Introduction to

Missouri FISHES

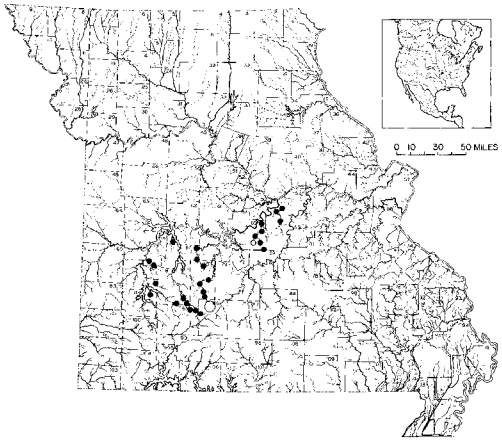
MISSOURI DEPARTMENT OF CONSERVATION

Serving nature and you

On the cover... *male Niangua darter in breeding color*

Niangua Darter

FEDERALLY LISTED THREATENED SPECIES



Scientific name *Etheostoma nianguae*
Etheostoma from the Greek *etheo*, "to strain," and *stoma*, "mouth;" *nianguae*, named for the Niangua River (Missouri), from which it was first identified in 1884.

Average size of adults 2.5 to 4 inches; maximum size near 4.5 inches

Lifespan 2 to 4 years

Habitat
- In early to mid-April male Niangua darters move to gravelly riffles with swift current. At this time female Niangua darters are found in pools and runs adjacent to these silt-free riffles and move onto the riffles for a short period of time to spawn and then return to pools and runs.
- When not spawning, this darter species occupies shallow pools and runs in streams with slight to moderate current and silt-free gravelly or rocky bottoms.

Food Finds food by sight, probes for nymphs of stoneflies and mayflies in crevices between rocks with its long, slender snout

Identifying characteristics
- Slender body with a very long head that tapers into a slender, pointed snout
- 2 small, jet-black spots at base of tail fin
- Breeding males are brilliantly colored, with an orange-red belly and a series of iridescent blue-green bars along the sides.

Interesting facts
- Only found in Missouri in north-flowing tributary streams to the Osage River
- Large reservoirs in the Ozarks have eliminated habitat and fragmented the populations, thus leading to a state status of endangered and federal status of threatened.
- Prior to spawning, females engage in a rapid "headbobbing" display, then plunge head first into the gravel and come to rest with only the head and tail visible. The male vibrates rapidly above the female as the eggs are released, then fertilized.
- Many fish in the Ozarks (including the Niangua darter) can be readily observed by sitting in these clear streams with a mask and snorkel. After the initial disturbance when you enter the water, the fish settle back into their normal activities and provide hours of entertainment as you sit and observe in nature's aquarium.

Status key

GAME FISH: A species typically pursued by many people for sport and food

NON-NATIVE: A fish species that did not occur in the state naturally, but arrived as a result of human activity

ENDANGERED: A species in imminent danger of becoming extinct unless efforts are made to prevent additional losses

THREATENED: A species likely to become endangered in the foreseeable future

FEDERALLY LISTED: A species in peril—either threatened or endangered—over its entire range and is on a list maintained by the U.S. Fish and Wildlife Service

STATE LISTED: A species in peril within the state of Missouri, but may have stable populations elsewhere

Using the maps

Three different symbols are used to show changes in distribution over the time interval for which collections are available.

● *collections made since 1945*

○ *collections made between 1905 and 1945*

◯ *collections made prior to 1905*

An Introduction to Missouri Fishes

Missouri is home to more than 200 species of fish. To understand why there are so many kinds of fish in Missouri, it is important to first understand there are many different kinds of water areas where fish live.

The prairies of the Great Plains and the forests of eastern United States meet in Missouri. Along with the characteristic grasses of the prairies and the oaks and hickories of the eastern forests, there are aquatic environments uniquely associated with each of these biomes. Prairie streams are typically shallow and slow-moving with streambeds made up of sand and mud. The streams of the eastern forests typically have moderate depths and swift current with streambeds made up of gravel- to boulder-sized rock. Since each of these major habitats meets in Missouri, this state is rich in aquatic diversity characteristic of prairies as well as eastern forests including streams that are a blending of each type.

Additionally, two of the largest rivers in North America, the Mississippi and Missouri rivers, with their swift, muddy currents meet in the Show-Me State. Some fish species are specialists only inhabiting one habitat type, but some fish species are generalists and are widespread in the state.

What is a fish?

Ask any child to describe a fish and you will get a description of a slimy animal with scales, fins, gills, "bugged-out" eyes and large mouth, usually coupled with the child's imitation of a mouth blowing bubbles and hands waving about like imaginary fins. For the most part this description is correct, but some of Missouri's fish don't even look like fish at all. Eels and lamprey are groups of fish that more closely resemble snakes than fish. Some of Missouri's fish do not have scales (like catfish) or their scales more closely resemble body armor than scales (like gar and sturgeon). And some of Missouri's fish don't even have eyes! Two blind species of cavefish depend on other senses to find food and other life activities.

But whether these cold-blooded vertebrates have eyes or scales or not, all fish depend upon their aquatic environment to determine their body temperature. Since fish are vertebrates, they have skeletons made of bone and/or cartilage. Most of Missouri's fish have bony skeletons, but the prehistoric paddlefish has a skeleton made entirely of cartilage. The paddlefish is a game fish in Missouri that was designated as the State Aquatic Animal in 1997. Most fish are streamlined, an adaptation for swiftly moving through water and living in the flowing environment of streams and rivers.

Fish provide food and fun

Fish certainly are an interesting group of animals that provide food, recreation, economic impact, and endless fascination to Missourians. Undoubtedly the earliest inhabitants of Missouri used the plentiful fish resource for food. Although no longer for subsistence, catching and preparing fish continues to be a social event many Missourians enjoy. Whether participating in the Ozarks tradition of a gravel bar sucker fry of freshly gigged redhorse and hogsuckers from a clear stream or devouring cornmeal covered pan-fried catfish or crappie fillets surrounded by a bed of morel mushrooms, the love for fishing and consuming fish is a long and strong Missouri tradition.

Fishing ranks as one of the top recreational pursuits of Missourians. Fishing is a family-oriented sport for all ages. Fishing can be as simple and inexpensive or as complicated and expensive as you choose to make it. Nearly 1.2 million Missourians fish annually. Some species of fish are also pursued by commercial fishermen in Missouri's largest rivers.

Want to learn more?

This publication provides brief accounts of many of Missouri's interesting fish species. To dive further into information about all of Missouri's interesting fishes, read *The Fishes of Missouri* by William Pflieger. This book can be found in most libraries or can be purchased from Missouri Department of Conservation offices and nature centers. It also is available from the Nature Shop by calling toll free 1-877-521-8632 or on line at www.mdcnatureshop.com.

Ozark sculpin

Range of sizes

Missouri's fish come in all sizes. As their names imply, the least darter and pygmy sunfish are two of Missouri's smallest fishes with an adult size of about 1 1/2 inches. On the other end of the spectrum are the gigantic lake sturgeon and blue catfish with individuals of each of these species reportedly (early in Missouri's history) reaching more than 300 pounds.

Fish also show us much about the world in which we live. There are many lessons to be learned from the adaptations fish have to survive in the aquatic world. The diversity of fish shows us how fish have adapted to live in a variety of environments—from the murky depths of "Big Muddy" to the cypress swamps of southeast Missouri to a life in complete darkness found in many Missouri caves. For example, you must look very closely to see a sculpin because of its chameleon-like ability to change its color to blend into its multicolored gravelly stream bottom surroundings.

All small fish aren't minnows...

Many kinds of fish are small, including many species of minnows, which make up nearly one-third of Missouri's fishes. Darters, another kind of small Missouri fish, are members of the perch family (related to walleye) that commonly inhabit riffles of streams and attain an adult size of less than 4 inches.

Missourians are well aware of catfish in the state, including the Missouri State Fish, the channel catfish. However, less familiar are a group called madtoms to which most of Missouri's catfish belong. Madtoms are miniature catfish found in streams throughout Missouri, and most reach an adult size of less than 4 inches. Madtoms are infrequently observed due to their nocturnal nature, but some species are occasionally caught by anglers fishing with worms on the bottom of streams.

Fish have adapted to diverse habitats

Missouri fishes inhabit many different aquatic habitats—from riffles and pools of large rivers and small streams to natural and artificial lakes, ponds and oxbows. Each species has adapted to survive in one or more of these habitats, but few can survive in all habitats. Traits that allow a species to live in a particular habitat can be adaptations in temperature tolerance, salt tolerance, the ability to breath air when needed, and in body form. Adaptations of a fish's body that allow a species to survive in different habitats include shape of the body, fin location, and mouth size and orientation. In general, body forms of Missouri fishes can be grouped into seven different categories: rover predator, lie-in-wait predator, deep-bodied fish, eel-like fish, bottom rover, bottom clinger and surface-oriented fish.

Rover predator

Largemouth bass

Temperate and black basses, trout and walleye are examples of fish with body shapes adapted to a rover-predator lifestyle. Their bodies are elongate, their fins are distributed around the body evenly, their head is pointed with a relatively large mouth at the tip, and they usually have a forked tail, an indicator of a fast swimmer. This type of fish roves through several types of habitats from still to swift waters, and uses speed to catch prey. Many of our favorite Missouri game fish are rover predators.

Checkered madtom

Lie-in-wait predator

Chain pickerel

Pickerel and gar are Missouri species with the lie-in-wait predator body adaptation. Their bodies are elongate, their fins are moved back on the body to provide thrust for chasing prey, their head is pointed and flattened on top, and they have a mouth full of teeth at the tip. This type of fish will lie hidden by cover in still or slow moving waters and dart out to snap up prey.

Deep-bodied fish

Bluegill

Many sunfish and buffalofish species exhibit the deep-bodied form. Deep-bodied fishes are flattened laterally and have long dorsal and anal fins. Their pectoral and pelvic fins are located high on the body. This type of fish mainly occurs in still waters and are adapted for maneuverability in heavy cover. They typically feed from the bottom or pick slow-moving prey from the water column.

Eel-like fish

American eel

American eel and lampreys are examples of Missouri eel-like fish. They have very elongate bodies with reduced pelvic and pectoral fins, very long anal and dorsal fins, and unforked tails. This type of fish occurs in still to moderately swift waters and is adapted for maneuverability in tight places and burrowing in soft substrates. Eels typically sneak up on prey, and lampreys filter food from the bottom with some species becoming parasitic as adults.

Bottom clinger

Banded sculpin

Sculpins and many darter species are adapted as bottom clingers. They tend to have flattened heads and large pectoral fins that are angled to keep the fish on the bottom in swift currents. This type of fish occurs in the swift water of riffles where they pick invertebrates from the rocks.

Bottom rover

Golden redhorse

Many Missouri catfish and suckers are adapted as bottom rovers. These species have a body shape similar to the rover predator except the back is humped, the head is flattened, and the pectoral fins are enlarged. This type of fish occurs in still to swift waters and uses speed to avoid predators. The mouths of bottom rovers are placed in several different positions depending on their feeding style. Omnivours like catfish have a terminal mouth that allows them to take prey if the opportunity arises, generalist bottom feeders like many suckers have a subterminal mouth, and bottom feeders like carp have ventral mouths with protrusible lips for sucking ooze. Many bottom rovers also have well-developed barbels for locating food by feel.

Surface-oriented

Blackstriped topminnow

Missouri's topminnows and studfish are surface-oriented species. They are typically small bodied and have a flat head with upturned mouth. Their dorsal fin is moved back on their body. This type of fish occurs in still waters and feeds on organisms that fall in the water. Many surface-oriented species can survive in deoxygenated waters by breathing the surface layer of water that always contains some oxygen.

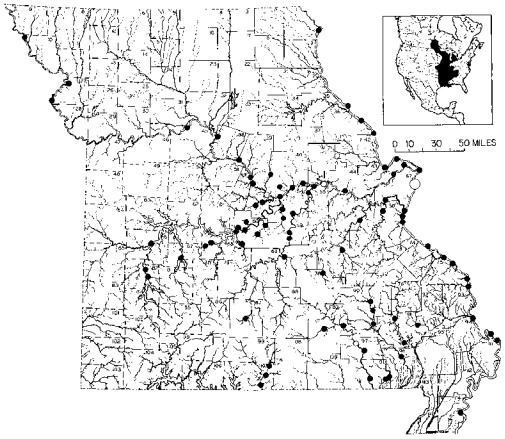
Note: See page 10 for illustrations of external fish anatomy.

All minnows aren't small fish...

Although most species of minnows in Missouri remain small throughout their lives; several minnow species grow to large sizes. The common carp, a non-native minnow, first stocked into Missouri in 1879, is known to attain a size of nearly 50 pounds.

The common carp is dwarfed by another non-native minnow that now occurs in our waters. The bighead carp is known to reach a weight of more than 90 pounds.

Chestnut Lamprey



Scientific name *Ichthyomyzon castaneus*
Ichthyomyzon is from Greek meaning "sucker of fish," and *castaneus* also is from Greek and refers to "having chestnut color."

Average size of adults 8 to 10 inches

Lifespan
- Thought to live for a period of 3 to 6 years in Missouri as ammocetes, or larvae
- May live for another 2 years as a mature adult

Habitat
- Large streams and small rivers of the Mississippi River system
- Ammocetes are found buried in stable, soft silt and muck of clear flowing streams.

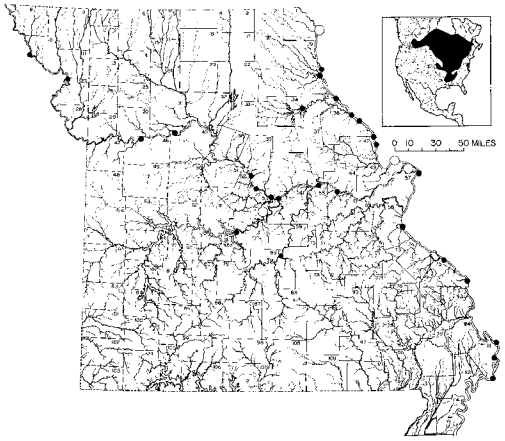
Food
- Ammocetes filter tiny algae and protozoa from the soft sediments and water just above them.
- Adults attach to sides of a variety of fish including carp suckers, catfishes, sturgeons, paddlefish and sunfishes, where they consume the tissue and body fluids of host fish.

Identifying characteristics
- Chestnut colored eel-like fish that have a cartilaginous, boneless skeleton
- Adults have well-developed, rasp-like oral disc, seven pore-like gill openings, no paired fins and a single nostril.
- Ammocetes are eyeless and have a horseshoe-shaped hood as a mouth.

Interesting facts
- Adults migrate upstream into small spawning streams.
- Once spawning activities are completed, the adults die.

Lake Sturgeon

MISSOURI-LISTED ENDANGERED SPECIES



Scientific name *Acipenser fulvescens*
Acipenser is taken from Latin meaning "sturgeon," and *fulvescens* also is from Latin meaning "reddish yellow."

Average size of adults One of the largest Mississippi Valley fish. Reported to reach 8 feet in length and 200 pounds in Missouri River. Historically reported at more than 300 pounds.

Lifespan Known to live 152 years

Habitat
- Found in Missouri in the Missouri and Mississippi rivers inhabiting deepest parts of channels and deep pools
- In northern portions of its range, fish also inhabit deep natural lakes such as Lake Superior and Lake of the Woods.

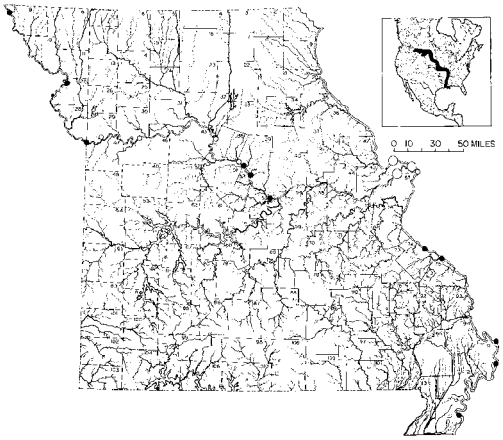
Food
- Young lake sturgeons ingest small crustaceans and small aquatic insects.
- The diet of adults commonly includes small mollusks, aquatic insect larvae, algae, plant matter, crayfish and occasionally small fish that are sucked from the bottom.

Identifying characteristics
- Cone-shaped snout partially covered by plates and the upper lobe of tail fin does not have a filament
- A small opening, or spiracle, is present above and slightly behind the eye.
- Lower lip has two lobes, and the nostril opening located closest to the eye is smaller than the eye.

Interesting facts
- Primitive fish in some ways resembling sharks in appearance
- Overharvest, dam construction and habitat loss have greatly reduced their numbers since 1900.
- Grow extremely slowly, with males not maturing sexually until an age of 20 years and females at the age of 25 years

Pallid Sturgeon

FEDERALLY LISTED ENDANGERED SPECIES



Scientific name *Scaphirhynchus albus*
Scaphirhynchus is from Greek meaning "spade snout," and *albus* is from Latin meaning "white."

Average size of adults 30 -72 inches and up to 100 pounds

Lifespan
- Known to live at least 40 years
- Males mature at around 7 years of age, while females may not spawn until 15-20 years old.

Habitat
- Bottom dwellers in the Missouri and Mississippi rivers in Missouri
- Found in areas of strong current that have firm sand substrates in the main river channels

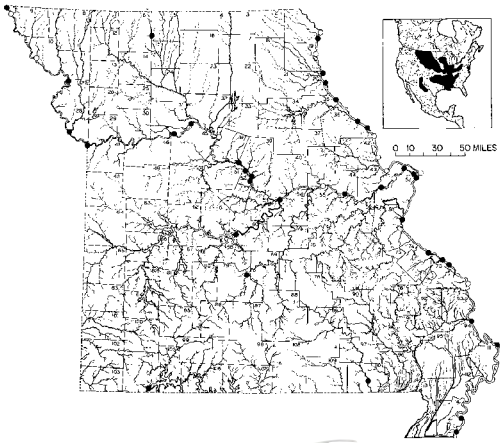
Food Small fishes and immature aquatic insects that are sucked from the bottom sediments

Identifying characteristics
- Similar to shovelnose sturgeon, but with a longer and more pointed snout
- Base of the inner barbels are weakly fringed, and the base of the inner barbels is less than half the width of the outer barbel bases.
- Belly has only scattered embedded plates or is bare.

