

Introducing the Tilapias

The tilapias are a group of African, freshwater herbivorous fish that care for their young. Their name is derived from an African Bushman word simply meaning fish. There are about 70 species, most of them native to western rivers of Africa. Their herbivorous diet, depending on the species, ranges from coarse vegetation, such as grasses and leaves of water weeds, to unicellular algae and bacteria. Parental care is a very strong feature. Some tilapia species make nests and guard the young fiercely; the other species are mouthbrooders—the young are kept in the large mouth of one or other parent. Mouthbrooding species produce up to 1,000 young per spawning, while some nesting species may produce 7,000 young.

The taxonomy of tilapias is a little confusing. Originally, *Tilapia* covered all the well-known species. In recent years, taxonomists divided them into mouthbrooders (*Sarotherodon* species) and nesters (*Tilapia* species). Most of the cultured species officially became *Sarotherodon*. In a new authoritative review by Dr. Ethelwynn Trewavas of the British Museum, most species of the tilapia group are divided into three genera: *Tilapia*, *Sarotherodon* and *Oreochromis*. The last mentioned genus now includes most of the important cultured species. (See ICLARM Newsletter, January 1982, p. 19.)

Tilapia mossambica (now more correctly *Oreochromis mossambicus*) was the first species to become widely known outside Africa. It was introduced into Southeast Asia in the 1930s and has since spread to the Americas and Europe, as well as throughout Asia and the south Pacific. Other tilapia species have also been distributed internationally and generally established.

O. mossambicus proved to be a pest in many countries of introduction since this species tends to overpopulate ponds and produce “stunted” individuals. Other, better growing and better looking species and hybrids have, in recent years, taken the place of *O. mossambicus*. Most favored is *O. niloticus*, the Nile tilapia, but other species are gaining recognition for special situations, for example, blue tilapia (*O. aureus*) for colder waters and *O. spilurus* for saline waters. Red tilapia hybrids first produced in Taiwan, are providing a “third generation” of tilapias, combining favored colors with the other desirable features of tilapias for aquaculture—quick growing; few bones; tasty flesh; good market acceptance; ease of reproduction; and of course, adaptability to a very wide range of environmental conditions.

Methods of dealing with the excessive reproduction of tilapias in ponds have also become common. They include

monosex culture by manually sorting the young or by interspecific hybridization to produce all-male offspring (males grow faster than females). Limited success is also achieved by controlled stocking of predators, but the use of hormones to manipulate the sex of young tilapia is now becoming the most successful method of recruitment control (see article, p. 4).

Research programs on aspects of tilapia culture are underway in major centers, for example at the University of Stirling, Scotland, the International Center for Aquaculture of Auburn University, Alabama, the Asian Institute of Technology, Bangkok and ICLARM.

The quantities of tilapia now being produced through aquaculture are growing rapidly. An indication of worldwide interest can be gauged by the attendance of scientists from 47 countries at the International Symposium on Tilapia in Aquaculture in Israel in May 1983. Articles in this issue document the situation in two countries, Taiwan and the Philippines, which together produce over 100,000 tonnes/year. There is no doubt that the trend will continue. Tilapias are well on the way to becoming the aquatic version of the chicken. ●



From Kuwait (market, left) to Sri Lanka (harvesting, center) to Taiwan (harvesting, right), tilapia culture is spreading rapidly.