

Fish Health Section Newsletter

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Volume 3

July - September 1975

Number 3

FHS ELECTION SLATE

The Nominating Committee, under the chairmanship of Dr. Ron Goede, offers the following slate of candidates for elected office in the Fish Health Section of the American Fisheries Society for 1976. Article IV, Section 4. of the FHS By-Laws states that officers shall be elected by a simple majority of the mail ballots returned by December 15 with at least one - third of the active membership of the Section participating. Mail ballots are found on page 14 of this NEWSLETTER. Vote and return your ballot today.

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For the office of President, the candidates are Dr. Donald Amend and Dr. Richard Heckman. Dr. Amend is a Research Microbiologist with the U.S. Fish and Wildlife Service, Western Fish Disease Laboratory, Seattle, Washington. Don has served the FHS since its inception in various capacities and is actively engaged in research on methods and efficiency of fish immunization. Dr. Heckman is a Professor of Parasitology at Brigham Young University in Provo, Utah. Dick is noted for his recent active participation in Section activities and his research on parasitic infestations of fish.

Candidates for the office of Vice-President are Mr. David McDaniel and Dr. Robert Summerfelt. Mr. McDaniel is a Staff Specialist on Inland Fisheries with the U.S. Fish and Wildlife Service in Washington, D.C. Dave has been involved with the FHS since its formation and has been most active in various capacities in both the Fish Health Section and the Fish Culture Section. Dr. Summerfelt is the Leader of the Cooperative Fisheries Unit at the University of Oklahoma at Stillwater. Bob was involved in the Steering Committee for the formation of the Section and is noted for his active research program in the parasitological diseases of fishes.

The Secretary-Treasurer office is open to Mr. Ivan McElwain and Mr. Doug Mitchum. Mr. McElwain is the incumbent candidate for the position as well as director of the U.S. Fish and Wildlife Service Fish Control Laboratory at Fort Morgan, Colorado. Ivan is known for taking an active part in Section activities including holding elected office as well as his part in the fish health field in general. Mr. Mitchum is the Director of the Wyoming Game and Fish Pathology Laboratory in Laramie. Doug is active in the field of clinical diagnosis of fish diseases and is co-author of a recently published Atlas of Trout Histology.

Candidates for the elected position of Chairman of the Nominating Committee are taken from the previous year's members and include Dr. Roger Herman and Mr. Harold Wolf. Dr. Herman is Chief of the Division of Cultural Methods and Research for the U.S. Fish and Wildlife Service in Washington, D.C. Roger has been active in work toward the clearance of chemotherapeutic and antibiotic agents as well as histopathology. Mr. Wolf is director of the Fish Pathology Laboratory of the California Department of Fish and Game. Hal is a most experienced fish pathologist and is noted for the design and implementation of one of the first and most successful state fish disease control programs.

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R.H. Stuyvesant

Aquatic Animal Health *An Editorial Comment*

AFS SOCIETY CHANGES...FACT OR FICTION?

Change is in the wind for the American Fisheries Society. To a number of the Fish Health Section members it is about time. Disenchantment with the parent Society has been simmering for years. A major portion of the recent annual AFS meeting at Las Vegas was devoted to the airing of the reasons for unrest and the discussion of possible solutions. It has been said by some that they would rather pay the \$20 to the FHS and the \$2 to the AFS for all the good they got out of their AFS membership. There was general agreement that the dues rate was not the basic problem but that many members simply felt that they weren't getting their money's worth regardless of the dues charged. This unrest has, in the Fish Health Section, led to talk of separating the Section from the AFS so that dissension within the Society would not affect the strength of the Section. At the same time, the organization and means of communication established within the FHS keeps the Section alive and we remain free to control our own destiny.

It is an easy and sometimes satisfying thing to heap your discontent on the next higher authority in an organization. At Las Vegas, Ron Goede jolted many of us back to reality with a comment that it is likely that "not all of the current problems of the AFS emanate from the top". He said that "the members themselves must share in the blame for casting stones rather than coming to the assistance of the Society and working constructively for change". It



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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. The use of company or registered trade names does not constitute an endorsement but serves only to keep members informed. Contributions to the NEWSLETTER are encouraged and should be sent to one of the following committee members no later than the 15th of the month preceding the date of publication to be included into the next quarterly issue.

