Keeping the Jewels of the Reef: The Anthias of the Genus *Pseudanthias* - Part 2

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recreate an anthias shoal in your aquarium

Many aquarists make the potentially dangerous assumption that fish that live in groups in the wild will do better if kept in similar social units in the aquarium. But this is not always the case. Many hobbyists who have tried to replicate a Lyretail Anthias shoal in the home aquarium can attest to this fact.

The problem with maintaining a group of anthias in the confines of a home aquarium is related to the aggressive dominance relationship described in Part 1. A male attempts to constrain female sex change by asserting his dominance, while females too are maintaining a pecking order among themselves. The subordinate females are being harassed by both male and female tankmates, have little room to avoid these attacks, and consequently end up hiding, not feeding, and subsequently dying. In several captive anthias colonies, I have observed that females die, or get sick, in order of their rank within the dominance hierarchy; the lowest on the ladder goes first followed by the next one up and so on. Another deleterious phenomenon that often occurs in the captive anthias colony is that the male will start losing weight because of the large number of calories expended chasing conspecifics.

Now those of you that peruse the aquarium literature, or have had the good fortune to visit some public or private aquariums in Europe, have probably seen beautiful aquariums that were home to swarms of anthias! How do they do it? There are several keys to success when it comes to keeping a group of anthias. They are: species selection, shoal composition, the size of the tank, the size of the anthias group, and feeding.

The anthias species vary in their aggressiveness. Those species that are less pugnacious are easier to keep in shoals. The Peach Anthias (*Pseudanthias dispar*), Flame Anthias (*P. ignitus*), Lori's Anthias (*P. lori*) and the Yellow Stripe Anthias (*P. tuka*) are some of the less belligerent members of the genus. Unfortunately, some of these species are also the least durable of the *Pseudanthias spp.* Some of the more aggressive species (which are also some of the hardiest) include the Redcheek or Green Anthias (*Pseudanthias huchtii*), Red-belted Anthias (*P. rubrizonatus*), and the Lyretail Anthias. Many of the *Pseudanthias* fall somewhere in between these two groups on the aggression continuum. These include the Bartlett's Anthias (*Pseudanthias bartlettorum*), Cooper's Anthias (*P. cooperi*), Hutomo's Anthias (*Pseudanthias hutomoi*), the Stocky Anthias (*P. hypselosoma*), the Luzon Anthias (*P. luzonensis*), and the Squarespot Anthias (*P. pleurotaenia*). Many of these fishes are also moderately hardy aquarium inhabitants.

If you are going to attempt to keep an anthias shoal, your chances of success will increase if the composition of the group consists principally of juvenile and female individuals. You should add only one male to the aquarium, unless the tank is large enough to accommodate more. Even then, the ratio should be highly skewed toward juveniles and/or females (a good rule of

thumb would be one male to every four to six females/juveniles). Fortunately, the majority of anthias species are sexual dichromatic (that is, males and females differ in color).

The size of the aquarium can also greatly impact your success in keeping anthias shoals. The general rule is that the larger the tank, the greater your chances of success in keeping a group of anthias. In a large tank, more submissive members of a shoal may be able to avoid more dominant conspecifics. In a smaller tank, it will be hard for weaker fish to avoid bullies. If you ever see photos of the European tanks, those tanks that are loaded with anthias are usually huge (in some cases, thousands of gallons).

Another trick that can increase your chances of success in keeping an anthias shoal is regularly utilized by freshwater aquarists that keep African cichlids. With this technique, you attempt to crowd your aquarium with females/juveniles (at least six to eight individuals in the shoal). By placing that many fish in the tank, you may be able to spread aggressive interactions out so that rather than one or two subordinate fish being the recipients of all the abuse, aggression is distributed around the captive population. If you decide to try this procedure it is important to introduce all the shoal members at the same time. This technique does have some drawbacks. For example, loading your tank with anthias will limit the number of other fish species you can have. It might also put an excessive load on your biological filter and increase the chances of a disease/parasite epidemic. Occasionally, if there is a great disparity in the sex ratio a dominant female may change sex.

Feeding can also reduce the likelihood of aggressive interactions between shoal members. If food is limited, fish tend to be more antagonistic toward conspecifics. While this is especially true for territorial reef fishes, a scarcity of nutrients can also lead to more quarreling in gregarious species like anthias and chromis. Feed your anthias at least three times a day (it is even better if you can feed them less, more often - for more on feeding see Part 3).

I should point out, that some anthias will do fine if kept on their own. In fact, the more aggressive species will cause fewer headaches if only a single individual is housed per tank (this is especially true if your tank is smaller, say 55 gallons or less). One drawback in keeping some male anthias (e.g., Lyretail Anthias), in an aquarium without conspecifics is that their color may change and become more like that of the female.

Part 1 What is an Anthias? | Part 2 Anthias Shoals in the Aquarium | Part 3 Feeding | Part 4 Aquarium Conditions & Tankmates | Part 5 Other Aquarium Anthias

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Scott W. Michael is an internationally-recognized writer, underwater photographer, and marine biology researcher specializing in reef fishes, and was the Banquet Speaker at our 2007 and 2008 Coral Conference and Frag Swap. He is a regular contributor to Aquarium Fish Magazine, Freshwater and Marine Aquarium Magazine, SeaScope, and is the author of Reef Fishes Vol 1, Vol 2, Vol 3, Vol 4, and Vol 5., A Pocket Expert Guide Marine Fishes, A Pocket Expert Guide to Reef Aquarium Fishes, 101 Best Saltwater Fishes: How to Choose and Keep Hardy, Brilliant, Fascinating Species That Will Thrive in Your Home Aquarium, Reef Sharks & Rays of the World, and Aquarium Sharks & Rays. Having studied marine biology at the University of Nebraska, Scott has served as a scientific consultant for National Geographic Explorer, the Discovery Channel, and French educational television.