

Identifying the Florida Basses

Does Florida have smallmouth bass or not?

This question has stirred up a hornet's nest of controversy.

Here is the answer to Florida's bass question.

NOT SO MANY months ago an irate sportsman stormed into the office here in Tallahassee. He was not mad at the Game Commission, he assured us, but at the fishing editor of an outdoor magazine who had refused to give him a prize on his record "Smallmouth" bass which he had caught in a Florida lake a few months before.

"Doesn't this Commission have some biologists who can write an affidavit or letter to that editor and tell him that my fish is really a Smallmouth bass?" he wanted to know. We assured him that we would be glad to do so if he could show us a reasonably good picture which would show details of the characteristics and markings. He could do better than that, he told us. He had had the specimen mounted and would bring it in to us the next day.

Sure enough, the next day he showed up with a fine specimen which had weighed about 11 pounds. We checked the fish thoroughly, making counts of its scales, checking the separation of its dorsal fins and other characteristics. It certainly was a fine bass; the only thing wrong was that his prize "smallmouth" was definitely a largemouth!

He went away somewhat mollified, finally accepting the fact that the magazine was right and he was wrong.

This occasion was just one of a number. I have been called upon to identify a record Florida Smallmouth bass for some hopeful sportsman dozens of times, but the outcome is always the same. I have examined numerous photographs, a number of mounted, frozen, freshly caught (and not so freshly caught) specimens, but have yet to see a northern Smallmouth bass from Florida waters.

THE OFFICIAL records of the FIELD AND STREAM fishing contest, as well as the book entitled NORTH AMERICAN GAME FISHES, lists the world's record Smallmouth bass as a 14-pounder taken from Lake Apopka in 1932. Two of my associates and I (all familiar with both the Largemouth

and the Smallmouth bass from work in other states with both species from the egg stage to the adult fish) examined closely, tagged, weighed and measured over 3,000 adult bass from Lake Apopka and from the other lakes which connect with it in Lake County. None of us ever saw a bass other than the regular Florida Largemouth. While I personally did not see or examine the Apopka "Smallmouth," I do not believe it could have been a true northern Smallmouth or even of the Smallmouth group.

My belief in this case is substantiated by Rube Allyn, former president of Florida Outdoor Writers Association. Allyn recently told me that he had carefully examined photographs of this fish and had disagreed with the identification in his daily newspaper column at the time. Herb Mosher, another well-known Florida outdoor writer, states that he too has yet to see a Smallmouth bass from Florida waters. He also inspected photographs of the Apopka record fish and claims that it was "unquestionably a Largemouth bass."

On one occasion while I was in Citrus County, a group from Hernando told me of a lake near there which had produced a near-record Smallmouth

By John F. Dequine, Reprinted from Florida Wildlife, Sept., 1949. Monthly Publication of Game & Fresh Water Fish Commission.

The Suwannee River bass is a new species but isn't a Northern Smallmouth.



bass. With several of these men I went to this lake, and although we seined for better than an hour, we were unable to take any other than the regular Largemouth bass. About a year ago, I examined a mounted specimen in Lake County which was said to have been awarded an outdoor magazine's prize for the year's top Smallmouth in about 1933. Although I did not so inform the captor of this fish, it too was definitely a Florida Largemouth bass.

THE magazine, FLORIDA WOODS AND WATERS, which was published by the Department of Game and Fresh Water Fish in the Spring of 1931, has an article stating that Mr. O. W. Milton of Lake County caught a 9-pound 13-ounce Smallmouth from Lake Seneca. The article goes on to explain in a letter from a man from Pennsylvania that in about 1908 a planting of 10,000 Smallmouth bass fingerlings was obtained from the Federal Bureau of Fisheries and made in a number of Lake County lakes. Dr. I. N. Kennedy, former director of the Department, recently informed me he assisted in planting these fingerling bass in Lake Seneca, and loaned me the mounted specimen of the O. W. Milton "Smallmouth." I have carefully examined it, and find it conforms precisely to the specifications of a Florida Largemouth in scale and fin ray counts and in the separation of the dorsal fins. The relation of the upper jaw to the eye cannot be determined as the fish was mounted with his mouth stretched open.

What then, has led people to insist there are Smallmouth bass in Florida

or that they have caught Smallmouth bass in Florida when modern ichthyologists and biologists have never verified their existence here?

