

The Ethical Aquarist

Top Ten Freshwater Fish to Avoid

by Judy Helfrich

This article first appeared in the Summer 2010 issue of WWM Digital Magazine. For permissions please contact the author at www.helfrich.ca/writer.

They come with fun names like Jellybean and Bubblegum, or heroic names like Purple Heart. Loads of people like them; there's something appealing about the jowly cheeks, pendulous body, and comical mouth. You can even get them with smiley faces, lipstick, and logos. These are the Parrot Cichlids, hybrids of dubious heritage, often deformed, injected, tattooed, and *sans* tail, courtesy of a pair of scissors.

This is a blow to aquarists who believe the purpose of the hobby is to educate; to instill a love of nature, especially in children; to marvel at creatures sculpted by millions of years of evolution. But how can we reveal the mysteries of nature when we fill our aquaria with artificial fish?

This list will assist aquarists interested in avoiding artificial, inappropriate, abused, or over-collected freshwater fishes. If you encounter a fish not listed here, note the scientific name (or lack thereof). A quick search on a reputable web site, like this one, or a visit to your local library can save you (and the fish) much grief.

1. Injected, tattooed, and amputated fish.

It's a shame that fish are subjected to these inhumane procedures since the dyes eventually fade anyway. High mortality rates, disease, and reduced lifespan plague these fish.

- **Heart Parrot, Purple Heart Parrot, Sweetheart Parrot, Loveheart Parrot, Jellybean Parrot, Bubblegum Parrot, Cotton Candy Parrot:** Those clever marketers; such cute names. I suppose it wouldn't be much fun if they called them Injected, Deformed, and Amputated Parrots. All non-orange/red varieties are injected (at multiple sites to ensure even colour). And the aptly-named Purple-Heart Parrot must be brave indeed, to withstand both injections and often, the amputation of its tail.
- **Flowerhorn:** Another Cichlid hybrid sometimes subjected to tattooing and tail amputation.
- **Painted Glassfish, Disco Fish (*Parambassis ranga*):** One of the first fish to be injected with dye; numerous health-related problems including but not limited to Lymphocystis.
- **Fruit Tetra, Mixed Fruit Tetra, Blueberry Tetra, Strawberry Tetra, Rainbow Tetra** (Injected and/or dipped Whiteskirt Tetras (light form of the

Blackskirt Tetra - (*Gymnocorymbus ternetzi*). Dipping involves placing the fish in a series of caustic baths.

- **Blueberry Oscar, Strawberry Oscar** (*Astronotus ocellatus*): Injected.
- **Any albino/light-coloured fish is at risk** of dyeing/tattooing, including but not limited to: Molly (*Poecilia spp.*), Cory catfish (*Corydoras spp.*), Tiger Barb (*Puntius tetrazona*), Red-finned/tailed Shark (*Epalzeorhynchus spp.*), Rams (*Microgeophagus spp.*), and Loaches (*Botia spp.*).

2. Hybrids

Throwing a hybrid into an aquarium is a gamble, and the odds don't favour the aquarist. Hybrids are unpredictable. You may be expecting a small, colourful, peaceful fish, but end up with a psychotic, muddy-blue behemoth. Especially insidious are hybrids sold as pure species (the author has been stung by this one). They may look like the real deal, but their behaviour often betrays them.

Aside from causing aquarists grief, hybrids have a more ominous side. Aquarists desperate for pure species demand (expensive) wild-caught fish, which may lead to over collection, or even extinction. And once the species is extinct in the wild, there is no guarantee that captive specimens will not be tainted by hybridization. That species will be lost forever.

Almost any Cichlid is at risk of hybridization, but African Rift-Lake species are especially vulnerable. Purchase pure species from trusted sources, not from your retailer's "Mixed African Cichlid" tank. Don't house species together that may hybridize; if hybrid fry are accidentally produced, consider euthanizing them.

