



# Recognizing Northern Snakehead

## Background

The recent discovery of northern snakehead in Maryland captured the attention of local, regional, and national leaders. Many species of snakehead have been sold through the aquarium industry in pet stores and via the Internet. Some species, including the northern snakehead, have been sold through the live food fish industry.

## Introduction to the United States

Four species of snakeheads have been introduced into the United States: Northern snakehead (*Channa argus*), bullseye snakehead (*C. marulius*), giant snakehead (*C. micropeltes*), and blotched snakehead (*C. maculata*). It is believed that these introductions were the result of intentional releases by pet owners or fish purchased from the live food fish trade.

Wild northern snakeheads have been collected in Florida, California, Massachusetts, and most recently, Maryland in the summer of 2002. The Maryland discovery was especially disturbing because juveniles were found, indicating successful natural reproduction in the wild. The blotched snakehead has been established in Hawaii for over a century.

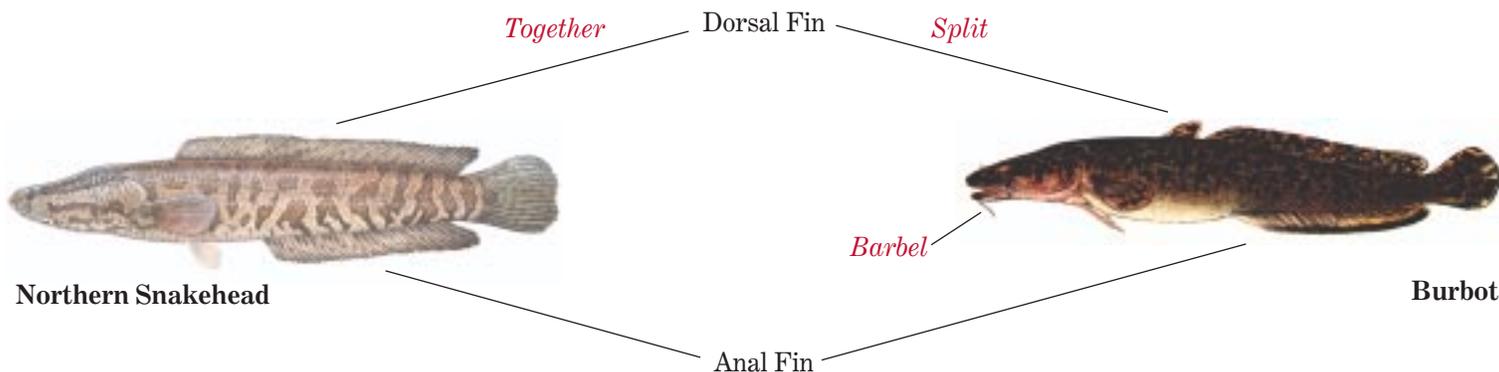
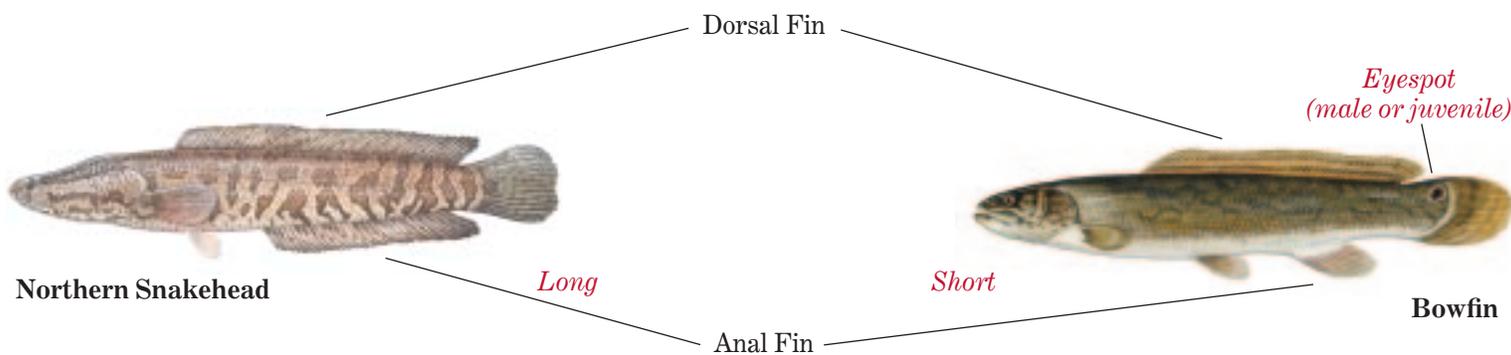
## Identification

