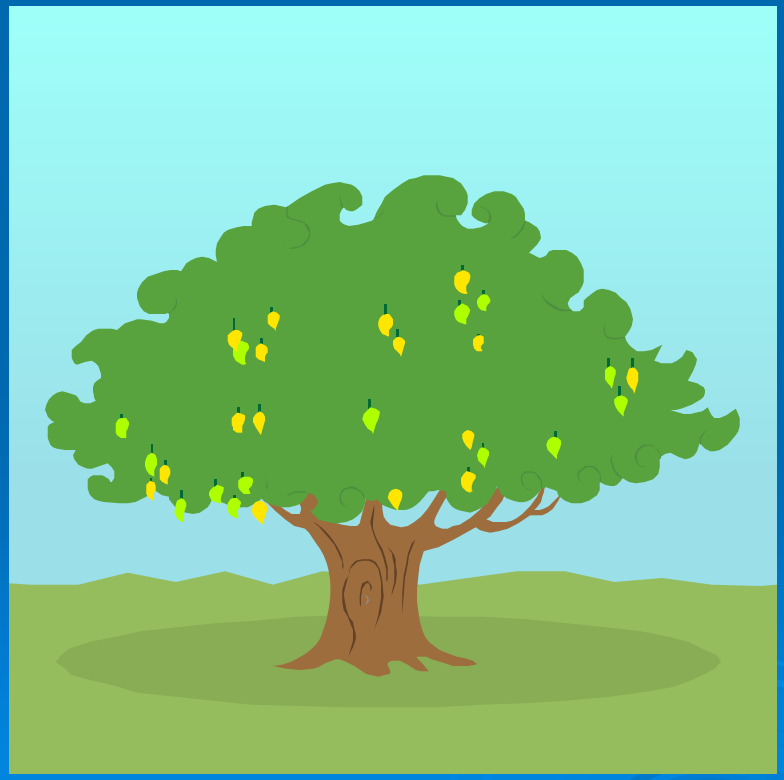
Mangrove rivulus

By: Jessica Toporek

What is it?

It’s a Fish Outta Water!!

And living happily in a tree



Description

- About 2 inches long
- Elongate, slender, dorso-ventrally flattened body with a rounded caudal fin
- Dark spot surrounded by a yellow ring on the side of the caudal peduncle (part just ahead of upper part of caudal fin base)

Location

The *mangrove rivulus* likes to hang out in the shallow and muddy mangrove swamps (hence its name) of Florida and Central America.

But sometimes the water levels get too low, and that's where *adaptation* comes in.

Cool Trick

- When the water levels get too low, the fish flops out of the water and into a tree.
- To survive by breathing air, they're able to change their metabolism so their gills retain water and nutrients and nitrogen waste is excreted through their skin.
- It can survive out of water up to 60 days!!

Dinner Time

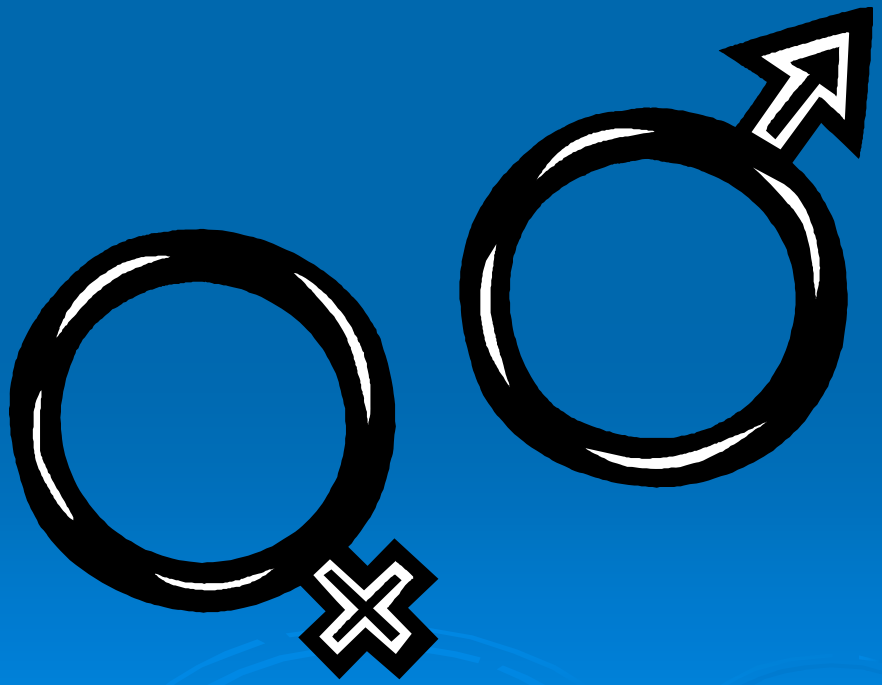
- Carnivorous and opportunist feeder fish
- Eats terrestrial and aquatic invertebrates including: ants, flying insects, polychaete worms, gastropods, mollusks, and mosquitoes

- Resorts to cannibalism when food is scarce

Reproduction

- *Mangrove rivulus's* are . . .

  Hermaphrodites !!



Reproduction cont.

- Born either male or hermaphrodite (females do not seem to exist)
- Only about 5% of a population are born as males
- After 3 or 4 years about 60% of the (self-fertilizing) hermaphrodites transform into secondary males by losing their female structure and function
- It is the only known naturally occurring, self-fertilizing vertebrate

Predators

- Other fish
- Wood storks
- The Atlantic saltmarsh snake (which is often found in crab burrows containing mangrove rivulus)
- Humans

Human-*Mangrove Rivulus* Relationship

- Because of its genetic homozygosity and easy maintenance in captivity, scientists like to subject it to toxicological and genetic research.

- But, mostly, we just like to destroy its home.

The Human Threat

- The main threat to the survival of the *mangrove rivulus* is habitat degradation and destruction as well as exposure to pollutants.
- Disturbances that alter salinity and temperature as well as vegetation cover may also reduce naturally occurring populations of the *mangrove rivulus.*

Conservation

- Once listed as a threatened species in the Gulf of Mexico
- Downlisted in Florida to a species of special concern
- In 1999, the *mangrove rivulus* was submitted by the National Marine Fisheries Service as a candidate for protection under the Endangered Species Act, but it did not make the list
- Currently considered a species of "Lower Risk/Least Concern" by the World Conservation Union (IUCN) although this classification was made in 1996 and is noted as "out of date"

Bibliography

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