

Breeding of Fresh water Ornamental fishes

T.V. Anna Mercy
Professor

Why?

- We cannot always go to the wild and collect fish from their natural habitats
- One of the desirable qualities of ornamental fish
- Gives us pleasure and mental relaxation
- Ready availability

Breeding habits

- Egg scatterers
- Egg guards
- Live bearers

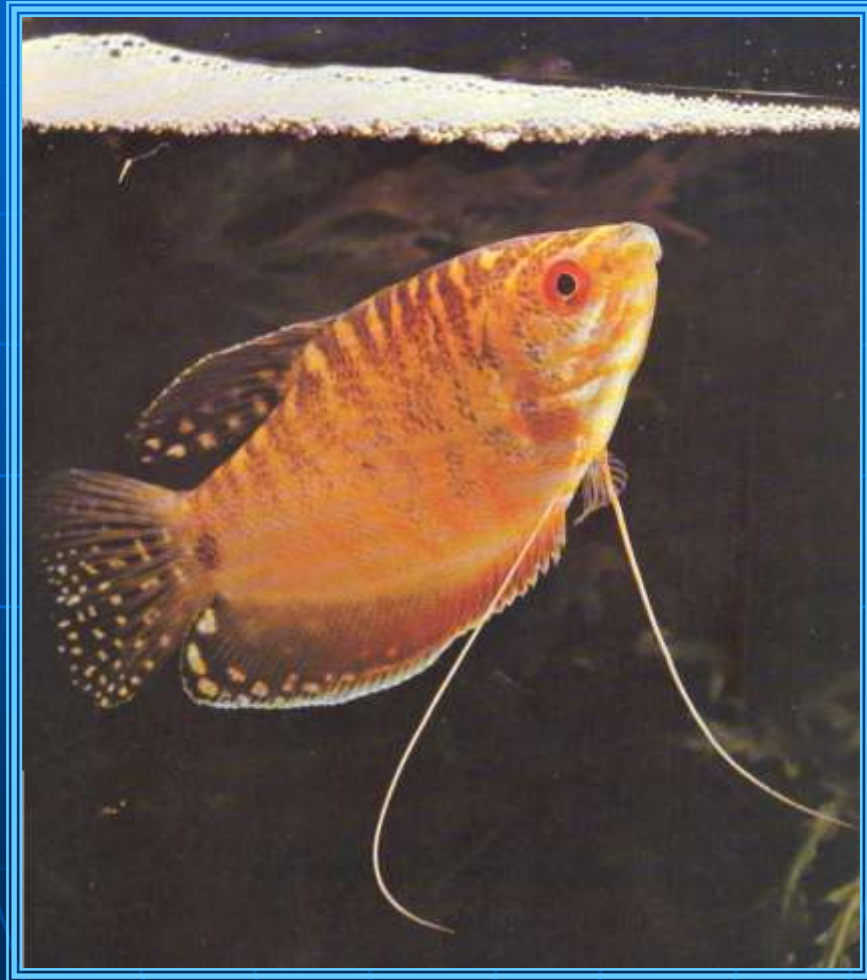
Egg scatterers

- Lays its eggs and then allows them to hatch unattended.
- The released eggs either adhere to plants or other objects or fall to the bottom.
- Most of the barbs and characins spawn in this manner. Such fishes release buoyant eggs, which float at the surface. This is characteristics of the kissing gourami *Helostoma temminskii*, Gold fish, Rosy barb.

Egg guards

- The eggs are laid on a firm object, such as a rock, plant leaf or plant stem, and are subsequently attended by one or both parents. Most of the cichlids use this method.
- The eggs are laid in hidden places and guarded. The only difference between this and the first method is that here the eggs are hidden rather than laid on an open surface. The eggs are laid in a depression and guarded.
- The eggs are placed in a nest, usually prepared in advance by the parent fish. These nests vary from the underwater structures to the floating bubble nest made by some anabantids such as *Colisa*, *Betta* and *Trichogaster* species.

