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### WHAT TO DO ABOUT WORMY SMELT

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Each spring many smelt dippers report finding worms in smelt from Lake Huron, from the Tawas area to Alpena. The worms are about one-quarter of an inch long, have a light orange-yellow color and are found in the intestine, body cavity, imbedded in the flesh, and even in the water in containers in which the smelt have been kept overnight. Many people discard the fish they have caught because of the worms, and hundreds of smelt are wasted.

This worm has been known to science for many years by the name Echinorhynchus coregoni; it is one of the Acanthocephala, or thorny-headed worms. It lives normally in the intestine of whitefish, herring, and smelt, although if there are many worms in one fish, some will burrow through the intestinal wall and will be found in the body cavity or flesh. The thorny head of the worm can be retracted into its body by muscles attached to the inside of the head. When these muscles contract they pull in the head, front end first, very much as you would turn the finger of a glove inside out. As the head is gradually pushed out, the rows of hooks, or thorns, pierce the flesh of the fish, enabling the worm to hold itself securely in one place or to burrow through the tissue. This thorny head is efficient, and the worms can burrow rapidly. After the fish are caught and die, the worms may burrow from the intestine into the body cavity and flesh. Some reach the body surface, and thus may be found in the container holding the smelt. If smelt are cleaned immediately after capture, the worms will not be found in the flesh, ordinarily.

Thorny-headed worms, and other parasites of fish, are easily killed by normal cooking practices, and smelt with these worms may be cooked and eaten with no danger to man. The worms do not impart a taint to the fish and, if cooked in deep fat, would not be seen by the diner.

It is unfortunate that during the history of mankind, worms in food have come to be associated with unclean food, regardless of the type of worm involved. Before the days of refrigeration, meat left uncovered soon became a culture of maggots (worms) of flies. Before Government inspection of meat was begun, worms in pork (*Trichina*) and beef (beef tapeworm) infected people who were not careful to thoroughly cook their meat. Now the incidence of such infections is very small. In the case of maggots, the indication was of rotten meat, therefore unfit for human consumption. In the second case, the two worms are known to cause illness in man, but can be killed by proper cooking. Because of such a background concerning worms in food, all worms in food are looked on with suspicion and are universally shunned. Consequently, worms in fish are also placed in the same category even though only one (the broad tapeworm of man found in northern pike, walleyes, and perch from a very limited area in northern Michigan) causes illness in man and this one is easily killed by normal cooking. In fact all worm parasites are killed by normal cooking. Worms in fish do not indicate polluted or unclean water nor do they mean that the fish had been feeding on spoiled food.

We hope that some day, grubs in fish may be recognized by the fisherman and his friends as causing no more harm to man when eaten in fish normally cooked than the sand we occasionally eat with spinach.

What to do about wormy smelt? Cook 'em and eat 'em. No one has proven that the worms taste bad; possibly they make the fish taste better!

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