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***A Guide
to Utilizing
the
Freshwater Drum***

by David O. Kelch

Ohio Sea Grant

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A Guide to Utilizing the Freshwater Drum

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The freshwater drum, *Aplodinotus grunniens* Rafinesque, is a member of the drum family, Sciaenidae. The drum family is of moderate size, perhaps 160 species. In the United States, with the exception of the freshwater drum, all other members of this family occur naturally in salt or brackish water.

Many of the freshwater drum's relatives, including the Atlantic croaker (*Micropogonias undulatus*), channel bass or red drum (*Sciaenops ocellatus*), white seabass (*Atractosteion nobilis*) and the weakfish or common sea trout (*Cynoscion regalis*), have gained popularity for both their excellent table fare and superb sportfishing qualities.

Most members of the drum family have a unique trait of producing a "drumming" sound. The freshwater drum was named because of this sound-producing ability. This sound is produced voluntarily by strong muscles attached to the sides of the air bladder. The air bladder serves as a resonance chamber, amplifying the snapping of the muscles much like the action of guitar strings upon a guitar body. The reason for this drumming is not well understood but it is noted more often during the spawning period.

Distribution

The freshwater drum is found throughout central and eastern North America, as far east as Pennsylvania, west to Montana and Nebraska, south to the Gulf states and Guatemala and north into the southern regions of Canada. The freshwater drum is most common to the Mississippi River drainage basin. In Ohio, it is most numerous in Lake Erie, its bays and tributaries, but also occurs in the Ohio River.

Common Names

The common name accepted by the American Fisheries Society is the freshwater drum. However, throughout the United States, 26 common names have been generated for this fish, creating somewhat of a mistaken or lost identity problem for the drum. Along the Lake Erie shoreline, Ohioans refer to the fish as the "sheepshead," while Canadians call the fish "silver bass." Along the Ohio River drum are labeled "white perch" or "drumfish," and in Louisiana and Mississippi people speak highly of the fine table quality found in the "gaspergou." Other common names include "gray bass," "croaker," "grunter," "sunfish" and "Red River bass."

Identification

The freshwater drum is characterized by a subterminal mouth, large eyes, a rounded tail and two dorsal fins. The first dorsal has 8 to 9 rather hard spines while the second dorsal has 24 to 32 soft rays. The lateral line pores continue across the tail, an unusual condition in Ohio fish species.

The freshwater drum is generally silver-gray to silvery overall while the belly is white. Often Lake Erie freshwater drum appear greenish to olive-brown or bronze on the back and sides. The top of the drum's head and its cheeks are fully scaled.

General Biology

Studies indicate that spawning occurs during the summer with July being the peak of this activity. Females produce an average of 200,000 to 400,000 eggs. These eggs are unusual among North American fishes because they are buoyant and float near the surface of the water. The eggs hatch in 25 to 30 hours once water temperatures have reached 71°F.

Young drum grow rapidly. A drum can grow to five inches during its first year. Growth rates decrease after that and it takes four to five years before a length of 12 inches is reached. When the drum is 10 years old it may have grown to be 17 inches long. In Ohio very little growth occurs between October and April.

Drum generally become sexually mature when they are between 10 and 13 inches long. Some, however, mature prior to 10 inches long. Males normally mature before females.

Drum caught in Lake Erie range from 1.5 to 3.0 pounds but larger fish are not uncommon. The state record for freshwater drum weighed 22 pounds, 4 ounces and measured 33.5 inches long. It was taken from the Muskingum River in 1980. The world record stands at 54 pounds, 8 ounces and was caught in 1972 in Nickajack Lake, Tennessee.

Taste Test Survey Results

Sea Grant research has revealed that the freshwater drum is excellent table fare when properly handled. In 1979 breaded drum fillets were served to 328 adults at various locations on The Ohio State University campus. Survey results indicated that, compared to other breaded fish fillets, 84 percent rated the flavor as average to very good, 78 percent indicated the flesh color was average to very good, 90 percent felt the texture was average to very good, and 89 percent judged the moisture as being average to very good. Sixty percent of the participants indicated that, compared to other fish, the taste was similar to much less fishy. Seventy-three percent indicated they would enjoy eating the fish more than twice a month.

