



Home ► Kingdom [Animalia](#) ► Phylum [Chordata](#) ► Subphylum [Vertebrata](#) ► Class [Actinopterygii](#) ► Order [Clupeiformes](#) ► Suborder [Clupeoidei](#) ► Family [Clupeidae](#) ► Subfamily [Dorosomatinae](#) ► Species ***Dorosoma cepedianum***

## *Dorosoma cepedianum*

(American gizzard shad, eastern gizzard shad, gizzard shad, hickory shad, mud shad, golden eyes, stink shad, slicks, norwegian herring, skipjack, slimebal, mud shad, or skipjack)

Information [Pictures](#) [Classification](#)



2005/05/14 01:28:19.788 GMT-4

By *Christina Morris*

Kingdom: [Animalia](#)  
 Phylum: [Chordata](#)  
 Subphylum: [Vertebrata](#)  
 Class: [Actinopterygii](#)  
 Order: [Clupeiformes](#)  
 Suborder: [Clupeoidei](#)  
 Family: [Clupeidae](#)  
 Subfamily: [Dorosomatinae](#)  
 Genus: [Dorosoma](#)  
 Species: ***Dorosoma cepedianum***

## Geographic Range

*Dorosoma cepedianum* thrives in rivers, streams, reservoirs and lakes in the mid to eastern region of the United States and the middle and south of Canada around the Great Lakes. It can also be found all the way down to central Mexico and Florida.

(Murdy et al. 1997)

**Biogeographic Regions:** nearctic (native .

## Habitat

This is mostly a freshwater fish, usually living in lakes, ponds, rivers, streams, and reservoirs. However, it lives in the Chesapeake Bay, and there it is anadromous, meaning it lives in both salty and freshwaters. In the bay, it spends most

of the time in the salty lower region, and migrates up the bay to the freshwater regions to breed in the spring. This fish prefers brackish, not densely vegetated areas of deep waters to live as adults, and juveniles live in the more clear and shallower waters when they are calm. The lakes that *D. cepedianum* occupy are mostly soft-bottomed with a lot of mud and sediment. The ideal temperature for gizzard shad to live in is between 50 and 70 degrees F, or 10 and 21 degrees C. If the temperature drops to around 2 or 3 degrees C, *D. cepedianum* will die.

(Konrad 2001, Lippson 1997)

**Aquatic Biomes:** lakes and ponds; rivers and streams.

## Physical Description

*D. cepedianum* grows to be about nine to fourteen inches long as an adult, and only four inches long as a juvenile. Usually, the adult eventually grows to be about two pounds.

*D. cepedianum* juvenile has a different appearance than the adult. The juvenile has a dark spot on its shoulder, but this marking fades as the fish grows. The adult's body is oblong shaped and is laterally compressed. It is usually silvery blue dorsally, silver on the sides, and dusky white ventrally. The last ray of the dorsal fin rays is long and thin; it resembles a whip. Its caudal fin has a deep fork in it. Its head is rounded and blunt on the front and its mouth is subterminal. Like many fish, there are no teeth. This fish has no lateral line.

(Konrad 2001)

**Some key physical features:** bilateral symmetry 

## Reproduction

*D. cepedianum* reproduces like many fish and even mammals do: one female mates with many males to ensure fertilization. The female is prolific. She mates randomly and does not stay around to care for her young. Gizzard shad reproduce during spawning season, which is in the spring between late April and early August. They mate nocturnally. Also, they prefer to spawn over sandy and rocky substrates so the eggs will have a surface to adhere to once they are laid. Furthermore, the temperature of the water should be around 21 degrees Celsius for optimum breeding conditions. The fish will spawn in shallow water, usually less than 1.2 meters deep. After mating, up to 400,000 eggs are released in the shallow, clear, and calm waters of the freshwater environment. The *D. cepedianum* incubation period is two to four days, depending on the water temperature and environmental conditions. The young hatch in the larval stage, develop into the juvenile stage, and then on to the adult stage. The young reach sexual maturity after one year. Breeding is random, so there is no social system to *D. cepedianum* spawning.

(Klingel 1990, SCBASS Federation 2001)

## Behavior

During the first year of *D. cepedianum*'s life, the juveniles live in a school together, making the shad more susceptible to larger prey. After this year, the group separates and live solitary lives until it is spawning season again. This fish tends to migrate towards brackish waters sometimes, but is not nomadic for the most part. It will, however, move according to environmental conditions. Also, throughout its life, *D. cepedianum* is nocturnal. As an adult, there are not a lot of predators of *D. cepedianum*, but there are bird predators and larger fish predators of the larval and juvenile stage gizzard shad. This fish matures and grows very quickly, so these predators will not present a problem very long.

