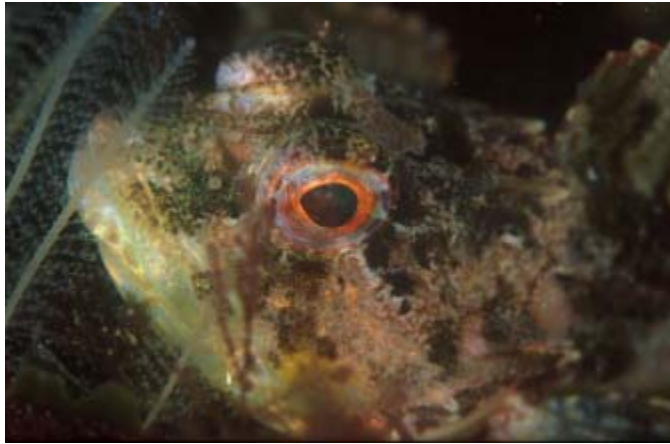


Scorpion Fish

by Mark Webster

One of the most common misconceptions regarding diving is the danger of large denizens hunting us down and consuming us or at the very least biting off large portions. History is full of myth and legends surrounding giant squid, octopus, whales and any number of sea monsters, whilst in recent years it is inevitably the shark which generates the greatest undeserved fear. But the reality for most of us is that we feel blessed when we encounter one of these larger beasts whilst the real dangers come from much smaller venomous species. Many of these fish and invertebrates often have incredible camouflage which increases the hazard for the unwary diver, whilst others advertise their danger with gaudy colours and patterns.

Possibly the most prolific species are the scorpionfish and their relatives which are found in almost every sea around the globe. Their defensive venom can range from a sting that is barely felt to one that can result in almost certain death. There are in fact some 45 genera which include around 380 species of scorpion fish worldwide, so it would be quite a challenge to observe every species. Most species are sessile bottom-dwellers using their remarkable camouflage aggressively for predation rather than defence. They are safe in the knowledge that their venomous spines, predominantly dorsal, are enough to discourage even the largest and most determined of predators. The exception to this behaviour are the lion fish who are brightly coloured and free swimming and also known for their communal hunting when they will herd schools of small fish almost like a group of sheep dogs.



Short-spined sea scorpion - In addition to excellent camouflage the UK species often like to hide amongst seaweeds and hydroids as extra cover from their intended prey. Nikon F90X, 105mm micro, Subal housing, Inon Quad flash, Fujichrome Velvia, f16 @ 1/80th.

Diving in our temperate waters around the UK you will almost certainly encounter at least two species if you look carefully. The short spined and long spined scorpion fish are both relatively small at 10-15cm and have excellent camouflage. They are most often found amongst weed and sponges on shallow reefs where they lay in wait for small crustaceans, fish and fry. They are often found stranded in rock pools between the tides and could give a shoeless child explorer a nasty surprise! The sting that you might experience from one of these is relatively benign but might cause some discomfort to those who are sensitive. Even when found, like most scorpion fish, they will totally ignore you unless you disturb them when they will swim explosively for a short distance before settling once more. Camouflage and colour will vary with the habitat as all scorpionfish are able to change colour



Long-spined sea scorpion - In the temperate waters of the UK we have smaller relatives with more benign venom, to photographers at least. These scorpionfish are no less colourful and have impeccable camouflage and so present a satisfying challenge to track down. Nikon F801, 60mm micro, Subal housing, Sea & Sea YS50 and slave, Fujichrome Velvia, f8 @ 1/60th.

to suit a new location. Those in estuarine locations will be brown and muddy whilst the reef dwellers maybe decorated with deep purple and red markings to match weed and sponges. In the south west and the Channel Islands we might occasionally encounter a larger species from the warmer waters of the Mediterranean or the Canaries. The black scorpionfish has been recorded most often and can reach a length of 30cm and has a more potent venom.

Species encountered in the Mediterranean and Canary Islands are very similar although their colours and patterns will be much more vivid to match their surroundings. There are some quite large examples, notably *Scorpaenus notata* and *Scorpaena porcus* which may grow to more than 30cm and have a sting to match. They are again prolific in shallow waters and are difficult to spot in the short weeds and eel grasses which grow on the reef slopes.