Interesting facts
- Once a commercially fished species, overharvest, dam construction and habitat loss have reduced their numbers to dangerously low levels.
- Another threat to their survival is hybridization with the more common shovelnose sturgeon.

Shovelnose Sturgeon

GAME FISH



Scientific name *Scaphirhynchus platorynchus*
Scaphirhynchus is from Greek meaning "spade snout," and *platorynchus* also is from Greek indicating "broad snout."

Average size of adults Up to 30 inches, rarely exceeds 5 pounds

Lifespan At least 14 years and likely longer; sexually mature at 5-7 years of age

Habitat Usually found in open, flowing channels of larger rivers with sandy or gravel bottoms

Food Bottom feeding fish that consume large numbers of aquatic invertebrates such as midge, caddis fly, mayfly and stonefly larvae

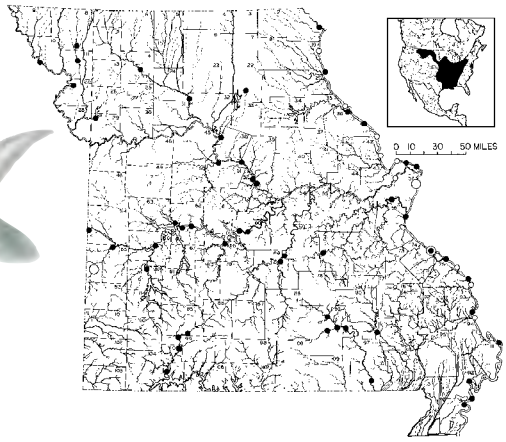
Identifying characteristics
- Flattened, shovel-shaped snout
- Upper tail fin lobe has a long, slender filament, which may break off in adults.
- Fringed barbels are present, and the lip has 4 lobes.
- No spiracle, the small round hole found above the eye in lake sturgeon
- Similar to pallid sturgeon with following exceptions: shorter and less pointed snout, bases of inner barbels are about equal distant between the mouth and snout tip, inner barbels are more fringed and thicker, width of barbel bases are more than half the width of the outer barbel bases and the fish's belly is covered with plates

Interesting facts
- Most abundant sturgeon in Mississippi and Missouri River systems, but numbers declining likely due to overharvest, dam construction and habitat alteration
- As many as 150,000 pounds of shovelnose sturgeon were commercially harvested annually in the early 1900s.
- Species migrates extensively and has been documented to travel as far as 560 miles.
- Cartilaginous, boneless skeleton like other sturgeon species

MISSOURI STATE AQUATIC ANIMAL

Paddlefish

GAME FISH



Scientific name *Polyodon spathula*
Polyodon is derived from Greek meaning "many toothed" (referring to fish's gill rakers), and *spathula* is derived from Latin and refers to the spatula-shaped rostrum, or paddle.

Average size of adults
- One of the largest and fastest growing freshwater fish in North America
- Average adults range from 20 to 50 pounds, although historic reports list fish more than 200 pounds.
- Largest fish reported from Missouri is more than 130 pounds.

Lifespan 20-30 years

Habitat
- Missouri and Mississippi rivers and their larger tributaries and impoundments where they have been introduced
- Prefer slow-moving waters of large pools and oxbows

Food Although paddlefish are one of the largest freshwater fish in North America, their diet consists almost exclusively of microscopic zooplankton. It was once thought that the fish's rostrum, or paddle, was used to stir up bottom sediments so that the fish could feed on bottom dwelling aquatic invertebrates. It is now believed that the rostrum serves to detect small electrical currents that are created by large clouds of zooplankton. When plankton are detected, paddlefish open their huge mouths and swim through the plankton, straining food from water that is forced over its gills by specialized gill rakers.

Identifying characteristics
- Large rostrum, or paddle
- Bluish grey to nearly black in color on top, grading to white on the belly
- No scales
- Like sharks, they are devoid of bones and have a cartilaginous skeleton
- Gill covering is a long pointed fleshy flap.
- Caudal, or tail, fin is deeply forked.

Interesting facts
- Prehistoric fish virtually unchanged through time
- Only other species of paddlefish that exist is a close relative found in the Yangtze River system in China.
- Under natural conditions mature fish migrate upstream during periods of high river flows to silt-free gravel riffles in attempts to spawn. The dam on Truman Reservoir on the Osage River eliminated the only known paddlefish spawning sites in Missouri, and populations are currently maintained by hatchery stockings.
- Known to move great distances. A fish stocked in the Arkansas River system in Oklahoma traveled about 1,000 miles to South Dakota before being caught.
- Dam construction, overharvest and habitat alteration has greatly reduced the numbers of paddlefish. Since paddlefish eggs are used for caviar, poaching has contributed to the species decline. There has been recent interest in raising paddlefish specifically for caviar.
- This popular game fish must be caught by snagging because they strain their food from water and will not bite a hook.
- Established as the official Missouri State Aquatic Animal on May 23, 1997

Longnose Gar

Scientific name *Lepisosteus osseus*
Lepisosteus is from Greek meaning "scales of bone," and *osseus* is taken from Latin meaning "bone."

Average size of adults Commonly reach 3 feet in length and 5-6 pounds; maximum size in Missouri is 59 inches and 31 pounds

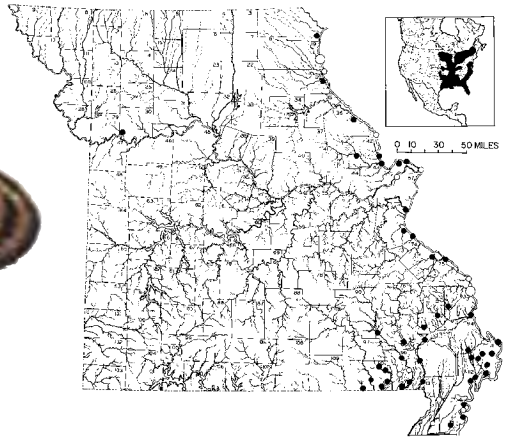
Lifespan Males rarely live more than 11 years. Females can live 20 years or more.

Habitat
- Most widely distributed gar in Missouri, found in nearly every major stream and impoundment in the state
- Typically inhabits sluggish pools and backwaters of streams and deeper open water areas of lakes

Food Like most fish, young gar begin feeding on zooplankton. At 1 to 2 inches in size, they switch to a diet solely of fish.

Identifying characteristics
- Distinct long and narrow snout. The width of the snout at the nostrils is less than the diameter of the eye.
- Large teeth on the upper jaw in single rows on each side
- Brown or dark olive on upper parts, grading to white on the belly
- Numerous rounded black spots on the body
- Young fish have a distinct mid-body stripe.

Bowfin



Scientific name *Amia calva*
Amia is the name of an ancient fish, and *calva* is Latin for "smooth," presumably referring to the bowfin's scaleless head.

Other common names Dogfish, grinnel, grindle, cypress trout, cotton fish, mudfish

Average size of adults 18 to 24 inches and 3 to 5 pounds; maximum size of about 36 inches and 9 pounds

Lifespan 10 years in the wild, but captive specimens are known to live 30 years

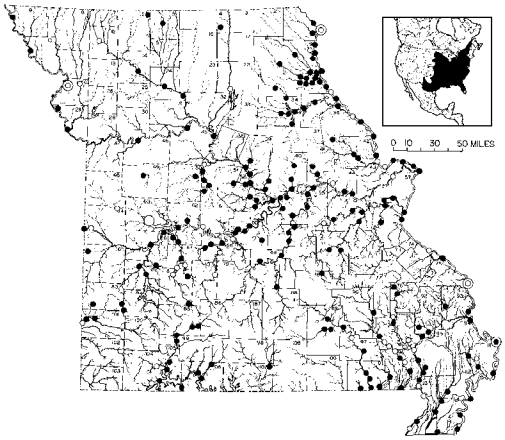
Habitat
- Clear water with abundant vegetation of swamps, sloughs, backwaters, oxbows, ditches and pools with little or no current
- Backwaters and oxbows of the Mississippi River are commonly inhabited by bowfin.

Food
- Young feed primarily on microcrustaceans and aquatic insects.
- Adults eat fish, crayfish, insects, worms and frogs.

Most active Primarily nocturnal with peak activity at dawn and dusk

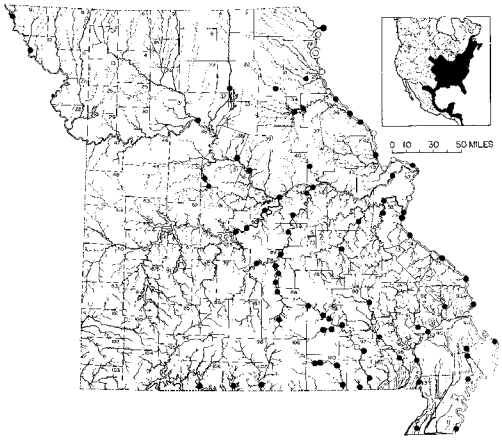
Identifying characteristics
- Back and sides are mottled olive-green.
- Belly is a pale green to white.
- Black spot ringed by yellow or orange is near the upper portion of the base of the tail fin, which is most prominent in young and adult males.
- Only Missouri fish with a gular plate—an oval bony plate between the lower jaws
- Each nostril has a single barbel-like tube, and the large mouth has many teeth.
- Not easily confused with any other Missouri fish species

Interesting facts
- The name "bowfin" refers to the long dorsal fin that moves in a wave-like, undulating motion.
- Readily takes natural baits and occasionally an artificial lure, including topwater baits. When hooked, the bowfin is an extremely hard fighter.
- The soft, jelly-like flesh is considered by most to be unpalatable. One early ichthyologist likened eating bowfin to chewing cotton.
- The male makes a nest in a shallow, weedy area by biting and rubbing off vegetation and sweeping the area clean of debris by fanning motions of the tail. The male protects the eggs and the young for several weeks after they leave the nest.
- Bowfins can inhabit waters where other fish can't find enough oxygen, such as stagnant pools and shallow water that is in the process of drying out because they have an air bladder that processes oxygen the fish gulps from the air.
- There is some evidence the bowfin can aestivate for short periods of time. Aestivation is the ability of a fish to become dormant, usually in a "wet" cocoon, during period of drought until its habitat gets re-flooded.



Interesting facts
- Fish spawn in compact groups, and their spectacular splashing and thrashing can be seen and heard from considerable distances.
- Newly hatched young have an adhesive disc by which they attach to submerged substrate.
- Takes "gulps" of air into its lunglike air bladder, which allows it to supplement oxygen taken in through gills and to survive in water with low amounts of dissolved oxygen

American Eel



Scientific name *Anguilla rostrata*
Anguilla is Latin for eel, and *rostrata* is Latin for beaked, which refers to the snout or long nose.

Average size of adults Females are usually 16 to 33 inches in length with a weight of 0.25 to 0.75 pound. Maximum size in Missouri is 37 inches and 4.5 pounds, elsewhere American eels are reported to attain a size of 62 inches and 7 pounds in weight. Male eels rarely exceed 18 inches in length.

Lifespan 6 to 20 years for females, and 3 to 10 years for males

Habitat Moderate to large Missouri streams and rivers in deep pools around cover, such as logs and boulders

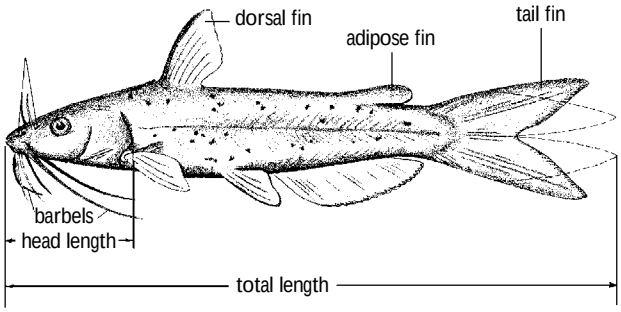
Food
- Young freshwater eels, or elvers, eat aquatic insects.
- Adults primarily consume crayfish and fish.

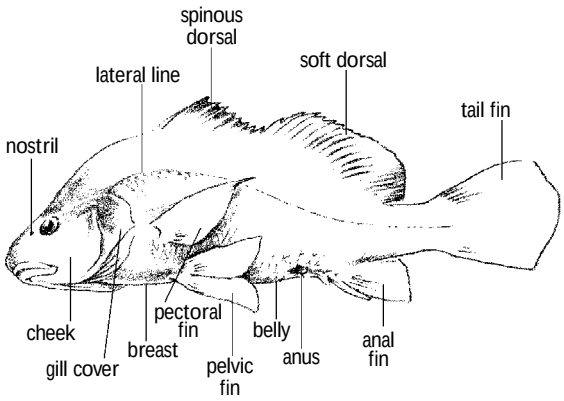
Most active At night

Identifying characteristics
- Slender snake-like body with a small pointed head
- Back and sides are brown or green in color with the belly yellow or white
- Dorsal, tail and anal fins form a single, continuous fin.

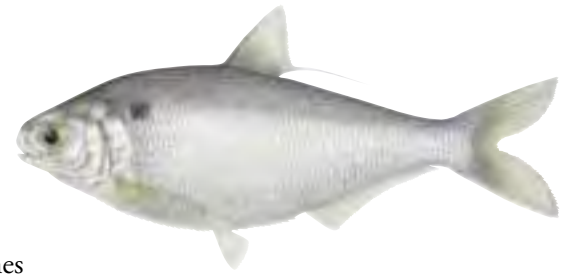
Interesting facts
- All eels in Missouri are female. Male eels spend their entire adult lives in estuaries along the coast, and only the females migrate to inland waters.
- Most of the adult life of the female American eels occur in freshwater (and males in brackish coastal waters), but eels then migrate to breed at great depths in Atlantic Ocean (saltwater) south of Bermuda. Fish that migrate from freshwater streams to the ocean to spawn are called catadromous. It is assumed adult eels breed once then die.
- When young eels reach coastal waters they are transparent and called "glass eels." As the young eels attain pigment and begin the journey into freshwater they are called elvers.
- The eel's body appears to be smooth because its scales are so small.
- The rapid serpentine movement and the smooth slime covered skin make the eel almost impossible to hold when captured and has given rise to the "slippery as an eel" saying.
- The American eel is considered an uncommon catch by Missouri sport anglers. This species is known to take natural baits and rarely takes artificial baits.
- Although eel is not commonly consumed by North Americans, smoked eel is considered fine table fare in Europe and other parts of the world. In addition to smoked, eels are known to be quite tasty fried or pickled.
- The American eel population in Missouri has been reduced by large dams restricting its ability to migrate.

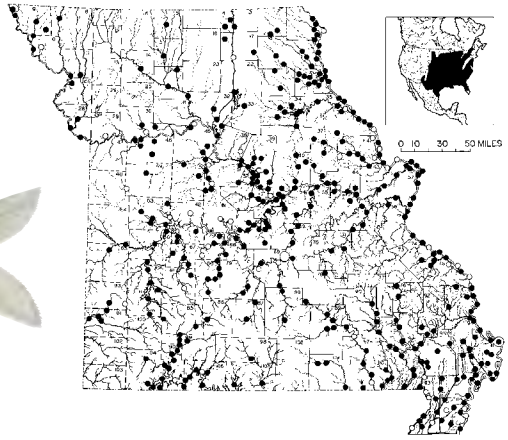
External anatomy of a fish





Gizzard Shad





Scientific name
Dorosoma cepedianum
Dorosoma is Greek for "lance body" in reference to the shape of the young, and *cepedianum* is named for the famous French naturalist, Citoyen Lacepede.

Average size of adults 9 to 14 inches

Lifespan 6 to 10 years

Habitat A variety of quiet-water habitats including natural lowland lakes and ponds, pools and backwaters of streams and rivers, and artificial impoundments

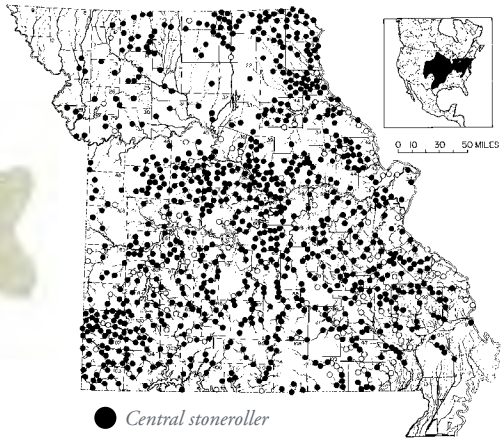
Food Omnivorous, feeds on plankton, algae, and detritus

Most active Dusk and night

Identifying characteristics
- Silvery, moderately deep-bodied fish with a large lustrous purple spot (maybe faint in adults) just behind the upper end of the gill cover
- Deeply forked tail, keel-shaped belly
- Last ray of the dorsal (top) fin is prolonged into a long, slender filament.

Interesting facts
- Common name is derived from its muscular stomach or "gizzard" which grinds its food.
- One of the most common and abundant fish in Missouri and an important prey for most game fish
- Young travel in large schools often near the water's surface and frequently leap out of the water or skip along the surface.

Central Stoneroller



Scientific name *Campostoma pullum*
Campostoma is Greek for "curved mouth," and *pullum* is Latin, meaning "dusky" or "dark colored."

