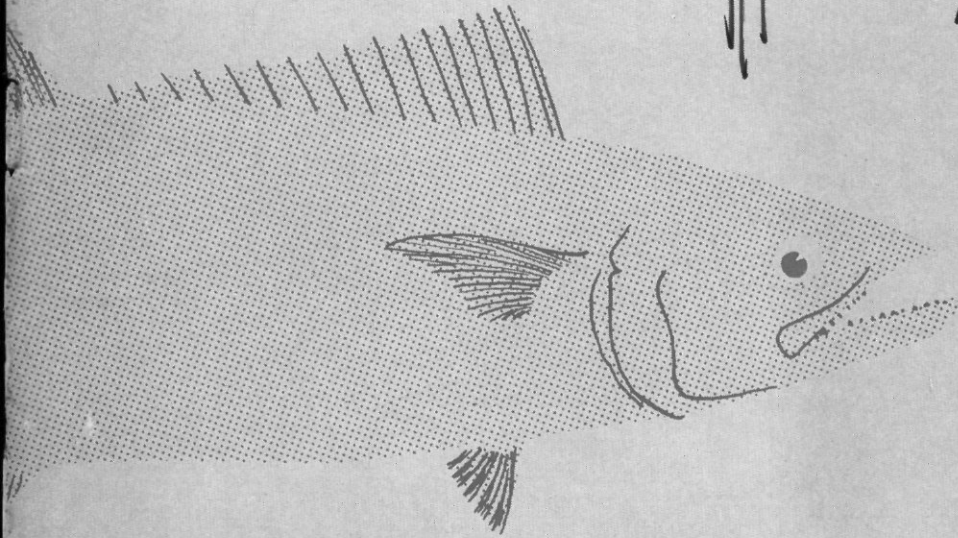
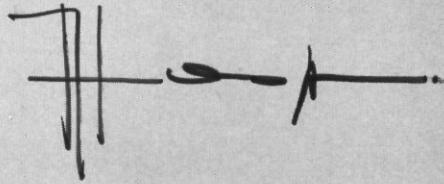


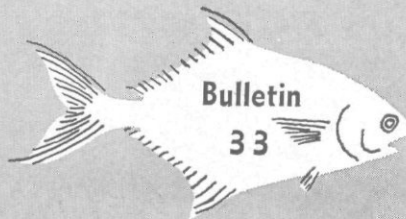
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FOOD AND GAME FISHES



OF THE
TEXAS COAST



Texas Parks and Wildlife Department
Austin, Texas 78701

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TEXAS PARKS AND WILDLIFE DEPARTMENT

BULLETIN NO. 33

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FOOD AND GAME FISHES
OF THE
TEXAS COAST

Compiled by Patricia Pew
and the Staff of the Marine Laboratory



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EDUCATIONAL SERIES

The Marine Laboratory of the Texas Parks and Wildlife Department is engaged in scientific investigations and management of the marine resources of the state.

The purpose of the investigation is to ascertain facts about life histories, growth rates, migration, breeding and feeding habits of fishes, shrimps, and oysters, in order that they may be properly conserved and managed. Studies are also being made which show promise toward the development of new resources from the sea, and improvement of the old and often wasteful methods of using the resources already developed.

The enactment of wise laws for the conservation and preservation of the natural resources of Texas lies within the hands of Texans. It is not reasonable to expect wise regulations and planning without proper knowledge, however, and it is to place information within the hands of the people of this state that these bulletins are produced and distributed.

It is hoped that this and succeeding publications in the series may serve such a purpose, and that they may help to develop an understanding of, and respect for, certain basic facts upon which legal restrictions must be based to accomplish any real good in the conservation field.

FOREWORD

More than 200,000,000 pounds of marine fishery products are landed annually on the Texas coast. Of the commercial products, 79,000,000 pounds are shrimp; 4,000,000 pounds are oysters, crabs, and edible fin fish; and 53,000,000 pounds are menhaden, a fish used for meal and oil. It is estimated that sport fishermen catch 65,000,000 pounds of edible fish each year.

The Parks and Wildlife Department is charged with the management, conservation, and development of these important marine resources. It is the function of the Department's Marine Laboratory at Rockport to gain accurate information on which to base sound methods of scientific management and control. The Laboratory is primarily an advisory organization in that it does not initiate or enact legislation but consults with and recommends to the legislature.

As quickly as the research programs accumulate useful information, it is published for the benefit of all concerned. This bulletin, the fourth of the Marine Laboratory series, is to make available information on some marine fishes of Texas. Extra copies for the use of fishermen, schools, wildlife clubs, civic groups, and individuals may be obtained by addressing the Parks and Wildlife Department, John H. Reagan State Office Building, Austin, Texas 78701.



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INTRODUCTION

The marine fishes of Texas are very similar to those found off the coast of the Carolinas and Virginia. The correspondence of many of our species with those of Chesapeake Bay is quite close.

However, roughly from the Matagorda area south, tropical and subtropical species occur. The numbers of such species fluctuate. They are rare after a freeze, but reappear in catches again after a mild winter. Following several successive mild winters, an increase in number and variety may be observed, and to the north they may be seen until they are eliminated by a subsequent freeze. These warm water forms are of little value from the standpoint of food or sport and are not included in this bulletin.

In general, Texas marine fishes may be divided into three groups. The first is the littoral fishes such as trout, redbfish, and drum which inhabit the bays and near shore waters of the Gulf. The second group is made up of fish inhabiting the open waters of the Gulf, and includes Spanish mackerel, the cero, sailfish, and other similar fishes. These are known as pelagic fishes. The third is composed of reef fishes, like red snapper, the groupers, and jewfishes.

There are intergradations among these groups, and due to the lack of space these cannot be discussed in detail. In general, this classification will be sufficient for the purpose of this bulletin.

Food.

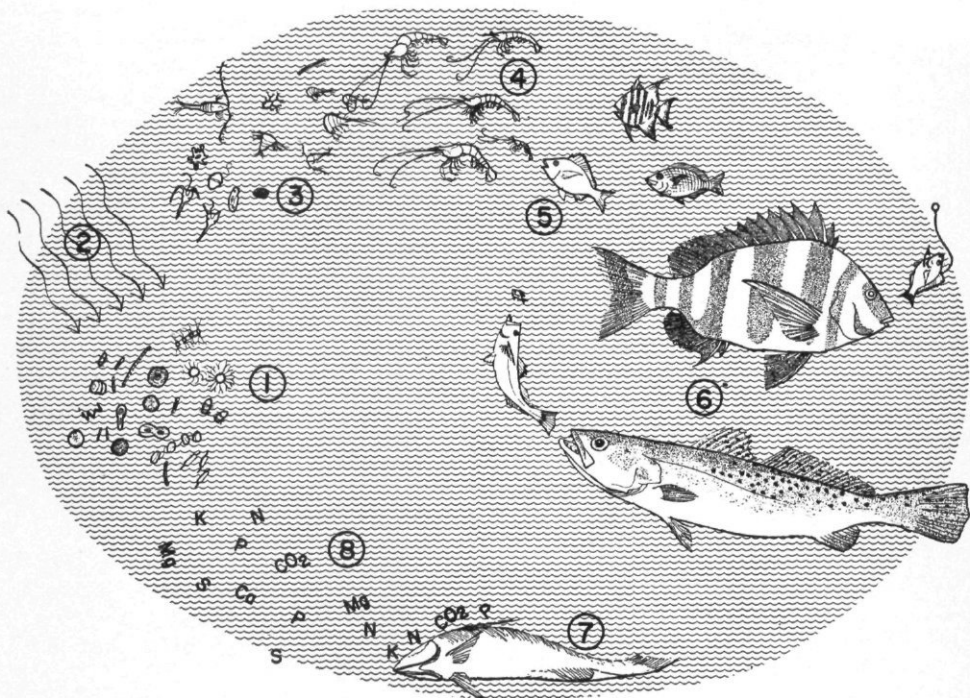
All land animals eat either plants or other animals which feed on plants. Likewise, all animals in the sea must eat plants or other animals which feed on plants. Thus, the basis of all nourishment in the sea is vegetation, just as it is on land.

An acre of ocean can produce a greater tonnage of vegetation during the course of a year than the most fertile hay field. Only a small part of this vegetation is visible to the naked eye: the large plants commonly called seaweed. The greater part of oceanic vegetation, that part which is important as the basis of all nourishment, is made up of microscopic one-celled plants, primarily diatoms. These plants float freely in the ocean and make their own food (just as land plants do) from chemicals in the water and from sunlight. They are so small and there are so many of them, that a single drop of sea water may contain as many as two hundred.

A spring flowering occurs in the sea just as it occurs in our more familiar fields and gardens on land. The bloom occurs when the days become longer and more sunlight penetrates the water. (Occasionally there is a bloom of a toxic organism such as that which causes the "red tide." The bloom of a microscopic plant, whether poisonous or not, often turns the water red, green, yellow, or brown, depending on the color of the plant itself.)

As the summer progresses, these sea plants exhaust from the surface waters the nitrogen, phosphorus and other elements necessary for their growth. At the end of their life cycle, they begin to die. The currents, hurricanes, and the great winter storms plow the Gulf and bring fresh nutrients to the surface. When spring comes, another flowering or bloom takes place.

This microscopic sea-vegetation is called phytoplankton (from the Greek word "phyton," meaning plant, and "planktos," meaning wandering). It is eaten by microscopic animals called zooplankton (from the Greek word "zoion," meaning animal). Together these microscopic plants and animals are called plankton.



A Typical Food Cycle

Here is a typical food cycle. It begins with the diatoms (1), which are nourished by sunlight (2) and chemicals in the water. The diatoms are eaten by minute animals (3), such as protozoans, larval crabs and shrimp, and copepods. These are eaten by larger crustaceans such as shrimp (4) and by small fish (5). The shrimp and small fish are eaten by larger fish (6). Some of the larger fish are eaten by man; the remaining ones die and are partly eaten by crabs and scavenger fish. The remains (7) decay and their constituent chemicals (8) are released in the sea water. These are the chemicals which nourish the diatoms, and the food cycle begins again.

These organisms are not drawn to scale. If they were, the diatoms and protozoans would be invisible and the large fish would be too big to fit on the page. The diatoms are actually about 1/2000 of an inch in diameter, the copepods about 1/8 of an inch, the shrimp about four inches, and the fishes from several inches to several feet.

The zoo- and phytoplanktonic forms are then eaten by animals a little larger, which are eaten by still larger animals, and so on. A typical food cycle is shown on the preceding page. There are variations in this food cycle, of course. Some fishes such as mullet or menhaden, or even a mammal as large as a baleen whale, feed directly on plankton.

Knowledge of such food cycles and conditions affecting them is of vital importance in any consideration of our fisheries. Only through such knowledge can we understand the real underlying causes for the fluctuations in numbers of fishes, shrimps, oysters, and other marine organisms in our bays and in the Gulf of Mexico.

Names.

For purposes of positive identification of a single species, biologists have evolved a system of Latin and Greek names which the layman ordinarily considers a nuisance. Each known species has the same scientific name in every country in the world. A biologist in one land knows instantly what species is referred to by another biologist, even though they may not speak the same language.

The same cannot be said of common names. For instance, in this country alone, the black bass has nearly 250 common names. A man from Louisiana might not recognize the fish by the name used in Texas. However, if it were called a green trout he would recognize it immediately.

For this reason, in the description we have listed both the scientific and some of the common names of each fish. The first common name which appears for each fish is the one recommended by the American Fisheries Society Committee on Common and Scientific Names of Fishes. These names are the most widely used, but in some cases are not the names used in Texas. In such instances, we have placed the word "Texas" in parentheses after the name used in Texas, which is listed along with other common names used in various parts of the country. It is recommended that the first name be used, however, in cooperation with the efforts of the American Fisheries Society and other such organizations to standardize American common names.

In each case where a record is quoted, it is that given by the International Game Fish Association. A species often attains greater size than any fish caught by anglers.

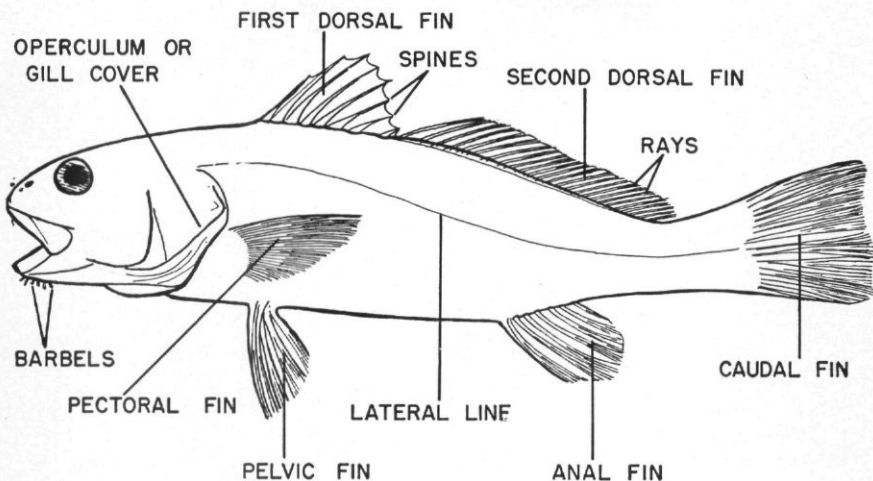
All fish listed have been caught in Texas waters, sometimes occasionally, sometimes in large numbers.

Identifying a fish.

Fishes are identified by the proportions of their bodies, the number of spines and rays in the fins, the location of body parts, the scale count, the teeth, the eye diameter, and the internal anatomy.

Color is not a reliable means of identification. Most fishes change colors rapidly while on the hook, they change colors when removed from the water and at death, and some change normally while swimming around in their natural habitat.

The colors described in this bulletin are the ones most often seen by the fisherman as he makes his catch. They are included since the illustrations are not in color and should not be used for identification. In general, fishes can be identified by comparing body proportions; the arrangement of mouth, eyes, and fins; the body depth, and the number of spines and rays in each fin with those in the illustrations.



Parts of a Fish

This diagram shows the terms used to designate the anatomical parts of a fish. It should be noted that not all fish have all the parts shown above. Most fish, for example, do not have barbels. Some have only one dorsal fin. Some have two dorsal fins followed by many small finlets. Some have no pelvic or pectoral fins.

There are many variations in the size and form of fins. The large "wings" of the rays, for instance, are merely expanded pectoral fins. The eels have dorsal, anal, and tail fins fused into one long continuous fin.

Other terms useful in referring to fishes are:

- anterior: on or toward the head or front end
- posterior: on or toward the tail end
- dorsal: on or toward the back or uppermost side
- ventral: on or toward the lower or abdominal side
- medial: on or toward the central axis
- lateral: on or toward the right and/or left sides

THE SHARKS

There are perhaps 30 species of sharks in Texas waters. The seven which are of most importance to fishermen are presented here. The sharpnose, bull, blacktip, hammerhead, and bonnetnose sharks are the most frequently caught and are considered food fish. The mako and great white sharks are not so often caught, but are considered great game fish.

The flesh of all these sharks is edible. Sharks should be cleaned and the flesh used as soon as possible.

Sharpnose Shark

Scoliodon tærræ-novæ

Other names: Sand shark, Newfoundland shark, blue shark, cazon.

Range: The sharpnose shark is found in the Atlantic from Newfoundland to Brazil and off the coast of Africa.

Size: The average length of adults is about two and one-half feet. They are known to reach a length of three feet.

Habits and food: This shark frequents the bays and Gulf beaches. It stays close to shore and is often found in river mouths. It eats fish and crustaceans.

Color: The sharpnose is brown or gray above, shading to white below. It can be recognized by the wrinkles at the corners of the mouth and by the teeth, which slant towards the corners of the mouth.

Uses: The flesh is edible.

Bull Shark

Carcharhinus leucas

Other names: Sand shark, cub shark, requiem shark, ground shark.

Range: This shark is most common in the Gulf of Mexico, sometimes strays as far north as North Carolina.

Size: It reaches a length of 10 feet and a weight of 400 pounds. Those caught by fishermen are usually under seven feet.

Habits and food: The bull shark inhabits shallow waters, bays, estuaries, and sometimes ascends into fresh waters. It feeds on smaller fishes of all kinds and is omnivorous. In Texas it is most abundant in the summer.

Color: The bull shark is light or dark gray above and white below. There are no conspicuous markings.

Uses: The flesh is edible. The skin is sometimes used for leather.

Blacktip Shark

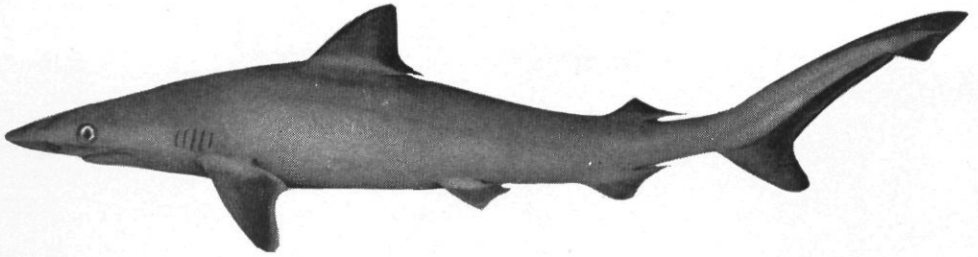
Carcharhinus limbatus

Other names: Sand shark, spinner shark, spot fin shark, spot fin ground shark, small black-tipped shark, carconetta.

Range: The blacktip shark inhabits all warm waters of the Atlantic.

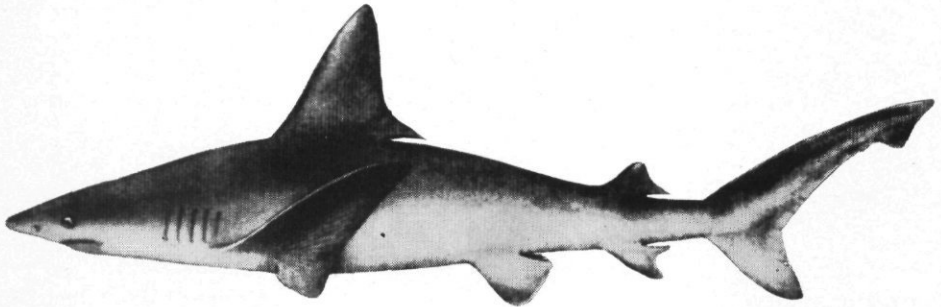
Size: The adults reach about six feet in length.

Habits and food: These sharks travel in schools and are very active, often



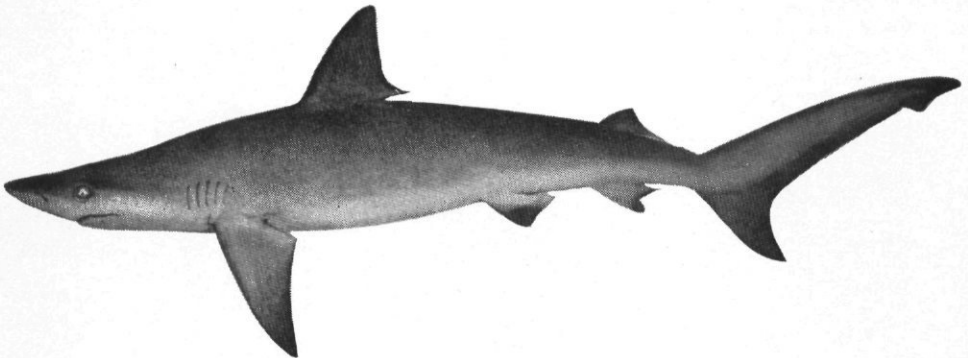
1. Sharpnose Shark

Scoliodon terraenovae



2. Bull Shark

Carcharhinus leucas



3. Blacktip Shark

Carcharhinus limbatus

leaping out of the water. Their high leaps make them an exciting game fish. They eat small fishes of all kinds.

