



Angelfish



Green terror



Frontosa cichlid

COMPREHENDING THE INTELLIGENT CICHLIDS

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CICHLID fishes belonging to the family Cichlidae, order Cichliformes, are considered highly intelligent. These freshwater fishes are occasionally found in brackish water. Distribution covers Central and South America, the West Indies, Africa, Madagascar, Israel, Syria, coastal India, and Sri Lanka. Cichlidae is one of the most species-rich families in freshwaters worldwide. The number of species currently recognised under this family is 1762. Endemic cichlids make up most of the fish fauna in the three African lakes that contain the most species of fish of any lake in the world, namely Lake Malawi, Lake Victoria, and Lake Tanganyika.

Culum Brown from Macquarie University (2004) states, “Fish are more intelligent than they appear. In many areas, such as memory, their cognitive powers match or exceed those of higher vertebrates, including non-human primates”.

There are a few criteria that scientists use to measure the intelligence of fish. These include problem-solving abilities, social behaviour, learning and memory, and the ability to adapt to changing environments. Cichlids score high in these areas, so they are considered among the most intelligent fish. Performance showing the intelligence of these fishes are:

- Cichlids can learn from the environment and adapt themselves accordingly. They have comparatively large brains compared to other fish and can perform complex behaviours. Cichlids are also known for their ability to learn and remember complex tasks.
- They have been observed to use tools.
- They can recognise their owners and are able to perform tricks to fulfil their objectives.
- Studies showed that a cichlid fish shares with some higher vertebrates the ability to use transitive inference, i.e. the ability to conclude that if $A > B$ and $B > C$, then $A > C$. A model system based on comparing cichlids in African rift lakes showed that brains and cognition have been shaped by both the physical and social environment.
- According to an experiment conducted on the cichlid fish, *Simochromis pleurospilus*, subjected to an environmental change in the form of a change in food ration early in life, the cognitive abilities of the fish were enhanced later in life.
- Males of many mouth-brooding cichlids of Lake Malawi and Lake Tanganyika build sand cones with flattened or