First, we have it on good authority (the Biennial Report of this department for 1930) that a number of fingerling Smallmouth and Rock bass were obtained from a Federal hatchery and planted in the Chipola, the Wakulla, the Wacissa and the Suwannee Rivers, and a lake called Blue Lake in Hillsborough County in the summer of 1930.

Old issues of the magazine mentioned above, FLORIDA WOODS AND WATERS, frequently stated that Smallmouth bass were reported from the Suwannee and Chipola Rivers, as well as a number of the streams in Santa Rosa County. The FLORIDA GAME AND FISH for July, 1940, also a department publication, has this further information on the introduction of the species :

"The TALLAHASSEE DEMOCRAT, in 1932, reported that in 1910 a large number of Smallmouth fingerlings (were obtained) from a government hatchery and planted . . . in the Ochlocknee River, seven miles from Tallahassee and in the St. Marks basin, Orchard Pond, and Buck Lake."

If the northern Smallmouth bass did occur in Florida and those plantings of this fish were successful, it seems very peculiar indeed that no member of this Commission's staff of biologists, nor those who have worked at the University of Florida for years on fish problems, nor any other recognized ichthyologists have come across the Smallmouth bass in making their Florida collections. Dr. Lloyd Mee-

han, now chief of the Division of Game-fish and Hatcheries of the U. S. Fish and Wildlife Service, when he was at the Welaka hatchery for about 3 years, tried to run down reports of the occurrence of the Smallmouth bass in several lakes. He reports the same lack of success that I have had.

Dr. Coleman Goin of the University of Florida Biology Department, a distinguished taxonomist himself, told me recently that neither he nor any of his associates have ever identified a Smallmouth from Florida.

ONE reason for the layman's misidentification is that the Florida Largemouth differs from the northern Largemouth in some respects. In certain of its scale counts, for instance, it resembles a northern Smallmouth more than it does the northern Largemouth. This fact has possibly caused fishermen who were using a comparison of the northern Largemouth with the northern Smallmouth to be in error.

Still another excellent reason for the confusion among sportsmen as to the identification of these species is that the scientists themselves had not thoroughly clarified the separation of the black basses until just recently. All fishes as they are discovered are scientifically catalogued and classified by ichthyologists who make a specialty of this type of work, known as taxonomy. The taxonomist examines, measures and records data on every organ, bone, fin, scale, and characteristic of the fish, and then classifies it with other fish which are structurally similar. He is as familiar with the inside and outside working of a fish as an expert garage mechanic is

with the transmission, electrical system, and door latch of a car.

One of the most important locations for taxonomic work on freshwater fishes today is the Museum of Zoology at the University of Michigan. Here have been located Dr. Carl L. Hubbs and Dr. Reeve M. Bailey, considered two of the leading U. S. experts in the taxonomy of freshwater fish. These two prominent ichthyologists, both of whom have spent considerable time in Florida, recently published scientific reports entitled, "A Revision of the Black Basses (*Micropterus* and *Huro*) with Descriptions of Four New Forms" (1940), and "The Black Basses of Florida, with Description of a New Species" (1949). In these publications the classification of all known varieties of the black bass is discussed at length. These reports contain the basic data from which the scale and fin ray counts in the drawings on these pages are based. It is in the latter report that the Suwannee Bass is described fully for the first time, although many native Floridians and some Florida biologists have been aware of this different species for some years.

ALTHOUGH it was formerly thought there were only two *species*, it is now generally recognized that there are *two groups* of the black basses—those belonging to the *largemouth group* and those belonging to the *smallmouth group*. Differences between these two groups are based on such characteristics as fins, the length of the upper jaw, the number of scales in the cheek, in the lateral line, and on different parts of the body, the number of vertebrae in the backbone, and the arrangement of certain internal organs. These two *groups* are further divided into at least ten *varieties*, two of which are found in

the largemouth group and the other eight in the *smallmouth* group.

The drawings which accompany this article were made to illustrate differences in five different varieties of the black bass. As can be seen by these drawings, more evidence than just the length of the upper jaw is necessary to distinguish between the different species. While in most cases, the members of the largemouth group do have a jaw which extends past a vertical line drawn from the back of their eyes, it is not any more unusual for a largemouth bass to have a short jaw bone (maxillary) than it is for a human to have big ears or cross eyes. All of these drawings, incidentally, are made from actual specimens or accurate photographs of actual specimens. Four of the five varieties illustrated are found in Florida and the fifth, the northern *Smallmouth*, is included for comparative purposes.

