

FISH HEALTH NEWSLETTER

American Fisheries Society/Fish Health Section

Volume 33

Number 1

March 2005

In this issue:

President's Report.....	Page 1
Meetings and Workshops.....	Page 2
Announcements.....	Page 7
Call for Officer Nominations.....	Page 8
Call for Section Award Nominations.....	Page 9
Research Report: Use of Bioluminescent <i>Edwardsiella ictaluri</i> for Real-time Monitoring of Enteric Septicemia of Catfish.....	Page 10

President's Report:

The Fish Health Section (FHS) needs your help. Most readers of this Newsletter are members of the FHS so explaining the advantages of FHS membership in this column is not an efficient approach to recruiting new members of FHS. However, you can help spread the word about why all researchers, extension specialists, diagnosticians, health inspectors, veterinarians, administrators, teachers, and students (and everyone else) interested in health, toxicology, pathogens, pathology, medicine, or diseases (and related topics) of aquatic animals should be members of the FHS. So, tell your colleagues, supervisor, technician, students, friends, relatives, and other potential members about the importance and benefits of FHS membership.

AFS Governing Board Meeting

The American Fisheries Society (AFS), of which the FHS is a unit, held its midyear governing board meeting in Rockville, Maryland, on 12 March 2005. At this meeting, it was evident that the AFS and its units, including the FHS, are placing more emphasis on encouraging students to join. This includes reducing the cost of student membership in AFS, starting in 2006, to \$19 (from the current \$38). Benefits to students will also be increased by providing student members with free electronic access to all AFS journals and to AFS InfoBase.

During the midyear AFS governing board meeting, a statement of AFS priorities related to aquatic resources was approved. These priorities include nine issues, and most of these are broad topics (e.g., "Habitat Protection, Restoration, and Mitigation") of general interest to FHS members. One of the priorities of special interest to the FHS is "Development and Use of Drugs and Chemicals for Aquaculture, Fishery Research and Management." The document that was approved will be a statement of AFS priority aquatic resource issues, associated goals, and guiding principles and will be used in future multi-agency and multi-organization efforts to develop a North American Agenda for Aquatic Resources.

Also discussed at the midyear meeting was the continuing effort by AFS to promote the *Journal of Aquatic Animal Health*. Funding from AFS is available for activities by the FHS to increase the visibility

of our journal. Andy Goodwin and Christine Moffitt have agreed to serve as Outreach Editors to recruit high quality manuscripts for the *Journal of Aquatic Animal Health*. The AFS has also assisted with production and marketing of the 2004 edition of the FHS Blue Book. This CD-ROM publication is updated annually and is featured on the AFS website, *Fisheries*, and the AFS Directory.

FHS Continuing Education Courses

The FHS is planning three continuing education courses for this year. In association with the Eastern Fish Health Workshop in Shepherdstown, West Virginia (<http://www.fisheries.org/fhs/eastern.htm>), there will be a course about spring viremia of carp on 17 June 2005. Another course will be held on 27 June 2005 preceding the Western Fish Disease Workshop in Boise, Idaho (http://www.fisheries.org/fhs/BRL_files/Western_workshop_05.pdf). The topic of this course will be “Applying Risk Assessment Principles to Fish Health Situations.” There will be an Aquatic Toxicology course on 30 July 2005 in Minneapolis, Minnesota. This course will be the day after the Annual Meeting of the Fish Health Section (see below).

FHS Annual Meeting

I hope that you will attend the 2005 FHS annual meeting in Minneapolis on 27-29 July. The meeting is conveniently located near the airport and Mall of America (not open during FHS presentations). Information about this meeting is included in this newsletter.

