

## Sex Changes Everything

*These drab freshwater females will spice up your aquarium - if you can find them.*

by Judy Helfrich

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Sex. It is one of the most basic drives in nature. The urge to mate, to procreate, to pass on one's genes. A key ingredient in life, it can spawn ecstasy, longing, and sometimes, even murder--and all this in your aquarium!

One of the most fascinating, educational, and satisfying aspects of the hobby is having your fish and invertebrates make new fish and invertebrates. This is doubly appealing to aquarists who are inherently cheap (like yours truly), and would rather have their livestock increase without actually spending any money. It's gratifying to see those creatures in that little biotope you've created multiply, even though you've had absolutely nothing to do with it, aside from supplying at least one of each sex. But therein lies the rub. I can't get no satisfaction, the Stones noted during the sixties, and, double-negative aside, neither will your fishes, if potential mates are simply not available.



*This male Pseudotropheus acei (right) puts on a show for a similarly-coloured female -- drab females are not so lucky -- plain looks can cost them their lives. Photo © Judy Helfrich*

### **Casual Sex: Endler's Livebearers (*Poecilia wingei*)**

They are made for sex. With their Miro-like bold, black lines and psychedelic colours, Endler males attract females -- and predators -- sometimes trading their lives for potential sexual encounters. In a rather un-scientific experiment, I tracked two Endler males for ten minutes. Average time spent pursuing females, displaying, or mating? Nine minutes, forty-five seconds. This leaves teenage boys, with their purported one-sex-thought-per-17-seconds rule, in the dust.



*An Endler male in hot pursuit. Photo © Judy Helfrich*

Unlike the closely related Fancy Guppy (*Poecilia reticulata*), which favour the old sneak-mate, Endlers give a girl a little show, a little tease, a little *regardez moi*. A large portion of their time is occupied with displaying to females; fins flared, bodies rigid and trembling, showing off the goods. Not that any of this seems to make the slightest impression on the females, but you have to admire the males for putting a bit of effort into the thing.

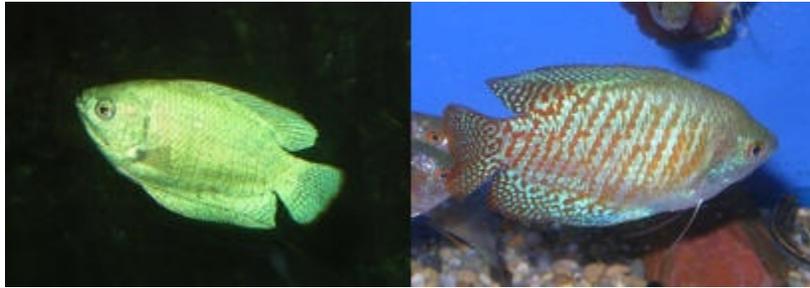
Endlers males without females are akin to Tiger Woods without . . . golf. But those nondescript females can be hard to find. You might be tempted to house male Endlers with female Guppies; after all, female Guppies are as colourful as males. Don't do this. Endler's Livebearers are possibly extinct in the wild; hybridizing them with Guppies brings the unique Endler species closer to extinction.

The females, though lacking the bold colouration of their suitors, are interesting of themselves. They establish hierarchies through a complicated series of squabbles and folding and flaring of fins. Often a group of males will suddenly find a particular female irresistible, and pursue her exclusively, ignoring a dozen or more (seemingly) identical females. Since Endler males are so relentless, get at least one male to every two-to-three females. Better yet, get a dozen or more if you have the room, and you can up the male-female ratio to almost even numbers.

So where do you find Endler females? Avoid retailers where females are unavailable and males are housed/hybridized with Guppies. Your best bets are local aquarium clubs/auctions, where pure Endlers (male and female) are quite popular.

### **Slow Sex: Dwarf Gouramis (*Colisa lalia*)**

If Endler's Livebearers are the sports stars of the aquarium, mating with anything resembling a female, then Dwarf Gouramis are perhaps of a more romantic persuasion. Instead of a perfunctory split-second mating, Dwarf Gouramis favour a longer, drawn out affair.