Average size of adults Commonly 3 to 6.5 inches; maximum length 8 inches

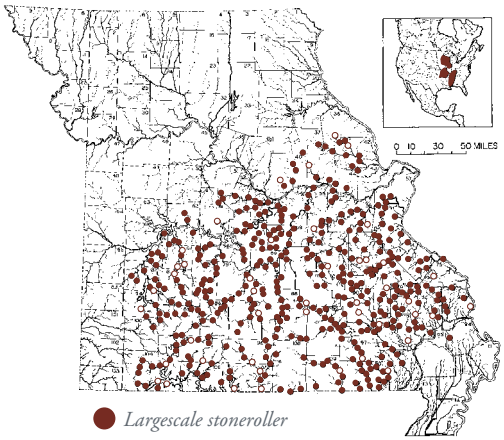
Lifespan 3 to 4 years

Habitat Small- to medium-sized streams with moderate to high gradient and rocky or bedrock substrates in or near riffles

Food Herbivorous, feeding on algae and bottom ooze scraped from rocks

Most active Daytime

male in breeding color

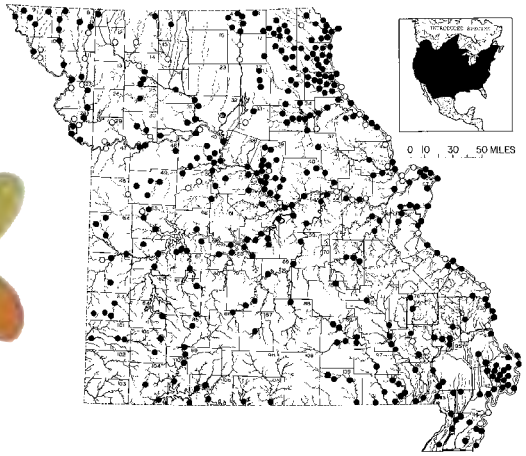


Identifying characteristics
- Brownish-colored minnow with small eyes
- Lower jaw has a flat shelf-like extension used to scrape algae from rocks.

Interesting facts
- Commonly seen "flashing" on the stream bottom in large schools as they feed
- Early spring spawners that build shallow pit nests in small gravel
- These fish leap clear of the water at frequent intervals. When large schools are present, they seem to surface in this manner almost continuously.
- The closely related largescale stoneroller is similar in appearance and ecology, but is limited to the Ozarks.

Common Carp

NON-NATIVE SPECIES



Scientific name
Cyprinus carpio
Cyprinus is an ancient Greek name for carp, and *carpio* is Latin for carp.

Other common names
Carp, German carp, Israeli carp, mirror carp, leather carp

Average size of adults
12 to 24 inches; maximum length 48 inches; 10 to 20 pounds, known to reach 100 pounds where native (Asia)

Lifespan 12 years

Range Statewide

Habitat
- High populations in natural and artificial impoundments, large rivers
- Present but less abundant in most other aquatic habitats
- Most abundant in shallow areas of lakes and deep holes in rivers

Food Omnivorous, feeding on a variety of small, live invertebrates, plant matter and other organic matter

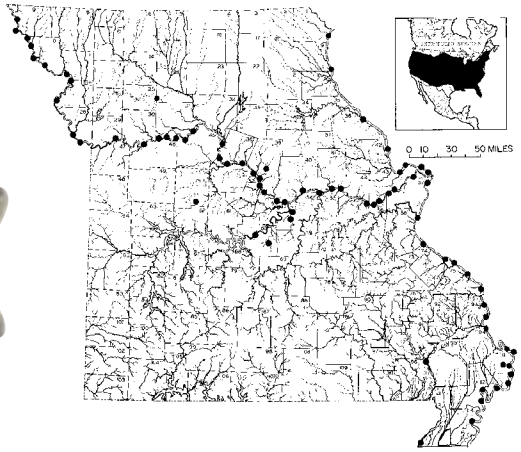
Most active Late evening and early morning

Identifying characteristics
- Two barbels on each side of mouth
- Large bodied, saw-toothed spine at front of both dorsal and anal fin

Interesting facts
- Native of Asia that was brought to Europe centuries ago and to the United States as early as 1831
- Introduced in Missouri in 1879
- Adaptable species that is now one of the most widespread and abundant large fishes in the state
- Commonly thought to cause deterioration of aquatic habitats due to their vigorous feeding habits

Grass Carp

NON-NATIVE SPECIES



Scientific name
Ctenopharyngodon idella
Ctenopharyngodon is Greek for "comb-like throat-teeth," and *idella* is Greek for "distinct."

Other common names White amur

Average size of adults 12 to 24 inches; maximum length 48 inches

Lifespan Up to 20 years

Habitat Natural and artificial impoundments, large rivers

Food Herbivorous, feeding on a variety of plant matter

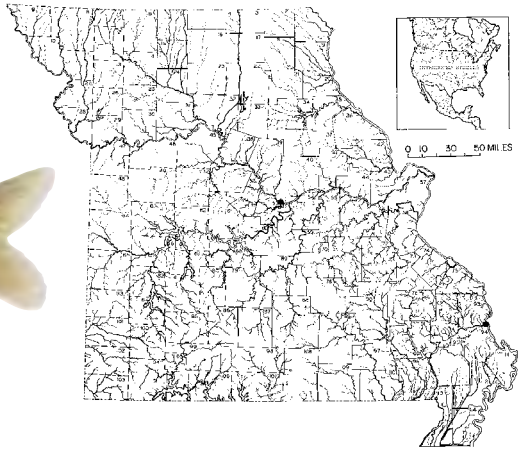
Most active Unknown

Identifying characteristics
- Large bodied
- Broad head with terminal, transverse mouth
- Both dorsal and anal fin lack spines at leading edge

Interesting facts
- A native of eastern Asia that was brought into the United States in 1963 and was introduced into Arkansas shortly thereafter
- First reported from Missouri water in 1971 in the Mississippi River when a 21-pound specimen was caught
- Used to control vegetation in ponds and lakes, but commonly remove too much vegetation and deteriorate habitat for game fish

Silver Carp

NON-NATIVE SPECIES



Scientific name
Hypophthalmichthys molitrix
Hypophthalmichthys is Greek for "underneath eye," and *molitrix* is Latin for "molar-like."

Average size of adults 12 to 24 inches; maximum length 48 inches

Lifespan Mature at 4 years or more; maximum lifespan exceeds 12 years

Range Large rivers and lakes throughout Missouri

Habitat Large rivers and the lower reaches of their tributaries, floodplain pools, reservoirs and reservoir tailwaters

Food
- Young feed on plankton strained from the water column.
- Adults feed on bottom detritus and algae.

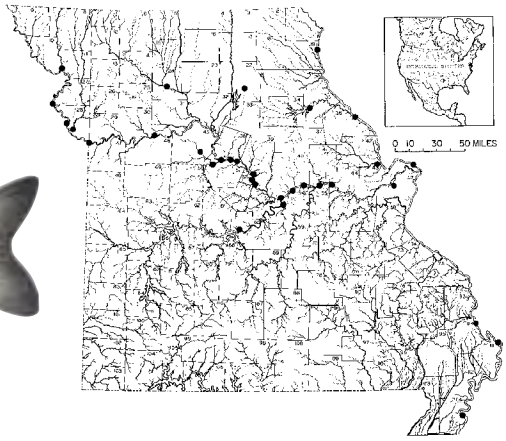
Most active Throughout the year, but little is known of daily activities

Identifying characteristics
- Large bodied with small scales
- Ventral (belly) keel extends from head to vent (anus)
- Large head with upturned mouth and eyes on underside
- Head relatively smaller, and eyes higher on head than bighead carp

Interesting facts
- Native to big rivers of eastern Asia, especially China
- Introduced in United States to help improve water quality in wastewater treatment plants by feeding on very small plankton, including green and blue-green algae
- First found in Missouri in early 1980s
- Used as food in other parts of the world and has been known to make up more than 90 percent of the commercial fish catch (along with bighead carp) in introduced areas
- Have become abundant and probably compete with native plankton eaters, including paddlefish and gizzard shad
- Spawning is triggered by a rise in river level, but not known to successfully spawn in ponds or lakes. Eggs are suspended in the river current and hatch in two days.
- Adults leap from the water at the slightest disturbance creating a potential hazard for boaters.

Bighead Carp

NON-NATIVE SPECIES



Scientific name
Hypophthalmichthys nobilis
Hypophthalmichthys is Greek for "underneath eye," and *nobilis* is Latin for "famous."

Average size of adults
12 to 24 inches and 12 to 15 pounds; maximum length 48 inches and 80 pounds

Lifespan 10 years

Range Large rivers and lakes throughout Missouri

Habitat Large rivers and the lower reaches of their tributaries, floodplain pools, reservoirs and reservoir tailwaters

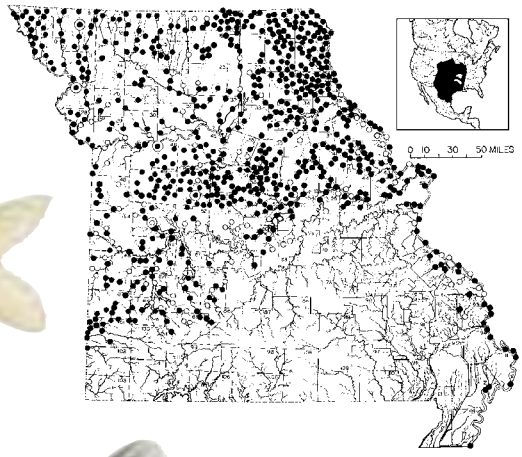
Food Feed on plankton strained from the water; eat larger plankton than silver carp, including zooplankton and algae

Most active Unknown

Identifying characteristics
- Large bodied with small scales and scattered, irregular dark blotches over the entire body
- Large head with upturned mouth and eyes on underside of head looking down
- Ventral (belly) keel extends from pelvic fins to vent (anus)

Interesting facts
- Native to big rivers of eastern Asia, especially China
- Introduced to remove excessive nutrients in waste treatment and fertilized fish ponds
- First evidence of reproduction in Missouri in 1989
- Used as food (see silver carp entry)
- Have become abundant and probably compete with native plankton eaters, including paddlefish and gizzard shad
- Spawning is triggered by a rise in river level, but not known to successfully spawn in ponds or lakes. Eggs are semi-boyant and suspend in the river current.
- Not as prolific a jumper as silver carp, but also leap from water when disturbed.

Red Shiner



Scientific name *Cyprinella lutrensis*
Cyprinella is from Latin, meaning "a diminutive carp;" and *lutrensis* is from the Latin word *lutra*, meaning "otter." The species was first known to occur in Otter Creek, Ark.

Average size of adults Commonly 1.8 to 3 inches; maximum length 3.5 inches

Lifespan 3 years

Habitat
- In streams of all sizes but is most abundant in large creeks and rivers
- Inhabits a variety of habitats, from riffles to quiet pools

Food Primarily insects

Most active Daytime

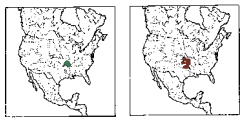
Identifying characteristics
- A rather slab-sided minnow
- Yellowish-olive back with dark edgings on scales
- Sides are silvery with blue reflections.

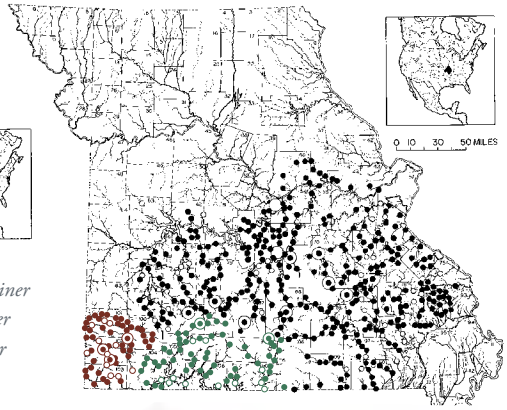
Interesting facts
- Most abundant and widely distributed minnow in the prairie region of north and west Missouri

male in breeding color

- Distribution is largely related to competition with closely related species including whitetail, bluntface, blacktail, spotfin and steelcolor shiners.
- Has adaptable spawning requirements; may spawn on sunfish nests, gravelly riffles, submerged logs or submerged plants from late May to early September

Duskystripe Shiner





Scientific name *Luxilus pilsbryi*
Luxilus means "light" in Latin; *pilsbryi* refers to Dr. Henry A. Pilsbry (1862-1957), a prominent malacologist (study of mollusks).

Average size of adults 3.5 to 4.5 inches, with a maximum size near 5 inches

Lifespan Rarely older than 4 years

Habitat Most commonly found in Ozark headwater streams with swift riffles and pools with clean gravel bottoms. In Missouri, only found in the White River system of southwest and south-central Missouri

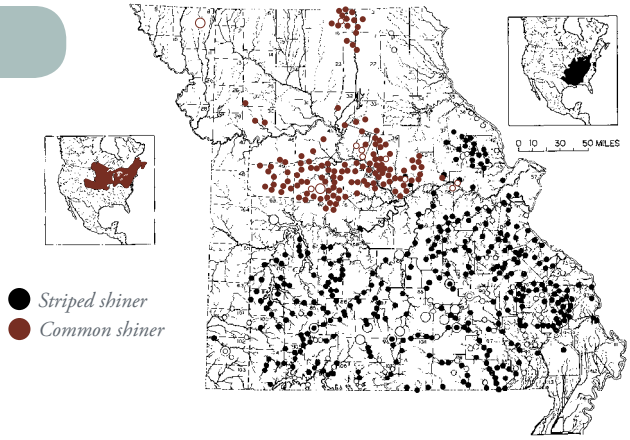
Food Aquatic and terrestrial insects

Most active Daylight; peak activity at dawn and dusk

Identifying characteristics
- Dark stripe along mid-side extending from nose to tail; an iridescent greenish-brown back with a narrow lighter colored band above the lateral dark stripe; silvery-white lower side and belly
- Breeding males have bright red fins, cheeks, and underside of head and body. Tip of snout is blue.
- Similar in appearance to bleeding and cardinal shiners, but the ranges for these species do not overlap with the duskystripe shiner

Interesting facts
- Typically found in stream pools in mixed species schools with a number of other minnows
- Spawn over the gravel depression around the mound nests of hornyhead chubs, usually in close association with another minnow species, southern redbelly dace, Ozark minnow and rosyface shiner

Striped Shiner/Common Shiner



Scientific name *Luxilus chrysocephalus*
Luxilus is from Latin meaning "light," and *chrysocephalus* is from Greek meaning "golden head."

Average size of adults Commonly 3 to 5 inches; maximum length 7 inches

Lifespan 6 years

Habitat
- Clear, permanent-flowing streams with clean gravelly or rocky bottoms
- Prefers relatively warm and quiet water, and is less tolerant of turbidity than its close relative, the common shiner

Food Insects, fish, crustaceans, plant material, algae and bottom ooze

Most active Daytime

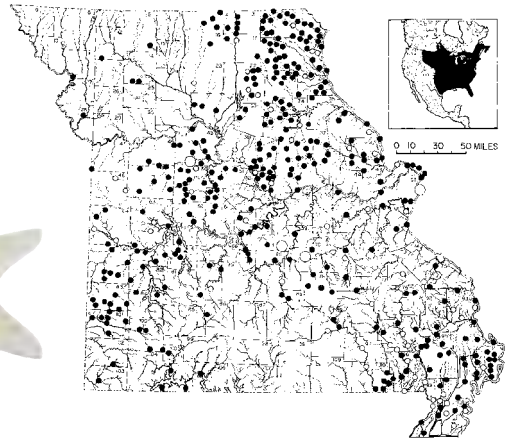
Identifying characteristics
- A rather large, deep-bodied minnow with large silvery scales on sides
- Back is olive-green with a broad dark stripe along the midline.
- Dusky pigment is found on the chin.

Interesting facts
- Often hybridizes with bleeding, duskystripe and rosyface shiners since all share the spawning nests of the hornyhead chub.
- Closely related to the common shiner that is similar in appearance and ecology but has a more northern distribution.

striped shiner
male in breeding color

common shiner
male in breeding color

Golden Shiner



Scientific name *Notemigonus crysoleucas*
From Greek, *notemigonus* means "angled back" and *crysoleucas* means "golden white."

Average size of adults
3 to 6 inches; maximum length exceeds 8 inches

Lifespan 6 years

Habitat
- Largest populations found in sloughs, ponds, lakes, impoundments and quiet pools of streams
- Rarely found in stream sections with noticeable current

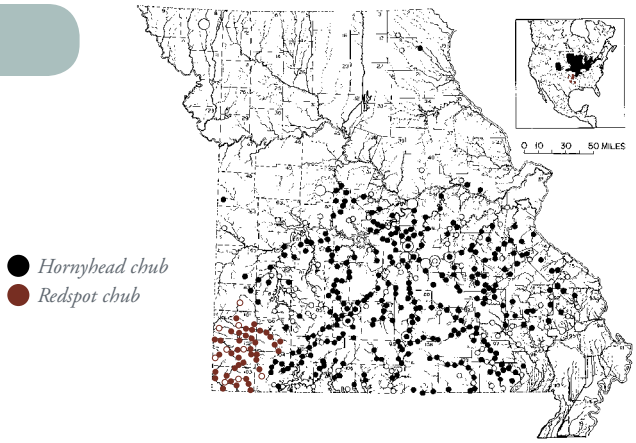
Food Both plant material and invertebrates

Most active Daytime

Identifying characteristics
- Deep-bodied minnow, back greenish-olive with a faint dusky stripe along the midline
- Sides are golden or silvery, and the belly is silvery white.
- Has a fleshy "keel" along midline of the belly from the anus forward to the pelvic fin bases

Interesting facts
- An important baitfish, well suited for pond culture and is often stocked as prey for game fish
- One of the largest minnows native to Missouri and the only minnow with a fleshy keel
- Occasionally captured by fishermen using small spinning and natural baits

Hornyhead Chub



Scientific Name *Nocomis biguttatus*
Nocomis is a Native American name applied to a group of fishes; and *biguttatus* is from Latin, meaning "two-spotted," possibly referring to spots on either side of a breeding male's head.

Average size of adults 5 to 7 inches; maximum length 10 inches

Lifespan 3 or 4 years

Habitat
- Clear Ozark streams with permanent flow and clean gravel
- Adults are found near riffles while young are usually found in pools, often hiding within plants.

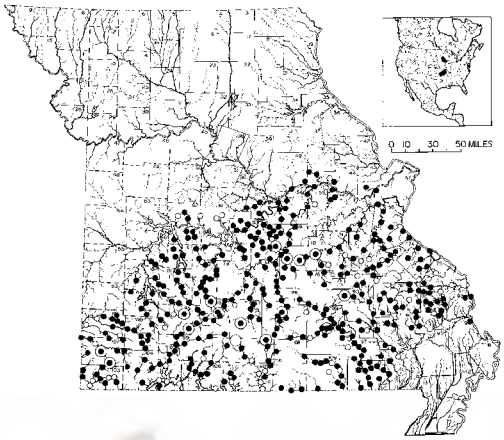
Food Omnivorous, feeding on both plants and animals. Prey animals are mostly insects.