Common Hybrids:

- **Parrot Cichlid** (all types): Possible parentage: *Amphilophus labiatus*, *Amphilophus citrinellus*, *Heros severus*, and/or *Vieja synspila*.
- **Flowerhorn**: Possible parentage: (*Amphilophus citrinellus* x *Cichlasoma trimaculatum*, and/or (*Herichthys spp.*)
- **Cobalt Discus, Powder Blue Discus, Sky Blue Discus Golden Discus, Pigeon-blood Discus**: Many of the strikingly-coloured varieties are hybrids between *Symphysodon discus* and *Symphysodon aequifasciatus*.
- **OB Peacock, Marmalade Peacock** (*Aulonocara spp.* x *Maylandia estherae*)



Peacock Cichlids (Aulonocara spp.) are often hybridized, since the females look very similar.

Many livebearers, including Mollies, Platies, Swordtails, and Guppies, have been inbred and hybridized to the point where they barely resemble their wild counterparts. Of particular concern are **Endler's Livebearer/Guppy Hybrids** (*Poecilia wingii* x *Poecilia reticulata*). Endler's Livebearers are possibly extinct in the wild; unless aquarists prevent hybridization with Guppies, this species will cease to exist.

Alternatives: These livebearers are closer to wild-type.

- **Butterfly Goodeid** (*Ameca splendens*)
- **Hump-backed Limia** (*Limia nigrofasciata*)
- **Four-eyed Fish** (*Anableps spp.*)
- **Red-Tailed Goodeid** (*Xenotoca eiseni*)
- **Porthole livebearer** (*Poeciliopsis gracilis*)
- **Halfbeaks** (*Nomorhamphus*, *Dermogenys*, and *Hemirhamphodon spp.*)



*The Wrestling Halfbeak, (Dermogensys pusilla):
a fascinating top-dwelling livebearer*

3. Intensely-bred/Deformed Fish.

The very existence of each fish in the wild proves its worthiness as a genetically-superior individual. But fish selectively bred for bloated bellies, colour, or long fins lose the characteristics that allowed them to survive in the wild. They are often sterile or suffer from deformities which preclude normal swimming, eating, and/or vision. And these fish are often so mass produced that quality suffers.

- **Parrot Cichlid, Blood Parrot:** That pesky Parrot Cichlid tops our list yet again. Possible parentage includes the Red Devil (*Amphilophus labiatus*), Midas Cichlid (*Amphilophus citrinellus*), Severum (*Heros severus*), and/or Redhead cichlid (*Vieja synspila*). This genetic free-for-all has left most Parrots with various deformities involving the spine, swim bladder, mouth and eyes. It's often crossed with Pink Convicts to ensure a blank canvas for injection/tattooing (see above). Usually sterile.
- **Dwarf Gourami, Powder-blue Gourami, Neon-blue Gourami, Sunset Gourami, Flame Gourami, Red-Robin Gourami, Cobalt Gourami (*Colisa lalia*):** Intensely bred; often plagued with Dwarf Gourami Iridovirus (fatal). Best avoided or purchased from local breeders. Alternatives: *Colisa labiosa* and *Colisa fasciata*.
- **Rams (*Mikrogeophagus ramirezi*):** Intensely bred and extremely delicate; short lifespan.
- **Bubble-eye/Telescope/Celestial Goldfish (*Carassius auratus*):** Swim bladder problems, reduced swimming ability, buoyancy problems, reduced

vision. Grossly deformed eyes subject to physical damage/bacterial infections.

- **Fancy Guppy** (*Poecilia reticulata*): Delicate; males are poor swimmers because of their large tails. Alternative: Endler's Livebearer (*Poecilia wingei*): Pure strains are best acquired from trusted breeders.
- **Balloon Molly, Balloon-belly Molly, Pot-belly Molly** (*Poecilia spp.*): Deformed spine and/or swim bladder, reduced swimming ability, buoyancy problems, reduced lifespan.



This Black Molly will likely live longer than its Balloon-belly brethren

4. Genetically-Modified Fish

Unlike fish that have been selectively bred for desirable (or questionable) characteristics, genetically-modified fish have had their genes manipulated in a laboratory setting.