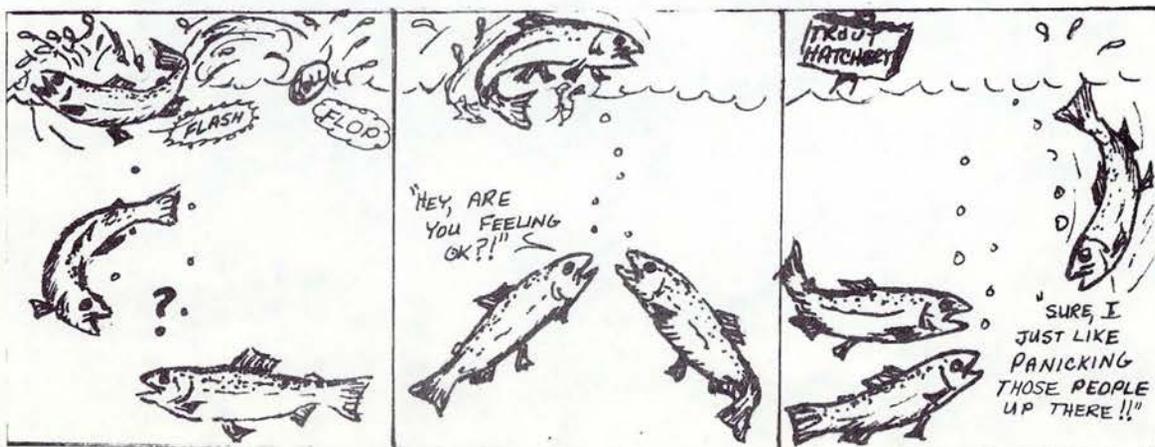
- Dr. Robert A. Busch (Editor), Fish Pathology Laboratory, Bldg.#48,
Humboldt State University, Arcata, California 95521
- Mr. Charles R. Berry, Jr., (eastern U.S.), Department of Fisheries and
Wildlife Science, Virginia Polytechnic Institute and State University,
Blacksburg, Virginia 24060
- Mr. Gary W. Camenisch (central U.S.), 666 Primrose Lane, Springfield,
Missouri 65804
- Dr. Trevor P. T. Evelyn (Canada and international), Pacific Biological
Station, P.O. Box 100, Nanaimo, British Columbia, V9R 5K6, CANADA
- Dr. Richard A. Heckman (western U.S.), Zoology Department, 143 Wid B,
Brigham Young University, Provo, Utah 84601

remains, however, that the members have been voicing those complaints for many years without tangible response from the AFS heirarchy. Even though the seeds of change have been planted at Las Vegas I wonder how they will grow. Was the Las Vegas session just a chance for the agitators to blow off steam to buy time for the AFS leadership while they quietly shove the problems into the background? I truely hope not. In any event, the posture of the FHS should be one of cautious optimism and readiness to cooperate while keeping our options open to separate from the AFS in the next year or two if the revitalization efforts adopted by the AFS fail. Indebtedness is a serious problem for the Society and a constant reminder to the leadership that they must put their best foot forward to attract new members and keep the ones they have. We must do our best to make the Fish Health Section "water-tight" and ready to face an unknown future with strength. We must not commit the same sins we blame the Society of committing. Each member must seek meaningful participation and involvement in Section activities. Each of us has a responsibility to make his feelings known on issues that concern us.

The Fish Health Section has come a long way since the 30th of April 1971 when I wrote Bob Hutton in Washington asking if the AFS Constitution and Bylaws permitted the formation of interest-discipline Sections. We have established outstanding technical procedures and are developing a sound system for identifying members who are qualified as Fish Health Inspectors. We are, as an organization, guilty of failing to reach out to workers in the shellfish, marine, and commercial segments of the fish health discipline. Additionally we provide little visibility for the non-infectious disease problems in the nutritional, toxicological, and environmental aspects of our field. Like the problems of the AFS, this is not entirely the fault of the leadership of the Section. The Section will never exclude these interests, but without inputs into our NEWSLETTER and into the other activities of the Section from the members working in these diciplines, the Section cannot be expected to create material in these areas from thin air. At Las Vegas two of these disciplines were well represented by excellent presentations from Jack Gratzek on his disease work on tropical fish entering the US and from Don Lightner on some of the diseases of cultured shrimp.

The problems of the AFS, the progress made on the technical and professional fronts by the Section, together with the opportunities and problems facing us in the future, set the stage for a full meeting of the Section in the summer of 1976. Our last fall meeting was devoted to Technical Procedures and Professional Standards. These topics should be up-dated in meeting sessions devoted to them. We should also have major sessions dealing with Section activities, policies and with AFS relations. Special modules should be devoted to diseases of shellfish, warmwater fish species, and to noninfectious diseases. Progress is needed in all these areas to advance Section programs on a wide front that will appeal to and involve a broad spectrum of workers in the fish health field.

James W. Warren, Vice President
Fish Health Section/AFS



CARTOON IN POOR TASTE!

Dear Editor:

As indicated in the AFS/FHS NEWSLETTER Vol.3, No.2, you requested a letter for "Ye Ole' Fish Box" editorial comment. I am responding to the cartoon on page 3 which I believe shows poor judgement on the part of the editor and is in poor taste at best.

As professionals it is our moral obligation to view and express opinions with fairness, especially in public. When an individual or an organization is singled out, with (sic) explanation, for public ridicule or embarrassment, it is bad manners, and for a professional organization to do so is inexcusable. If our profession is to survive, we must be fair to our clients, give them our unbiased opinions, and indicate the potential hazards or options open to them. If upon receiving our advice they decide to conduct their business otherwise it is of no further concern to us, if no legal problems are involved.