Moving to tropical waters brings a big increase in the number and diversity of species. In the west the Caribbean has several of scorpionfish which are very close in appearance to their Atlantic and Mediterranean cousins. Moving east to the Red Sea offers a wider range from the elegance and beauty of the lion fish to the perhaps repulsive gargoyle features of the stone fish and a host of alternative creations in between. The common lion fish (*Pterois volitans*) are unique amongst the scorpion fish as they are often free swimming and use schooling tactics to hunt their prey. They hunt predominantly at night or during the dusk hours and groups of up to twenty or thirty individuals are frequently encountered on reefs and particularly wrecks. Here they will act as a pack to herd their target prey, often schooling glass fish, to a position where each



Mediterranean scorpionfish - The warmer waters and colourful seaweeds and algae in the Mediterranean are also matched by the scorpionfish here. These bright colours make terrific portraits. Nikon F801, 60mm micro, Subal housing, Sea & Sea YS50 and slave, Fujichrome Velvia, f8 @ 1/60th.



Stonefish - This species has a deadly venom and is very hard to spot. Most are found by accident and even then it is difficult to accept that this is a fish! It pays to check the seabed carefully especially amongst coral rubble just in case. Nikon F801, 60mm micro, Subal housing, Sea & Sea YS50 and slave, Fujichrome Velvia, f8 @ 1/60th.



Bearded scorpionfish - This species favours the reef and will be found almost anywhere. They grow to quite large proportions and occasionally their position on the reef will allow the use of extreme wide angle lenses, as in this example. Nikon F801, 16mm, Subal housing, Sea & Sea YS120, Elitechrome 100, f11 @ 1/60th.



White scorpionfish - The Lembeh Straits in Indonesia has a tremendous selection of scorpionfish which will mimic almost everything. This white example appears to be copying the appearance of a discarded pair of trainers close by! Nikon F90X, 60mm micro, Subal housing, Sea & Sea YS60 and YS30, Fujichrome Velvia, f11 @ 1/80th.

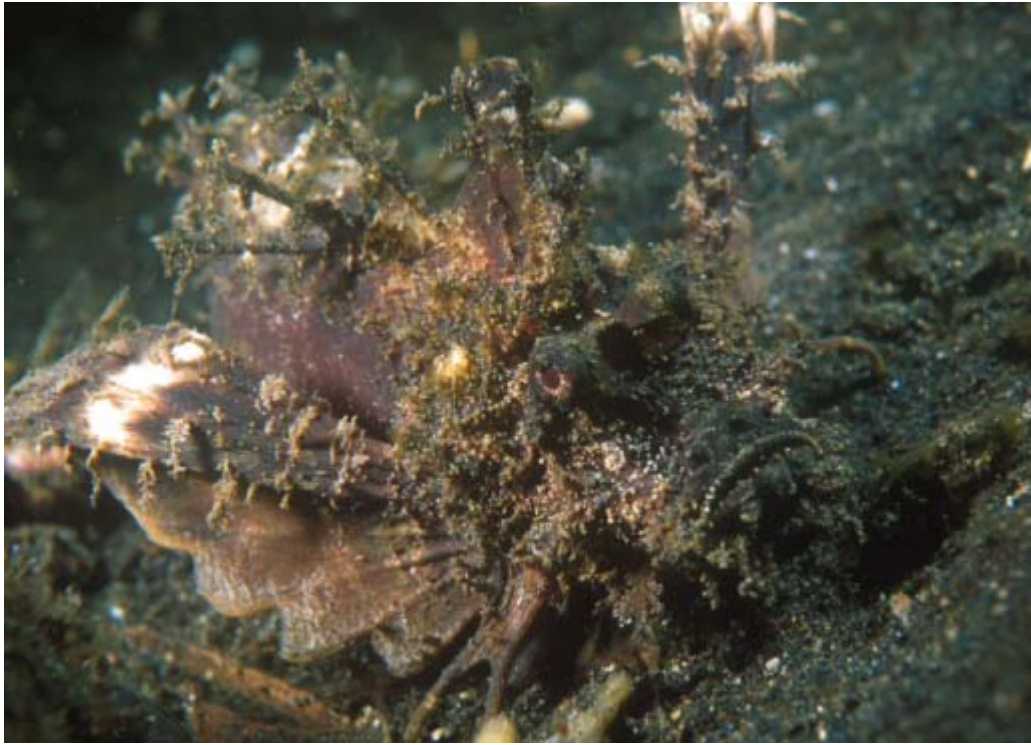
individual can take its turn to feed. During daylight hours they are most often found clinging to overhangs but will move if disturbed. They show no fear of divers and are rarely aggressive. If cornered or threatened they will most likely roll to a near vertical position and swim towards you occasionally making short threatening moves forward. There are two other common species here, the red or clearfin lion fish (*Dendrochirus radiata*) which are normally encountered individually and the dwarf or short fin lionfish (*Dendrochirus brachypterus*) which rarely swims and will mostly be found resting on rubble or sand in shallow water.

