

# Frogfish Obsession

Essay & photographs by *Jayne Jenkins*

**S**o, I am obsessed with fishes that are referred to as frogfish or anglerfish. But what is in a name? I have lost count of the number of times I have been corrected for calling an anglerfish a frogfish, or vice versa. They certainly look the same; colour and size may vary but both are pretty strange, with appendages resembling tiny arms and legs rather than fins — they actually do walk underwater, and always have on a grumpy face with a big, frog-like mouth.





# FROGFISH ACTUALLY WALK UNDERWATER, ALWAYS WITH A GRUMPY FACE AND A BIG, FROG-LIKE MOUTH.



If you Google the differences, you will find very similar explanations for both species: An anglerfish is “any fish of the bony fish order Lophiiformes — these fish use an outgrowth that can be wiggled so as to resemble a prey animal to lure and catch their prey”. A frogfish is “any of several benthic anglerfish, of the family, having a frog-like mouth with a lure”. In other words, frogfish are members of the anglerfish family.

While planning a holiday to the Philippines, I heard about a frogfish specialty course: Frogfish Diver Distinctive Specialty. What could this be about, and who on earth devised such a thing? My curiosity got the better of me. Perhaps this would feed my fascination for these incredible critters and help me understand them better. With no idea what to expect, my course outline was an afternoon of theory and two dives, followed by a recap of everything we had learnt.

Self-professed frogfish nerd and also our instructor, Daniel Geary, aka Dr. Frogfish, has lived in the Philippines since 2011. While working with thresher and whale sharks in Oslob, he fell in love with frogfish and in 2014, he wrote the Frog Fish Specialty course. Daniel is currently the only person teaching the frogfish

course at Atmosphere Resort and has since certified 53 frogfish aficionados. His knowledge and enthusiasm were inspiring from the very beginning and after just five minutes, I was hooked.

The course began with a bit of history, namely the first ever documented frogfish encounter in Brazil. Sometime before 1630, a drawing was given to the Director of the Dutch West India Company and one can clearly see the similarity with our current frogfish friends. The first documented Indo-Pacific frogfish was in 1696, when a ship’s captain in Western Australia quoted “seeing a fish about two feet long with a round head and arms and legs with something like hands”. The first colour drawing was created in 1719, by Louis Renard, who published a collection of Indo-Pacific fish drawings; one called Sambia or Loop-visch, which translated into “walking fish”. Philibert Commerson, a botanist and naturalist employed by the King of France, was the first to attempt a serious study of these wonderful animals. He described four species, two in great detail, and was the first to use *Antennarius* as the Latin description, which is still used today. To date, there are 48 recognised species of frogfishes, with another possible five to be confirmed and one of these five, is found in Sydney Harbour, Australia.





Frogfish are capable of remaining so still that they are regularly confused as rocks by passing nudibranchs.





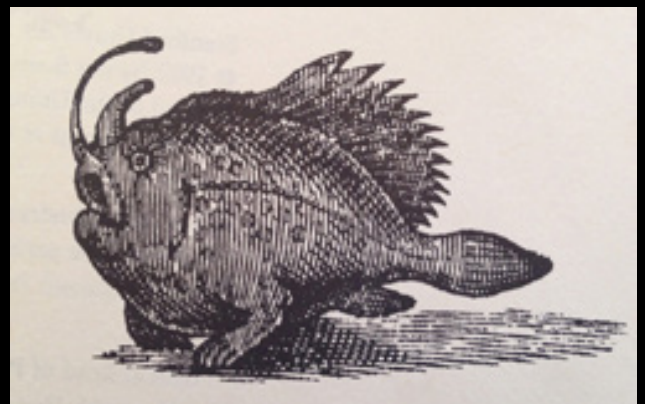
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# OPENING THEIR MOUTHS UP TO TWELVE TIMES THE ORIGINAL SIZE, THE HUGE MUSCLE WHICH KEEPS PREY INSIDE THE STOMACH IS CLEARLY VISIBLE, WHILE THE SMALL ROWS OF TEETH ARE RARELY USED, AS PREY IS GENERALLY SWALLOWED WHOLE.

Learning how clever and amazing frogfishes are really piqued my interest. Sydney Harbour is my local dive site, and Chowder Bay is where my frogfish addiction first took hold. Chowder Bay is a local, inner harbour dive site and a frogfish haven and breeding ground. Every year, around January and February, a new crop of babies appears. Watching them grow and change colour holds me in absolute thrall, where white babies turn yellow, orange babies turn hairy and some of the black ones turn brown. They all grow much larger over a period of time, and then they disappear. Observing their behaviour, how they change colour to blend in with their surroundings, become experts at camouflage and almost invisible to predators and prey, was something I had already spent many hours and dives absorbed by. The colours in some frogfish resemble poisonous nudibranchs to disguise them from predators. Once, I watched a nudibranch walk right over a painted frogfish. He looked absolutely petrified, and now I know why!

We learnt why frogfish “yawn”, something every photographer hopes to record, though patience is essential as they do not always comply. Opening their mouths up to twelve times the original size, the huge muscle which keeps prey inside the stomach is clearly visible, while the small rows of teeth are rarely used, as prey is generally swallowed whole.