I believe the AFS/FHS should apologize to Alaska Fish and Game for any embarrassment the cartoon in question may have given them. The cartoon may have had a good message, if a single state or agency had not been indicated. As it stands, I am embarrassed to admit I am associated with the AFS/FHS.

In the future, any expressing of opinion by means of a cartoon, should be accompanied by an editorial explanation and clearly identified as opinion.

Sincerely,

Donald F. Amend, Ph.D.

Research Microbiologist

Western Fish Disease Laboratory

Seattle, Washington 98115

Editor's Reply:

Being as this editor is entirely responsible for the cartoon in question, I would like to reply to Dr. Amend's letter. As an editorial comment, originating entirely within the office of the editor, the cartoon does not necessarily reflect the opinions of the FHS/AFS as a whole nor any of its individual members. This editor apologizes to the Alaska Department of Fish and Game for any undue embarrassment caused them, for this was not the intent.

It is agreed that we as professionals have an obligation to express our views in public. However, if these views have to be consistently modified and edited so as to avoid any type of unintentional offence to any of the diversity of parties with which we work they soon become ineffectual and ignored pieces of trivia to be hung on a wall for general cursory amusement rather than serious subjects of point to be weighed and considered as intended. Science is not in the business of entertainment nor can it any longer afford silent endorsement of careless actions by public agencies. For a private individual or organization to decide to conduct their business contrary to considered professional opinions within the law is indeed their paid privilege but for public agencies to do so, no matter where or on what level, is and must be open to responsible and founded public criticism and this indeed, is our professional concern. The difference between private enterprise and public service agencies, in this regard, is fundamental.

It is also essential that professional organizations, through their publications, provide their membership with the tools for the public expression of their responsible and founded controversial opinions when, as individuals, they may not be in a position to do so. This includes taking the responsibility for and defending such opinions. I apologize again for any undue embarrassment caused but strongly defend such expression of professional opinion as essential to effective communication, basic to our professional survival, and fundamental to our future growth from a solid and candidly built foundation. -EDITOR-

COMMITTEE NEWS & REPORTS

-EXECUTIVE COMMITTEE- AFS NATIONAL MEETING FHS PRESIDENT'S REPORT

I recently attended the national meeting of the American Fisheries Society in Las Vegas. The following report will serve to inform you concerning the action taken at this meeting.

On tuesday afternoon and wednesday morning I attended the Executive Committee meeting of the parent Society. I presented the FHS report to the group on tuesday. I indicated that the FHS authored "Suggested Procedures for the Detection and Identification of Certain Infectious Diseases of Fishes" had been published for us by the U.S. Fish and Wildlife Service and we were very grateful for this cooperation. Dr. Kendall, Acting Executive Director, AFS, indicated that there was some lack of communication as the parent Society did not refuse to publish this work even though their funds were extremely limited. At any rate, I am glad that we got the material published and the next time we need publication assistance we will give the parent Society the opportunity to assist us.

The second matter that concerned me at the AFS Executive Committee meeting was the fact that the presidents of the various Sections (Fish Health and Fish Culture) are ex-officio members of the Executive Committee and are not permitted to vote as official members. It was pointed out that when the Executive Committee was larger (17 members as opposed to the current 9) it was often difficult to have a quorum present at the meetings. Also, each member of the FHS is represented on the Committee by his Division President. I believe we have a certain amount of influence in that we can make comments and suggestions which influence the Committee's decisions. I would appreciate hearing comments from the Section's membership concerning this topic.

One of the topics that generated a great deal of audience participation was a panel presentation concerning the current status of the AFS. It became apparent that many members felt that there should be a radical change in the Society if it is to survive the current problems. Some of the topics included location of the national meeting, dues structure and publications. I believe it would be of benefit to all concerned if each member could offer something positive rather than negative.

The Fish Health Section module was very good and I would like to extend my thanks to all participants. Don Amend served as moderator in the absence of Tosh Yasutake who was unable to attend.

A FHS Executive Committee meeting was held on thursday evening. The following topics were discussed and acted upon. 1) The availability status of the FHS Technical Procedures Handbook was discussed. It was moved that non-FHS individuals be charged \$2 to cover postage and handling when requesting copies, and that such mailings be in FHS envelopes with the Section paying the postage. FHS members requesting additional copies will also be expected to pay the \$2 fee. Proceeds from such a service are to be recorded separately from the general operating budget and held for use in future Section publication efforts. 2) Bob Busch, editor of the NEWSLETTER, reported excellent cooperation from his Committee and the FHS membership in general. It was moved that copies of the FHS NEWSLETTER be sent to the sister Fish Culture Section Executive Committee and to the President and Executive Director of the parent Society. It was discussed whether or not anyone could subscribe to the NEWSLETTER without being a FHS member. No such means exists within the present structure of the Section. FHS members were urged to submit copy on warmwater, marine and invertebrate pathology as well as known job openings for Fish Health trained students for inclusion in the NEWSLETTER. 3) Place-