Looking for the less obvious Red Sea species reveals an interesting selection of rogueish characters. Perhaps the most often seen species is

the bearded or tassled scorpionfish (*Scorpaenopsis oxycephala*) which will be found in almost any reef environment matching its colour and pattern to hard and soft corals, sponges and algae. They are perhaps the most colourful species who will raise their dorsal spines in a threat posture as you get closer. This may be followed by a wide yawn which is further threat posture but is most likely to be a fast dash away from you for a few metres before settling again. But for the most part they will happily stare you down knowing that you are no real threat. Other species are less easy to spot and these include the devil scorpion fish, dwarf scorpion fish, false stone fish and devil fish or *Inimicus*. All of these have increasingly effective camouflage and powerful venom to go with it and like the bearded scorpionfish are reluctant to move unless there is no alternative.

One variation to this behaviour comes from the develfish or *Inimicus* which have developed the ends of their pectoral fins to act almost like hands or feelers. They will slowly walk across the seabed probing the sand searching out small crustaceans to feed on. If they are threatened or forced to swim then bright swirls of colour are revealed as they open their pectoral fins fully and the viscous-looking dorsal spines are raised as a warning.

The most difficult to find and most dangerous species is of course the stone fish which lives up to its name and even when found its appearance almost defies belief. This species and its close relative the devil or false stone fish are able to exude a mucous on their bodies which will attract growth and encourage algae and hydroid growth which - coupled with colour changes which perfectly match their surroundings - makes them master chameleons. You can most readily identify



Inimicus scorpionfish - One of the more venomous species is very common in the Lembeh Straits. They are often seen picking their way over the seabed on their modified pectoral fins, but many also bury themselves in the dark sand and are invisible - good buoyancy control is a must! Nikon F90X, 60mm micro, Subal housing, Sea & Sea YS60 and YS30, Fujichrome Velvia, f11 @ 1/80th. (Above right) Tassled scorpionfish - In the far eastern waters of Indonesia the colours and patterns often range from the sublime to extreme. This fish seems to be suffering an identity crisis and seems to have gone for every colour and pattern he can summon. Nikon F90X, 105mm micro, Subal housing, Inon Quad flash, Fujichrome Velvia, f16 @ 1/80th.

the stone fish from the shape of its mouth which points directly upwards like an upside down 'U' and the fact that they normally rest with their tails curled tightly to one side. The false stone fish has the more usual horizontal mouth position and elongated piscine body shape. The stonefish venom is reputedly one of the most painful known to man and

victims have been known to die from shock or heart failure before the venom has fully invaded their bodies.

