

# Langerhans Lab Protocols

NC STATE UNIVERSITY

## Live Fish Care:

### Feeding:

*Gambusia* sp.

Adults get staple diet of Hikari freeze-dried blood worms and TetraMin Crisps twice per day (or more), but compliment with Hikari *Daphnia* for one feeding on Mondays and Fridays; crumble food as necessary in fingers; feed only what they can eat in 5 minutes, usually a *very* small pinch.

Juveniles are fed newly hatched brine shrimp—can use frozen cubes or hatch in lab from shell-free eggs.

Swordtails

Small pinch of TetraMin tropical crisps twice per day; a few flakes per fish per feeding is plenty.

Bigmouth Sleepers

Captain Bill's: Live meal worms twice per day.

Stalactite: Live meal worms twice per day; supplement with live *G. holbrooki*.

### Acquiring *Gambusia* offspring:

Move 1 or 2 males into a tank of females for breeding; do not let males outnumber females.

\*Stalactite males are particularly aggressive toward females.

\*Do not place males with females >2x their size. They might be eaten!

When females are noticeably pregnant, move into breeding baskets until they give birth.

### Abiotic monitoring:

Temperature- keep around 25-26°C

DO- keep around > 5 mg/L if possible; fish begin gulping at surface when deprived of O<sub>2</sub>

pH- keep around 7.8-8.0

Salinity- keep around 1.5-2 ppt for general rearing of freshwater *Gambusia*

Ammonia- keep as low as possible; becomes more toxic at high temperature & high pH

Nitrite- keep as low as possible; toxic at very low levels

Nitrate- toxic above 120mg/L

### Treating sick fish:

Malachite green (Rid-Ich)- remove from recirculating system during treatment and aerate; ~1mL/tank (0.4-0.6mL/gal) for 1-1.5 hours

Isolate individuals with fungal growth to avoid spread (treat with Fungus Eliminator when fungus apparent)