



AFS GENETICS SECTION NEWSLETTER



Volume 20, Issue 1
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Contents:

[President's Message](#) • [Stevan Phelps Memorial Award](#) • [James E. Wright Graduate Award](#) • [Yurii Altukhov: a Remembrance](#) • [SNP Workshop Summary](#) • [2006 Annual Meeting Minutes](#) • [Bony Fish Contest](#) • [Trout Symposium](#) • [Submit News to AFSGS](#) • [Upcoming Events](#)

President's Message

Plans are shaping up for the annual meeting in San Francisco. Section president-elect **Kim Scribner** has lined up an impressive list of twenty presentations for a section-sponsored symposium entitled "Applications of Landscape Genetics to Fisheries Management in Freshwater and Marine Realms". A major item of business for the San Francisco meeting will be an update of the section's bylaws. Past-president **Jeff Hard** has been working with AFS Constitutional Consultant **Gwen White** to correct some of the ambiguities and inconsistencies in our bylaws. In the next newsletter I'll post proposed changes to the bylaws. We'll hold a vote on those changes in San Francisco.

As many of you know when the parent society changed its web page the membership directory and other features were down for a long time. Somehow our section's web page didn't weather the transition very well either and is currently not entirely functional. Genetics Section webmaster **Dan Moore** is looking into this and I want to thank him in advance for his efforts to get us back on line as soon as possible. I want to encourage students to take note of the information regarding the **Wright Travel Award** in this newsletter. If we can't get the web page on line soon this may be the only way to access instructions to apply for this award.

I'm getting ready to attend the AFS semi-annual board meeting in Atlanta on March 10. I will have a report on activities at the meeting for the next newsletter. If you have any questions or concerns please contact me.

Sincerely,
Ed Heist
AFS Genetics Section President

Genetics Section Awards

The Genetics Section of the American Fisheries Society provides two awards each year. The Stevan Phelps Memorial Award is given annually for the best genetics paper published in an AFS journal the preceding year. The James Wright Student Travel Award recognizes excellence in graduate-level work in fisheries genetics and is aimed at assisting graduate students with travel to the national meeting.

Stevan Phelps Memorial Award

The Genetics Section created the Stevan Phelps Memorial Award in 2000 as a perpetual memorial to Steve, a geneticist with Washington Department of Fish and Wildlife who died prematurely from cancer in 1999. The award, which honors Steve's strong commitment to publication of applied genetic research in fisheries, is given annually for the best genetics paper published in an AFS journal the preceding year. The ranking and determination are conducted by a panel of Genetics Section members. This year's panel members—Ken Currens, Orlay Johnson, Bernie May, and Fred Utter—are currently reviewing 34 papers published in AFS journals in 2006 for the 2007 Phelps award. The top papers to be considered for the award will be identified by May. The award is presented annually at the Genetics Section meeting during the AFS Annual Meeting; announcement of the 2007 award will be made at the Section meeting in San Francisco (time and date TBA).

Past winners of the Stevan Phelps Memorial Award

2006: Gharrett, A. J. Gharrett, A. P. Matala, E. L. Peterson, A. K. Gray, Z. Li, and J. Heifetz. 2005. Two genetically distinct forms of rougheye rockfish are different species. *Transactions of the American Fisheries Society* 134:242-260.

2005: Bessey, C., R.H. Devlin, and N.R. Liley. 2004. Reproductive performance of growth-enhanced transgenic coho salmon. *Transactions of the American Fisheries Society* 133:1205-1220.

2004: Halupka, K.C., M.F. Willson, M.D. Bryant, F.H. Everest, and A.J. Gharrett. 2003. Conservation of population diversity of Pacific salmon in southeast Alaska. *North American Journal of Fisheries Management* 23:1057-1086.