(Konrad 2001, SCBASS Federation 2001, Klingel 1990)

**Key behaviors:** natatorial ; motile 

## Food Habits

An adult *D. cepedianum* is primarily an omnivore. It is a filter feeder using the 190 rakers on the first gill arch's lower limb. It feeds mostly on phytoplankton and zooplankton, such as periphyton, chrysophyta, and rotifera. Since this fish filters the surrounding water and sediment for food, it also ingests and digests detritus. The substance on the freshwater bed is known as *ausfwulchs* assemblage, which is what gizzard shad feed on. Sediment and sand are also ingested by

the gizzard shad that helps it to digest food in its muscular gizzard.

(Klingel 1990, Konrad 2001)

### Economic Importance for Humans: Negative

Generally, *D. cepedianum* is viewed as a trash fish that is simply a nuisance. Not many sports fish eat the adult gizzard shad. Actually, the only fishes that do eat this fish are catfish and striped bass. The young shad is usually in competition with the valuable sports fishes that co-exist in the same habitat. In fact, one study shows that *D. cepedianum* eats young crappie (a more valuable fish) in Texan reservoirs. This factor decreases the gizzard shad's usefulness to humans.

(Drenner 1990, Konrad 2001, SCBASS Federation 2001)

### Economic Importance for Humans: Positive

Humans use *D. cepedianum* as bait to catch larger fish. This fish is sold as a basic live or cut bait. Also, larger pelagic sport fishes eat gizzard shad, which keeps the human sportfishing industry up.

(Bonds 1998, SCBASS 2001)

### Contributors

Christina Morris (author), Western Maryland College: December, 2001.

Louise a. Paquin (editor), Western Maryland College: December, 2001.

### References

Bonds, C., J. Ney. 1998. "Utilization of a Newly Established Gizzard Shad Population By Reservoir Sportfishes" (On-line). Accessed May 1, 2001 at <http://www.sdafs.org/meetings/98sdafs/clupeids/bonds.htm>.

Drenner, R. Dec 1990. "TCU, TPWD Study If Shad Help or Harm Sport Fisheries" (On-line). Accessed May 1, 2001 at <http://twri.tamu.edu/twripubs/NewWaves/v3n4/research-9.html>.

Klingel, J. 3 Jan 1990. "Biota Information System of New Mexico BISON" (On-line). Accessed May 1, 2001 at <http://151.199.74.229/states/nm.htm>.

Konrad, M. 2001. "Gizzard Shad" (On-line). Accessed May 1, 2001 at <http://www.state.ia.us/fish/iafish/herring/gizzshad.htm>.

Lippson, A., R. Lippson. 1997. *Life in the Chesapeake Bay: Second Edition*. Baltimore, MD: Johns Hopkins University Press.

Murdy, E., R. Birdsong, J. Musick. 1997. *Fishes of Chesapeake Bay*. Washington, D.C.: Smithsonian Institution Press.

SCBASS Federation, 2001. "Gizzard Shad: *Dorosoma cepedianum*" (On-line). Accessed May 1, 2001 at [http://www.scbass.com/sc\\_fish/gizzard\\_shad.html](http://www.scbass.com/sc_fish/gizzard_shad.html).

2005/05/14 01:28:22.206 GMT-4

---

**To cite this page:** Morris, C. 2001. "Dorosoma cepedianum" (On-line), Animal Diversity Web. Accessed May 16, 2005 at [http://animaldiversity.ummz.umich.edu/site/accounts/information/Dorosoma\\_cepedianum.html](http://animaldiversity.ummz.umich.edu/site/accounts/information/Dorosoma_cepedianum.html).

---

**Disclaimer:** The Animal Diversity Web is an educational resource **written largely by and for college students**. ADW

doesn't cover all species in the world, nor does it include all the latest scientific information about organisms we describe. Though we edit our accounts for accuracy, we cannot guarantee all information in those accounts. While ADW staff and contributors provide references to books and websites that we believe are reputable, we cannot necessarily endorse the contents of references beyond our control.

---

[Home](#) - [About Us](#) - [Special Topics](#) - [Teaching](#) - [About Animal Names](#) - [Help](#)

[Report Error](#) - [Comment](#)

Sponsored in part by the Interagency Education Research Initiative, the Homeland Foundation and the [University of Michigan Museum of Zoology](#). *The ADW Team gratefully acknowledges their support!*

©1995-2005, The Regents of the University of Michigan and its licensors. All rights reserved.

