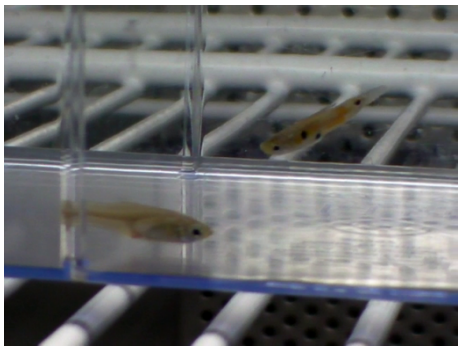
Effect of fishing on reproductive behaviour

Selective removal of bigger fish leads to life history changes in the population. Are those changes in size also affecting the reproductive strategy of males?



Fishing is intentionally selective: fishermen want to capture fish that are most profitable for their business, and fisheries managers typically set minimum size and gear limitations that aim to reduce catches of "under-sized" fish. By trying to maximize catching fish with "desirable" characteristics, fisheries are at the same time minimizing chances that these fish pass their genes to next generations – a praxis that any animal breeder would find odd and counterproductive. In addition to direct selection on life-history traits, fishing can directly or indirectly select on behavioural and other traits.

In connection with our project on experimental evolution in guppies (read more http://www.uib.no/en/rg/evofish/53201/experimental-evolution-guppies and http://www.uib.no/persons/Beatriz.Diaz-Pauli#prosjekt), we want to assess whether size-selective fishing affects guppy-mating strategy (courtship or sneak copulation):

Objective: Look for size-related differences in reproductive behaviour and reproductive success in male guppies (*Poecilia reticulata*) in differentially-selected populations.

Hypothesis: We predict that reproductive success of male guppies increase with their body size.

Methods: Mature male guppies from our experimental populations will be exposed to two experimental setups testing how their reproductive success depends on their size. Male guppies are confronted with virgin female guppies both individually and in groups.

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References:

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