Most active Daytime

Identifying characteristics
- Moderately large, slender minnow with a rather large nearly horizontal mouth
- Back and upper sides are olive-brown with large dark-edged scales
- Lower sides and belly are yellowish-white.
- Males commonly have tubercles (bony projections) on top of head and a red spot behind the eye.

Interesting facts
- In late spring, males build conspicuous mounds of gravel 1 to 3 feet in diameter on which to spawn. Numerous other minnows use these nests for spawning.
- Similar in appearance and ecology to the redspot chub that has a more limited and separate distribution.

Ozark Minnow



Scientific name *Notropis nubilus*
Notropis is from Greek meaning "black keel;" *nubilus* is from Latin, meaning "dusky," in reference to the body color.

Average size of adults
2.2 to 2.8 inches; maximum length 3 inches

Lifespan 3 years

Habitat
- Most abundant in creeks and small rivers with gravelly or rocky bottoms and strong permanent flow
- Usually found in protected backwaters near riffles or in pools directly below riffles

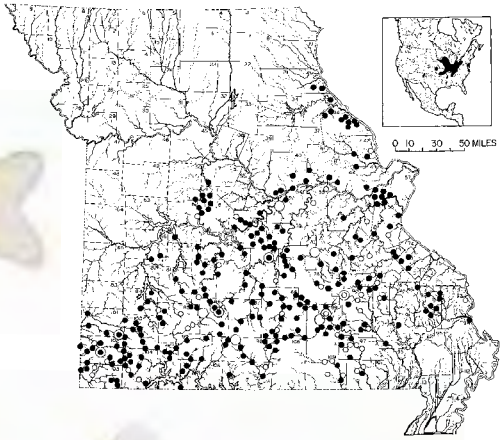
Food Omnivorous, feeding mostly on plant material with some animal matter

Most active Daytime

Identifying characteristics
- Small slender minnow with dark yellow-olive back and upper sides
- Dark-edged scales
- Lower sides are silvery with a prominent dusky stripe at midline that extends forward past the eye.

Interesting facts
- One of the most common minnow species in the Ozark uplands
- Often seen in large schools with other common minnows such as bleeding, cardinal and duskystripe shiners

Southern Redbelly Dace



Scientific name *Phoxinus erythrogaster*
From Greek, *phoxinus* means "tapering" and *erythrogaster* means "red belly."

Average size of adults
1.6 to 2.8 inches; maximum length 3 inches

Lifespan 2 years

Habitat Small creeks and spring branches of the Ozarks where there is permanent flow of cool, clear water and a gravelly or sandy bottom

Food Herbivorous, feeding primarily on algae and detritus with larval insects in lesser quantities

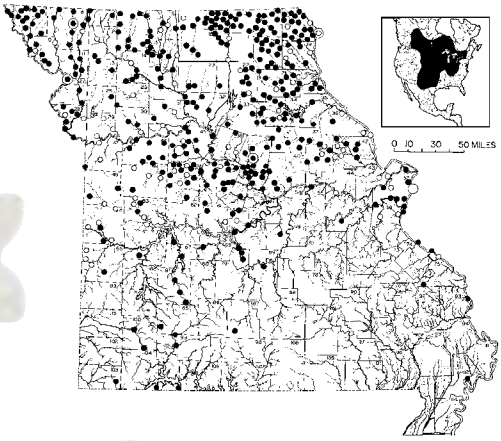
Most active Daytime

Identifying characteristics
- Slender minnow with two dusky stripes separated by a broad golden or yellowish stripe along the side
- Olive-brown back with scattered dark spots, and a white belly
- Scales are very small, barely visible to the naked eye.
- Breeding males are brilliant red on undersurface of head and body with lower fin and undersurface near tail lemon yellow.

male in breeding color

Interesting facts
- Dazzling breeding colors and a gentle disposition make the southern redbelly dace an excellent aquarium fish.
- Often school with other minnows such as stonerollers and creek chubs

Fathead Minnow



Scientific name *Pimephales promelas*
From Greek, *pimephales*, meaning "fat-head," and *promelas* meaning "before back," in reference to the dark head that develops in breeding males.

Other common names
Blackhead minnow, rosy red (color variation)

Average size of adults 1.6 to 2.8 inches; maximum 3 inches

Lifespan 3 years

Habitat
- In small prairie streams in northern Missouri where it is abundant in intermittent pools
- Can tolerate high water temperatures and low oxygen levels that commonly occur during dry, summer weather

Food Omnivorous, feeding on mostly algae and other plant material with some animal matter

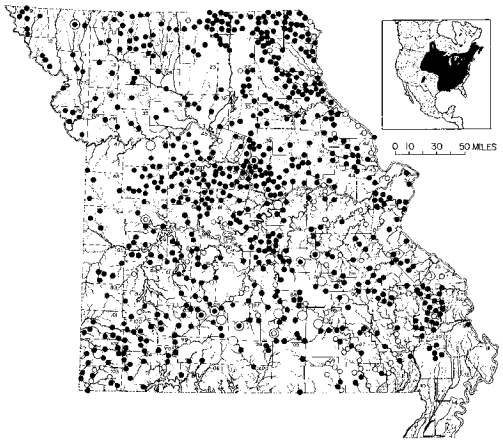
Most active Daytime

Identifying characteristics
- A chubby minnow with a blunt, rounded snout and short, rounded fins
- Dusky stripe along the midside and a spot at the base of the tailfin
- Breeding males are mostly black with yellowish bars encircling the body behind head and beneath dorsal fin and a distinctive, fleshy pad that develops behind the head only during the spawning season.

male in breeding color

Interesting facts
- A hardy fish well-suited for propagation in ponds
- Often stocked as prey for game fish and is commonly sold for bait

Creek Chub



Scientific name *Semotilus atromaculatus*
Semotilus from Greek *sema* meaning "banner," and *atromaculatus* from Latin meaning "black spot."

Average size of adults 5 to 7 inches; maximum length 12 inches

Lifespan 8 years

Habitat Widely distributed, but mainly occurs in small headwater creeks that may become intermittent in dry weather

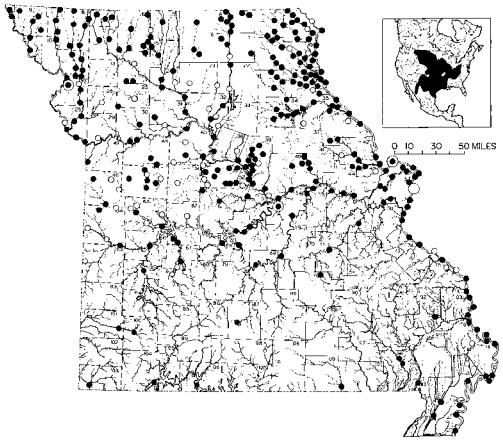
Food A generalized carnivore, eating mostly insects, but also small fishes, crayfish, worms and mollusks in lesser quantities

Most active Daytime

Identifying characteristics
- A slender, fine-scaled minnow with a black blotch at front of the dorsal fin and a black spot at the base of the tail fin
- Dark olive back with silvery sides that have greenish or purplish reflections and a thick dusky stripe
- Fins are yellowish or light olive, and the belly is silvery-white.

Interesting facts
- Largest minnow native to Missouri
- A hardy minnow that is often caught by anglers with small lures and makes an excellent bait
- Males construct spawning nests during spring composed of a long, low ridge of washed gravel with an oval pit at its downstream end. Numerous other minnows also use creek chub nests when spawning.

River Carpsucker



Scientific name *Carpiodes carpio*
From Latin, *carpiodes* means "carp-like" and *carpio* means carp.

Other common names White carp, silver carp, quillback

Average size of adults 12 to 15 inches; maximum size 25 inches

Lifespan 10 years

Range Primarily prairie regions of Missouri, but sporadically in the Ozarks

Habitat
- Rivers, streams and impoundments
- Prefers turbid waters

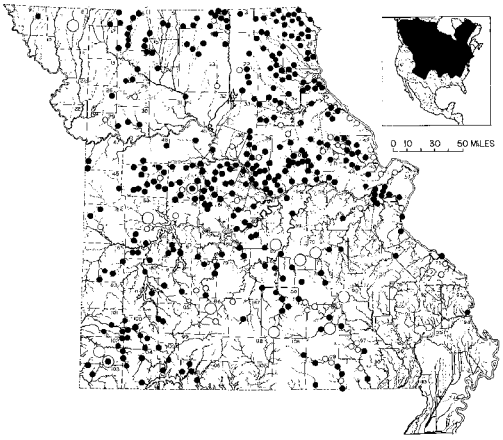
Food Omnivorous, feeding on algae, detritus, plants and invertebrates

Most active Unknown

Identifying characteristics
- Large bodied with large scales
- Whitish lower fins whitish
- Long sickle-shaped dorsal fin
- Center of lower lip with nipple-like projection

Interesting fact Most abundant and widespread Missouri carpsucker

White Sucker



Scientific name *Catostomus commersoni*
Catostomus is Greek for "subterminal mouth," and *commersoni* is named for Phelebert Commerson, an early French naturalist.

Other common names Black sucker

Average size of adults 9 to 15 inches; maximum size 23 inches

Lifespan 17 years

Habitat Deep vegetated pools in the Ozarks, and deep permanent pools in small prairie streams

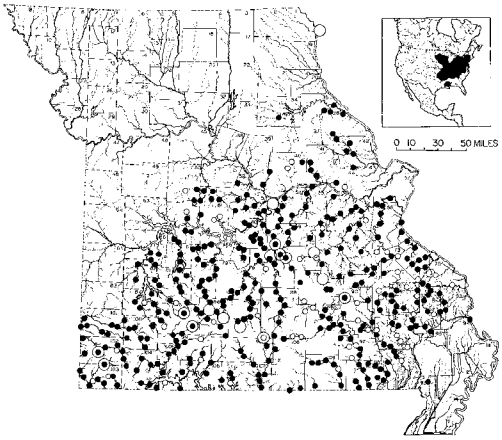
Food Invertivorous, feeding on invertebrates on the bottom of pools

Most active Unknown

Identifying characteristics
- Smaller bodied sucker with fine scales
- Short dorsal fin
- Lips broken covered with small bumps

Interesting fact Found primarily in small streams, unlike other Missouri suckers

Northern Hogsucker



Scientific name *Hypentelium nigricans*
Hypentelium is Greek for "below 5 lobes" in reference to the lower lip, and *nigricans* is Latin for "blackish."

Other common names Hog molly, box head

Average size of adults 8 to 15 inches; maximum size 17 inches

Lifespan 11 years

Habitat Deep riffles, runs and pools over silt-free sand, gravel and cobble

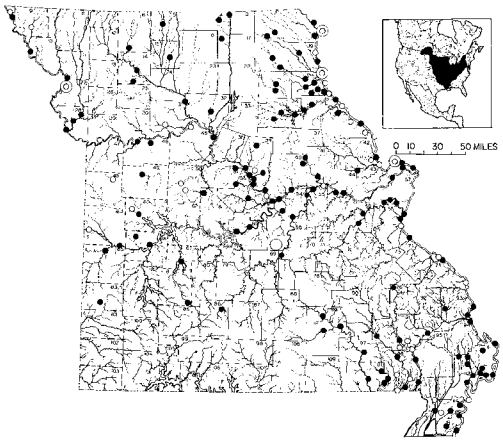
Food Invertivorous, feeding on invertebrates rooted from the substrate

Most active Dusk and dawn

Identifying characteristics
- Medium-sized sucker with large square head
- Head concave between eyes, lips highly protrusable and covered with bumps

Interesting fact This species' coloration makes it almost invisible when resting on a gravel stream bed.

Bigmouth Buffalo



Scientific name *Ictiobus cyprinellus*
Ictiobus is Greek for "bull fish," and *cyprinellus* is Latin for "small carp."

Other common names Gourdhead, redmouth buffalo, common buffalo

Average size of adults 15 to 27 inches; maximum size 48 inches

Lifespan 10 years

Habitat Deeper pools of rivers, streams and impoundments

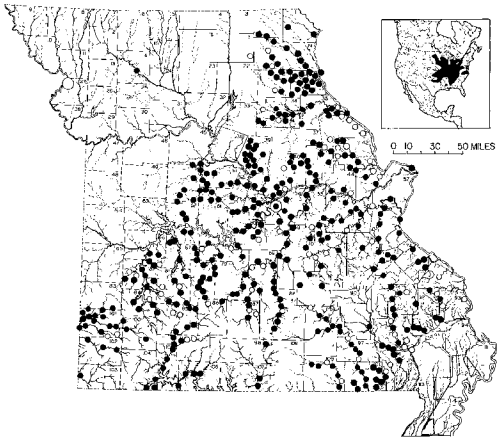
Food Omnivorous, feeding on invertebrates and detritus from the bottom

Most active Unknown

Identifying characteristics
- Large bodied with large scales
- Dark lower fins
- Long sickle-shaped dorsal fin
- Oblique mouth

Interesting facts
- Largest Missouri sucker
- Can be propagated for food in ponds

Golden Redhorse



Scientific name *Moxostoma erythrurum*
From Greek, *moxostoma* means "mouth to suck" and *erythrurum* means "red tailed."

Other common names Yellow sucker, golden sucker

Average size of adults 9 to 15 inches; maximum length 17 inches

Lifespan 11 years

Range Ozark and northeast Missouri streams

Habitat Deeper pools of clear, gravelly rivers and streams

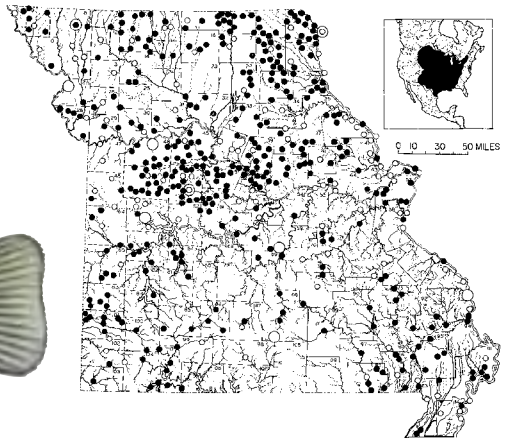
Food Invertivorous, feeding on invertebrates on the bottom of pools

Most active Unknown

Identifying characteristics
- Smaller bodied sucker with large scales
- Short dorsal fin
- Lower lips broken into parallel folds, and rear margin of lower lips forming V-shaped angle

Interesting fact Most commonly gigged sucker in Missouri

Black Bullhead



Scientific name *Ameiurus melas*
From Greek, *ameriurus* means "unforked tail fin" and *melas* means "black."

Other common names
Mud cat, black catfish, yellow belly bullhead, horned pout

Average size of adults
Up to 16 inches long and 2 to 3 pounds

Lifespan Normally 5 years, but can be up to 10

Habitat Prefer turbid, silty water with little or no current

Food Omnivorous bottom feeders, eating insects, mollusks, crustaceans, fish, and plant material, including dead and decaying matter

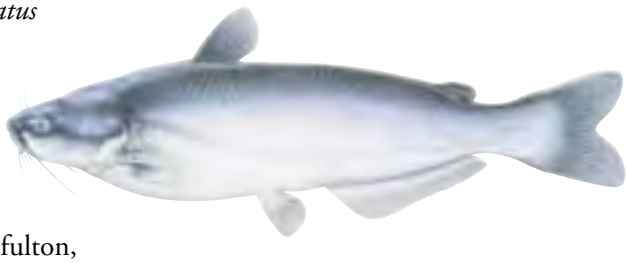
Most active Adults feed primarily at night, while the young are most active at dawn and dusk.

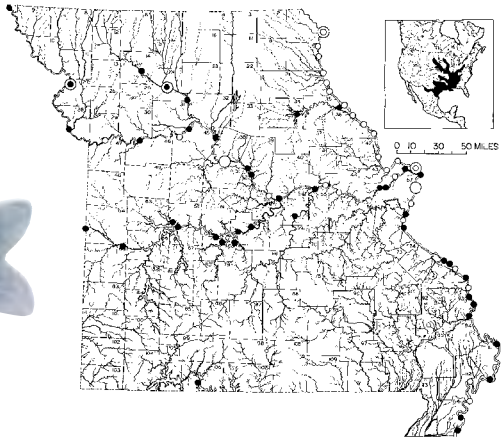
Identifying characteristics
- Smooth, scaleless skin and barbels, or "whiskers," around the mouth, like all catfish
- Only young, spawning males are truly black; dark greenish brown is the most common coloration.
- Square tail and a rounded anal fin

Interesting facts
- Spawn in May or June with one or both parents selecting and guarding nest sites beneath logs or in weedy cover
- May be caught on worms and a variety of other baits
- Trot or jug lines, or rod and reel are favored fishing methods.

Blue Catfish

GAME FISH





Scientific name *Ictalurus furcatus*
Ictalurus is from Greek, meaning "fish cat;" *furcatus* is from Latin, meaning "forked," in reference to the tail fin.

Other common names
White cat, blue fulton, white fulton, silver cat, blue channel cat

Average size of adults
- 20 to 44 inches long, weighing 3 to 40 pounds
- Fish weighing 80-100 pounds are occasionally caught.

