

Adventures in Fish Shipping - Part I

by SHARON BARNETT

Until just a few years ago, I would never have believed that I would ever receive fish shipped by mail, or that, even more surprisingly, I would ever be capable of shipping live tropical fish around the United States. I rarely gave any thought to how the fish got from their home waters to the pet shop, and when I did, I called up a mental image of a photo that I'd seen in an old book, depicting tropical fish being loaded into large metal cans for air shipment. I don't remember which book it was, but I'm pretty sure that the photo was taken before 1970 — positively *ancient!* I don't know enough about the ornamental fish industry to say with any certainty that they use the same methods as hobbyists, but I am sure that there are many similarities. For instance, I know that the large fish farms use the same type of shipping boxes as hobbyist shippers: corrugated cardboard boxes with an inner molded styrofoam box. Some hobbyist shippers construct "styros" from pieces of styrofoam cut to fit inside the cardboard box...with varying degrees of success.

Before I became an internet junkie (and before I discovered Greater City), I had books which depicted beautiful and exotic fish which were rarely, if ever, available in the local fish shops. At that time, all that I could do was drool over those fish; I had no hope of ever getting my hands on them...enter online fish vendors, who shipped fish in the mail! I had just recently received my copy of Ole Seehausen's Lake Victoria Rock Cichlids, and was hopelessly wishing for some of the fabulously colored cichlids pictured therein when I chanced upon a vendor who listed one of the fish that had captured my imagination — *Haplochromis sp. Crimson Tide*...and so my adventures in fish shipping began. Not long after that, I discovered Aquabid.com, sort of an eBay for fishkeepers, and my fate was sealed;

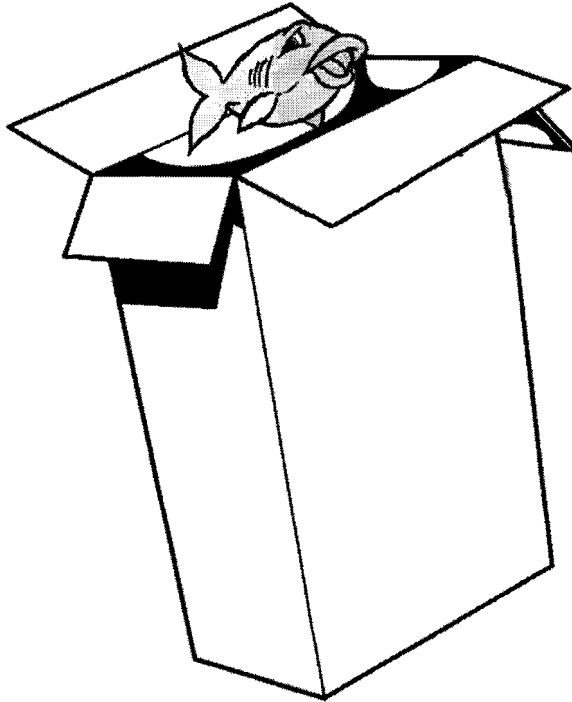
I have since received scores of boxes of fish in the mail and in the past year, I have shipped fish to upstate New York, New Jersey, Wisconsin, Utah, and California!

The large majority of the fish arrive safely, but the few times that the fish have arrived distressed or dead, and the times when they have arrived in particularly good shape have provided me with some lessons in the best methods for shipping fish successfully. Of course, there are times when everything has been done properly, but the fish die anyway. Some fish are just too delicate and tend not to ship well...a couple of examples are *Rasbora vaterifloris*, A.K.A. Fire Rasbora (naturally, one of my favorite fish), and *Boehlkea fredcochui*, A.K.A. Blue Tetra. Sometimes, the box gets dropped 2 stories by a forklift, gets run over by a truck, or gets left out on the tarmac overnight

when it's 95 degrees or 10 degrees outside. Remember that Samsonite commercial with the gorilla throwing the suitcases around? Sometimes that gorilla gets hold of the box. I've also gleaned information from online articles, forum posts, and manufacturer's information sheets on the various methods of shipping fish and the proper use of shipping materials. The methods that I have settled on, which are outlined below, may not be the most cost-effective for a hatchery, but if you want to ship fish to a buddy across the country with excellent odds for the fish arriving in good shape, this is the way to go.

Checklist for shipping live freshwater tropical fish (sorry, I have no experience with saltwater fish). The following information is based upon my experiences receiving and sending live fish, and my reading about methods of fish shipment.

Shipping box: Corrugated cardboard box with Styrofoam box snugly fitted inside.



