



# A Review of the Reproduction of Tiger Barb (*Puntius tetrazona*)

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## Abstract

Fish breeding and its trade is one of the most attractive and profitable sectors of aquaculture that is developing. Tiger barb fish, which is one of the most beautiful native fishes in Southeast Asia, belongs to the Cyprinidae family and has been kept in aquariums since the past until today due to its beautiful colors and is very popular among aquarium owners. Propagating this species is not very difficult and can be very profitable if the principles are followed. In this study, we will have an overview of tiger barb fish's biology and reproduction stages.

**Keywords:** Tiger barb; Breeding; Biology

## Introduction

Tiger barb fish is one of the most beautiful fish in the world and belongs to the Cyprinidae family. The reason for its name is the presence of two tentacle-like organs under the lower lip. This fish is very resistant, lively, and active, and has a very beautiful coloring. Tiger barbs have a very beautiful and calm appearance, but contrary to their appearance, they are aggressive and harm other fish, so it is recommended to keep them in groups of six or more with their species [1,2].

The habitat of this fish is in large areas of rivers in Singapore, India, Indonesia, Malaysia, and Sumatra. They like to live in a group and are happier in this state, these fish like to swim more in the middle of water and areas of rivers that are rich in oxygen and cool [3]. Tiger barbs like to swim in the middle of the water or at the bottom of the aquarium, and some species swim in the middle of the aquarium and dig up the sand [4]. One of the most ideal and best habitats for this fish is vegetation and little light. These fish eat their eggs and they need a lot of plants with broad leaves for spawning, and the parents should be kept separate from the eggs.

Since the reproduction of this fish is somewhat difficult, in this article we discussed how to reproduce them

## Social Behavior and Nutrition

This fish is somewhat aggressive and therefore it is better to keep them in groups of 6 or more to prevent them from harming the fins of other fish. It is better not to keep fish with long fins and slow swimming like beta's, guppies, and gourami's with tiger barb. They are very active and bite and eat the tails of fish such as guppies, which is why they should not be kept with long-finned fish. In addition, they cannot be kept in an aquarium with angels and cichlids. Tiger barbs are very interested in living in groups and for this purpose, they can be placed in groups of 8 to maintain their freshness [5].

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This fish accepts scaly, frozen, dry, and live foods for feeding. It is preferably mixed with fresh vegetables [6,7]. During the week, you can feed them 2 to 3 times with vegetables such as lettuce. (Put the lettuce in hot water for 1 to 2 minutes and then transfer it to the aquarium.)

## Male and Female Differences

To distinguish the sex, we consider the main species that has four wide black stripes on the body.

- Males are thinner and smaller than females.
- The color of males is brighter than females.
- In males, there is a more distinct red color in the muzzle and nose
- The female has a round and bigger belly.
- In the dorsal fin of the female, there is a distinct black color; and in the male fish, there is a distinct red stripe above the black stripe of the dorsal fin, while this redness is much less and more indistinct in the female.

## Reproduction of the Fish

For the reproduction of tiger barb or tiger barb fish, it can be useful to pay attention to the following points:

### Providing the generators

To provide offspring, we can create a group of tiger barbs with at least 6 members in the aquarium for a better life and create a group according to the characteristics we consider in choosing a good fish.

When the fish reach a length of 20 to 30 mm and reach the age of about seven weeks, they can be considered suitable for reproduction and breeding.

### Separation of sexes

According to the gender characteristics of tiger barb fish, the two sexes should be kept separately in preparation tanks to obtain the necessary conditions for reproduction. This separation is for spawning and providing special physical and mental conditions for reproduction. The acceptable concentration at this stage is one fish for every 4 liters of water.

### Preparing the generators

The reproduction of tiger barb fish occurs when the water temperature is constant between 23 and 28 degrees Celsius, and the most favorable temperature is 25 degrees Celsius. Of course, up to 32 degrees Celsius can be tolerated by fish.



It is necessary to change 20% of water daily while aerating the tank. The ration for preparation, maintenance, and production, such as brood stock, includes tubifex, artemia, high-quality full-fledged food, or desirable food, which should be rich in protein.

Daily feeding is done three times a day for two weeks.

Due to the intensive feeding of fish and the possibility of water quality degradation, it should be noted that water quality is maintained during the period.

### Water quality

The water in the spawning tank should be slightly light and its acidity should be around 6 to 7 (slightly acidic).

### Spawning tank

A warm aquarium, plants, and massive bedding for spawning are desirable items in a spawning tank.

Tiger barbs can be placed in a group to choose their mate, and in this case, the sex ratio in the herd should be one-to-one. Or consider a separate tank for a breeding pair and prepare the conditions for them, in any case, because they are eggs. The released ones eat themselves and other fishes, perhaps keeping them separately will lead to more success in fish reproduction.

It is said that after 3 to 4 days of separation, the male and female should see each other. By reducing the salinity of the water, the spawning of barb tiger fish can be stimulated, and spawning can be stimulated by removing the parents from the preparation tanks and transferring them to clean and clear waters in the spawning tank.

The light in the tiger barb fish spawning tank should be indirect or very soft, and the environmental stress and traffic should be as minimal as possible. For each pair of fish, 40 to 70 liters of water with little or no airflow is needed. The usual time for the spawning process is 2 days, and if the fish does not spawn, it can be removed from the spawning tank and replaced by another pair. The spawning tank must have a thin bed or no bed. Usually, ovulation takes place in the morning after transfer. A little change of water also helps to stimulate spawning.

### Spawning bed

It is necessary to have a substrate for spawning.

Suspended or rooted aquatic plants are suitable for spawning. You can use two cabomba plants two spawning clusters or other suitable substrates that are hand-made or ready-made to stimulate the fish to spawn and more importantly protect the eggs from being eaten by the parents.

### Final operation

Tiger Barb has fed on her eggs and must be removed from the breeding tank after mating or the eggs must be transferred. After the completion of spawning, the male and female interest in each other has decreased and this is the time when they should be separated from the eggs and each other. The female should be kept in a tank for two weeks to restore the lost powers, and then to the social tank. It can be returned Spawning takes place in the morning, when the male fish first stimulates the female fish by turning around and under her belly, and then quickly chases the female. (At this time, the lower abdominal fin of the male is retracted and sharpened.)

After a while, the female defeats the male, but the male chases the female again, and the female barb leaves 1 to 3 eggs in motion, which the male barb quickly fertilizes and chases the female again. The female continues to spawn completely. (Usually, tiger barbs lay 200 to 700 eggs in each spawning, depending on their age.)

After the completion of spawning, the parents have moved to one side of the tank without paying attention to each other, and at this time, they should be removed from the reproduction tank. After 48 hours of fertilizing the eggs, the barbs are born. They usually feed from the abdominal pouch and the remaining contents of the eggs for 4 to 5 days, and you should not feed them, but after they free swim, they can be fed with Artemia (live shrimp eggs).

After their size reaches 2.5 to 3 cm, they can be transferred to the main tank.

### Conclusion

Ornamental fish production and trade has been one of the most profitable industries in the last three decades. Due to its stubbornness and resistance, tiger barb fish can be very profitable from an economic point of view if their propagation is done correctly.

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