

THE PRESERVED REFERENCE COLLECTION  
by Andrew P. Borgia, Key West, Florida

When I was 17, I decided to set up a native saltwater tank. As I went over the species found in Rhode Island, where I lived at that time, I decided which ones I wanted. Then I realized that some were seasonal, while others could only be collected as juveniles, and only at certain times of the year. This was frustrating to me as I wanted them right away.

I discussed this with my biology teacher and she told me about a reference collection of preserved fishes. She said it was like a library. They were always there to examine and compare against specimens from other areas. She gave me a small amount of formalin to get started. I thought it was the greatest thing I had ever heard of.

That's how my collection began. At first, I gathered all the different species found in my area. Everywhere I traveled, I brought fish back. So now, at 32, I have over 30,000 specimens from 29 states and four countries.

Certainly this isn't for everyone, but if you would like to begin a collection, here are some guidelines. The first thing you need is formalin. Most chemical companies carry it. Take one part formaldehyde and add nine parts water. This makes a 10-percent formalin solution. This is the basic fixative in use today.

When you catch the fish, you want to simply drop them into the fluid. Be very careful not to let it splash into your eyes. When mixing or handling formalin, wearing rubber gloves is a good idea. Let the fish stay in this for one to two weeks. If the fish is large, make a small, 1/8" incision in the lower belly. This allows the preservative to enter the body cavity.

After this, the specimens are stepped up through two baths in alcohol, to the final 70-percent strength alcohol for permanent storage.

The first soak is in 35-percent denatured ethyl alcohol. Buy denatured ethyl alcohol and mix 3.5 parts alcohol to 6.5 parts distilled water. Keep the specimens in this for one day. Then the second bath is a 55-percent solution made from 5.5 parts alcohol to 4.5 parts distilled water, and specimens are kept here for one day. They are then ready for the final 70-percent solution. This is made from 7 parts alcohol to 3 parts distilled water. Specimens should be kept in glass or plastic jars with a tight plastic top. The specimens are best kept in a cool, dark place.

I also take extensive notes on the location where the fish are collected, such as the date, water temperature, depth, current, and bottom conditions. All my specimens are numbered with a corresponding index card that includes the pertinent data, and then arranged by family. I also keep a register, arranged by number, of all the species kept in the collection.

Although this is not for everyone, it is a great way to compare specimens caught in different parts of the country. I can take a Swamp Darter (Etheostoma fusiforme) caught in Rhode Island and compare it to others I have caught in Florida and the Gulf Coast of Mississippi. The differences are clearly seen. This would be hard to do with living fish.

###

---