Progressing still farther east to Malaysia, Indonesia and Papua New Guinea adds a few more species which will be commonly seen. All the usual characters are here as well with the addition of at least one other lion fish, the dwarf or twinstripe lion fish



which as its name suggests is quite small and it normally only encountered at night. There are also regular sightings of leaf scorpionfish and waspfish which in common with their relatives have amazing camouflage. Leaf scorpionfish are most often encountered in a reef environment and can be as small as 2-3cm in length. They adopt a variety of

colours from jet black through pastel shades of yellow, pink, red and mauve to pure white depending on where they are resting. They have a very thin body line and so are difficult to see head on. The dorsal fin is high and extended to resemble a piece of leaf or weed debris and they will allow themselves to be moved gently from side to side by the current and surge to complete the subterfuge. They are occasionally seen in pairs either for mating or competing for a vantage point and will most often remain in the same location for long periods which makes them ideal photographic subjects.

Away from the reef in typical 'muck diving' environments you will find species similar to those in the Red Sea and Indian Ocean and also some of the more unusual species like the waspfish and velvet fish. Like the leaf fish these guys resemble leaf debris or flotsam and it is worth examining every collection of rubbish you may encounter on an apparently lifeless seabed. There are several species of waspfish but perhaps the most commonly encountered is the cockatoo wasp fish which has a high dorsal fin resembling the flamboyant feather headpiece of its namesake. Here the similarity ends as these fish are certainly not colourful and match the seabed and surrounding debris perfectly. In areas like the Lembeh



Clearfin lionfish - This species is also common in the Red Sea but is of a more nervous disposition than the common lionfish. They will invariably turn its back on a photographer and retreat into a hole - the best time to capture them in the open is at night. Nikon F801, 60mm micro, Subal housing, Sea & Sea YS50 and slave, Fujichrome Velvia, f8 @ 1/60th.

Straits they are considered common and can be found in groups of two or three gently wafting in the surge and current. Velvet fish (*Aploactisoma milesii*) are occasionally found in tropical waters but are more likely to be encountered in the semi-tropical and temperate waters around the coasts of Korea and Japan whilst the red indian fish (*Pataecus fronto*) is endemic to southern Australia only. Here they will be found in similar muck-type environments as well as on the reefs and will come in a variety of colours from drab camouflage to bright oranges and yellows to match sponges and algae.

Back in Indonesia and Papua New Guinea are two quite rare species which are the holy grail for visiting photographers. These are the Ambon scorpion fish and the weedy or Merlot's scorpion fish (*Rhinopias*) which inhabit different environments but are equally difficult to track down. The Ambon scorpion fish is a classic small muck dweller reaching lengths of 12cm or so normally found in relatively shallow water. The disguise they adopt mostly resembles a ball of coconut fibre or weed which rolls or sways across the seabed. Even when one of these little beasts is pointed out by a guide it can be very difficult to recognise as a fish let alone which end is which! The eyes and mouth are heavily festooned with hairy appendages and it will take more than a little patience to take a picture which reveals the subject as a fish. By contrast the weedy scorpion fish prefers a reef environment and will adopt some fairly striking colours and patterns to hide itself amongst other reef features. Some have the appearance of feather stars with flowing appendages similar to a lion fish, whilst others may have a smooth appearance rather like a leaf scorpion fish

which blends with a variety of backgrounds. They are apparently territorial for short periods, but can be disturbed it seems by repeated visits from divers. Although I have been led to several locations which were trumpeted as a dead certainty this one has so far eluded me!

Photographically perhaps the hardest work is done once you have found the subject. It is always best to look for low angles if possible to try and separate the subject from the background, unless you are trying to illustrate the effect of the camouflage. Head and shoulder compositions are always very effective as their often grotesque features can make very striking portraits. Some species have remarkable patterns when viewed in close up and so macro shots of the patterns on the skin or pectoral fins or perhaps around the eye will also make effective abstract compositions. In general the best lens for most situations will be a 60mm or 105mm macro lens, although a short range zoom can be very effective if the subject is large enough. Wide angle lenses and even the fish eye can be used to good effect when you can get close enough to the subject or perhaps to illustrate the schooling behaviour of lion fish. Scorpionfish make striking subjects wherever you may find them around the globe and half the fun is in finding them in the first place. By training your eyes to detect these Machiavellian characters you will also find that you begin to detect many other hidden creatures on the reef which will consume your time and images even if the main objective of the hunt fails.

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