John Grizzle, FHS President

Meetings and Workshops:

2005 Annual Meeting of the Fish Health Section/American Fisheries Society. The 2005 Annual Meeting of the Fish Health Section/American Fisheries Society will be held in Minneapolis, MN, during 27-29 July 2005. Registration will be held on the evening of Tuesday 26 July. A Continuing Education session is being planned for Saturday 30 July. The meeting will be held at the Ramada Inn Airport at the Mall of America. This location is 2 miles from the Minneapolis/St. Paul International Airport. Complementary shuttle service to the motel is available as is complementary shuttle service to the Mall of the America, located approximately 0.5 miles from the motel. Attendees are encouraged to mention the Fish Health Section Meeting when they book their rooms at the motel, as a block of rooms has been set aside. Additional information on the meeting location may be found at the motel web site: http://www.ramada.com/Ramada/control/Booking/property_info?propertyId=14208&brandInfo=RA. The host for the meeting is Joe Marcino (joe.marcino@dnr.state.mn.us). The scientific program is being organized by Paul Bowser (prb4@cornell.edu). Additional information, a registration form, and instructions for abstract submissions are included in this Newsletter.

6th Symposium on Diseases in Asian Aquaculture (DAAVI)

The Fish Health Section (FHS) of the Asian Fisheries Society is proud to announce the “6th Symposium on Diseases in Asian Aquaculture (DAA VI)” with the theme “Aquatic Animal Health – Facing New Challenges” to be held on 25-28 October 2005 in Colombo, Sri Lanka. A workshop, a training course, an expert consultation and the 7th Triennial General Meeting (TGM-7) of FHS are being planned in conjunction with DAA VI. Details will be made available through a dedicated website to be launched in October. Five previous Symposia (Bali – 1990, Phuket – 1993, Bangkok – 1996, Cebu – 1999 and Brisbane – 2002), each brought together more than 200 aquatic animal health scientists, students, government researchers and industry personnel from some 30 countries to discuss disease related problems affecting aquaculture production and to find solutions for them. Please visit the FHS website at <http://afs-fhs.seafdec.org.ph/> for more detailed information about the society and DAA.

Expressions of interest to participate or request for inclusion in the mailing list may be sent to Dr. Melba B. Reantaso at Melba.Reantaso@fao.org using the subject: DAA VI.

**FIRST CALL FOR ABSTRACTS
2005 AFS FISH HEALTH SECTION MEETING**

The 2005 Annual Meeting of the Fish Health Section/American Fisheries Society will be held in Minneapolis, MN during 27-29 July 2005. Registration will be held on the evening of Tuesday 26 July 2005. A Continuing Education session is being planned for Saturday 30 July 2005. The meeting will be held at the Ramada Inn Airport at the Mall of America. This location is 2 miles from the Minneapolis/St. Paul International Airport. Complementary shuttle service to the motel is available as is complementary shuttle service to the Mall of the America, located approximately 0.5 miles from the motel. A block of rooms has been set aside until July 10. Please indicate you are with the American Fisheries Society conference. Room rates per night are as follows: \$95.00 Single/double occupancy with \$6.00 for each additional adult. Parlor suites are also available at 155.00. Additional information on the meeting location may be found at the motel web site:

http://www.ramada.com/Ramada/control/Booking/property_info?propertyId=14208&brandInfo=RA.

The host for the meeting is Joe Marcino (joe.marcino@dnr.state.mn.us). The scientific program is being organized by Paul Bowser (prb4@cornell.edu).

A continuing education course “**Current Topics in Aquatic Toxicology**” is being planned for Saturday July 30th. This will be organized by Dr. Andrew Goodwin. The session will provide an overview of contemporary topics associated with aquatic toxicology. The target audience will be those individuals who want an in depth coverage of current issues in that area. Individuals participating in this program will earn CE credit hours (tentatively 7.0) from the Fish Health Section of the American Fisheries Society. Contact person Andrew Goodwin (agoodwin@uaex.edu). The class size is limited to 50 people, based on time when registration is received.

Registration for the 2005 Fish Health Section Meeting will be as follows:

Early registration - FHS Members	\$ 75.00
Student FHS Members	\$ 70.00
- non-Members	\$ 85.00
After 15 June 2005 (receipt date)	
FHS Members	\$ 85.00
Student FHS Members	\$ 70.00
- non-Members	\$ 95.00
Banquet fee:	\$ 33.00 per person
CE Registration Fee	\$ 45.00

Important Deadlines:

May 15, 2005 (See attached form) - Preliminary submission that includes the following: 1) Intent to attend, 2) title of presentation, 3) whether poster or oral is preferred. Oral presentation will be made electronically using PowerPoint. This preliminary submission will allow the organizing committee to prepare a preliminary agenda prior to the meeting.