For summer shipping:

Heatpacks are not required. If temperatures are above 90 degrees F, I would hold off on shipping, or look into coolpacks (I have no experience with these).

For winter shipping:

Via Overnight Mail (USPS Express Mail, FedEx, UPS, DHL): Use a 30 or 40 hour heatpack. If temperatures are extreme, either delay shipping or use two heatpacks, say a 20 hour and a 40 hour. The heatpacks get warm enough to keep the box temperature from dropping dangerously low during extremely cold weather, but they don't maintain high tropical temperatures.

Via Priority Mail (you can shave a day off the transit time if you ship from the Post Office at the airport): Use a 60 or 72 hour heat pack. I use a 30 or 40 hour heatpack as well because, although the 60/72 hour pack lasts longer, it takes longer to reach its peak temperature, so I supplement with the 30/40 hr pack to ensure a longer period at peak temperature. Be sure that the side of the heatpack that has perforations and/or a red line is the side that is facing away from the box lid. The heatpack should be secured to the top of the box (make sure that the tape does not cover the perforations). It is not necessary to shake the heatpack, but it is necessary to expose it to the air for several minutes before sealing it in the box. In order to remain active, the pack requires a supply of oxygen (O₂). When taping the styro shut, I leave a small section of the lid unsealed to allow some air to seep in. If the heatpack becomes wet, it will fail. Place a couple of sheets of newspaper between the heat pack and the bags of fish. Fill in any empty spaces and cushion the bottom of the box with foam, bubblewrap, crumpled newspaper, etc.

Prepare water for shipping the night before in order to have a supply of completely clean water that is the same temperature, pH, and hardness of the water that the fish are in currently. Since I ship African cichlids, I fill a five gallon bucket with fresh water, which I treat with Amquel® to remove chlorine and the ammonia that is released when the chloramine bond is broken, and then I add a large piece of limestone (or some other calcareous rock) to raise the pH and to buffer the water.

Feed the fish very well for about two weeks prior to the ship date in order to prepare them to fast for the three days prior to shipping, as well as the time that they will spend in transit (juvenile fish that are under one inch generally do not have the necessary reserves to survive this regimen). I bag each fish individually, so that there are no fatalities due to murder (common with cichlid males), and in the event that a fish does die,

its corpse doesn't poison the water of another fish. Invertebrates like shrimp and crayfish are more sensitive to nitrates, and consequently should be fasted for about five days. To lessen stress, include a bit of plant matter in their bag to give them something to hold onto. Snails are a bit harder and can be safely shipped wrapped in wet paper towels or newspaper, placed inside a plastic bag with no fasting period. They also have lower temperature requirements.

If you are using breather bags, you only need to add enough water to cover the fish. Tie off the bag right at the water line, leaving no air space. Wrap each bag in a sheet of newspaper. If you are shipping small fish like tetras, rasboras, or 1.5-2.5 inch baby cichlids, it is not necessary to double-bag. I have successfully shipped adult female *mbuna* (Lake Malawi "rock fish") and *mbipi* (Lake Victoria "rock fish") in double-bagged breathers (double-bagging breathing bags decreases their gas exchange capabilities, but they still work). However, in my opinion, adult cichlids and catfish are best shipped in very thick regular polyethylene bags as their spines are likely to puncture the membrane-like breather bags. The bags are self-healing to a degree, but large holes would be a problem.

If using a regular bag, then fill it one-third with water and two thirds air or O₂. Do not use pure O₂ for fishes that breathe atmospheric air, as their gills can become damaged by the pure O₂. If you wish, you can use a product like Bag Buddies, which will release O₂ into the bag, and which contains a mild sedative. This product is not recommended for use with baby fish. It is very important to tie the bag securely, either by tying the bag itself, or by using rubberbands. Double or triple-bag, inverting one bag inside the other.

I would strongly recommend shipping via overnight mail when using regular bags. For large cichlids like adult discus or angels (which I personally would not attempt) use airport-to-airport freight services.

Securely tape the box shut with shipping tape. Clearly write the destination address and the return address on the box. Label the box "Live Tropical Fish", and draw arrows indicating "This side up." Ready, set...ship!



Editor's Note: Some people fill gas-permeable bags totally (with no air space) to provide a greater "cushion" and to reduce "sloshing" in transit. If you do this with anabantoids (bettas, gouramis, ctenopomas, etc.), they will "drown" without access to atmospheric air *in the bag*. It has also been my experience that heat packs can draw oxygen out of these bags, suffocating anabantoids even if there is air space. **Al P.**