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Pimephales notatus

(bluntnose minnow)

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By *Cynthia Sims Parr*

Kingdom: [Animalia](#)
 Phylum: [Chordata](#)
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 Class: [Actinopterygii](#)
 Order: [Cypriniformes](#)
 Family: [Cyprinidae](#)
 Genus: [Pimephales](#)
 Species: **Pimephales notatus**

Geographic Range

The bluntnose minnow is widely distributed in small and medium-sized streams in North America. They occur from southern Quebec and Manitoba south to Louisiana, west to the Mississippi River drainage (but not the Mississippi River itself). (Froese and Pauly, 2002; State of Iowa DNR, 2001)

Biogeographic Regions: nearctic (native .

Habitat

Bluntnose minnows prefer clear, rocky streams and creeks that are small to medium in size. They also occur in natural and man-made lakes.

These animals are found in the following types of habitat: temperate ; freshwater .

Aquatic Biomes: lakes and ponds; rivers and streams.

Physical Description

Length

11 cm (high)
(4.33 in)

This is a very small silver fish, long and slender with a dark stripe from snout to tail. At the base of the tail the stripe becomes a dot. Upperparts are slightly olive while sides are bluish. The name "bluntnose" refers to the rather flat snout. During the breeding season, males become darker, with a silver bar behind the gill cover (opercle), and grow 16 bumps in three rows on their head. (Page and Burr 1991; State of Iowa DNR, 2001)

Some key physical features: bilateral symmetry 

Sexual dimorphism:  male more colorful.

Reproduction

Breeding/spawning seasonBreeding season

April through September, but usually May through July

Time to hatchingGestation period

14 days (high)

During the spawning season, males' heads grow darker and their bodies become bluish. They also develop three rows of bumps, or tubercles on their heads. Females release masses of eggs which stick to the underside of rocks or floating logs. They are therefore sheltered while spawning. Depending on the temperature of the waters, eggs may hatch into fry in 8 to 14 days. (State of Iowa DNR, 2002; USGS, 1982)

Key reproductive features: fertilization  (external ); oviparous 

Males stay and guard the eggs and the fry. (USGS, 1982)

Parental investment: male parental care 

Lifespan/Longevity

Longest known lifespan in captivity

5 years (high)

Expected lifespan in wild

2 years (high)

The maximum recorded age for a bluntnose minnow is five years. It is unclear whether this was a captive or wild individual. (Froese and Pauly, 2002)

Communication and Perception

During breeding season the males use at least two methods of communication. First, their physical appearance changes (as described in the reproductive section). Second, males make a variety of pulsed sounds when acting aggressively with other males. It is not known if these sounds are also used in courtship or spawning.

Bluntnose minnows probably release chemicals called pheromones when they are alarmed.

Perception channels: tactile ; chemical 

Food Habits

Bluntnose minnows eat algae, aquatic insect larvae, diatoms, and small crustaceans called entomostracans. Occasionally they will eat fish eggs or small fish. (State of Iowa DNR, 2001)

Primary Diet: carnivore 🦘 (eats eggs, eats non-insect arthropods); omnivore 🦘.

Predation

Known predators

- black-crowned night heron
- great blue heron
- belted kingfisher
- ring-billed gulls
- common grackles
- northern pike
- largemouth bass
- snapping turtle
- painted turtle
- northern water snake

This small fish is prey to many larger fish as well as many birds and reptiles. To avoid them, minnows move fast, travel in schools, and hide.

A close relative, the fathead minnow (*Pimephales notatus*) gives off a chemical called "alarm substance" when under attack. Scientists think the substance may be a distress signal that attracts other predatory fish who interrupt the first predator, allowing the minnow to escape (Chivers et al., 1996)

The list below is only a sample of the species that eat minnows.

Ecosystem Roles

Bluntnose minnows serve an important role as prey for larger animals and as a predator on insect larvae.

Economic Importance for Humans: Positive

This fish is commonly used for bait in the fishing industry.

Conservation Status

This is a very common fish. In fact, bluntnose minnows are probably the most abundant freshwater fish in the eastern United States. (Page and Burr, 1991)

Contributors

Cynthia Sims Parr (author), University of Michigan: April, 2002.

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