It is thought there are three main reasons for the yawn. They see their reflection in a camera dome port and their widest yawn is stress-related, a warning sign to a potential predator or rival - if you are a photographer with a dome port please be kind and only take a few images. The second scenario, generally more of a cough, is much smaller and quicker; this yawn is normally seen after eating and used to eject undigested food such as scales and teeth. Otherwise, they may be stretching the jawbones before eating; the jawbone can become misaligned from mouth movements like eating or swimming, so yawning before eating realigns the jawbone, readying it for a successful meal.







It is a frogfish-eat-frogfish world.  
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**SOME FROGFISH RESEMBLE  
POISONOUS NUDIBRANCHS**  
TO DISGUISE THEMSELVES FROM PREDATORS.



This warty frogfish is resting in a bed of tunicates.



There can be numerous frogfishes around adjacent dive sites, but it is rare to witness them mating and little is known about the reproduction process. What we do know is that the female's body becomes huge and buoyant, and carries up to 180,000 eggs. At the right time, the male and female head towards the surface, and the male will nudge her abdomen to induce spawning. Eggs are usually laid in mucus on the ocean floor, often called a "veil" or "egg raft" due to the ribbon-like shape of the mass and its ability to float in ocean currents. Some species meticulously guard their eggs, with the males carrying the eggs between their hairs, bumps and other structures on their bodies. Some species exhibit no parental care whatsoever, while others guard the eggs until they hatch. Up to two months after fertilisation, the eggs hatch into juveniles, which are minute, 'mini-me' versions of adults and they can be born with special defensive colours already in place to ward off predators.

Frogfish move very slowly by forcing water through their gills and seem to huff and puff their way around, but be warned — frogfish have one of the fastest

strike speeds of any animal. Cloaked in its excellent camouflage, a frogfish is an ambush predator, often using its lure in a variety of ways, depending on species, to attract unfortunate prey. Along with baiting, they can also emit a chemical attractant so the poor unsuspecting prey has absolutely no chance. When the frogfish strikes, it expands its mouth, engulfing the prey with a reflex that creates suction pressure inside the mouth and instantly sucks the prey in. This entire process takes no more than 1/1,000<sup>th</sup> of a second, being the fastest gulp of any fish. Prey is usually small fish, but can be up to twice their own body size swallowed whole. Sometimes, when a frogfish has just eaten, the fish can be seen punching against the walls of the stomach. Some frogfish do not seem to have many predators whilst other frogfish are at the top of the list for moray eels and octopuses looking for a tasty treat.

During the course we learnt there are 48 recognised species of frogfish and it was time to see if we could identify some of the major species on our dives. The easiest of the lot was the giant frogfish (up to 35 centimetres). Not only are they the largest, they live in sponges, wrecks, hard corals, old car tyres and ropes and so are quite easily spotted. Besides being large, they have round dorsal spines, a small lure and sometimes two spots on the tail. They vary in colour from black, brown, grey, green, red or orange to yellow, and may have a few small warts.

The painted frogfish is cute (about 10-15 centimetres) and much harder to find in and around mooring blocks, tyres, ropes, hard corals and sponges.. This little guy has three quite distinguishable spots on the tail and sometimes the body can be covered in spots. It also has a long rod with a small bushy lure. They can be white, black, red, pink, yellow, purple or green, although the most common colour I saw was orange.





Psychedelic frogfish couple.  
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## I WOULD DEARLY LOVE TO SEE THE MYSTERIOUS PSYCHEDELIC FROGFISH, NAMED FOR ITS PINK AND WHITE STRIPES ARRANGED IN A FINGERPRINT LIKE PATTERN.

One of my favourites is the clown or warty frogfish. They range from 8-10 centimetres and are generally quite bright in colour. They were the hardest to spot as the ones we found were tiny. They love rocks and rubble as well as sponges, tyres and mooring blocks. The best way to identify them is by the saddle pattern that starts at the corner of the eye. They are also quite “warty” and have a shrimp-shaped lure with a visible membrane between the first and second dorsal fins. Their colours are bright and mixed such as white with red/orange, yellow with red/orange, red with white/tan, and my favourite, black with orange polka dots.

The most common, and we have these at Chowder Bay, is the hairy or striated frogfish, which grows up to 15-20 centimetres and lives in sandy areas, dead urchins, rubble patches and sometimes under sponges and kelp. They are easily recognisable by their hairy growth with spotty and/or stripy skin. Their fishing

lure is worm-shaped on quite a thick rod. My fellow students and I spotted all the above more common species. Once, again in the Philippines, I was lucky enough to see another member of the family, the sargassumfish. These are most often found floating in sargassum seaweed or other surface objects. They are very well disguised with leafy growths on their bodies and long pelvic fins.

Among the many other species I have yet to find, I would dearly love to see the mysterious psychedelic frogfish, named for its pink and white stripes arranged in a fingerprint like pattern. Ambon in Indonesia is perhaps the only place this frogfish has ever been sighted. Over the past few weeks at my local dive site, I have been monitoring a little white frogfish growing up. Over time, he has changed from white to yellow and doubled in size. It looks like he is a hairy frogfish as he is now getting stubble on his chin. I cannot wait to see him again in a few weeks. I am now a true frogfish nerd. ○