

Good Saltwater Fish for Marine Nano Tanks

Basslets, grammas and dottybacks are good saltwater fish for marine nano tanks.

By Scott W. Michael

There are a vast array of amazing fish available to marine aquarists. Many of these sport beautiful colors or exhibit interesting behavior. Unfortunately, there are a large number of species available in the aquarium trade that are ill-suited to smaller or medium-size home aquariums, or are difficult to keep for other reasons. As responsible hobbyists, we should always be looking for fish that will thrive in our home aquariums.

Although many of the groupers (family Serranidae) get way too large for the average home aquarium, there is one group of serranids, as well as some of their close relatives, that are ideally adapted to living in confined spaces. Let's take a look at them.

Reef Basslets (genus *Liopropoma*)

The reef basslets are some of the smallest members of the grouper family. They range in size from 2 inches to about 10 inches (most reach lengths of less than 4 inches). They are not only smaller than most serranids, they are much more secretive, as well. Although many are abundant in certain parts of their range, relatively little is known about them, due to their secretive nature. They are rarely seen in open water, instead residing in caves and crevices. When divers do see them, it is when they are dashing from one hiding place to another or in the back of deep caves.

More and more of the *Liopropoma* have been showing up in the aquarium trade. The first species to make a regular appearance was from the tropical Atlantic. The Swissguard basslet (*L. rubre*) was one of the first species I was able to find and keep. Although once rare, it is now seen with regularity. In the last decade, more divers have begun to utilize mixed gas and re-breathers, enabling collectors to explore deep reefs. As a result, more Atlantic *Liopropoma* have become available, albeit at premium prices.

The candy basslet (*L. carmabi*) is an exquisite reef fish. It glows like a neon light. This fish is also very expensive. Its less-colorful cousin, the ridgeback or cave basslet (*L. mowbrayi*), is another species from this region that is occasionally offered. The wrasse bass (*L. eukrines*) is now being collected in deep water off the east Florida coast.

More recently, a group of Indo-Pacific basslets have been showing up in North American fish stores. The Swalesi basslet (*L. swalesi*) is a "poor man's" candy bass. Although it is a lovely fish, somewhat similar in appearance to *L. carmabi*, its colors are not as stunning, - but it's also much less expensive. The other basslets that have been showing up of late include the headband (*L. mitratum*), many-lined (*L. multilineatum*) and pinstripe (*L. susumi*).

These basslets are wonderful aquarium fish. They are especially well-suited to the reef aquarium - a perfect home for them because of the numerous caves and crevices typically found in the reef tank. The smaller species can be successfully housed in a nano-reef aquarium (see the section on dottybacks in this article for more on nano-reefs), while the larger species will do best if kept in a medium to large aquarium. A colorful *Liopropoma* would make a stunning addition to a smaller nano-reef aquarium. As we will discuss later, some of these fish will actually do better if they are kept on their own.

Liopropoma feed on crustaceans and small fish. Remember this when you are selecting tankmates for a reef basslet - they have relatively large jaws that enable them to consume relatively large prey items. These fish will take a variety of foods, including shaved table shrimp, frozen preparations for carnivores, frozen mysid shrimp and flake food. They will also feed on small crustaceans (e.g., amphipods, copepods) that live in and among the live rocks of your reef aquarium. If housed in a reef tank with a healthy crustacean food stock, they should be fed two or three times a week. In a tank without natural fodder, they should be fed daily.

When initially introduced into the aquarium, *Liopropoma* may hide for several days or even a couple of weeks before coming out to inspect their new surroundings. Although they may never become as bold as a butterflyfish or clownfish, they will gradually become a more conspicuous part of your fish community. One thing that will prevent their successful acclimation is aggressive tankmates, which will cause the basslets to hide and not eat.

One of the most appealing attributes of the smaller *Liopropoma* is that they are rarely aggressive toward unrelated fish. Two *Liopropoma* basslets of different species can be kept in the same aquarium if they are introduced simultaneously and

if plenty of hiding places are provided. Members of the same species should not be kept together, unless you have a larger aquarium with a lot of hiding places or you can acquire a mated pair. Even then, a larger, more dominant individual may harass a subordinate when they cross paths.

Fighting between species members can be violent, often involving vicious jaw-locking behavior, and it can lead to the death of subordinate individuals. They will occasionally skirmish over a hiding place with other basslets or other fish species (e.g., cardinalfish) that blend into their surroundings, but this can be prevented by providing numerous crevices and caves. Those species that are typically found on vertical drop-offs will do well if there is a steep wall of rock in their aquarium home.

Grammas (Family Grammatidae)

If you are looking for a fish that is not only beautiful, but durable and relatively congenial to its tankmates, then the grammas are for you. These fish readily adapt to captive life and can be housed in small to large aquariums. They need a lot of good hiding places where they can retreat when threatened. These fish are good jumpers, so cover the tank to keep them from leaping out.

