

FISH HEALTH NEWSLETTER

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President's Report:

SOMETHING OLD AND SOMETHING NEW (maybe not)

As your incoming President for the FHS many members probably know that I am not new to this job. As one of the “old guys” in the Section I can offer the perspective of previously serving as President of the Section 12 years ago, back when there was no Vice President position in the Executive Committee and no Section Procedures Manual. In fact, one of my duties then as President-Elect and Chair of the By Laws Review Committee was to pull out all the procedural details embedded in the By Laws and place them separately into a Procedures Manual. With a little embellishment, the FHS Procedures Manual came to be and included a few new ideas including a Vice President. Before putting pen to this paper, I have spent some time reflecting upon what it means to have been a FHS member for over 27 years. We are a diverse cross-section of professionals from all corners of the globe from many different perspectives but share a common thread in that we all are intensely interested in and relish the challenge of solving problems in fish or shellfish health. We take great pride in the integrity and professionalism of such a specialized niche. Do we make a living at it? I guess the answer is yes - most of us are still able to pay the rent. But maybe this is an oversimplification of why we do what we do. Lets stray from Occam's razor to a more complex thought by using an overworked paraphrase- does everything really all merge into one and a river runs through it? Probably not for most but maybe for some of us. I am still looking under rocks for bugs and answers instead of retiring to fly fish for sailfish in Guatemala.

However, the “wheel does go round” and many of the issues the Section faces today may appear to be new problems but really have just resurfaced because the system has become outdated or certain issues were not or could not be fixed before. Four examples of old but still current problems include: declining membership; apathy among members in Section participation and voting (only 16% voted in last election); discord among members regarding the Fish Health Inspector and Fish Pathologist certification programs and controversy regarding recognition of FHS expertise in the veterinary field. These are tough but important issues, not likely to disappear in the near future.

Increased member participation and insight can make a difference in putting these issues back on track. The Recruitment and Retention and Student Committees have provided significant efforts to turn the membership recruitment issue around with letters to past members, posters, brochures, web advertisements with a list of other ideas to initiate this year. Hopefully we will continue to make positive progress on this front. Enticement of more members to become involved in Section business is a more difficult problem but has recently improved with the ease of email networking and electronic balloting. The certification programs will continue to be addressed by the Professional Certifications Committee that has proposed changes to the Fish Health Inspector program that were recently posted for comment on the Section website and hopefully will be approved by the membership at large. Next will be a new look at the Fish Pathologist requirements. Another issue in constant evolution has been the function of the Newsletter that once was the central informational source for the Section until the advent of email, the list serve and mental telepathy. The Newsletter was originally conceived as a forum for quick communications of a paragraph or two regarding research, laboratory techniques and about people in the Section. Whatever happened to *Lydia Schyphidia*? If you remember Lydia you have been in the Section for a long time. The Section has a new Communications Committee that has provided direction for the Newsletter as well as the list serve and the Section website such that appropriate materials are published in the appropriate communication outlet. A short list of subjects for inclusion in the Newsletter include those of an archival nature, committee directory and reports, Section meeting announcements, bios for election nominees, awards and election results, short scientific communications and generally lighter reading such as this President's Message. A new member of the Communications Committee, Wes Baumgartner, has come on board to serve as a reporter to track down interesting news articles regarding spotlights on a particular laboratory, fish health professional or fish health issue. Please contact Wes (wbaumg1@lsu.edu) if you have any ideas for articles in the Newsletter. Also, please send any finished articles to Lora Petrie-Hanson, our Newsletter editor. Certainly there will be some overlap with the website and the list serve but all-in-all it is a good plan needing membership support.

Not to be outdone by the old stuff, lets look at something new such as the Policy Position/Development Committee that was recently appointed. The three individuals on the committee, Chaired by Kevin Amos, will be charged with developing Section consensus on important issues and to produce official section position papers for release. Any important issues of the day will be fair game. "Straw dog" examples of issues could include opinion on the NAAHP, OIE welfare, VHSV movements and SVCV import regulations. Please contact the Chair of this committee if you have any issue you think worthy of Section policy consensus. Another first this past June was the Western Fish Disease Workshop held in conjunction with the National FHS meeting at Jackson Hole, Wyoming. For those of you who did not go, you missed an opportunity to experience the majesty of the Grand Teton National Park. The weather was outstanding including the extreme display of nature's force from balmy 70 degree weather to a tumultuous thunderstorm followed by hail and snow. Wyoming Game and Fish did an excellent job organizing and hosting the meeting including great food that included the awards banquet. Outgoing President Andy Goodwin, whose past year performance was outstanding, was presented with his Certificate of Appreciation. The highlight of the awards ceremony was Andy's presentation of the well deserved Snieszko Distinguished Service Award to John Grizzle as applauded by all in attendance. At the close of the scientific sessions the Student Paper Awards Committee had a tough job selecting a winner who was Ben LaFrentz. The last election results were also announced at the banquet and business meeting: Vice President- Patricia Barbash; Technical Standards Committee- Tricia Varner; Professional Standards Committee- Scott Foott; Nominating and Balloting Committee- Deborah Iwanowicz.