A study was conducted at the 1981 Cleveland Sports Show using the "Poor Man's Shrimp" recipe for freshwater drum. Filleting and cooking demonstrations were performed daily. Questionnaires were distributed to taste-test participants. Of the 423 responses received, 74 percent could not detect a fishy taste and 77 percent felt that the drum, prepared in this manner and dipped in cocktail sauce, could easily pass for shrimp.

On a scale of 1 to 10 (1 = poor, 10 = excellent), 84 percent rated the fish at 7 or higher and 92 percent indicated they planned to eat drum in the future. When asked whether the taste test changed their attitudes toward the drum, 75 percent responded that it had, while 21 percent indicated that their attitude had been changed somewhat.

Many cooking demonstrations were conducted in northern Ohio in 1981 and all taste-test participants praised the excellent quality and taste of the freshwater drum. During demonstrations using a deep fried, batter-dipped recipe many thought they were tasting walleye or perch. Most participants indicated that a fishy taste was not detectable at all in the deep-fried drum.

How and Where to Purchase Freshwater Drum

Those who don't fish but wish to try freshwater drum can purchase it at most fish markets and supermarkets in northern Ohio, especially those close to Lake Erie. If your local grocer does not handle drum, ask him or her to obtain some. Drum usually costs less than \$1 per pound whole and under \$1.75 per pound when skinned, boned and filleted -- about a quarter of the cost of perch and walleye fillets.

When purchasing fish remember these three easy tests. The eyes should be bright, clear and protruding, not cloudy or sunken. Gills should be red and free of white mucus. And, the flesh should be firm, not mushy or separating from the bones. To check this, press the skin with your thumb. If an indentation remains, the fish may not be fresh. Fish not exhibiting these qualities should be avoided.

Food Habits

Contrary to popular belief, the Lake Erie freshwater drum is not limited to bottom feeding like the common carp (*Cyprinus carpio*). Young drum feed upon zooplankton (microscopic aquatic animals), tubifex worms, blood worms and other aquatic insect larvae. Older drum prefer larger aquatic insects, such as mayflies, and ichthyoplankton (larval forms of fish). Once drum reach maturity, emerald shiners, gizzard shad and crayfish become an important part of their diet. Food habits of the walleye (*Stizostedion v. vitreum*), yellow perch (*Perca flavescens*) and smallmouth bass (*Micropterus dolomieu*) are quite similar to that of the freshwater drum. All four of these species are classified as predators.

Importance in Lake Erie

Freshwater drum are abundant in Lake Erie today. Drum populations have remained stable and abundant over the past year(s) and this trend is expected to continue.

The freshwater drum is becoming increasingly important to the commercial and sport fisheries of Lake Erie. Since 1915 the commercial fishery has averaged 3 million pounds of drum annually, peaking at about 6 million pounds in the late 1950s. The Ohio Division of Wildlife estimates that 10 million pounds of drum could be harvested annually but low market demand has prevented this.

Considered for years a "trash fish not fit for the table," the freshwater drum is now kept by many anglers. In 1980 a sport fishing survey revealed that drum composed over 10.5 percent of the total angler harvest. Sport fishermen are realizing that the drum is not only an excellent fighter but also quality table fare when properly handled.

Nutritional Values

The freshwater drum, like most fish, is low in sodium, cholesterol and calories, and high in protein, vitamins and minerals. One 3½ ounce serving (bones and skin removed) contains the following: 17.3 grams of easily digestible protein; 5.2 grams polyunsaturated fat (less if properly cleaned); 1 gram ash; 70 milligrams sodium; 286 milligrams potassium; and 121 calories. Although exact values are not known, the drum is a good source of vitamins A, D, B-complex (thiamin, riboflavin, B₆, B₁₂ and pantothenic acid) and the minerals iron, calcium, phosphorus, manganese, copper, cobalt and zinc.

How and Where to Catch the Drum

The freshwater drum is found throughout Lake Erie, its tributaries and adjoining bays. They inhabit both shallow and deep water, preferring rocky bottoms and reefs from 5 to 25 feet deep.

