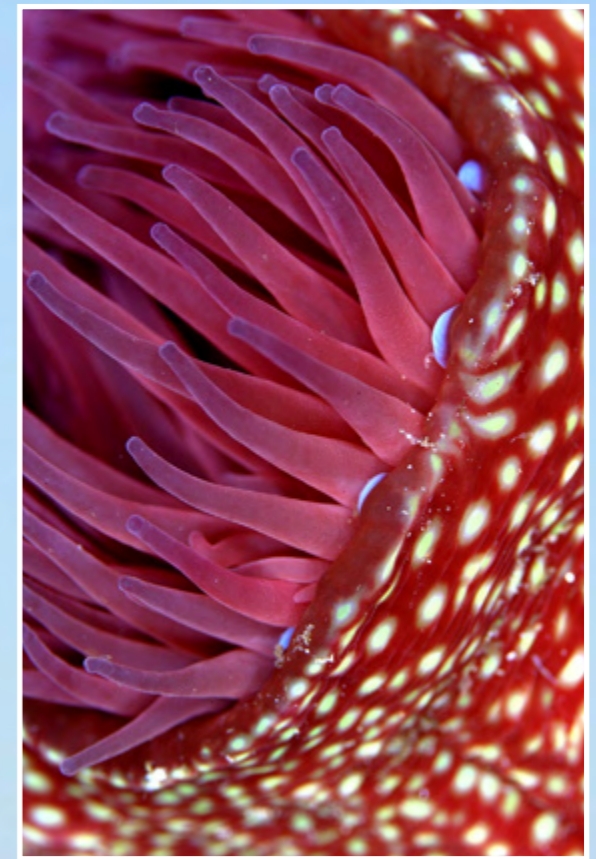


Cornish Reefs

Global diving travel has become increasingly easy over the last decade or so, providing easy access to a growing number of tropical and exotic destinations. So, for many divers residing in cooler climates or new to the sport, it is tempting to look only towards these warm distant destinations and perhaps ignore the wealth of marine life on their own doorstep.

Text and photos by Mark Webster

St. Michael's Mount is the most striking land mark of Mount's Bay with its prominent medieval castle. Only accessible at low water on foot via a cobbled causeway or by boat, it is the home of St. Aubyn family and is now managed by the National Trust.
RIGHT: Detail of Strawberry anemone (*Actina fragacea*)



RIGHT TO LEFT: *Limacia clavigera* nudibranch feeding on red sea lettuce sea weed; Plumose anemones (*Metridium senile*) carpet a reef wall near Land's End; A diver explores a deep gully decorated with soft corals (*Alcyonium digitatum*) at Logan's Rock





Although I have the opportunity to travel regularly to warmer climates, this never discourages me from diving as often as I can in my cooler, but no less spectacular, home waters around the south west peninsula of Cornwall in the United Kingdom. The south west peninsula and county of Cornwall is physically remote from the remainder of the British Isles and also has a rich history full of myth, legend, smuggling and illicit ship wrecking. Industry is sparse in this area, which boasts spectacular countryside, and as a consequence, it is one of the UK's most popular tourist destinations offering both a slower pace of life, a mild climate and miles of unspoiled coast line and secluded beaches.

The rugged granite of the peninsula juts out into the Atlantic and has a striking contrast between its two coasts. There are calm sleepy inlets, coves and fishing villages on the south coast, while there are dramatic towering cliffs and the

power of the Atlantic on the north coast. The rugged topography of the peninsula extends far out to sea, forming reefs, pinnacles and shoals teeming with life.

You can dive a deep wreck in the morning, a spectacular sheer drop-off in the afternoon, and explore shoreline gullies and tunnels in the evening, or after dark. All this makes the area popular with both diving and marine life enthusiasts seeking the variety this coastline provides. It is also popular with the family diver who wishes to mix his or her sport with exploring the attractions on land, some lazy days on the beaches, and the occasional foray under the waves.

