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FISH FOODS

by

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Anyone interested in fishing will find it to his advantage to learn something about the different kinds of fish food organisms and to be able to recognize the common ones by sight. There is no secret about the fact that game fishes are more numerous in those spots in a lake or stream where food is most abundant. Artificial lures and baits can be chosen more intelligently if one knows what food animal he wants to represent.

Many different kinds of small animals are found in the fare of fishes. Some live in the bottom muds or gravel, others choose the water plants for a home, and still others swim or drift freely about in the open water. One of the most fundamental groups is made up of the very tiny plankton animals and plants that float or swim about in the water. Hardly a drop of lake water is without some of these. They serve as food for young game fish and as a regular part of the diet of many minnows or forage fishes and are as well the staple food of the larger fish food organisms.

Water flea

One of the most common representatives of the tiny plankton forms is the water flea or Daphnia (Fig. 1). -- (Insert Fig. 1) -- These can be

seen often in great numbers without magnification if a sample of lake water is held up in a clear glass container between the eye and a good light. Water fleas swim with a jerky motion almost as though they jumped from place to place. They reproduce in enormous numbers. It is said that there may be as many as 13 billion descendants from one adult female in the period of two months.

Fresh-water shrimp

What we refer to as the fresh-water shrimp is not a true shrimp at all but better named a scud or amphipod. It is found in both streams and lakes, usually in the plant beds. Their bodies are shaped somewhat like that of the water flea but, of course, they are much larger, having a total length of as much as one-half inch. (Insert Fig. 2) They are skilled acrobats and can swim, glide, climb or jump with equal ease. Two different kinds are common in Michigan and occur widely in the streams and lakes of the state. They act as scavengers by feeding on both decomposing animals and plants. Females are capable of producing 12-20 eggs about every ten days through the summer growing season. The scud is a favorite food item of trout and bass and is utilized extensively by most all the larger fishes when it is available.

Crayfish

The crayfish or crawdad is a close relative of the crab and lobster, which are known so well as sea foods. Like the lobster, it has five pairs of legs (Insert Fig. 3)--the first being supplied with well developed pincers. It is fortunate for the people who swim in areas inhabited by these animals that they do not have either the ability or desire to do much pinching. They are elusive and easily disturbed, being found in quiet streams and in lakes near the shore. When disturbed they dart backwards

against the bottom to be lost under a stone or perhaps in a cloud of muddy water laid down as a "smoke screen" for the purpose of their escape.

Crayfish feed on most any kind of dead or living animal matter. They are known to eat some small fish and many insects. They often devour the fish caught in the nets of commercial fishermen.

The female lays her eggs in a sticky secretion on the underside of her abdomen and its appendages. Here the eggs hatch and the young hold on to the mother by means of their pincers for a week or more before they let go and lead an independent life.

Crayfish is a favorite food of bass in lakes and trout in streams and is used extensively as bait, especially for bass.

There are several different kinds in Michigan. These are found distributed over most of the state. However, many lakes are entirely without crayfish because of unfavorable conditions for their growth or reproduction.

Leeches

The leech or bloodsucker is known mostly for his bad habit of clinging on to the legs of swimmers and sucking blood. It will be recognized by most everyone without much description. These animals are segmented worms very closely related to the earthworm or night crawler. There are many different kinds which vary in color from black, to brown, to olive green. Some of them are blotched with irregular markings. (Insert Fig. 4). They have a large sucking disc on the underside of their head end and often a small disc on the underside near the tail. They can swim quite fast and appear to wave back and forth in so doing. They adhere to an object by means of the sucking discs and often creep over plants and debris by

fastening the hind end and then stretching out to fasten the head end, simultaneously releasing the hind disc, which is brought up near the head to attach again, etc. This action is similar to that of the measuring worm.

Leeches can be found swimming in the water or adhering to the underside of old submerged logs or sticks. They feed on the blood of other aquatic animals and even their own kind.

They are not exceedingly important as fish food because of their relative small numbers but have been found to make up some of the diet of many fishes.

Water mites

Water mites are very small, large individuals scarcely ever being more than one-quarter of an inch in length. They have eight legs, just the same number as the spiders to which they are closely related. (Insert Fig. 5).

Their bodies are often highly colored with scarlet, dark red, orange or green being common colors. They breath air and must come to the surface for this purpose. However, they are able to remain below the surface for long periods of time. They swim through the water in a sort of glide caused by the rapid movement of their legs.

Almost every lake and pond in Michigan has representatives of this group, and several dozen different kinds have been found in this region.

Their value as a fish food is not too well understood, but they are eaten often by fish, and because of their relatively large numbers must certainly have a significant value.

Snails and clams

Snails and clams are so well known to almost everyone that they need not be described in detail. Snails are numerous in most ponds and lakes and live mostly on the stems and leaves of aquatic plants and on sticks, logs and stones. Some species actually burrow in the mud or sand.

A majority of the snails have right-handed shells, i.e. the opening is to the observer's right when the shell is held with the pointed end up and the opening to the front. Examples of the right-handed species are illustrated in Figs. 6 and 7, while a common left-handed species is shown in Fig. 8. Still a third type is found in which the coil is all in one plane. The ram's horn snail (Fig. 9) is a good example.

Fig. 6
Lymnea

Fig. 7
Amnicola

Fig. 8
Physa

Fig. 9
Heliosoma or ram's horn

While the shell is about the only means by which members can identify the common fresh-water snails, it should be remembered that this is only the protective covering of the animal and is not important as a fish food in and of itself. The soft body of the snail, which is twisted within the shell, is the part which fish can use as food. Of the common kinds illustrated above, Lymnea and Physa live mostly on water plants, Heliosoma on dead pieces of wood, etc., and Amnicola usually in the litter on the lake bottom as well as on water plants.

Most of the clams generally found on the lake beaches in Michigan are not used as fish food because of their thick shell. Not many fish would choose to swallow such bulky fare. There are small varieties known as fingernail clams (Fig. 10) however found upon and in the surface mud which are often eaten and surely serve as food for fish. These will not

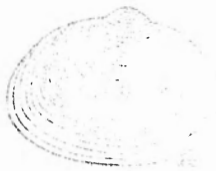

Fig. 10

be found unless mud from the bottoms of ponds and lakes or the bottoms of pools in streams is sifted through a screen to remove them.

On the whole, it can be said that the snails and fingernail clams occupy a very important place in the regular diet of adult lake fishes.

For section on aquatic insects, see Report No. 683 by J. W. Leonard.

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