

GAMBUSIA AFFINIS

by Walter Knoblock

(Adapted from "There Won't be Any Mosquitos in My Basement This Summer" in Pisces Press, May, 1984, published by the Nassau County, N.Y. Aquarium Society)

Gambusia affinis, usually called the Mosquitofish, is sometimes called the Spotted Gambusia. The word "gambusia" means "worthless," while "affinis" means "related." Regardless of what they call this fish, it is not completely worthless; Gambusia affinis is famous for eating mosquito larvae. They have been introduced into many portions of the world to help relieve the mosquito problem. They have also been credited with alleviating malaria and yellow fever, which are carried by mosquitos. A Gambusia is supposedly able to eat its weight in mosquitos daily.

There are two varieties of affinis: Gambusia affinis is the kind found through the Mississippi Valley and on into Mexico; G. a. holbrooki is found in Florida and on the Atlantic slope, according to Hubbs (1961), as quoted in the Atlas. There seems to be a lot of variation as to which kind is found where, however; this is complicated by the mosquito-control introductions mentioned. The holbrooki has black blotches all over its body. Female Gambusia grow to 2½-3", while males only reach 1½". The female affinis looks similar to a female Guppy, except that it has spots on the caudal fin.

Eating mosquitos is one of the only good things that can be said about this fish. They are aggressive and are not suited for community tanks. They tend to shred the fins of slower-moving fish. Gambusia will eat practically anything. Live foods and some vegetable matter should be included in their diet. They are vary tolerant of water conditions. They can also tolerate extremes of temperature, from 40° to 100°. They seem to be very resistant to disease.

Approximately two months ago, I was wandering through a tropical-fish store in Manhattan when I came upon a tank simply marked "GAMBUSIA." I immediately recognized them, but questioned the boy working in the store as to whether they were Gambusia or not. He informed me that they were not Gambusia, but a "species of Guppy." I didn't take his word for it and purchased six fish anyway. All of the fish appeared to be females, so I inquired where the males were kept. I then was misinformed that half of the fish in the tank were males, even though they all had gravid spots. So, I took my six "mixed" fish home. Over the course of the next month and a half, all of the "mixed" fish gave birth. In turn, all of the fry became food for their mothers. These fish are notorious for eating their young. So, after almost two months, I still had my original six fish and no babies. I decided to outsmart them. I had them in a five-gallon tank which I filled with

plastic plants. The fish just had a little swimming room on the bottom. The temperature was maintained at approximately 70°. I made regular water changes of 50 percent weekly and added kosher salt every other week. The fish seem to do better with the addition of salt.

One rainy day, I did a 75 percent water change using rainwater. The Gambusia were fed a prepared paste food consisting of krill, plankton, spinach, brine shrimp, and beef heart. The next morning, I found 32 babies swimming around. All of them obviously came from one female. The adults did not take any interest in the babies and consequently left them alone. I removed the babies and only lost one of them. For the first four or five days, I fed them liquid fry food several times a day. Then I started them on freeze-dried daphnia, brine shrimp, and mysis worms. Once a day, I gave them a little paste food.

The growth rate is fairly fast. They mature in about three months. Since a female is capable of producing fry once a month, there could very well be a population explosion if the babies were saved. Gambusia are similar to Guppies, mollies, and swordtails in that they can store sperm for the season. From one mating, they are capable of having eight spawnings!* Each successive group of eggs is fertilized as the group matures.

From my observations, I found the most important factors involved in spawning the affinis to be: regular water changes; a good, varied diet; and the addition of salt. It was interesting spawning this fish, since I had to outsmart them from eating their babies.

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*Responding to an editor's inquiry, the author said he believes the "capable of having eight spawnings" language results from a misinterpretation of language in Encyclopedia of Tropical Fishes possibly referring to livebearers in general. Modes of Reproduction in Fishes cites as a record for Gambusia the account of S.F. Hildebrand in 1917: six. Do any members have further information on this?

ANOTHER PROBLEM IN BREEDING GAMBUSIA

Gambusia have no problem reproducing themselves, but sometimes aquarists have problems in reproducing Gambusia. John Eccleston has kept them on several occasions, only to have gravid females throw fry with the yolk sacs still attached. The fry have died in from one to four days. Any answers? Write AMERICAN CURRENTS.