These spunky fish can easily be caught from shore or from piers. Practically any natural bait will work, though minnows, worms and crayfish work best. Drum will readily take artificial lures as well. Spinner baits, including the popular, weight-forward walleye spinners, jigs and small to medium crankbaits are most successful. To increase your luck, tip spinners and jigs with a natural bait like worms or minnows.

Fly fishermen can also enjoy catching this excellent fighter since drum will readily take a wide variety of artificial flies (wet flies are best). An added incentive for fly fishermen is the potential for a world record catch. As of 1981 the International Game Fish Association (IGFA) listed vacancies for freshwater drum in all established tippet classes. Check with the IGFA for details.

Proper Handling of your Catch

The quality of your table-destined catch depends upon the handling of the fish from the time it is caught. Proper handling of the freshwater drum is essential for two reasons: body fat content and poor survivability.

Once caught and placed on a stringer or in a live basket freshwater drum die quickly. The body fat will then oxidize rapidly, especially in warm weather, giving the flesh a strong "fishy" flavor. To maintain quality, place the fish on ice after it is caught. This not only discourages fat breakdown but also inhibits bacterial decomposition of the flesh which begins immediately after death. All fish should be handled in this manner.

Once home or back at the dock, clean the fish. There are many methods of cleaning fish: whole (scaled and gutted), dressed (scaled, gutted, and head and fins removed), steaked (scaled, gutted, head and fins removed, and body cut into segments or "steaks") and filleted (scaled or skinned with boneless meat removed). Filleting is the quickest and easiest way to clean freshwater drum. It also removes unwanted fat. By reducing the fat content the levels of contaminant chemicals such as organochlorines, which may be present in the fatty tissues of all animals, are reduced. For more information see Ohio Sea Grant Fact Sheet No. 7.

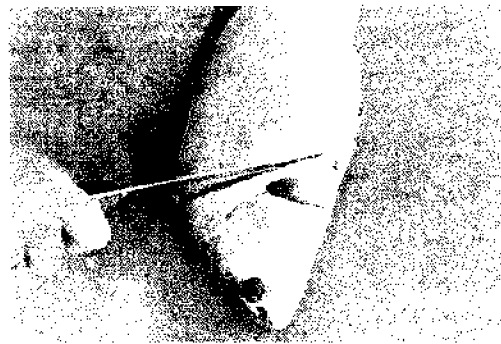
How to Fillet the Freshwater Drum: Two Methods

Obtaining a boneless fillet from the freshwater drum is quite simple. The secret to mastering the fillet technique is to use an extremely sharp knife. This makes the job both easier and safer, for a dull knife requires more effort which results in lack of control and consequently injuries. Know how to sharpen your knife and how to maintain a sharp cutting edge. Another secret to filleting is to remove the skin first, exposing the future fillet.

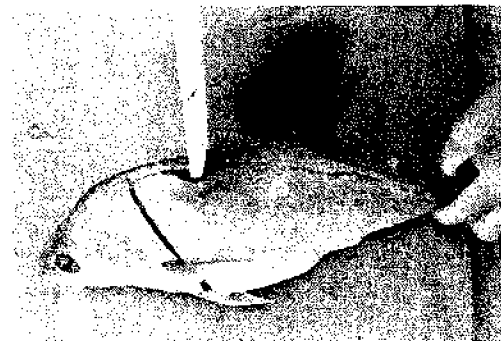
Materials needed for both methods: fillet knife, pliers, knife sharpener, and cleaning board.

Skin-Off First Method

1. Wash the fish with drinking water. Make a diagonal cut, through the skin only, from behind the top of the head to the pelvic fin on the bottom. Be sure to cut behind the pectoral fin and gill cover.



2. Make another cut, through the skin only, from behind the top of the head to the tail, cutting alongside the top dorsal fins.



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3. Make a third cut, through the skin only, along the belly from the bottom of the first cut to the tail.