Lifespan Unknown, but probably more than 20 years

Habitat
- Missouri's large reservoirs, big rivers and lower reaches of major streams
- Prefer swift chutes and pools with noticeable current

Food
- Carnivorous bottom feeders, eating mostly fish and invertebrates
- Use sensitive barbels and smell/taste to locate food

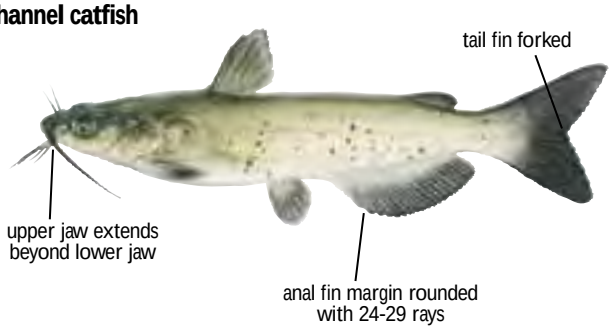
Most active
- Deep water of larger pools during the day
- Shallows or near cover at night to feed

Identifying characteristics
- Smooth, scaleless skin and barbels ("whiskers") around the mouth like all catfish
- Deeply forked tail, like the channel catfish, but can be distinguished by the straight-edged anal fin

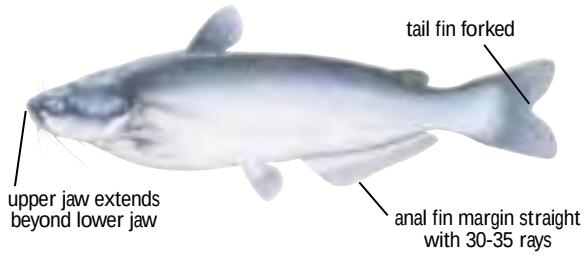
Interesting facts
- Spawn in late spring or early summer
- Male, sometimes with the help of the female, selects and guards nest site in dark secluded areas such as cavities in drift piles, logs, undercut banks and rocks.
- Trot or jug lines are favored fishing methods. Live or fresh-cut bait such as gizzard shad or skipjack herring are preferred.
- In the 1800s, there were reports of specimens weighing as much as 315 pounds.

Catfish identification tips

Channel catfish

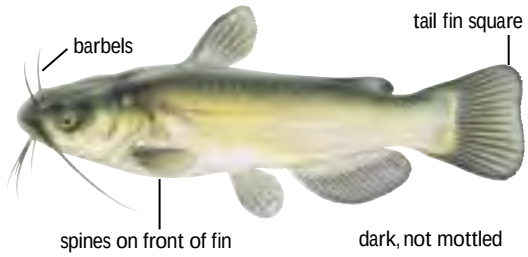


Blue catfish



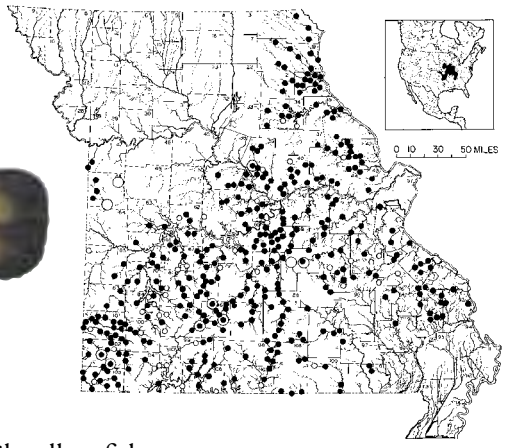
Flathead catfish

Black bullhead



For species descriptions see back cover and pages 21 and 23.

Slender Madtom



Scientific name *Noturus exilis*
Noturus is from Greek and means "back tail," in reference to the connection of the adipose fin and tail fin; *exilis* is from Latin and means "slim."

Average size of adults 3 to 5 inches long

Lifespan 3 years, but could be up to 6 years in captivity

Habitat Prefer small- to medium-sized streams with rock or gravel bottoms, clear water and permanent flow

Food Larvae of caddisflies, midgeflies and other aquatic insects, and filamentous algae on the stream bottom

Most active Adults hide beneath rocks during the day and forage actively at night.

Identifying characteristics

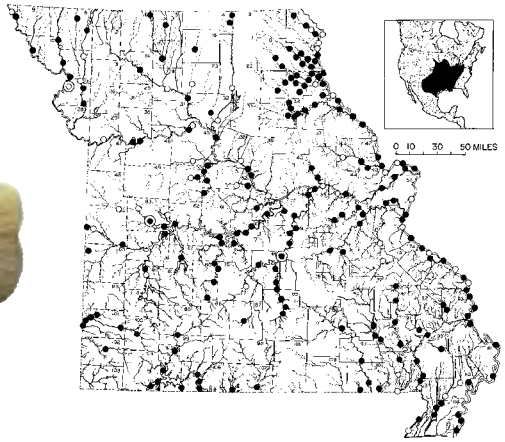
- Smooth, scaleless skin and barbels ("whiskers") around the mouth, like all catfish
- Adipose fin forms a low, keel-like ridge connected to the tail fin, rather than a flap-like lobe

Interesting facts

- Spawn in spring. One parent, probably the male, excavates a nest site beneath a rock and guards the nest.
- All madtoms have sharp pectoral spines with saw teeth and mild venom. Being stung or pricked by one of the spines cause a burning pain similar to a bee or wasp sting.

Flathead Catfish

GAME FISH



Scientific name
Pylodictis olivaris
Pylodictis is Greek for "mud fish" and *olivaris* is Latin for "olive-colored."

Other common names
Shovelhead cat, yellow cat, mud cat, goujon, appaluchion, johnnie cat

Average size of adults 15 to 45 inches; 1 to 45 pounds

Lifespan
- Unknown, but probably more than 20 years
- Mature when 4 to 5 years old

Habitat Prefer reservoirs or large streams with slow current

Food
- Smaller flatheads eat insect larvae; adults prefer fish and crustaceans.
- Unlike channel catfish, they are not scavengers and will not eat dead or decaying material.

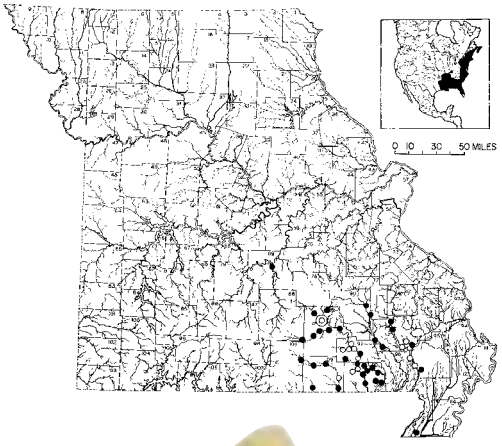
Most active
- Adults are solitary, each staking out a favorite spot in deeper water or under cover during the day.
- At night they move into riffles and shallow areas to feed.

Identifying characteristics
- Smooth, scaleless skin and barbels ("whiskers") around the mouth, like all catfish
- Broad, flattened head with small eyes on top, a square tail, and a rounded anal fin

Interesting facts
- Spawn in late spring or early summer
- Male selects and guards nest site in dark secluded areas such as cavities in drift piles, logs, undercut banks and rocks.
- Trot or jug lines, or rod and reel are favored fishing methods. Only live or fresh-cut baits are effective.

Chain Pickerel

GAME FISH



Scientific name *Esox niger*
In Latin, *esox* means "pike" and *niger* refers to "dark" or "black."

Other common names Pike, grass pike

Average size of adults 16 to 22 inches

Lifespan 8 to 9 years

Habitat
- Streams and some lakes of the southeastern Ozarks
- Inhabit clear, quiet waters where aquatic vegetation is abundant, particularly in backwater sloughs of streams

Food
- Adults are carnivorous and feed on other fishes.
- Young feed on small crustaceans and aquatic insects.

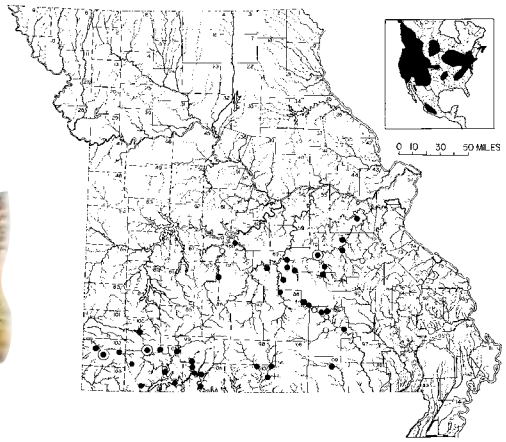
Most active
- Dawn and dusk, when feeding
- Solitary feeders that actively feed in the winter

Identifying characteristics
- Elongated body, snout shaped like a duck's bill, large mouth with many sharp teeth
- Back and sides olive or yellowish brown with a chain-like pattern of dark lines
- Dorsal, or back fin, placed far back on the body
- Similar to the smaller grass pickerel, which attain an average size of 10 to 12 inches, but both species seldom found in same waters

Interesting facts
- Adults lie motionless in dense stands of vegetation and ambush prey with a quick darting motion.
- They are random spawners. Instead of building a nest, they spread their eggs with a flick of their tail. A sticky coating on eggs allows them to adhere to vegetation.

Rainbow Trout

NON-NATIVE GAME FISH



Scientific name
Oncorhynchus mykiss
Oncorhynchus means "hooked nose" in Greek; "mykiss" is the native name for rainbow trout of the Kamchatka peninsula in Asia, where rainbow trout were first described in 1792.

Average size of adults 8 to 15 inches; may reach 30 inches and 18 pounds in Missouri

Lifespan 4 years, but capable of surviving for 8 or more years

Habitat Cold streams and lakes with water temperatures that generally remain less than 70° F

Food Carnivorous, feeding on aquatic and terrestrial insects, crayfish, crustaceans, snails and small fish

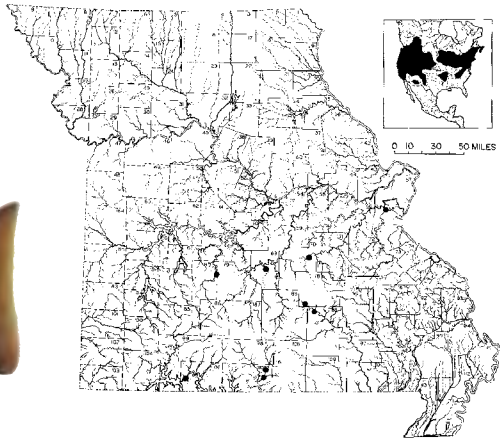
Most active Dawn and dusk, but also are active throughout the day

Identifying characteristics
- Sleek, streamlined fish with soft-rayed fins and small scales
- Sides usually with a pink or reddish longitudinal stripe
- Small, irregularly-shaped black spots cover much of body, dorsal and tail
- Tail is usually forked, and anal fin usually has 10-12 rays.

Interesting facts
- Most common species of trout in Missouri, and one of our most popular game fish.
- Native to the Pacific slope of North America and were first introduced into Missouri in 1882. Since then, they have established naturally reproducing populations in a few spring-fed streams, but most populations are maintained through releases of hatchery-reared fish.
- Anglers can catch rainbow trout in about 130 miles of spring-fed streams, Lake Taneycomo and in a few small impoundments that are stocked for winter fishing.

Brown Trout

NON-NATIVE GAME FISH



Scientific name
Salmo trutta
From Latin, *salmo* means "to leap" and *trutta* means "trout."

Other common names
German brown

Average size of adults
8 to 15 inches, but may reach 37 inches and 26 pounds

Lifespan 4 years, but capable of surviving for 8 or more years.

Habitat Cold streams and lakes with water temperatures that generally remain less than 70° F

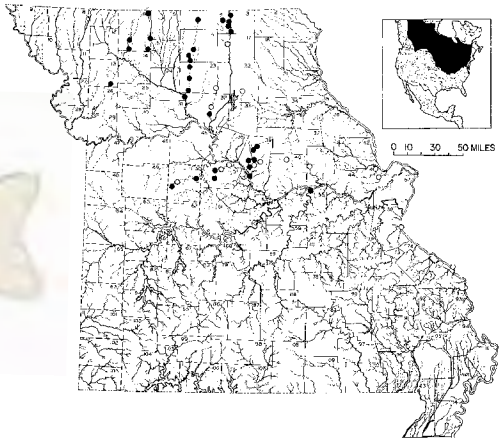
Food Carnivorous, feeding on aquatic and terrestrial insects, crayfish, crustaceans, snails and small fish. Large adults feed primarily on fish and crayfish.

Most active Dawn and dusk, but are active throughout the day

Identifying characteristics
- Sleek, streamlined fish with soft-rayed fins and small scales
- Body and dorsal fin with round, black spots, body with small red or orange spots surrounded by a lighter halo
- Tail fin is usually not forked and usually without spots.
- Anal fin usually with 9 rays

Interesting facts
- Brown trout are native to Europe and were first introduced into Missouri in 1890.
- All brown trout populations in Missouri are maintained through releases of hatchery-reared fish.
- Generally more difficult for anglers to catch than rainbow trout and can grow to large sizes after stocking
- Found in about 60 miles of spring-fed streams and in Lake Taneycomo

Trout-perch



Scientific name
Percopsis omiscomaycus
Percopsis means "perch-like" in Greek, and *omiscomaycus* is from an Algonkian Native American word referring to trout.

Average size of adults 3 to 4 inches

Lifespan 4 to 5 years

Habitat Deep pools of prairie streams

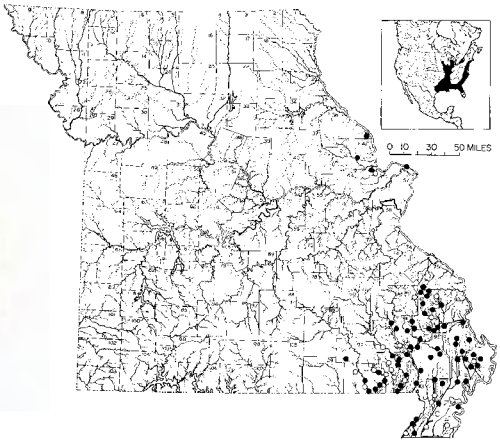
Food Feeds mostly on aquatic insects and other invertebrates from the stream bottom

Most active Night

Identifying characteristics
- Small size, silvery color with blackish spots in rows along upper sides
- Single dorsal fin, adipose fin present
- Body rough to touch
- Deeply forked tail fin

Interesting facts
- Only Missouri fish with both adipose fin and rough-edged scales, characteristics of trout and perch, respectively—thus the common name trout-perch
- Most closely related to cavefishes and pirate perch

Pirate Perch



Scientific name
Aphredoderus sayanus
Aphredoderus means "excrement throat" in Greek and refers to the forward position of the anus located in the throat region; and *sayanus* is named in tribute of Thomas Say, an early 19th century entomologist.

Average size of adults 3 to 5 inches

Lifespan 4 years

Habitat
- Bottomland lakes, overflow ponds, and quiet pools and backwaters of slow moving streams and ditches
- Inhabits areas with abundant cover consisting of aquatic plants or organic debris and no current

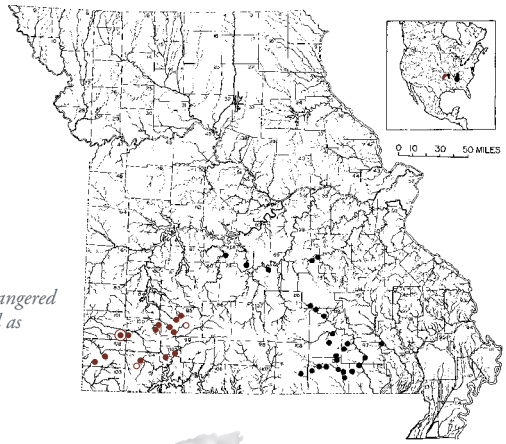
Food Carnivorous, feeding on aquatic insects, small crustaceans and small fish

Most active Dawn and dusk

Identifying characteristics
- Small size, grayish color heavily speckled with black, single dorsal fin, no adipose fin, body rough to touch, tail fin slightly notched, but without fork
- In Missouri, only pirate perch and cavefishes have anus located far forward on body in the throat area.

Interesting facts
- Anus located far forward is an adaptation to allow for the easy transfer of eggs from the anus to the mouth. It is believed the eggs are incubated in the female pirate perch's gill cavities.
- Most closely related to cavefishes and trout-perch

Southern Cavefish



● *Southern cavefish*
● *Ozark cavefish (state listed as endangered and federally listed as threatened)*

Scientific name *Typhlichthys subterraneus*
Typhlichthys means "blind fish" in Greek; *subterraneus* is Latin meaning "under the earth."

Average size of adults 1.5 to 2.5 inches; maximum size of 3.5 inches

Lifespan Unknown, believed to be longer than 10 years

Habitat Only in cave streams, wells and spring outlets

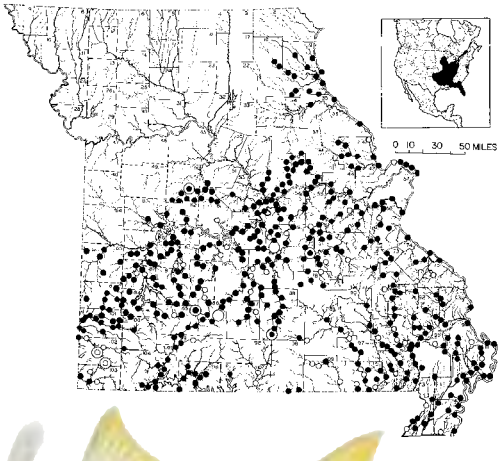
Food Microcrustaceans, crayfish and aquatic insect larvae

Most active Not believed to have daily peak activity times, an adaptation of living in complete darkness of a cave or underground environment

Identifying characteristics
- Long flattened head without eyes (only other Missouri fish that lacks eyes is the Ozark cavefish)
- Unpigmented, resulting in a whitish pink appearance due to blood vessels under the skin
- Pelvic fins absent and rounded tail (caudal) fin
- Scales are extremely small giving the body the appearance of being scaleless.
- Anus located far forward on body, under throat in adults.

Interesting facts
- It is believed that these cavefish spawn when water is high in February through April and that females carry the eggs in the gill chamber for 4 to 5 months until hatching. Up to 50 eggs can spawn from one female.
- Cavefish have a low metabolic rate that allows them to go without food for an extended period of time.
- Threats include: illegal collection for aquariums, groundwater pollution, groundwater removal, and habitat flooding by reservoir construction.

Brook Silverside



Scientific name *Labidesthes sicculus*
From the Greek *labidos*, meaning "a pair of forceps" and *esthio*, meaning "to eat," referring to the elongated jaws; and the Latin *siccus*, meaning "dried," that is, found in dried pools.