2003: VanDoornik, D.M., M.J. Ford, and D. Teel. 2002. Patterns of temporal genetic variation in coho salmon: estimates of the effective proportion of 2-year-olds in natural and hatchery populations. *Transactions of the American Fisheries Society* 131:1007-1019.

2002: Beacham, T.D., J.R. Candy, K.J. Supernault, T. Ming, B. Deagle, A. Schulze, D. Tuck, K.H. Kaukinen, J.R. Irvinve, K.M. Miller, and R.E. Withler. 2001. Evaluation and application of microsatellite and major histocompatibility complex variation for stock identification of coho salmon in British Columbia. *Transactions of the American Fisheries Society* 130:1116-1149.

2001: Olsen, J.B., P. Bentzen, M.A. Banks, J.B. Shaklee, and S. Young. 2000. Microsatellites reveal population identity of individual pink salmon to allow supportive breeding of a population at risk of extinction. Transactions of the American Fisheries Society 129:232-242.

Genetics Section Graduate Award in Memory of James E. Wright

The Genetics Section of the American Fisheries Society is pleased to announce the James E. Wright Graduate Award. This award is presented annually at the Genetics Section meeting at the AFS Annual Meeting and is intended to recognize excellence in graduate-level work in fisheries genetics and to assist graduate students with travel to the national meeting. The amount of the award for travel to the 2006 annual meeting in Lake Placid, New York is anticipated to be \$400.00. All graduate students are encouraged to apply.

Selection will be based on the following criteria:

1. Potential for success in research in fisheries genetics (60%)
2. Anticipated contribution to upcoming annual meeting, e.g. paper, poster, or other contribution (20%)
3. Service to the Society, its Sections, or Chapters (10%)
4. Demonstrated need for travel assistance (10%)

Application Procedure:

1. Applicant must be a full or affiliate member of the Genetics Section at the time of application.
2. Application package should include:
 - A brief curriculum vitae including anticipated degree, date of completion, and career goals
 - A statement of the thesis or dissertation and abstract of progress to date
 - The names and addresses of two references familiar with the applicant's background and abilities.
 - A statement of previous service to the Society, its Sections, or Chapters, and need for travel assistance.
 - A statement addressing anticipated contribution to the upcoming annual meeting.

Deadline for application is: May 15, 2007

All application materials should be sent via postal or email to:

Jeffrey B. Olsen
Conservation Genetics Laboratory
U.S. Fish and Wildlife Service
1011 East Tudor Road, Anchorage, Alaska 99503
ph (907) 786-3598
jeffrey_olsen@fws.gov

Past Winners of the Wright Graduate Award:

- 2006:** Molly Stephens, UC Davis; Melinda Baerwald, UC Davis
- 2005:** Kristina Ramstad, University of Montana; Aaron Schrey, Southern Illinois University
- 2004:** Amy Welsh, University of California Davis
- 2003:** Jennifer McLean, University of Washington
- 2002:** Devon Keeney, Southern Illinois University
- 2001:** Joel Carlin, University of Florida
- 1997:** Naohisa Kanda, University of Montana; Jeffrey Olsen, University of Washington; Anna Rakitin, University of Guelph
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In Memoriam: Dr. Yurii Petrovich Altukhov 1936 - 2006

Academician Yuri Altukhov, Director of the Vavilov Institute of General Genetics in Moscow, Russia's principal centre of genetics research, died from cancer on 27 October 2006. Yuri was known internationally to fish biologists chiefly through his work on Pacific salmon, but this was but one aspect of his comprehensive grasp of population and evolutionary genetics of animals and plants (he had worked on Karakul sheep, chickens, silkworms, spruce trees, cotton, barley, wheat, and people), especially conservation and rational management of genetic diversity.