The Gulf Stream

The Gulf Stream divides round the

CLOCKWISE FROM TOP LEFT: There is excellent snorkeling all around the coast – here a snorkeller explores the reef at Pendennis Point, Falmouth Bay; Yachts at anchor in the harbour at Penzance; Juvenile cuttle fish (*Sepia officinalis*) are commonly found in late summer in the shallow water eel grass beds; The plankton blooms of late spring bring the basking sharks (*Cetorhinus maximus*) which can reach 8-10m in length; Springtime sees the arrival of many spe-



cies of nudibranchs (this *Polycera quadrilineata*) that congregate to breed; Kelp (*Laminaria sp*) covers the tops of many of the shallow water reefs and provides a habitat for numerous marine species





New Cornish basking shark surveys

Cornwall Wildlife Trust (CWT) is calling for volunteers to help them survey basking sharks off Cornwall this summer as part of their new BBC Wildlife Fund-supported Seaquest Basking Shark Project. CWT is joining forces with SeaWatch SW to carry out surveys from the coast in order to collect vital data on basking sharks and other marine wildlife.

During 2007, SeaWatch SW surveys recorded an astonishing 656 basking sharks from mid-July to the beginning of October from Gwennap Head, West Cornwall. Russell Wynn, SeaWatch SW co-ordinator says: "The results of this survey are starting to help us understand a lot more about basking sharks off Cornwall and identify the areas that are important for them. This data will be useful in influencing the development of a network of Marine Protected Areas around Cornwall, which the Finding Sanctuary project is currently working towards."

During the Seawatch SW survey last year, six species of cetacean (whale, dolphin and porpoise) were seen, including a fin whale, the second biggest whale next to the blue whale. Huge pods of up to 400 common dolphins were encountered and a massive 460 basking sharks were recorded during one day alone! This survey highlights the importance of Cornish waters for supporting an abundance of marine wildlife.

Basking sharks were recorded almost daily off Gwennap Head during last year's survey.

These gentle giants are regular visitors to the Cornish coast, but very little is understood about the status of their population or about their behaviour. The basking shark is the UK's biggest wild visitor and the second largest fish in the world. Harmless to humans, eating only plankton sifted from the ocean, they can grow up to 12 metres

in length and weigh up to seven tonnes. They remain rare in UK waters and despite being a protected species are consistently under threat from human activities in the marine environment.

Lauren Davis, Seaquest Basking Shark Project volunteer says: "Our seas are so poorly protected compared to the land; hopefully these surveys will provide decision makers with the data necessary to give basking sharks and other marine wildlife the protection that is urgently needed."

Lauren continues: "Seeing a basking shark moving majestically through the calm water is truly a wonderful sight, and one which you will never forget. If you are over 16 and interested in spending some time sitting on the cliffs recording basking sharks and other marine life, join Cornwall Wildlife Trust and SeaWatch SW this summer." Previous experience is useful but not essential as training can be provided. For more information on how to get involved, contact Lauren Davis on 07979736661.

Go to www.seawatch-sw.org and 2007 annual report for more information. ■





John Dory (*Zeus faber*)

Zues faber

John Dory (*Zues faber*) is also known as St Pierre. Easily identified by its large dark spot on its flank used to warn off predators, the John Dory is an edible deep-sea fish with a laterally compressed olive-yellow body -- which makes it a poor swimmer -- with microscopic, sharp scales and long spines on the dorsal fin. The fish can grow up to a maximum size of 65cm and 3kg in weight.

John Dory live in the Mediterranean Sea, the Indian Ocean, and the Atlantic Ocean. They can be found on the coast of Australia, South East Asia, the coasts of Japan, South West Africa, and off the coasts of Europe. Normally solitary creatures, they live near the seabed, in depths of 5 to 360 meters. They live about 12 years and reproduce at around 3

or 4 years old by releasing sperm and eggs into the water usually during the winter months.

The top predator in its habitat, the John Dory usually stalks its prey, then shoots out a tube in its mouth to capture food such as sardines, squid and cuttlefish. They are preyed upon by sharks such as the dusky shark.