June 15, 2005 - Early Registration Fees receipt date.

June 15, 2005 - Formal abstracts and electronic version of oral presentations receipt date.

**PRELIMINARY NOTICE TO ATTEND
2005 AFS FISH HEALTH SECTION ANNUAL MEETING
Ramada Inn Airport at the Mall of America
Minneapolis, Minnesota
July 26 - 29, 2005
CE Session on July 30, 2005**

Please return electronically before: 15 May 2005; use one form per participant

Returning this form will help us in our planning of the meeting and to set up the various sessions in the Scientific Program.

I intend to attend the 2005 Fish Health Section Meeting

Name:
Affiliation:
Mailing Address:
City:
State:
Zip Code:

Phone:
Fax:
Email:

I plan to submit an abstract for an oral presentation(s): YES _____ NO _____
I plan to submit an abstract for a poster presentation(s): YES _____ NO _____

Tentative title(s):

I plan to attend the CE Session: YES _____ NO _____

(Please note: attendance at the CE session can only be reserved following receipt of the registration fee for the CE session. Some of the most recent CE Sessions have been "overbooked," so you are encouraged to submit your fee for CE participation early)

Please forward this form via e-mail to:

Paul Bowser: prb4@cornell.edu
and
Joe Marcino: joe.marcino@dnr.state.mn.us

REGISTRATION FORM
2005 AFS FISH HEALTH SECTION ANNUAL MEETING
Ramada Inn Airport at the Mall of America
Minneapolis, Minnesota
July 26 - 29, 2005
CE Session on July 30, 2005

Return before: 1 June 2005 for Early Registration Fees; use one form per participant

Name:

Affiliation:

Mailing Address:

City:

State:

Zip Code:

Phone:

Fax:

Email:

I plan to attend the 2005 Fish Health Section Annual meeting and will _____, will not _____ give an oral/poster (circle one) presentation.

Make checks to Fish Health Section c/o Joe Marcino. Mail to: Joe Marcino, MN Department of Natural Resources, Box 25, 500 Lafayette Road St. Paul, MN 55155. Credit cards are not accepted.

Early registration (received before 15 June 2005)

FHS Members	\$ 75.00 (\$85.00 after 15 June)
Student FHS members	\$ 70.00
non-Members	\$ 85.00 (\$95.00 after 15 June)

CE Registration Fee \$ 50.00

Extra Banquet Ticket (\$33.00 per person) \$ _____

Total Enclosed: \$ _____

Guide for Presentations and Abstract Preparation

Please prepare and submit your abstract electronically before 15 June 2005, following these directions:

1. Limit abstract to a single side of an 8.5x11" page maintaining 1.5 inch margins on the top, bottom and sides of the page.
2. Provide a concise title. Capitalize the first letter of every word in the title using bold 14 pitch Times Roman font.
3. Type the remainder of the material (authors, affiliations, and text) in plain Times Roman 12 pitch font.
4. Provide a double-space between the title and authors (use first name, middle initial, and last name) and underline the name of the presenting author.
5. Provide a single space between the authors and their affiliations and denote each of the author's affiliation using numerical superscripts. The superscript should be placed after an author's name and follow his/her affiliation. Affiliations should include complete mailing addresses, without abbreviations. Do not include phone numbers or email addresses in the affiliation.
6. Provide a double space between the affiliation and main body of text. Spell all words completely upon their first use. Abbreviations are acceptable thereafter, but do not begin a sentence with an abbreviation. Do not use figures, tables, or references in the abstract. Denote genus and species with italic script.

Power Point Presentations

Power Point will be used for all oral presentations. Ensure that all fonts on the presentation are equal to or greater than a 28 pitch (some gene sequencing excepted). Your presentation should be forwarded to Dr. Paul Bowser no later than **15 June 2005** so that master CD's for the session can be prepared.

Your oral presentation should not exceed **12 minutes**. During the sessions, a timekeeper will monitor the length of your talk and a ring a bell after 12 minutes has expired. Moderators will be instructed to close the talks at that time.