Other common names Needlenose, stick minnow, skipjack

Average size of adults 2.5 to 4 inches

Lifespan Maximum of 17 months; die shortly after spawning

Habitat
- Prefer clear, warm water with no noticeable current, such as backwaters and overflow pools of large streams
- Remain near the surface, never descending more than a few feet

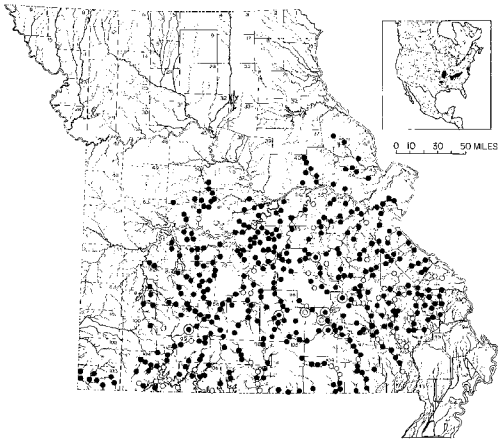
Food
- Young eat microcrustaceans.
- Adults eat insects.

Most active Activity regulated by light intensity; very active in daytime and on moon-bright nights; motionless in the dark

Identifying characteristics
- Slender, translucent fish with a silvery lateral band along the sides
- Two dorsal fins, long pointed snouts, and relatively large mouths

Interesting facts
- Spawn from late spring to summer
- Eggs attach to vegetation or other substrate by a long filament.
- These fish can be seen leaping out of the water over and over again, especially on moonlit nights. They will follow a flashlight beam shone onto the water at night.

Northern Studfish



Scientific name *Fundulus catenatus*
From Latin, *fundus* means "bottom" and *catenatus* means "chained" in reference to the color pattern.

Average size of adults 6 or more inches; Missouri's largest topminnow

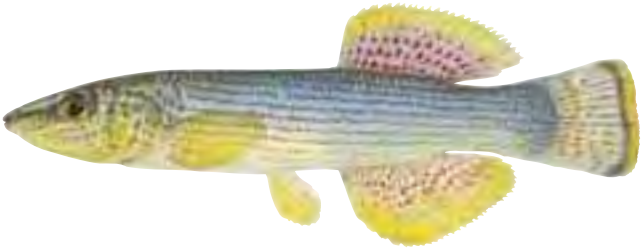
Lifespan 5 years

Habitat
- Prefer high-gradient streams with rock, or gravel or sand bottoms, and permanent flow of clear water
- Most often found in shallow water along margins of pools and riffles where there is little current

Food
- Adults mainly eat aquatic insect larvae and snails.
- Juveniles take more of their food from the surface.

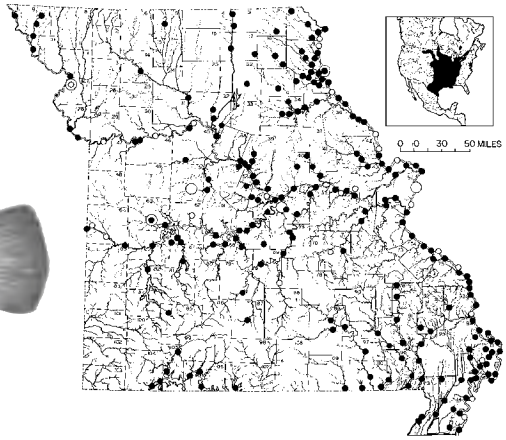
Most active Morning or late afternoon

Identifying characteristics
- Among the prettiest native topminnows, with silvery to brownish sides punctuated with scattered, short, horizontal brown dashes
- Males in breeding condition have electric-blue sides accentuated by horizontal red lines, orange-spotted head, and orange and black bands on the tail fin.



Interesting facts
- Spawn from mid-May to early August
- Males guard territory but do not prepare a nest.
- Aggressive by nature and adept leapers, they can leap out of the water with a quick tail flip when attacked.

Freshwater Drum



Scientific name *Aplodinotus grunniens*
Aplodinotus means "single back" in Greek, while *grunniens* means "grunting" in Latin.

Average size of adults 12 to 20 inches and 12 ounces to 5 pounds; maximum weight in Missouri is around 40 pounds and 60 pounds in other locations

Lifespan 13 years

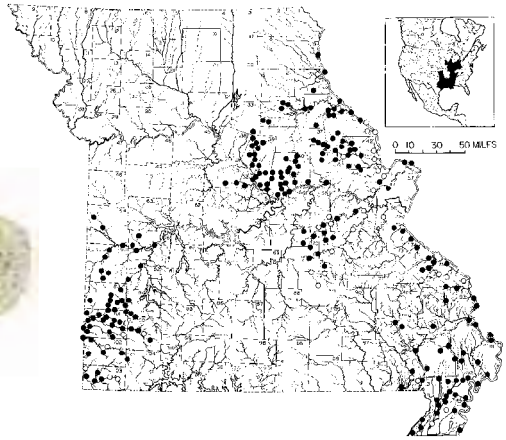
Habitat
- Large rivers, lakes and impoundments over most of Missouri, usually found in association with sandy or mud and sand mixed bottoms
- Rivers with larger pools and in reservoirs often occur in depths to 30 feet

Food
- Larval freshwater drum feed on zooplankton until about 2 inches long.
- The large mouth of larval freshwater drum also allows feeding upon the larvae of other fish species.
- Because the species has large heavy "throat teeth," it was first considered to feed on mollusks. However, studies have determined that the primary diet of adults is fish, crayfish and larval aquatic insects.

Identifying characteristics
- Silvery colored, deep-bodied fish
- Head and body slope upward from snout to dorsal fins and give the fish distinct humpbacked appearance
- Milky white lips
- White pelvic fins are often tinged with orange. The dorsal fin is long and is divided into two distinct parts.

Interesting facts
- This fish gets its name is from the grunting or "drumming" sound that is made by specialized muscles in association with the swim bladder. This sound is thought to be a mating call from male fish to females.
- Various groups of Native Americans used the otoliths (ear bones) as jewelry.

Blackstripe Topminnow



Scientific name *Fundulus notatus*
From Latin, *fundus* means "bottom" referring to the habitat and *notatus* means "spotted."

Average size of adults
2 to 3.5 inches

Lifespan 2 to 3 years

Habitat
- Along large lowland rivers and in the pools of streams draining flatter uplands
- Prefers slightly cooler and less turbid streams than the blackspotted topminnow

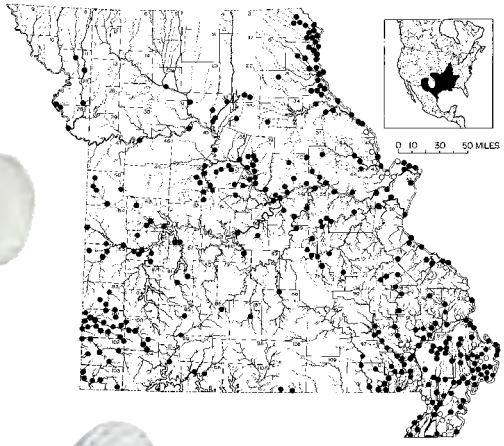
Food Wide variety of insect larvae, worms and other stream-bottom life

Most active Mornings and evenings

Identifying characteristics
- Slender, elongated shape makes for a sleek, swift fish.
- Light brown, with a velvety black longitudinal stripe running from the tip of the snout, through the eye, to the base of the tail fin

Interesting facts
- Spawns in spring
- Lives in pairs or small groups that cruise slowly along the shoreline
- Inhabits streams where the closely related blackspotted topminnow is not found

Western Mosquitofish



Scientific name *Gambusia affinis*
Gambusia is derived from a provincial Cuban word for mosquitofish, and *affinis* is Latin meaning "related."

male

Average size of adults 1.2 inches for males; 2.8 inches for females

Lifespan
- Usually 3 years
- These fish grow rapidly, however, sometimes maturing and reproducing within their first year; they usually die during the summer in which they mature.

Habitat
- Prefer shallow, marginal areas with warm water and abundant vegetative cover in backwaters and adjacent oxbows of sluggish lowland streams
- Remain near the surface in water only a few inches deep, singly or in small groups
- More widespread now due to stocking for mosquito control

Food Zooplankton, small insects and detritus

Most active A sight-feeding fish that is most likely active during daylight

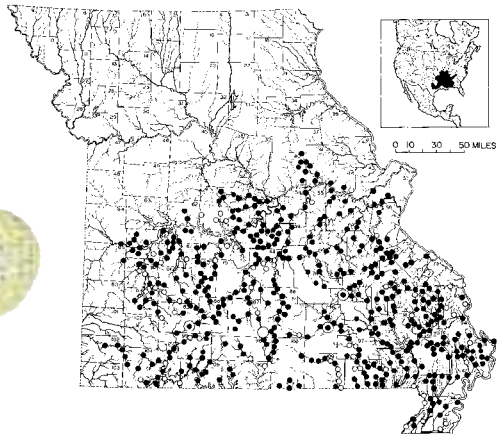
Identifying characteristics
- Same general body shape of the guppy to which it is related
- Vertical bars across the eyes give a masked appearance

female

- Upturned mouth, rounded tail fin, guppy-gray color, with a dark edge on each scale

Interesting facts
- Internal fertilization characterizes Missouri's only native livebearer. A single mating can fertilize several successive broods.
- Introduced throughout the world in the mistaken belief that they control mosquitoes better than native fish, mosquitofish have harmed aquatic ecosystems because of their highly predaceous habits.
- Possibly the most widespread fish in the world today

Blackspotted Topminnow



Scientific name *Fundulus olivaceus*
From Latin, *fundus* means "bottom" referring to the habitat and *olivaceus* means "olive-colored."

Average size of adults
2 to 3.5 inches

Lifespan 2 to 3 years

Habitat
- Along large lowland rivers and in the pools of streams draining flatter uplands
- Prefer slightly warmer and more turbid streams than the blackstripe topminnow

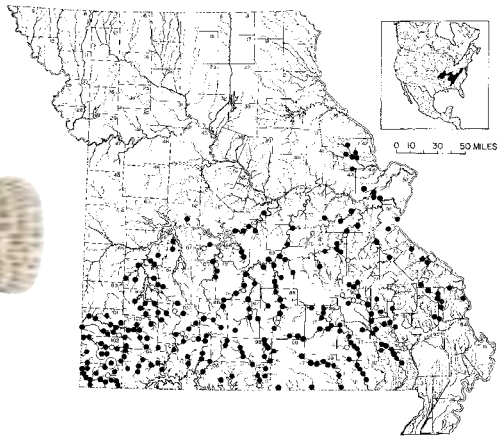
Food Wide variety or insect larvae, worms and other stream-bottom life

Most active Mornings and evenings

Identifying characteristics
- Sleek, swift fish with a slender, elongated shape
- Light brown, with a velvety black longitudinal stripe running from the tip of the snout, through the eye, to the base of the tail fin

Interesting facts
- Spawn in spring
- Live in pairs or small groups that cruise slowly along the shoreline
- Inhabit streams where the closely related blackstripe topminnow is not found

Banded Sculpin



Scientific name *Cottus carolinae*
Cottus is a Greek word referring to the European miller's thumb (suggesting flattened as a thumb smashed between two millstones), and *carolinae* is named for Caroline Henry, a friend of Theodore N. Gill who described the species.

Common names Miller's thumb, spoonhead, muddler, hog molly, blob

Average size of adults
- 2.5 to 5 inches, with a maximum size exceeding 7 inches
- Largest of Missouri's three sculpin species

Lifespan 6 years

Habitat Springs, spring branches, spring-fed streams and caves

Food
- Young feed on small crustaceans and aquatic insects.
- Adults feed mostly on crayfish, aquatic insects, snails and other fish, which they capture by ambush.

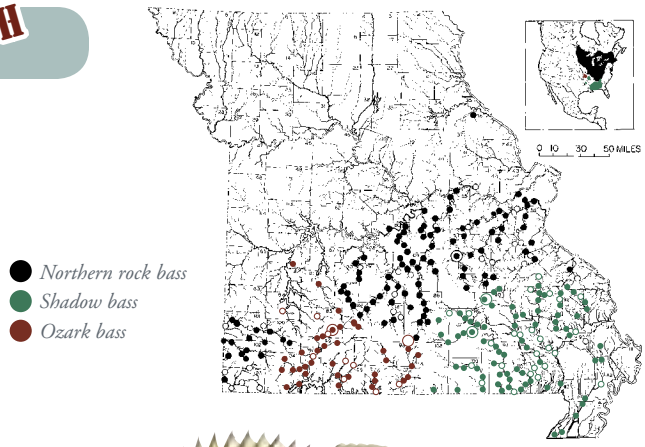
Most active Dusk to midnight

Identifying characteristics
- Enlarged somewhat flattened head
- No scales
- Large and fan-like pectoral fins
- Reddish-brown with four or five dark vertical bars
- Most closely resembles Missouri's other two sculpin species: mottled sculpin and Ozark sculpin. The banded sculpin is most easily distinguished by the broad, distinct dark vertical bar at the base of the tail fin.

Interesting facts
- Camouflage themselves to hide from its predators and to sit undetected awaiting prey
- Commonly caught by trout anglers
- Commonly found in caves oftentimes a considerable distance from the cave entrance
- More tolerant of warmer water than other Missouri sculpins and can be found in larger, warmer Ozark streams
- Only Missouri sculpin found north of the Missouri River
- Females attach eggs to underside of rocks or logs in slow to swift current of spring branches and spring-fed streams during late winter through spring. Males guard the nest.
- Spend most of their life in less than 100 yards of stream

Northern Rock Bass

GAME FISH



Scientific name *Ambloplites rupestris*
Ambloplites means "blunt armature" in Greek; *rupestris* from Latin refers to "living among the rocks."

Other common names Goggle-eye, redeye

Average size of adults Up to 11 inches and 1 pound; largest verified individual from the Big Piney River at 17 inches and 2 pounds, 12 ounces

Lifespan 7 to 9 years

Habitat
- Streams of the northern Ozarks, tributaries of the middle Mississippi, and a portion of the southwestern Ozarks
- Rarely in Ozarks reservoirs
- Larger individuals found around boulders, logs and vegetation beds in deep pools.

Food Crayfish and aquatic insects; occasionally terrestrial insects and small fish

Most active Twilight hours of dawn and dusk, and at night

Identifying characteristics
- Thicker-bodied than most other sunfish with large mouth and very large eyes
- Spiny dorsal fin with 12 spines broadly connected to soft dorsal fin
- Anal fin with 6 spines
- Color variable but generally dark brown to bronze above, often blotched on sides
- Distinct pattern of dark spots arranged in parallel lines along the sides differentiates the northern rock bass from closest relatives the Ozark bass and shadow bass.

Interesting facts
Previously recognized as a single species known as "rock bass," two very close relatives of the northern rock bass have been recognized in Missouri. Although nearly identical in behavior, habitat and life histories, the **shadow bass** (*Ambloplites ariommus*) and **Ozark bass** (*Ambloplites constellatus*) differ from northern rock bass and from each other primarily by where they are found.

- **Shadow bass:** Distribution is centered in the southeastern Ozarks from the Spring River to the Whitewater River. It is also found in the ditches and streams of the central lowlands in Scott, Dunklin, and Pemiscot counties. *Shadow bass may be identified as having broad, dark blotches arranged in a vertical pattern along their sides (*vs. *small blackish spots).*
- **Ozark bass:** Found in the Ozark Region of southwest Missouri and nowhere else in the world, it occupies streams of the White River basin, Pomme de Terre and Sac drainages, and the Osage River basin. *This species differs in appearance from northern rock bass and shadow bass by having blackish spots in an irregular freckled pattern along their sides (instead of in parallel rows or having vertical blotches). Ozark bass also tend to be more slender-bodied, and their eyes are often smaller.*

White Bass

Scientific name *Morone chrysops*
Morone is a name of unknown derivation, and *chrysops* means "golden eye" in Greek.

Other common names Striped bass, striper, streaker, silver bass, sand bass

Average size of adults
- 9 to 15 inches and 0.25 to 1.25 pounds
- Maximum size of 17.5 inches and 2.75 pounds

Lifespan 4 years

Habitat Inhabit the deeper pools of streams and the open waters of lakes and reservoirs

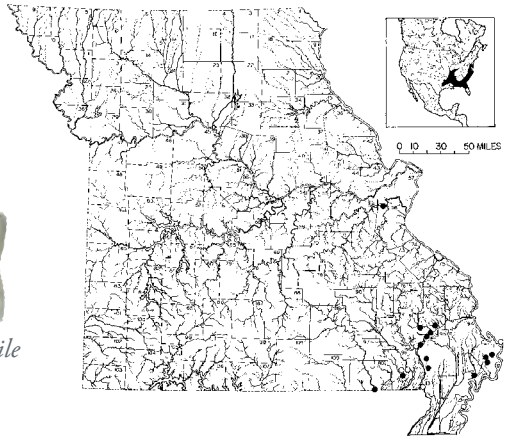
Food Carnivorous, feeding primarily on fish, but also on aquatic insects and crustaceans

Most active Dawn and dusk

Identifying characteristics
- Silvery, spiny-rayed elongated fish with several dark horizontal streaks along the sides
- Back is blue-gray with silvery reflections.
- Sides are silvery with a faint blue-green tinge and several horizontal olive-gray streaks.
- Upper surface of the tongue usually has a single patch of teeth.

Flier

juvenile



Scientific name *Centrarchus macropterus*
Centrarchus is from Greek meaning "anal-spined" and refers to the long anal fin spines. Also from Greek, *kentron* means "spine," *archos* means "anus" and *macropterus* means "long fin."

Other common names Round flier, flying perch

Average size of adults
- 5 to 7 inches
- Maximum size of 8 inches and 1 pound

Lifespan Up to 7 years

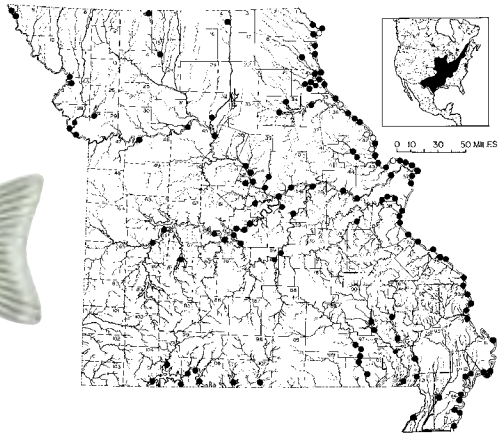
Habitat
- Prefers quiet, clear bodies of water with little current and considerable aquatic vegetation and mud bottom
- In Missouri, these habitats are usually found in sluggish pools of streams, backwaters, oxbows and bayous.