It is thought that the name John Dory stems from the French *dorée* for gilded, or the French *jaune* for yellow, or is associated with the hero of an old ballad of the same name. Jules Verne said that the name came from an allusion to St. Peter, *Janitore*, the door-keeper or gate-keeper of Heaven, who brought the fish at God's command and that the dark spot on the back of the fish is St. Peter's thumbprint. ■ SOURCE: WIKIPEDIA.ORG



CLOCKWISE FROM ABOVE: There are numerous species of colourful sponges like this breadcrumb sponge (*Halichondria panacea*) that give the reefs a tropical feel; Local fishermen are great characters - there are many small coves and harbours around the coast that support traditional fishing methods from tiny cove boats; One of the most colourful reef fish to be seen in the inquisitive male Cuckoo wrasse (*Labrus bimiculatus*); Colourful sea urchins (*Echinus esculentus*) make great abstract macro subjects

peninsula on its path north. The warmer, clearer waters it carries propagates a diversity of indigenous and visiting marine life not generally found elsewhere around the UK's coastline.

The headlands and offshore reefs are bombarded by nutrients born by the strong tides on both coasts feeding a multitude of species of anemones, soft and stony corals and invertebrate life. These organisms are surprisingly colourful and can give an almost tropical feel to many dives as one swims among gorgonian fan corals, Ross coral, cup corals and walls of brilliantly hued plumose and jewel anemones.

Fish life is profuse with shoals of bass and mackerel, reef dwelling wrasse, flatfish, blennies, scorpion fish, tope, sharks and occasional foreign visitors from warmer southern waters. Spring and early summer brings the basking sharks, which have been increasing number year by year, and in late summer groups of grey Atlantic trigger fish are common. If one is lucky, sun fish and even leather back turtles can be seen. The variety is almost endless and will keep a photographer or marine

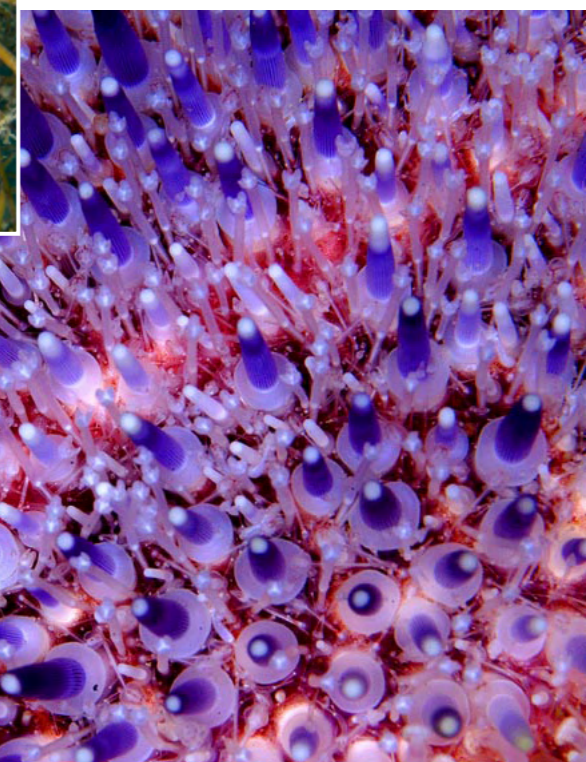
life enthusiast busy for months!

The South Western Approaches have been one of the world's busiest shipping lanes for hundreds of years, and Cornwall has been the first landfall and the site of tragedy for many mariners. Armada ships, East Indiamen, liners, merchant convoy shipping from both World Wars have all met their fate along this coastline.

The two most infamous reefs, the Manacles and the Runnel Stone, located on the south coast are responsible for more than 200 recorded losses between them. There are literally hundreds of documented losses, with many still awaiting discovery either by chance or through dedicated research. Recent years have seen no less than three expeditions seeking the infamous *Merchant Royal*, the richest wreck in UK waters, lost in the deep somewhere between Lands End and the Scilly Isles.



Cornwall





The area is a wreck diver's paradise. There are many classic dives, which can be easily located with the help of many publications, or guidance from the local diving centres and clubs.

Habitat variety

There are a variety of marine habitats to explore around this coastline, each of which has unique features to offer. On the south coast of the peninsula are the three lush river valleys of the Helford, Fowey and the Fal, which form the third largest natural deep water anchorage in the

Cornwall

These river systems were 'drowned' at the end of the last ice age by a combination of sinking land and rising sea levels.

