

Knifefish Knowledge

Knifefish are very unusual, mysterious, and if kept properly, worthwhile inhabitants in your aquarium.

By Spencer Glass

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Black ghost knifefish by Tony Terceira.

Webster's dictionary defines oddball as "one whose behavior is eccentric." In the world of tropical fishkeeping, an oddball is loosely defined as a fish with unusual physical characteristics or traits. This definition is, of course, open to interpretation depending on a hobbyist's point of view.

An oddball can be a fish that is rare to the hobby and infrequently available. An alternate definition could state that an oddball is a rare species within a particular family. In his article "Oddballs from Africa" (Tropical Fish Hobbyist, November 1983), author Edward C. Taylor offers his view of the most appropriate definition of an oddball:

When a dealer scans a tank of cardinal tetras at his local wholesaler and spies two or three fish that are obviously not cardinals, they are designated as oddballs. They are different from the majority. They stand out, even though their physical appearance is not strange.

When it comes to knifefish, they may or may not fall into one or more of these classifications of oddball freshwater aquarium fish. My opinion is that regardless of how you look at them, knifefish are very unusual, mysterious, and if kept properly, worthwhile inhabitants in your aquarium.

What characterizes a knifefish most distinctly from other species is an anal fin that runs at a 20-degree angle from past the jaw to just shy of the tail end. Undulation of this elongated fin makes for a very agile fish that can easily avoid predation in the wild or avoid netting in the aquarium. Although most often labeled as knifefish by retailers, they are in fact eels of a sort, falling into the Gymnotoidae family of eels.

One commonly mentioned member of this family, (both in fact and in lore) is the electric eel (*Electrophorus electricus*). The electric eel is not commonly sold in aquarium shops (and probably should not be), so I will not go into detail regarding its care. I will describe the husbandry requirements of the most frequently available and most often kept knifefish.

Knifefish In Nature

The majority of knifefish originate from the rivers of South America, including the black ghost knifefish (*Apteronotus albifrons*). My first personal experience with any oddball fish was a black ghost. Its appearance intrigued me when I was a novice in the hobby. It was expensive (about \$12 in 1986), and I picked the store manager's brain, hoping he would talk me out of this costly purchase. He did not. Conversely, he drew my attention to an 18-inch adult specimen that was selling for about \$100. I forked over my money for the 5-inch version, and thus began my fascination with the black ghost and other knifefish.

If you gaze into an aquarium housing more than one ghost knife, you'll probably notice that they lie quietly in a corner. Kept in a dealer's bare tank, even singly (as is best), they may also adopt this tendency. As with another oddball family (elephantnoses and others in the family Mormyridae), the black ghost possesses an electrical organ used for perception.

When kept in a large group in a confined space, these organs tend to conflict with each other, causing what might amount to a short circuit. This occurrence of so many electrical fields being transmitted causes the fish to go haywire. This jitteriness is avoided by dealers who keep them as individuals in larger aquariums, if possible — and you should do the same in your own aquarium, as well as provide proper aquarium decor and hiding places (these facets of knifekeeping will be discussed later in the article).

Black Ghost Knifefish

The black ghost makes its natural habitat in the Amazon River. There have been reports of specimens reaching the 2-foot mark in the wild. In captivity, the largest one I have seen is the 18-incher noted earlier. Varying reports describe how the natives of the Amazon revere these fish as holy. They believe that the spirit of their departed relatives lives in them, and therefore, they leave them unmolested. Perhaps this is why they are infrequently imported at an adult size: fear of retribution from the natives who might witness a capture and take offense.

All specimens are wild caught, and they do best in Amazonlike water conditions. A recommended pH would be acidic, at

about 6.5, while water hardness should be on the softer side at 80 to 150 ppm. The black ghost will, however, adapt to varying parameters of water chemistry, as long as conditions remain relatively stable, and the temperature is kept in the range of 72 to 76 degrees Fahrenheit. I have kept this fish successfully in slightly hard water with a pH value of 7.4.

The black ghost has nocturnal tendencies, but one of the most rewarding aspects of keeping this knife over others is its proclivity to recognize its owner or at least the hand that feeds it. The fish eagerly accepts live foods, including small worms and brine shrimp. You can try holding a block of freeze-dried Tubifex worms at the aquarium surface, and if the fish is comfortable in its surroundings, don't be surprised if you find it coming right to the surface for a nibble. Despite the electrical organ, there is no shock to the human hand, as this organ is for sensory purposes only. I have received many "oohs" and "aahs" from witnesses of this feeding event.

Brown Ghost Knifefish

The brown ghost knifefish (*Apteronotus leptorhynchus*) is similar in appearance to the black, except for its coloration, which is a coffee color with white dorsal piping. The nose is more angular and is sometimes referred to as a long-nosed knifefish. Aside from their general appearance similarities, their personalities vary significantly.

In my experience, the brown ghost is not eager to ascend to the surface for feeding, but would rather remain on the bottom, jutting out to grab a morsel of fish food as it slides by. Others have found this species to be on the delicate side and that it is more timid. Hiding places within the aquarium are vital to this species' health. Long pieces of driftwood with openings (caves) serve this purpose amply.