4. Grasp the top corner of the skin section with pliers and pull it towards the tail.



5. This will expose the flesh to be filleted, making the job easier.



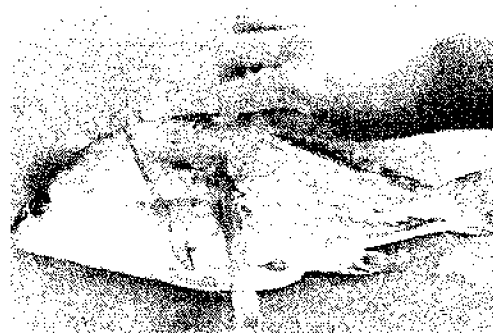
6. Keeping the knife flat against the dorsal fin, insert the tip of the blade through the top of the flesh to the backbone. Run the blade to the head. You should feel the knife contacting the backbone all the way.



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7. This will separate the top of the fillet from the carcass. Note the strip of fatty flesh left under the dorsal fin area.



8. Lift the top corner of the fillet and with the blade flat against the ribs, begin cutting back towards the tail.



9. Once the blade clears the last rib, angle the knife down the backbone and, keeping the blade flat against the backbone, slice towards the tail and remove the fillet.

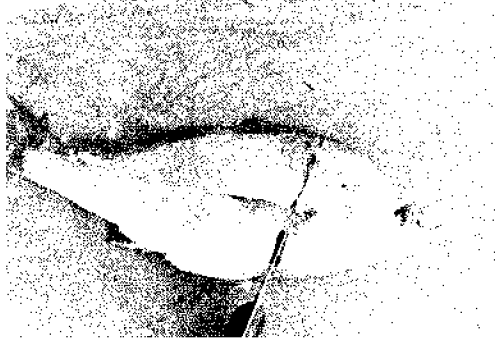


10. The fillet and carcass should look like this when finished. Note the high fat content strip of belly flesh left on carcass. Little mess is created as the viscera remain inside the uncut rib-cage area. Repeat the above procedure on the opposite side.



Skin-Off Last Method

1. Make a deep cut from top to bottom behind the head, gill cover and pectoral fin until the blade contacts the backbone.



2. Turn the blade until it is flat against the backbone and with the blade slightly angled downward, cut back through the ribs to the tail.



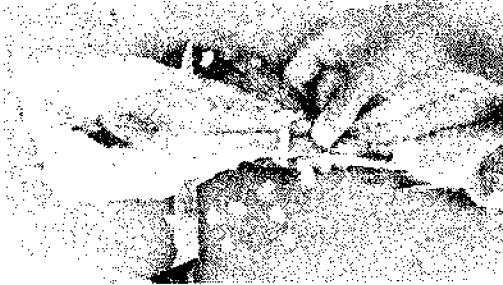
3. Be careful not to cut through the skin at the end of the tail.



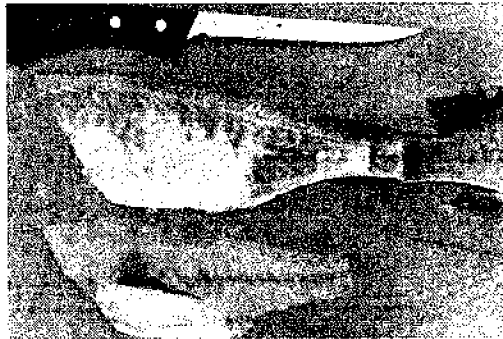
4. Begin the skinning process by cutting through the flesh just to the skin at the base of the tail.



5. Place the blade between the flesh and skin and begin slicing towards the front, pulling the carcass with the skin attached backwards.



6. Your fillet should look like this if properly done.



7. Remove the ribs, belly flesh and flesh from the dorsal area. Wash fillets and prepare or freeze.



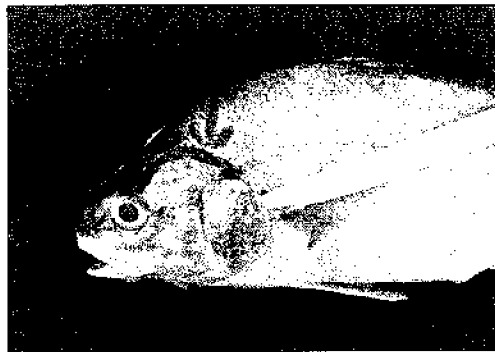
To properly freeze any fish, place the desired number of fillets in a cardboard milk carton or heavy-duty freezer bag, cover with water and freeze. Water is the most effective airtight package. It locks in fresh fish flavor while preventing moisture loss (dehydration) which results in "freezer burn," off flavor and poor quality. Store fish at 0°F or below.