Abstracts and electronic version of oral presentations should be forwarded to:

Paul R. Bowser
Aquatic Animal Health Program
Department of Microbiology and Immunology
College of Veterinary Medicine
Cornell University
Ithaca, New York 14853-6401
Phone: (607) 253-4029
FAX: (607) 253-3384
e-mail: prb4@cornell.edu

Announcements:

Bacteria from Fish and Other Aquatic Animals: A Practical Identification Manual

Nicky B Buller, Animal Health Laboratories, Department of Agriculture, Western Australia
For researchers and diagnostic laboratories in veterinary science, aquaculture and related aquatic sciences, and microbiology this is the only published text available where all relevant material is referenced together. Including 16 pages of color plates to aid identification. This manual enables the isolation and identification of bacteria that are found in aquatic animals (particularly fish). The emphasis is on bacteria from farmed aquatic animals (fish, molluscs and crustacea) but some attention is also given to other marine and freshwater animals such as mammals and birds, both captive (as in zoos) or wild, as well as aquarium fish.

From the Foreword: "Assembling this manual was a monumental task and its author, Nicky B Buller, is to be highly commended for providing this invaluable addition to aquatic microbiology" J A Plumb, Auburn University, Alabama, USA

Publication Date: February 2004

Number of Pages: 352 Pages

Binding: Spiral Bound

ISBN: 0851997384

Price: £65.00 (US\$120.00) – Available from a variety of sources including CABI Publishing, Amazon.com

Anatomy and Histology of the Channel Catfish

This book was published by Auburn University in 1976 and has been reprinted in a CD version that is being sold through the AFS Bookstore (<http://64.224.98.53/publications/catbooks/x70902.shtml>). Price for AFS members is \$29.00 and for nonmembers is \$32.00. For additional information contact John Grizzle, grizzjm@auburn.edu.

New Risk Analysis Documents Dealing With Aquatic Animal Movement Are Available From APEC (Asian-Pacific Economic Cooperation) Fisheries Working Group

http://www.apec.org/apec/publications/all_publications/fisheries_working.html.

Manual on Risk Analysis for the Safe Movement of Aquatic Animals, May 2004

This Manual was prepared as an output of the Asia-Pacific Economic Cooperation (APEC) Fisheries Working Group (FWG) project APEC FWG 01/2002 "Capacity and Awareness Building on Import Risk Analysis (IRA) for Aquatic Animals." The manual specifically addresses the risks associated with spread of aquatic animal pathogens with movement of live aquatic animals and their products.

APEC# 203-FS-03.1, ISBN974-92182-4-8, 74pp

PDF Downloads [300KB]

Capacity and Awareness Building on Import Risk Analysis (IRA) for Aquatic Animals, Proceedings, May 2004

The project's purpose was to strengthen and facilitate trade in aquaculture products in the APEC Region and improve public health protection in APEC economies through improving human capacity, standardizing approaches, and establishing networking that will facilitate exchange of information, experience and expertise. This report, which contains 26 technical presentations, is divided into four parts: (a) Background for Risk Analysis, (b) The Risk Analysis Process, (c) Risk Analysis and the World Trade Organization: Economies Experiences and (d) Strategies for Aquatic Animal Health.

APEC#203-FS-01.2, ISBN974-92215-1-6, 221pp

PDF Downloads [1.32MB]

Fish Health Section Officer Nominations

It is that time of year again. Please get involved with the Fish Health Section. Look around, in the mirror and among your colleagues, and think about people who might be willing to serve the Section in one of the positions listed below. Our officers and committees have held us together as a Section over the years.

If you are a member who wishes to submit a nomination, please contact Gael Kurath (gael_kurath@usgs.gov, phone 206-526-6583) by March 31st.

The list of candidates, accompanied by biographical sketches, will be sent out by the email list-serve by April 15th and voting will be completed by May 15th, 2005.

We need nominations for the following positions:

Vice-President (who then becomes the President-elect, President, and finally, the Immediate Past-President):

The office of Vice-President begins the leadership role leading to President and Past-President. This position provides continuity in the leadership of the Section over 4 years. The Vice-President selects the time and place for the annual meeting to be held three years hence, pending final approval by the Section EXCOM.

