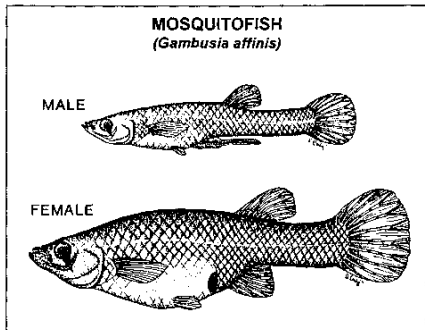


## Mosquito Fish (*Gambusia affinis*)

These fish are in the same family as guppies. Native Range: Atlantic and Gulf Slope drainages from southern New Jersey to Mexico; Mississippi River basin from central Indiana and Illinois south to Gulf. Mosquito fish do not lay eggs, they give birth to well-developed active young, and



therefore they do not require special habitat. Both sexes are colorless, and the female is bigger than the male both in length and girth. Males 0.5 – 2.0 inches, females 1-3 inches. The male has a modified anal-fin (bottom) for sperm transfer. In the summer, broods may be produced every 3 weeks of up to 300 young/female. Their mouth is located on the surface (superior) and they eat almost anything smaller than they are (plants and animals). They prefer water 60-80 °F but can survive 33-100 °F with a pH of 7-8. At low temperatures they move to deeper water near the mud and become inactive. Mosquito fish have a large tolerance to unfavorable water conditions including low oxygen, saline, and pollutants. Mosquito fish occupy the shallow shore edge. In captivity they live 1-3 years.

### Good

- ✓ Require no feeding and low/no maintenance
- ✓ Opportunistic feeders, large appetite - one female can eat 100's of mosquito larvae per day.
- ✓ One female produces 3-4 broods of 40-300 young.
- ✓ California Fish & Game has a regional policy allowing the establishment of these fish for mosquito control.
- ✓ They are a good effective alternative to chemical control. i.e. Biological vector control.

### Bad

- ✗ Introduced species
- ✗ Eat desirable insect and amphibian larvae.
- ✗ May out-compete native species of fish

### **Other ways to consider for mosquito/vector control**

- Encourage and celebrate bats in your neighborhood - one little brown bat can eat 1200 mosquitoes in one hour.
- Consider building a bat house (plans available at office).
- Wear repellents and protective clothing.
- *Bacillus thuringiensis* ss. *israelensis* is a bacteria applied to the water, ingested by and toxic specifically to mosquitos and blackflies. More information can be requested from this office or at the following websites- <http://ace.orst.edu/info/npic/factsheets/BTgen.pdf> and [http://www.hc-sc.gc.ca/pmra-arla/english/pdf/fact/fs\\_bti-e.pdf](http://www.hc-sc.gc.ca/pmra-arla/english/pdf/fact/fs_bti-e.pdf)

### **How to add mosquito fish to your pond**

Place the container or bag of fish at the pond's edge (if possible), to allow the water temperature to equilibrate. Add a cupful of the water from the pond into the fish's container. Let them sit in this for 10-15 min. Do again if time allows. Release the fish near the shore gently and preferably near some form of cover (undercut bank, roots, or vegetation).

### **Stocking Rates**

<b>Very Large 1 + Acres</b>	<b>Big ½ ac. +</b>	<b>Average ¼ ac.</b>	<b>Small 1/16 ac. (50'x50')</b>
100 + fish	40-50 fish	30 fish	20 fish

**Conservation Services**  
**113 Presley Way, Ste. 1**  
**Grass Valley, CA 95945**  
**(530) 272-3417**



 **NRCS** Natural Resources  
 Conservation Service



Female mosquitoes only take a blood meal!



Culex mosquito larvae

<b>Checklist of Possible Mosquito Sources Around the Home</b>	
<b>Mosquito Source</b>	<b>What to Do to Reduce Mosquitoes</b>
Ponds	Stock pond with fish or use <i>Bacillus thuringiensis</i> subsp. <i>Israelensis</i> - Mosquito Dunks. Remove excess vegetation.
Swimming Pools	Keep water off pool cover. Maintain water quality at all times.
Tree Holes	Fill hole with sand or mortar.
Plastic Pools	Drain water when not in use, or cover so mosquitoes cannot lay eggs.
Containers	Empty water. Store in an inverted position. Dispose. Cover so mosquitoes cannot lay eggs.
Bird Baths	Change water at least once a week.
Standing Water	Eliminate by draining. Fill in low areas.
Watering Troughs	Stock with fish, or change water weekly.
Cooler Drains	Prevent water from standing.
Street Gutter or Catch Basins	Keep litter and garden debris out of gutter. Do not over water yard.
Cesspool or Septic Tanks	Seal and cover opening so mosquitoes cannot lay eggs.
Roof Gutters	Clean once a year to remove debris.
Irrigated Lawns or Fields	Avoid over irrigation. Drain standing water.
*Adapted from the Sacramento/Yolo Mosquito & Vector Control District	