He was born on 11 October 1936 in the Voronezh region of the former USSR, and gained his first degree from the Department of Physiology at the Fishery Technological Institute in Moscow in 1959. After 3 years research at the Karadag Biological Station of the Ukrainian Academy of Sciences he moved to Moscow State University, obtaining his Ph.D. in 1964, and became a Senior Researcher there, receiving a State Science and technology Prize in 1966. In 1967 he became Head of the Genetics Laboratory at the Institute of Marine Biology in Vladivostok, moving back to Moscow in 1972 to take charge of the Population Genetics Laboratory at the Institute of General Genetics. He was promoted to Professor at Moscow State University in 1976, and to the Directorship of the Institute in 1992. He was elected Academician at the Russian Academy of Sciences in 1997.

He was the founder and leader of the Russian school of population genetics, and authored many books, his first on fish in 1974. Subsequently his books have been published in English, including *Salmonid Fishes: Population Biology, Genetics and Management*, by Blackwells in 2000, and his most recent book on *Intraspecific Genetic Diversity: Monitoring, Conservation and Management*, by Springer in 2006. He will be remembered principally for his original contributions to population

genetics, especially his concept that adaptive evolution results in an optimum genetic diversity ensuring population genetic stability, and his argument that sustainable use of natural resources depends critically on maintenance of that genetic stability. He will also be remembered as a leading communicator of Russian genetic work and ideas to the Western world, and of western work to Russia, achieved through his own work, through numerous international conferences and scientific collaborations, and now vicariously through his students holding academic posts in the USA, UK, Israel and Korea.

We had known Yuri for almost 30 years, a giant intellect and a restless but genial friend, liable to get embarrassingly bored at meetings listening to less than accomplished speakers, and to burst into song at dinner parties. We have lost a generous, colourful, challenging colleague.

Written by Gary Carvalho and John Thorpe, 2 December 2006

Section's SNP Symposium Super Successful!

The **Genetics Section** and **Alaska Department of Fish and Game**, with sponsorship from **Applied Biosystems**, hosted a second SNP workshop (**SNP Workshop II: Applications of SNP Genotyping in Fisheries Management**) in Girdwood, Alaska, Sept. 21-22, 2006. The workshop explored applications, SNP discovery, statistics, laboratory techniques, and reviewed case studies of SNPs for fisheries management and conservation. Discussions were structured with a goal of building cooperative research and Pacific Rim baselines. The expanded scope of this year's workshop drew from a variety of related disciplines.

Invited presentations included overviews and SNP applications from a variety of disciplines representing a diversity of non-model organisms. Representatives of Applied Biosystems presented recent developments in TaqMan genotyping and troubleshooting. Experience papers presented by participating laboratories generated group discussions of research priorities and opportunities for cooperation.

The Workshop was well attended with over 85 scientists from eight nations. With the financial assistance of Applied Biosystems, the Section was able to sponsor three Young Investigator Awards. The \$4,000 TaqMan Assays Award went to **Renee Bellinger** of Oregon State University for her research entitled "SAGE & SNPs: spicing up the Chinook salmon genetic baseline and advancing our understanding of the genetic basis of migration timing." The two \$1,000 travel awards went to **Rachel Simmons** from the University of California, Davis, for her presentation "Haplotype inference as a method of producing more powerful SNP markers" and **Suzanne Roden** from the NOAA Southwest Fisheries Science Center for her presentation "Single nucleotide polymorphism (SNP) Marker Discover in *Chelonia mydas*." There was an enthusiastic contingent of Europeans who are

considering hosting SNP III sometime in the future. Time will tell if they were serious or it was just the Alaskan Amber talking, but a good time was had by all.

Abstracts and agenda for the workshop can be found at:

<http://www.genetics.cf.adfg.state.ak.us/workshop/AbstractFinal.pdf>



Now this is a fine-looking collection of scientists. And look how happy they are! I wonder how much Alaskan Amber was served prior to the shoot. – Editor

Minutes from the 2006 AFS Genetics Section Annual Meeting, Lake Placid NY

September 10, 2006

Attending:

Melinda Baerwald, Mike Barnes, Meredith Bartron, Neil Billington, Mary Burnham Curtis, Jeff Hard, Kitty Griswold, Ed Heist, Andrew Matala, Loren Miller, Jennifer Nielsen, Mike Porter, Molly Stephens, Bill Templin, and Fred Utter.