New stuff also includes the By Laws revisions (again the wheel goes round) previously posted on the Section website that were subsequently approved by the membership and by the Governing Board of the AFS at the September meeting in San Francisco. Also, another new change – Patricia Barbash has stepped down as Secretary to the Chair of the Professional Standards Committee to devote necessary time to her upcoming Section presidency. Thank you Trish for your several years of dedicated service in this position. As a previous Chair of this committee I could not have kept

track of all the deadlines and paperwork without your help. All certification and re-certification applications should now be sent to Wade Cavender (wadecavender@utah.gov) and thank you Wade for volunteering to fill this most important position.

Don't miss the next "first" destination for a FHS meeting to be held in Charlottetown, Prince Edward Island (PEI), Canada July 9-13, 2008. The meeting will certainly have an international flair that hopefully will entice more of our Canadian colleagues to attend and possibly some of our European Union counterparts since there will be no EAFP meeting that year. To this end, a 2008 PEI meeting announcement was included in the registration materials for this year's EAFP September meeting in Italy. I also had the opportunity to visit Charlottetown, PEI to attend another meeting this past September and met with Dave Groman who is coordinating the arrangement and planning of the 2008 meeting. Currently, the venue includes: financial support from several sponsors; very comfortable and reasonably priced apartment-type accommodations on the University of PEI campus where the meeting will be held (hotels are also available in town); a new conference center still under construction; a large number of amenities for families including childcare services, supervised children activities and a pool. Adults will find a well equipped fitness facility including racquetball courts and jogging paths around the campus. Also there are many restaurants to choose from in Charlottetown where local lobster reigns supreme. Tentatively, there will be two continuing education classes offered, one before and one after the meeting; Clinical Trial Design in Aquatic Animal Health and Electron Microscopy in Aquatic Animal Health. The latter class will be limited to the first ten people that register. Dave has done an outstanding job of organization with more to come. The meeting has a website still under construction (<http://www.upei.ca/FHS-AFS2008/>) where all facility and agenda information will be posted including credit card registration for participants.

One final thought, my office in the "Great Land of the (rapidly fading) Midnight Sun" is not that far removed from the rest of the mainstream -only an email click away and therefore always accessible and open for critical comments, new ideas, inquiries, volunteers for committee appointments or any other suggestions to help improve the operation and future of the FHS. Become involved, contact a committee chair or drop me a line. But please don't tell me the sun is shining where you are – it will probably be raining in Juneau.

Ted Meyers

Meetings and Short Courses:

<http://web.fisheries.org/units/fhs/meeting.htm>

http://web.fisheries.org/units/fhs/continuing_ed.htm

Announcements:

<http://web.fisheries.org/units/fhs/employment.htm>

Request for past issues:

The newsletter office needs copies of the following articles, previously published in the newsletter. If you have copies of these, please send them or scan them and email them to the newsletter editor, address is located at the end of the newsletter.

Brunson R, True K, & Yancy J (1989). VHS virus isolated at Makah National Fish Hatchery. *American Fisheries Society Fish Health Section Newsletter* 17, 3-4.

Hopper K. (1989) The isolation of VHSV from Chinook salmon at Glenwood Springs, Orcas Islan, Washington. *American Fisheries Society Fish Health Section Newsletter* 17, 1-2.

