



# Fish Health Section Newsletter

# AFS

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## GOLDFISH ULCER DISEASE STUDIES

In cooperation with Dr. Jack Gratzek and Dr. Emmett Shotts of the University of Georgia, TAVOLEK INC. began a study of goldfish ulcer disease in August 1976 for the dual purposes of determining the etiology and developing control measures. Diseased goldfish from England, Japan, and several locations in the United States were examined for parasites, viruses and bacteria. In addition, histopathological aspects of the disease were studied. A bacterium identified on the basis of biochemical and serological tests and DNA analysis as an atypical Aeromonas salmonicida was determined to be the cause of the disease. DNA analysis and much of the serology was performed by Donald McCarthy of the Ministry of Agriculture, Fisheries Laboratory in Weymouth, England and by Dr. Shotts in cooperation with researchers at the Center for Disease Control in Atlanta, Georgia. We have been able to induce the disease experimentally in healthy goldfish by a short waterborne challenge with the atypical A. salmonicida.

For further information, contact:

Diane G. Elliott  
Fish Health Biologist  
TAVOLEK INC.  
2779 - 152nd Avenue N.E.  
Redmond, WA 98052

OR

Dr. Emmett B. Shotts  
Department of Medical Microbiology  
College of Veterinary Medicine  
University of Georgia  
Athens, GA 30602

## DRAGONFLY NYMPH PREDATORS

An unusual mortality involving predation of three week old channel catfish by dragonfly nymphs (Pantala sp.) occurred at the Uvalde, Texas National Fish Hatchery during late June, 1977. The loss in one pond appeared considerable and upon drawdown was later roughly estimated to be 50% (10,000).

Observations of nymphs clasping fry with their protrusible labia were noted. In all instances, the body was severed, usually just posteriorly to the head.

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\*\*\*\*\*IMPORTANT INFORMATION ON FHS MEETING ON PAGES 4-6, 7.\*\*\*\*\*

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Two 1-acre ponds containing small (2.5 cm) channel catfish and large numbers of nymphs were subsequently treated with 0.25 ppm (active ingredient) Masoten (Dylox). Within 24 hours, observations by the hatchery manager indicated a complete kill of the insects. It was reported that, in a few areas on the windward side of the pond, dead nymphs extended into the water three to four feet.

There was some associated mortality of fish but was apparently relatively insignificant and was probably not the result of the treatment. A static 48 hour bioassay later revealed that a minimum of 0.20 ppm Masoten is required to kill nymphs at the Uvalde station. The bioassay gave no indication that 0.25 ppm is harmful to this size catfish.

For further information contact Monty Millard, Fish Cultural Development Center, P.O. Box 786, San Marcos, Texas 78666.

### CALL FOR PAPERS--NEW FISH DISEASE JOURNAL

As you know, most journals have a large backlog which results in a year or two delay in the publication of our research reports. Now we have a journal with no backlog at all--the new Journal of Fish Diseases invites submission of your fish disease papers. In order to have your paper in Volume 1 Number 1 (Jan., 1978) it is necessary that your manuscript be received by early September, 1977. Send manuscripts to Dr. Ron Roberts (editor), Unit of Aquatic Biology, University of Stirling, FK9 4LA, Scotland or a member of the editorial board (in North America-- G. R. Bell, Canada; J. C. Harshbarger, USA; G. L. Hoffman, USA; S. F. Snieszko, USA; K. E. Wolf, USA). For further information contact Dr. Ron Roberts or one of the above board members.

### COMMITTEE REPORTS

-MEMBERSHIP AND BALLOTING-      Membership-The 1977 membership presently stands at 216. Of this total, 60 are new members and 156 are renewals. I would like to thank everyone who has helped recruit new members; to increase our membership further, an FHS membership drive is scheduled for the annual AFS meeting in Vancouver, B.C. in September.

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The NEWSLETTER of the Fish Health Section of the American Fisheries Society is published four times annually in accordance with Section objectives, and mailed to the Section membership in good standing at the time of publication. The use of company or registered trade names does not constitute an endorsement but serves only to keep the members informed. Contributions to the newsletter are encouraged and should be sent no later than November 18 to Dr. John Plumb, Dept. Fisheries, Auburn Univ., Auburn, AL 36830.

This fall we will be using a new dues collection system which should eliminate some of the confusion that has plagued membership renewal in the past. Instead of publishing a renewal application in the newsletter, each 1977 member will be sent a dues collection envelope similar to the one used by AFS. To supplement the use of the envelopes, reminder notices and a list of delinquent members will be published in the Newsletter.