The two most common members of the family in the trade are the royal gramma (*Gramma loreto*) and blackcap basslet (*G. melacara*). These two species are found at shallow to great depths (*G. melacara* is more abundant in deeper water than *G. loreto*). The Brazilian gramma (*G. brasiliensis*) is sporadically imported from Brazil, while the dusky gramma (*G. linki*) is a deepwater, less colorful form that is rarely available. Even more uncommon are the Lipogramma. These tend to be more delicate, camouflaged fish that reside in deep reef habitats. Because it is costly and potentially dangerous to collect them, they command high prices. I would recommend Lipogramma only to more advanced aquarists.

It is prudent to add the grammas to a tank that contains relatively peaceful tankmates. However, once they are established, Gramma should be able to hold their own with a variety of tankmates as long as they are kept in a larger tank with shelter sites. You should avoid housing them with dottybacks, large damselfish, some hawkfish, triggerfish and other highly aggressive fish. If you choose to house them with fish that are potentially aggressive, the Gramma should be added to the aquarium first. If tankmates treat them harshly, they will often hide or cower in an upper corner of the aquarium. At this point, intervention will be necessary.

The royal gramma can be kept in small groups in a large aquarium (100 gallons or more). Provide enough space to meet their territorial requirements, and add members of the group simultaneously, or add the largest member of the group last. It's a greater challenge to keep other Gramma species in groups, because they tend to be more aggressive. However, if your tank is large enough, you may succeed in doing so. You should be aware that the more aggressive grammas will also fight with their own genus members.

One of the biggest gramma handicaps is that their color tends to fade. A captive Gramma typically pales in appearance to a wild or newly collected individual. Even so, a faded individual can be an attractive aquarium inhabitant. Color loss is probably the result of dietary deficiency, but bright lighting and low dissolved oxygen levels are also possible causes. These fish will eat a variety of flake, frozen and fresh foods. Remember that a more varied diet that includes pigment-enhanced foods will decrease the likelihood of color loss (or at least slow the process down).

Another potential issue in Gramma species collected from deeper water involves improper decompression. Avoid buying specimens that have a difficult time maintaining their position in the water column and that swim in a labored fashion, with the tail higher than the midline of the body. These individuals usually spend most of their time wedged in a crevice, in order to avoid floating to the surface. Fish behaving this way are usually suffering from swim bladder malfunction resulting from improper collecting techniques.

Gramma are not a threat to most ornamental invertebrates, with the possible exception of small shrimp. For example, it is possible that a larger gramma would ingest a small *Periclimenes* shrimp. On the other hand, Gramma have been known to fall prey to invertebrates. For example, the elephant ear anemone (*Amplexidiscus fenestrafer*) has been known to eat individuals that rested on its disc. Carpet sea anemones (e.g., *Stichodactyla* spp.) are also a threat to Gramma, as are large crabs (the latter have been known to eat small fish when they are torpid at night).

Dottybacks (Family Pseudochromidae)

Although dottybacks can rival any fish in the sea when it comes to coloration, they also can be some of the most pugnacious of all aquarium inhabitants. Ounce for ounce, some members of the family are among the most aggressive fish on the reef. Although dottybacks may not be for everyone because of their feisty dispositions, there is a place for them in a variety of different captive setups.

This is a large family, with more than 75 species having been described. As for any family of this size, you will find some degree of variability in the group when it comes to compatibility. Some of the less aggressive species include the magenta dottyback (*Pictichromis porphyreus*), diadema (*P. diadema*), orangetail (*Pseudochromis coccinicauda*), bluelined (*P. cyanotaenia*), elongate (*P. elongatus*), firetail (*P. flammicauda*), sunrise (*P. flavivertex*), orchid (*P. fridmani*), Sankey's (*P. sankeyi*) and Springer's (*P. springeri*). These species can be kept in a large tank (75 gallons or more) with peaceful fish. However, I recommend that you place the dottyback in the tank after its more passive neighbors. Note that even the species listed here may cause problems for their tankmates in a smaller tank. They are also well suited to a tank that contains moderately aggressive fish, as long as they are provided with plenty of hiding places they can dart in to if pestered. If they are continually harassed, they'll hide and may not get enough to eat.

If you keep these fish in a tank containing live rock, they will feed on natural populations of worms and crustaceans living on the rocks. You should only have to feed your dottybacks once a day or even less often in this situation. Keep an eye on their girth just to make sure they are getting enough to eat.

Boy or Girl Dottyback?

In dottybacks, males result from female sex change, and at least some species apparently can reverse their sex (male back to female) in certain social contexts. This works to the dottyback keeper's advantage. One way to increase the chances of acquiring a male-female pair is by getting two smaller individuals. The more dominant of the two will eventually change into a male, while the subordinate fish will be the female.