An Added Bonus — “Lucky Stones”

A unique feature of the freshwater drum are the large circular ear bones, otoliths, found within the skull. These calcareous (calcium-limestone) deposits gained the name of "lucky stones" from an "L"-shaped marking on their flat surface. Individuals have collected them for years, carrying them in their pockets for good luck. Recently lucky stones have been appearing in "lucky" jewelry, necklaces, bracelets and charms, which are sold in novelty shops in Port Clinton, Catawba and the Lake Erie islands. Otoliths may be found on beaches or can be easily removed from the fish. Here's how.

1. Using a sharp knife, make a deep, circular cut from the top of the gill cover to and through the eye socket.



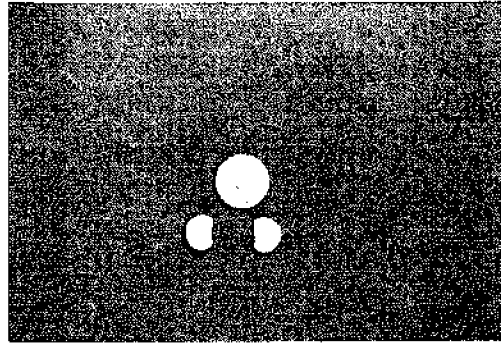
2. Pry the cut section back to expose the otolith.



3. Simply flip the first otolith out with the tip of the knife; the second otolith lies directly beneath the first.



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4. The size of the otolith depends upon the size of the fish. A 12- to 14-inch drum will have otoliths about the size of a dime.



In Conclusion

The freshwater drum is plentiful, a good fighter, easy to catch, inexpensive to purchase and excellent table fare. With practice you can become proficient in obtaining a boneless fillet. Give the freshwater drum a chance to prove itself on your dinner table. Here are some recipes for freshwater drum.

POOR MAN'S SHRIMP COCKTAIL

freshwater drum fillets, skinned and boned
2 T. salt
1 qt. water

Cut skinned and boned fillets into small strips or one-inch square pieces. Add 2 tablespoons salt to 1 quart water and bring to a boil. Place fish in boiling water. Bring to a boil again, then cook for 3 to 4 minutes. For a shrimp-like color add a few drops of red and yellow food coloring to the water. Remove fish strips and chill in ice water or refrigerator. Serve cold on a bed of lettuce with shrimp cocktail sauce, hot mustard or your favorite seafood dip.

POOR MAN'S LOBSTER

Follow directions for "Poor Man's Shrimp." Once fish strips have boiled, remove and place them under an oven broiler for one to two minutes. Serve hot with hot melted butter.

DEEP FRIED DRUM

Using your favorite wet or dry batter, coat skinned and boned fillets and deep fry in hot oil.* Fry small fillets for 5 to 6 minutes and large fillets for 7 to 9 minutes. For extra crispy fish, extend frying time by 2 minutes. Remove, drain on paper towels and season lightly with salt and pepper. Serve with tartar sauce, with or without a bun.

*Oil must be hot. Oil which is not at frying temperature is the biggest cause of greasy, undercooked and bad-tasting fried fish. To test oil, drop a small amount of batter into the oil. If it bubbles and boils immediately the temperature is correct.

FRESHWATER DRUM SALAD

1 qt. flaked, cooked white bass
2/3 cup mayonnaise or salad dressing
1/4 cup chopped celery
1/4 cup chopped green pepper
1/4 cup chopped sweet pickles
2 hard cooked eggs, chopped
2 T. lemon juice
1 t. salt
dash black pepper
lettuce

Combine all ingredients except lettuce. Mix well. Chill. Serve on lettuce.

For more recipes please obtain Ohio Sea Grant Fact Sheet No. 3, "New Recipes for your Freshwater Catch."

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