

Amia calva

The Bowfin



The Lone Ranger of the Amiidea Family

- The Bowfin is the only species of the Bowfin family that is extant.
- The bowfin is said to be a “Living Fossil”, with relatives that lived 100 million years ago with the dinosaurs in the Mesozoic era.

Unique Characteristics

- Only fish with a single Bony Gular Plate (pg. 65 of the Field Guide)
- Abbreviate Heterocercle tail. Meaning the caudal skeleton appears heterocercle while the caudal fin appears asymmetrical



Charecteristics Cont.

- 45 rays in the very long dorsal fin. That is used in an Amniiform swimming method.
- Large number of toothed bones in the mouth.
- Hard cycloid Scales.



Growth

- Little is known about age and growth, scales don't show annual growth rings
- Males are usually smaller
- Females can grow up to three feet long, weigh 2-3 lbs according to the textbook by Moyle.
- I found this picture on Google, they claim it weighed over 17 lbs. Caught in Florida.



Sex characteristics

- Males and Both male and female juveniles have a black spot with a yellow/orange ring around it, called an ocellous. The spot is located on the top side of the caudal peduncle.
- In females this spot is lost or faded.
- The ocellous is thought to inhibit predation by other Bowfins



Diet

- Dytoplankton and Phytoplankton
- Crayfish, Fish, and Leeches
- Turtles, Snakes, and Lizards
- Small Rodents



Non-obligate Air Breather

- The bowfin possesses a large lung that it uses as a supplement to oxygen obtained by the gills when the water temperature goes over 10 degrees Celsius.
- Their breathing rate and metabolism increases with rising temperatures
- Bowfins can breath lying in completely turbid in muddy burrows during a drought.

Cont.

- This is similar to African Mudfish's.
- Bowfins can reduce their water demand by excreting Urea and Uric Acid.
- There are stories of farmers in the Mississippi Valley plowing up live bowfins after flood waters had receded.
- “Fishes of the Central United States” by Tomelleri and Eberle

A.K.A Dogfish, mudfish, grindle, and lawyer



Habitat

- Quiet water inhabitant
- Habitat reaches all the way to the northern part of the great lakes region
- Slow moving rivers, marshes and inland lakes.



Spawning

- Spawning takes place in the spring in shallow water with vegetation.
- Bowfins reach spawning maturity in 3 to 5 years.
- They are the only primitive fish that herd their young around after they are born
- Mouth brooding, or mouth incubation was observed in Lake Michigan by the male.

Male Spawning behavior

- Male bowfins clear a spot in the weeds and guard the eggs violently, biting anything that comes into the area including people.
- The male sometimes swims around violently to stir up the water as the fry escape
- Sometimes propelling itself out of the water.



Niche

- Not highly regarded as food, not sought after by anglers. Some people eat bowfin caviar.
- Some anglers despise the bowfin because it preys on game fish.
- Some might say that the bowfin might prevent stunting and overpopulation of some sport fishes.



- “The bowfin is frequently part of fish fauna in many excellent sport and pan fish waters.... The quality of these waters may be attributed in part to the presence of this species”

- George Becker , Fishes of Wisconsin



USS Bowfin
Submarine