ment of the FHS election year on the same schedule as the parent Society and the Fish Culture Section was discussed. Such a move would greatly enhance effective communication and cooperation within the Society and allow for an annual installation and meeting of the officers. 4) The Committee discussed the propriety and need for inviting the President and Executive Director of the parent Society to FHS Executive Committee meetings and national Section meetings in a positive effort to increase dialogue and confederation. 5) Fred Meyer, chairman of the Professional Standards Committee, reported on progress made toward professional certification. A draft of proposed Section by-laws changes necessary to effect such a program and suggested procedures for certification were revised and approved for mailing to the membership for review, comment and balloting. (see the following article for further information)

As all of you are aware, the year is nearly completed for the current officers and committees. I would like to encourage each of you to consider the possible committees you would like to be included on as members for the upcoming year and volunteer your services now. I realize that with the current work load placed upon us by our regular jobs, it is difficult to spend as much time as we would like to on the FHS, but I believe we are obligated to serve our profession. (Mr. Courtney C. Gustafson, President, Fish Health Section, American Fisheries Society, 118 Nittany Street, Pleasant Gap, Pennsylvania 16823)

-PROFESSIONAL STANDARDS COMMITTEE-

PROFESSIONAL CERTIFICATION ACTIVITIES

Most of you will recall the vigorous discussions at the 1974 (Denver) meeting relating to certification. The need exists for identification of those Fish Health Section members who are qualified to sign documents certifying hatcheries or fish to be free of certain diseases. These individuals must be technically qualified to conduct inspections and to perform the diagnostic and disease detection procedures recognized by the Technical Procedures Committee as appropriate for such work. The present Professional Standards Committee has developed the following package incorporating three years of hard work by past and present Committee members, Executive Committee members, and interested individuals. Please keep in mind that the proposal is merely to identify qualified inspectors. It is a working credential, not an item for professional prestige.

The information provided below consists of two items; (a) a proposed change in the Section By-Laws which requires your vote and (b) a proposed procedure for certification of inspectors for which we seek your comment.

PROPOSED CHANGES IN BY-LAWS

The following addition to Article VII (Standing Committees), Section 1., paragraph f., Professional Standards Committee is proposed:

f. Professional Standards Committee:

First paragraph remains unchanged. Add the following:

To execute the professional certification programs of the Committee, a five (5) member Board of Certification shall be elected by the membership. Candidates for the Board shall be nominated by the Nominating Committee under the procedures designated for the nomination of officers in Article VII, Section 1., a. No section member who has had a Professional Certification revoked for cause may serve on the Board. Board members shall be elected to terms of three (3) years; except, that at the first election, one term shall be for one year, two terms for two years, and two terms for three years.

Board vacancies shall be filled as designated in Article IV, Section 5. The Board shall, after each annual election, elect a Chairman who shall coordinate Board activities with the Chairman of the Professional Standards Committee. The Board of Certification must, at least semi-annually, process all new and renewal applications for certification received by the Chairmen since the previous Board meeting.

Additions to the By-Laws must be approved by a simple majority of a mail balloting in which at least one-third of the active members of the Section participate. Your vote is important. Please return your ballot found on page 14 of this issue by November 1, 1975 to permit timely input into this developing activity.

To assist in the establishment of professional certification procedures, the Professional Standards Committee has drafted the following suggestions for consideration by the proposed Board of Certification in their development of an acceptable program. They are presented here for your review. Your constructive comments are encouraged and will be utilized by the Committee in their future recommendations.

1. Section members desiring certification as inspectors shall file completed application forms with the Chairman of the Board of Certification. Application forms will be available from the Board. Applicants should arrange for the forwarding of the required letters of recommendation to the Board Chairman at the time of the preparation of their applications.
2. The Board shall carefully review all applications. Upon the conditional approval of an application, the Board shall so notify the applicant in writing. Upon the receipt of this notice, new applicants shall remit a certification fee of \$50.00 to the Secretary-Treasurer of the Section. The fee for renewal of certification shall be \$10.00. Following payment of the fee, the Secretary-Treasurer shall so notify the Chairman of the Board of Professional Certification. The Board Chairman, when assured of the completion of all required certification procedures, shall so notify the President of the Fish Health Section. The President shall then officially notify the applicant of his certification as a Fish Health Inspector. Applications not approved by the Board shall be returned to the applicant.
3. The Board shall, at least semi-annually, conduct official business including the review and processing of all new and renewal applications received by the Chairman since the previous business session. Board members shall be excused from sessions at which their own certification applications are being considered. Examinations, score sheets, and other forms used in the rating of applicants shall be those prepared and approved by the Professional Standards Committee and shall remain in the confidential files of the Board of Certification.
4. An annual report of all actions, both affirmative and negative, shall be prepared by the Board Chairman and submitted to the Chairman of the Professional Standards Committee at the time designated by the Committee Chairman. Permanent file copies of all Board actions must be maintained in confidential files of the Board and made available to the Professional Standards Committee upon the request of the Chairman of the Committee.