Color: The black-tipped pectoral fins give this fish its name. All the fins are black-tipped in the young. The color varies from blue-gray to brown-gray, darker above and lighter below.

Uses: The flesh is edible and the skin is sometimes used for leather.

Hammerhead Shark

Sphyrna diplana

Other names: There are no other common names for this species. However, there is one other species which shares the same common name: *Sphyrna tudes* (called the great hammerhead). Both are common in Texas waters.

Range: Hammerheads are found in all warm seas.

Size: The adults sometimes reach a length of 10 feet and possibly larger. (The great hammerhead, *S. tudes*, grows to 14 and sometimes 15 feet in length.)

Habits and food: Hammerheads inhabit both deep and shallow waters. They usually swim near the surface with the dorsal fin showing. The young are often caught by fishermen near shore. They eat fishes, squids, stingrays, crabs, other sharks, and on one known occasion, a man.

Color: The hammerheads are brownish gray above and pale below. The tips of the fins are darker.

Uses: The flesh is edible and the skin is sometimes used for leather.

Bonnetnose Shark

Sphyrna tiburo

Other names: Shovel-nosed shark (Texas), shovelhead, bonnethead, bonnet shark.

Range: The bonnetnose is found in all seas.

Size: The adults occasionally reach four feet but are seldom over two feet in length.

Habits and food: The bonnetnose inhabits shallow waters. It feeds on fish, crabs, shrimp, and other crustaceans. The small ones are often caught by fishermen.

Color: The bonnetnose is gray on the back and paler on the underside.

Uses: The flesh is edible.

Mako Shark

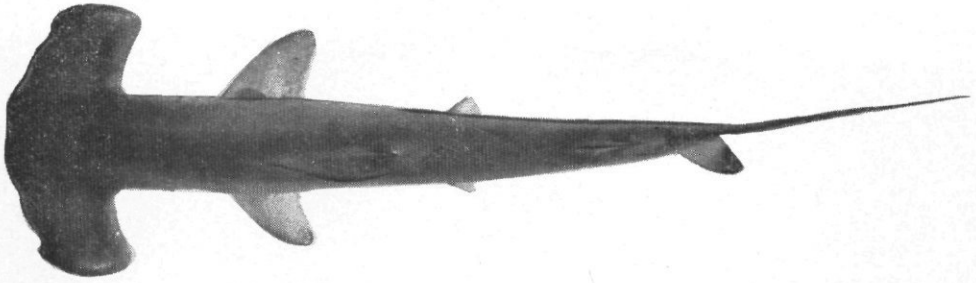
Isurus oxyrinchus

Other names: Sharp-nosed mackerel shark.

Range: The mako ranges from Cape Cod to the West Indies and occasionally strays north to Maine. It has been taken at Bermuda and in the Gulf of Mexico.

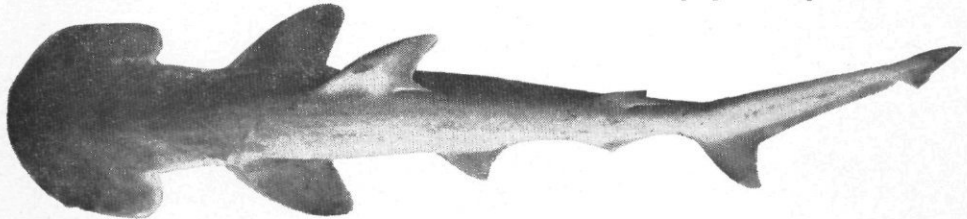
Size: The adults are sometimes 12 feet in length. They weigh about 1,000 pounds when 10 feet long, which is the record length.

Habits and food: This is one of the great sharks of the sea. It is swift-swimming, high-leaping, tireless and indomitable. The mako is found near



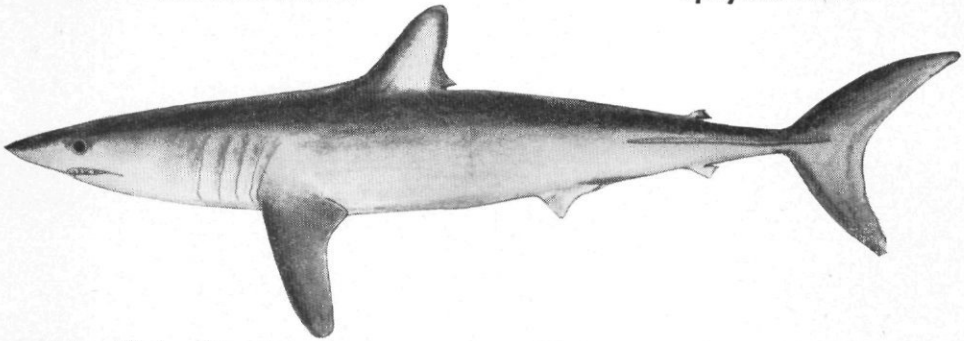
4. Hammerhead Shark

Sphyrna diplana



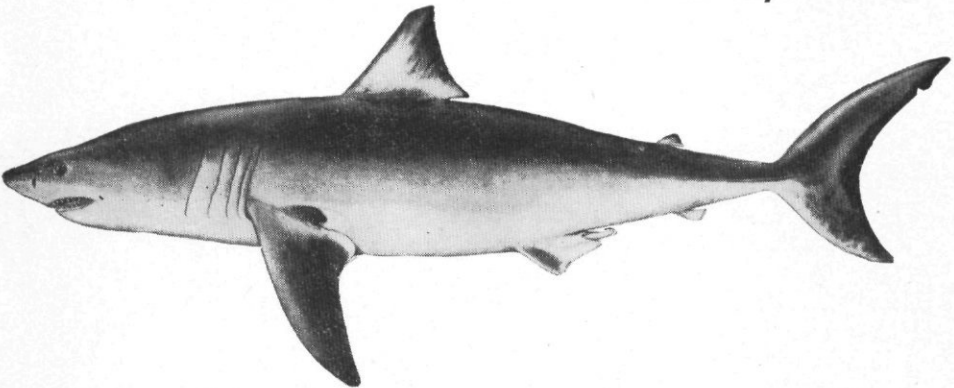
5. Bonnetnose Shark

Sphyrna tiburo



6. Mako Shark

Isurus oxyrinchus



7. Great White Shark

Carcharodon carcharias

land as well as far out in the ocean, where it preys on schooling fish such as mackerel and herring. It will attack and destroy the broadbill swordfish. It will take trolled mullet or mackerel bait, and is most abundant in the summer.

Color: When freshly caught, the mako is deep blue-grey on the back and snow white underneath. It appears dark blue in the water.

Uses: The mako is edible and is marketed commercially as a food fish.

Great White Shark

Carcharodon carcharias

Other names: Man-eater, white shark, white pointer.

Range: The great white shark inhabits all temperate and tropical seas of the world.

Size: An 18-foot shark of this species was measured by Stewart Springer and estimated to weigh 8,000 pounds. Record: 2,372 pounds (Australia).

Habits and food: Powerful and voracious, the great white shark eats other sharks, sea lions, seals, sturgeon, tuna, sea turtles, small fish, squids, and occasionally man.

Color: The back may be brown, blue-gray or black. The underside is grayish white. The tips of the pectorals are dark, usually with some adjacent dark spots. The dorsal and caudal fins are dark along the posterior edges, while the pelvic fins are darkest along the anterior edges and fade to white posteriorly. Large specimens (perhaps some small ones also) are sometimes dun-colored or even leaden white.

Uses: This shark is edible and is marketed commercially.

THE SKATES AND RAYS

The "sting" of the stingray is a barbed spine located on the dorsal surface of the tail, usually nearer the base of the tail than the end. The stingray does not sting with the end of the tail, as some people have thought.

It is believed that the stingray actually secretes a poison which covers the spine and which makes a wound extremely painful. There is also danger of infection because of the laceration of the flesh by the many backward-projecting barbs on the spine.

Texas Clearnose Skate

Raja texana

Other names: Texas sharp-nosed skate, Texas ray.

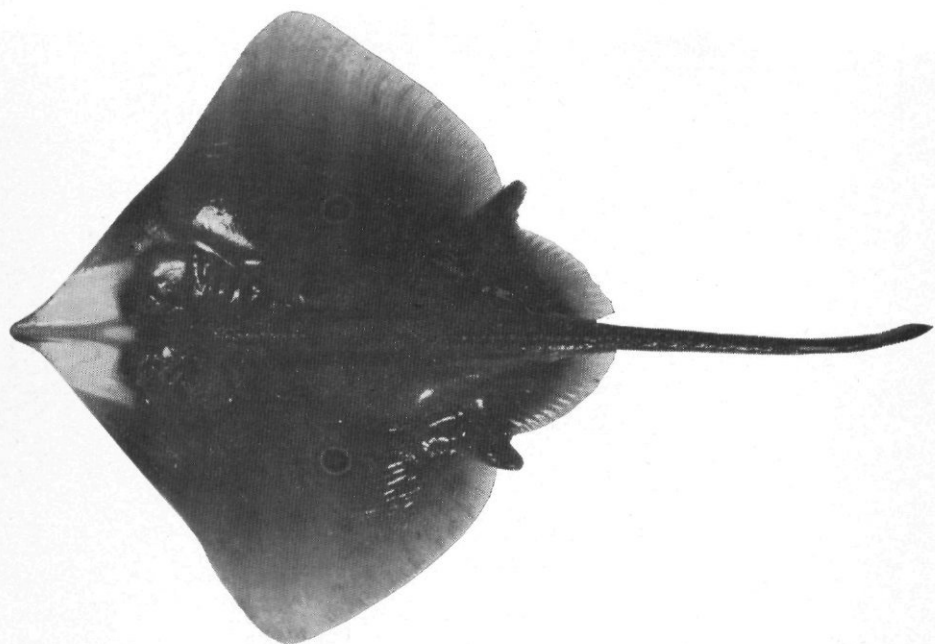
Range: The skate inhabits the Gulf of Mexico.

Size: It sometimes reaches two feet in length.

Habits and food: The Texas clearnose skate frequents shallow sandy and grassy flats throughout most of the year, except for extremely cold months, at which time it migrates to deeper water. It feeds on crustaceans and fish.

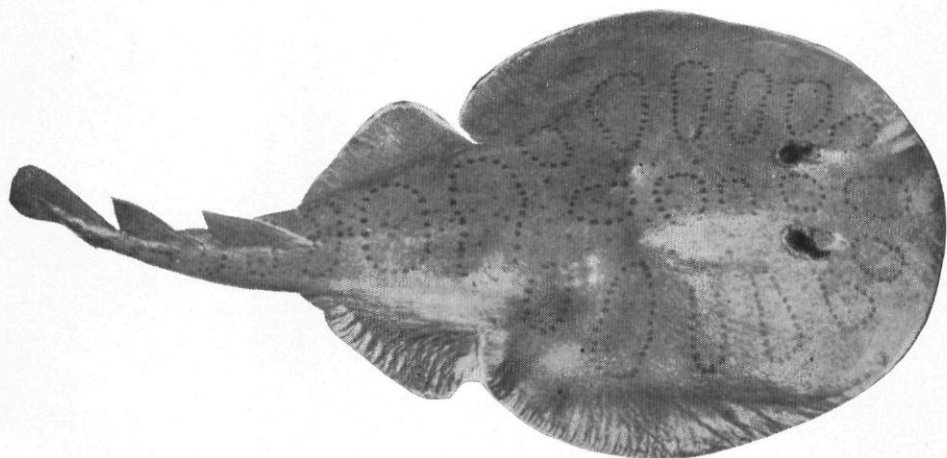
Color: The skate has two transparent areas on each side of its snout. The upper side of its body is a sandy gray or tan and the underside is whitish.

Uses: The flesh is edible.



8. Texas Clearnose Skate (female)

Raja texana



9. Electric Ray

Narcine brasiliensis

Electric Ray

Narcine brasiliensis

Other names: Torpedo, crampfish.

Range: The electric ray inhabits the warm waters of the Atlantic.

Size: This ray sometimes reaches a length of two feet.

Habits and food: The electric organs are located on the upper surface but because this species is small, it could not shock a human severely. It lives near or on the bottom often burying itself in sand. It feeds on crustaceans and mollusks.

Color: This ray is light brown with several dark spots on its back, and it is almost invisible when partially bedded in the sand.

Uses: None known.

Stingaree

Dasyatis sabina

Other names: Stingray.

Range: The stingaree is common from North Carolina to Brazil.

Size: The average width of this ray is about six or eight inches, but it sometimes reaches one foot in width.

There is a closely related form, *Dasyatis americana*, the southern stingray, which is similar in appearance to the stingaree but grows much larger. It sometimes reaches a width of five feet.

Habits and food: The stingaree is the most common of all the rays occurring in Texas waters. It frequents the bays in summer, migrates to the Gulf in winter. It frequents river mouths and has been known to enter fresh water. It lives on or near the bottom and feeds on bottom worms, mollusks, and crustaceans, and is omnivorous. Like the flounder, it beds in the sand in shallow water and can be giggered.

Color: The back is gray-brown; the underside is pinkish white.

Uses: The flesh is edible.

Cownose Ray

Rhinoptera bonasus

Other names: Cowfish.

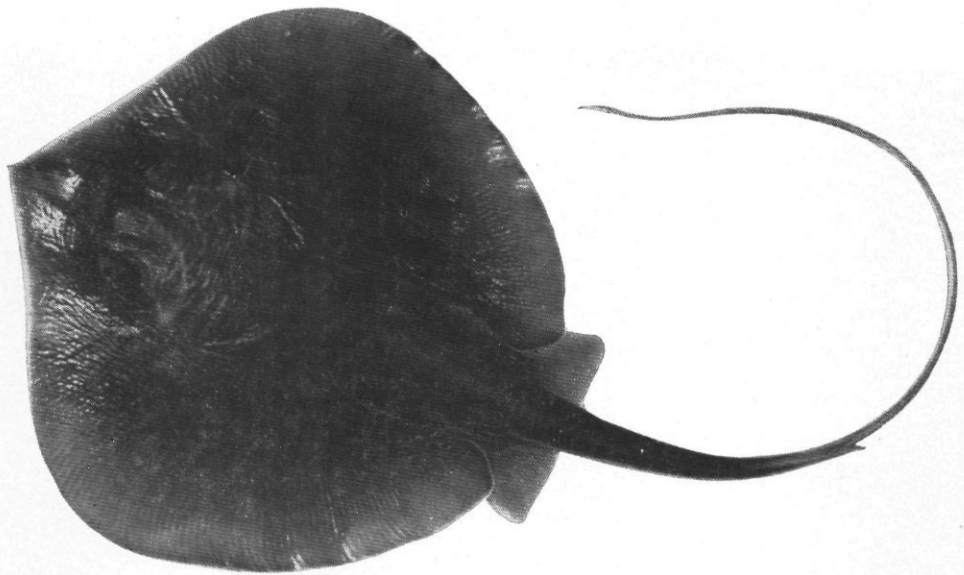
Range: The cownose ray is found on the Atlantic coast from New England to the Gulf.

Size: This ray reaches a width of seven feet, although two feet is average.

Habits and food: Cownose rays are found in the bays and along the Gulf beaches. In May they are very numerous in the Laguna Madre. They often travel in large schools, gliding along near the bottom, feeding on mollusks.

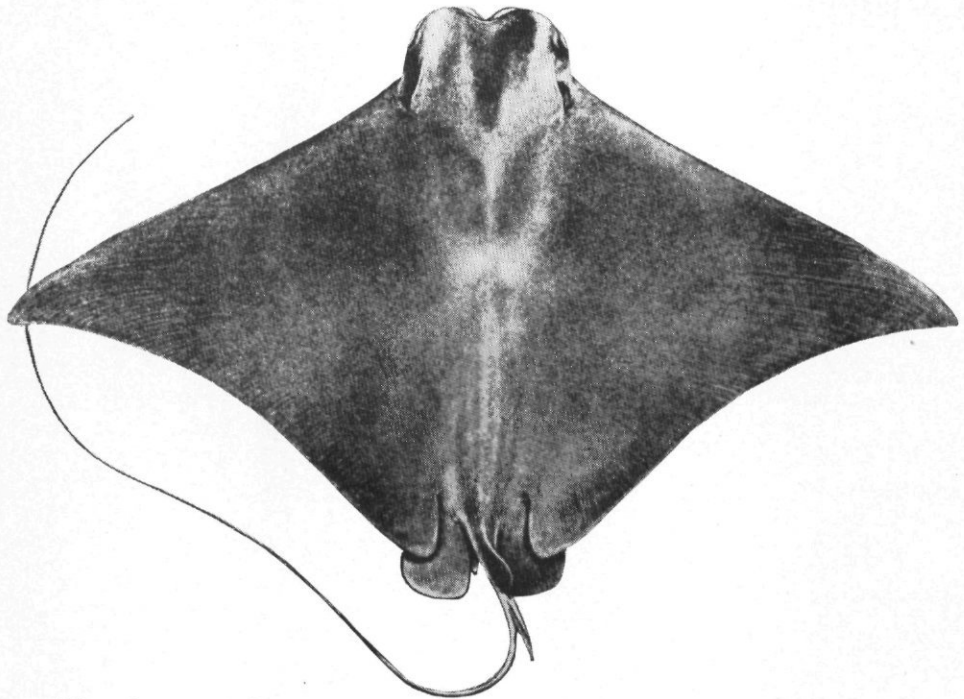
Color: The back is tan or brown, the underside tan or white.

Uses: The flesh is edible.



10. Stingaree

Dasyatis sabina



11. Cownose Ray

Rhinoptera bonasus

THE BIGEYE HERRING, TARPON, AND BONEFISH

Tenpounder

Elops saurus

Other names: Ladyfish or skipjack (Texas, bigeye herring, horse mackerel, shiro, John Mariggle, bonyfish, matajuelo real, lisa francesca).

Range: The bigeye herring is found in all tropical seas.

Size: The adults average one or two pounds, but sometimes reach eight pounds.

Habits and food: Bigeye herrings are savage strikers, brilliant, hard, showy fighters, and jump repeatedly. They frequent the Gulf beaches, passes, and inner bays. They feed on small fish and shrimp, but may take trolled, cast lures and shrimp.

Color: The bigeye is uniform brilliant silver, with a slight greenish cast on the back.

Uses: The flesh is edible but full of many small bones.

Tarpon

Tarpon atlanticus

Other names: Tarpum, grande ecaille, silverfish, sabalo, silver king, savanailla.

Range: The tarpon is found in the Atlantic from Nova Scotia to Argentina and on the northwest coast of Africa.

Size: A tarpon of 350 pounds was netted in Florida. Record: 247 pounds (Panuco River, Mexico).

Habits and food: The tarpon frequents the coastline of the Gulf. It enters bays, river mouths, harbors, and can live in fresh water. It feeds on mullet, crabs, pinfish, shad, catfish. Mullet is the preferred bait. It is most abundant from June to October.

Color: The entire body is a uniform brilliant silver. The scales are very large.

Uses: The flesh is edible but has little flavor and is seldom eaten.

Bonefish

Albula vulpes

Other names: Ladyfish, macabi, sanducha, banana fish, big-eyed herring, bonyfish, grubber.