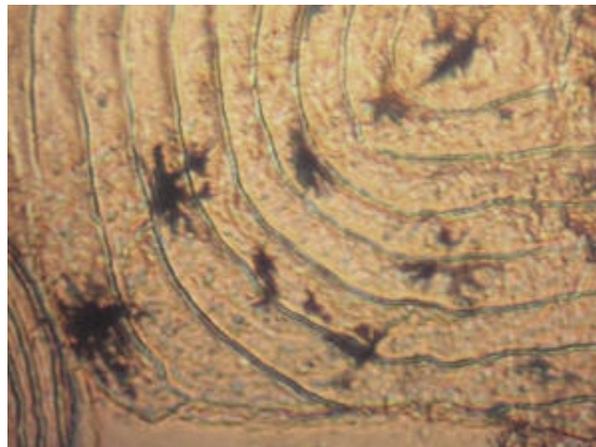


*This intensely-bred 'cobalt blue' morph typical of those offered at retailers (right) doesn't bear much resemblance to the wild-type Dwarf Gourami (left). Photos © Neale Monks*

As with other Anabantoids, the male builds a surface bubble nest, usually against some leafy material, and drives away all intruders. If a ripe female approves his efforts, she will nudge him insistently, and the pair will begin to slowly circle until the male finally wraps her in a rigid embrace. They remain immobilized, until a sudden shower of eggs prompts the male to release her and gather them to spit in his bubble nest, while the female flits away. They will repeat this process for hours.

It really is quite a sight, but most North American aquarists will never see it. The females of the sexually dimorphic Dwarf Gourami are a silvery-grey version of their male counterparts, and, in this hemisphere, rarely stocked. Instead, breeders have concentrated on pumping out new colour morphs. You can get Neon, Neon Blue, Neon Rainbow, Powder Blue, Cobalt Blue, Sunset, Flame, Fire Red, Blood Red, Red Robin, and Turquoise. But can you get females? Nope.

The intense inbreeding necessary to realize these myriad colour morphs have effectively ruined the species. Now when I visit my local retailers, I see tanks crammed with dozens of sickly male Dwarf Gouramis. Even the wild-type Dwarf Gourami has become scarce. What a pity that the beautiful, peaceful, hardy Dwarf Gourami has become a sickly, fleeting aquarium resident. The gaudy intensely-farmed imported Gouramis are often infected with bacterial infections and the fatal Dwarf Gourami Iridovirus. For this reason, Dwarf Gouramis should always be purchased from local breeders, where females may be obtained. Purchasing healthy, wild-type stock, breeding them, and sharing the fry with fellow aquarists can help bring back the healthy Dwarf Gouramis of days gone by.



*Melanophores (dark areas). Photo © Judy Helfrich*

### **Morning Sex: Rainbowfish (Family Melanotaeniidae)**

There's nothing like a guy in tux and tails to turn a girl's head. And to a female Rainbowfish, there's nothing like a male in intense, iridescent colour to lure her into the Cabomba. But that gorgeous colour has a cost; it attracts predators, and males aren't going to foolishly flaunt it if there are no females around.

Fish control their colour via colour-pigments cells called chromatophores (from the Greek chromato = colour + phore = bearer), which are influenced by environment, health, and sex. A male without females will simply not turn on his colours to their fullest extent. Black, controlled by melanophores (Greek, melan=black) will be grey, reds and yellows (controlled by xanthophores and erythrophores) will be washed out. You can feed your males all the colour-foods you like, but without females, they will never realize their full potential.

A shoal of only males is not only boring to the fish, but to the aquarist. There's no flirting, no sparring, no colour; just a bunch of fish hanging around with no purpose, like teenage boys outside a convenience store.

Morning sun to Rainbowfish is like piping a little Barry White through the sound system; it puts them in the mood. Males flash their dazzling colours at females and challenge each other to harmless skirmishes while the sunshine glances off their iridescent bodies. They soon pair off to spawn amidst much trembling and shaking against fine-leaved plants. It's one of the most brilliant displays known to aquarists, but you won't see it unless you keep females, so house them in shoals of at least six, with equal numbers of each gender.

