

Breeding Pelvicachromis Cichlids

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By Paul V. Loiselle

Q. I bought a pair each of two different color variants of Pelvicachromis taeniatus and a pair of Pelvicachromis humilis. I house them in a well-planted 65-gallon aquarium with lots of hiding places. They share the aquarium with a breeding pair of Pelvicachromis pulcher and eight other fish. I would like to breed these fish, so any information you can give me about them will be greatly appreciated. I would particularly like to know if my aquarium is large enough to allow all three Pelvicachromis to raise their young in peace without disturbing one another.

A. If you have successfully bred Pelvicachromis pulcher, you should find Pelvicachromis taeniatus a fairly straightforward proposition. Behaviorally, the two species are very similar. A management approach that works well for one should prove quite satisfactory when applied to the other.

You will have to pay a bit more attention to details of water chemistry if you wish to succeed in your efforts to breed Pelvicachromis taeniatus, however. Many of the so-called "color variants" of Pelvicachromis taeniatus are actually perfectly good biological species whose abilities to adapt to conditions that are different from those prevailing in their native waters vary considerably.

The true Pelvicachromis taeniatus from western Nigeria, for example, inhabits soft water whose pH ranges from 5.5 to 6.0. However, it will spawn successfully in water of pH 7.0 to 7.2 and hardness as high as 135 parts per million (ppm) total dissolved solids (TDS), producing broods with a balanced sex ratio. The so-called Kienke color variant of Pelvicachromis taeniatus (actually the true Pelvicachromis kribensis), on the other hand, will produce broods with a balanced sex ratio only in water with a pH of 6.0 to 6.2, while lowering the hardness in the breeding aquarium from just over 200 ppm TDS to 136 ppm TDS will result in a fourfold increase in the number of surviving young produced per spawning!

Without knowing which variants you have chosen to work with, I'm afraid I can't suggest specific pH and hardness values for your aquarium. However, you can almost certainly find this information for your fish in an extremely useful handbook on the husbandry and breeding of West African cichlid fish by Horst Linke and Dr. Wolfgang Staeck (*African Cichlids I: Cichlids from West Africa*. 1994. Tetra Press. ISBN number: 1-56465-166-5). This well-illustrated reference work is a must for anyone with a serious interest in West African dwarf cichlid fish.

The successful management of Pelvicachromis humilis is, if you will pardon the expression, a rather different kettle of fish. This name is presently applied to a complex of biological species that ranges from the rivers of central Liberia westward to Guinea. The fish from streams near the town of Kenema in Sierra Leone appear to correspond to the type specimen of Pelvicachromis humilis. Populations found to the east and west differ quite markedly in color pattern and somewhat less so in morphology. They almost certainly represent distinct, albeit at present undescribed, species.

All the nominal Pelvicachromis humilis imported to date are fairly robust fish by dwarf cichlid fish standards — large males can measure just over 4 inches standard length (SL). They are also considerably more assertive in a community setting. Pairs of the so-called Guinea variant housed with Tilapia brevipinnatus and an undescribed representative of the Hemichromis cristatus complex had no trouble holding territories in a 90-gallon aquarium, and easily managed to devour more than their fair share of frozen bloodworms at feeding time. They also proved much less tolerant of members of their own species than any of the eastern members of the genus.

You would certainly be pushing your luck if you tried housing more than a single pair in anything smaller than a 65-gallon aquarium. I predict your pair will quickly become the dominant fish in your aquarium.

Although inclined to behave somewhat aggressively toward bottom-dwelling tankmates, non-breeding Pelvicachromis humilis are indifferent to mid-water-swimming, schooling companions. They can thus be safely housed with a wide assortment of smaller characoid and cyprinid tankmates. Indeed, like the generality of dwarf cichlid fish, they seem more at ease in the presence of such companions. These long-snouted dwarf cichlid fish will poke about through the aquarium gravel in a manner reminiscent of a Chromidotilapia species, which they superficially resemble. However, their activities pose no threat to strongly rooted aquatic plants, such as Amazon swords and Anubias.

This species shares the extreme intolerance of other species in the genus for sloppy nitrogen cycle management. It is very sensitive to dissolved nitrite and does not appreciate prolonged exposure to nitrate levels greater than 10 ppm. An efficient biological filter and a regular program of frequent partial water changes are thus essential to its successful husbandry.

All the representatives of this species complex imported to date hail from extremely soft, acidic waters. Total and carbonate hardness values of 15 to 20 ppm and pH values of 5.0 to 6.0 are the norm in the forest streams from which they hail. While it is possible that captive-bred fish might prove more tolerant of harder, more alkaline conditions than their wild brethren, it is worth noting that all the successful spawnings reported to date have taken place in soft, slightly acid water.

Its superficial resemblance to a *Chromidotilapia* notwithstanding, *Pelvicachromis humilis* is a cave spawner like the other species of its genus. As its courtship is rather more energetic than is typical of such better-known species as *Pelvicachromis pulcher*, it is important to provide plenty of shelter for the female in the event that her response to the male's attentions falls short of his expectations. Because spawning site preparation plays such an important role in the formation of the pair bond, it is always a good idea to offer prospective pairs a selection of possible places to deposit their eggs.

If the courtship of *Pelvicachromis pulcher* can be characterized as short, that of any representative of the *Pelvicachromis humilis* complex can honestly be described as seemingly endless! However, the exercise of patience will eventually be rewarded. The female's reluctance to leave her cave even at feeding time, combined with her refusal to allow the male's entry into it, usually signals the presence of eggs. However, some pairs carry secrecy to such an extreme that the sight of the parents defending a swarm of mottled fry is often their keeper's first indication that a spawning has even occurred!

It is not unusual for young *Pelvicachromis* pairs to devour their first few spawns. Typically, nothing more than the exercise of patience is required to resolve this problem. In my experience, this sort of extreme retroactive birth control is less likely if appropriate target fish are present in the breeding aquarium. Any small- to medium-size African or South American characoid will serve this purpose admirably. So will the smaller barb, danio and rasbora species.

Abrupt changes in lighting intensity have also been known to trigger parental cannibalism in these and other dwarf cichlid fish. A rheostatic timer switch represents an effective, if somewhat pricey, means of slowly dimming and brightening the lights in a dwarf cichlid fish breeding aquarium. Leaving a small continuous source of illumination, such as a night light, on in the same room as the breeding aquarium seems to work just as effectively.

The fry of *Pelvicachromis humilis* are surprisingly robust and have no difficulty taking *Artemia* (brine shrimp) nauplii for their first meals. They are, if anything, even more susceptible to poor nitrogen cycle management than are their parents. However, as long as due care is taken to avoid overfeeding, and the breeding aquarium benefits from a program of frequent partial water changes, rearing the fry poses no special difficulties. While the sexes can be recognized by their differently shaped ventral fins between four and five months postspawning, sexual maturity is attained sometime between the ages of eight and 10 months.