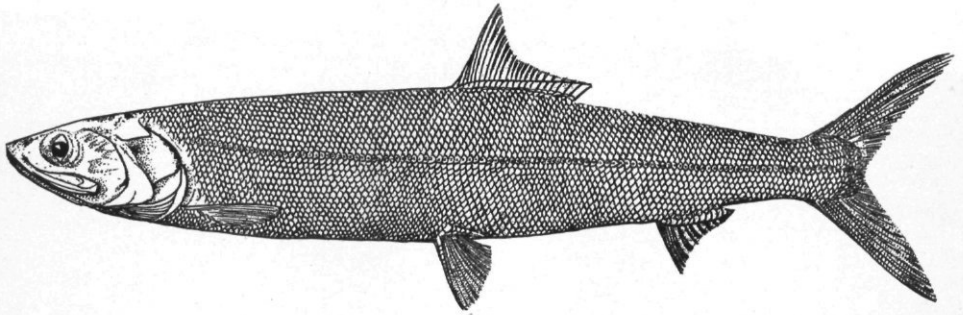
Range: The bonefish inhabits the warm seas of the world. It is rare off the Texas coast with few records.

Size: The average size is two to five pounds, but it is known to have reached 20 pounds. Record: 7½ pounds (Oahu, T. H.).

Habits and food: This fish feeds in shallow water during the incoming tide, "tailing" occasionally as it feeds on the bottom for small fish, shrimp, and small bottom-dwelling invertebrates. It is considered by many the fastest fish that swims. The bonefish puts up a strong fight, but unlike the tarpon and bigeye herring, it does not jump.

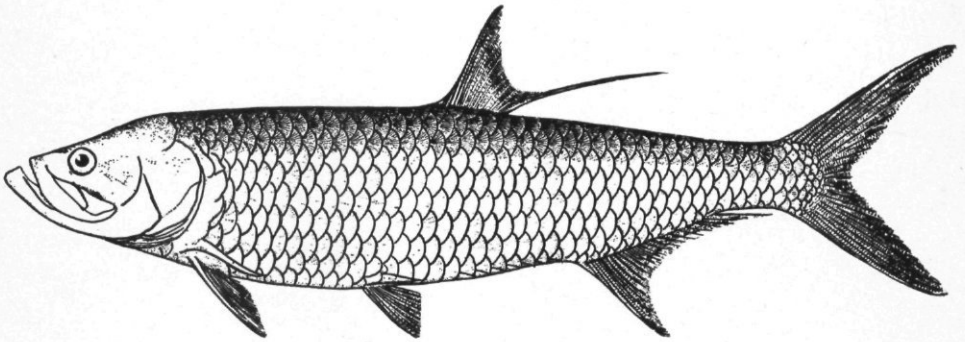
Color: The coloring of this fish varies considerably. The sides are bright silver, the underside nearly white. There are sometimes longitudinal stripes along the sides.

Uses: The flesh is edible but full of many fine bones.



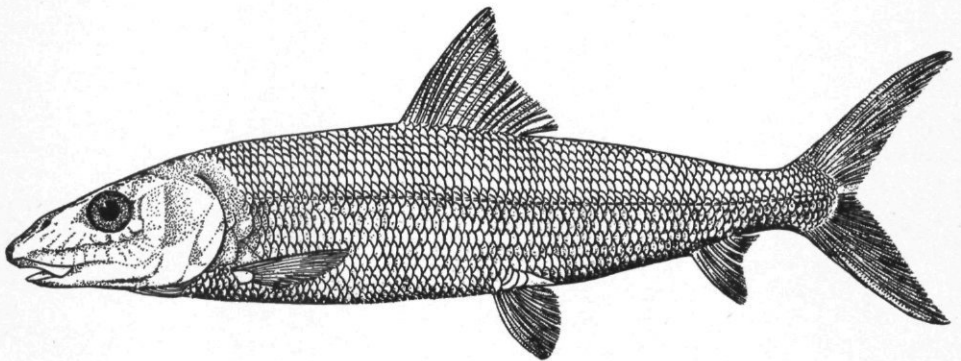
12. Tenpounder

Elops saurus



13. Tarpon

Tarpon atlanticus



14. Bonefish

Albula vulpes

THE CATFISHES

Texas has two species of saltwater catfishes, the sea cat and the gafftopsail. Males of both species carry the eggs laid by the female in their mouths until they hatch and the young catfish are able to fend for themselves.

Both the gafftopsail and sea cat have sharp spines on their dorsal and pectoral fins, which cause much pain and swelling if they puncture the skin. Fishermen should exercise great care in removing these fish from the hook.

Gafftopsail Catfish

Bagre marina

Other names: Gafftop, sea cat.

Range: The gafftop ranges from Cape Hatteras south along the Atlantic and Gulf coasts.

Size: The average weight is one or two pounds. It occasionally reaches five or six pounds.

Habits and food: Gafftops are commonly found in bays, passes, and along beaches. They swim actively in channel currents, feeding upon shrimp, small crustaceans, and fish. They feed at any level, although usually near the bottom. They hit hard and put up a good fight. They are most abundant in the bays in spring and summer. The best bait is cut fish.

Color: The back is light sea-green or blue, shading to nearly white below.

Uses: The flesh is edible.

Sea Catfish

Galeichthys felis

Other names: Hardhead, sea cat.

Range: This catfish is found on the Atlantic coast from North Carolina to the Gulf of Mexico.

Size: The sea cat weighs from one-half to three pounds.

Habits and food: Feeding in schools along the beaches, in harbors, bays, and inlets, this bait-stealer is everywhere and eats almost any organic matter available. However, it has one advantage: it is always ready to bite and has made many a youngster's fishing trip a success. It is most abundant in Texas bays during the summer months.

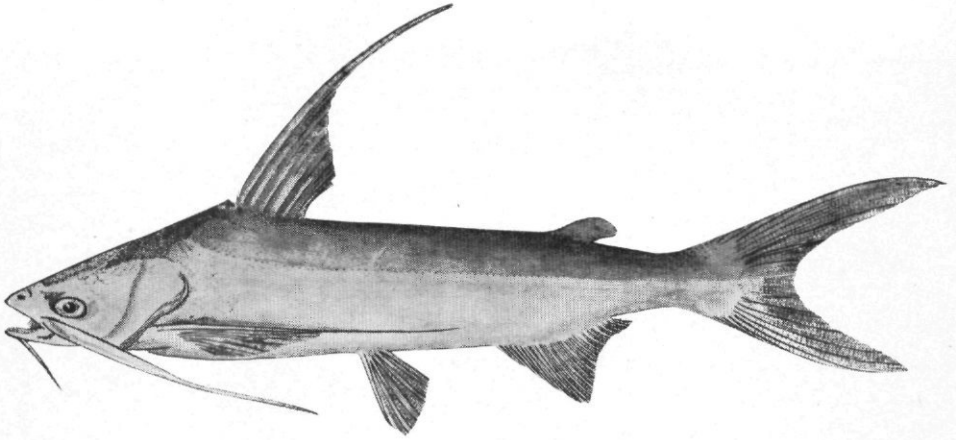
Color: The sea cat is grayish or gray-green on the back, yellowish to white beneath.

Uses: The flesh is edible but not usually eaten.

THE FLATFISHES

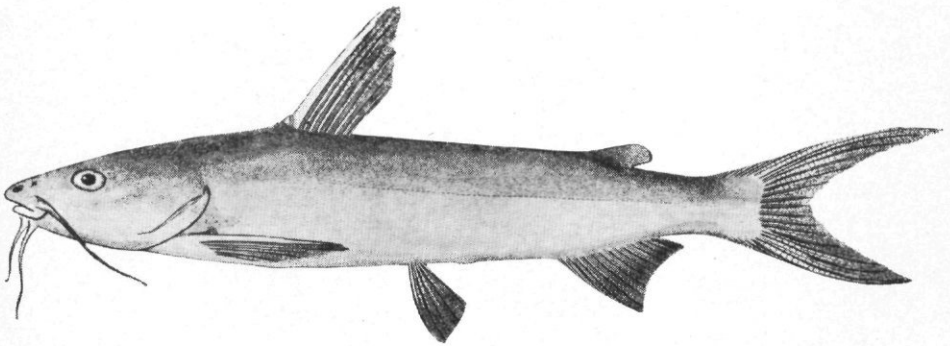
There are 22 or more species of flatfishes found in Texas, all of which are commonly found in shrimp boat catches. Members of this group begin life with an eye on each side of the head. Early in life, however, they turn on one side and the underneath eye migrates to the other side of the head.

All Texas flounders are edible, but only one species, *Paralichthys lethostigma*, grows large enough and is common enough to be important as a food fish.



15. Gafftopsail

Bagre marina



16. Sea Catfish

Galeichthys felis

Southern Flounder

Paralichthys lethostigma

Other names: Southern fluke, mud flounder.

Range: This flounder is found in the Atlantic from Cape Hatteras south to the Gulf of Mexico.

Size: The adults average from one to two pounds. They are known to reach 26 pounds.

Habits and food: These flounders prefer sandy or silty bottoms along the shores of the bays, where they bury themselves with only their eyes showing, and wait for food. They eat small fishes, squid, shrimp, crabs and other small crustaceans. They can be caught all year round. In warm weather they can be gilled in shallow water; in the colder months they migrate to deep water where they may be caught on hook and line.

Color: Flounders possess the chameleon-like ability to harmonize closely with their background. The colors are mottled and vary from dark olive to light brown on the top side. The bottom side is white.

Uses: The flesh is edible.

THE MULLET

Two species of mullet occur in Texas. Only one, the striped mullet, is important to fishermen.

Striped Mullet

Mugil cephalus

Other names: Macho, machuto, lisa, fatback.

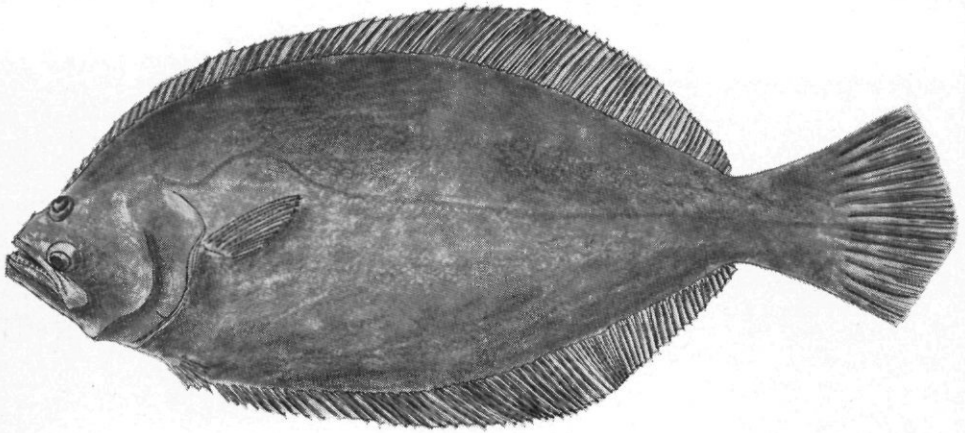
Range: The mullet occurs in all tropical and temperate seas.

Size: The average weight is one-half pound. However, in the Laguna Madre, they sometimes attain a weight of five or six pounds.

Habits and food: Mullet always move about in schools in search of food. They frequent beaches, harbors, the mouths of rivers and bays. Sometimes they go up the rivers into fresh water for hundreds of miles. They eat tiny bits of organic matter found in mud and on the sides of submerged objects as well as plankton.

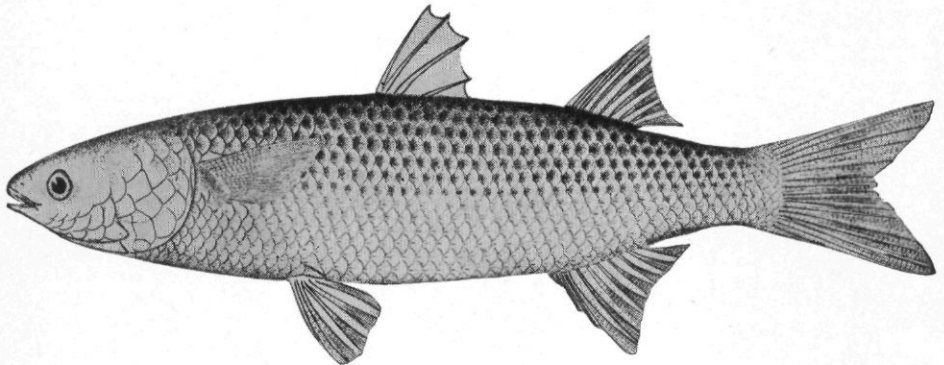
Color: The back is dark blue to black. The scales on the sides are arranged in such a manner as to give the appearance of dark and light longitudinal stripes. The underside is silverish white. On very large mullet, the stripes are not so pronounced, and the color is a uniform silver, only slightly darker on the back.

Uses: Ordinarily, the mullet will not take bait; therefore, it is not considered a game fish. It is taken in nets and used widely as a food fish. It is also used for cut bait.



17. Southern Flounder

Paralichthys lethostigma



18. Striped Mullet

Mugil cephalus

THE BARRACUDAS

Great Barracuda

Sphyraena barracuda

Other names: Common barracuda, picuda, becuna, sea tiger, cuda.

Range: This barracuda's range is from Massachusetts to South America, including the Gulf of Mexico and Caribbean Sea.

Size: The average weight is five to 25 pounds. A fifty-pounder is large. Record: 103½ pounds (Bahamas).

Habits and food: Although they usually swim alone near the surface over reefs, barracudas occasionally occur in heavy concentrations at the Claypile and Flower Garden Reefs south of Galveston. In Florida, smaller ones frequent shallow reefs, cuts, and inland bays along channels. A vicious, savage fish with a frightening array of teeth, the barracuda puts up a hard, slashing fight. It feeds on other fish. It will take moving baits or lures.

Color: The great barracuda's coloration varies from light sea-green to nearly black above. It is silvery on the sides and white on the underside. There are usually irregular black spots on the sides. Sometimes the entire body is silver, with no markings.

Uses: The flesh has a fine flavor. Some Pacific species of barracuda are reported to be poisonous, but no poisonous barracuda have ever been reported from the Gulf of Mexico.

Guaguanche

Sphyraena guachancho

Other names: Guachancho, guachanche, small barracuda.

Range: This small barracuda is most commonly found in tropical and subtropical waters. It occasionally strays as far north as Massachusetts.

Size: In Texas, the guaguanche may reach a length of 18 inches.

Habits and food: This barracuda is not as common in Texas waters as the great barracuda. It frequents passes and feeds on smaller fishes.

Color: The back is olivaceous, the underside silverish. Sometimes the entire fish is olivaceous, or it may be blotched.

Uses: The flesh is edible.

THE MACKERELS

Wahoo

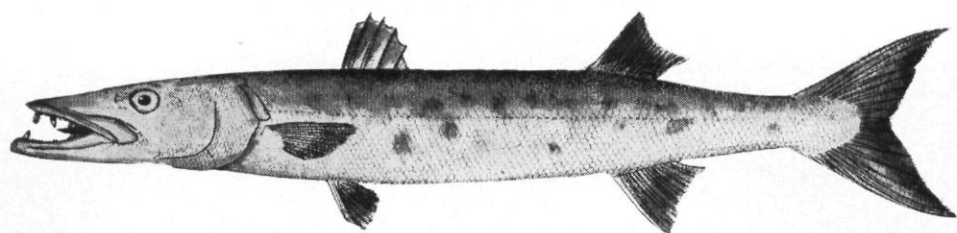
Acanthocybium solandri

Other names: Ono, peto, guarapucu, kingfish, queenfish.

Range: The wahoo inhabits all warm seas.

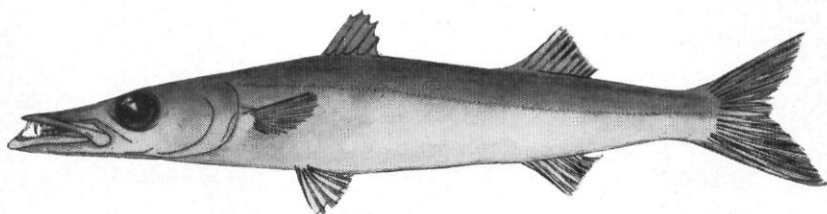
Size: The average weight is 20 pounds. Record: 133½ pounds (Bahamas).

Habits and food: One of the great game fish of the sea, the wahoo inhabits the open ocean and Gulf stream. It is also found around deep reefs. In Texas it has been caught at Freeport, Port Aransas, and Port Isabel. Usually solitary, it feeds on small fish. It is one of the fastest-swimming fishes.



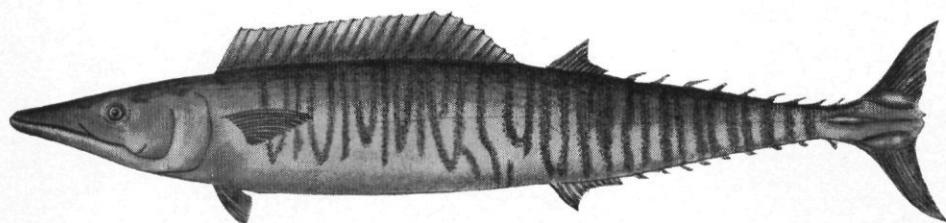
19. Great Barracuda

Sphyraena barracuda



20. Guaguanche

Sphyraena guachancho



21. Wahoo

Acanthocybium solandri

Color: The back is grayish-blue, fading to lavender on the sides and silver on the underside. The very small wahoos have pronounced vertical markings; the large fish show markings only when fighting, and these disappear at death.

Uses: The flesh has a very fine flavor.

King Mackerel

Scomberomorus cavalla

Other names: King or kingfish (Texas), caballa, cavalla, cero, horse mackerel, sierra, silver cero.

Range: This mackerel inhabits the warm waters of the Atlantic. It is apparently common throughout most of the Gulf area. It is common off the Texas coast during the summer, usually beginning to appear about March 15.

Size: The average weight is 10 to 15 pounds. Record: 76½ pounds (Bahamas).

Habits and food: The king mackerel appears to be migratory along most of our coast (the schools keeping to the open sea), but at Galveston, Freeport, and Port Arthur they congregate in such large numbers about the reefs that thousands may be caught in a single day by the charter-boat fleet. They are usually caught only in deep, clear water. Squid is the preferred food, but these fish also follow the shrimp boats, picking up the scrap fish shovelled overboard and will take various plugs and spoons readily.

Color: The back and upper sides are bright green or blue-green. The rest of the body is silver. There are no markings.

Uses: The flesh is edible.

Spanish Mackerel

Scomberomorus maculatus

Other names: Spaniard, spotted cybium, bay mackerel, spotted mackerel, mackerel.

Range: This mackerel is found in the Atlantic from Cape Ann to Brazil, and in the Pacific from southern California to Peru.

Size: The average weight is about two pounds. An eight-pounder is considered large.

Habits and food: The Spanish mackerel is common on the Texas coast from March to September, and is caught in the greatest numbers in August. Young less than two inches long are common in the surf during most of the summer. They feed upon small fish, shrimp, and squid. Along the coast Spanish mackerel are generally caught in the Gulf around the mouths of harbors and passes, rarely venturing into the bays.

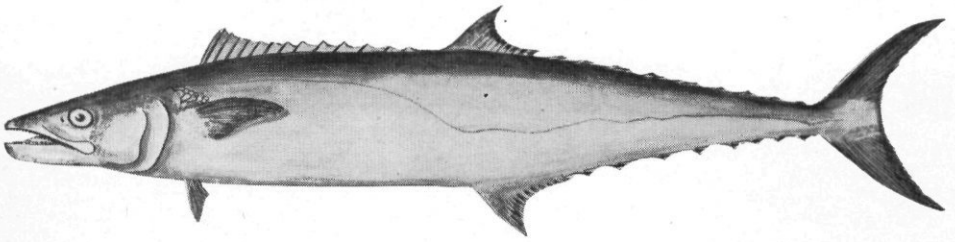
Color: The back and upper sides are blue or blue-green, shading to silver below. There are rows of orange or brown spots on the sides.