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5. Certifications awarded by the President of the Section shall be valid for five (5) years from the date of issuance unless revoked for just cause. Renewal applications shall be submitted to the Board for their review as designated in 2. above.
6. Applicants desiring a review of a negative decision by the Board may file a request with the Chairman of the Professional Standards Committee for a formal review of their application by his Committee. The review panel convened for such considerations shall consist of all Committee members and the Chairman of the Board of Certification. The decision of the review panel shall be final.
7. Fish Health Inspector certifications may be revoked by the Board of Certification, with notification of such action sent via registered mail, for the following causes: gross negligence, incompetence, falsification of data or reports, misrepresentation, or acceptance of a bribe. Such adverse actions by the Board may be appealed through the process indicated in 6. above.

For further information or comment on these proposed suggestions, contact Dr. Fred P. Meyer, Chairman, Professional Standards Committee, P.O. Box 862, La Crosse, Wisconsin 54601.

**-MEMBERSHIP COMMITTEE-
AFS NEWSLETTER ARTICLE**

The FHS Membership Committee submitted an article to the American Fisheries Society Newsletter for inclusion in that publication. The purpose of the article was to explain the purpose, objectives and activities of the FHS to other AFS members. Hopefully we will stimulate some additional people to join the FHS who are interested in the health of fish and other aquatic animals. The FHS needs additional membership and if each current member would recruit one additional member for 1976, we will grow. (for comment or further information contact Dr. John A. Plumb, Membership Chairman, Department of Fisheries and Applied Aquaculture, Auburn University, Auburn, Alabama 36830)

**-TECHNICAL PROCEDURES COMMITTEE-
FHS TECHNICAL PROCEDURES HANDBOOK**

The recently published FHS technical procedures handbook "Suggested Procedures for the Detection and Identification of Certain Infectious Diseases of Fishes" has been mailed out to the FHS membership. Any members in good standing who have not received their copy should write to Mr. Ivan B. McElwain, P.O. Box 917, Fort Morgan, Colorado 80701. Additional copies for members and non-members are available at \$2.00 each to cover postage and handling. Initial reviews from the membership and interested individuals have been highly favorable. The "Procedures" have been adopted for use by the Great Lakes Fishery Commission in their disease control programs and is under review for adoption by the Colorado River Wildlife Council. (for comment or further information, contact Mr. David W. McDaniel, Chairman, Technical Procedures Committee, 7313 Castle Road, Manassas. Virginia 22110)

FISH HEALTH DICTIONARY Dr. G. W. Klontz, editor of the proposed Fish Health Dictionary reports that completion of the publication is being held up for want of designated contributions from various members. The dictionary was proposed at the 1974 FHS Denver Workshop to help alleviate

improper usage of pathobiological terminology and standardize word use in the field of fish health. It would be greatly appreciated if those individuals who took on this responsibility last year would get their contributions to Dr. Klontz at their earliest convenience. (for comment or further information, contact: Dr. G. W. Klontz, College of Forestry, Wildlife and Range Science, University of Idaho, Moscow, Idaho 83843)

PROFESSIONAL NEWS & VIEWS

sent to my list

POSITIONS AVAILABLE IN FISH PATHOLOGY The New York State Department of Environmental Conservation has recently announced the availability of positions in fish pathology. One position as an Associate Fish Pathologist, grade 29, is presently available and two positions for Senior Fish Pathologists, grade 18, are anticipated in the near future. Job descriptions and qualifications for these positions are available from Mr. Carl Parker or the Office of the Editor, FHS/AFS NEWSLETTER. Starting salaries are \$17,429 for the Associate position and \$13,404 for the Senior positions.

The Associate and one Senior position will make up their Private and State Hatchery disease control team. The second Senior position will be working with a monitoring task force on environmental pollutants and disease incidence in wild fish populations. Interested and qualified candidates are invited to submit personal and curriculum vitae with references to Mr. Carl Parker, Chief, Bureau of Fisheries, Department of Environmental Conservation, 50 Wolf Road, Albany, New York 12233.