- **GloFish**: a fluorescent Zebra Danio (*Danio rerio*) available in 'Starfire Red,' 'Electric Green,' and 'Sunburst Orange' (those marketers, at it again). The GloFish gets its "Glo" via bioluminescent jellyfish or coral genes. It has been banned in Canada, Europe, Australia, and most other countries. The state of California, over concerns about the effect of its release into the wild and the subsequent effect on ecosystems, has also banned the GloFish. Alternative: The original (and hardier) Zebra Danio (*Danio rerio*).

5. Hormoned Fish

When Mark McGwire went from a skinny 23-year-old rookie to a home-run hitting, record-breaking behemoth, many of us suspected he was on the juice. What does McGwire have to do with fish? Well, that juvenile cichlid in your retailer's tank screaming with colour has likely been juiced as well. And like McGwire, who for years would admit nothing, your retailer will likely do the same.

A normal fish will gradually colour up as it approaches sexual maturity, its colour intensifying through proper nutrition and care. But a hormonized fish will lose colour (likely permanently) shortly after cessation of hormone treatment, and may also become sterile. This is especially disturbing to aquarists hoping to breed that brilliantly-coloured fish. Be wary of brilliantly-coloured juveniles or any fish where the colour seems too good to be true (remember that most fish won't show their best colour in retailers' tanks).

These Cichlids are often subjected to hormone treatment:

Rams (*Mikrogeophagus ramirezi*)

Discus (*Symphysodon spp.*)

Peacock Cichlids (*Aulonocara spp.*)



This juvenile Peacock Cichlid is beginning to colour up, sans hormones

The use of hormones is not all bad. Hormones can be used to induce spawning in endangered and/or difficult-to-breed species, decreasing the demand for wild-caught fish.

6. Big Fish

There's nothing wrong with big fish, but a big fish in a small aquarium is trouble. These cute juveniles will worm their way into your heart, then grow into monsters requiring an aquarium the size of a volkswagon.

- **Red-tailed Catfish** (*Phractocephalus hemioliopterus*): 60-134 cm/24-53 in.
- **Channel Catfish** (*Ictalurus punctatus*): 57-132 cm/22-52 in.
- **Iridescent Shark** (*Pangasius spp.*): to 130cm/51 in.
- **Giant Snakehead, Red Snakehead** (*Channa micropetels*): 50-130 cm/20-51 in. Not legal/available in the U.S. Juveniles have an attractive red stripe. Infamous for flexing its muscles and cracking aquaria (it literally *is* a tank buster).
- **Tiger Shovelnose Catfish** (*Pseudoplatystoma fasciatum*): to 104 cm/41 in.
- **Arowana/Arawana** (*Osteoglossum spp.*, *Scleropages spp.*): to 100 cm/ 39 in.
- **Pacu, Red-bellied Pacu** (*Colossoma spp.*, *Piaractus spp.*):45-91 cm/18 - 36 in.
- **Giant Gourami** (*Osphronemus gorami*):45-70 cm/18-28 in.
- **Oscar** (*Astronotus ocellatus*): 24-46 cm/9-18 in. Very common in stores (and on Kijiji, after they have outgrown their tanks).
- **Common Plecostomus** (*Pterygoplichthys spp.*): Many species; usually exceeds 30cm/12 in. Also a popular Kijiji listing (almost rivaling Convict fry) after they have grown a foot or so. Alternative: Bristlenose Catfish/Bushynose Catfish (*Ancistrus spp.*): to 12 cm/5 in.
- **Red Devil** (*Amphilophus labiatus*): to 24cm / 10 in.
- **Midas Cichlid** (*Amphilophus citrinellus*): to 24cm / 10 in.

Big Shoaling Fish

Most of these fish should be kept in groups of six or more:

- **Bala Shark, Silver Shark** (*Balantiocheilus melanopterus*): to 35 cm/14 in.
- **Clown Loach** (*Chromobotia macracanthus*): 30 cm/12 in.
- **Silver Dollar (Metynnis spp., Myleus spp., Mylossoma spp.)**: 13-26 cm/5-10 in.
- **Tinfoil Barb (Barbodes schwanenfeldii)**: 20-35 cm/8-14 in.
- **Goldfish** (*Carassius auratus*): 10-59 cm/4 - 23 in. Groups of two or more are okay.