Fish Health Section Committee List

1. Executive Committee (elected)

(Voting)

Ted Meyers, President	907-465-3577	ted.meyers@alaska.gov
Gael Kurath, President Elect	206-526-6583	gael_kurath@usgs.gov
Patricia Barbash, Vice President	570-726-6611	patricia_barbash@fws.gov
Andrew Goodwin, Past President	870-575-8137	agoodwin@uaex.edu
Linda Beck, Sec/Treasurer	406-994-9947	linda_beck@fws.gov
Christine Densmore, Prof Stds	304-724-4437	christine_densmore@usgs.gov
Jim Thompson, Tech Stds	509-335-6656	thompsj@vetmed.wsu.edu

(Non-Voting)

Chairs of other committees		
Editor JAAH, Vicki Blazer	304-724-4434	vicki_blazer@usgs.gov
Editor JAAH, Jeffrey Wolf	703-471-7060(242)	jwolfepl@aol.com
Newsletter, Lora Petrie-Hanson	662-325-1291	lora@cvm.msstate.edu

2. Standing Committees

Archives (appointed)

Drew Mitchell	501-673-4483 673-7710	dmitchell@spa.ars.usda.gov
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Awards (appointed)

Al Camus	662-686-3305	camus@uga.edu
David Powell	425-883-9896	davidp@profishent.com
Scott Weber	617-973-0227	epweber@ucdavis.edu

Continuing Education (appointed)

Al Dove, Chair	404-581-4364	adove@georgiaaquarium.org
Paul Bowser	607-253-4029	prb4@cornell.edu
Mark Fast	631 632-9251	mark.fast@stonybrook.edu
David Gauthier	804-684-7458	Gauthier@vims.edu
George Sanders	206- 543-4652	gsander@u.washington.edu

Nominating and Balloting Committee (elected)

Evi Emmenegger, (Chair) 206-526-6282
 Kyle Garver, 2 yr 250-756-7340
 Deborah Iwanowicz, 3 yr 307-724-4439
 Andrew Goodwin, Past President 870-575-8137

evi_emmenegger@usgs.gov
 garverk@pac.dfo-mpo.gc.ca
 diwanowicz@usgs.gov
agoodwin@uaex.edu

Professional Standards Committee (elected)

Christine Densmore, Chair 304-724-4437
 Bob Durborow, 2 yr 502-597-6581
 Scott Foott 3 yr 530-365-4271
 Wade Cavender, Secretary to Chair 435-752-1066
 Ext 11

christine_densmore@usgs.gov
 bdurborow@gwmail.kysu.edu
 scott_foott@fws.gov
 wadecavender@utah.gov

Policy/Position Development Committee (appointed – will become elected)

Kevin Amos, Chair 360-709-9001
 Scott LaPatra 208-543-3456
 Denise Petty 352-392-9617

kevin.amos@noaa.gov
 scottl@clearsprings.com
 pettyd@ufl.edu

Technical Standards Committee (elected)

Jim Thompson (Chair) 509-335-6656
 Cliff Starlipper, 2 yr 304- 724-4433
 Trish Varner, 3 yr 979-845-3414

thompsj@vetmed.wsu.edu
 cliff_starlipper@usgs.gov
 PVarner@tvmdl.tamu.edu

3. Ad Hoc Committees**Inspection Committee****FHS**

Jim Thompson, Co-Chair 509-335-6656
 Marcia House, Past Co-Chair 360-528-4344
 Cliff Starlipper, 2 yr 304-724-4433
 Ted Meyers, (Ex-officio) 907-465-3577

thompsj@vetmed.wsu.edu
mhouse@nwifc.org
 c_starlipper@usgs.gov
 ted.meyers@alaska.gov

USFWS

John Coll, Co-Chair 570-726-6611
 Brian Hickson, Past Co-Chair 706-655-3382
 Ken Nichols 530-365-4271
 Rob Bakal, (Ex-officio) 919-513-6851

john_coll@fws.gov
brian_hickson@fws.gov
 ken_nichols@fws.gov
robert_bakal%FWS@fws.gov

NOAA

Kevin Amos 360-709-9001

kevin.amos@noaa.gov

USDA/APHIS

Janet Warg 515-663-7551

janet.warg@aphis.usda.gov

International Meeting Oversight Committee

Vicki Blazer	304-724-4434	vicki_blazer@usgs.gov
Ron Thune	225-578-9680	thune@mail.vetmed.lsu.edu
John Hawke	225-578-9705	jhawke1@lsu.edu
Sarah Poynton, Co-Chair	410-502-5065	spoynton@jhmi.edu
Andy Kane, Co-Chair	301-314-6808	kane@ufl.edu

Professional Certifications

Chris Wilson	435-752-1066 ext 21	ChrisWilson@utah.gov
Patricia Barbash	570-726-6611	patricia_barbash@fws.gov
Trish Varner	979-845-3414	PVarner@tvmdl.tamu.edu
Kevin Amos	360-709-9001	kevin.amos@noaa.gov