DIQUAT AND ENDOTHALL TOXICITY STUDIED The herbicides Diquat and Endothall have been suggested tools for disease and weed control in fishery habitats. Recent work in our laboratory has shown these chemicals to be quite safe from a fish health standpoint. Hemal parameters of bluegill and goldfish monitored for change due to herbicide stress were androgen, estrogen, corticoid, and glucose levels, hematocrit, total plasma protein, plasma protein components, and white blood cell differential counts. Histological studies were conducted on gills, kidney, liver, adrenal gland, thyroid gland, mechanoreceptor and chemoreceptor organs. No deleterious changes were found in any blood parameter or tissue morphology which could be attributed to the chemicals even at levels above recommended use. (For comment or further information contact Mr. Charles R. Berry, Jr., Department of Fisheries and Wildlife Sciences, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061)

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OXOLINIC ACID AS CHEMOTHERAPEUTIC Oxolinic acid has been tested by Japanese investigators and found to be effective in controlling gram-negative infections in fish, particularly *Aeromonas*, *vibrio*, and myxobacteria. The drug is of low toxicity and is absorbed directly into the tissues from the water. It must be noted, however, the compound is not approved by the FDA. (for further information of comment, contact Dr. Graham L. Bullock, Research Microbiologist, Route 1 Box 45-B, Kearneysville, West Virginia 25430)

NEW SALMONID HERPESVIRUS Results of experimental infection studies with the newly discovered salmonid herpesvirus have shown the agent to be capable of producing disease and death in fry and fingerling rainbow trout. Fingerling Atlantic salmon, brown trout and brook trout were refractory. A similar if not identical agent has been implicated in mortality of kokanee fry in Japan as reported at the recent International Seminar on Fish Diseases recently held in Tokyo, Japan. The new agent has been tentatively designated *Herpesvirus salmonis*. It replicates in RTG-2 but not FHM cell lines. Suggested temperature of incubation for isolation is 10 C and the pH should be about 7.2 - 7.3. (for comment or further information, contact Dr. Ken Wolf, Eastern Fish Disease Laboratory, Kearneysville, West Virginia 25430)

CCVD IN COLORADO AND KANSAS Two recent outbreaks of Channel Catfish Virus Disease have been diagnosed by personnel of the Fish Disease Control Center in Fort Morgan, Colorado. Large amounts of virus were isolated and serologically identified in both cases. The epizootic involved small 2-3 inch catfish held in ponds at a commercial hatchery in Colorado and a federal installation in Kansas. (for comment or further information contact Mr. Ivan McElwain, Fish Disease Control Center, P.O. Box 917, Fort Morgan, Colorado 80701)

STUDY OF DISEASE LEVELS IN PRODUCTION CATFISH The parasite and bacterial loads of channel catfish raised in two Auburn University production ponds were monitored from May to December, 1974. Of the 61 fish examined from the first pond, *Pseudomonas fluorescens* was isolated from the kidney and liver of two fish and *Aeromonas hydrophila* from the kidney of one fish. Ninety eight fish were examined from the second pond and *Pseudomonas fluorescens* and *Aeromonas hydrophila* were isolated from the liver and kidney of two fish examined. Light to moderate infestations of *Corallobothrium*, *Cleidodiscus* and *Henneguya* were observed in most of the fish examined and some of the fish had mild infestations of *Trichodina*, *Trichophrya* and *Costia*. Other studies were made in the same ponds within the same year were on the water bacterial load during the summer months, the phytoplankton biomass of the two ponds, the effect of an extruded floating feed vs. a pelleted sinking feed in channel catfish growth, and on benthic bacterial metabolism rates. Water quality measurements taken in connection with the above studies made, ie., water temperature, pH, total alkalinity, turbidity, chemical oxygen demand and free dissolved oxygen were found to be within the ranges that channel catfish exhibit normal growth.

The presence of parasites and the isolation of pathogenic and non-pathogenic bacteria appear not to have affected the production as a feed conversion rate of 1.64 was calculated for the first ponds. Also based on 200 fish sampled at the end of the feeding season, fish from the first pond were found to have increased 93% in size over those of the second pond. (for comment or further information, contact J. R. Canlas, Southern Cooperative Fish Disease Project, Department of Fisheries and Applied Aquaculture, Auburn University, Auburn, Alabama 36830)

RARE MYXOSPORIDEAN IN CATFISH The myxosporidean, *Myxidium bellum* Meglitsch 1937, was found in gall bladders of channel catfish broodfish at a federal hatchery in Kansas. This is the first known report of the disease since 1937 (J. Parasitol. 23(5):467-477). The parasitic infection did not appear to be causing any problems when found by Mr. Paul W. Janeke of the Fish Disease Control Center. (for comment or further information, contact Mr. Paul W. Janeke, Fish Disease Control Center, P.O. Box 917, Fort Morgan, Colorado 80701)

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PARASITE AND DISEASE INVESTIGATIONS ON STRIPED BASS
AND POMPANO CULTURED IN EARTHEN PONDS IN ALABAMA

Routine parasite and
disease examinations
were carried out on

striped bass, *Morone saxatilis*, and pompano, *Trachinotus carolinus*, cultured in earthen ponds at the newly constructed Claude Peteet Mariculture Center, of the Department of Conservation and Natural Resources, Marine Resources Division, Gulf Shores, Alabama. Examination took place in the period from June through December 1974. The fish were cultured in 0.25 acre ponds, some of which received fresh well water and others which received brackish water from the intercoastal Canal. Bi-weekly sampling was done concurrently with growth sampling. Total viable bacteria counts were also taken to determine normal levels of bacterial flora in the pond waters.