Food
- Young feed mostly on small crustaceans with aquatic and terrestrial insects increasing in the diet as fliers increase in size.
- Fliers larger than 7 inches feed primarily on insects with fish and crustaceans making up a lesser percentage of the diet.

Identifying characteristics
- Most similar in appearance to crappie, but the flier has 10-13 dorsal spines.
- Deep-bodied and saucer-shaped
- Generally olive-green to brassy in color
- Numerous black spots on sides arranged in rows on adults; interrupted rows of black spots on young
- Young fliers have a large dark spot with an orange margin in the rear portion of the dorsal fin that gradually disappears as the fish gets older.

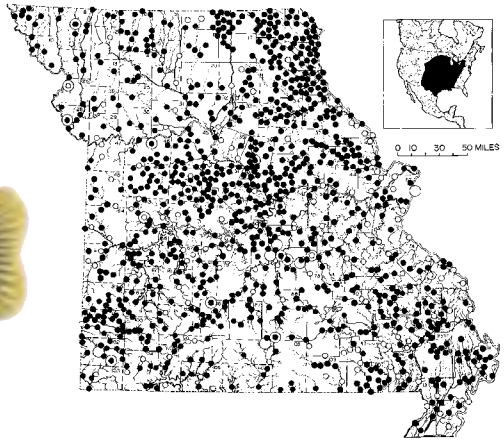
Interesting facts
- Ichthyologists from Virginia, where fliers are commonly found, have speculated the dark spot found in the rear portion of small flier's dorsal fin, when coupled with their eye gives the appearance of a much larger fish when viewed from above. This adaptation is believed to deter potential flier predators like herons.
- Because of its small size and limited distribution in Missouri, the flier is of little interest to Missouri anglers. In the South and Southeast, where the flier is more common, some anglers catch fliers with fly fishing tackle because of this species' habit of readily feeding on insects on the water surface.

GAME FISH



Interesting facts
- One of only two species of sea bass (yellow bass are the other) native to Missouri
- Hybrids of the white bass and the non-native striped bass have been stocked in several Missouri reservoirs to help control populations of gizzard shad.
- One of the most important game fish in Missouri's large impoundments
- Most closely related to yellow and striped bass

Green Sunfish



Scientific name *Lepomis cyanellus*
From Greek, *lepomis* means "scaled gill cover" and *cyanellus* means "blue."

Other common names Black perch

Average size of adults
- 6 to 8 inches
- Maximum size of 10 inches and 1 pound

Lifespan 6 years

Habitat
- Can be found in any pond, lake, or stream that is capable of supporting fish life
- Often found in pools and backwaters of streams that become isolated and stagnant during the summer or drought

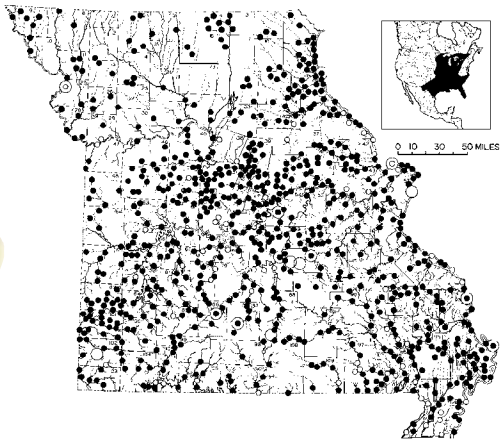
Food Carnivorous, feeding on insects, crayfish and small fish

Most active Throughout daylight hours

Identifying characteristics
- Thick-bodied sunfish with a large mouth, the upper jaw extending to about the middle of the eye
- Back and sides are bluish-green, grading to pale yellow or white on the belly. Black vertical bars are sometimes evident on the sides.
- Blue mottlings and streaks are present on the side of the head.
- Pelvic fins in breeding males are white or pink; and the tail and anal and dorsal fins are tipped with white or salmon-pink.

Interesting facts
- Most widely distributed fish in Missouri, at least a few occur in every stream capable of supporting fish life
- Hybrids of the green sunfish and bluegill have become popular with anglers, and are often stocked in small ponds to provide exciting fishing for kids.
- Most closely related to bluegill, redear and other sunfishes

Bluegill



Scientific name *Lepomis macrochirus*
From Greek, *lepomis* means "scaled gill cover," and *macrochirus* means "large hand," probably in reference to the body shape.

Other common names
Bream, brim, pond perch

Average size of adults
- 6 to 9.5 inches and 0.5 to 0.75 pounds
- Maximum size of 11 inches and 1 pound

Lifespan 4 to 6 years

Habitat
- Lowland lakes, artificial impoundments of all sizes, permanent pools of streams, and the quiet backwaters of large rivers
- Thrives in warm, moderately clear waters with little or no current

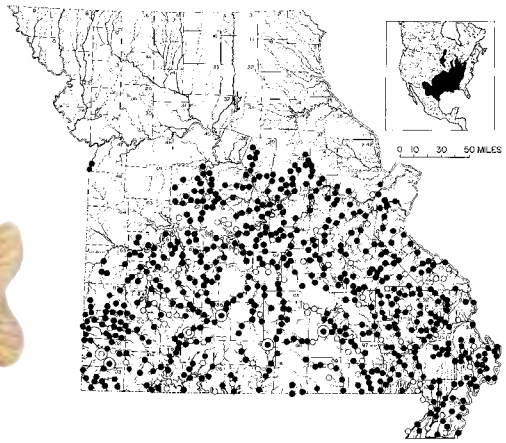
Food Carnivorous, feeding primarily on insects, but also on small crustaceans and small fish

Most active Daylight

Identifying characteristics
- Deep and slab-sided sunfish with a small-sized mouth, the upper jaw not reaching past the front of the eye
- Back and sides are dark olive-green with emerald and brassy reflections.
- Breast and belly are yellow or reddish-orange.
- Sides often have dark, vertical bars.
- Chin and lower part of the gill cover are blue, and the ear flap is entirely black.

Interesting facts
- Virtually absent from northwestern Missouri until it was widely stocked in farm ponds as a source of food for largemouth bass
- One of the most popular panfishes in North America and puts up a vigorous fight when hooked.
- Most closely related to green, redear, and other sunfishes

Longear Sunfish



Scientific name *Lepomis megalotis*
In Greek, *lepomis* means "scaled gill cover," and *megalotis* means "great ear" in reference to the prominent ear flap.

Other common names Pumpkinseed, creek perch, sun perch, sunnie

Average size of adults 5 to 6 inches; maximum size 7 inches and 4.5 ounces

Lifespan 6 years

Habitat
- Abundant in Ozark streams of all sizes except for extreme headwaters
- Clear, permanent-flowing streams having sandy or rocky bottoms and aquatic vegetation
- Avoids strong currents and is found in pools, inlets and overflow waters adjacent to the stream channel

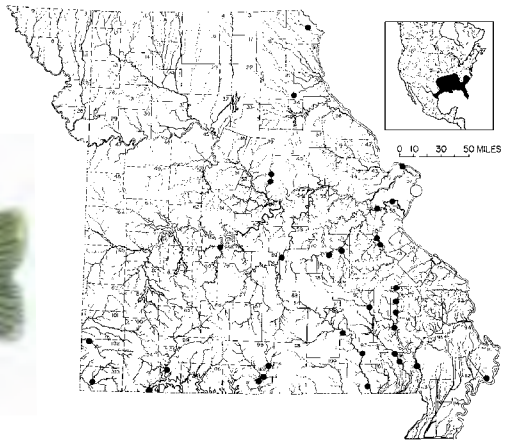
Food Carnivorous, feeding on insects, small crustaceans and some small fish

Most active Daylight

Identifying characteristics
- Deep and slab-sided sunfish with a moderate-sized mouth, the upper jaw nearly reaching the front of the eye
- Back and sides are blue-green speckled with yellow and emerald; the belly is yellow or orange.
- Side of head is olive or light orange with sky-blue vermiculations
- Elongated ear flap is black and often bordered in white.

Interesting facts
- Despite its small size, the longear sunfish is an important panfish in Ozark streams because of its abundance and willingness to bite.
- Provides excellent sport when taken on light tackle
- Most closely related to bluegill, green and other sunfishes

Redear Sunfish



Scientific name *Lepomis microlophus*
In Greek, *lepomis* means "scaled gill cover," and *microlophus* means "small nape."

Other common names
Shellcracker, bream, stumpknocker

Average size of adults
- 8 to 10.5 inches and 6.5 to 12 ounces
- Maximum size of more than 12 inches and more than 4 pounds

Lifespan 6 years

Habitat
- Does best in warm, clear waters with no noticeable current and an abundance of aquatic plants
- In streams, it prefers protected bays and overflow pools and avoids the main channel.

Food Carnivorous, feeding primarily on snails and other mollusks

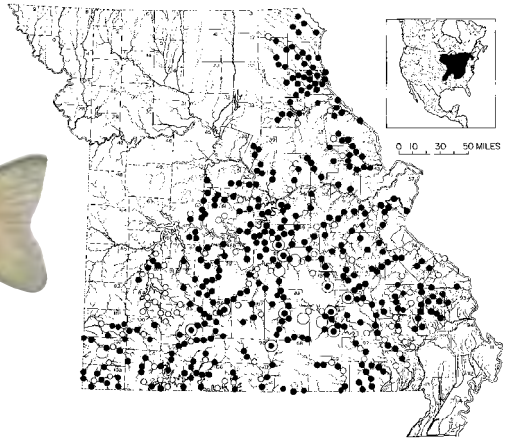
Most active Daylight

Identifying characteristics
- Deep and slab-sided sunfish with a small-sized mouth, the upper jaw not reaching past the front of the eye
- Back and sides are golden or light olive-green.
- Belly is yellow or orange-yellow.
- Sides often have dark, vertical bars.
- Ear flap is black with a whitish border and a prominent orange or red spot.

Interesting facts
- Stocked in many small ponds and fish hatcheries to control the spread of certain aquatic parasites. Redear prey upon aquatic snails, which are an important link in the lifecycles of certain aquatic parasites.
- Most closely related to bluegill, green and other sunfishes

Smallmouth Bass

GAME FISH



Scientific name *Micropterus dolomieu*
Micropterus in Greek means "small fin," the name resulting from an injury to the type specimen that made it appear that the posterior rays of the soft dorsal formed a separate fin; and *dolomieu* is named in tribute of M. Dolomieu, a French mineralogist.

Other common names Brown bass, brownie, bronzeback

Average size of adults
- 10 to 20 inches long and 0.5 to 4.2 pounds
- Maximum size of 22 inches long and 6 pounds

Lifespan 10 to 12 years

Habitat
- Found predominantly in cool, clear Ozark streams and large reservoirs in the Ozarks
- Found sparingly in the upper Mississippi River and its principle prairie tributaries that have clear water and permanent flow
- Thrives in clear streams, with silt-free rock or gravel bottoms, near riffles but not in the main current

Food Carnivorous, feeding on fish, crayfish, and large aquatic insects

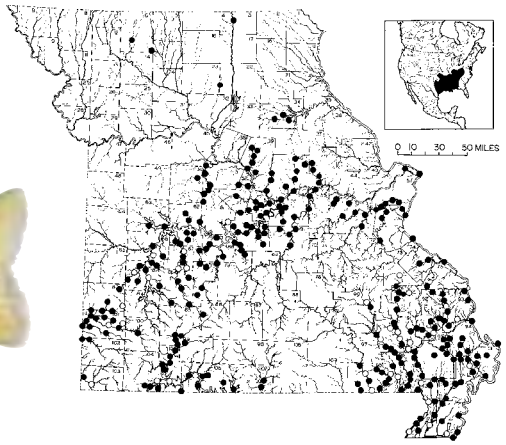
Most active Dawn and dusk

Identifying characteristics
- Large, elongated fish with a moderately large mouth
- Upper jaw reaches to about the rear margin of the eye in adults.
- Back and sides are greenish-brown with faint dark mottling and bars; the belly whitish overlain with dusky pigment.

Interesting facts
- Although mostly found in streams in Missouri, it can be found in natural lakes and ponds in the northern parts of its North American range.
- Populations have declined in the Moreau River drainage partly because of hybridization with an introduced population of the closely related spotted bass.
- Most closely related to largemouth and spotted bass

Spotted Bass

GAME FISH



Scientific name *Micropterus punctulatus*
Micropterus in Greek means "small fin," the name resulting from an injury to the type specimen that made it appear that the posterior rays of the soft dorsal formed a separate fin; and *punctulatus* in Latin means "dotted," in reference to the rows of dark spots along the lower sides.

Other common names Spot, Kentucky bass

Average size of adults
- 10 to 17 inches long and 0.6 to 3.5 pounds
- Maximum size of 20 inches long and 4 to 5 pounds

Lifespan 6 years

Habitat
- Permanent-flowing waters that are warmer and slightly more turbid than those where the smallmouth bass occurs
- Main channels of large rivers and in most Ozark reservoirs at greater depths than other black basses

Food Carnivorous, feeding on crayfish, fish, and immature aquatic insects

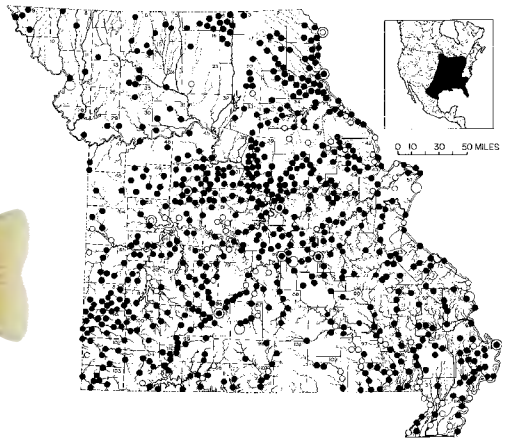
Most active Dawn and dusk

Identifying characteristics
- Large, elongated fish with a large mouth
- Upper jaw reaches to or slightly beyond the rear margin of the eye in adults.
- Upper parts are greenish with darker mottlings; the lower sides and belly are whitish with dark spots arranged in rows. The midside has a broad, dark continuous stripe.

Interesting facts
- Important game fish in Missouri, although less desirable than smallmouth and largemouth bass because of its smaller size
- Introduced populations in Missouri tend to replace smallmouth bass through hybridization and competition.
- Most closely related to largemouth and smallmouth bass

Largemouth Bass

GAME FISH



Scientific name *Micropterus salmoides*
Micropterus in Greek means "small fin," the name resulting from an injury to the type specimen that made it appear that the posterior rays of the soft dorsal formed a separate fin. *Salmoides* is from the Latin word *salmo*, the trout, because this species was often called "trout" in southern states.

Other common names Lineside bass, bigmouth bass

Average size of adults
- 10 to 20 inches long and 0.5 to 4.5 pounds
- Maximum 24 inches long and 15 pounds.

Lifespan 10 to 15 years

Habitat Lowland lakes, artificial impoundments of all sizes, permanent pools of streams, and quiet backwaters of large rivers. Thrives in warm, moderately clear waters with little or no current.

Food Carnivorous, feeding on fish, crayfish, large insects, and, occasionally, frogs, mice, snakes or other small animals that fall into the water.

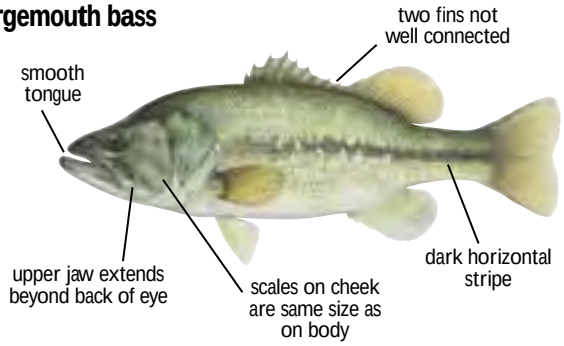
Most active Dawn and dusk

Identifying characteristics
- Large, elongated fish with a very large mouth
- Upper jaw reaches far beyond the rear margin of the eye, except in small young.
- Upper parts are greenish; the lower sides and belly are white without dark spots or with spots that are irregularly arranged. Midside has a broad, dark continuous stripe.

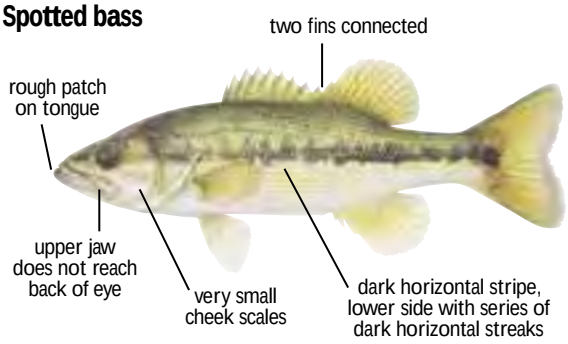
Interesting facts
- Most popular freshwater game fish in North America
- Two distinct sub-species: the northern and the Florida
- Most closely related to smallmouth and spotted bass

Bass identification tips

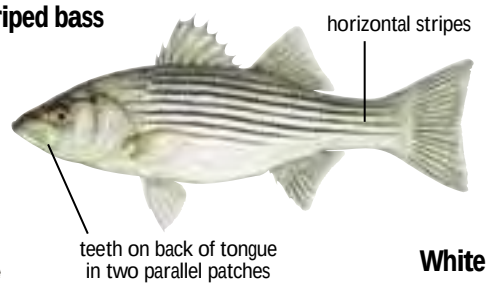
Largemouth bass



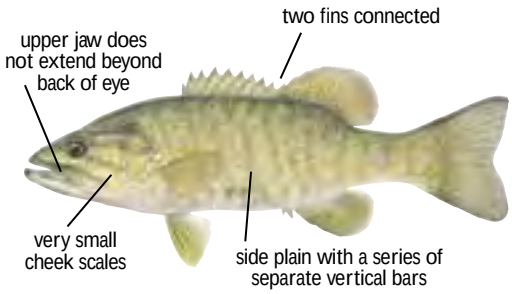
Spotted bass



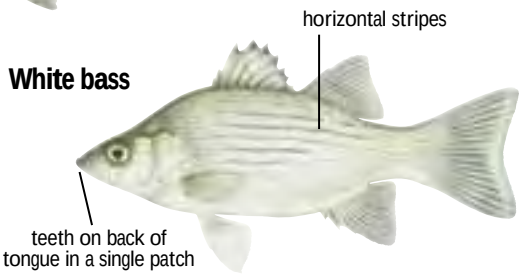
Striped bass



Smallmouth bass

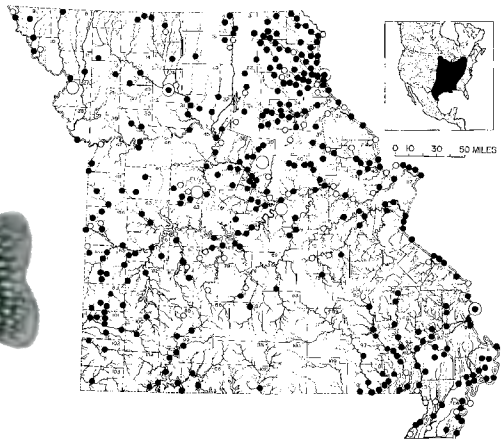


White bass



White Crappie

GAME FISH



Scientific name *Pomoxis annularis*
Pomoxis in Greek means "sharp opercle;" *annularis* in Latin means "having rings," which refers to the pigment in vertical bars on the sides.