The Fal in particular offers quite dramatic profiles underwater from the shallow drowned flood plains to the remnants of the original river valley, which penetrates far inland and retains depths of up to 35m (110ft).

The industrial revolution and expansion early this century once threatened these habitats with careless waste disposal from copper and tin mining and china clay extraction. Fortunately, recent decades have propagated a more educated and enlightened appreciation of the damage caused by pollution. Now, strict controls and marine reserves have returned many areas to their former glory.

In the shallow waters of the Fal, Helford and Mounts Bay are the most northern concentrations of eel grass that is so common in Mediterranean. This habitat is an attractive breeding ground for all manner of marine life.

During the spring months, clusters of eggs will often be found at the base of the eel grass leaves left by fish, nudibranchs, squid and cuttlefish. In slightly deeper



waters, there are sweeping beds of maerl, a form of encrusting algae that forms little coral-like clusters.

The fauna of these maerl beds is very rich with many species of fish, crustaceans, worms and molluscs hiding amongst the delicate branches. In the upper reaches of the Fal estuary are thriving beds of wild oysters, which now can only be fished commercially by hand from licensed punts.

Inshore reefs

The coastal topography varies dramatically from sheltered bays and coves to sheer cliffs that plunge straight into the sea. They have in common the same rich marine life, which inhabits both the littoral zone and the shallow reefs,



world. The tidal estuaries of these rivers are rich in marine life and are often teeming with juvenile fish.



CLOCKWISE FROM ABOVE: A diver jumps from a local dive boat; Traditional gaff rigged sailing boats are regularly seen around the coast; A topknot flat fish (*Zeugopterus punctatus*) is one of the stranger looking reef residents; The largest jellyfish found in Cornish waters is the *Rhizostoma* jellyfish (*Rhizostoma octopus*) which can appear in large numbers during the summer months; A diver gazes at a dense bed of jewel anemones (*Corynactis viridis*) on the Raglan's pinnacle in the Manacles Reef; A thornback ray (*Raja clavata*) rests on a gravel seabed



Cornwall

dwells in deep water.

The surrounding shallow seabed is home to all sorts of bottom dwelling fish, crus-

are many coves where squadrons of juvenile and adult cuttlefish can be found shoaling together ranging in size from 5cm to 30cm all displaying their amazing camouflage skills.

Offshore reefs

The geology of this area has produced many spectacular offshore reefs that rise steeply from the seabed, each one slightly different and offering often

taceans, tube worms and anemones. In the spring and summer months, there

and gullies to a depth of 10m. Whereas, on deeper reefs further offshore where waters are clearer, kelp can be found growing as deep as 18m (60ft).

The reefs are often dissected by deep cuts and gullies and steps and ledges, which are exciting to explore. Even in the shallows, where many rock faces are exposed to tidal current, filter feeding soft coral *Alcyonium digitatum* (locally known as Dead Men's Fingers), jewel anemones and sponges will all thrive.

These areas are home to many varieties of fish including Pollack, bass, ballan and corkwing wrasse, cheeky cuckoo wrasse, who peer right into your mask or camera port, and more unusual species such as red gurnard and red mullet. In late spring and early summer, you will find many species of fish tending their egg clusters. These are normally the males guarding the nursery for perhaps 3-4 weeks and include butter fish, shannies, tom pot blennies, corkwing wrasse and the weird looking lump-sucker, which normally

gullies and caves.

During the winter months, these inshore areas are often lashed by severe storms swept in from the Atlantic. But as spring arrives, the waters become calmer, and the annual cycle of life commences once more.

During the summer, the shallows are full of beds of boot lace, Jap weed

and lettuce sea weeds, which offer protection to juveniles, and so are a favourite hunting ground for small shoals of Pollack, grey mullet, and lone John Dory that prey on the newly hatched fish and plankton.

As with many other temperate sea areas, there are kelp forests to explore inshore. The kelp here does not reach the proportions of the giant species of the Californian coast, but it is equally prolific and provides a wide range of habitats amongst its fronds, stipes and hold-fasts.