PERHAPS one of the most obvious characteristics for distinguishing between the two groups of bass is the manner in which the dorsal fins are separated. As can be seen, there are two dorsal fins. The foremost one is called the spiny dorsal fin because it contains the hard spines which jab the amateur painfully when handling the live fish. The other is called the soft dorsal fin. In the largemouth group these two fins are definitely separated. In other words, the first fin comes down and does not join up with the second; whereas in the smallmouth group, the two seem to be part of one and the same fin. Also, there is a greater difference in the length of the spines found in the largemouth group, whereas the spines in the members of the *smallmouth* group are more nearly the same size.

Another positive characteristic is the presence or the absence of scales

between the membranes of the soft dorsal and the anal fins. These occur only in the *smallmouth* group, and can be found embedded in the fleshy base of those fins as illustrated in Figure 2. Only a very small part of these tiny scales is exposed, and sometimes a diligent search is necessary to find them.

The length of the maxillary is usually a good basis for separation of the two groups, but must always be measured with the mouth of the bass closed. Color pattern too is generally good, but markings on the same species can sometimes vary greatly in different waters, or even after spending fifteen minutes in a livewell. In general, the outstanding color markings of the different species are as illustrated, the *smallmouth* group being usually darker in overall color. The scale counts, in spite of occasional overlapping are usually dependable, especially when a combination of these counts is used: From the lateral line, the cheek, and above and below the lateral line as illustrated in Figure 2. There are also differences in the number of rays in certain fins and in body measurements, but these are less dependable and more difficult for the sportsman to distinguish without special instruction. Some of the internal organs give positive group classification too, but again require a background of biology to interpret.

THE location where the fish is taken may often provide a clue to the species. The Florida Largemouth's original range is believed to have been from the mouth of the St. Johns River south and west to the mouth of the Suwannee, but not including the Suwannee. It is possible that it is scattered now throughout northern Florida and even into southern Georgia and Alabama, as fingerlings of bass

The Florida Largemouth, which is sometimes mistaken for a Smallmouth.