Uses: The flesh is edible.

Cero

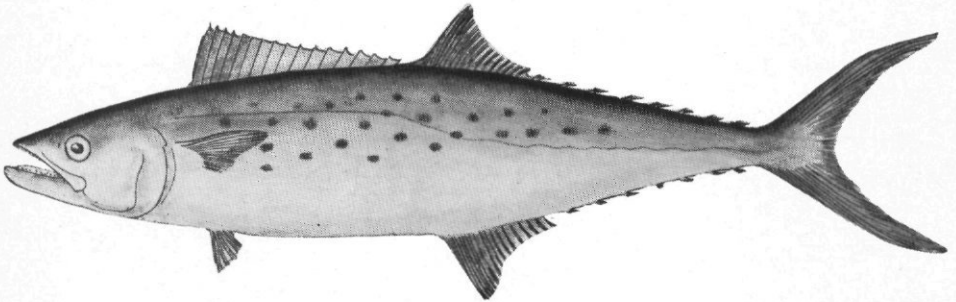
Scomberomorus regalis

Other names: Spotted kingfish (Texas), sierra pintada, spotted cero, kingfish, painted mackerel.



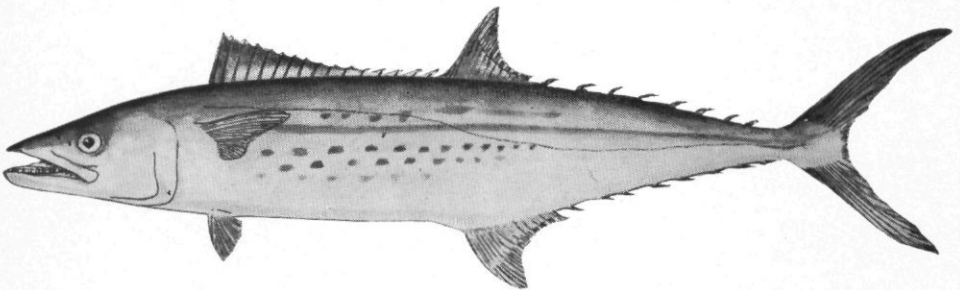
22. King Mackerel

Scomberomorus cavalla



23. Spanish Mackerel

Scomberomorus maculatus



24. Cero

Scomberomorus regalis

Range: The cero is found in the Atlantic from Massachusetts to Brazil.

Size: Because this species is easily confused with the Spanish mackerel, there are no complete data as to weights. However, one taken off Part Aransas was over three feet in length, and weighed approximately 20 pounds.

Habits and food: Schools of ceros feed much of the time near the surface where they may be caught by casting or trolling. At other times they feed at greater depths and heavy weights are needed to reach them. Little is known about the food habits, but presumably they are the same as the king mackerel. They are most numerous in the summer.

Color: The back is bluish; the sides and underside are bright silver. Markings on the sides vary. There are usually golden brown spots, similar to those on Spanish mackerel, plus a golden brown horizontal stripe extending from gill cover to tail region. The cero closely resembles the Spanish mackerel except for the presence of this stripe.

Uses: The flesh is edible, considered by many to be the best of the mackerels.

Oceanic Bonito

Katsuwonus vagans

Other names: Arctic bonito, oceanic skipjack, striped tuna, skipjack, watermelon.

Range: The oceanic bonito inhabits all warm seas of the world.

Size: The adults average three to six pounds. They are known to attain a weight of 20 pounds.

Habits and food: The oceanic bonito is an offshore species. It travels in schools and feeds on smaller fishes. It is not very common in Texas waters.

Color: The back is dark blue or blue-green. The rest of the body is silver with a pinkish cast. There are dark bluish stripes extending from behind the pectoral fin to the tail.

Uses: The fish is edible.

Little Tuna

Euthynnus alletteratus

Other names: False albacore, little tunny, bonito.

Range: A pelagic fish of warm seas, this tuna is found from New Jersey south to the Gulf of Mexico, and in the Mediterranean and Pacific.

Size: The average size is from eight to 10 pounds but occasionally a weight of 20 pounds may be attained.

Habits and food: Deep-swimming, very fast and hard hitting, the little tuna feeds on small fishes. Like all of this group, it is an excellent game fish.

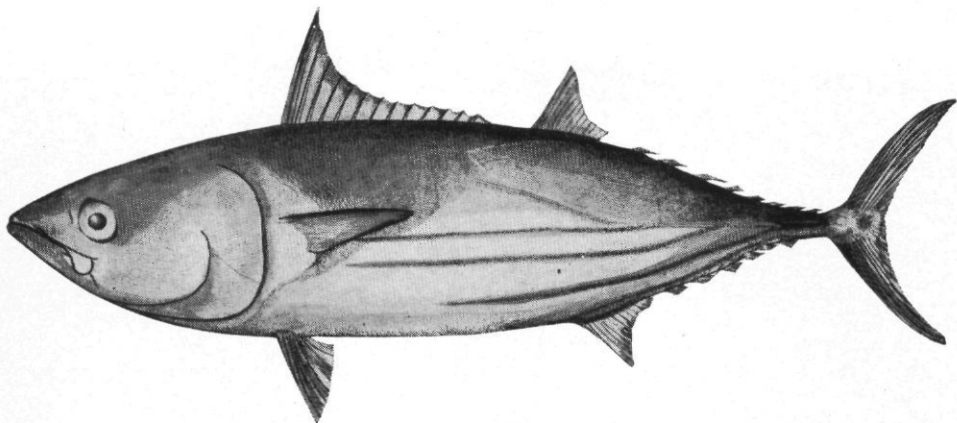
Color: It is dark blue or green above, shading to silver below. There are dark wavy lines and spots above the lateral line from the middle of the first dorsal fin to the tail.

Uses: The flesh is edible.

Atlantic Bonito

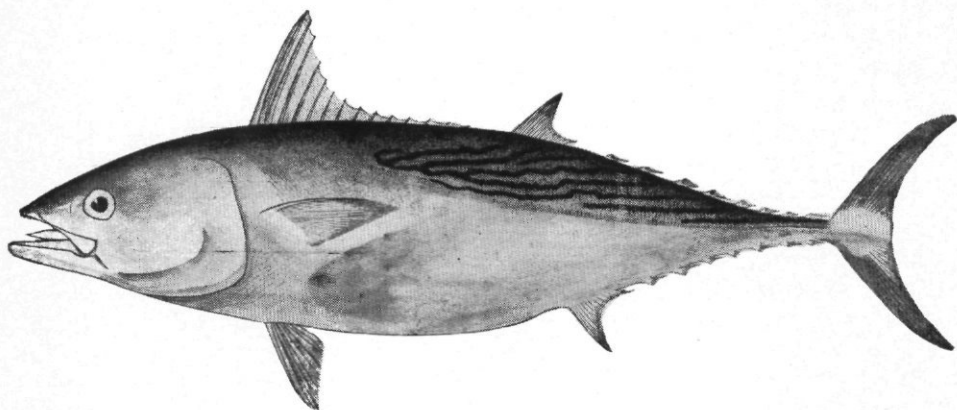
Sarda sarda

Other names: Bonita, bone-eater, bone-jack, skipjack.



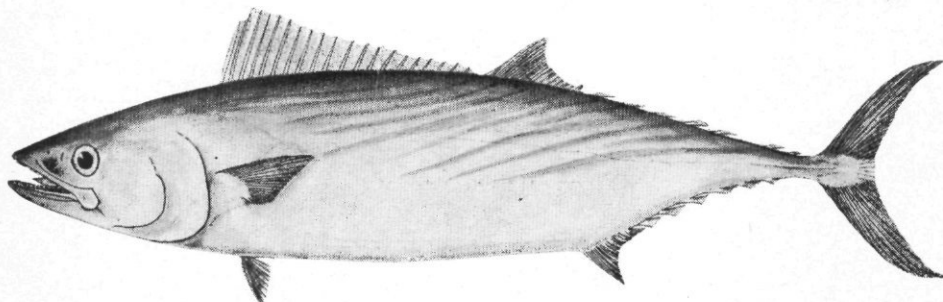
25. Oceanic Bonito

Katsuwonus vagans



26. Little Tuna

Euthynnus alletteratus



27. Atlantic Bonito

Sarda sarda

Range: This bonito inhabits the Atlantic Ocean on both coasts and north to at least Cape Cod.

Size: The average weight is six to 10 pounds. It occasionally reaches 20 pounds.

Habits and food: A schooling fish found in blue water offshore, the Atlantic bonito feeds on menhaden and other small fishes. It puts up a hard, swift fight.

Color: It is dark bluish silver above, shading to silver below, with darker stripes running obliquely forward from the back.

Uses: The flesh is edible.

Atlantic Blackfin Tuna

Thunnus atlanticus

Other names: Albacore, long-finned albacore, little tunny.

Range: This tuna is found in the West Indies, the Gulf of Mexico and in the Atlantic as far north as Cape Cod.

Size: The average weight is 10 to 20 pounds. It occasionally reaches 30 or more pounds.

Habits and food: So far as is known, the habits and food are the same as the other small tunas. A number of these fish have been caught off Port Isabel, and great schools of them have been seen between Florida and Yucatan.

Color: It is dark blue on the back, shading to silver below. There are vertical bars and rows of dots on the sides below the unusually long pectoral fins. Some individuals have a yellow streak on the sides.

Uses: The flesh is edible.

Atlantic Yellowfin Tuna

Thunnus albacares

Other names: Yellowfin, Allison tuna (when very large).

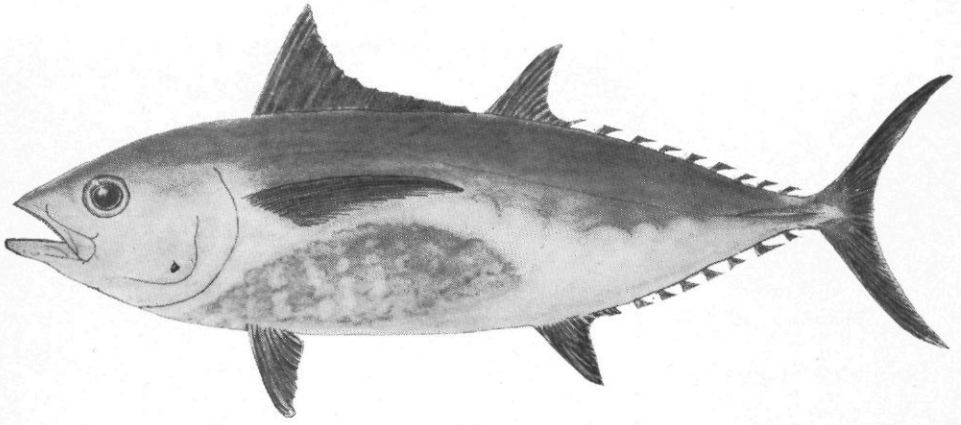
Range: This tuna inhabits the western Atlantic from Maryland to Port Isabel.

Size: The average weight is about 100 pounds but it may reach 260 pounds.

Habits and food: The yellowfin feeds upon small fish and little else is known of its habits.

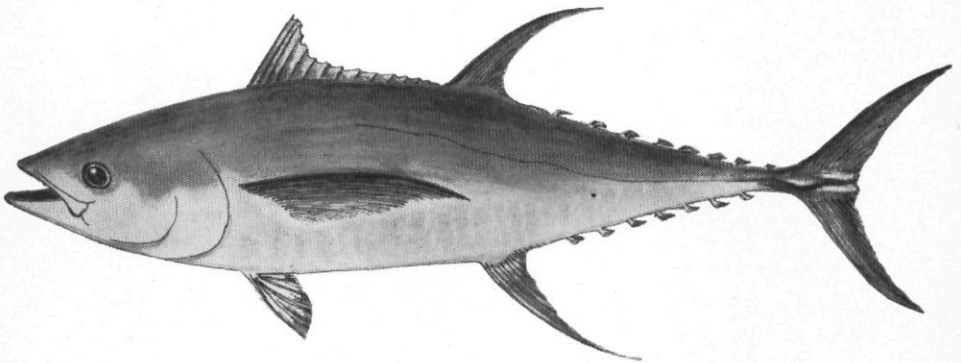
Color: The back is dark blue, shading to silver below. There is a yellowish tint on the breast and fins. The second dorsal and anal fins are extremely long and sometimes extend back to the tail.

Uses: The flesh is edible.



28. Atlantic Blackfin Tuna

Thunnus atlanticus



29. Atlantic Yellowfin Tuna

Thunnus albacares

THE SAILFISHES AND SWORDFISH

Atlantic Sailfish

Istiophorus americanus

Other names: Aguja prieta, guebuca, sail, spearfish, volador, spikefish.

Range: This sailfish inhabits the Atlantic Ocean from Massachusetts to South America and is sometimes caught off North Africa.

Size: The average weight is 35 to 40 pounds. Record: 123 pounds (Bahamas).

Habits and food: Stomachs of several sailfish examined contained menhaden, shrimp, mullet, and various unidentified fishes. A "blue water" fish, sails are normally caught far offshore, putting up a splendid leaping fight. They are most numerous in May, June, and July and may be caught by trolling cut bait or feather jigs.

Color: The unusually large dorsal fin, the "sail," distinguishes the fish from any other. It is dark blue with black dots in rows between the spines; sometimes it is folded down into a depression in the back where it cannot be seen. The back and the pectoral, anal, and tail fins are dark bluish green or bluish purple; below the lateral line the color fades to white.

Uses: The flesh is edible, considered best when smoked.

Blue Marlin

Makaira nigricans ampla

Other names: Cuban black marlin, espadon, aguja.

Range: This marlin inhabits the Atlantic from New York to the West Indies and Gulf of Mexico.

Size: The average weight is around 200 pounds, but this marlin is known to reach 1,500 pounds. Record: 742 pounds (Bahamas).

Habits and food: Generally found far offshore in the blue water in July and August, blue marlin are usually solitary fish, adept at leaping when hooked. Their food consists of small fishes. Texas catches have all been made around Port Isabel.

Color: The blue marlin is similar in color and appearance to the sailfish except in not having the large dorsal fin. When hooked or excited, rows of vertical lavender stripes appear on the sides. There are no spots on the dorsal fin.

Uses: The flesh is edible and more palatable when smoked.

White Marlin

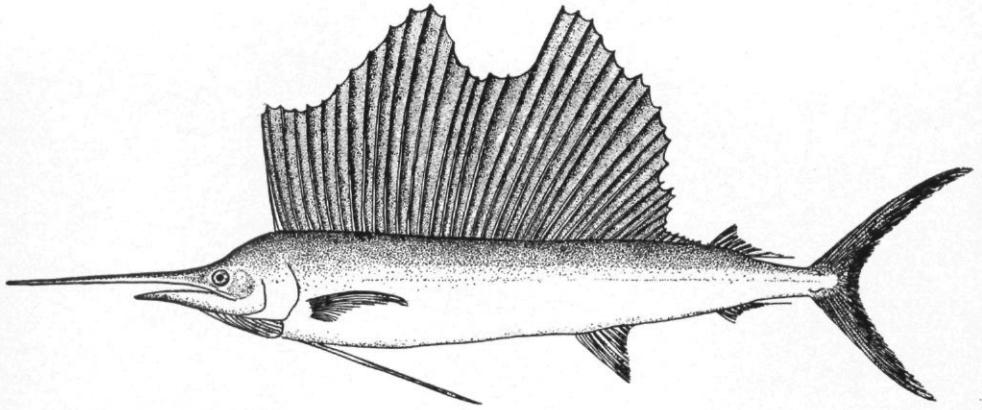
Makaira albida

Other names: Aguja blanca, billfish, spikefish.

Range: The white marlin ranges from Massachusetts southward to Venezuela.

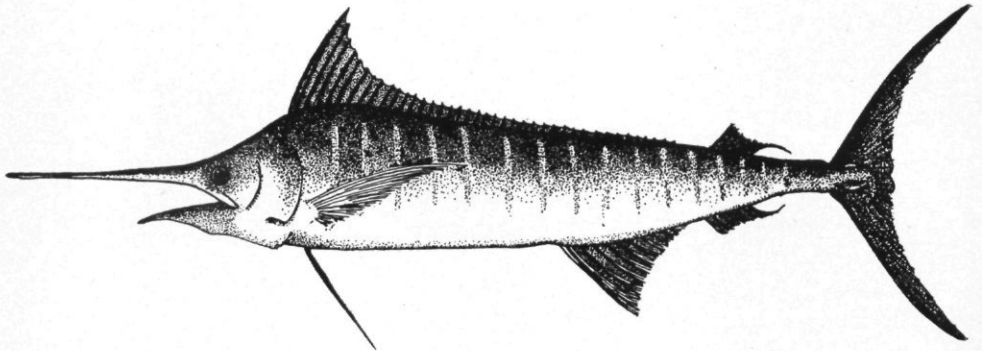
Size: The average size ranges from 50 to 100 pounds. Record: 161 pounds (Florida).

Habits and food: White marlin are found both singly and in schools in blue water where they feed on schools of small fish and on squid. Only three are



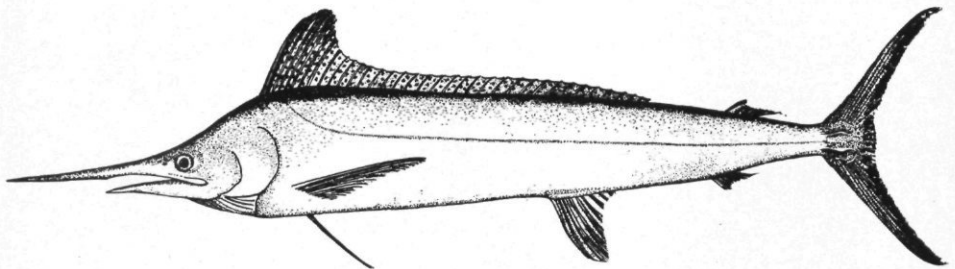
30. Atlantic Sailfish

Istiophorus americanus



31. Blue Marlin

Makaira nigricans ampla



32. White Marlin

Makaira albida

known to have been caught in Texas, although there are a number of sight records.

Color: At first glance the white marlin looks similar to the blue marlin in both color and body form. But the white marlin has three distinguishing characteristics: the tips of the first dorsal and anal fins are rounded rather than pointed, the dorsal fin has dark spots on it, and the lateral line is very conspicuous.

Uses: The flesh is edible and more desirable when smoked.

Broadbill Swordfish

Xiphias gladius

Other names: Swordfish, broadbill, espada, espadon emperor.

Range: The swordfish is found in all seas.

Size: The average is 100 to 400 pounds. It probably reaches 1,500 pounds. Record: 1,182 pounds (Chile).

Habits and food: The swordfish is fond of sunning at the surface with dorsal fin and tail showing. It is a solitary fish, except during the breeding season, at which time it congregates in considerable numbers. It feeds on schooling fish such as mackerel, herring, sardines, and on squid. It may be caught on trolled whole bait with heavy tackle. Broadbills occasionally occur off the Texas coast.

Color: The young fish is usually dark blue above, silvery below. The older fish is dark bronze on the back, shading to silver below. It has large, bright blue eyes.

Uses: The flesh is considered a delicacy.

THE DORADO

The name "dolphin" is most misleading, being applied to both an aquatic mammal and a fish. The name preferred by the American Fisheries Society for this fish is "dorado," and it is best to use this name to avoid confusion.