The depth to which the kelp extends will vary with topography and water clarity. Generally, it clings to the top of the rocks



CLOCKWISE FROM ABOVE: The largest anemone is the Plumose (*Metridium senile*) which is found on exposed reefs where they feed in the strong currents; There are two species of soft coral in Cornish waters – these are 'Red Fingers' (*Alcyonium glomeratum*) that grow in large colonies wherever there is a tidal flow; The male cuckoo wrasse is perhaps the boldest on the reef. He will often approach within a few centimetres to challenge his reflection in your mask or camera port; The striking looking male Lumsucker (*Cyclopterus lumpus*) appears from deep water in early spring for a short time to tend his mate's eggs until they hatch; There are numerous quaint seaside cottages with equally quaint names to be found in the coastal villages





LEFT: The Tompot blenny (*Parablennius gattorugine*) has to be the cutest looking reef resident found on almost every shallow coastal reef; INSET CENTER: There are several species of plume and fan worms to be found on the reef. The detail of *Bispira volutacornis* makes an interesting macro shot

south, in an area that is open to Atlantic oceanic conditions, and so, there is often a deep and powerful swell running here (locally known as ground sea).

Planning to dive here means waiting for the best tides and weather conditions as even in good weather there can be a swell of 1-2m to contend with, which can be felt as deep as 20m. Local knowledge is essential as the tides are vicious and sometimes unpredictable, and the weather can change very quickly. But under the right conditions, the Stone is one of the most spectacular dives in the area.

In this area close to Land's End, there are no river out-falls to upset the visibility, and the bright yellow heavy granite sand settles quickly after stormy

conditions. These ingredients and the swift currents are perfect for a dense proliferation of invertebrate marine life, which in turn attracts fish who enjoy the shelter the reef provides, whilst others are tidal feeders, or perhaps dwell in the sand.

Kelp sea weed is able to withstand the strong currents with their sturdy hold-fast roots and growth can extend down to between 15 and 18 metres in places, due to the water clarity, and in turn provides shelter and habitat for more sedentary marine life. Cowries, topshells, and clingfish are common on the kelp holdfasts, and there is normally an abundance of spider crabs and pipe fish picking their way amongst the kelp stypes. Several varie-



TOP RIGHT: Snakelock anemones (*Anemonia viridis*) will settle almost anywhere – here this juvenile clings to the blades of eel grass. ABOVE INSET: The tiny Leach's spider crab lives in symbiosis with the Snakelock anemone (*Anemonia viridis*) just like many tropical species. LEFT: The Cornish coastline is distinguished by the numerous deserted bays and coves with clear water – a great temptation to explore with a snorkel or SCUBA



challenging diving.

Close to the end of the peninsula, where Lands End reaches out into the often wild waters of the Atlantic, is the infamous Runnel Stone, which is reputed to have wrecked more than 27 ships. The Runnel Stone

used to break the surface until the last vessel to be wrecked here, the City of Westminster in 1923, struck and broke it away. The edge of the reef area is now marked by a buoy, within sight of Lands End and the Longships reef lighthouse to the





Cornwall



LEFT TO RIGHT: The common lobster (*Homarus gammarus*) is unmistakable with its bright blue livery; The tiny squat lobster (*Galathea strigosa*) has a dazzling blue and orange colour pattern; The common prawn (*Palaemon serratus*) is almost completely transparent and is often found in large groups in cracks and crevices on the reef; The spider crab (*Maja squinado*) is found in a number of different habitats and will often climb the reef in search of food