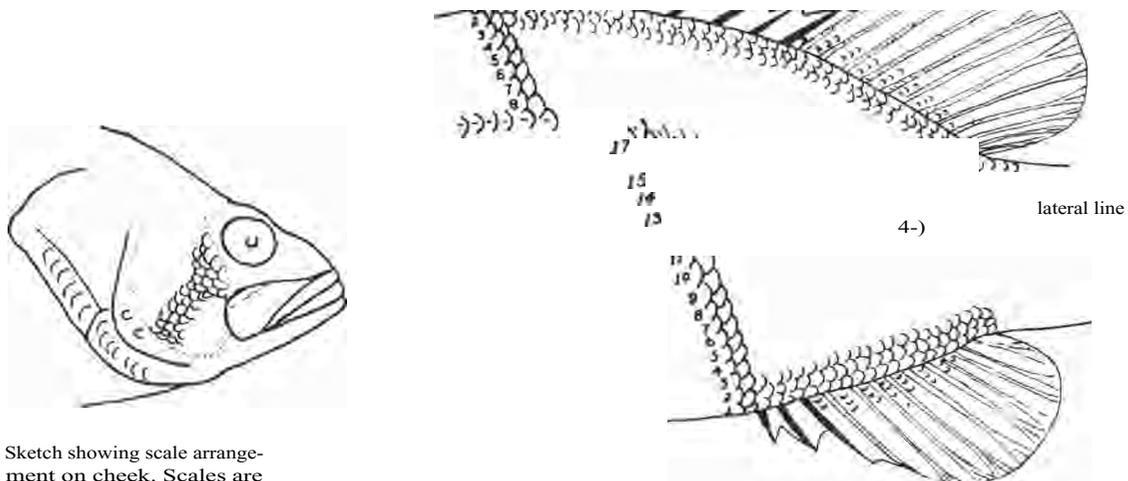
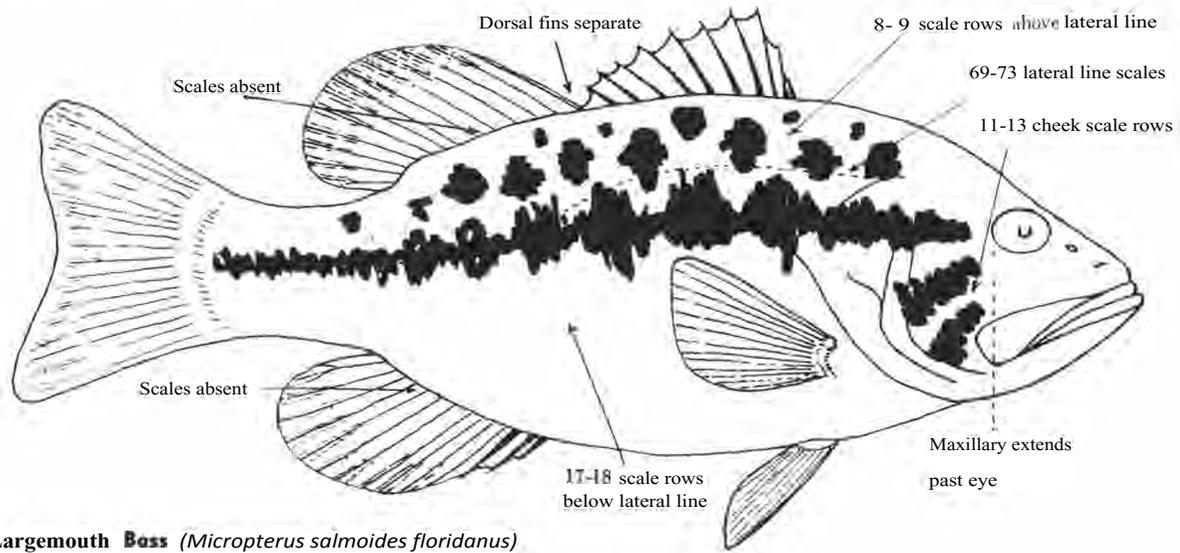
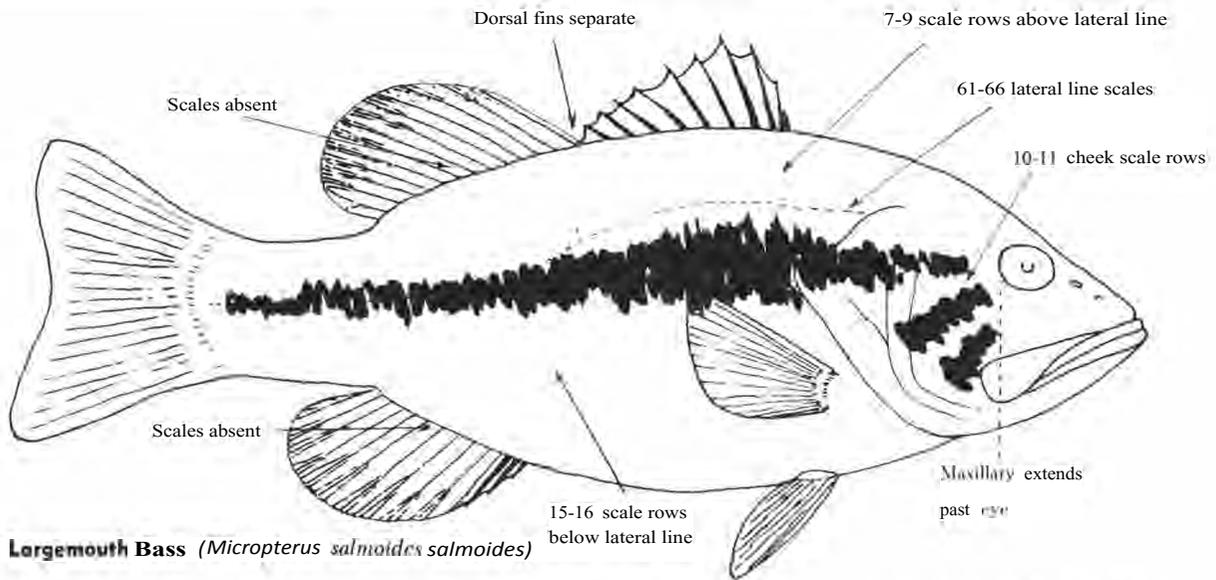


Figure 1. Sketch showing scale arrangement on cheek. Scales are counted in straight line from eye to lower left corner of cheek. Eleven rows here.

Figure 2. Sketch showing fin connection and position of scales on fins in smallmouth group, and method of counting scales above and below lateral line. Drawn from a specimen of the Suwannee Bass.

from the Winter Haven and Welaka Hatcheries have been planted all over these areas from Florida Largemouth brood stock. The Northern Largemouth is generally restricted to north Florida, but of course there is a good bit of overlapping.

The Northern Smallmouth, on the other hand, is limited to locations other than peninsular Florida. Its advance into the southeastern U. S. appears to have been stopped a hundred miles or so north of the Florida line in spite of numerous plantings.

