

Special Report on the exotic mosquitofish, *Gambusia holbrooki* – August 2001

First record of the exotic mosquitofish, *Gambusia holbrooki* (Girard), in the Tamar Estuary, northern Tasmania

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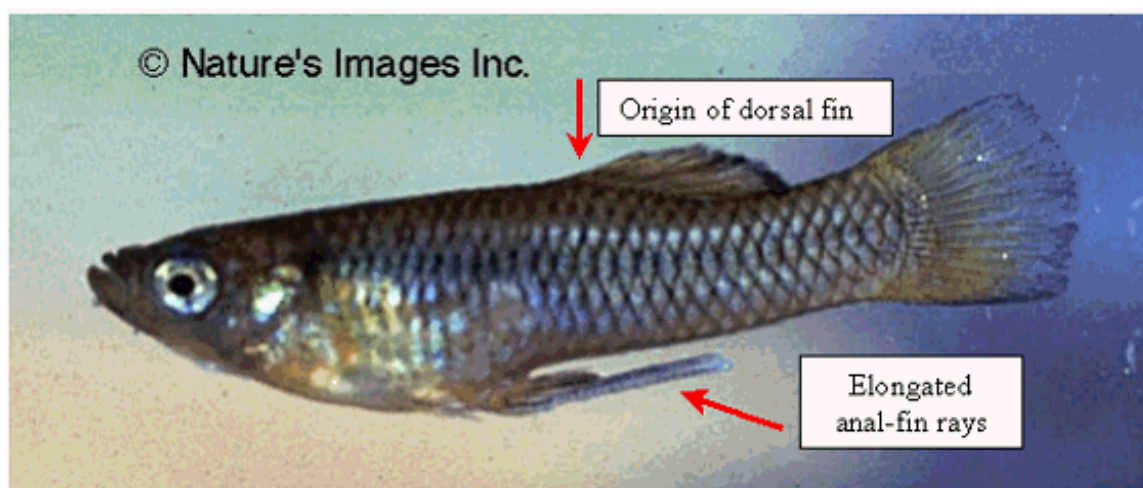


Figure 1. Male *Gambusia holbrooki*.

This report documents the highly significant finding of three live specimens of the eastern mosquitofish, *Gambusia holbrooki* (Girard), in the upper reaches of the Tamar Estuary, in northern Tasmania. This appears to be the first record of this exotic pest species in Tasmania. The finding is of great concern due to the potentially irreversible damage that they may cause to Tasmania's native freshwater aquatic fauna. The specimens, one male and two females, were dip-netted by AMC Masters student Ms Ruth Mollison from waters off Tamar Island, near Launceston, in November 2000. All specimens were fixed in 5% formaldehyde. The finding of these specimens resulted from the water quality monitoring that Ms Mollison undertakes routinely for Launceston Waterwatch.

A male specimen was given to Dr Francisco J. Neira for identification. Dr Neira was able to positively identify the specimen as that of the eastern mosquitofish *Gambusia holbrooki* (Girard), from the family Poeciliidae. The identification was confirmed with information provided by R. McDowall (1996; *Freshwater Fishes of South-Eastern Australia*). According to McDowall (1996), this species was formerly referred to as *G. affinis*.

The male specimen measured 18.7 mm SL. Main diagnostic features of this specimen are the distinctly elongate and thick anterior anal-fin rays, with small hooks at the tip (gonopodium), and

a single dorsal fin with 7 soft rays which originates well behind the origin of the anal fin. Both characters are unique for this species amongst Australian fishes (Figure 1).

Given that the species is a livebearer, ie. they are able to produce live young instead of releasing eggs directly into the water column, this finding generate major issues concerning the spread of this exotic pest freshwater fish throughout the estuary and surrounding inland water areas. The species can tolerate a wide range of salinities and temperatures (McDowall, 1996).

Initial research on this pest species should focus primarily on their abundance, distribution and feeding before any eradication program can be implemented. In addition, research is also required on the possible source of introduction of this species to Tasmania, and on the potential impact on galaxiids and other native fish species. As research provider, the AMC will be participating in collaborative research with scientists from the Tasmania's Inland Fisheries Service and the Department of Primary Industry, Water and Environment.

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