1-31-1969

Bullhead to be subject of water resource research

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BULLHEAD TO BE SUBJECT
OF WATER RESOURCE RESEARCH

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MISSOULA, Mont. ---

Although a fish as small and inconspicuous as the common bullhead might not seem very important to the field of science, two University of Montana zoology professors and two UM graduate assistants have found a way to put the fish to very good use.

The bullhead, also known as the cottid or sculpin, is the subject of a water resource research project financed recently by the Montana Water Resources Research Council. The two professors were awarded $4,760 for their research project at the Missoula school.

Dr. Albert G. Canaris and Dr. George F. Weisel will head the project, scheduled to begin next spring and to be completed in written form by 1971.

Aiding the professors will be Larry French, Spokane, Wash., who has already completed several studies of fish parasites, and Robert Newell, Whitefish, Mont., who will handle some of the measurements of physical and chemical properties of the stream sites studied.

The Clark Fork River and certain streams on both sides of the continental divide, mostly on the west side, have been selected for study of the fish and its internal and external parasites, Dr. Canaris said. He said the men plan to travel to the various stream sites, ranging in quality from nearly pure to extremely polluted, and analyze the parasites, looking for changes in variety and incidence.

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Dr. Canaris explained the reason for these analyses. He said certain parasites living within and on the bullhead are a part of its evolved habitat, and a study of whether these parasites change in incidence, die off completely, or become rampant as the stream becomes more and more polluted will help indicate the effect that drastic environmental changes such as pollution have on the total web of life.

"When environments change, there is often a change in parasitism," Dr. Canaris explained. "Some parasite might react favorably to the altered environment and become a real problem to the fish." If the fish should die off in large numbers, he said, the food source of many larger, game fish would be greatly reduced, and the whole biological balance of the stream might be upset.

This process of analyzing parasitism according to the quality of the stream, Dr. Canaris further explained, might be converted to an ideal bio-assay tool -- one that costs little and takes very little time to interpret. The number and kinds of parasites in a sample bullhead drawn at random from the stream might easily tell the analyst the quality of the stream if an effective scale could be devised. A sample cottid could be taken at random from a stream, and a quick analysis of its parasites would tell the analyst how pure the stream was, he said.

Another reason Dr. Canaris and Dr. Weisel chose the common bullhead as the subject research was that very little is actually known about the fish's habitat and environmental needs, according to Dr. Canaris. He said that although the fish has been determined by cursory observations to be a pure-stream inhabitor with certain one-celled and wormlike parasites, these conjectures have never really been confirmed scientifically. The fish is a very important member of the food chain, he said, and therefore an intensified look into its life habits might prove beneficial to sportsmen everywhere.

The two professors and their assistants will gather their equipment in the spring and head for the first of many streams to do some "fishing" -- perhaps with results which will help to solve the costly problem of stream quality analysis, and which will tell man a little more about the life of the mysterious bullhead.

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