Section Communications Committee

Benjamin LaFrentz, Website editor (Chair)	208-885-5018	lafrentz@uidaho.edu
Lora Petrie-Hanson, Newsletter	662-325-1291	lora@cvm.msstate.edu
John Hawke, Poster	225-578-9705	jhawke1@lsu.edu
Jerri Bartholomew, List Serve	541-737-1856	bartholj@science.oregonstate.edu
Wes Baumgartner, Newsletter reporter	225-578-9733	wbaumg1@lsu.edu

Student Committee

Luke Iwanowicz, Chair	304-724-4550	liwanowicz@usgs.gov
Christine Darnall, Vet student perspective	225-336-9719	cdarnal@lsu.edu
Benjamin LaFrentz, Website	208-885-5018	lafrentz@uidaho.edu
Nicole' White, Student Page	906-360-0382	nwhite@nmu.edu

Recruitment and Retention Committee

Michael Mauel, Chair	662-686-3303	mauel@cvm.msstate.edu
Luke Iwanowicz, (Chair, Student Involvement)	304-724-4550	liwanowicz@usgs.gov
David Groman	902-566-0864	groman@upei.ca

Laboratory Spotlight

Texas Veterinary Medical Diagnostic Laboratory Aquatic Diagnostic lab

This article is the first in what is anticipated to be an ongoing series highlighting various fish health laboratories and personnel around the country. If you would like your lab to be featured, please contact Lora Petrie-Hanson (lora@cvm.msstate.edu) or Wes Baumgartner (wbaumg1@lsu.edu).

The Texas Veterinary Medical Diagnostic Laboratory (TVMDL) Aquatic Diagnostic Service is a unique part of the TVMDL system, which is comprised of four laboratories located in College Station, Amarillo, Center, and Gonzales. Based in College Station, the Aquatic Diagnostic Service caters to a diverse caseload, consisting of vertebrate and invertebrates species from around the state. As part of a full service diagnostic lab, incoming aquatic cases are assigned to various laboratory departments (aquatic, bacteriology, virology, endocrinology, toxicology and clinical pathology) with final results coordinated by Drs. Patricia Varner and Ken Hasson.

Dr. Varner is currently the head of the Aquatic Diagnostics program at the TVMDL. She has been active in aquatic diagnostics and research over the past 20 years and has worked with the Texas aquaculture community (at both the commercial and private levels) as an aquatic disease diagnostic specialist at TVMDL since 1996. She received her veterinary doctorate degree at the University of Missouri prior to completing graduate studies at Texas A&M University in both aquatic microbiology (MS) and pathology (PhD). She is certified as a fish pathologist by the Fish Health Section (FHS) of the American Fisheries Society (AFS) and has recently been elected to serve on the AFS/FHS technical standards committee that oversees the publication of recommended aquatic diagnostic procedures listed in the AFS Blue Book, as well as selected to serve on the Aquaculture Commodity Working Group for the National Animal Health Reporting System (NAHRS) set up by USDA.

Dr. Hasson joined TVMDL in 2002 and has been active in aquatic disease diagnostics, education and research for the past 15 years with emphasis on Penaeid shrimp diseases. He entered the field of aquatic diseases after 6 years in the private aquaculture sector where he worked with oysters, Tilapia and shrimp. He received his M.S. from the Dept. of Fisheries, Auburn University followed by a Ph.D. in pathobiology from the Dept. of Veterinary Science, University of Arizona. Dr. Hasson is a faculty member of the annual AquaVet aquatic disease program that is sponsored by Cornell/UPENN and was recently appointed as crustacean disease subject editor for the journal, "Diseases of Aquatic Organisms".