Approximately 150 fish were sampled over the course of the experiment and of the total, 23 striped bass were removed from fresh water ponds. All the remaining fish, including approximately 65 pompano were obtained from brackish water ponds, the salinity of which ranged from 5 to 15 parts per thousand.

POMPANO: Bacterial isolates were obtained from the kidney and liver on several occasions but no mortality could be attributed to bacterial disease. *Vibrio anguillarum* and *Aeromonas hydrophila* were both isolated from apparently healthy pompano. Parasitic infestation of pompano was variable during 1974.

Ciliated protozoans were the greatest problem infecting both the skin, fins and gills. *Trichodina* sp., *Trichodinella* sp. and *Scyphidia* sp. gradually increased in numbers on the gills until September when levels became so high that treatment was required. Treatment with 15 ppm formalin was 95% effective in removing all gill parasites. Aeration was necessary during treatment to maintain adequate oxygen levels in the ponds. Growth curves plotted at the conclusion of the experiment showed growth increased following removal of the parasites.

STRIPED BASS: Striped bass gills were also parasitized by *Trichodinella* sp. and *Scyphidia* sp. during the culture period but levels were never high enough to require treatment. Levels of gill parasites were highest in July and October and lowest in August and September. Striped bass cultured in fresh-water ponds were remarkably free of parasitic organisms.

Average total viable bacteria counts fluctuated from one sample date to another but were in the range of 750/ml to 1,050/ml on brackish water pools and 600/ml to 800/ml in fresh water ponds. (for comment or further information, contact John P. Hawke, Southern Cooperative Fish Disease Project, Department of Fisheries and Applied Aquaculture, Auburn University, Auburn, Alabama 36830)

DISEASE AND PARASITES OF STRIPED BASS

With the continuing increase of
striped bass culture and establishment

of striped bass in freshwater sports fisheries, their diseases and parasites acquire greater importance. The following have been reported from striped bass: *Epitheliocystis* (Wolke, Wyand, and Khairallah 1970); *Branchiomyces* (Meyer and Robinson 1973); *Kudoa cerebralis* (Paperna and Zwerner 1974); *Trichodina davisi* (Wellborn 1967); *Trichodina*, *Apiosoma*, and *Ambiphrya* (Auburn Newsletter 1972); *Urocleidus hastatus* (Mizelle and Hughes 1938); *Diplectanum colinsi*; *Posthodiplostomum minimum* (Hoffman and Hutcheson 1970); *Neochasmus sogandaresi* (Overstreet 1971); *Geozia* sp. (Rogers 1969); *Philometra cylindraceum* (Camper 1973); *Leptorhynchoides thecatum*, *Pomphorhynchus rocci*, and *Achtheres lacae* (Wilson 1915); *Ergasilus labracis* (Hoffman 1974); *Ergasilus arthrosis*; *Livonica ovalis*, and cusk eel in the body cavity.

If any of the above is deemed important as a disease agent, I will propose a research project on control. I would appreciate receiving any additional information on striped bass diseases and parasites. (for comment or further information, contact Dr. Glenn L. Hoffman, Fish Farming Experimental Station, P.O. Box 860, Stuttgart, Arkansas 72160)

AMOEBIASIS IN FISH Amoebae belonging to the genera *Acanthamoeba* and *Vahlkampfia* have been isolated from various organs of ten species of fish. One strain of *Acanthamoeba* was injected into *Tilapia aurea*, *Cyprinus carpio* and *Lepomis macrochirus* in order to study pathogenicity. None of the test fish produced any gross pathology but the amoebae were dispersed systemically into different organs of the fish (gill, spleen, liver, intestine, kidney, and brain). Viable amoebae were re-isolated from these organs up to 60 days later. Further studies will be conducted on fish using known pathogenic amoeba received from Dr. A. R. Stevens of the V.A. Hospital, Gainesville, Florida. (for comment or further information, contact Peter W. Tayler, Southeastern Cooperative Fish Disease Project, Department of Fisheries and Applied Aquaculture, Auburn University, Auburn, Alabama 36830)

OUTBREAK OF A BACTERIAL DISEASE IN MARINE FISH Mummichogs (*Fundulus heteroclitus*) kept in sea water aquarium at 15 C for experimental purposes, suffered mass mortality in excess of 50 percent. A hemolytic *Pseudomonas* sp. was isolated from the diseased animals. The gross syndrome, hematological data and the curves of extracellular hemolysin production by the organism and mortalities of the experimentally infected mummichogs suggest that the hemolysin is closely related to the pathogenic effect of the organism. The factors affecting elaboration of hemolysin by the organism and general properties of the hemolysin are described in the upcoming proceedings of the First International Congress of the International Association of Microbiological Societies in Tokyo, 1974. For more information and comment, contact Dr. Ming F. Li, Halifax Laboratory, Fisheries and Marine Service, Environment Canada, Halifax, Nova Scotia, CANADA.

