

## Nudibranchs and Octopuses

**Some species are much easier to maintain than others.**

*By Scott W. Michael*

Q: I picked up AFI in the store for the first time last week, and it's a relief to know that we can get reliable information from somewhere. A letter I read in the magazine discussed getting poor advice from people in fish stores, which has made me rather reluctant to put myself in a similar situation.

My husband has an abiding interest in keeping anemones and clownfish, and now would like to include an octopus. A friend of mine (who majored in biology and marine sciences) has mentioned nudibranchs as particularly beautiful specimens to include in a saltwater setup, and we are considering including one of these as well (we would probably acquire one from a local university).

Because we are not experts in this stuff we wanted to get some good advice to avoid costly mistakes. We're just starting to get serious about the marine hobby and are on the verge of looking into it in greater detail, but aren't quite sure where to start.

These are some things we've been wondering:

1. Can the four animals we're considering be kept in a single tank in the 50- to 75-gallon size range?
2. I understand that nudibranchs eat anemones. Because we want to keep anemones and clownfish, should we not consider including nudies in our setup?
3. If we do have nudies, would we have to replace the anemones constantly or would they just regenerate what the nudies gobble up? Would the nudie live long enough to do any of this or would the octopus eat it first (maybe this food-chain thing is getting out of hand)?
4. About the octopus — should we look for a particular species so that we don't have to deal with it outgrowing the tank or overwhelming the tank's ecosystem? (I'd like to avoid having to set up our swimming pool as a viable marine environment!)

I am afraid this correspondence has gotten longer than I had anticipated. I realize your time is very valuable, but we would greatly appreciate any advice you have to offer. Thank you, thank you, thank you!

A. Unfortunately your initial remarks are true about some retail stores. There are people who own aquarium stores, or work in them, who give bad advice in order to make a sale. Or they just don't know as much as they should about the animals they are trying to sell. But there are also really good shops with very knowledgeable staff. The challenge to the neophyte aquarist is to discern one from the other.

The best way to do this is to study and read for yourself. For example, if you learn that a certain fish cannot be kept because of dietary requirements or specific environmental needs, and the shop down the street sells these fish, this is a good indicator that the people who run this establishment are unscrupulous and/or ignorant. I would take my business elsewhere, even if this shop has lower prices than a more reputable competitor!

It is important that when you find a good store, you support it by giving them your business (this means buying your drygoods, as well as your livestock, from them). If you don't, they may not be around to supply you with accurate information and good fish in the future!

Okay, now that I have completed my sermonette let's take a quick look at some of the animals you're proposing to keep. I'm hopeful I'll be able to answer all your questions to your satisfaction.

Let's start with nudibranchs. There are numerous species in this order — known scientifically as the Nudibranchia — that make their living in different ways. A great number of these mollusks have very specialized diets. For example, the beautiful Spanish dancer (*Hexabranchus sanguineus*) is an obligatory sponge feeder. Others eat only hydroids, anemones (as you mentioned), soft corals, bryozoans or barnacles.

For the most part, the ornately colored species available in aquarium stores — most of which belong to the family Chromodorididae — do poorly in captivity unless they are provided with their natural bill of fare. For example, Kunie's (*Chromodoris kuniei*), Bullock's (*C. bullocki*), Loch's (*Chromodoris lochi*) and Elizabeth's (*C. elizabethina*) nudibranchs, which are the species most commonly encountered by hobbyists, all feed on sponges. If they are not provided with encrusting sponges to browse on they will become inactive and die.

Most of the anemone-eating nudibranchs belong to the family Aeolidiidae. These nudibranchs have cerrata (finger-like projections) on their backs in which they store the ingested stinging cells (i.e., nematocysts) of their anemone and hydroid prey. They then use this recycled weaponry for their own defense.

In an aquarium the feeding activity of one of these nudibranchs will typically end up indirectly killing larger anemones. This may result from the increased susceptibility of the anemone to infections, as well as its propensity to remain contracted — preventing it does not feed. Because of the difficulty in meeting the dietary needs of carnivorous nudibranchs I think it best to leave them on the coral reefs, where they belong.

If there is someone at your local university studying these animals, it is possible they have a species that is easier to keep in order to facilitate their research endeavors. For example, some species feed on algae, a food source that is abundant in most aquariums. But, most of the algae-eating species do not possess the striking coloration of their predatory relatives, and therefore are considered less desirable as display animals. The carnivorous nudibranchs are more ornately colored to blend in with the colorful substrates on which they live, or in some species their striking chromatic attire warns potential predators of the fact that they are unpalatable.

Another thing that makes nudibranchs undesirable aquarium animals is that many species are short lived in nature. For example, there are species whose total life cycle is only one month long, and most species live no more than one year!

The octopuses are another group of interesting mollusks that have special care requirements. Most are voracious predators that will make short work of fish, like anemonefish, or for that matter, anything else that moves! Octopuses have sharp beaks, and in most species there is a venom gland associated with this structure. Although in the majority of species bites are not lethal, they can be quite painful. The blue-ringed octopus (*Hapalochlaena fasciata*) is very venomous, and for this reason should not be kept by marine hobbyists.

Because of their predatory nature, octopuses are best kept by themselves. They will not only feed on fish that are small enough to subdue, they will also eat crabs, shrimp, snails and some worms. Octopuses are great at escaping. Therefore, it is important that the aquarium is tightly covered, or you may find a hair-covered, amorphous blob that was once a cephalopod on your living room floor. Be warned — they can slip through unbelievably small holes in the aquarium back strip. Because the beak is the only body part that is not malleable, if it can fit through an opening, the rest of the octopus can, too!

You should provide your octopus with some decor to hide in or under. This can be some live rock, pieces of artificial coral or even some PVC pipe. They also appreciate small pieces of coral rubble, which they will use to line the openings of their hideouts. Like their nudibranch relatives, most octopus live short lives. Many of the species available in fish stores complete their life cycle in a year or less. It is best to buy a small octopus, because your chances of getting a young specimen are increased. However, there is not always a correlation between small size and greater life expectancy, because there are some species that just stay small.

Most octopuses could be successfully housed in a 75-gallon aquarium. In fact, there are several pygmy species that can be kept in tanks as small as 10 gallons. The problem is telling the various forms apart!

If you are still intent on buying an octopus, get hold of the August and September 1993 issues of AFI. There is an informative two-part article by two octopus experts, Elizabeth Johnston and John Forsythe. But I think you would be much better off forgoing the mollusks and sticking with the anemonefishes and the anemones.