The dottybacks attain maturity very quickly (some in as little as four months), so you will not have to wait long before they are of spawning size. Another pairing method used by some dottyback breeders is to acquire two fish that differ significantly in size. There is a good chance the larger individual will be a male, and the smaller fish will be a female or an immature fish (if it is immature, it should develop into a female). The problem with this pairing method is that the larger fish may harass and even kill the smaller one. If you do acquire two individuals that differ in size, you may be able to reduce the likelihood of fighting by keeping them separated using a glass divider. This allows them to see each other, so they may become habituated before they are allowed to intermingle.

Even if you are successful at acquiring a male-female pair of a particular dottyback species, fighting still might occur. The more pugnacious partner - usually the male - may harass its mate to death. Therefore, you will need to keep a close eye on your dottybacks to ensure the more dominant individual does not kill its tankmate. One key to keeping a pair together is to provide enough space for both fish. Numerous hiding places will also enable the subordinate fish to avoid unwanted attention.

Dottybacks regularly spawn in captivity. In fact, many dottybacks available in the aquarium trade today are captive raised. This is very exciting because it means that fewer dottybacks are being removed from the wild, and the captive-raised fish tend to be in better shape when they get to your local retail store than their wild-caught counterparts.

All the dottybacks are durable aquarium fish. Most of these fish feed on small bottom-dwelling invertebrates (like small crustaceans and polychaete worms) and zooplankton. There are a few larger species that also consume larger shrimp, crabs and small fish.

Nano Reef Tanks

A new classification of aquarium has evolved that is perfect for some of the more aggressive dottybacks. The nano-reef tank is defined as a setup that is home to live rock and sessile invertebrates in less than 20 gallons of water. Because of the small proportions, the number of fish kept in this type of tank is usually limited to one or two smaller species. The nano-reef aquarium would make a wonderful species tank (housing a single species of fish) for an aggressive dottyback. For example, the beautiful but highly aggressive Steene's dottyback (*Pseudochromis steenei*) would be a fantastic display animal in a 20-gallon nano-reef. Although this fish will harm other fish and crustaceans, it will not bother corals.

You might want to add the readily available hellion known as the royal dottyback (*Pictichromis paccagnellae*) to a 5-gallon nano-reef. Other species of dottybacks that do best on their own or with other aggressive tankmates include members of the genus *Labracinus* (sometimes referred to collectively as "dampiera"), *Ogilbyina* (e.g., Australian dottyback, *Ogilbyina queenslandiae*), the Arabian bluelined or neon dottyback (*Pseudochromis aldabraensis*), the dusky (*P. fuscus*), the jaguar (*P. moorei*) and the onestripe (*P. perspicillatus*). Most of these attain larger sizes, as well, which means that they are better able to inflict serious damage on other fish.

There are some techniques you can use to help curb dottyback aggression (at least to a certain degree). One of the best ways is to house them in a large (the bigger, the better) tank loaded with nooks, crannies and crevices. In this way, those fish the dottyback selects to harass have an easier time avoiding their tormentor. I have seen some amazing fish

community tanks that contained several different dottyback species (in some cases, male-female pairs) and an assortment of other fish; but these were very large reef tanks (more than 200 gallons) with loads of live rock and live corals. The dottybacks would occasionally chase one of their tankmates, but there was enough room for the recipient of the aggression to get away. Most disposition problems occur in small aquariums.

If you are keeping one of the larger, more brutal dottybacks in a community aquarium, keep it with other belligerent species, or add fish that are large enough that their size alone will intimidate the dottyback. Larger hawkfish (*Cirrhitus*, *Paracirrhites*), snappers, damsels (*Dascyllus*, *Neoglyphidodon*, *Plectroglyphidodon*, *Premnas*, *Stegastes*), angelfish (*Holacanthus*, *Pomacanthus*), surgeonfish, rabbitfish, triggerfish and puffers (*Arothron*) are good choices for a tank that contains one of the larger dottybacks. Make sure you add an aggressive dottyback to the aquarium after its less aggressive tankmates have fully acclimated.

Although risky in many aquariums, it is possible to keep more than one dottyback in the same tank. Once again, the secret is to have a big tank (more than 100 gallons) with a lot of hiding places. Also, it is always prudent to introduce the dottyback species from least to most aggressive. You will also have greater success in keeping individuals of the same species together if you can acquire a heterosexual pair. Unfortunately, the majority of dottybacks do not exhibit differences in color between the sexes. There are some exceptions, including the oblique-lined dottyback (*Cypho purpurascens*). In this species, the male is red, while the female has an orange body with a gray head.

One exciting thing about all three of these groups of fish is that new species seem to occasionally show up in the aquarium trade. There are several new species of dottybacks now popping up in aquarium stores. Likewise, as I pointed out earlier, there are species of *Liopropoma* appearing in the trade that I have never seen before in over 30 years of marine fishkeeping. Until next time, happy fish-watching!