Dorado

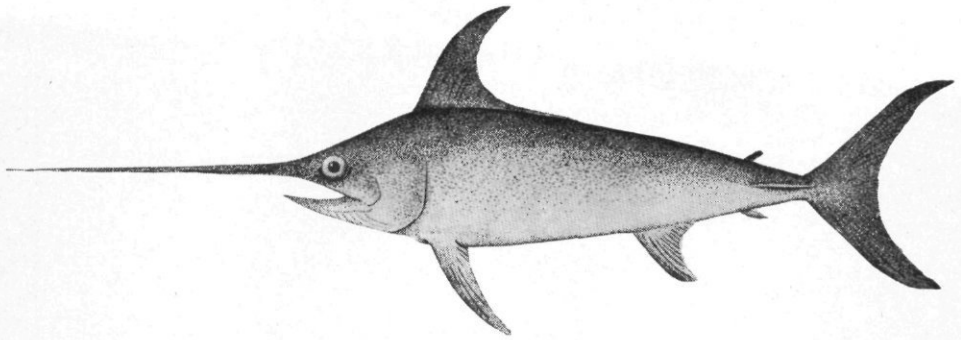
Coryphaena hippurus

Other names: Dolphin (Texas), dourade.

Range: The dorado is found everywhere in warm seas.

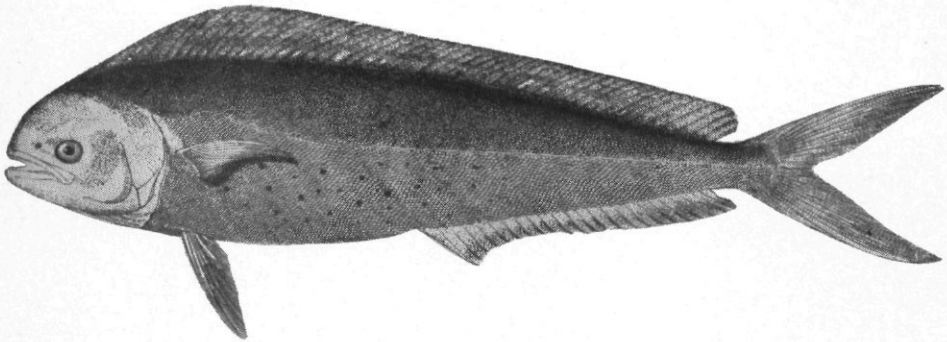
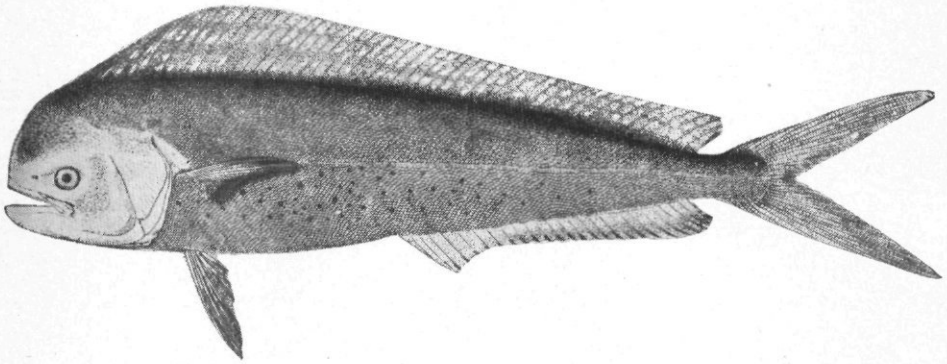
Size: The average weight is five or six pounds. Record: 75½ pounds (Mafia Channel, E. Africa).

Habits and food: The dorado's habit of following driftwood or patches of seaweed is a very marked characteristic. In the summer when they are the most numerous, a cast near any such flotsam is almost always rewarded with a strike. Once found, the log or other drift is sometimes secured to the boat. When this is done or when a hooked fish is left in the water as a decoy, it is possible to catch most of the fish in the school, as they appear not to be alarmed by the presence of a boat or by the commotion made by the fisherman. Dorado are seldom found alone or in pairs. The food consists mostly of small fishes such as mullet and flying fish, but they may be caught on almost any type of bait or lure.



33. Broadbill Swordfish

Xiphias gladius



34. Dorado (male above;
female below)

Coryphaena hippurus

Color: The coloration varies, changing rapidly when the fish is excited. The usual color when hooked is a dark blue on back and dorsal fin (dark green in females), shading to gold below. The rest of the fins are also gold in color. There are small purple dots on the body and dorsal fin. Before the fish dies the colors glitter brightly, then change to whitish silver at the onset of death. The young fish, six inches or less in length, are brilliantly speckled with a variety of colors.

Uses: The flesh is edible.

THE JACKFISHES AND POMPANO

Blue Runner

Caranx crysos

Other names: Hardtail, hardtailed jack, yellowjack, runner, yellow mackerel, crevalle, cojinera, jurel.

Range: The blue runner inhabits the Atlantic from Cape Cod to Brazil.

Size: The average is from two to five pounds. It occasionally reaches six pounds.

Habits and food: The blue runner schools around reefs and jetties. It eats small fish, shrimp, and crabs, and is a hard fighter.

Color: The back and upper sides are greenish, shading to yellowish silver below. The fins are almost colorless. There are no black spots.

Uses: The flesh is edible.

Horse-Eye Jack

Caranx latus

Other names: Crevalle, jurel, goggle-eye jack.

Range: This jack inhabits the tropical Atlantic and the Indo-Pacific areas.

Size: The most usual size horse-eye caught is about two pounds.

Habits and food: The habitat and food are similar to those of the blue runner.

Color: The back is bluish gray, the sides are silvery, the underside is yellowish silver. All the fins except the pectorals are yellowish or dusky. The tip of the soft dorsal fin may be black. The young have dark vertical bars.

Uses: The flesh is edible.

Common Jack

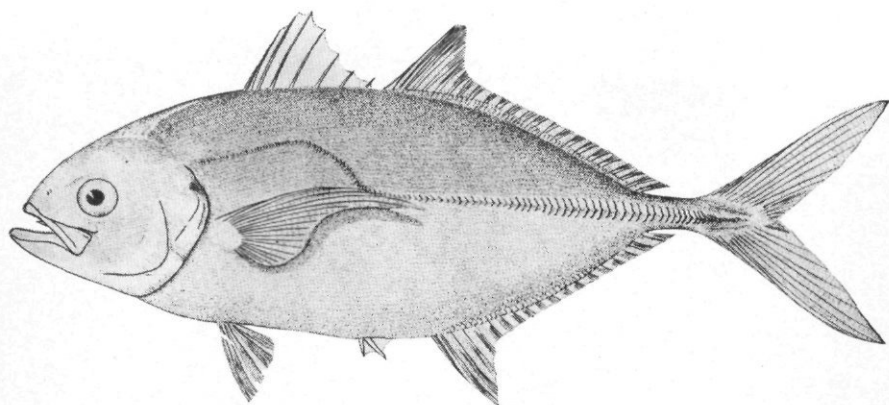
Caranx hippos

Other names: Jackfish or jack (Texas), crevalle, toro, horse crevally, crevalla, tourist tarpon, jiguagua.

Range: This jackfish ranges from Cape Cod to South America.

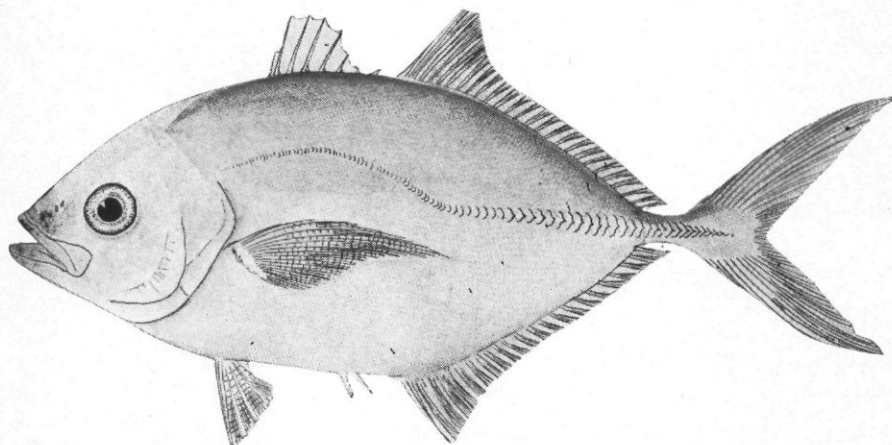
Size: The average weight in Texas waters is two to five pounds. It occasionally reaches 40 pounds.

Habits and food: The small jacks which run in schools in the bays may be found around bridges, pilings or other structures. Adults run offshort around the mouths of passes and rivers. They eat mullet, other small fish and crabs. Best angling for these good fighters is from May to August with almost any type of bait or lure.



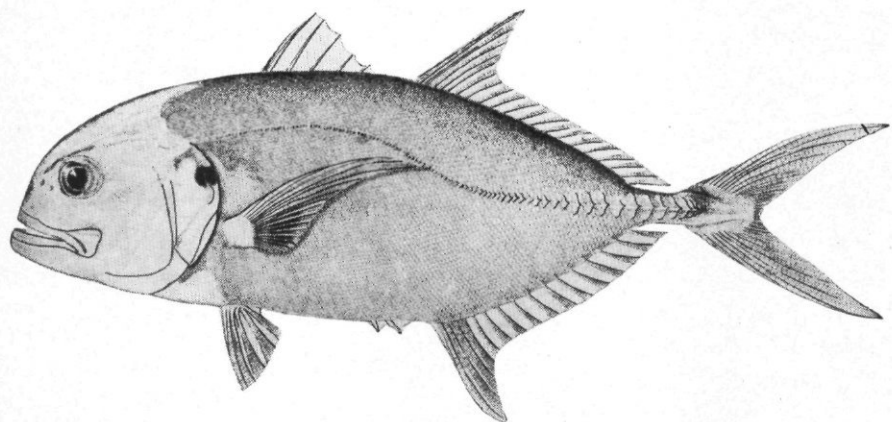
35. Blue Runner

Caranx crysos



36. Horse-Eye Jack

Caranx latus



37. Common Jack

Caranx hippos

Color: The back is greenish, the sides are white, and the underside is yellowish. The upper fins are dark, the lower fins yellow. There is a black spot at the upper edge of the gill cover and another at the base of the pectoral fin.

Uses: The flesh is edible.

Common Pompano

Trachinotus carolinus

Other names: Pampano, cobblerfish, butterfish, palometa, Carolina pompano.

Range: This pompano is found along the Atlantic coast of the United States, in the West Indies and as far south as Brazil.

Size: The average size is two to five pounds, occasionally larger.

Habits and food: Common around passes and in the surf, the pompano feeds on mollusks, crustaceans, beach fleas, shrimp and small fish. During the summer young pompano are found in great numbers in the surf. The best pompano fishing is from June to September with shrimp or lures.

Color: The back is grayish blue, shading to silver on the sides, yellow beneath. The upper fins are dark, the lower ones yellow. There is a bluish tint above and in front of the eyes.

Uses: This is considered by many to be the most delicious of all fishes.

Rainbow Runner

Elagatis bipinnulatus

Other names: Runner, Spanish jack, yellowtail, skipjack, shoemaker.

Range: The rainbow runner is found in most tropical seas of the world, although it is seldom reported from Texas.

Size: Those caught on the Texas coast average one or two pounds. In other areas they may weigh as much as 12 pounds.

Habits and food: This fish is caught offshore only occasionally. It apparently does not school. Nothing is known of its food or habits. It is a hard fighter.

Color: The back is dark blue. Three or four stripes alternately light blue and yellow extend from nose to tail on the sides. The underside is silver. The fins are all yellowish.

Uses: The flesh is edible.

Amberjack

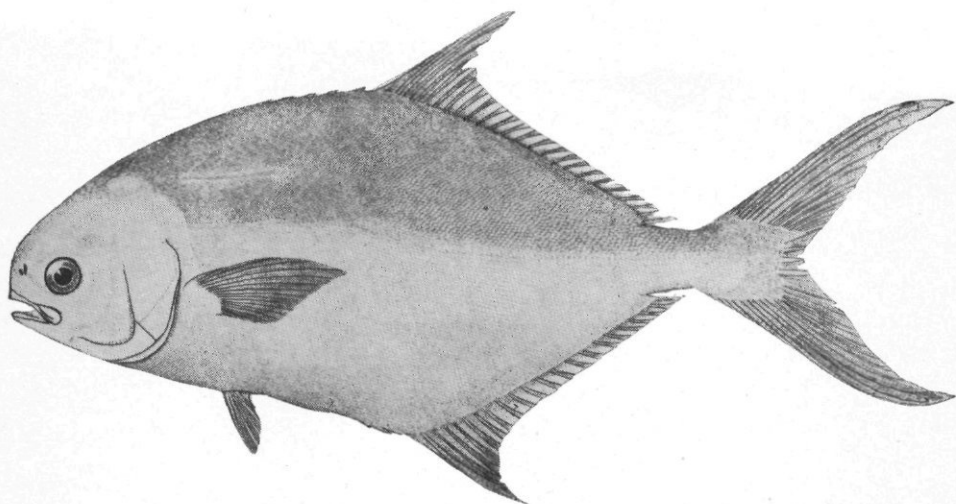
Seriola dumerili

Other names: Great amberjack, coronado, amberfish.

Range: The amberjack is found from New Jersey to Brazil, and in the Gulf of Mexico.

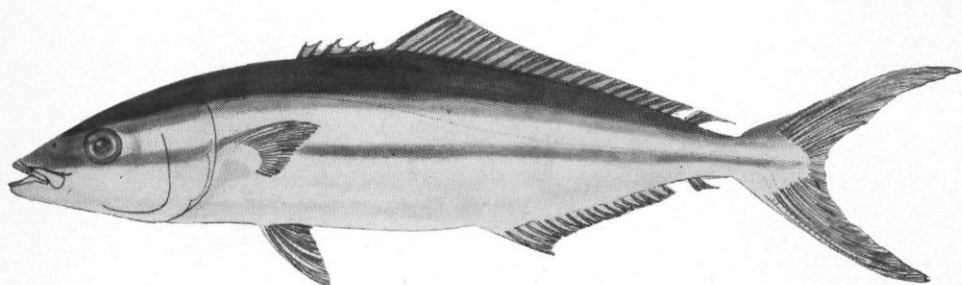
Size: The average weight of this fish is 15 to 20 pounds, although it sometimes exceeds 100 pounds. Record: 119½ pounds (Rio de Janeiro).

Habits and food: This is a reef fish, caught on the Texas snapper banks. Occasionally several will be found together, but very large fish are usually solitary. Its food consists of smaller fishes.



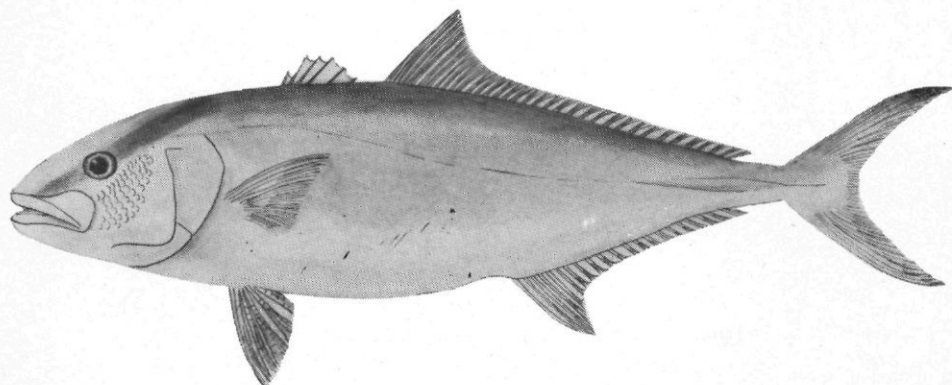
38. Common Pompano

Trachinotus carolinus



39. Rainbow Runner

Elagatis bipinnulatus



40. Amberjack

Seriola dumerili

Color: The back is light bluish purple. A light yellow stripe extends from mouth to tail on the side. The underside is silver. The entire fish sometimes has a yellow cast. A dark band runs from the mouth through the eye to just in front of the first dorsal fin.

Uses: The flesh is edible.

THE BLUEFISH

Bluefish

Pomatomus saltatrix

Other names: Snap mackerel, skipjack, fatback, snapping mackerel, tailer, snapper (especially when small), horse mackerel, greenfish, skip mackerel.

Range: The bluefish is found in all warm seas.

Size: The average is from one to two pounds in weight but it is known to reach 25 pounds. Record: 24 pounds (Azores).

Habits and food: Bluefish travel in dense schools and are migratory. Voracious feeders, they eat small fish, squid and shrimp. In Texas they are generally found offshore, associated with schools of small dorados. They are good fighters. The best fishing is from April to June, with shrimp, spoons, or plugs.

Color: The bluefish is dark greenish blue on the back and shades off to a bluish silver on the sides. The underside is silver. The pectoral fin is blackish at its base.

Uses: The flesh is edible.

THE CABIO

Cabio

Rachycentron canadus

Other names: Ling or cobia (Texas), black bonito, lemonfish, coalfish, crab-eater, black salmon, sergeant fish.

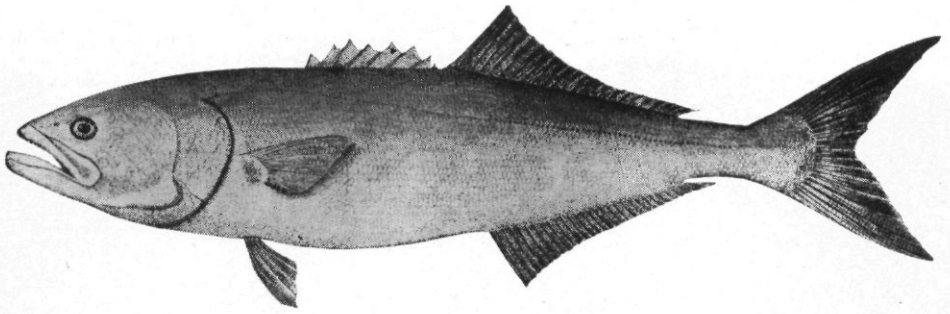
Range: The cabio is found in almost all warm seas.

Size: The average weight is 15 to 30 pounds. Record: 102 pounds (Virginia).

Habits and food: The curious habit of the cabio of associating with floating objects is well known among fishermen. They are found around buoys, under floating debris, around large fish, and under turtles. When shark fishing, there is nearly always a cabio or two present while running the line. The young vividly striped in black and white, closely resemble remoras and are quite common during May, June and July in harbors and around docks. They are always found beneath a ship, in the shadow of a boat, underneath boards or other debris, moving as the object moves and rather easily caught in a dip net. Cabio feed upon small fish, squid, crabs, and shrimp, and are frequently caught following the shrimp boats to pick up scrap fish thrown overboard. They are easily harpooned. They are present from May to October, most abundant from June to September. Shrimp, spoons, plugs, and jigs are the best baits.

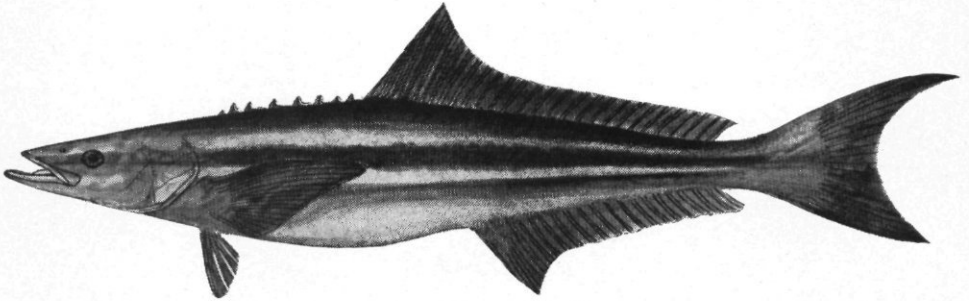
Color: Cabios are dark brown on back, silvery white below. There is a dark lateral band about the width of the eye extending from snout to tail and below this a narrower band. The fins are dark.