7. Difficult Fish

Aquarists should be obliged to pass a test before acquiring these fish. Sadly, the vast majority die after being purchased by inexperienced aquarists with no idea of their specialized needs.

- **Stingray, Teacup Stingray** (*Potamotrygon spp.*): Requires a huge aquarium, very clean water, and specialized feeding.
- **Oto, Midget Suckermouth Catfish** (*Otocinclus affinis*): Wild caught. Often starved upon arrival at retailers. Requires soft green algae. High mortality rate.
- **Chocolate Gourami** - Requires extremely soft water, precluding normal biological filtration. These wild-caught fish have an extremely high mortality rate.

Knifefish require careful feeding, a powerful current, and strong filtration.

- **Knifefish, Ghost Knife, Clown Knife** (*Chitala chitala*)
- **Black Ghost Knife** (*Apteronotus albifrons*)

These Mormyrids require special feeding and very clean water:

- **Elephant Nose** (*Gnathonemus petersii*, *Gnathonemus rhyncophorus*)
- **Freshwater Dolphin** (*Mormyrus tapirus*)
- **Baby Whale** (*Pollimyrus spp.*)

Some fish are difficult to keep, and some are just difficult:

- **Chinese Algae Eater** (*Gyrinocheilus aymonieri*) - Can grow up to one foot, and doesn't eat much algae (often prefers to suck the slime coat from its tankmates).

8. Feeder Fish

The feeder-fish tank at my local retailer was always a cloudy, stinking, depressing affair. The thirty-gallon tank was constantly crammed with a pathetic series of dead, dying, and diseased goldfish. Thankfully the tank no longer exists, and I frequent that store once again. Aside from the whole ethical issue of housing fish this way, I marveled at the idea that aquarists actually purchased these fish and fed them to their prize pets. Rather like humans dining on a bit of decomposing, maggot-infested, roadkill.

Unless you're one of the very few aquarists who keeps an obligate piscivore, you do not need to and should not use feeder fish. Aside from the risk of infecting/infesting your charges with whatever myriad diseases the feeder fish may carry, using feeder fish exclusively may cause vitamin deficiencies.



Along with Goldfish, Guppies, and Rosy Red Minnows, White Cloud Mountain Minnows are often sold as feeders

9. Sick/Neglected/Inhumanely-kept Fish

This is a tough one -- I know -- but by rescuing a fish, you are sentencing its successor to a similar fate, enabling the retailer to profit, and encouraging them to keep their fish thus.

- **Betta, Siamese Fighting Fish (*Betta splendens*):** The much mispronounced Betta (it's "BET ah," not "BAY tah" -- we're not talking about a buggy software program here) is often rescued by well-meaning but misguided aquarists. Male Bettas are intensely farmed (the females are often culled), and spend their lives in tiny volumes of water. They are shipped overseas in a tablespoon or two of water in bags the size of a credit card. Male Bettas have been bred with fins so long they can hardly swim.

It's ironic that kind-hearted aquarists who rescue Bettas actually perpetuate the very cruelty they try to prevent. If you simply must have a Betta, consider a female. They are usually housed in aquaria instead of cups, have shorter fins, and longer tempers.



Betta splendens is often rescued.

Bettas do not belong on walls, in lava lamps, or as wedding centrepieces. They require a heated, filtered minimum 20-litre/5-gallon aquarium.

10. Over-collected or Threatened Fish

Although there is some debate whether the Red-tailed Black Shark (*Epalzeorhynchus bicolor*) has become extinct in the wild because of over collection for the aquarium trade, habitat destruction, or a combination of both, this species sets an example of what we, as aquarists, should avoid: contributing to the extinction of wild fish.

A complete list of threatened species is beyond the scope of this article, however, these are some of the more commonly traded freshwater species. Before you purchase any aquatic creature, check it against the [IUCN \(International Union for Conservation of Nature\) Red List](#) to determine its status in the wild, or purchase captive-bred specimens from a trusted source.