1) Call to Order

President Jeff Hard (JJH) called the meeting to order at 3:00 PM. As 15 members were present a quorum was established. JJH welcomed past presidents Fred Utter and Jennifer Nielsen.

Minutes from 2005 were distributed.

2) President's introductory remarks

JJH reported on Governing Board meeting that he attended:

- AFS has reached a financial milestone with \$3 million dollars in revenue generated largely through journal subscription with dues contributing a small percentage.
- The 2007 annual AFS meeting will be held in San Francisco, efforts are being made to make accommodations affordable.
- AFS has established a reserve fund. This will result in reduced dues for students, and retired members.
- The impact factor of the Society's journal "Transactions of the American Fisheries Society" is approaching that of CJFAS.
- There was an extended discussion on the future of publications in AFS. A new journal on coastal marine fishery issues will be launched.
- Membership database is being updated.
- Draft position statement on economic growth and fish management was discussed.
- Additional support to southern region of AFS- Disaster relief for Hurricane Katrina. JJH recommended that section provide financial support. In addition old journals are needed- there was discussion of creating a centralized process to get journals shipped.
- Full text articles of AFS will be online.

Minutes were approved.

Secretary/Treasurer Report

As of 07/31/2006 the Genetics section has a balance of \$5283.63. We began the fiscal year (08/01/04) with \$4935.40. The genetics section received income from member dues this year. Member dues accounted for \$980. Expenses fell into three categories, awards (\$75), travel award and student scholarships (\$800). Because the section was in a good financial position for the second sequential year two scholarships were awarded.

Total membership as of July 30th 2006 was 187 at mid-year which includes 1 new member from the SNP workshop. From 1992-2002 the members ranged from 188-280, averaging 226. There has been a slight downward trend since 1995.

Standing Committees

Nominating Committee

An election was held in July. Thanks to Kim Scribner (Michigan State University) and Helen Neville (University of Nevada, Reno) for running for office. Congratulations to Kim Scribner who will serve as president-elect. Bill Templin (Alaska Department of Fish and Game) was elected Secretary-Treasurer.

This election was conducted through a mail-in ballot. JJH suggested that the section examine a change in the bylaws to approve electronic mailings of ballots.

Program Committee

Two symposia were sponsored by the genetics section:

“Risks to migratory life histories of trout and char” was organized by Kitty Griswold, Robert Gresswell, Jack Williams and Jason Dunham.

“Role of hybridization in evolution, ecology and conservation of fishes” was organized by Ed Heist and Jeff Hard.

Ad hoc committees

Membership committee

No report

Newsletter committee

Many thanks to Joel Carlin for his efforts on the Newsletter which has been timely and informative. Jeff Stein our webmaster has stepped down, thanks to Jeff for his efforts. Dan Moore will step in. The website is currently up to date. JJH asked for comments and contributions to web site.

Resolution and bylaws committee

Chair of this committee is needed. The main task will be a review in general of our bylaws as they relate to electronic voting for officers. The issue of electronic voting will be taken up by Governing Board in mid-March.

Education committee

A new chair is needed for the education committee.

Awards

James E. Wright Travel Award is chaired by Jeff Olsen and includes John Wenberg and Mike Canino. The award is based on potential for success in research, and service to the society. Two worthy candidates were identified and two awards were given this year. The James E. Wright travel Awards were presented to **Melinda Baerwald** and **Molly Stephens** from U.C. Davis.

