

Hybrids Among the Killifish
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Many people talk rather freely about hybrids among the killifish. Actually hybrids are extremely rare. This brief article is an attempt to stimulate some constructive work and thinking on the subject. It is easy to make the error of stating that a fish is a hybrid because it is slightly different from fish considered to be "normal" representatives of a species. It may be the characteristics of the "hybrid" are included within the natural variations of characteristics of a species. On the other hand, a fish which differs only slightly from a recognized species may be a new species. Relatively little is known about the classification of fish included in the group we call killifish. Undoubtedly there are still many species which have not been collected and identified. The purpose of these introductory sentences is to suggest that we should not be too quick in saying that a new fish is a hybrid and dismissing the problem at that point.

I do not claim to be an infallible breeder of killifish. However, I have attempted to produce crosses among many different species and have only succeeded in producing two hybrid strains. While eggs have been produced from some crosses, the embryos or very young fry always died. Because individual fish differ in their "personalities", I may have failed to get eggs from some crosses where someone else might succeed using other individual fish. When one is trying to hybridize killifish, it is soon apparent that some individual fish will accept a partner of another species more readily than another individual.

The two hybrid strains I have produced are both sterile. While it is scientifically possible to produce hybrids which are fertile, it is more likely that mules will result. Thus if a fertile stock of fish is found which differs slightly from some recognized species. It is more than likely not a hybrid strain. If offspring are produced by true hybrids, they should be quite variable with less than half resembling each parent.

The development of hybrids is a very interesting project for the advanced breeder. If he will publish his findings, he will be contributing valuable information which will aid in the general understanding of the killifish. I have produced a hybrid strain from a cross between female Aphyosemion labarrei and male A. calliurum and another hybrid strain from a cross between female A. cognatum and male A. labarrei. In both cases the hybrid showed a blending of characteristics from both parents. The hybrids from cognatum and labarrei are very pretty

fish, combining the best features of each parent. The hybrids from labarrei and calliurum are not as pretty as either parent. In both strains "male and "female" fish are produced, but as mentioned earlier, they are sterile.

In order to have assurance that a hybrid has been produced, a number of rules should be followed very closely. All extraneous eggs should be excluded. This would appear to be a simple matter, but I am certain that many claims of hybrid production have resulted from stray eggs. With the plant spawners, eggs should be collected on mops known to be free of all other eggs before use. Eggs should be positively labeled, and neither eggs nor fish should ever be mixed with others. Fry which appear in a breeding aquarium should be discarded because their parentage can never be certified. Naturally, only fish of the proper sex from each species being crossed should be in the breeding aquarium. With the bottom spawners the problem is more complex. Preferably, the breeding aquarium should be one which never contained bottom spawners. Their eggs are very resistant and may remain on the bottom of the aquarium for many months. the peat moss or sand used should be boiled to kill all eggs which may be in it. I have had sad experiences with eggs remaining in peat moss used for spawning another species.

Before production of a hybrid is announced, at least one hundred specimens should be produced. Attempts should be made to obtain hybrids from different individuals of the species involved. The hybrid can then be described on the basis of observations made on many specimens rather than on isolated individuals, which may not be representative of the majority. I would be very interested in learning of the results of any attempts to produce hybrids among species of the killifish.