Uses: The flesh is edible.



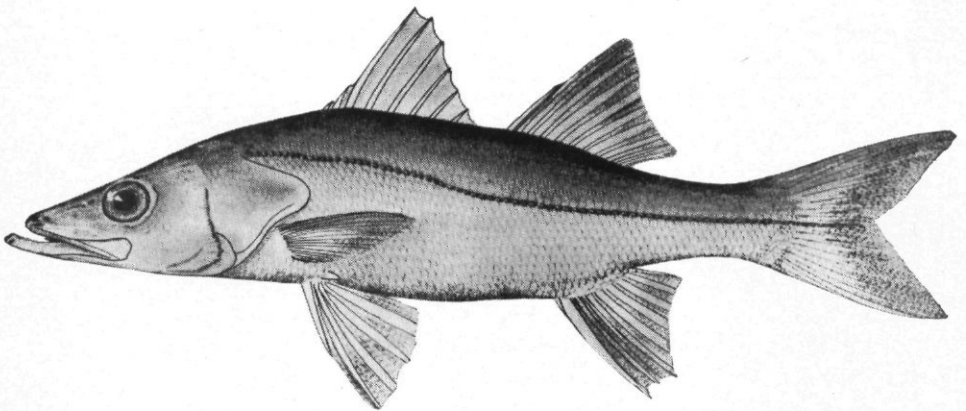
41. Bluefish

Pomatomus saltatrix



42. Cobia

Rachycentron canadus



43. Snook

Centropomus undecimalis

THE SNOOK

These large, pike-like fishes are a dominant family along the Mexican and Central American coasts, and in the West Indies. Only one species is common in Texas.

Snook

Centropomus undecimalis

Other names: Robalo or salt-water pike (Texas), pike, sergeant fish, brochet de mer, ravaljo, ravallo.

Range: The snook is found along the coasts of Florida, Texas, Central America, the West Indies, and West Africa.

Size: The weight is usually less than 25 pounds. Record: 50½ pounds (Canal Zone).

Habits and food: In Texas, snooks probably spawn during the summer. In December 1948, several hundred of this species, from two to three inches long, were taken in a muddy slough leading into Aransas Bay. They frequent passes, inlets, cuts, and the mouths of creeks and rivers, and sometimes go up rivers to fresh water. They feed on smaller fishes, crabs, fresh-water crawfish, and shrimp. They will take plugs and spoons. The best fishing is in July.

Color: Coloration varies according to the habitat of this fish. Brackish water snooks are brownish on back, tan below. Salt-water snooks are tan on back and silvery below. The lateral line is very dark and is a distinguishing characteristic.

Uses: The flesh is edible.

THE GROUPERS

This large family furnishes a number of very fine food and game fish, ranging from a pound or two to over 500 pounds. Most of them are reef types which do not school.

Rock Hind

Epinephelus adscensionis

Other names: Calico grouper (Texas), cabra mora, hind, polka dot.

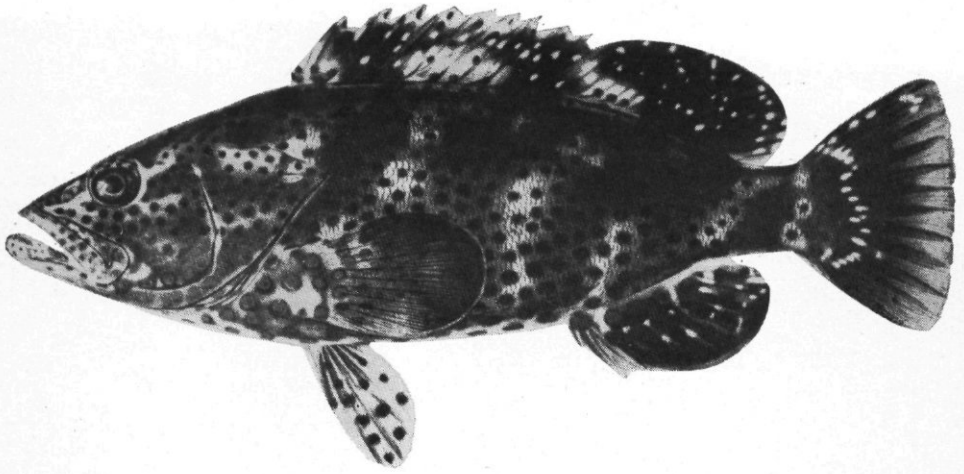
Range: The rock hind is found on the Atlantic coast from Massachusetts to Brazil, in the Mediterranean, and on the coast of Africa from Cape Verde to Cape of Good Hope.

Size: The average weight is from one to two pounds but it occasionally reaches 10 pounds.

Habits and food: The rock hind lives around coral banks and gullies. Its food is probably similar to that of the rest of the grouper family although little is known about it.

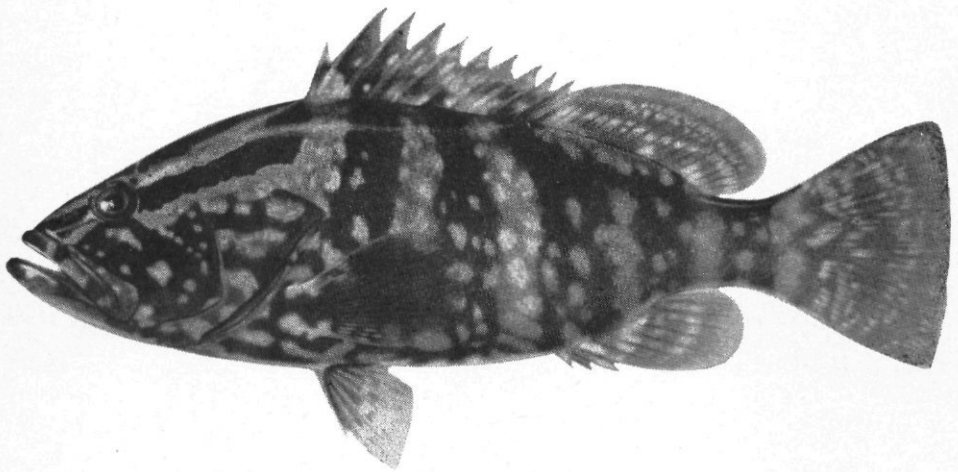
Color: The coloration varies. The most common color phase is an olive background with pale white blotches and small red spots on all of body including the fins. Also, small white dots occur on the dorsal and tail fins.

Uses: The flesh is edible.



44. Rock Hind

Epinephelus adscensionis



45. Nassau Grouper

Epinephelus striatus

Nassau Grouper

Epinephelus striatus

Other names: Hamlet, cherna criolla, Bermuda grouper, gray grouper, rockfish, white grouper, rockford.

Range: This grouper is found around Florida, the West Indies, Gulf of Mexico and Brazil. It is rare in Texas, only one or two having been caught.

Size: The average weight is from five to 10 pounds. It has been reported to weigh up to 60 pounds.

Habits and food: The habits and food are probably the same as those of other groupers.

Color: The Nassau grouper is usually pale olive-gray and much paler on the underside. There are obscure whitish blotches along the sides with four or five irregular vertical bars of an olive-brown color. The inside of the mouth has an orange cast. This fish has a remarkable power to change color. It varies from the above color phase to a grayish white.

Uses: The flesh is edible.

Black Jewfish

Garrupa nigrita

Other names: Warsaw (Texas), black grouper, mero de lo alto.

Range: The jewfish inhabits the Atlantic coast from the Carolinas to Brazil.

Size: It is reported to reach six feet and 600 pounds. Most of those caught on the Texas coast weigh from 20 to 60 pounds, with a few surpassing 100 pounds in weight. Probably the 600-pound fish reported was a spotted jewfish, which resembles the black jewfish when it reaches a large size.

Habits and food: Large black jewfish are generally found only on the snapper banks; small ones, however, are often found in the bays near channels. The few stomachs that have been examined were packed with Gulf crabs, *Callinectes danae*.

Color: This fish is brown or bluish black, uniform or with a few light spots.

Uses: The flesh is edible.

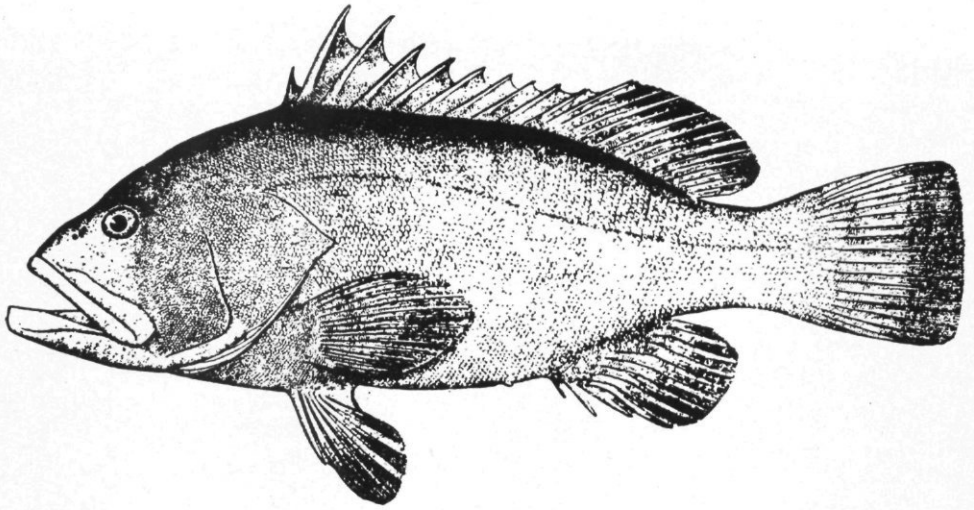
Spotted Jewfish

Promicrops itaiara

Other names: Guasa, mero, sea bass, giant bass, junefish, giant sea bass.

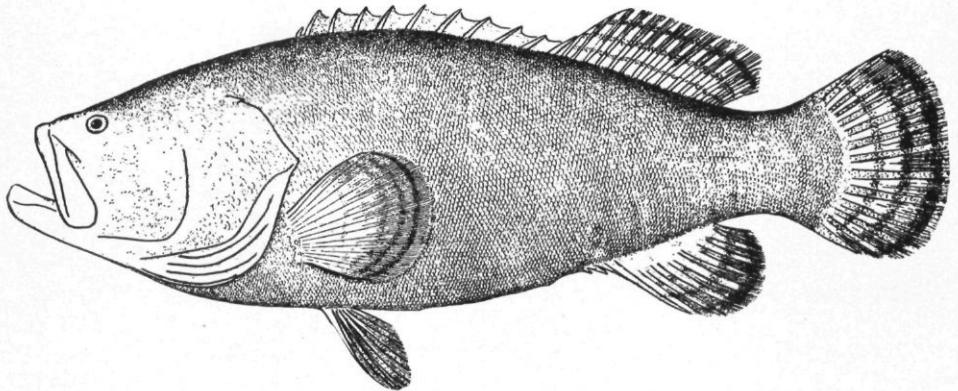
Range: This fish is found from Florida to Brazil.

Size: The average along the Texas coast is from 40 to 120 pounds. However, spotted jewfish weighing from 200 to 300 pounds are not uncommon and several have been caught weighing from 400 to 500 pounds. One weighing 750 pounds was caught at Miami.



46. Black Jewfish

Garrupa nigrita



47. Spotted Jewfish

Promicrops itaiara

Habits and food: The spotted jewfish is generally found around jetties, piling, old wrecks, coral reefs (inshore), and in entrances to creeks and sloughs. It probably eats anything it can capture but in some stomachs blue crabs, *Callinectes sapidus*, constituted the most abundant item. It is most prevalent from June to October and may be caught by still-fishing on the bottom.

Color: Coloration ranges from dark to chocolate-brown. Some fish have faint pale blotches. The fins are dark. The young are mottled and have small black dots; adults lose these markings.

Uses: The flesh is edible.

Gag

Mycteroperca microlepis

Other names: Aguaji, grouper.

Range: This fish is found from Florida to Brazil.

Size: It probably does not exceed 20 pounds. The average is from one to three pounds.

Habits and food: Gags frequent the snapper banks. They feed on grunts, other small fishes, and crabs, and are hard fighters.

Color: The gag is usually brownish gray with a greenish dorsal fin. The caudal fin is black and blue shading to white. There are irregular chain markings of a darker brown on the sides. The coloring is lighter if taken from shallow water.

Uses: The flesh is edible.

Scamp

Mycteroperca falcata

Other names: Bacalao, abadejo.

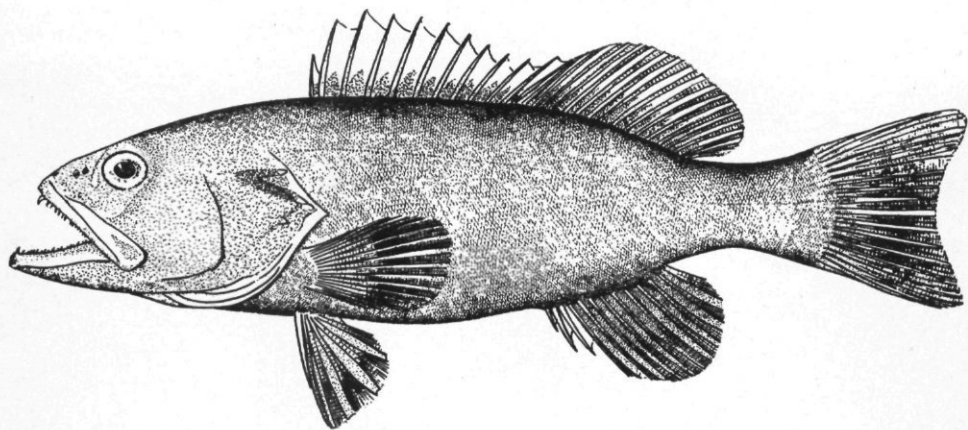
Range: This fish is found around Florida and in the Gulf of Mexico.

Size: It reaches a length of 24 to 30 inches, and a weight of eight to 10 pounds.

Habits and food: The scamp occurs on the snapper banks during most of the year, but is never plentiful. Nothing is known about its food, but it is probably similar to that of other members of the family.

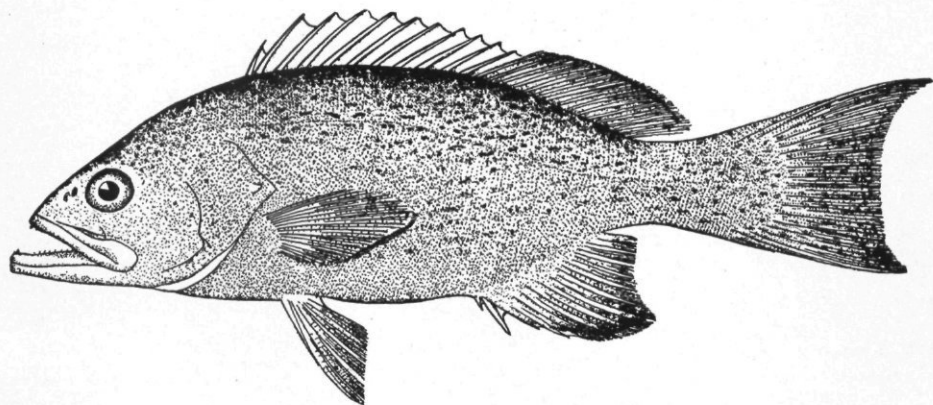
Color: The scamp is brown above, grayish brown on the sides, and sometimes covered with darker spots. The vertical fins are dusky, with the outer portions bluish black. The pelvic and pectoral fins have a narrow band of white.

Uses: The flesh is edible.



48. Gag

Mycteroperca microlepis



49. Scamp

Mycteroperca falcata

THE TRIPLETAIL

Tripletail

Lobotes surinamensis

Other names: Flasher, dormeur, black perch, rockfish, blackfish, buoyfish, chovie, steamboat.

Range: The tripletail is found in all warm seas.

Size: It normally weighs from five to 15 pounds. The largest specimen taken on the Texas coast weighed 41 pounds and was caught in Galveston Bay.

Habits and food: Tripletails seem to prefer the mouths of rivers, passes, and bays opening into the Gulf, displaying some indifference as to the salinity of the water. They congregate around shipwrecks, buoys, boats, beacons, piling, flotsam, rock jetties and even, in some cases, close to shore under the shelter of fallen trees and brush. In spring and summer, especially at night, they approach quite close to shore, over shallow sand flats, and may be taken in nets. They have a strange habit of floating on their sides just under the surface. Their food consists of small fishes, crabs, and shellfish.

Color: Adult tripletails along the Texas coast are usually black (along Florida coast they are brown). The young change colors; they may be mottled yellow and brown or a solid yellowish tan.

Uses: The flesh is edible.

THE SNAPPERS

Gray Snapper

Lutjanus griseus

Other names: Mangrove snapper (Texas), lawyer, pargo, pargo prieto, Pensacola snapper, cabellerote.

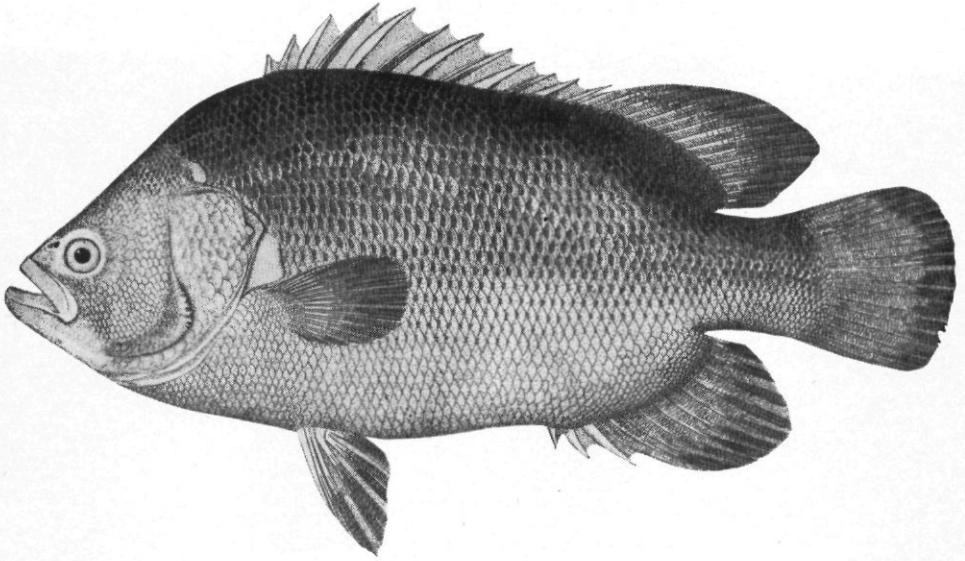
Range: This snapper is found from New York to Brazil. It is most common in the West Indies.

Size: The average is one-half to two pounds but may reach 20 pounds. Dog snappers, which resemble gray snappers, grow much larger and many of the big gray snappers reported are probably dog snappers.

Habits and food: Gray snappers frequent jetties, inshore reefs, wharves, bridges, wrecks, piling, and occasionally deep holes in salt-water creeks or lagoons. In the winter they inhabit deeper water. The food consists of crabs, small fishes, shrimp, squid, or anything else small enough to eat. They feed at night but will bite during the day.