Stephen R. Phelps Memorial Award

This award is given for the best genetics paper published in the preceding year: The committee, consisting of Fred Utter, Ken Currens, and Bernie May, announced the winning manuscript:

Anthony J. Gharrett, Andrew P. Matala, Eric L. Peterson, Andrew K. Gray, Zhouzhou Li, and Jonathan Heifetz. 2005. Two genetically distinct forms of rougheye rockfish are different species. Transactions of the American Fisheries Society 134:242-260.

Publications

There are several new books out from AFS including "Salmon 2100, Landscape influence on stream habitat," and "Aquaculture in the 21st Century."

Old business

Meetings of interest include:

NMFS salmonid coast wide genetics meeting was held in June in Santa Cruz, CA. Topics included population and quantitative genetics and genomics and the meeting attracted 120 participants.

SNP Workshop II is being held Sept 21 and 22, 2006 in Anchorage, AK

JJH attended a workshop in Penang, Malaysia in October 2005 on Environmental Risk Assessment of Transgenic Fish. The workshop was sponsored by the United Nations' Environment Program, Global Environmental Facility, Scientific & Technical Advisory Panel. As a result of the workshop, a book on environmental risk assessment of transgenic fish will soon published by CABI publishing; Genetics section members contributed to chapters on gene flow and monitoring.

JJH opened floor to other business.

There was discussion of bringing new members into to the section. Jennifer Nielsen discussed bringing student members to the section and noted that student memberships are \$19. These memberships include access to the Society's journals online. A young professional rate also exists.

Constitutional consultant representing Equal Opportunity section was present and requested donations towards minorities and women travel assistance.

JJH welcomed Ed Heist the new section president.

Ed's first official duty was to present JJH a plaque and thanks for Jeff for his service as president. Kitty Griswold was presented a plaque in thanks for her service as secretary-treasurer.

The meeting was adjourned at 4:30 PM.

Respectfully submitted by Kitty Griswold

A Challenge from the Membership Committee: What is the Largest Bony Fish?

If you are like me, you probably waited until the last minute to renew your AFS Membership for 2007. When you renew, please consider this invitation. The Education Section of the American Fisheries Society invites you to join our Section. Education Section activities include preparation and revision of textbooks, support of student travel to meetings, and compilation of brochures on academic programs and fisheries career opportunities. One focus of the section is undergraduate and graduate education. However, the Education Section also supports lifelong learning of all fisheries professionals. We encourage all fisheries professionals to expand their minds through the pursuit of new knowledge. To that end, we are sponsoring a "Largest Fish" contest.

What is the largest bony fish known to science? If you think you know the answer, email your response to slochmann.edu. We will provide a small incentive to some lucky individual, randomly chosen from among the respondents with the correct answer. Take some time, explore the possibilities, and see what there is to learn about really big fish. You must be a member of the Education Section to be eligible for the "small incentive."

Steve Lochmann, Education Section - Membership Committee

Call for Papers – Wild Trout Symposium

"Sustaining Wild Trout in a Changing World"

October 9-12, 2007

West Yellowstone, Montana

The Program Committee is soliciting abstracts for presentations and posters that address session themes or a contributed topics session. Abstracts are due by April 1, 2007. For more details refer to the Symposium web page: <http://www.wildtroutsymposium.com>.

*Robert F. Carline
Leader, Penn. Cooperative Fish & Wildlife Research Unit
U.S. Geological Survey, Penn State University*

Fish News? Genetics News? Fish Genetics News?

One way to contribute to the American Fisheries Society Genetics Section is to publicize upcoming meetings, grant announcements, job ads and symposia topics. If you have an issue that you would like included, email the newsletter editor at jcarlin@gustavus.edu. Submissions for the May newsletter are due April 24.