Annual Elections-The results of the annual elections are as follows:

By-Laws Changes. . . . .	.Approved
President Elect. . . . .	.Ronald W. Goede
Secretary-Treasurer. . . . .	.Richard A. Holt
Board of Certification, 3 Year Term. . . . .	.Harold Wolf
Nominating Committee Chairman. . . . .	.Roger P. Dexter

-NEWSLETTER- We have made the following recommendations to the FHS Executive Committee for action:

1. New members should get back-copies of the Newsletter (for the year they joined), because there is no reduction in the membership fee for part-year members.
2. Former members still in arrears after the second dues notice has been mailed should receive no more copies of the Newsletter until dues are paid.
3. Perhaps the AFS Executive Committee should receive complimentary copies of the Newsletter to be informed of our activities but other AFS officers (e.g. chapters) should not.
4. Newsletter length should be left to the good judgement of the editor.
5. The newsletter should remain the house organ it has been.
6. A membership directory including addresses and phone numbers should be published in the last newsletter of the year either annually or biannually, depending on cost.

-FINANCE- An itemized semi-annual financial report is available from Dr. Richard A. Holt, Dept. of Microbiology, Oregon State University, Corvallis, OR 97331. Though not rich, the FHS appears financially sound with a balance of \$1058.62 as of 18 July 1977.

-TECHNICAL PROCEDURES- Revision of the "blue book" is progressing well with the virus section done, the bacteria section half done, and a feeling that not much is needed in the parasite section except updating references. Negotiations are being made with the Parent Society to publish the revised version; the major concern is the relatively small number of copies that might be sold.

Another area of activity of this committee is developing a method of field testing before new procedures are put into the blue book.

-PROFESSIONAL STANDARDS- In addition to their certification of Fish Health Inspectors, this committee has been deliberating curricula for teaching fish health and also what terminology would best encompass and describe persons associated with fish health. Fish Health Biologist and Fish Pathobiologist are the leading contenders. Let Dr. Richard Heckman, Dept. of Zoology, Brigham Young University, Provo, UT 84601, know if you feel left out or uncomfortable with being categorized under either of those terms.

-NOMINATING- Their work is done for the year!

## SPECIAL PROJECTS

-Project #4- FHS Organized Modules on Annual Meeting Program in Vancouver, B.C. in September 1977. The Fish Health Section program will be in two 1 1/2 hr sessions: Session I - Current Fish Health and Disease Problems and Session II - Advances in Fish Disease Control.

### Session I. Current Fish Health and Disease Problems

It is quite evident from looking at the assortment of drugs on the shelves of pet shops that pet fish diseases are important aspects of the commercial tropical fish industry. Many of the more prevalent diseases in aquarium fishes are little known to most fish biologists in non-tropical fish fields. "Success" in exotic fish medicine will be discussed.

In warmwater fish, as well as in other species of fish, the need for better and cheaper therapeutants continues. More emphasis should be placed on prevention; and diagnostic services should be more readily available. Specific warmwater fish disease problems will be enumerated.

Recently, viral erythrocytic necrosis virus disease, similar to piscine erythrocytic necrosis (PEN) previously described from Atlantic cod, was observed in cultured salmon and captive herring. Possible relationship between these viruses will be examined and characterized.

Isolates of IPN virus from Oregon hatcheries and feral salmonids were compared serologically to explain the sources of infection of hatchery epizootics. All Oregon IPN virus isolates were of one serotype, with two major subtypes. The occurrence of IPN virus at hatcheries was controlled by destruction of infected stocks, sanitation of facilities and identification of sources of virus-free eggs.

Recycling water in hatcheries is becoming a matter of necessity in this age of environmental awareness. Several hatcheries have been constructed with reuse systems. Many problems have already been encountered and solved; however, there are still many more which will have to be overcome.

### Session II. Advances in Fish Disease Control

Rainbow trout leukocytes may respond to antigen-antibody complexes as well as to other specific or non-specific factors with an increased level of migratory activity or with other characteristic reactions. These leukocyte reactions can be helpful in detecting immunity as well as in detecting the presence of certain chronic infections. Work with whirling disease, furunculosis and bacterial kidney disease is discussed.

In vitro incubation of purified lectin-like protein from chinook salmon eggs with viable Vibrio anguillarum prior to plating, resulted in significant reduction in the number of colony-forming units relative to appropriate control.

Private companies have recently licensed vaccines and have available vaccines to control vibriosis and ERM. New drugs soon to be available are antihelminthics, antifungals, anesthetics and disinfections.

The concept of disease control with good hatchery management is not new. Utah State Dept. of Fish and Game has actually implemented a working fish disease program the last few years with great success. Trials and tribulations of this "success story" will be discussed.

As of Jan. 1, 1977 the old Salmonid Import Regulations in Canada were replaced by the new Fish Health Protection Regulation. The ramifications thereof will be pursued.