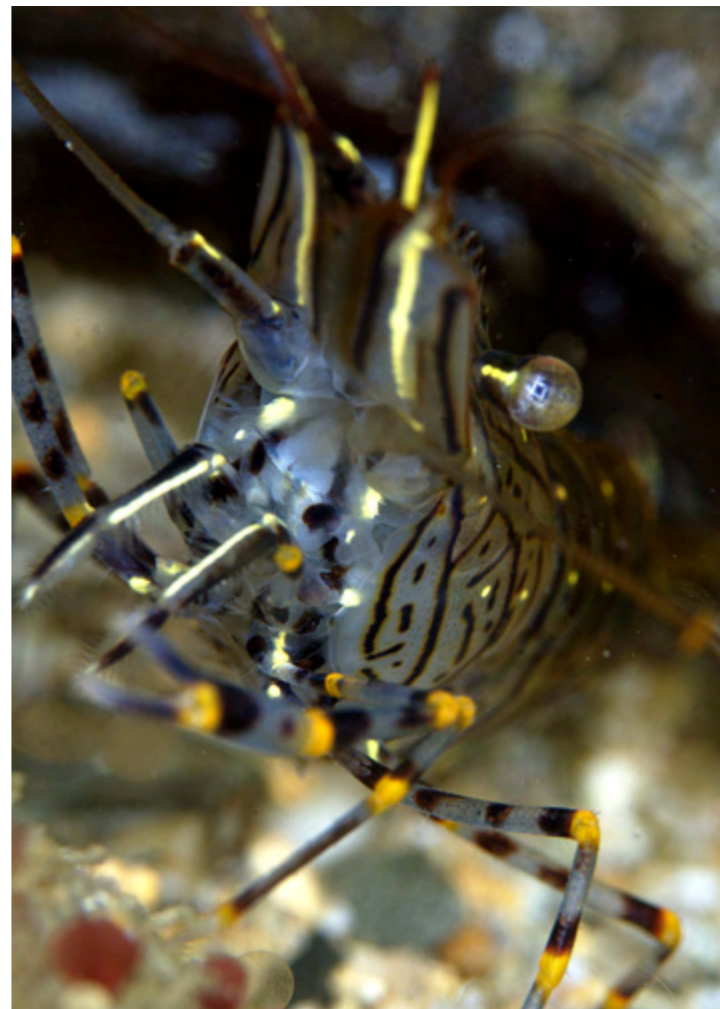
on them, particularly in late spring, when they are reproducing. Remaining space on the rock surface is mostly occupied by soft corals (*Alcyonium digitatum* or Dead Men's Fingers), tunicates and masses of feather stars and brittle

shoals of mackerel, bass and pollock, which show little fear of divers.

In amongst the rocks of the Runnel Stone are the remains of the numerous wrecks, which, in some cases, are so close or overlapping, that it is difficult to tell when one is swimming from one wreck to another.

Finds include ship's fittings, cargo items and munitions—although these should be left well alone. British law dictates that any recovered items must be declared to the Receiver of Wrecks.

The visibility here is generally very good, with 20m not uncommon, and up to 30m on calm cold winter days. The plankton bloom in late spring/early summer will reduce this but will also bring



the possibility of an encounter with a massive basking shark or squadrons of huge *Rhysostoma* jelly fish.

Snorkelling with a huge basking shark is an awesome experience not to be missed, but divers need to get into training, as keeping up, particularly with a camera,



can be very hard work!

Diving is possible all year round, but naturally, winter diving can be more of a lottery due to the frequently stormy conditions. Summertime is therefore the best time to plan a diving expedition when the weather is more predictable, but winter diving can

stars.

Exploring the shallow walls at the reef top reveals numerous nooks, crannies and ledges that are home to crabs, squat lobsters, prawns blennies and shannies, most of which are both inquisitive and co-operative for the camera. It is sometimes difficult to pick the best photographic tool, as there are so many macro and wide angle subjects—the image opportunities are endless. Inshore reef species are also seen in the shallows—scorpion fish and the Corkwing wrasse, which can be found busy building its nest in the kelp early in the summer. It is common to encounter large

produce some amazing visibility and balmy conditions between the storms. The season also has an effect on the water temperature, with the coldest months being February and March after the sea has cooled during the autumn and winter. Underwater temperatures can range from 14-16°C

ties of sponge are common, and the first signs of jewel and daisy anemones can be found in as little as three metres of depth.

Below the kelp line, there are swathes of pastel-hued plumose anemones extended to sift nutrients from the current. In amongst them are daisy and dahlia anemones and fields of jewel anemones in almost every colour one can imagine—from vivid yellows to deep purples, reds and oranges. These are interspersed with clusters of delicate pink oaten pipe hydroids reaching out to grasp nutrients from the current.