The Spotted bass is known from Ohio, Kentucky, Tennessee, northern Alabama, and several other midwestern and southern states. There have been only two specimens identified from Florida, both from the Flint River where it joins the Chattahoochee just inside the Florida line. It is possible that this species is found elsewhere in west Florida, but positive verification remains to be made. The "record Smallmouths" from Florida could not have been this species, as it rarely exceeds 4 pounds in weight.

The Suwannee bass, pictured in this article, is relatively new to science. It was first reported by University of Florida biologists from Ich-tucknee Springs in Columbia County in 1941. It has since been found by other workers, including myself, from

the Santa Fe River, the **Withlacoochee** River (in Madison County) and the main body of the Suwannee River down to the mouth. It is assumed that it may be found in other tributaries of the Suwannee. It, too, is a small species ; the specimen pictured here had passed its fifth year and weighed less than 12 ounces.

Northern Largemouth from the Suwannee River weigh more than 4 or 5 pounds at this age, and the northern Smallmouth from Tennessee waters average better than 2 pounds for the same time. No Florida records have been established by this species, as the largest I have heard reported was four and one-half pounds. Residents of counties bordering the Suwannee River have known it as a different species since before 1900, or previous to any recorded introduction of northern **Smallmouth** into Florida.

IT IS quite possible that there are additional undiscovered varieties of the black bass in Florida. Dr. Bailey suggests that still another species of the smallmouth group may occur in the Chipola and other west Florida streams. These "different" bass have also been reported taken from the streams emptying into the northeastern portion of the Gulf of Mexico. I will be glad to examine specimens at any time in the laboratory here in

Tallahassee, as will other biologists located at Welaka, Okeechobee, Williston, Gainesville, Jacksonville, or We-wahitchka.

It has not been the intention of this article to cause confusion or to disappoint anyone who may have thought he caught a world's record Smallmouth bass. My purpose has been to clarify the status of the Small-mouth bass in Florida and to provide a means whereby the sportsman can distinguish between the various species of bass which are known to exist here. I wish I could have prefaced the word "**means**" by the word "simple." However, there is no simple way to distinguish between the basses. I will be happy to learn of or to obtain specimens of any black bass from Florida which do not agree with the specifications given here.

I cannot state definitely that there are no **Smallmouth** bass in Florida, *I can only say that neither I nor any other biologist or ichthyologist has seen one.* I'm afraid I must agree with Drs. Bailey and Hubbs' statement in their 1949 publication which says "We can find no valid evidence that the **smallmouth** has become established in Florida."

