

## *Gambusia affinis* (Baird and Girard, 1853)

*Gambusia affinis* is a small fish native to the fresh waters of the eastern and southern United States. It has become a pest in many waterways around the world following initial introductions early last century as a biological control agent for mosquitoes. In general, it is considered to be no more effective than native predators of mosquitoes.

The highly predatory mosquito fish eats the eggs of economically desirable fish and preys on and endangers rare indigenous fish and invertebrate species. Selective predation by mosquito fish has also been shown to alter zooplankton, insect and crustacean communities. Mosquito fish are potential hosts of helminth parasites, which have been transmitted to native fishes.

Recent work has found mosquito fish are likely responsible for the decline of the 'Vulnerable (VU)' dwarf inanga (*Galaxias gracilis*) in New Zealand's Northland dune lakes.

Several studies have shown that introduced mosquito fish impact negatively on native species, Nico and Fuller (2005) catalogue these impacts. Specific examples of their negative effects include a habitat shift and a reduction in numbers of the 'Vulnerable (VU)' Railroad Valley springfish (*Crenichthys baileyi*) in springs in Nevada and the local elimination of the 'Near Threatened (NT)' Sonoran topminnow (*Poeciliopsis occidentalis*) in Arizona. Western mosquito fish use the same habitat as the plains topminnow *Fundulus sciadicus* and have displaced these topminnows and other species with their aggressive behavior. The mosquito fish is also responsible for the elimination of the 'Vulnerable (VU)' least chub (*Notichthys phlegethontis*) in several areas of Utah.

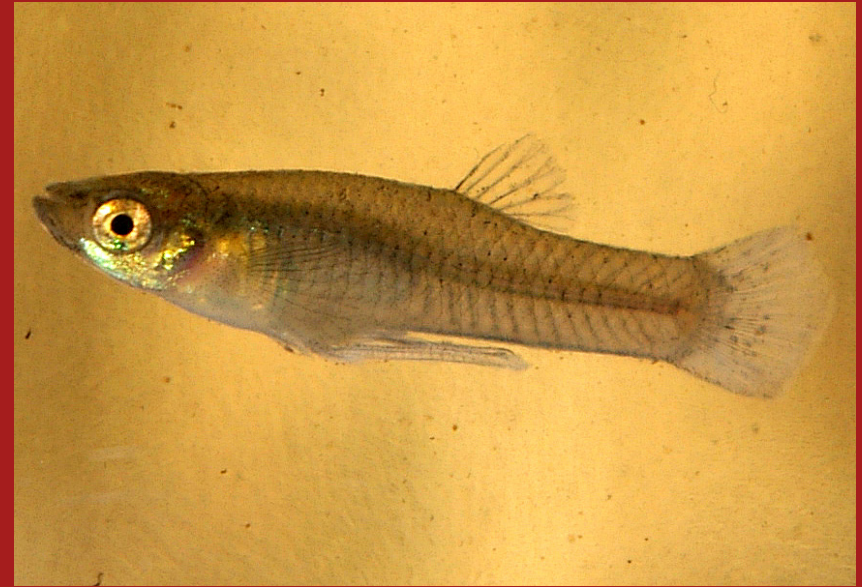


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Mosquito fish, and other introduced poeciliids, have been implicated in the decline of native damselflies *Megalagrion* spp. including the 'Vulnerable (VU)' (*Megalagrion oahuense*) on Oahu, Hawaii. Often the distributions of the damselflies and introduced fishes were found to be mutually exclusive, probably resulting from predation of the fish on the insects.

Mosquito fish are difficult to eliminate once established, so the best way to reduce their effects is to control their further spread. One of the main avenues of spread is continued, intentional release by mosquito-control agencies.

### References:

Global Invasive Species Database (GISD) 2012. Species profile: *Gambusia affinis* (Baird and Girard, 1853)

Nico, Leo and Pam Fuller, 2005. *Gambusia affinis*. Nonindigenous Aquatic Species Database, Gainesville, FL



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