



WILDLIFE NOTES

Longnose gar

Artwork: Duane Raver, U.S. Fish and Wildlife Service

What's in a name? Longnose gar (*Lepisosteus osseus*) says a lot about this seemingly Pinnocchio-nosed fish. The scientific name, *Lepisosteus* is Greek, meaning "bony scale," and *osseus* is Latin, meaning "of bone." Other names commonly used for this primitive pike-like fish are needlenose gar, billfish and billy gar.

Physical Characteristics

The longnose gar appears to have a long nose. It has a long, narrow jaw, and the snout is three times as long as the head behind the eyes. This gar can measure 5.0 feet (1.8 meters) long and weigh as much as 16.6 pounds (7.5 kilograms). Most gars are no bigger than 24 inches long and 2 pounds. The largest longnose gar taken in New Mexico by an angler was caught in the Pecos River. It was 39 1/4 inches long and weighed 12 pounds 8 ounces.

The floor of the gar's mouth is flexible, and the jaw arches can be bent to such a degree that

many sharp, cone-shaped teeth in various sizes and arrangement. The width of the upper jaw at the nostrils is less than the diameter of its eye. This long, toothed snout is a distinguishing characteristic of the gar.

The gar scales also distinguish it from other fish. The *ganoid* scales are diamond-shaped, sharp and non-overlapping.

Natural History and Distribution

The longnose gar is the only species of the family Lepisosteidae currently found in New Mexico, although many species may have occurred here in the 19th century.

There are two genera and seven species in the family Lepisosteidae. These species are confined to North America east from the Rocky Mountains to the Atlantic Coast, as well as Cuba, and along the eastern slope of Central America. Within North America, there are five species, all belonging to the genus *Lepisosteus*.

In New Mexico, the longnose gar is native to the Pecos River and its major tributaries, including the lower

around 1450-1650; near Cabezon and four miles southeast of present-day Socorro (age unknown); and Gran Quivira (probably around 1600).

Scales of *Lepisosteus* have been recovered from Pueblo Indian ruins at Chaco Canyon in the San Juan drainage, and pottery motifs from the Mimbres River in New Mexico depict *Lepisosteus*. But the species is not native to either the Mimbres River or the San Juan River basins. Historians believe gar skin was used as an abrasive because it is tough and sharp. Gar scales may have been popular as jewelry, as well.

Habitat

The longnose gar is solitary and prefers quiet, shallow water offering good cover. It lies in wait in aquatic vegetation or under sunken tree trunks just as pike do; only the slow movements of the pectoral fins reveal the fact that this is a living creature. Its large eyes scan the surroundings with avid attention. If prey is detected, the gar begins to creep up on it by slow undulating movements of its fins and the tip of the tail until the prey is at the side of the middle

of its beak. The gar then snaps like an alligator

with a fast sideward movement of the head and holds the prey with its needlelike teeth. The fish turns the prey around until it is positioned lengthwise in the jaw. Then, with a short forward jerk of the head, the gar swallows its meal. Young longnose gar initially feed on minute crustaceans; however, they quickly



even a large fish with a high back can be swallowed. The lower part of the head resembles the sack of a pelican that has just swallowed a fish.

The greatly elongated jaws are bony, very narrow and filled with

reaches of the Black River, a small tributary of the Pecos River near Malaga. The species is also believed to be native to the Rio Grande of New Mexico. Evidence of its former existence there is found at several archaeological sites: Albuquerque,

learn to eat other fishes.

Longnose gar are rarely caught on hook and line because of their hard, bony jaw. However, very sharp hooks with small live minnows can be productive. Since they are often found close to the surface, gars can be good targets for the bow hunter. Interestingly, a technique using frayed rope can be used for taking a gar. The fish strikes the frayed end of the rope and its teeth become entangled in the rope. Some anglers consider gar a nuisance because it feeds on game fishes and damages gill nets. The flesh of the longnose gar is edible and is considered by many to be a delicacy; however, the roe is highly poisonous to humans,

other mammals and birds.