Keepers of brown ghost knives need to be vigilant in observing their specimens, as they are prone to fungus. They are shy creatures, and any pesky or curious tankmates may be stressful to them, compromising the effectiveness of their immune system. This knifefish is really not for beginners but rather for advanced hobbyists willing to dedicate a species-only aquarium to this fish. More innocuous tankmates, such as cory cats, can be kept with a brown ghost; and the ghost, in turn, is not aggressive toward other aquarium inhabitants.

Both the black and brown ghost will want to stay hidden in the aquarium — the brown more than the black. You can provide hiding while still easily seeing them by tricking their electrical sensory system. Simply place a clear tube in the aquarium. They will feel hidden, and thus remain visible without knowing it. It's best to keep only one of either species in an aquarium, as they tend to bicker amongst themselves. I recommend that you try keeping the black ghost first and go on to the brown after you have successfully kept the former.

Green or Transparent Knifefish

Another commonly sold knifefish from South America is *Eigenmannia virescens*. This most tapered version of knifefish is commonly called a transparent knife or green knife. It has a translucent quality that may have a tint of green on its body. As for the ghosts, I have enticed these knives to surface for hand feeding. This will happen most often with a scheduled feeding regimen and some wormy foods to nibble upon (freeze-dried Tubifex blocks are ideal).

These specimens have been reported to reach 13 inches in length, although the normal range of those for sale is 6 to 8 inches. The transparent knife, unlike other knives, prefers to live in a community that includes other members of its species. A social hierarchy will develop, and the fish will honor this system in the aquarium. They will, however, become quite intolerant of pesky barbs and tetra fish. Other smaller, less intrusive fish can be kept with them, but keep a watch as to what is happening in the aquarium. The fish that do not cross over into knife territory are generally left alone. You'll probably need at least a 4-foot aquarium to keep more than one knife with other community members.

As for water parameters, this species can do well in water toward the higher end of the acidic scale, but going past neutral (7.0) can be deleterious to this fish's health. This particular fish does best with frequent and small water changes. Changing 10 percent once a week is better than 30 percent or more once per month. This will keep the pH level the most stable, ensuring these fish do not succumb to a widely fluctuating pH.

African Knifefish

We'll switch continents to examine another frequently available knifefish — one of the duller-looking specimens. The African knife (*Xenomystus nigri*) is native to West Africa and lives in still, slow-moving waters with dense vegetation. They are widespread in the coastal river basins of Sierra Leone, Liberia, Togo, Benin and Cameroon, as well as in the Chad, Nile, Congo and Niger Rivers.

African knifefish have been known to reach lengths of 8 to 12 inches, though more frequently they are offered for sale at a juvenile size of about 4 inches. As they grow, they will become much more precocious than the black or brown knives. They are avid predators in the wild and will surely behave the same in your aquarium, especially as they grow. In nature,

their diet would consist of worms and insects found on river beds. This can be duplicated at home with frozen and freeze-dried varieties of the same. They rarely eat flakes or pellets.

As to water quality and chemistry, normal tropical temperatures are fine, but keep in mind that their natural waters are on the acidic pH side (in the 6.0 to 6.5 range). The African knife will most often begin foraging the aquarium for food close to dusk, as they are nocturnal. Provide hiding places, and as they become comfortable in their new confines, they should come out in the open to feed.

Even as juveniles, the African knife can be pugnacious. Do not keep this fish with smaller, more peaceful species. Keep them in the company of larger cichlidlike fish that will not succumb to threatening behavior.

Clown Knifefish

Of all the knifefish, the granddaddy of them all has to be the clown knife (*Notopterus chitala*). Ironically, one look at a 3-foot adult will give you anything but a humorous impression. The largest one in captivity I've ever witnessed was owned by a hobbyist in Pennsylvania, who had an ominous creature measuring more than 2 feet.

This formidable creature sports a series of large fingerprintlike spots that sit equidistantly from each other on the fish's steel gray body. The placement of these spots can vary from individual to individual but generally begin just ahead of the dorsal fin, going back toward the tail.

One thing that enhances a hobbyist's urge to purchase clown knives is that they are sold at somewhere between 3 and 8 inches — much smaller than their adult size. The smaller versions may initially lack the spots, but they will emerge as the fish grows. The smaller clowns can sometimes be housed in a community aquarium and might even be a peaceful tankmate. As they mature, however, they will attempt to eat anything that fits into their capacious mouths. As youths, they will accept standard aquarium foods, being fond of live, frozen or freeze-dried worms. As they grow, so too does their appetite, especially for live foods.

To exploit their growth potential and impressive looks, you want to keep them in at least a 55-gallon (48-inch) aquarium. Originating from the sometimes murky, swampy waters of Thailand and Burma in Asia, these fish are not overly fussy about water conditions. They are comfortable in temperate water on the acidic side of the pH scale (6.0 to 6.5).

If you are looking for a tankmate for an oscar fish, Jack Dempsey or other large aquarium fish, the clown knife could be just the right companion. They certainly can handle themselves and will usually not bother like-sized fish. They have, however, been known to be feisty among themselves, so it may be a good idea to limit the aquarium to one clown knife.

Conclusion

The knifefish described in this article are the most frequently available to hobbyists today. As interest in this type of fish increases, perhaps the availability of other species will grow, as well. There are several rarer African species, more than 20 other known South American species and a couple others from Asia.

As a whole (save the brown ghost), knifefish are hardy, robust and not too difficult to keep healthy. Provide them with their individual needs, and keep your eyes open. Their behavior, looks and individuality will astound you.