Necropsy, histopathology, bacterial isolation, virus isolation, PCR, in situ hybridization and water quality analysis are among the aquatic diagnostic services offered at TVMDL. In addition, primer sets, molecular probes, selective media and/or cell lines for isolation/identification of certain major fish [e.g. Koi Herpesvirus(KHV), Viral Hemorrhagic Septicemia virus (VHSV), Spring Viremia of Carp virus (SVCV), Largemouth Bass virus (LMBV), Enteric Septicemia of Catfish (ESC), Channel Catfish virus (CCV), Viral Encephalopathy and Retinopathy virus (VER), Proliferative Gill Disease (PGD) and Infectious Pancreatic Necrosis virus (IPNV)] and shrimp pathogens [e.g. White Spot Syndrome Virus (WSSV), Infectious Hypodermal and Hematopoietic Necrosis virus (IHHNV), Taura Syndrome virus (TSV), Yellowhead virus (YHV) and Baculovirus Penaei (BP) and Necrotizing Hepatopancreatitis (NHP)] are presently available at TVMDL. However, expansion of TVMDL's menu of aquatic-based diagnostic assays is an ongoing process with most research efforts directed towards new assay development, as well as work-up of occasional interesting cases and/or diagnostic support in collaborative aquatic research studies. In one past investigational study conducted at TVMDL, the detection of viable WSSV in commercially-available, imported, fresh frozen, wild-caught bait shrimp from China resulted in the submission of a signed petition to APHIS requesting risk assessment studies be conducted on imported frozen bait shrimp.

For information regarding specific assays and fees, visit TVMDL at <http://tvmdlweb.tamu.edu>.

First report of *Vibrio anguillarum* in Chilean salmon farms

Ruben Avendaño-Herrera^{1*}, Andrés Silva-Rubio¹, Alicia E. Toranzo²

¹ Laboratorio Veterquímica. Camino Melipilla 5641, Cerrillos. Santiago – Chile

² Departamento de Microbiología y Parasitología, Facultad de Biología and Instituto de Acuicultura. Universidad de Santiago de Compostela 15782. Spain

* Corresponding author

Phone: (56-2) 3844015

Fax: (56-2) 3844021

E-mail: reavendano@yahoo.com

Members of the *Vibrio* family are highly abundant in aquatic environments, including estuaries, marine coastal waters and sediments, and aquaculture settings worldwide. Some species are important bacterial pathogens for animals reared in aquaculture, where those organisms, e.g., penaeid shrimps, molluscs and salmonids, are reared at high densities under artificial and unstable conditions (see review Thompson et al. 2004). *Vibrio anguillarum* is considered to be the main causative agent of vibriosis (see reviews Actis et al. 1999; Austin and Austin 1999; Toranzo et al. 2005), being responsible for important economic losses in extensive culture worldwide, affecting to approximately 50 species of fresh- and salt-water fishes in many geographical areas (Actis et al. 1999).

In Chile, the presence of this microorganism was first demonstrated in 1995 from an epizootic in a commercial hatchery producing *Argopecten purpuratus* (Riquelme et al. 1995). However, because the isolate showed no-reaction with anti-*V. anguillarum* serotypes from O1 to O10, it was identified as *V. anguillarum* related (VAR).

In the last decade, a general increase in disease detection of emergent pathogens as atypical *Aeromona salmonicida*, *Vibrio ordalli*, *Streptococcus phocae* and recently *Francisella* sp. in Chilean salmon farming has been observed (Bravo 1999; Colquhoun et al. 2004; Gibello et al. 2005; Birkbeck et al. 2007). Even when after Norway Chile is the second major salmon farmer, surprisingly no cases of vibriosis caused by *V. anguillarum* were noted on marine salmonid aquaculture until summer of 2005, when disease outbreaks associated with high mortalities in populations of Atlantic salmon (*Salmo salar*), Pacific salmon (*Oncorhynchus kisutch*) and rainbow trout (*Oncorhynchus mykiss*) - cultured in the South of Chile surrounding of Chiloe island - were observed. During this period, the seawater temperature was unusually higher than 15°C, possibly contributing to the disease outbreak.

The affected fishes (ranging from 22 to 1720 g) showed external signs such as haemorrhage on the base of fins and less frequent within the mouth, exophthalmia and petechiae in the body musculature. In disease advanced cases the internal organs were necrotic and liquefied, which are typical signs of classical vibriosis (Austin and Austin 1999; Toranzo et al. 2005).

The microbiological analysis revealed the presence of cream-colored, round, raised, entire, shiny colonies (2-3 mm diameter) on tryptone soya agar supplemented with 1% (w/v) sodium chloride (TSA-1), in pure culture or as major colony type, after a few days at 22°C. A total of ten strains were isolated from these fish. Biochemically, the isolated bacteria were Gram negative curved rod, motile, positive for the oxidase and catalase tests, presented glucose fermentative metabolism without gas production and were sensitive to the vibriostatic compound O/129. In addition, all