Female Rainbowfish of the sexually dimorphic species such as Red Rainbowfish (*Glossolepis incisus*), Wanam Rainbowfish (*Glossolepis wanamensis*), Boeseman's Rainbowfish (*Melanotaenia boesemanni*), Parkinson's Rainbowfish (*Melanotaenia parkinsoni*), and Threadfin Rainbowfish (*Iriatherina wernerii*) are, for the most part, silvery-grey. As with many nondescript females, they can be elusive. Retailers often carry only the colourful males, and if they do happen to have females, they are often housed in mixed species tanks, making it difficult for the uninitiated to determine which female belongs to which species. Some Rainbowfish species are capable of hybridizing; aquarists should take care to obtain pure species so Rainbowfish in the hobby are not polluted with hybrids as with Lake Malawi Cichlids.



*Melanotaenia boesemanni*--the fish on top is a male, the one below is a female. Keep equal numbers of both to see your males exhibit their best colours! Photo © Neale Monks

The better retailers will order in females if they can acquire them from suppliers, but farms often cull the drab females or use them for feeder fish. If you are unable to find females through local breeders, try ordering them through your local retailer anyway. If enough aquarists express interest in females, suppliers and retailers will ensure supply meets demand.

### **Rough Sex: Lake Malawi Cichlids**

Ruthlessly driving off unresponsive females, rival males, and anything else that gets in their way, Lake Malawi Cichlids like it rough. Violently vibrating, chasing, and digging, the males desperately lure females to the spawning sites they've excavated; their urgency intensifying when ripe females are near. If a female acquiesces, the pair will circle, alternately nuzzling anal fins, releasing eggs and sperm. If she changes her mind, he will chase her, nip her, even kill her. If she survives, she'll be left with tattered fins, missing scales, and a mouthful of viable eggs. Yes, life for a captive female Malawi Cichlid is rough. In the wild, females would merely swim away from insistent males if not ready or willing to mate. They don't have this option in an aquarium. To make it easy on your females, provide at least 200 litres (50 gallons) for milder Malawians like Electric Yellows (*Labidochromis caeruleus*), Rusty Cichlids (*Iodotropheus sprengerae*), and some of the smaller Peacocks (*Aulonocara* spp). More aggressive species will require at least 285 litres (75 gallons).

Most Lake Malawi Cichlids are polygamous mouthbrooders, so you'll need one male to two-or-three females. Don't choose species based on what looks pretty at your retailer's, rather, research each species and choose those that have generally the same level of aggression and won't hybridize.



This *Labidochromis caeruleus* male displays lacklustre colour. Photo © Judy Helfrich



The same male after the introduction of females. Note the deeper blacks, especially on the anal and ventral fins.  
Photo © Judy Helfrich

There's been a trend to keeping male-only Malawi Cichlid aquariums. But the very males you've chosen for their colour will never display it properly without females. And like a cute but boring boyfriend, after a while the good looks just won't cut it. But the constant soap opera of males courting females, the dedication of females holding fry for a month without food, and the delight of catching a glimpse of a baby Cichlid staring back from the mouth of a holding female, vastly outweigh a tankful of bored (and boring) males. Trading some of those bored males for females is a great idea, but where do you find them? The females of sexually dimorphic species, especially Peacock Cichlids (*Aulonocara* spp.) are drab grey, hard to find, and look nearly identical; it can be difficult to know with any certainty that they will be the same species as your male. If you do find a tank of males and females together at your local retailer, they are likely to be siblings.

It is best to purchase the male and females from separate trusted sources to avoid inbreeding and prevent hybridization. Always use scientific names rather than common names when making your purchase. Reputable breeders will provide pure species -- and females.

### **No Sex: Scarlet Badis (*Dario dario*)**

They roam the aquarium like miniature tigers, hunting tiny prey and threatening rivals via quivering fins and fierce lunges. Scarlet and ice-blue vertical stripes intermingle on this fish's jewel-like flanks; Scarlet Badis make a stunning addition for those wanting a bottom-dweller other than the usual catfish, and can be kept in a tank as small as 40 litres (ten gallons). Too bad they're so hard to find. With retailers' tendency to carry big, flashy, easy-to-sell fishes, topping out at 1.5 cm, the tiny Scarlet Badis is often overlooked and unavailable. Yes, Scarlet Badis males are difficult to find, but females? Almost impossible. Females are a non-descript silver-grey, and exporters simply do not export them. Female Scarlet Badis truly are the holy grail of the aquarium, and this is a shame, because aquarists who manage to procure the rare female Scarlet Badis report fascinating accounts of fiery dancing males, Anabantoid-like embraces and dedicated paternal guarding.