MEETINGS & MISCELLAN Y

NATIONAL FISH CULTURE WORKSHOP The Fish Culture Section of the American Fisheries Society has issued a call for papers for its National Fish Culture Workshop. The workshop will be held at the Howard Johnson Convention Center, Springfield, Missouri, on January 13-15, 1976. The general program chairman will be none other than the infamous Mr. David McDaniel. Three concurrent technical sessions will be offered on January 14. They include; 1) Salmonid Culture, chaired by Dr. Ron Goede; 2) Warm and Mid-range Species Culture, chaired by Dr. Bill Lewis; 3) Mariculture, chaired by Dr. James Avault, Jr. Initial response to the workshop has been enthusiastic and the Section is confident that it will be one of the most comprehensive fish culture meetings ever to be conducted in North America. This workshop should provide a unique opportunity for culturists to share new ideas and gain new insights into the problems and solutions of the field. (for comment or further information, contact Mr. David W. McDaniel, Inland Fish. and Resv. Program, Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240 202-343-5601)

WORLD MARICULTURE SOCIETY The 1976 annual meeting of the World Mariculture Society will be held at the Town and Country Hotel, San Diego, California, January 25-29. For further information contact Dr. James W. Avault, Jr., 249 Ag. Center, Louisiana State University, Baton Rouge, Louisiana 70803

INTERNATIONAL SEMINAR ON FISH DISEASES An International Seminar on Fish Diseases was held in Tokyo, Japan, August 11 and 12, 1975, under the sponsorship of the Japan Research Group of Fish Pathology and the Committee VI. 3, Nutrition and Production of Fish in the International Union Nutritional Science Commission on Nutrition of Animals. Dr. Syuzo Egusa of the University of Tokyo was the organizer with invited participants coming from Canada, Japan, United States, and Yugoslavia. Papers presented covered a wide range of topics including summaries of fish health problems in the various countries involved, advances in immunization as a control of infectious diseases, cellular immunity of fish, nutritional pathologies, and viral diseases including the new salmonid herpesvirus among others. The proceedings of the entire seminar including discussions from the floor will be published by the Japan Research Group of Fish Pathology in the early spring of 1976. Information concerning availability and cost will be carried in this NEWSLETTER as it becomes available. Early subscription is advised. (for further information or comment, contact Dr. Syuzo Egusa, Laboratory of Aquaculture Biology, University of Tokyo, Yayoi 1-1-1, Bunkyo-Ko, Tokyo. JAPAN)

1975 Wildlife Disease Conference The annual meeting of the Wildlife Disease Association was held at the University of Guelph, Canada, August 20-23. This year's meetings were again characterized by a strong contribution of papers in the area of fish disease as well as lower vertebrate and marine mammal pathology. Dr. Harry Huizinga chaired an afternoon session on Parasitic Diseases and Pathology of Fishes which included a variety of papers concerning recent research findings on the status, pathogenesis and control of parasitic diseases of fishes. Studies on the effects of antibiotic and chemotherapeutic agents on recirculating culture systems and hematological parameters of raceway cultured channel catfish were also heard. Dr. Emmett Shotts moderated a session on Microbial Diseases of Poikilothermic Vertebrates which included papers on IPN carrier infections, hypoxia associated bacterial infections in channel catfish, bacterial flora of aquaria fishes, R factor presence in *Aeromonas hydrophila* and diagnostic serological techniques among others. Publication of the abstracts or proceedings is not planned due to financial considerations. Fish disease sessions are again planned for next year's WDA meeting to be announced in the January issue of the Journal of Wildlife Disease. (for comment or further information, contact Dr. Harry W. Huizinga, Department of Biological Sciences, Illinois State University, Bloomington, Illinois 61761)

SOUTHEASTERN COOPERATIVE FISH DISEASE PROJECT NEWSLETTER Editor Charles W. Harris reports in the July 1975 issue of the SOUTHEASTERN COOPERATIVE FISH DISEASE NEWSLETTER that this important series will continue to be published by the Department of Fisheries and Applied Aquacultures at Auburn University. The purpose of the NEWSLETTER is to provide information on Project work, fisheries news, short contributions by researchers and new developments related to fishes and fish diseases. The NEWSLETTER will be published periodically as information is accumulated. It will be distributed internationally by the Department and is available on request. Research notes and other items of interest are welcomed. Please keep any such contributions less than two double spaced typed pages. (for comment or further information, contact: Charles W. Harris, Southeastern Cooperative Fish Disease Project, Department of Fisheries and Applied Aquaculture, Auburn University, Auburn, Alabama 36830)

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