- **Red-line Torpedo Barb, Rosy-line Shark, Denison Barb** (*Puntius denisoni*): IUCN status: Vulnerable. Mostly wild-caught, although captive-bred specimens are becoming available. Wild populations threatened by the aquarium trade. A ban is in place to protect this species during breeding season. Sometimes confused with *Puntius chalakkudiensis*.
- **Ruby Barb, Black Ruby Barb** (*Puntius nigrofasciatus*): IUCN status: Conservation Dependent. Although easily bred, many specimens are still wild

caught, especially colourful specimens from heavily exploited wild populations.

- **Cherry Barb** (*Puntius titteya*): IUCN status: Conservation Dependent. Both captive-bred and wild-caught; the more-colourful wild specimens are becoming increasingly rare but still sought after.
- **Celestial Pearl Danio, Galaxy Rasbora** (*Danio margaritatus*): IUCN Status: Not Evaluated. An immediate hit with aquarists after its introduction in 2006, wild populations were quickly decimated.
- **Celebes Rainbow** (*Telmatherina ladigesii*): IUCN Status: Vulnerable.
- **Red Rainbowfish** (*Glossolepis incisus*): IUCN Status: Vulnerable.
- **Bosemani Rainbowfish, Boseman's Rainbowfish** (*Melanotaenia boesemani*): IUCN Status: Endangered, mainly due to collection (of mostly males) for the aquarium trade.
- **Zebra Plecostomus** (*Hypancistrus zebra*): This pricey fish is overexploited in the wild. Captive-bred specimens are occasionally available.
- **Asian Arowana, Red-tailed Golden Arowana**: (*Scleropages formosus*): Considered lucky by some cultures, illegal trade in protected wild-caught specimens still occurs, but captive-bred fish (often microchipped) are becoming increasingly available.
- **Spotfin Betta, Peacock Mouthbrooder** (*betta macrostoma*): IUCN Status: Vulnerable.
- **Dwarf Botia** (*Yasuhikotakia sidthimunki*): IUCN Status: Critically Endangered.
- **Bala Shark** (*Balantiocheilos melanopterus*): IUCN Status: Endangered. Populations were severely depleted by the aquarium trade. However, now virtually all aquarium specimens are captive bred.
- **Barred Danio** (*Devario pathirana*): IUCN Status: Critically Endangered.
- **Long-faced Loach** (*Acantopsis octoactinotos*): ICUN Red List Status: Vulnerable

Fish to Keep

Of the 1,379 freshwater-fish species red-listed by The IUCN, *ninety of these are extinct*. It's game-over for these fishes; we will never learn their secrets; we do not have the comfort of knowing they are preserved in aquaria and might someday be released back into the wild.

This is disheartening, but there would be even more extinct species were it not for aquarists who keep critically-endangered or extinct-in-the-wild species, such as:

- **Butterfly Goodeid** (*Ameba splendens*): Extinct in the wild due to habitat destruction.

- **Red-tailed Black Shark** (*Epalzeorhynchus bicolor*). Extinct in the wild.
- **Endler's Livebearer** (*Poecilia wingii*): Possibly extinct in the wild due to habitat destruction.



*Do not keep Endler's livebearers with Guppies (*Poecilia reticulata*); they will hybridize.*

- **Lake Victoria Cichlids:** The introduction of the Nile Perch combined with habitat destruction has devastated the Cichlids of Lake Victoria. Tragically, hundreds of species have disappeared even before scientists could properly classify some of them. This is where aquarists play an important role, by keeping and breeding captive-bred species such as *Haplochromis spp.* and *Astatotilapia spp.* and preventing hybridization.
- **White Cloud Mountain Minnow** (*Tanichthys albonubes*): This classic and extremely popular aquarium fish was believed to be extinct in its native China/Vietnam until recently, where small populations were found near Guangzhou, and Hainan Island (China) and Quang Ninh province(Vietnam). Ironically, it's such a prolific breeder, that this critically endangered beauty is often sold as a feeder-fish.
- **Blue Notho** (*Nothobranchius patrizii*): Like many annual Killifish, this critically endangered species is not usually available in stores. Aquarists who obtain/hatch eggs from other aquarists help guarantee the continuation of this species.

