Tilapia Fact Sheet

Genus, species: Oreochromis spp. (Gunther 1889), Sarotherodon spp.(Rupper 1852), Tilapia spp. (Smith 1840) (ISSG 2006))

Common Names: Tilapia (with a lower case "t" refers to all three species), boulti, freshwater snapper, mojara, ngege, St. Peter's fish (ISSG 2006).

Taxonomic Synonyms: Oreochromis spp., Sarotherodon spp., and Tilapia spp. inlcude roughly 70 species (ISSG 2006)



Photo credit: MIT Sea Grant College Program.

Tilapia are an economically important food fish that have the potential to outcompete native species in tropical environments across much of the southeastern United States. The species, blue tilapia, is the most abundant invasive fish species in the southeastern United States. They are successful aquaculture fish because they are hardy and easy to grow, white-fleshed, mild-flavored, and appeal to the palate of consumers.

Life History: Similar to the grass carp, most tilapia species are herbivores that have the potential to alter aquatic plant populations and ecosystems. Tilapia are mouth brooders, which means eggs hatch in the mouth of the female, and the female protects the hatched young from predators in her mouth (GSMFC 2003).

Means and Time of Introduction: From the 1980s, tilapia were introduced as aquaculture species that are often farmed in cages in open bodies of water. The fish can escape if the cage becomes damaged due to environmental forcing, such as hurricanes, storms, or human actions. Throughout the world, documented cases of tilapia introductions are frequently due to both release and escape (ISSG 2006). Blue tilapia (*Oreochrmomis aureus*) were introduced to Gulf states for weed control, in other cases it

was for weed and insect control. They also have been released from aquariums and fish farms (GSMFC 2003).

Origin: Tilapia is originally from the Middle East and Africa (ISSG 2006).

North American Distribution: Blue Tilapia (*Oreochromis aureus*) can be found in Florida, Alabama, and Texas, although Alabama winters often do not allow survival of most populations (GSMFC 2003). Other tilapia species, many of which formed hybrids, are established in southern California irrigation ditches where they were introduced to control aquatic macrophytes.

Habitat: Tilapia can be found in lakes, wetlands, marine habitats, water courses, estuaries, and marine environments. They prefer tropical environments with water temperatures in the 25-30 °C range. Some species can tolerate cold temperatures down to the point of 8 or 9 °C. Sensitivity to salinity also varies greatly between species; some species can fully tolerate seawater (ISSG 2006). Some species have been shown to tolerate salinities above 45 psu, but they may not reproduce at those salinities (GSMFC 2003).

Ecological Impacts: Blue tilapia have become the most abundant invasive fish species in the Gulf states. Tilapia often compete with native species for the same type of food, and can therefore cause declines in native populations (GSMFC 2003). Tilapia that have escaped from aquaculture facilities may interbreed and form hybrids (Costa-Pierce 2003). Some species such as the Mozambique tilapia (*Oreochromis mossambicus*) have outcompeted native fish species and preyed on native larval fish in areas where it was introduced.

Economic Impacts: Tilapia may compete with native fish for nesting space or food and thus have the potential to negatively impact native populations in warm environments (GSMFC 2003).

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http://www.issg.org/database/species/ecology.asp?si=813&fr=1&sts=sss</u>. Last accessed: 15 May 2006.

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GSMFCc. Fact Sheet for *Oreochromis mossambicus*. Gulf States Marine Fisheries Commission. 3 August 2005. <u>http://nis.gsmfc.org/nis_factsheet.php?toc_id=195</u>. Last accessed: 15 May 2006.

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