So where do you find females? You've got me. Unlike many of our prior candidates, Scarlet Badis are rarely available through aquarium clubs or local breeders. Retailers almost never import females. There are accounts of the occasional female being mixed in with imported males, but this is rare. Count yourself lucky if you have a Scarlet Badis female, and try to breed them, so you can share your luck (and any female offspring) with fellow aquarists.

### **Spinsterhood: Cherry Red Shrimp (*Neocaridina heteropoda*)**

I'm still looking for that one perfect male. In desperation, I've placed ads, responded to ads; I even thought I had him once. The elusive male Cherry Red Shrimp. As the females in my tank approach the grand age of two years, their numbers are beginning to decline. Like a venerable group of heavily-rouged old maids, they will never know motherhood, because here, the tables are turned. It is the female who sports that cherry-red exoskeleton, while the male is largely colourless. Consequently, imports from the Far East, which supply many retailers, consist almost exclusively of females.

Many of the mail-order outfits so ubiquitous in the United States may offer both sexes, but ship only within their borders. If they do ship to other countries, the cost is often prohibitive; a recent inquiry netted a quote of thirty-five dollars for shipping one shrimp to Canada. In northern climates, heat packs are often required, which only adds to the cost. Occasionally sellers surface on Aquabid offering both males, females, and reasonable shipping rates, but with lots of one hundred or more. The knowledge that there are hobbyists who are overrun with the things is salt on the wound.

Cherry shrimp, with their algae-eating abilities, helicopter-like sorties, and all-around uber-coolness, are perhaps the perfect aquarium resident, and it pains my frugal soul to continue to purchase the things when all I need is one male to start a colony. Which begs the question; do exporters export only females because they are colourful, or to ensure a captive market? I suspect a bit of both.

So where can you find Cherry Shrimp males? Just as I was completing this article, I noticed a new ad on a local online list-service. Last night I picked up a dozen Red Cherry Shrimp; over half of them males. Once again, fellow hobbyists are the key.



*A mixed group of male and female cherry shrimps; the smaller males are essentially transparent while the females are bright cherry red. Photo © Neale Monks*

## **Abstinence**

Of course, the sexes of not all species should be housed together. Some species, like Bettas (*Betta splendens*), should be brought together only under carefully controlled conditions. Others, like Jewel Cichlids (*Hemichromis bimaculatus*), become murderous when spawning. And some, like Convict Cichlids (*Cichlasoma nigrofasciatum*) will produce enough fry to supply the North American market for several decades. As always, it is critical to research each species prior to purchase.

## **Sex Changes Everything**

The dearth of drab females points to a disturbing trend. We cannot blame retailers; they supply only what sells. We, as aquarists, have forgotten how privileged we are, to be able to unlock the secrets of those creatures from that other world; those foreign water-breathing creatures who inhabit our planet's most ubiquitous life-giving substance. Now we choose single specimens like pretty baubles, or to complement our décor.

Fishes are living works of art. Their emotions race across their bodies in a kaleidoscope of colour: the paleness of fear, the darkness of sickness, and the intense flush of a sexual rush. This latter is not possible without females. But aside from making our males spectacular, purchasing those drab females has other advantages. It encourages suppliers to cease culling them or using them as feeder-fish. Breeding your fishes also reduces the need for wild caught and imported specimens, and allows the aquarist to observe natural behaviour.

We use words like dull, drab, or nondescript to describe females with little colour. But even the plainest female is a thing of beauty; a flashing silvery-gold affair of metallic scales and translucent fins. And our bejewelled males are best set off by the precious metal of females.



*This female Peacock Cichlid (Aulonocara stuartgranti) may seem plain, but she can play an important role in your aquarium. Photo © Judy Helfrich*

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