Am. Fish. Soc. Meeting  
Vancouver, B. C., Canada, Sept. 15-17 1977  
Fish Health Section Program

Convener - William T. Yasutake, Western Fish Disease Lab., Naval Support Activity, Seattle, WA 98115

Introductory remarks - James W. Warren, President, FHS, Hatchery Biologist Lab., Genoa, WI 54632

Session I: Current Fish Health and Disease Programs - 1 1/2 Hours

1. An overview of aquarium fish medicine with emphasis in new treatments for the more prevalent diseases. Dr. Mark P. Dulin, Independent Consultant.
2. Some current warmwater fish disease problems. Dr. Glenn L. Hoffman, Fish Farming Experimental Station, Stuttgart, AR 84420
3. Observations on viral erythrocytic necrosis (or PEN) in cultured salmon and captive herring in British Columbia. Dr. Trevor P. T. Evelyn, Pacific Biological Station, Nanaimo, B. C., Canada V9R 5K6.
4. Epizootiology of IPN in Oregon. Dr. Daniel M. Mulcahy, Western Fish Disease Lab., Naval Support Activity, Seattle, WA 98115
5. Problems encountered in hatchery reuse water system (tentative title) Joseph C. Lientz, Dworshak Fish Hatchery Lab., Shsahka, ID 83520

Session II: Advances in Fish Disease Control - 1 1/2 Hours

1. Fish leukocyte reactions: An approach to detection of immunity and disease. Dr. Billy R. Griffin, Eastern Fish Disease Lab., Kearneysville, WV 85410
2. Demonstration of lectin-like activity in homogenates of chinook salmon eggs. Dr. Edward W. Voss, Jr., Dept. of Microbiology, Oregon State Univ., Corvallis, OR 97331.

3. Why private enterprise is needed in fish health. Dr. Donald F. Amend, Tavolek, Redmond, WA 98052.
4. Working fish disease program - with the emphasis on working. Ronald W. Goede, Fish Experimental Station, Logan, UT 84321.
5. Canada's Fish Health protection regulations and their ramifications, Dr. Gordon R. Bell, Pacific Biological Station, Naniamo, B. C., Canada V9R 5K6.

-Project #2- Nomenclature of the Bacterial Diseases of Fish. The Subcommittee on Taxonomy of Bacteria Pathogenic to Fishes was established during the meeting of the Fish Health Section of A.F.S. in August, 1976. The purpose of this subcommittee is to review the taxonomy of fish pathogenic bacteria and to prepare material for use by editors of the 9th Edition of Bergey's Manual of Determinative Bacteriology.

An announcement about the establishment of this committee was published in ASM News 43(2): 123-124, 1977.

To date, D. H. McCarthy from the Weymouth Laboratory in England has furnished two of his reports--one on the systematic position of Aeromonas salmonicida, the other on Aeromonas hydrophila. The latter is more commonly known to most fish pathologists as A. liquefaciens or A. punctata. McCarthy was also instrumental in forwarding information he obtained from Dr. G. W. Stemke from the University of Alberta in Canada. Dr. Stemke's findings strongly support the position first taken by Ordal and Earp that the kidney disease organism is a true Corynebacterium.

Dr. W. H. Ewing from Atlanta, Georgia, informed me that he (along with A. J. Ross, D. J. Brenner, and G. R. Fanning) prepared a report for publication recommending that the R. M. (redmouth) organism be named Yersinia ruckeri.

-Project #1- Glossary of Fish Health Terms. Dr. George Post reports that the galley proofs have been read and returned to the printer. Copies should be in Dr. Post's hands by the end of August and in your hands shortly thereafter.

-Project #3- Development of FHS Position on Accelerating the FDA Registration of Minor-use Drugs and Chemicals. Ron Goede reports that considerable progress has been made in compiling a list of urgent chemicals and economic impact. He hopes that sufficient FHS members will be attending the Annual Meeting that a resolution regarding registration of chemicals can be drafted and presented to the Parent Society for adoption. You are again urged to attend the meeting in Vancouver.

## MEETINGS

Previously announced but reminded:

AFS ANNUAL MEETING September 12-16, 1977, Bayshore Inn, Vancouver British Columbia. Contact either Janice Hughes, Louisiana Fish and Wildlife Commission, Quachita Station, P.O. BX 4004, Monroe, LA 71201, or Johanna Reinhart, Dept. of Fisheries and Environment, Fisheries and Marine Service, Scientific Information and Publications Branch, Ottawa, Ontario KIA 0E6.

In addition to the fish health sessions described earlier, there are sessions on the role of AFS in environmental affairs, requiem for fisheries research, potentials and limits for use of histology and physiology in fish culture and management, extended fisheries jurisdiction, international and national fisheries societies, ecological considerations for north-temperate reservoirs, new tools for hatchery operating strategy, salmon enhancement, marine recreational fishing, regional water quality problems, and numerous contributed papers.