Inspecting these hydroids closely often reveals two or three species of nudibranch feeding



ABOVE: When you are not diving make sure to take some time to explore the attractive coastal villages and hamlets. BELOW: There are several species of scorpion fish to be found on the reefs. This one is the long spined sea scorpion (*Taurulus bubalis*)

Almost every beach has a fringing reef which is easily explored with basic snorkeling equipment. LEFT: The tiny jewel anemone (*Corynactis viridis*) is one of the most colourful species on the reef and a great macro subject. RIGHT INSET: The spiny starfish (*Marthasterias glacialis*) has an intricate pattern and texture when viewed in close up

during the summer, although surface temperatures often reach 20-22°C, to a chillier 8-10°C during the coldest winter months.

Be safe, get local advice

Cornwall's waters offer so much to the visiting diver but should be treated with respect even on high summer days when the water may resemble a sheet of

can change quickly, especially on the north coast and towards Land's End. Dives should not be planned without complete details of tides and weather forecasts and the benefit of local advice, which is freely available from the Coast Guard and the diving centres, in order to keep one's visit memorable for the right reasons. Alternatively, you can choose to dive with one of the many day boats, or live aboard boats, which operate within this area, and leave the planning to a skipper who deals with these waters on a daily basis.



LEFT: This species of cowrie (*Simnia patula*) is only found on the gorgonian *Enicella verrucosa* on deep water reefs and is very difficult to find due to its camouflage; RIGHT INSET: This tiny juvenile hermit crab (*Pagurus bernhardus*) is walking the tightrope of a single blade of eel grass

glass. Sadly, there have been a number of diver fatalities here, and many could have been avoided with a little forward planning and local knowledge.

The tides can be very strong in many areas, and the weather

History

The name "Cornwall" originates from two words in the Cornish language: *Cornovii*, meaning hill dwellers, and *Waelas*, meaning strangers. This language arrived with the Celts from Europe

around 1000 BC, and its use gradually declined until the late 1890s, when English became the dominant language. There are various groups who strive to preserve the language for future generations.

Although referred to as a county in England, Cornwall is in fact a Duchy, which is a territory ruled by a Duke. The first Duke of Cornwall was Edward, the Black Prince, son of Edward III. The current Duke of Cornwall is Prince Charles. During the Middle Ages there was a succession of rebellions and even an invasion by the Spanish at Mounts Bay in 1595. During the Civil War of the 1600s, there were several major battles fought in Cornwall. Thereafter, life became relatively peaceful.

The area was largely agricul-





Cornwall

tural, with some mining for copper and tin dating back to ancient Roman times. Cornwall played a big part in the industrial revolution in the 1700s and 1800s. Several revolutionary steam engines were developed for the mining industry by Cornishmen. This led to Cornwall being one of the world's largest suppliers of tin world wide for more than 100 years.

Mining began a decline by the middle of the 20th century and virtually stopped in the 1980s, although there are still attempts to revive some mines as the price of tin and copper increase on world markets.

Myth & legend

There are many myths and legends interwoven into the history of the area. Certainly, the Cornish believe that King Arthur and his knights of the round table were Cornishmen. This story is centred on the remains of the castle at Tintagel, and all the places in the legend of King Arthur are to be found here, from where he was



ABOVE: A diver photographs a group of snakelock anemones (*Anemonia viridis*) on a reef in Falmouth Bay. RIGHT: Map of the county of Cornwall, United Kingdom. TOP RIGHT: Some villages and hamlets are right on the water's edge and still support communities of fishermen, although tourism is now the mainstay of the Cornish economy

Some parts of the rugged coastline are only accessible by boat for diving but make spectacular views on coastal walks. The Cornish coastline is littered with numerous shipwrecks driven ashore during winter gales. The Tater Du light house warns shipping of the treacherous Bucks Reef close to Lamorna Cove

born to where he had his last battle, and even where he obtained the sword, Excalibur, from the anvil to the lake where it was returned. One of the remaining industries

of Cornwall has been commercial fishing, but this is now also in decline due to over fishing throughout Europe and the strict EU catch quotas. So now Cornwall has little industry,

but it has its spectacular scenery and the best climate in the UK. Therefore, tourism is now the mainstay of the Cornish economy. ■