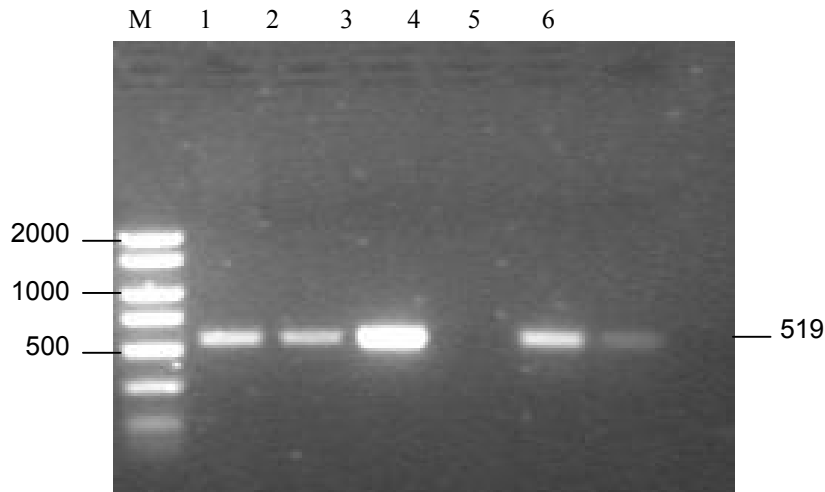
isolates were positive to an alkaline reaction in Moeller's medium with arginina, and negative for lysine and ornithine tests. These results indicated that the bacteria could be identified as *Vibrio anguillarum*.

When the specific PCR-analysis described by Gonzalez et al. (2003) to *V. anguillarum* was employed, all bacterial strains were capable to amplifying a unique and clear PCR product of the expected 519 bp identical to the reference strains ATCC 43305 (serotype O1), ATCC 43306 (serotype O2), and ATCC 43307 (serotype O3) from the American Type Culture Collection, allowed us to confirm the assignation of all strains to the *V. anguillarum* species (Figure 1) (Final Report, 2007 Innova Grant 204-4044, CORFO, Chile).

Previous studies from our group demonstrated that the salmon isolates are antigenically homogeneous, but could not be assigned within the serotypes O1 or O2 associated commonly with diseased salmonids (Toranzo et al. 1997), but still were confirmed as pathogenic to Atlantic salmon (Silva-Rubio et al., in press). Pulsed-field gel electrophoresis analysis of DNA, allowed us to clearly differentiate two genetic groups within Chilean *V. anguillarum* at a similarity level of 68% (data not shown). On the other hand, all *V. anguillarum* strains presented an identical susceptibility pattern, being totally resistant to amoxiciline; while oxytetracycline, enrofloxacin, florfenicol and trimethoprim-sulphamethoxazole inhibited the growth of the bacterium.

In conclusion, to our knowledge, this is the first report of *V. anguillarum* in Chilean salmonids, which leads to consider this pathogen as a potential risk and causing economic impact for the local culture of these fish species. Therefore, future studies are necessary to establish the clinical significance of this bacterial species for the salmonid aquaculture in Chile and, correspondingly, to initiate vaccine development.

Figure 1 Specific PCR products obtained using *rpoN*-ang5' and *rpoN*-ang3' primers (Gonzalez et. al. 2003) with pure cultures of *V. anguillarum* isolates. Lanes: M, AmpliSize Molecular Ruler (50-2000-bp ladder, Sigma); 1 to 3, Chilean isolates; 4, negative control (no DNA); 5 and 6, *V. anguillarum* reference strains ATCC 43306 and ATCC 43307. Numbers on the left indicate the position of molecular size marker in bp. Numbers on the right indicate the size of the specific amplified products in bp.



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Fish Health Newsletter – Editorial Policy

The *Fish Health Newsletter* is an electronic publication of the Fish Health Section of the American Fisheries Society and is available for downloading in Adobe pdf file format. Submissions on any topic of interest to fish health specialists and preliminary case reports are encouraged with the understanding the material is not peer- reviewed. Abstracts submitted to the *Journal of Aquatic Animal Health* are also encouraged. Submissions must be formatted in Microsoft Word, WordPerfect, or Rich Text Format, and can be sent by electronic mail or via 3.5” floppy disk to the editor’s address below. **Graphics files should be sent separately in jpeg format.**

Editor

Dr. Lora Petrie-Hanson (lora@cvm.msstate.edu)

Department of Basic Sciences

College of Veterinary Medicine

P.O. Box 6100

Mississippi State University, MS 39762.

Reporter

Wes Baumgartner (wbaumg1@lsu.edu)