During the summer months when the oxygen content of the water has dropped, the longnose gar can often be seen snapping for air at the surface. In oxygen-poor water, the gar can surface as often as six times in 10 minutes. It turns somewhat on its side and inflates an air bladder through its gill slits, making a gurgling sound. Then it swallows a large quantity of air with its mouth, stretching the jaws far out of the water and pressing the air into the swim bladder. Gar can use this air to supplement oxygen obtained through their gills.

From October to April gars seek greater depths in order to rest for the

winter. At this time they lie almost motionless. They do not surface for respiration and they stop feeding.

Reproduction

In late spring the longnose gar seeks shallow shore locations for spawning. A female may be accompanied by several males. After a vigorous display, the female releases the greenish eggs about one-tenth of an inch (about 3 mm) in size, which are then fertilized by the males. After fertilization the eggs stick on the streambed and on aquatic plants. The young hatch within 10 to 14 days, depending on water temperature.

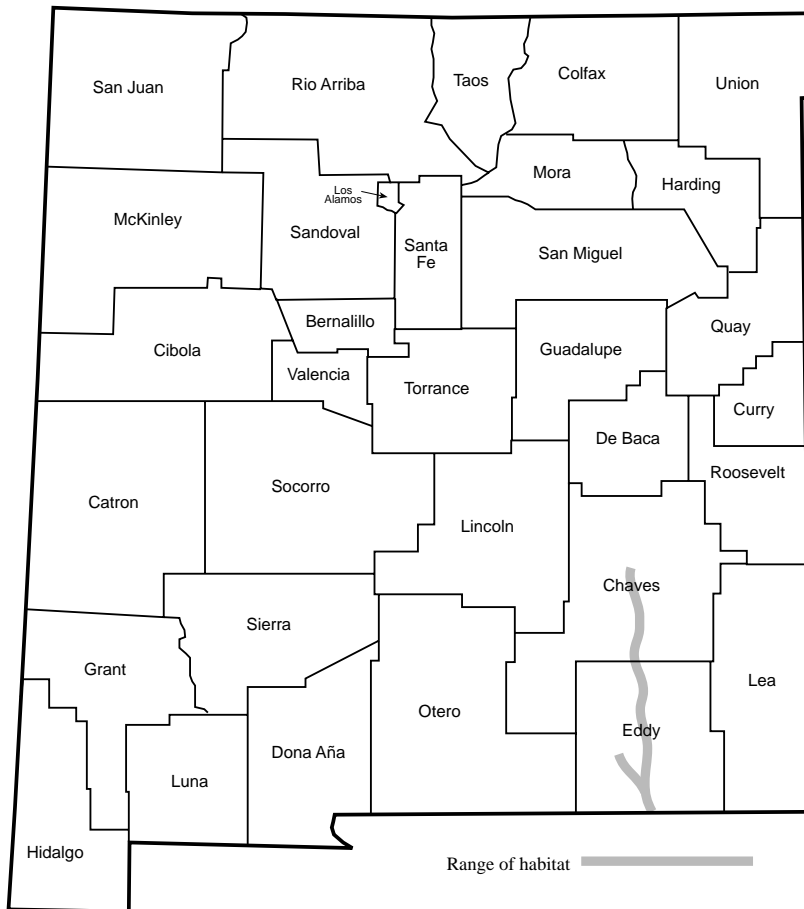
Management

The Fisheries Division at New Mexico Department of Game and Fish stocks the freshwater fish exhibit at the NM State Fair with a few Longnose gar. Curious viewers can visit the Natural Resources Building to see this strange and interesting fish.

Revised 2004 by Colleen Welch.

REFERENCES

The Fishes of New Mexico, James E. Sublette,
The Virtual Aquarium of Virginia Tech at <http://www.fw.vt.edu/efish/families/Lepisosteidae.html>
and
Inland Fishes of Mississippi,
Stephen T. Ross



In New Mexico, the longnose gar is native to the Pecos River and its major tributaries, including the lower reaches of the Black River, a small tributary of the Pecos River near Malaga.

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