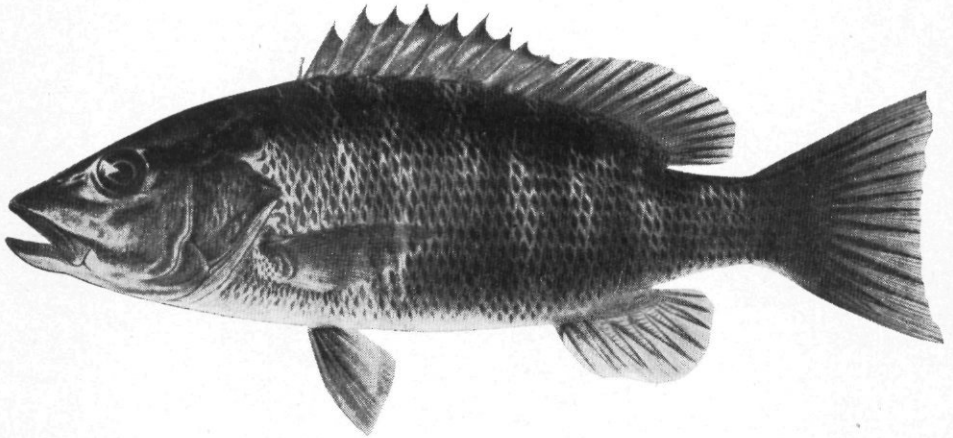
Color: The color varies with the habitat. It ranges from light green on the back with rosy sides, white underside, silvery dorsal and tail fins, to a darker phase with olive back, coppery sides, dusky dorsal and tail fins, and coppery pectoral, pelvic and anal fins. There are usually faint vertical bars extending part way down from the back. The scales are colored in the centers (olive on back to rosy on sides) and gray or silver at the margins.

Uses: The flesh is edible.



50. Tripletail

Lobotes surinamensis



51. Gray Snapper

Lutjanus griseus

Dog Snapper

Lutjanus jocu

Other names: Jocu, pargo colorado.

Range: This snapper is found from Florida to Brazil.

Size: The average in Texas waters weighs from 25 to 50 pounds. A specimen weighing 125 pounds was caught on Freeport Banks a few years ago.

Habits and food: The dog snapper is found in Texas waters on the snapper banks during the summer. In the winter small ones are found off Key West averaging from three to five pounds.

Color: The dog snapper is a dark coppery red, with faint vertical bars on the sides. There is a light blue streak under each eye. The tail fin has a tinge of yellow.

Uses: The flesh is edible.

Red Snapper

Lutjanus aya

Other names: Pensacola snapper, pargo colorado, pargo, Caribbean red snapper.

Range: The red snapper is found in the Gulf of Mexico, and in the waters of the West Indies as well as in other warm waters.

Size: The average weight is two to four pounds. It is reputed to reach 55 pounds.

Habits and food: Like most snappers this is a reef fish but small ones are frequently found miles from any known reef. Its food consists of small fish, crabs, shrimp, and squid.

Color: The red snapper is of a deep rosy red color.

Uses: The flesh is edible.

Muttonfish

Lutjanus analis

Other names: Mutton snapper (Texas), pargo, pargo criollo.

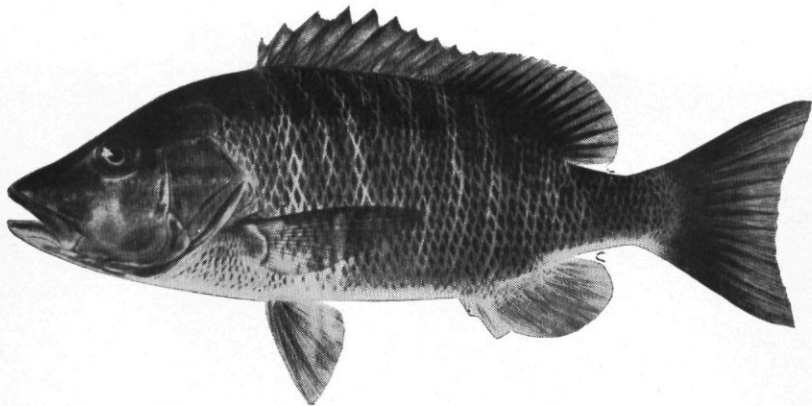
Range: This fish is found from Florida to Brazil.

Size: The average weighs two to five pounds but it may reach 25 pounds.

Habits and food: The muttonfish is a reef fish. Its food and habits are about the same as those of the other snappers.

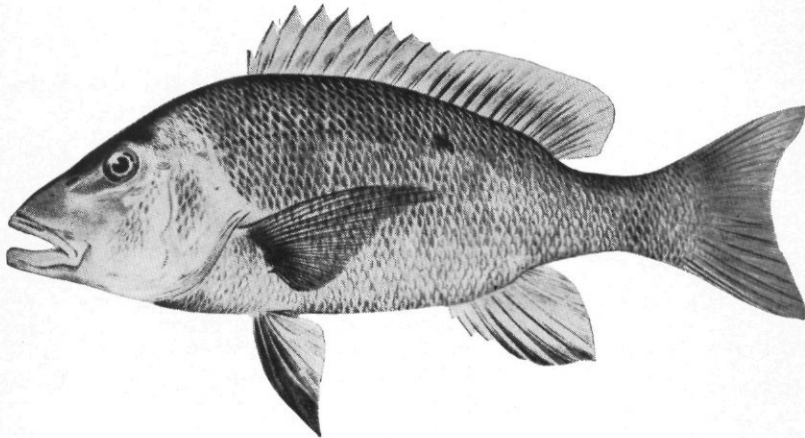
Color: Varying greatly, the coloration is usually olive on the back shading to pink below. There may or may not be dark vertical bars. Some scales have light blue spots which form faint stripes running upward and backward. The dorsal fin is red and yellow with the other fins being red. The iris of the eye is red.

Uses: The flesh is edible.



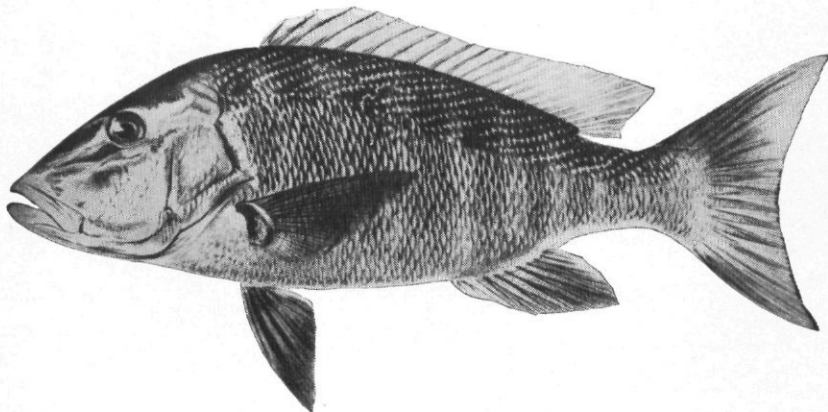
52. Dog Snapper

Lutjanus jocu



53. Red Snapper

Lutjanus aya



54. Muttonfish

Lutjanus analis

Lane Snapper

Lutjanus synagris

Other names: Biajaiba, redbtail snapper, manchego, raiado, spot snapper.

Range: This snapper is found in the waters around Florida and the West Indies, in the Gulf of Mexico and Caribbean Sea.

Size: The average weight is one to two pounds. It may reach four pounds.

Habits and food: Little is known of the habits of this snapper in Texas waters. The adults apparently keep to deeper waters like the other snappers. Very young ones are often found in the bays. The Lane snapper eats shrimp, other small crustaceans and fish.

Color: The Lane snapper's coloration varies from rosy red to slightly olivaceous. There are horizontal yellow stripes on the sides and a large distinguishing maroon spot between the lateral line and the beginning of the second dorsal fin. The caudal fin is red, the others red and yellow. The iris of the eye is red.

Uses: The flesh is edible.

Yellowtail Snapper

Ocyurus chrysurus

Other names: Rabirubia.

Range: The yellowtail snapper is found from Florida to Brazil.

Size: It is usually from one to two feet long.

Habits and food: In Texas, where this fish is rare, it is found only in deep water. It feeds on small fish, shrimp, crabs, and squid.

Color: A bright yellow stripe extends from the tip of the snout through the eye to the tail. Above the stripe the background color is silvery blue or violet with yellow blotches. Below the stripe the background is silver and there are thin yellow horizontal stripes. All the fins are yellowish, and the tail is bright yellow.

Uses: The flesh is edible.

Vermilion Snapper

Rhomboplites aurorubens

Other names: Bastard snapper (Texas), cagon de lo alto, mangrove snapper.

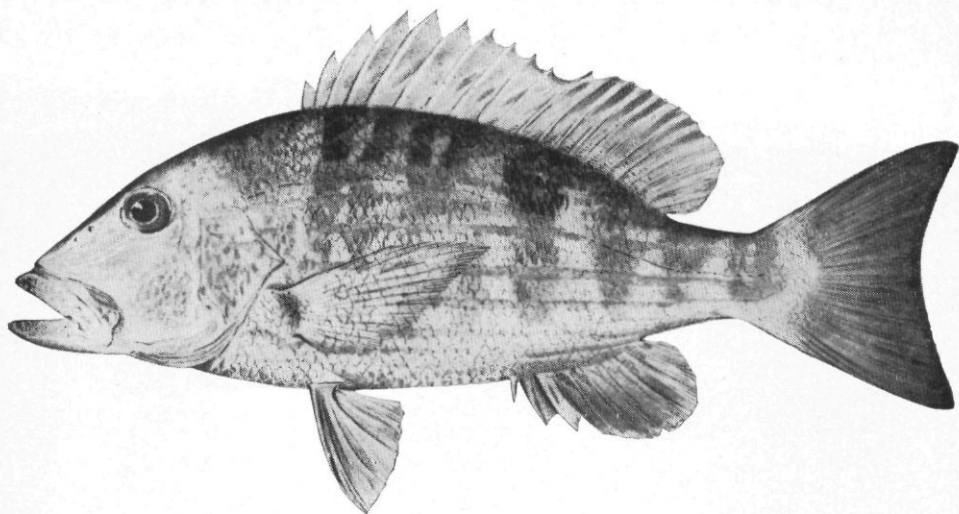
Range: This snapper is found in the Atlantic from South Carolina to Brazil.

Size: It reaches a length of 15 inches.

Habits and food: The vermilion snapper apparently spawns in early spring. In Texas, it is found on the snapper banks and there are no data on its feeding habits.

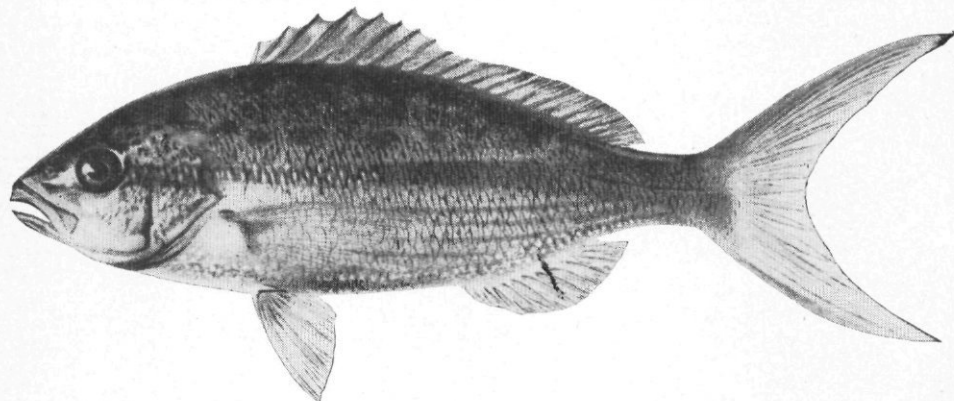
Color: The vermilion snapper is vermilion in color. There are faint brown oblique lines on the upper sides. The dorsal fin is tipped with orange, the pectoral fin is yellowish, and the caudal fin and iris of the eye are vermilion.

Uses: The flesh is edible.



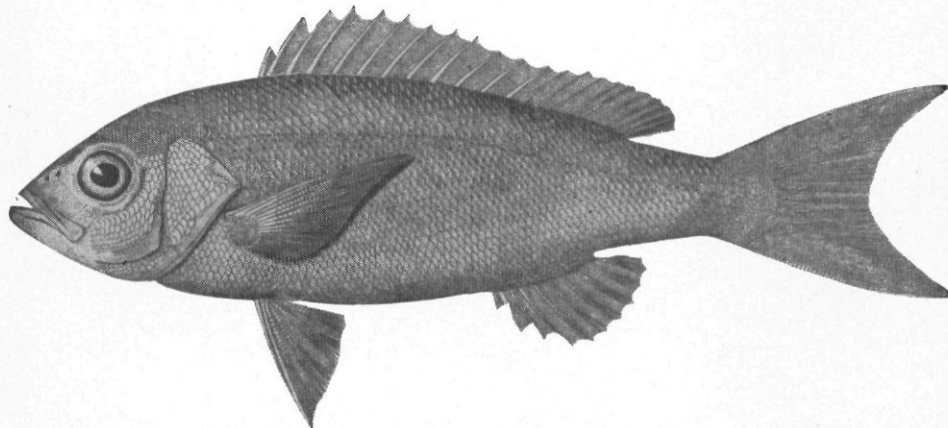
55. Lane Snapper

Lutjanus synagris



56. Yellowtail Snapper

Ocyurus chrysurus



57. Vermilion Snapper

Rhomboplites aurorubens

THE GRUNTS

Six members of the grunt family, if not more, are found in Texas. Only one is important to the fisherman.

Pigfish

Orthopristis chrysopterus

Other names: Piggy or piggy perch (Texas), sailor's choice, hogfish, redmouth grunt.

Range: The pigfish is found along the south Atlantic and Gulf coasts.

Size: They are generally from six to eight inches long but may reach 15 inches in length.

Habits and food: The pigfish is found on sandy shoals, over grass or rocky bars, feeding near the bottom on mullusks, beach fleas and other crustaceans, marine worms, and young fishes.

Color: The back is light blue, the sides yellowish, the underside white. There are many small brownish yellow spots which give an appearance of longitudinal stripes. It frequently has dark vertical cross bars, and sometimes it may be almost white, with very faint markings.

Uses: The flesh is edible. It is commonly used as live or cut bait, especially for tarpon.

THE PORGIES

Pinfish

Lagodon rhomboides

Other names: Pin perch (Texas), salt-water perch, bream, sailor's choice, sargo, chopina, choper.

Range: The pinfish is found along the south Atlantic and Gulf Coasts.

Size: The average length is six to eight inches but they sometimes reach 14 inches.

Habits and food: The pinfish frequents grassy bays in warm weather, migrates to deeper water in the colder months. It feeds on vegetation, small crustaceans and mollusks. It will nibble on almost any kind of bait, which gives it the reputation of "bait stealer."

Color: The pinfish is horizontally striped with blue and yellow and may be vertically barred with light brown. The fins are gray and yellow. There is usually a dark spot above the gill cover.

Uses: The flesh is edible. It is commonly used for live bait, especially for tarpon.

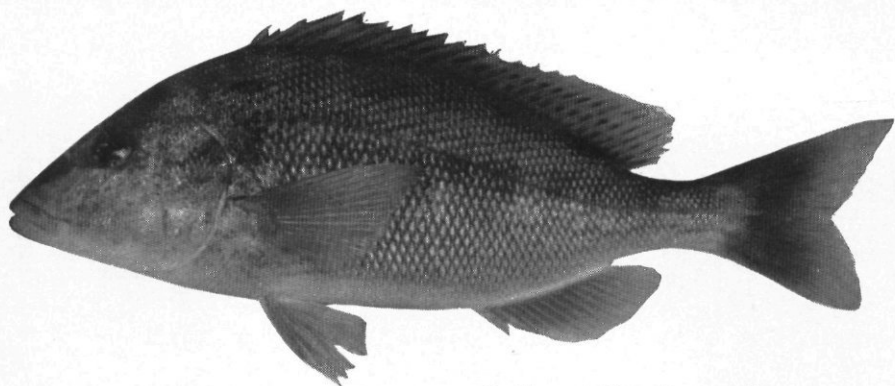
Sheepshead

Archosargus probatocephalus

Other names: Sargo, sargo raiada, convict fish.

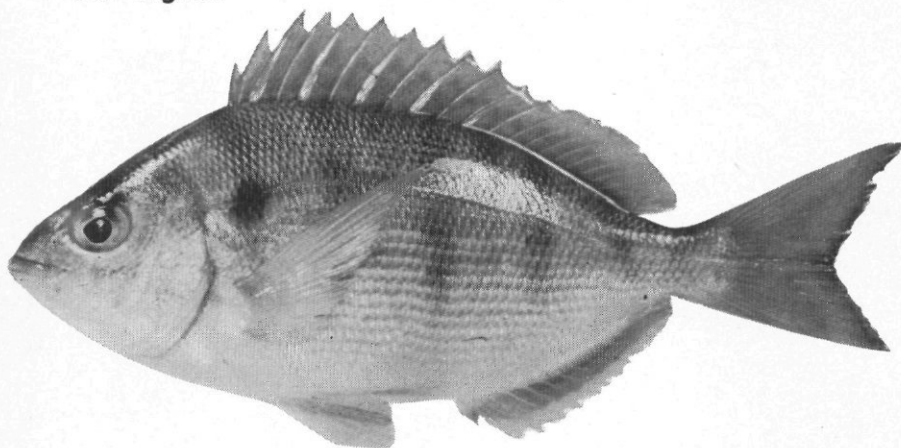
Range: The sheepshead is found on the Atlantic coast from Cape Cod to Texas.

Size: The average is one to three pounds but it occasionally weighs 25 pounds.



58. Pigfish

Orthopristis chrysopterus



59. Pinfish

Lagodon rhomboide



60. Sheepshead

Archosargus probatocephalus

Habits and food: The sheepshead frequents piling, jetties and oyster reefs and sometimes goes up rivers to fresh water. It feeds on barnacles and small shellfish and is caught on hermit and fiddler crabs when used as bait. It may be caught the year round.

Color: The sheepshead is vividly marked with black and white vertical bars. The bars are not so pronounced on the very old fish.

Uses: The flesh is edible.

THE CHUB

Bermuda Chub

Kyphosus sectatrix

Other names: Rudderfish (Texas), chopra, chopra blanca, chub, drummer.

Range: This chub ranges from Cape Cod to Florida and the Gulf of Mexico, although it is seldom reported from Texas.

Size: In Texas waters Bermuda chubs are small with an average weight of about one pound.

Habits and food: In Texas waters they are usually found offshore around floating drifts, where they swim in large schools. Their food consists of small fish, algae, worms, and decaying matter.

Color: Chubs are brownish to steel-gray, with small round spots or horizontal dark and light lines. These two patterns often interchange. Below the eye there are two yellow streaks separated by a pale streak. The fins are dull gray.

Uses: The flesh is edible.

THE CROAKERS

This is a dominant family of fishes on the Texas coast, and contains many of the most popular food and game fish. There are four members of this family which are occasionally caught, but are not important commercially or for sport: the spot, *Leiostomus xanthurus*; the banded drum, *Larimus fasciatus*; the star drum, *Stellifer lanceolatus*; and the silver perch, *Bairdiella chrysura*.

Redfish

Sciaenops ocellata

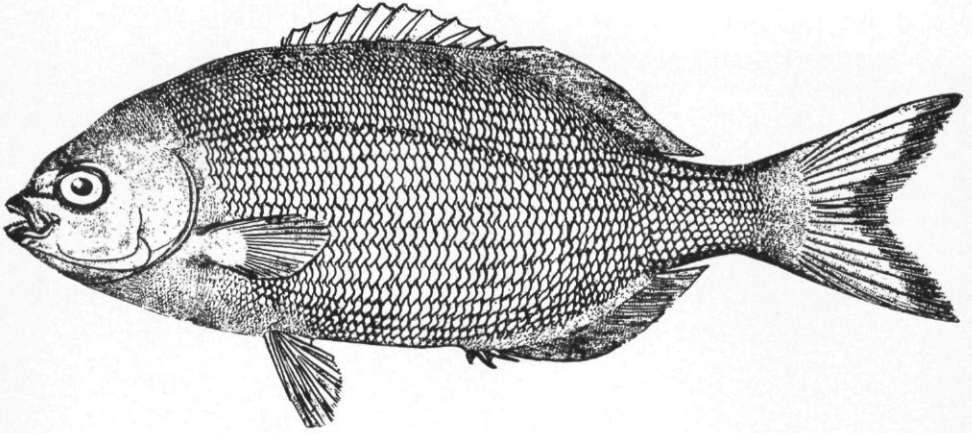
Other names: Red drum, bar bass, channel bass, pescado colorado, bull red (when large), rat red (when small), puppy drum (when small), red bass, sea bass, spud, redhorse.

