

Anglin' Fish

Fish that lure in their prey.

By Scott W. Michael

Q. I want to get a sargassum fish, commonly called the "Angler fish." I am having great difficulty finding out where to get this very interesting fish. I have barely any information on it. All the information I do have consists of a two-page article that describes how it looks, a two-paragraph article on the fact that it eats live food and a cartoon mocking the fish. The tank it will be in is a 30-gallon tank with live rock, two three-spotted damsels, two blue damsels, a mandarin dragonet and possibly, a small eel or blenny. For filtration I have an undergravel filter, a powerhead, an Eheim canister filter, an extremely large venturi skimmer and a wet-dry system. I clean the crushed coral and make a 10-percent water change every two weeks. Please help!

A. The sargassum frogfish (*Histrio histrio*) is indeed one of the most interesting creatures in the big blue, and an easy fish to keep if you practice good aquarium maintenance. This fish belongs to the family Antennariidae, which are known commonly as frog or angler fishes. The family contains 41 species that range in size from 2-inch dwarfs to the mammoth roughjaw frogfish (*Antennarius avalonis*), which reaches more than 16 inches in total length. The sargassum frogfish can attain a maximum length of 6 inches.

The most interesting characteristic that members of this group possess is a first dorsal spine that has evolved to become an important component in the feeding process. This spine, known scientifically as an illicium, is thin and elongate and is equipped at its end with a fleshy tip, known as an esca. When the frogfish sees a fish of edible size, it erects the spine and moves it about. The moving dorsal spine acts to lure prey to within striking distance. The "fishing gear" of the sargassum frogfish, which consists of a short "rod" with a filamentous "lure," is not as conspicuous as that of some other species.

Frogfishes inhabit rocky and coral reefs, sea grass beds, pier pilings, and sand and mud bottoms. What makes the sargassum frogfish so unique is that it lives among the fronds of floating sargassum algae. You may have heard of the Sargasso Sea, so named because of the large concentration of sargassum that occurs in this area. This is one place where the fish is especially common, but it is not limited in distribution to this region — it occurs throughout the tropical Atlantic and also in the Indo-West Pacific.

The sargassum frogfish's color pattern and the skin flaps that cover its body help it to blend in with its natural surroundings. The color pattern, which typically consists of brown stripes and blotches on a tan background, is highly variable and can suddenly fade or intensify to match the fish's surroundings or communicate its mood.

Even though the sargassum frogfish is always found in association with this macroalgae in the wild, it can be kept without it in the aquarium. However, it likes to perch between coral branches, rocks, *Caulerpa* fronds, highly branching artificial plants (which can be anchored to the bottom or left to float) and the undergravel uplift tube and aquarium glass. They tend to have an affinity towards the surface of the aquarium, therefore it is best to position a resting site in the upper part of the tank.

In the wild, sargassum frogfish feed on the shrimp and bony fishes that also associate with the sargassum. As far as potential tankmates are concerned, you can kiss all your smaller fish good-bye! All frogfishes are able to ingest prey items that are as long as they are! Therefore, they are best kept on their own or with larger fishes.

Avoid species that graze on corals, sponges or tunicates. Fishes that feed on encrusting invertebrates (e.g., butterflyfishes, angelfishes, triggerfishes, filefishes, pufferfishes, porcupinefishes) may mistake the skin of the sargassum frogfish for food-ridden substrate and persistently nip at the sedentary fish. In this case, the frogfish's incredible camouflage proves to be more deleterious than beneficial. Other predators, like scorpionfishes, hawkfishes, groupers and snappers are acceptable tankmates.

References

Mosher, C. 1954. Observations on the behavior and the early development of the Sargassum fish, *Histrio histrio* (Linnaeus). *Zoologica* 39:141-152.

Pietsch, T. W. and D. B. Grobecker. 1987. Frogfishes of the world. Systematics, zoogeography, and behavioral ecology. Stanford, California. Pp. 420.

Beware — not even the venomous spines of the scorpionfish will deter frogfishes from eating them if they are small enough. I have had several frogfish eat my lionfish, with no ill effects to the gluttonous antennariid!

You should attempt to feed your Histrio fresh fish (of marine origin) and crustacean meat, not freshwater feeder fish. If you impale a strip of this food on the sharpened end of a piece of rigid air-line tubing and pull it through the water so it looks alive, they will usually eat it. It is important not to feed your frogfish anything larger than half its body length. If you feed it larger prey it may not be able to digest it faster than it decomposes. This results in a build up of gas in the alimentary tract and a floating frogfish! In this situation the frogfish will either regurgitate the meal or die.

As long as there is not great size disparity between individuals (large specimens will sometimes eat smaller ones), frogfishes can be housed together and rarely display any aggression toward one another. However, this can pose a problem with the sargassum frogfish, as adults will not tolerate each other in the confines of an aquarium, except during courtship and mating. Even after mating, females are best removed to avoid their being beaten to death (Mosher 1954).

Sargassum frogfish fights can result in serious injuries to participants. Individuals will bite each other, ripping their fins and skin flaps to shreds, and usually smaller subordinate individuals will end up dead as a result of this combat. Because of their violent nature, adults of this species cannot be trusted with other frogfishes either. This species is also a cannibal — large sargassum frogfish have been examined with as many as 12 smaller specimens in their stomachs (Pietsch and Grobecker 1987)!

One interesting behavioral feature these fish display is that they can inflate their stomachs with water or air, like the pufferfishes. Among other things, this serves to prevent smaller predators from ingesting them. However, this defense mechanism is ineffective at deterring larger piscivores. Sargassum frogfish have been taken from the stomachs of dolphinfish (*Coryphaena hippurus*), tuna and night sharks (*Carcharhinus signatus*) (C. Stilwell, personal communication).

The aquarist must never lift a frogfish out of the water, because it may ingest air and be unable to expel it. This often leads to the fish's untimely death. Therefore, when transferring a frogfish from a fish bag to your aquarium you should completely immerse the bag and release the fish underwater. If you need to move the fish from one tank to another, use a specimen container.

Sargassum frogfish can be bred in captivity. The biggest problem is sexing specimens. The only way to tell if you have a pair is to place two adult specimens together and closely observe their behavior. If they do not attack each other there is a chance they are male and female, and if courtship displays ensue, then you can be confident of having a pair!

During courtship the male will follow the female, his body will quiver as he approaches her, he will grope her with his hand-like pectoral fins and nudge her with his snout. The female will begin to swell up like a balloon as the ovaries begin to expand with eggs (Mosher 1954 and personal observation). Just before the big event the female will start marching around the tank and the male will follow her, nudging her genital opening with his snout. The pair will then dash to the surface and the female will eject a large egg raft, which is fertilized by the male. It may be necessary to separate the lovely couple between spawning bouts if you keep them in a smaller aquarium (less than 55 gallons), because males have a tendency to harm females.

This species is regularly available from many fish wholesalers. Just ask your local fish store owner to special order one for you. Sometimes different frogfish species are sent under the name of sargassum frogfish. The two I have seen sent under this name are the hispid frogfish (*Antennarius hispidus*) and the striated frogfish (*Antennarius striatus*). Both of these species are equally desirable, but they are found in association with coral and rocky reefs or clumps of sponge on the sea floor, not with sargassum. They are also less aggressive than their cousin toward conspecifics, as well as members of different species.