Secretary-treasurer (3 years)

The Secretary-treasurer safeguards and controls the funds of the section, maintains budget records, prepares financial reports, and keeps minutes for the annual section business meetings. This position is a voting member of the EXCOM.

Nominating and Balloting Committee (3 years):

The Nominating and Balloting Committee of three members plus the Immediate Past-President solicits nominations for a slate of at least two candidates for each of the offices of Vice-President and Secretary-Treasurer. The Chair is the senior elected member. The Committee is responsible for verifying eligibility of all nominees before the official ballots are prepared. Nominations of Section members in good standing are submitted prior to March 15 to the Committee Chair. Nominations must have the consent of the nominees to be considered. In addition, the slate of candidates for the Professional Standards Committee, the Technical Standards Committee and the Nominating and Balloting Committee will be identified by the same date. The Nominating and Balloting Committee is responsible for timely preparation, mailing and tabulation of all mail ballots circulated to the membership and prompt reporting of the results to the President and the Newsletter editor.

Technical Standards Committee (3 years):

This Committee consists of three members elected by the Section. One new member is elected each year and the Chair is the senior member of the Committee. The Committee fosters and promotes the use of standard, reliable and sensitive technical procedures for detection, diagnosis and confirmation of aquatic animal diseases and for enhancing the health of aquatic animals. Committee members are recognized technical specialists. This Committee is responsible for editing, compiling and distributing the Fish Health Section Blue Book *Suggested Procedures for the Detection and Identification of Certain Finfish and Shellfish Pathogens*.

Professional Standards Committee (3 years):

This Committee consists of three members elected by the Section, the senior member serving as Chair. Each member must be one of the following: certified Fish Health Inspector, certified Fish Pathologist or Doctor of Veterinary Medicine. No Section member who has had his or her certification revoked for cause may serve on the Committee. The committee is responsible for developing and maintaining a system for recognizing professional competence in the aquatic animal health field by administering the professional certification programs of the Section.

Call for Fish Health Section Awards

S.F. Snieszko Distinguished Service Award - the highest award of the FHS.

Dr. S.F. Snieszko stands as one of the most prominent figures in the establishment of the modern fish health sciences in the U.S.A. and internationally. This award is presented to individuals to honor their outstanding accomplishments in the field of fish health. This is a career achievement award. The nomination must be made by a current member of the FHS to the awards committee. The nomination should consist of a current curriculum vitae of the nominee, a letter of nomination and six letters of recommendation that support the nominee's dedication and contributions to research, teaching and/or service in fish health.

Special Achievement Award - award for a significant accomplishment in the field of fish health. This award is presented to a FHS member who has in the past year made a significant accomplishment in basic or applied fish health. The achievement must meet a high standard of science as determined by peer review. Candidates for this award must be nominated by a current FHS member. The letter of nomination should state the accomplishment, its importance to the science of fish health, and the implications of the accomplishment (regional, national or international). Copies of articles and other supporting documents should be submitted with the nomination. The nomination may be submitted any time within one year of the accomplishment to the awards committee.

S.F. Snieszko Student Travel Award - award to provide funding for a student to attend and to present a research paper at the annual national FHS meeting. Student should send the abstract of the paper to be presented, a travel budget, and a letter of support from the sponsoring faculty member.

FHS Student Paper Award - an award will be presented to a student whose paper is being presented at the National Meeting. Selection will be made by 3 judges, based on (a) scientific content, (b) scientific merit of the research, (c) originality and (d) quality of presentation. Please note on your application if you wish to have your paper judged.

Nominations will be accepted until May 15, 2005. For a list of previous awardees, go to the FHS website at: <http://www.fisheries.org/fhs/snieszko.htm>

Send nominations for all awards to:
Dr. Pete Taylor
1440 Abernathy Creek Road
Longview, WA 98632
E-mail: pete_taylor@FWS.gov

Research Report

Use of Bioluminescent *Edwardsiella ictaluri* for Real-Time Monitoring of Enteric Septicemia of Catfish

