CICHLIDS

There are over 160 genera and more than 900 species of Cichlids [photos], with newly discovered species reported on a regular basis. This group offers a huge diversity of color, behavior, size, and body shape. Cichlids are widespread throughout the world, including Africa, South America, Asia, Central America, and even North America. All these Cichlids come from only one family, Cichlidae, and thus are separated in this book by the geographical area from which they are found. Most Cichlids kept in captivity come from the Great African Rift Lakes, Lake Malawi or Lake Tanganyika; various African rivers, the Amazon Basin in South America, or Central America.

SOCIAL BEHAVIOR

The Cichlid Family includes a huge, diverse group of fish. Thus, it is difficult to make generalizations about this family. However, it is safe to say that many cichlids have a tendency towards aggressive behavior. This conduct can be attributed to cichlids' highly developed brood care. Other cichlids are shoaling fish which are best kept in groups.

PAIRING

Several different types of bonds are formed between male and female cichlids. These include:

· Monogamy-The female and the male remain together after spawning.

· Polygyny- The male stays together with several females

· Polyandry- The female bonds with several males. This form of pairing is rare.

· Agamy- No lasting bond is formed between the pair. They separate right after spawning.

BROOD CARE

Cichlids take care of their young in several different ways. Six "family" forms are common among cichlid parents.

1. Nuclear or Parental Family: Both parents equally share the duties of caring for the young. Nuclear families are usually formed by monogamous, open-water brooders, although exceptions are common. It is generally very difficult to distinguish between the sexes.

2. Matriarch/Patriarch Family: The female watches over the brood, while the male defends the territory. When the fry become free-swimming, the parents bear the tasks of parenthood equally. This family form is usually formed by monogamous, open-water brooders. Sexual dimorphism and dichromatism is common.

3. Patriarch/Matriarch or Male-with-Harem Family: The male defends a large territory, which includes multiple spawning sites of several females. Each

female assumes the responsibility of her own brood. The male is polygamous, and clear sexual dimorphism is present. This form takes place among cavity brooders.

4. Matriarch Family: No bond is formed between the pair. The female cares and guards the eggs and the fry. In this family pattern, the fish are agamous, and usually the female is an ovophile mouthbrooder.

5. Patriarch Family: As with the Matriarch Family, no bond is formed between the parents. The male carries the eggs and the fry. No sexual dimorphism or dichromatism can be found. Only one mouthbrooder forms a true patriarch family*, Sarotherodon melanotherow*.

6. Extended Family: The parents as well as the offspring of previous spawning care for the young. Extended Families are formed by cavity brooders of Lake Tanganyika, including the fish belonging to the genera *Julidochromis* and *Neolamprologus*.

BREEDING

Cichlids have highly developed brood care and reproductive behavior. Nearly all Cichlids lay their eggs on some substrate, whether it be rocks, plants, or sand. Cichlids are now characterized into two breeding groups; Open and Shelter Brooders.

· Open brooders lay eggs on an open surface, such as rocks, sand, and plants. The eggs can number as high as 10,000 from one laying. These eggs are usually small and clump together. Clear sexual dimorphism and dichromatism is usually evident. Examples of open water brooders include *Pterophyllum, Symphysodon*, and most species of *Cichlasoma*.

· Shelter brooders can be divided up into two groups. Cavity brooders and mouth brooders. In general, shelter brooders lay substantially less eggs, usually not more than 300, and have larger more colorful eggs. These fish are easier to sex because males are larger and more colorful.

· Cavity brooders lay their eggs in caves. The parents participate in brood care and may become aggressive towards other fish while caring for the eggs and the fry. Examples of cavity brooders inclu*de Apistogram*m*a, Julidochro*mis, *Neolamprologu*s, and *Pelvicachrom*is.

· Mouth-brooders are fish that, at some point during brood care, will take their eggs or the fry into their mouths. Mouth-brooders are divided up into two further categories depending on when the parents take the eggs/fry are taken into the mouth.

Ovophile or "egg-loving" mouth-brooders - The male makes a pit in his territory, where the eggs are laid. The eggs are sucked up into the female's mouth usually, but occasionally, during spawning. After hatching the fry remain in the safety of the mother's mouth until they can fend for themselves. The male, of some of these species, often has colorful, oval-shaped marks on its anal fin. These spots serve an

important role in the fertilization of the eggs and are known as egg spots or egg dummies. After the female has laid her eggs and sucks them into her mouth. She sees the eggs spots on the males, and thinking they were eggs she missed, will try to suck them up. At this moment the male releases sperm which the female sucks up into her mouth, thus fertilizing the eggs. Examples of Ovophile mouthbrooders include*; Aulonoc*ar*a, Haplochro*mis, an*d Pseudotroph*eus.

Larvophile or "larvae-loving" mouth-brooders lay their eggs on a substrate. After the eggs hatch, the female picks up the fry and keeps them in her mouth. Sometimes the parental protection stops after the fry are released from the mouth. Examples of Larvophile mouth-brooders are *Geophagu*s and *Sarotherodo*n.

DUMMY-EGG SPOTS

Many cichlids, especially those of Lake Malawi, have colored patches on the anal fin which serve to aid spawning. These patches are known as egg-spots, dummy eggs, egg dummies, or false egg spots. These spots are especially important in the fertilization of the real eggs. When the female takes the real eggs into her mouth, the male spreads his anal fin, displaying his egg spots. The female sees these and sucks at them assuming that they are real eggs. At that moment the male releases sperm, which the female sucks into her mouth, thus fertilizing the eggs.

FEEDING:

Since there is such a variety of cichlid species, cichlids have a wide range of feeding habits. However most cichlids have an enormous appetite and are easily fed.

· Omnivorous cichlids make up the greatest majority of cichlids. In nature, these fish feed mostly on insects, crustaceans, and worms, but at times also eat plants. Thus in aquaria these species should be offered a mixed diet of live foods, flakes foods, and plant or vegetable matter. Examples of omnivorous cichlids include Cichlasomines, many West African species, Angelfish, and *Heros* species.

· Carnivorous cichlids are predatory species which are specialized for eating other fish. Generally these species will eat small tank mates, although not fish of a similar size. In aquaria, carnivorous cichlids can be fed live fish, worms, insects, insect larvae, and crustaceans, but also some will accept pellets, tablets, and large flakes. Examples of carnivorous cichlids are many Haplochromines, Pike Cichlids (genus *Crenicichla*), and *Cyphotilapia* species.

· Herbivorous cichlids are species that prefer to feed on plant matter. These fish will eat live aquarium plants. In aquaria, herbivorous cichlids feed on plant-based flake and pellet foods, plants, and vegetables. Some species will also feed on live foods. Examples of herbivorous cichlids include some *Tilapia* species.

· Some species of herbivorous cichlids feed on the thick algae that grows on rocks. Living in the algae are micro-organisms and crustaceans known as Aufwuchs. Types

of cichlids that consume the algae and the Aufwuchs living within include Lake Malawi Mbunas and Lake Tanganyika *Tropheus.*

African Cichlids

- **LAKE MALAWI**
- Mbuna Cichlids
- Peacock Cichlids
- Other Malawi Cichlids
- **LAKE TANGANYIKA**
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- **MISC AFRICAN CICHLIDS**

American Cichlids

- **CENTRAL AMERICA**
- Cichlasoma Cichlids
- **SOUTH AMERICA**
- Acaras
- Apistogramma/Dwarf Cichlids
- Angelfish
- Discus
- Eartheaters
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Asian Cichlids

- **ASIAN CICHLIDS**