Other common names
Crappie, papermouth, bachelor perch

Average size of adults 9 to 10 inches; maximum growth up to 4 pounds

Lifespan 4 years; occasionally 8 years or more

Habitat
- Open water in or near submerged timber or other suitable cover in ponds, lakes, reservoirs, and slow-flowing backwaters of large rivers
- Near vegetation and submerged woody structure in shallow water during spawning period

Food Primarily small fish such as minnows and young shad; also aquatic insects and small crustaceans

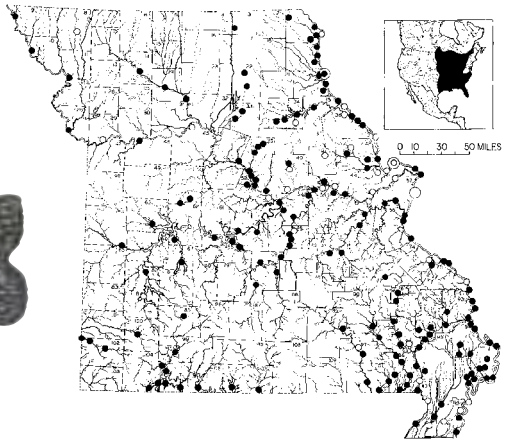
Most active Evening and nighttime, but can be seen during all times of the day

Identifying characteristics
- Deep bodied, strongly compressed laterally (slab-sided)
- Sides silver with 5-10 often faint, vertical bars
- Upper jaw long, reaching past middle of eye
- Dorsal fin with 6 spines
- Most closely related to black crappie

Interesting facts
- Nest in colonies in or near plant growth if available. As many as 35 nests have been reported in one colony.
- In suitable waters, natural reproduction of crappies may be considerable.

Black Crappie

GAME FISH



Scientific name *Pomoxis nigromaculatus*
Pomoxis in Greek means "sharp opercle," and *nigromaculatus* in Latin means "black spotted."

Other common names
Crappie, papermouth, bachelor perch

Average size of adults 9 to 10 inches; maximum growth 4 pounds

Lifespan 4 years; occasionally 8 years or more

Habitat Like that of the white crappie, the black crappie occupies open water with submerged timber or aquatic vegetation in standing water bodies and slow-flowing backwaters of large rivers. However, the black crappie is less tolerant of turbid water and siltation.

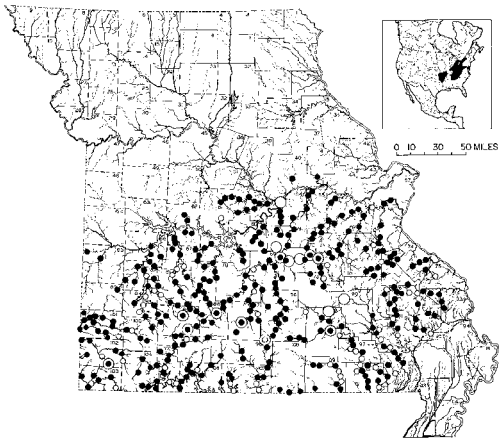
Food Feeds primarily on small fish such as minnows and young shad, aquatic insects and small crustaceans

Most active Evening and nighttime

Identifying characteristics
- Deep bodied and strongly compressed laterally like the white crappie, but has silver sides with dark speckles and blotches not arranged in bars and dorsal fin with 7-8 spines

Interesting facts
- Grows slower in length than the white crappie but is generally heavier at any given length
- Female black crappie may spawn with several males and can produce eggs several times during the spawning period.

Greenside Darter



Scientific name *Etheostoma blennioides*
Etheostoma is from the Greek *etheo* "to strain" and *stoma* "mouth;" *blennioides* means "like the blenny," a marine fish.

Average size of adults 2.5 to 4.5 inches; maximum more than 5.5 inches

Lifespan 5 years

Habitat Swift to moderate current in streams and rivers with rocky or gravel riffles throughout the Ozarks

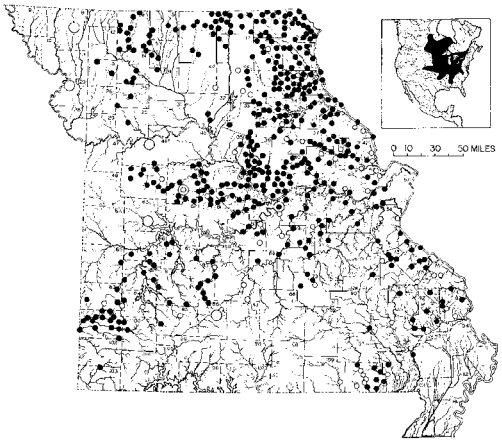
Food Larvae of aquatic insects including midges, caddisflies and mayflies; small crustaceans; snails

Most active Daytime

Identifying characteristics
- Olive to yellow sides and back with scattered red spots and vertical blotches often arranged in a "V" or "W" pattern
- Breeding males have bright blue-green on head and lower fins and green vertical bars.

Interesting facts
- Second largest Missouri darter in size next to the logperch
- Attach eggs to strands of filamentous algae and aquatic mosses

Johnny Darter



Scientific name *Etheostoma nigrum*
Etheostoma is from the Greek *etheo* "to strain" and *stoma* "mouth;" *nigrum* is Latin for "black."

Average size of adults 1.6 to 2.8 inches; maximum 3 inches

Lifespan 3 to 4 years

Habitat
- Found primarily in pools and slow-moving riffles in sandy streams
- Common in prairie streams of northeastern and central Missouri

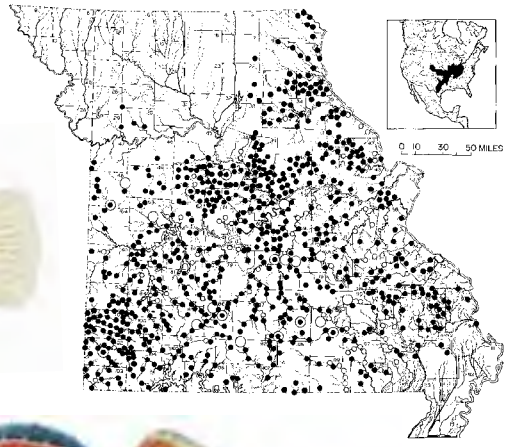
Food Midge larvae, other aquatic insects and small crustaceans

Most active Daytime

Identifying characteristics
- Straw-colored body with dark "X-", "Y-" and "W-" shaped markings on sides
- Breeding males are very dark brown with black on head and fin.

Interesting facts
- More tolerant of siltation and turbidity than other darters found in Missouri
- Spawn upside down on the underside of rocks or other objects

Orangethroat Darter



Scientific name *Etheostoma spectabile*
Etheostoma is from the Greek *etheo* "to strain" and *stoma* "mouth;" *spectabile* in Latin means "conspicuous."

Average size of adults
1.2 to 2 inches; maximum 2.6 inches

Lifespan 4 to 5 years

Habitat Slow-moving riffles in streams with gravel and rock bottoms and clear to moderately clear water

Food Midge larvae, other aquatic insects and small crustaceans

Most active Daytime

Identifying characteristics
- Mottled yellow-brown on back with indistinct brown crossbars; sides with several vertical blue stripes
- Males colorful while breeding with red blotches on sides and bright orange under gills

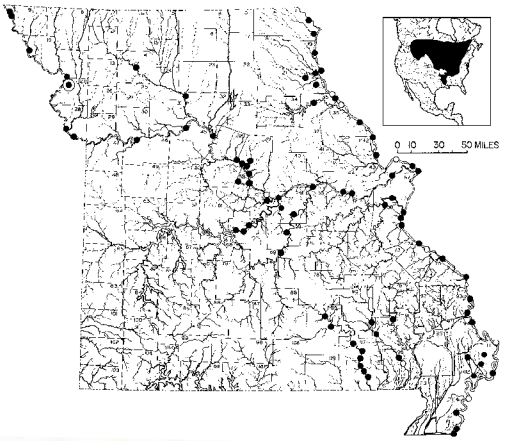
Interesting facts
- The swim bladder in darters is lacking or much-reduced. This allows them to sink and hold closely to the bottom of the stream without much effort.

male in breeding color

- Shortly after hatching, orangethroat darter fry sometimes inhabit the nests of smallmouth bass. It is believed that they benefit from the protection of the male bass guarding its nest.
- Recently scientists have separated the orangethroat darter group in Missouri into three distinct species: brook, Current River and orangethroat darters.

Sauger

GAME FISH



Scientific name *Sander canadensis*
Sander refers to German common name for the European relative of walleye; *canadensis* referring to "from Canada" where the species was first described.

Other common names Jack salmon, spotted Jack, sand pike

Average size of adults
- 12-15 inches; maximum 3 to 4 pounds
- Smaller than walleye

Lifespan 7 to 10 years

Habitat
- Mostly in the Mississippi and Missouri rivers and suitable tributaries, as well as the Eleven Point River in southern Missouri
- Found mainly in flowing water and often swift current
- More tolerant of turbidity than walleye

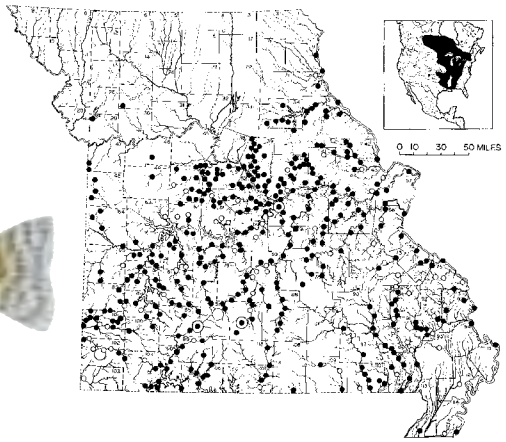
Food A variety of fish, crustaceans and insects

Most active During low light periods or during daylight in highly turbid water

Identifying characteristics
Similar to walleye with the following exceptions:
- distinct dark blotches or "saddle marks" present on sides
- dark spots on the first dorsal fin which lacks dark blotch near the base of the last few dorsal spines
- scales present on cheek
- white blotch on the lower lobe of the tail fin absent or reduced

Interesting fact Sauger occasionally interbreed with walleye where their ranges overlap to produce "saugeye." The hybrid shares characteristics of both parents making identification difficult.

Logperch



Scientific name *Percina caprodes*
Percina is "a small perch" from Greek; *caprodes* also from Greek means "resembling a pig" in reference to the snout.

Average size of adults
4 to 6 inches; maximum 7 inches

Lifespan 3 or 4 years

Habitat
- Deep riffles and silt-free pools in small- to medium-sized rivers
- Along wind-swept gravel shorelines in reservoirs

Food Midges, small crayfish and small aquatic worms

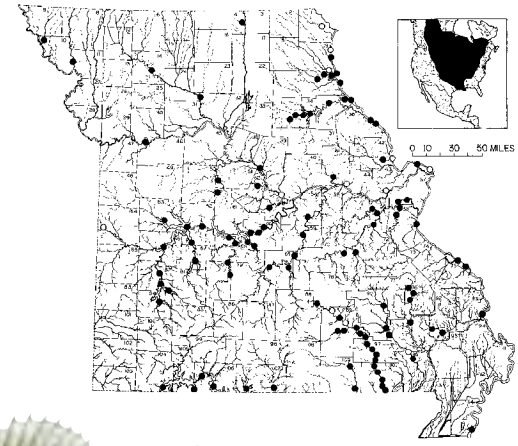
Most active Daytime

Identifying characteristics
- Long snout overhanging mouth
- 15-20 dark vertical bars alternating in length on pale yellow sides

Interesting facts
- Largest member of the darter family in Missouri
- Uses its snout to pry up rocks in search of prey
- Occasionally caught by fishermen using small spinning and natural baits

Walleye

GAME FISH



Scientific name *Sander vitreus*
Sander refers to the German common name for the European relative of walleye; *vitreus* refers to the "glassy eye."

Other common names Jack salmon, walleyed pike

Average size of adults Commonly 12 to 28 inches and 0.5 to 8 pounds. Largest individuals may achieve 20-22 pounds in Missouri and some other states.

Lifespan 7 or 8 years; occasionally up to 13 years or more

Habitat
- Native to several large rivers and streams throughout Missouri, walleye have been stocked extensively in reservoirs, rivers, and ponds.
- Adults prefer deeper pools with rocky or submerged log cover in rivers, and creek channels and dropoffs in lakes and reservoirs.
- At night they are often found in shallower depths and may suspend in the water column while feeding.

Food
- Adults primarily feed on a variety of fishes including minnows and shad.
- Fry consume zooplankton (small crustaceans) and aquatic insect larvae.

Most active At night; may also be active during low light, such as dawn and dusk, and minimized light penetration from murky or choppy water or heavy cloud cover.

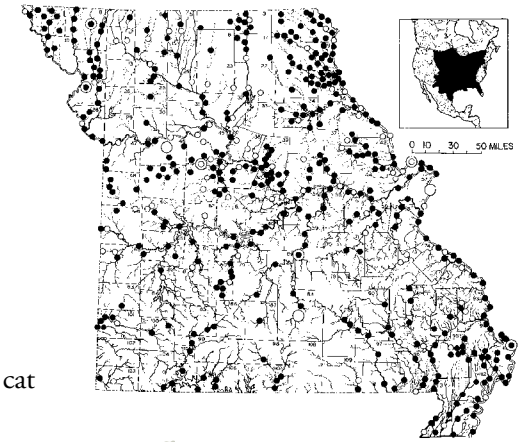
Identifying characteristics
- Slender bodied with two separate dorsal fins, large mouth and numerous teeth
- Back and sides olive brown to nearly black
- Belly and lower tip of tail fin are white.
- Distinguished from its close relative, the sauger by larger streaks (versus spots) on the first dorsal fin and a dark blotch near the base of the last few dorsal spines; lack of scales on the cheek; and a pronounced white blotch on the lower lobe of the tail fin.

Interesting facts
- The walleye is named for its pearlescent eye, which is caused by a reflective layer of pigment behind the retina called the *tapetum lucidum*. It helps them see and feed at night in deep or murky water.
- Often referred to as a "pike," walleye are actually the largest North American member of the perch family (Percidae), which includes the sauger, yellow perch and more than 150 species of darters.
- Walleye have very sharp canine teeth, which are slanted backward to catch and hold prey.
- Most closely related to the sauger

MISSOURI STATE FISH

Channel Catfish

GAME FISH



Scientific name
Ictalurus punctatus
Ictalurus from Greek meaning "fish cat;" *punctatus* from Latin meaning "spotted" in reference to the dark spots on the body.

Other common names
Spotted cat, blue cat, fiddler, lady cat, chucklehead cat, willow cat

Average size of adults
- 12 to 32 inches, weighing 1 to 15 pounds
- Specimens as large as 45 pounds have been caught elsewhere, but are uncommon in Missouri.

Lifespan 6 to 7 years, but can live more than 20 years

Habitat Prefer sand- or gravel-bottomed lakes or large streams with low current

Food
- Omnivorous bottom feeders, eating insects, mollusks, crustaceans, fish and plant material.
- Channel catfish less than 4 inches long eat mostly small insects.
- Locate food primarily by taste and smell

Most active Adults stay in deep water of larger pools during the day and move to shallows or near cover at night to feed.

Identifying characteristics
- Like all catfish, the channel cat has smooth, scaleless skin and barbels ("whiskers") around the mouth.
- The channel catfish, like the blue catfish, has a deeply forked tail, but can be distinguished by having dark spots on its sides and an anal fin with a rounded edge.

Interesting facts
- Spawn in late spring or early summer when water temperatures reach 75° F
- Males select nest sites in dark secluded areas such as cavities in drift piles, logs, undercut banks and rocks.
- Males guard the nest. Fry remain in the nest, guarded by the male, for about a week after they hatch.
- One of the most sought after fish in Missouri
- A wide variety of baits is used to catch channel catfish including liver, worms, grasshoppers, shrimp, chicken, cheese and stinkbait. Trot or jug lines, or rod and reel are favored fishing methods.
- Raised commercially for food in catfish "farms"
- Established as the official Missouri state fish on May 23, 1997

Credits
This revised version of "Introduction to Missouri Fishes" is based on the research of William L. Pflieger. Writers are Harold Kerns, John Calfee, Matt Combes, Tommie Crawford, Sam Faith, Mike Kaminski, Mike Kruse, Dave Mayers, Paul Michaletz, Doug Novinger, Jeremiah Schisler and Darren Thornhill.

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SPORT FISH RESTORATION

This publication was funded by the Sport Fish Restoration Program, which uses federal excise taxes on fishing equipment and motorboat fuels to support aquatic education, fisheries research and management, fishing and boating access and habitat improvement.

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