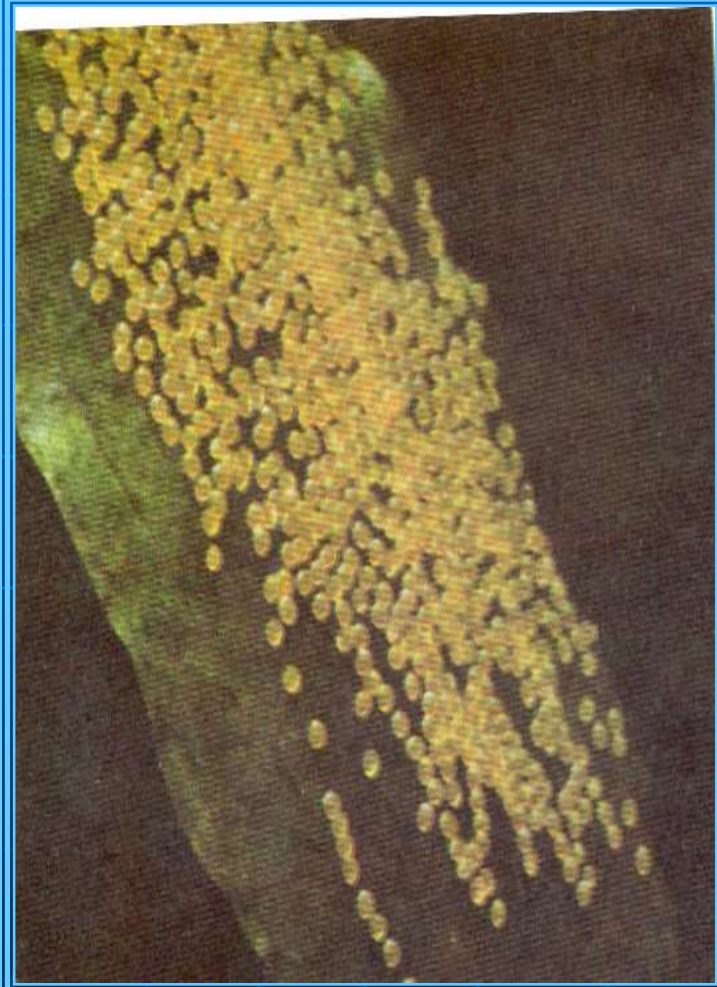
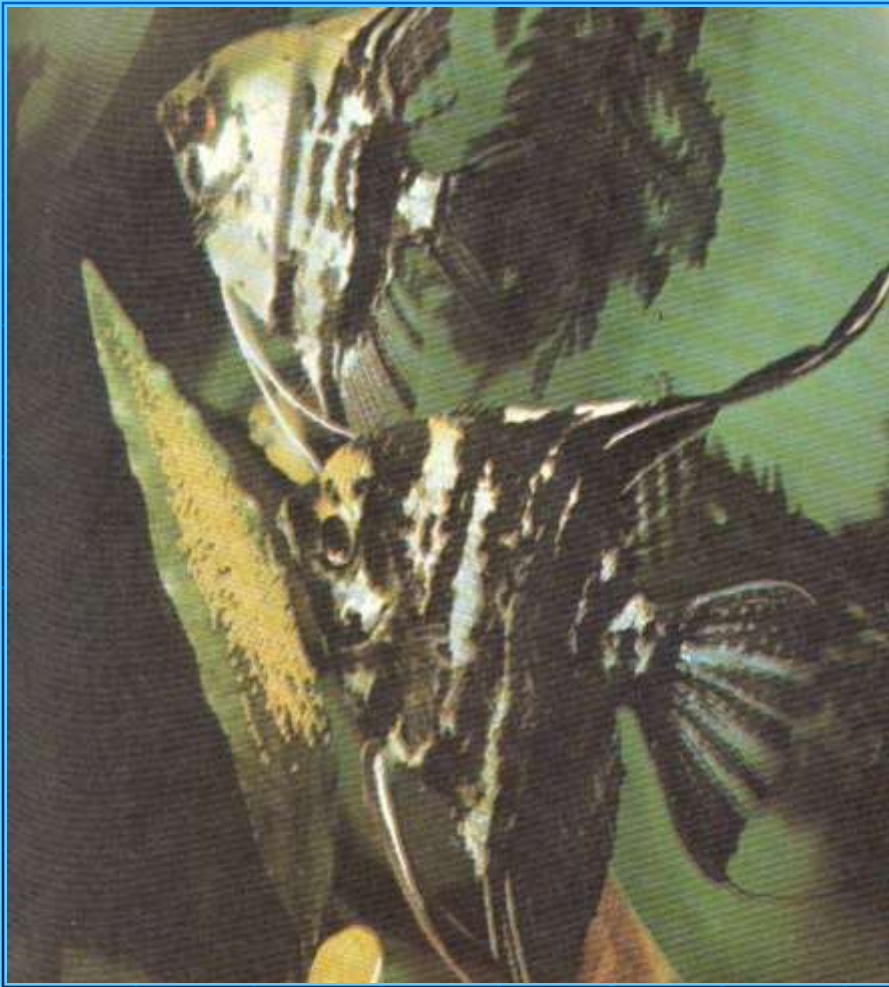
Golden gourami
Trichogaster trichopterus



Courship behaviour of golden gourami



Breeding of angel



Breeding behaviour



Live bearers

- The fish give birth to live young ones.
- The eggs develop within the body of the female.
- The fry hatch and are released as free-swimming, fully formed young.
- The popular live bearing fishes, the poecillids are of this type.