Despite overwhelming evidence to the contrary, I still believe the human race is an ethical species (with the possible exception of marketers). Most aquarists would likely not knowingly purchase injected, endangered, or deformed fish, conversely, they may see nothing wrong with a GloFish or a Balloon Molly.

The key here is we must be *informed*, so we are capable of making intelligent decisions. As with all things in life, we should not allow ourselves to be spoon-fed the marketers' appealing message, but examine with a critical eye the truth.

References:

Baily, M. and Burgess, P. (2000) *Tropical Fishlopaedia - A Complete Guide to Fish Care*. Howell Book House

Clarke, M. "Frequently asked questions on Parrot cichlids" *Practical Fishkeeping*, (May 2005)

Clarke, M. "[Magazine publishes guide to cosmetic fish surgery](#)" *Practical Fishkeeping* (June 2006)

Clarke, M. "[Company offers custom fish tattoos with laser](#)" *Practical Fishkeeping* (Feb 23, 2006)

Clarke, M. "[Is it time to stop buying Puntius denisonii?](#)" *Practical Fishkeeping Online* (November 27, 2008)

Ekaratne, S. U. K. "[A Review of the Status and Trends of Exported Ornamental Fish Resources and Their Habitats in Sri Lanka.](#)" Bay of Bengal Programme, Department of Zoology, University of Colombo, Colombo, Sri Lanka. (December 2000)

Fenner, B. "[Marvelous Monos: the Moonfishes, Finger Fishes, family Monodactylidae.](#)" Wetwebmedia.com

Fenner, B. "[Piranha, Pacus & Silver Dollars, Subfamily Serrasalminae.](#)" Wetwebmedia.com

Gangal, A. "[A Fishy Business.](#)" *The Times of South Mumbai* (July 4, 2008)

Gay, J. 2006. *Choosing the Right Fish for Your Aquarium*. Hamlyn, a division of Octopus Publishing Group Ltd.

Hellweg, M. "The Wrestling Halfbeak." *Tropical Fish Hobbyist* (April 2009): 74-78.

Lichtenberger, M. "[Thiaminase and its role in predatory pet fish \(and other piscivores\) nutrition.](#)" Wetwebmedia.com

Monks, N. "[The "Fantastic Four" Livebearers: Guppies, Mollies, Platies, and Swordtails.](#)" *Conscientious Aquarist Magazine* (May/June 2007)

Monks, N. ["The Feeder Fish Debate: Are They Essential, Cruel, Or Dangerous?"](#) Wetwebmedia.com

Monks, N. ["So you think livebearers are boring? There's more to livebearers than guppies. Neale Monks looks at some of the interesting and unusual livebearers available to aquarists"](#) Wetwebmedia.com

Ng, H. ["New population of endangered White clouds discovered"](#) Practical Fishkeeping (April 6, 2009)

Rice, R. and Wiegert, J. ["Galaxy Rasbora."](#) Fishchannel.com

Rizza, D. ["Looking At Victoria Cichlids"](#) Conscientious Aquarist Magazine, Wetwebmedia.com (Vol. 6 #3, Fall 2009)

Russo, Tarascio J. ["Boycott the Galaxy Rasbora, a Freshwater Aquarium Fish"](#) Associated Content (November 13, 2008)

Russo, Tarascio, J. ["The Cherry Barb: A Threatened Freshwater Aquarium Fish."](#) Associated Content (Nov 21, 2008)

Rosser, A. [" Conservation Benefits of Wild Capture and Captive Rearing in the Ornamental Fish Industry."](#) OFI Journal Issue 43 (October 2003)

Sweeney, M. ["Which Barb is for you?"](#), *FishChannel.com*

Liang, X., Chen, G., Chen, X., and Yue, P. " Threatened fishes of the world: *Tanichthys albonubes*" *Environmental Biology of Fishes* (Volume 82, Number 2 / June, 2008)

["One Fish, Two Fish, Red Fish, Glofish?"](#) GreenPeace International (July 20, 2004)

[The IUCN Red List of Threatened Species](#)