Calendar of Upcoming Events

February - March 2007

- Feb 26 – Mar 2 — Joint meetings of the **World Aquaculture Society** and the **National Shellfisheries Association**, San Antonio, Texas. See shellfish.org/meetings.htm.
- Mar 2 — Symposium presentation abstract deadline for the **137th Annual Meeting of the American Fisheries Society**. To be held 2-6 September, Marriott Hotel, San Francisco. See <http://www.fisheries.org/sf/>.
- Mar 9-11 – **MEEC 2007**, the Midwest Ecology and Evolution Conference, Kent State University, Kent State OH. See <http://midwesteec.org>.
- Mar 12-16 — Symposium on “Developing effective strategies for understanding the impacts of the spatiotemporal spread of potentially **harmful species in at-risk ecosystems**: The Integration of Theoretical and Empirical Research Approaches.” University of Guelph Arboretum, Guelph, ON. See <http://www.peopleware.net/index.cfm?siteID=323&eventDisp=07ESRI>.
- Mar 15 — Application deadline for **Sigma Xi Grants-in-Aid**. See www.sigmaxi.org/programs/gjar/index.shtml.
- Mar 16-18 — 4th annual **SEEC** (Southeastern Ecology and Evolution) Conference hosted by the University of Central Florida, Orlando. See <http://biology.ucf.edu/seec/index.html>.
- Mar 28-30 — British Ecological Society Annual Symposium on **Speciation and Ecology**. University of Sheffield. See <http://www.britishecologicalsociety.org/articles/meetings/current/2007annualsymposium/>.
- Mar 31 — Grant application deadline for the Society of Systematic Biologists' **Mini-PEET Awards** to Enhance Transfer of Taxonomic Knowledge. See systbiol.org/minipeet.html.
- Mar 31 — Grant application deadline for the Society of Systematic Biologists **Awards for Graduate Student Research**. See systbiol.org/studentaward.html.

April 2007

- Apr 1 — Abstract submission deadline for Wild Trout Symposium. To be held 9-12 October in West Yellowstone, MT. See <http://wildtroutsymposium.com>.
- Apr 24—Submission deadline for the **AFS Genetics Newsletter**. Email jcarlin@gustavus.edu.
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May-June 2007

- May 15 — **Deadline for the James E. Wright Graduate Award**. See this issue, or Jeffrey B. Olsen; Conservation Genetics Laboratory; U.S. Fish and Wildlife Service; 1011 East Tudor Road; Anchorage, Alaska 99503; ph (907) 786-3598; Email jeffrey_olsen@fws.gov.
- Jun 11—Hotel reservation deadline for the 2007 Joint **Meeting of Ichthyologists and Herpetologists** (AES, ASIH, HL, SSAR). To be held Jul 11-16, Hyatt Regency, St. Louis, Missouri. See <http://www.dce.ksu.edu/jointmeeting/>.
- Jun 12-15 — Australasian Evolution Society 5th Conference. The University of New South Wales, Sydney, Australia. See <http://aes.eriophora.com.au/events/AES07.htm>.
- Jun 18-22 — Joint annual meetings of SSB/SSE/ASN: **Evolution 2007**. Christchurch Convention Centre, Christchurch, New Zealand. See <http://www.evolution2007.com/>.
- Jun 17-23 — **Seventh Symposium on Fish Immunology**, Stirling, Scotland. See www.noffi.org/sotland2007.
- Jun 17-24 — **Symposium: Challenges for Diadromous Fishes in a Dynamic Global Environment**, Halifax, Nova Scotia, Canada. See www.anacat.ca. Contact Alex Haro, Alex_Haro@usgs.gov, 863/3806.
- Jun 24-28 — Annual meeting of the Society for Molecular Biology and Evolution **SMBE07**. Dalhousie University, Halifax Nova Scotia, Canada. See www.smbc.org/.

[President's Message](#) • [Stevan Phelps Memorial Award](#) • [James E. Wright Graduate Award](#) • [Yurii Altukhov: a Remembrance](#) • [SNP Workshop Summary](#) • [2006 Annual Meeting Minutes](#) • [Bony Fish Contest](#) • [Trout Symposium](#) • [Submit News to AFSGS](#) • [Upcoming Events](#) • [Return to Top](#)