The fish breeder's ten commandments

1. Make sure they are healthy
2. Make sure they are a pair
3. Make sure they are properly conditioned
4. Make sure they have enough room
5. Make sure they have proper temperature
6. Make sure they have proper water conditions
7. Make sure they have proper lighting
8. Make sure they have a clean aquarium
9. Make sure they have proper planting
10. Make sure they have proper shelter.

1. Make sure they are healthy

- A good way to arrive at a healthy spawning pair of fish is to get about a half a dozen specimens and raise them to full size.
- This requires a bit more patience, but eliminates the possibility that your purchase might be old or past their useful breeding age.
- You may also encourage the fish to pair naturally

2. Make sure they are a pair.

- It is difficult to ascertain sex in certain cases, and practically impossible.
- Certain fishes do exhibit sexual differences and easy to select the pair, like the live bearers, gouramy, fighter, gold fish, etc.
- But still it is possible to make a mistake of identifying the sexes if you are not experienced

Rosy barb *Puntius conchonus*





Astronotus ocellatus
Oscar



Breeding pair of green severum



Black platy *Xiphophorus maculatus*



Black molly *Poecilia sphenops*



Blood red sword tail *Xiphophorus helleri*



3. Make sure they are properly conditioned.

- This means feeding generously with proper foods and assuring good health.
- It is a good practice to keep the male and female in separate aquaria while this conditioning is going on.
- Some aquarist keep the sexes together and when they are looking for a spawning pair choose a female which is well loaded with eggs and a likely male.
- The trouble with this system is that the male might have emptied himself of sperm half an hour before with another female.
- A well conditioned pair may very well begin to spawn a short time after they have been put into the breeding tank.
- This insures the ripeness of the females as well as the males and gives a control over the time spawning is to take place

4. Make sure they have enough room

- A pair of large, active fish cannot be expected to spawn in a small space.
- Many fishes exhibit elaborate courtship behavior—the male chasing the female and running behind it, which will be continued for hours.
- Always use larger tanks for breeding. The advantage of a larger tank is manifold.
- The fish do not feel cramped and have more areas for spawning to choose from.
- If the tank is heated, temperature fluctuations are not as great or as rapid in a larger tank.
- There is less chances of being eaten by the parents as the eggs are spread over a larger area.
- The fry also stand a greater chance of survival and rapid growth in larger tanks.

5. Make sure they have the proper temperature

- In their natural environment, fishes generally spawn when certain stimuli prompt them to.
- One of these stimuli is temperature.
- In tropical countries usually when the temperature is low, like monsoon time, or winter time, most of the fishes breed.
- In the aquarium we must duplicate these conditions to the best of our ability to achieve similar results.
- A partial change of water gives some of this stimulation. If the fish are in proper condition and all else is to their liking, they will spawn

6. Make sure they have the proper water conditions.

- As all the exotic ornamental fishes are coming from all corners of the world, aquarium fishes are found under all sorts of water conditions.
- What these conditions are and what should be done to approximate them is very important.

7. Make sure they have proper lighting

- The light comes in through the surface & the fish tend to congregate where there is the least amount, in the shadows, below overhanging banks or among vegetation.
- These instincts are intensified at spawning time.
- The tendency for most fishes is to seek out the darkest corner for their spawning activities.
- If an aquarium is lighted brightly, and planting is not heavy, you will find that spawning is not easily encouraged.

8. Make sure they have a clean aquarium

- A clean aquarium is a healthy aquarium.
- Give a thorough cleaning before the tank is set for breeding.
- Or the newly hatched fish will have to struggle for existence from parasites or snails etc.

9. Make sure they have the proper planting

- Plants or plant substitutes are indispensable in almost every breeding tank.
- Many egg layers deposit their eggs in finely leaved plants, while others attach them to the surface of broad-leaved plants.
- Some use leaves as part of their bubble nest.
- Plants also serve as a refuge for newly born live bearing fishes, protecting from the voracity of their own parents.
- Many aquarists have replaced spawning plants with other media.
- The advantage is that it can be used again and again and may be removed to another container where the eggs will hatch.
- After use it can be sterilized by boiling.

10. Make sure they have the proper shelter.

- Plant shelter is not the only shelter, which must be considered.
- Some fishes require rocks or pebbles as well.
- Some prefer the confines of a small cave for their spawning activity.
- Many species of fishes not only use rocks in spawning but seek protection among them when being pursued

Carassius auratus





Thank you