Range: The red drum is found in the Atlantic from New York to Mexico.

Size: The average is three to four pounds, occasionally reaching 85. Record: 83 pounds (Cape Charles, Va.).

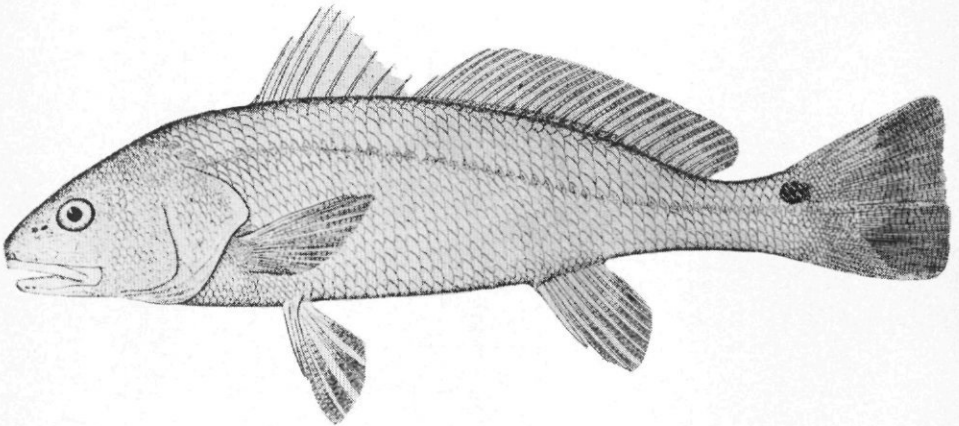
Habits and food: Traveling in schools, the young red drum frequent the bays and the adults frequent passes and channels between bars. In Texas, their food consists of: 40% shrimp, 40% crabs, 20% mixed small fish, including mullet and pinfish. A cotton rat was found in the stomach of one red drum. They are present the year round, but the best fishing is in the fall, with shrimp, spoons, and plugs.

Color: The red drum's coloring ranges from silver to copper color. The scales



61. Bermuda Chub

Kyphosus sectatrix



62. Redfish

Sciaenops ocellata

are silver around the edges and usually coppery in the center. The fins are grayish silver. There is a black spot (sometimes two or more) at the upper base of the tail.

Uses: The flesh is edible.

Black Drum

Pogonias cromis

Other names: Drum (Texas), gray drum, drumfish, banded drum (particularly when young), big drum, sea drum, striped drum.

Range: The black drum is found on the Atlantic coast from Long Island to Mexico.

Size: The average weighs three to four pounds, occasionally weighing 140 pounds. Record: 94¼ pounds (Cape Charles, Va.).

Habits and food: The drum frequents shallow bays where it feeds on shellfish, shrimp, crabs, and an occasional fish. The best fishing is from January through March.

Color: The black drum ranges from smoky black to silver grey, with four or five darker vertical bars. The bars disappear with age. The fins are dark.

Uses: The flesh is edible.

Atlantic Croaker

Micropogon undulatus

Other names: Croaker or golden croaker (Texas), roncadina, corvina, hardhead, ronco, chut.

Range: This croaker is found in the Atlantic from Cape Cod to Texas.

Size: In this area, the average weight is from one-fourth to one-half pound with occasional runs of larger size in which the fish reach two or three pounds. It is known to weigh as much as five pounds.

Habits and food: The croaker frequents the bays and Gulf beaches, feeding on crustaceans, mollusks, and smaller fishes. The best months for fishing are July to November. Shrimp is the preferred bait.

Color: The croaker is brassy silver above, paling to whitish silver below. There are faint, irregular, dusky bars crossing the lateral line. There are tiny barbels on the underside of the lower jaw.

Uses: The flesh is edible.

Southern King-Whiting

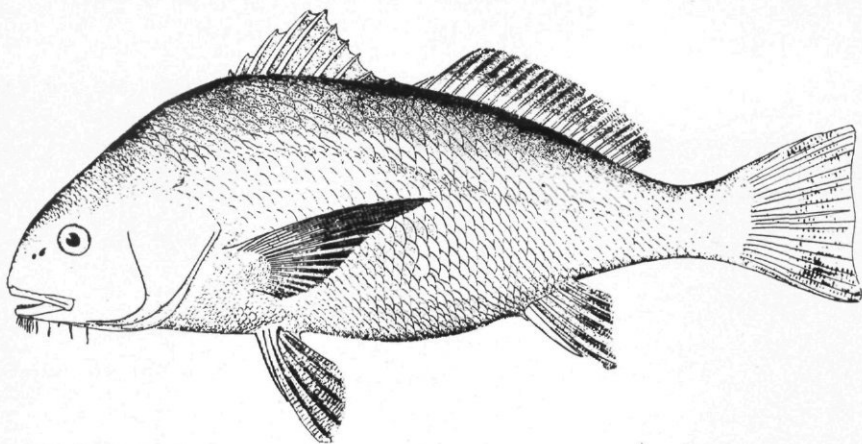
Menticirrhus americanus

Other names: Carolina whiting, sand whiting, silver whiting, southern kingfish, sea mullet, ground mullet, shoemaker, Bermuda whiting.

Range: This king-whiting is found in the Atlantic from New Jersey to Mexico.

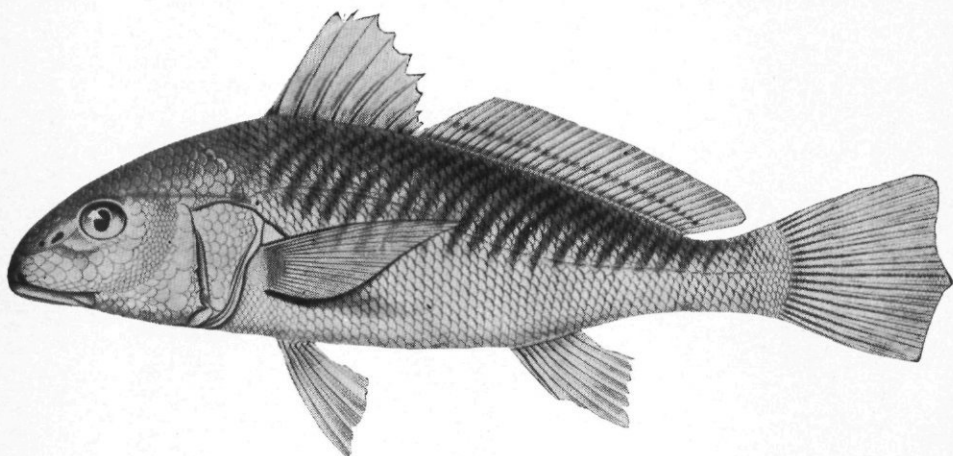
Size: The average weighs one-half to two pounds.

Habits and food: King-whittings feed over sand bottoms in the bays and the Gulf on small crabs, mollusks, shrimp and small fish. They are caught the year round and shrimp is the best bait.



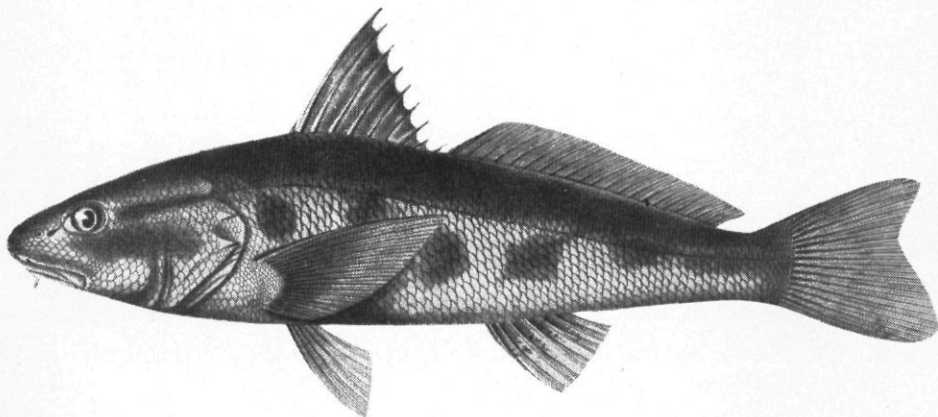
63. Black Drum

Pogonias cromis



64. Atlantic Croaker

Micropogon undulatus



65. Southern King-Whiting

Menticirrhus americanus

Color: The back is brownish, shading to silver below. Brown markings on the back slant forward and downward to the region of the lateral line.

Uses: The flesh is edible.

Gulf King-Whiting

Menticirrhus littoralis

Other names: Same names as southern king-whiting. (The two are often confused.)

Range: This fish is found along the Gulf coast.

Size: It rarely weighs more than two pounds.

Habits and food: This king-whiting is similar to the southern king-whiting in habits and food.

Color: The back is dusky silver, the sides bright silver, the underside nearly white. There are no markings.

Uses: The flesh is edible.

Spotted Weakfish

Cynoscion nebulosus

Other names: Speckled trout (Texas), spotted sea trout, spotted squeteague, trout, speck, salt-water trout, yellowmouth trout.

Range: This squeteague is found along the southern part of the Atlantic coast and the Gulf coast.

Size: The average is about 15 inches in length and weighs one to two pounds. It is known to reach 19 pounds or more. Record: 15 pounds (Fort Pierce, Florida).

Habits and food: The spotted squeteague frequents the bays and Gulf beaches. It seems to prefer grassy areas where it feeds on shrimp and small fish.

Color: The back is dark bluish or grayish silver, shading to whitish silver below. There are many small, round black spots above the lateral line on the body, dorsal fins and tail.

Uses: The flesh is edible. It deteriorates rapidly in warm weather.

Silver Weakfish

Cynoscion nothus

Other names: Sand trout (Texas), silver trout, silver squeteague.

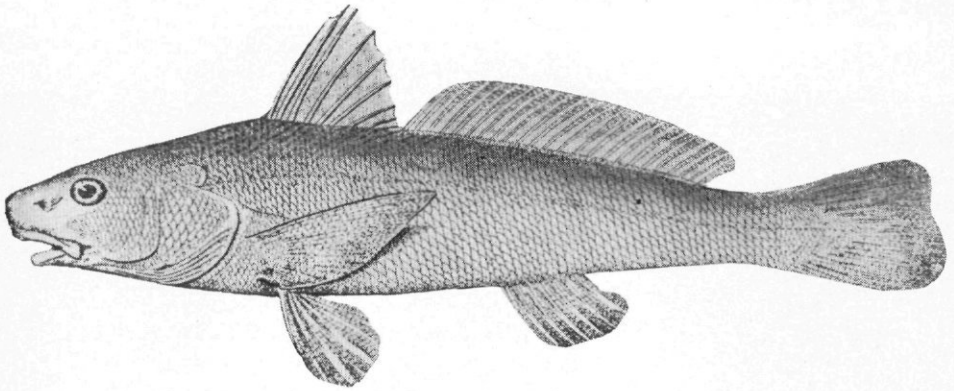
Range: This fish is found along the southern part of the Atlantic coast and the Gulf coast.

Size: It rarely exceeds two pounds, but may weigh as much as three pounds.

Habits and food: This squeteague is most common along Gulf beaches. Shrimp is the preferred food, but other invertebrates and small fish are eaten when shrimp is not available. It is present throughout the year but best fishing is from October to May.

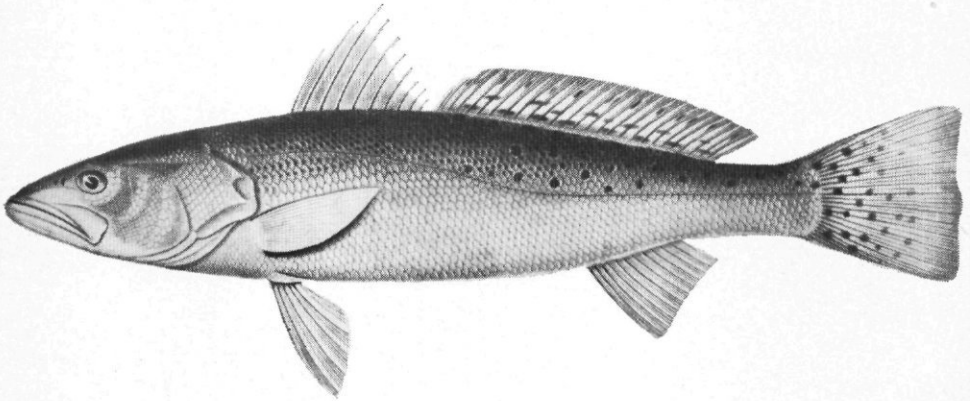
Color: The silver squeteague is pale greenish or bluish silver on the back, shading to silver on the sides and below.

Uses: The flesh is edible.



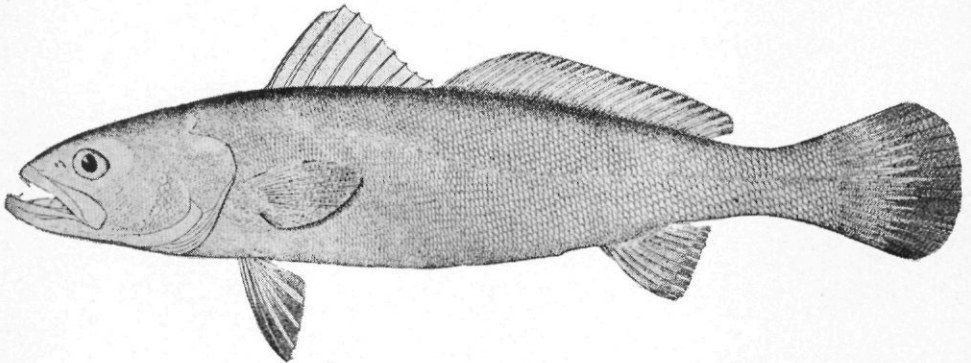
66. Gulf King-Whiting

Menticirrhus littoralis



67. Spotted Weakfish

Cynoscion nebulosus



68. Silver Weakfish

Cynoscion nothus

Sand Weakfish

Cynoscion arenarius

Other names: Sand trout (Texas), sand squeteague.

Range: This squeteague is found along the coast of the southeastern United States and Gulf coast.

Size: It rarely exceeds one pound in weight.

Habits and food: The sand squeteague is common in Texas bays and migrates to the Gulf only in cold weather. It feeds on smaller fishes and crustaceans, and is most abundant in the bays in late summer and fall. It is often confused with the silver squeteague due to their similarity in appearance. The two may be distinguished by an anal ray count, *C. nothus* having eight or nine anal rays, *C. arenarius* having 11.

Color: The entire body is silver, being a little darker on the back than on the underside.

Uses: The flesh is edible.

THE SPADEFISH

Spadefish

Chaetodipterus faber

Other names: Angel fish.

Range: The spadefish is found in the Atlantic from Cape Cod to Brazil.

Size: It rarely exceeds one pound in Texas waters, but in the West Indies, it grows much larger, weighing as much as 15 pounds.

Habits and food: Spadefish are generally found in schools around jetties, wrecks, piling and bridges. Shrimp is the best bait.

Color: This fish is capable of considerable color pattern change. Usually it is vertically barred with black and silver, but it is sometimes completely black, gray, or white.

Uses: The flesh is edible.



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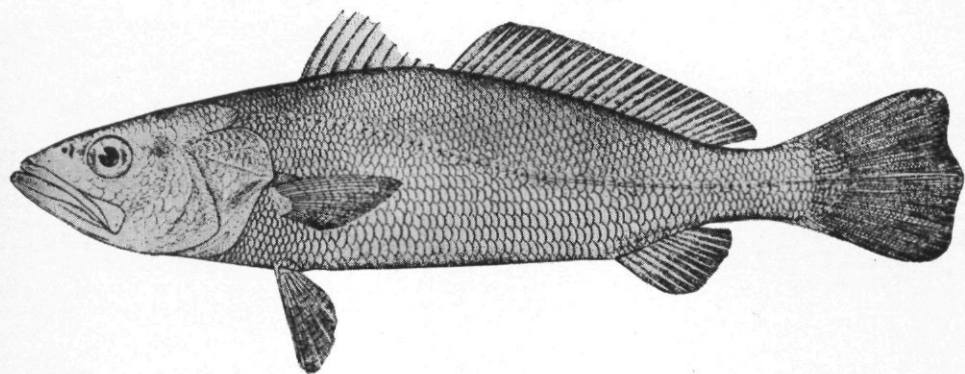
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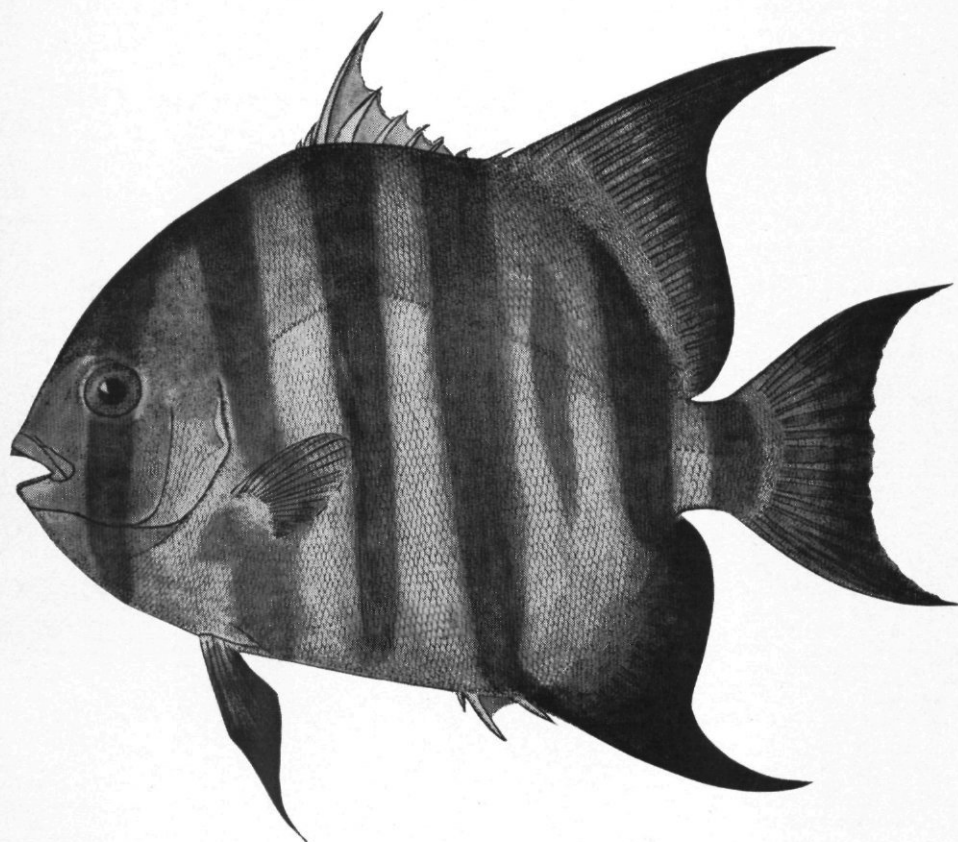
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69. Sand Weakfish

Cynoscion arenarius



70. Spadefish

Chaetodipterus faber

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