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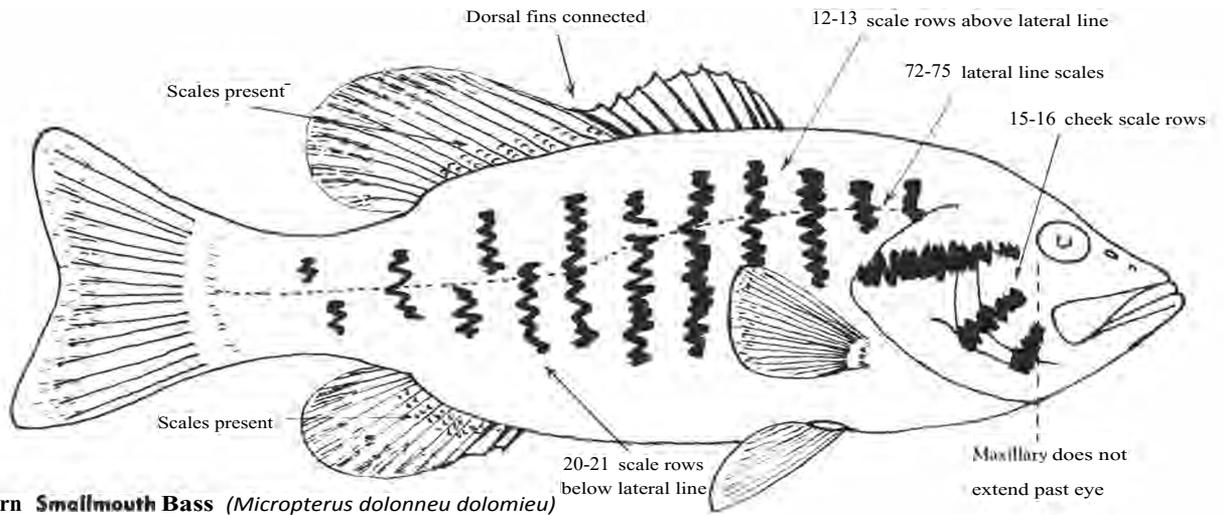
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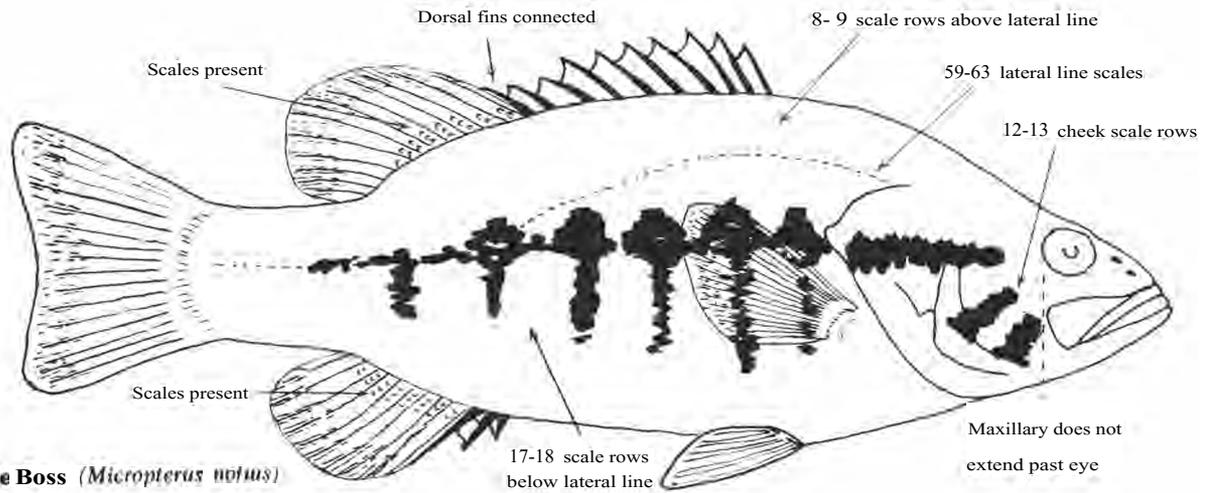
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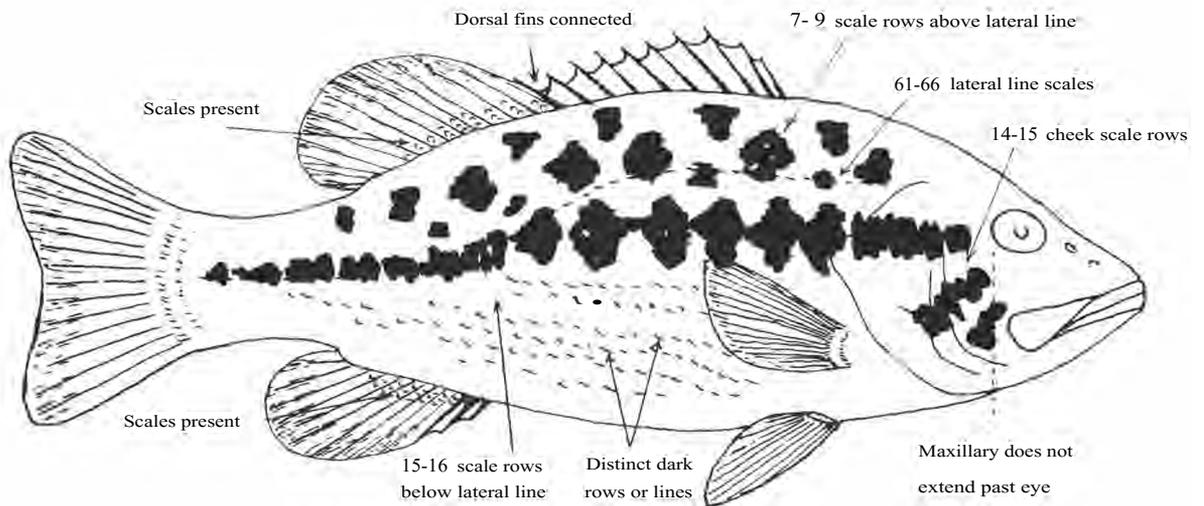
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Northern Smallmouth Bass (*Micropterus dolomieu dolomieu*)



Suwannee Bass (*Micropterus notus*)



Spotted or Kentucky Bass (*Micropterus punctulatus punctulatus*)