flowering plants still remain. These include: Dog's Mercury, Moschatel, Primrose, Yellow Archangel and Yellow Pimpernel. You may also see 'carpets' of flowers such as Ramsons (Wild Garlic) and native Bluebells in the spring. Unfortunately these Bluebells are under threat from the Spanish Bluebell introduced to gardens in the 17th Century which cross-breeds with the native species.

Many plants have medicinal properties such as St.John's-wort which has been used for centuries as an anti-depressant. Foxgloves which contain the chemical digitalis, is used to treat a number of heart conditions. However, it is a highly poisonous plant as is the scarce Monks' hood found on the banks of the River Ely. This has lobed purple flowers which form the shape of a hood and even contact with the skin can cause severe irritation.

WARNING: IT IS ILLEGAL TO UPROOT WILD PLANTS.

Main Map


Monks' Hood


Foxglove


Yellow Archangel


Dog's Mercury


Old Man's Beard

Alder Cones

Hazel Nuts

Willow Flowers

Beech Nuts

Oak

TREES

At the eastern end of the wood is a plantation of Larch, Scots Pine and hardwood covering an area of about 4 acres. During the First World War the mature trees in the woodland were removed for timber. Therefore, the trees we see today are relatively young, many being replanted in the 1920s. Most of the trees are Beech. They have a smooth silvery-grey bark. In the autumn the woodland floor can be carpeted in orange as the leaves fall. Beech was often used for hedge laying, chair making and early books were made from the bark.

Alder is associated with wet areas and can be found along the riverbanks. It is the only deciduous tree (looses leaves in winter) which has cone shaped fruits, normally associated with evergreens (keeps leaves all year round). The wood was used to make charcoal and gunpowder. The wood doesn't rot in water, it actually becomes harder when soaked and most of Venice, Italy was built on Alder stilts and piles.

Other trees you may spot in the woodland include Ash, Birch, Elder, Field Maple, Hazel, Holly, Oak, Willow and Yew.

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