The northern snakehead is relatively easy to identify by a few distinguishing characteristics. However, it is very similar to bowfin (*Amia calva*) and burbot (*Lota lota*), two native species found in the United States. To minimize confusion among anglers, it is important to note and compare distinguishing features among these species.

Northern snakeheads are most readily identified by the long dorsal and anal fins, the dark, irregular blotches along their sides, pelvic fins located beneath the pectorals, and truncate (not rounded) tail.

Bowfin can most easily be distinguished from the northern snakehead by the short anal fin, pelvic fins in an abdominal position, and rounded tail fin. Juvenile and male bowfin have an eyespot on the tail (females lack this spot), a character not found in northern snakeheads.

Burbot can also be distinguished from the northern snakehead by several characteristics. Both fish have a long dorsal fin but the dorsal fin of the burbot is split, with a short dorsal fin in front of a longer one. Burbot also possess a single barbel (whisker) beneath the lower jaw.



## Reasons To Be Concerned

Introduced species can disrupt an ecosystem and have devastating and unanticipated impacts. Snakeheads are predatory, consuming microscopic zooplankton and crustaceans as juveniles, and fish, insects, crustaceans as adults. This can severely alter the feeding habits, food availability, and behaviors of other members of an ecosystem.

Also, snakeheads can survive in water with very low oxygen, giving them a competitive advantage over other species, such as trout, pike, and bass that require more oxygen in the water.

Once introduced, snakeheads can disperse to many other waters, even those containing very low oxygen. All snakeheads are capable of breathing atmospheric oxygen; some are *facultative* air breathers, meaning they can use either air or water to breathe, while others are *obligate* air breathers that must breathe air or suffocate. A few species are capable of short overland migrations.

In areas where northern snakeheads have been introduced, sport fishing may also be impacted through either direct predation on important native sport fish or through indirect competition for food between the introduced snakehead and the native sportfish.



## STOP AQUATIC HITCHHIKERS!

Prevent the transport of nuisance species.  
Clean all recreational equipment.  
[www.ProtectYourWaters.net](http://www.ProtectYourWaters.net)

### When you leave a body of water:

- Remove any visible mud, plants, fish or animals before transporting equipment.
- Eliminate water from equipment before transporting.
- Clean and dry anything that comes into contact with water (boats, trailers, equipment, clothing, dogs, etc.).
- Never release plants, fish or animals into a body of water unless they came out of that body of water.



*Northern snakehead. (USGS)*

### What Is Being Done?

All species of snakeheads have recently been assigned injurious wildlife status under the Federal Lacey Act which prohibits the importation and interstate transportation of wildlife deemed by the Secretary of the Interior to be "injurious" to humans, agriculture, or other wildlife resources. This includes both live snakeheads as well as viable eggs.

Although legislation is an effective deterrent, accidental introductions are sometimes inevitable. Education is a crucial component to preventing the introduction of these, as well as other invasive aquatic species.

### What Should I Do If I Catch One?

If you think you've caught a snakehead,

- **DO NOT** put it back in the water. Kill it, freeze it (double bag), and notify a local resource agency.
- Make note of the exact location of capture. This is important for determining the distribution of the species and the potential application of control and management strategies.



*Canine-like teeth of northern snakehead. (USGS)*

### For More Information Contact:

**U.S. Fish and Wildlife Service**  
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**Maryland Fishery Resources Office**  
177 Admiral Cochrane Drive  
Annapolis, MD 21401  
Phone: (410) 263-2604  
Fax: (410) 263-2608

**U.S. Geological Survey**  
**Non-Indigenous Aquatic Species Site**  
<http://nas.er.usgs.gov/>  
E-mail: [snakehead@USGS.gov](mailto:snakehead@USGS.gov)

**Maryland DNR**  
<http://www.dnr.state.md.us/fisheries/fishingreport/snakehead.html>

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