

## Madagascar Killifish

**Bonus content from the November 2009 FAMA magazine article "Fishes From the Red Island."**

*Text and photo by Alex Saunders*

The killifishes of Madagascar belong to the genus *Pachypanchax*, of which there are currently seven described species. *Pachypanchax playfairii* (Playfair and Gunther, 1886), the type specimen for the genus, is ironically not found on Madagascar but is endemic to the Seychelles. Two others species, *Pachypanchax sakaramyi* and *P. omalonotus*, were scientifically described in the late nineteenth early twentieth centuries and have been available to dedicated hobbyists for the last 15 to 20 years. Silverside Fish of Madagascar>>

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Long available in the hobby, *Pachypanchax sakaramyi* is a beautiful Madagascar killifish. In 2006, Dr. Paul Loiselle formally described four new species from Madagascar and there are at least three more species awaiting description (Loiselle, 2006). More excitingly for hobbyists, at least four of these six species are available in the aquarium trade (*P. sakaramyi*, *P. omalonotus*, *P. arnouliti*, and *P. varatraza*). Cichlids of Madagascar>>

*Pachypanchax* species are for the most part shade-loving species that are learning to adapt to Madagascar's rapidly degrading ecosystem. Species can be found in quickly flowing streams but appear to prefer small quiet pools or the marshy shallows of lakes. Although *P. playfairii* is tolerant of brackish waters, all of the *Pachypanchax* species from Madagascar are strictly fresh water.

*Pachypanchax* species possess the typical surface-oriented body structure with a superiorly oriented mouth and a flattened dorsal surface. In the wild, *Pachypanchax* species eat both terrestrial insects that have fallen into the water and the larvae of aquatic insects, indicating that they do forage throughout the water column. In captivity, specimens grow to an average length of 2½ inches with larger specimens topping out close to 3 inches.

In their natural habitat, these killifishes are found across a wide range of water chemistry parameters. Temperatures in their native streams and pools vary from 70 degrees Fahrenheit for the Sakaramy killifish (*P. sakaramyi*) to low 80 degrees Fahrenheit for the white-edged killifish (*P. sparksorum*). Similarly, pH values range from mildly acidic for Arnoult's killifish (*P. arnouliti*) at 6.2, to slightly alkaline for the Sakaramy killifish at 7.5. Water hardness in these environments is almost always below 2 dKH and 4 dGH.

**The Killifishes of Madagascar: Basics of Aquarium Husbandry**

With that bit of natural history under our belt, we can make three statements about *Pachypanchax* species that apply to their captive husbandry. They aren't terribly picky eaters and readily take flake food after six hours of captivity. However, providing a varied diet of bloodworms, white worms, newly hatched brine shrimp and Mysis shrimp is always appreciated. They adapt to a variety of water chemistries and so are suitable, with acclimatization, to your home water almost straight out of the tap (of course, get rid of those chloramines first). Lastly, they don't like salt so please don't treat them with it. I'll qualify that last statement by saying I've never actually tried salt on them, but since they don't encounter it in their natural habitat they probably won't like it.

Now for the good news. Compared to the cichlids of Madagascar, the killifishes are simply bomb-proof. It isn't that they don't get sick -- they'll get the typical frayed fins and wounds when they tussle -- but given attention and proper treatment, they bounce back more often than not. Treating them with a product that includes nitrofurazone does the trick in most cases (and, knock on wood, mine have never gotten ich).

Filtration is also less of an issue with *Pachypanchax* species than it is with the cichlids from Madagascar. I keep my killifishes in 5- to 10-gallon aquariums with undergravel filters and do 50 percent water changes once a week. These tanks serve as my general breeding setup and usually contain two to three males and five to seven females. The only décor I use in these tanks is spawning mops which act as a breeding substrate and also provide females refuge from unwanted attention.

Speaking of unwanted attention, I suppose we should once again touch on the issue of aggression. Yes, *Pachypanchax* species can be aggressive towards one another. This aggression typically involves male versus male competition based on access to females, or male versus female aggression due to females being unreceptive to a male's advances. Providing

more room, more females or more hiding spots are all possibilities to reduce tensions to a manageable level.

#### The Killifish of Madagascar: Captive Reproduction

The Pachypanchax species from Madagascar appear to have a consort-type mating system in which males vie for access to ripe females rather than defend a spawning territory (Loiselle, 2006). Females lay large, 3-millimeter diameter eggs that adhere to surfaces by means of long sticky filaments. I provide my groups with spawning mops so I can monitor their reproductive activity as well as move eggs to a hatching and rearing aquarium. Spawning mops aren't necessary for successful reproduction as I've also had species spawn in tanks without any décor; simply laying their eggs in the gravel.

Eggs typically hatch in three to four days depending on temperature and fry will begin eating microworms, vinegar eels or hatched brine shrimp right away. It is possible to rear fry with their parents without too much hassle. The parents will predate on the fry from time to time, but given enough hiding spots, some fry will survive to carry on the next generation.

An interesting observation has been made in the reproduction of Pachypanchax sparksorum. It has been observed that eggs of this species may temporarily remain attached to the female's vent after fertilization, eventually forming a small cluster of eggs that drops off after several hours (Loiselle, 2006).

Want to read the full story? Pick up the November 2009 issue of Freshwater And Marine Aquarium, or subscribe to get 12 months of articles just like this.