\*\*\*\*ATTENTION\*\*\*\* The FHS Executive Committee meeting will be held at 9:00 A.M. Sept. 14 in the room Jim Warren and Ron Goede are sharing at the Bayshore Inn. Anyone with business of concern to the Executive Committee is welcome to attend.

\*\*\*\*EXTREMELY IMPORTANT\*\*\*\* The FHS Business Meeting will be held at 3:00 P.M. Sept. 14 at the Sheraton Landmark Hotel a couple blocks away. Everyone associated with fish health who will be attending the Vancouver meeting should be there.

New announcements:

MIDWEST FISH DISEASE WORKSHOP AND FHS BIENNIAL MEETING August 15-19, 1978, Hilton Plaza Inn, Kansas City, Missouri. Contact Charles Hicks, Div. Fisheries, Missouri Dept. Conservation, P.O. BX 180, Jefferson City, Missouri 65101.

## MISCELLANY

METHODS FOR THE DIAGNOSIS OF FISH DISEASES, an English translation of the book by Dr. Z. Lucky (1971); Czechoslovakia, edited by Dr. G. L. Hoffman, is available. Some free copies are available from Rosetta Johnson, Division of Cooperative Research, USFWS, Department of Interior, Washington, D.C. 20240. Copies will also be for sale as No. TT75-58005 from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22151. For further information contact Dr. G. L. Hoffman, USFWS, Fish Farming Experimental Station, P.O. Box 860, Stuttgart, Arkansas 72160.

"PARASITES OF NORTH AMERICAN FRESHWATER FISHES" AGAIN AVAILABLE - The University of California Press, 2223 Fulton Street, Berkeley, California 94720 announced the third printing of this 1967 book by Glenn L. Hoffman. The only change in the 486-page book is a page and a half of Errata and Omissions and the price has increased to \$19.50.

RUSSIAN TRANSLATIONS available from the (Dept. of the Interior Library, Washington, D.C. 20240 include:

Uspenskaia, A. V. 1966. On the mode of nutrition of vegetative stages of Myxidium lieberkuhni (Batschili). Acta Protozoologica 4(10): 81-86.

\_\_\_\_\_. 1972. The five structures of the capsule in the myxosporidian Sphaecomyxa cottidarum. Tsitologica 14(6): 779-781.

\_\_\_\_\_. 1975. Cytophotometric investigation of nuclear cycles of myxosporidia Sphaeromyxa elegini. Tsitologica 17(2): 200-205.

IMPORTANT ADDRESSES - Effective July 15, 1977, the Western Fish Disease Laboratory will officially become the National Fisheries Research Center to reflect the increased scope of research responsibility. Our address and telephone numbers will be:

National Fisheries Research Center  
Building 204, Naval Support Activity  
Seattle, Washington 98115

FTS: 399-5960  
Commercial: 206-442-5960

*Wellsboro, PA* { On July 5, the National Fishery Research and Development Center became administratively functional in the Tioga County Courthouse just eight (8) miles from the construction site when the Director and one secretary reported for duty. Vicky Adriance, who transferred from the local Corps of Engineers office, will be happy to answer your calls to 717-724-3322, sorry no FTS. Hours generally will be from 8:00 a.m. to 4:30 p.m.

Alice Snyder, Administrative Officer, will remain in Washington at Research Administration for awhile and can be contacted at 202-343-7504.

Mail will be received via P.O. Box 639, Wellsboro, Pennsylvania 16901.

NEW APPOINTMENT - Dr. Keith Johnson, formerly of the Lummi Indian Tribal Enterprises, recently joined Tavolek Inc. to supervise the development and evaluation of pharmaceuticals and vaccines. Dr. Johnson has received his Ph.D. at Oregon State University and has worked extensively in the development of salmon aquaculture. He is presently president of the American Salmon Grower's Association.

NEW THERAPEUTANT - Tavolek, Inc. announces a new product for the control of vibriosas. Hivax\* is a bacterin that makes possible mass immunization of salmonids against vibriosis in a single step vaccination procedure. It is licensed by USDA. For more information contact Dr. Donald F. Amend, Tavolek, Inc., 2779 152nd Ave., N.E., Redmond, WA 98052. (206) 883-2150.

FLORIDA TROPICAL FISH FARMERS ASSOCIATION - This association held its annual meeting June 17-19, 1977 with 53 attending. Of interest to fish health biologists (now you know the editor's preference on terminology!), were papers by Diane Elliott on Ornamental Fish Disease Prevention and Therapy, and by Jack Gratzek on Tropical Fish Disease Cases - a Report.