A. Karsi, S. Menanteau, M. L. Lawrence;
Mississippi State University, Mississippi State, MS.

Enteric septicemia of catfish (ESC), caused by *Edwardsiella ictaluri*, is the most important disease affecting the channel catfish aquaculture industry, causing severe economical losses. To better understand the pathogenesis of ESC, we used bioluminescent imaging to monitor *E. ictaluri* infections in living catfish. To accomplish this, the *luxCDABE* operon of *Xenorhabdus luminescens* was cloned downstream of the *lacZ* promoter in broad host range plasmid pBBR1MCS4. *E. ictaluri* transformed with this plasmid were highly bioluminescent, allowing detection of the pathogen by a photon-counting intensified-charge-coupled device (ICCD) camera. Experimental groups were infected by injection (1×10^7 CFU) and by immersion (1×10^7 CFU/ml for 1 h), and the temporal progress of infection was monitored using bioluminescence. Infection in injected fish progressed three times more rapidly than immersed fish, as judged by a rapid increase in bioluminescence. By 36 h, all fish died in the injected group, while 96 h were required in the immersed group. As compared to initial signal intensity, terminal signal intensity increased 12.3 and 390 fold in the immersed and injected groups, respectively. In vivo imaging analysis clearly showed that the anterior and posterior kidneys are the primary target organs, and a predilection for the gills, spleen, liver, and intestine was also detected. This study demonstrates that bioluminescence is a sensitive, effective method for monitoring *E. ictaluri* infections *in vivo*; in addition, fewer fish are required with this method than when conventional methodologies are used. Future applications include pathogenesis research and real-time monitoring of ESC treatments in the living host.

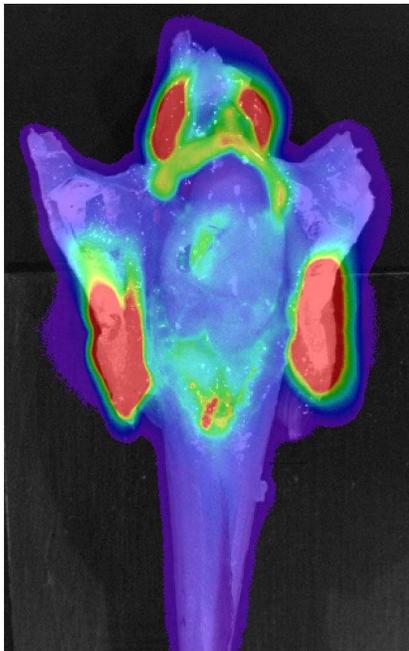


Figure 1. Dissected channel catfish infected with bioluminescent *Edwardsiella ictaluri* by experimental intraperitoneal injection exposure. In this image, *E. ictaluri*'s predilection for the anterior and posterior kidneys, gills, and spleen are evident.

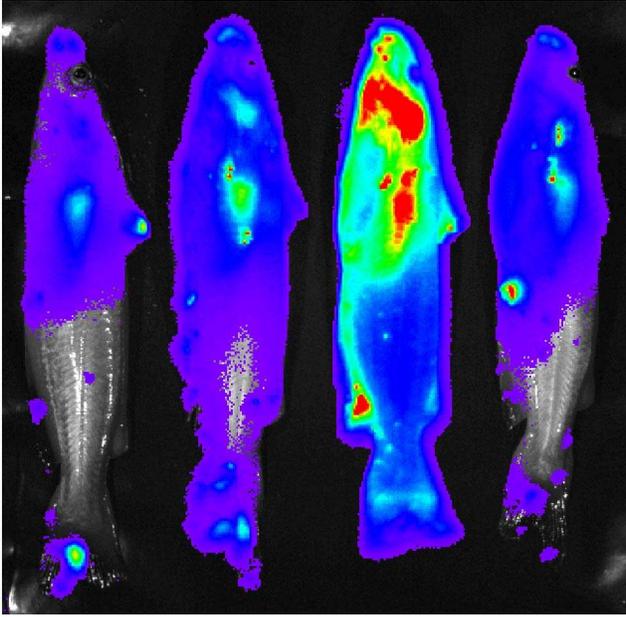


Figure 2. Four anesthetized channel catfish 72 h after being experimentally infected with bioluminescent *E. ictaluri* by immersion exposure. Fish were recovered following imaging, and the progress of infection was tracked in the same fish at multiple time points.