

Andrea M. Drauch Schreier

Genomic Variation Laboratory
Department of Animal Science
University of California, Davis
Davis, CA 95616

Office:
Lab: (530) 752-6351
Fax: (530) 752-6351
Email: amdrauch@ucdavis.edu

EDUCATION:

PhD in Ecology, expected 2010, University of California, Davis.
Advisor: Dr. Bernie May

M.S. in Wildlife Genetics, May 2006, Purdue University.
Advisor: Dr. Olin E. Rhodes, Jr.

B.S. in Biology, (Chemistry Minor), May 2003, Hillsdale College.
Advisor: Dr. Daniel S. York

RESEARCH EXPERIENCE:

- Investigation of White Sturgeon Population Structure in the Transboundary Reach of the Columbia River using Polysomic Microsatellite Markers (UCD, ongoing)
- Examination of Range-Wide Population Structure of White Sturgeon (UCD, ongoing)
- Estimation of the Number of White Sturgeon Female Spawners in the Bliss Reach of the Snake River, Idaho (UCD, ongoing)
- The Effects of Impoundment on Genetic Diversity and Female Effective Population Size of White Sturgeon in the Lower Columbia River (UCD, ongoing)
- Parentage Determination in the Kootenai Tribe of Idaho's White Sturgeon Conservation Aquaculture Program (UCD, ongoing)
- Examination of Patterns of Inheritance for 8 Microsatellite Markers in the Polyploid White Sturgeon (UCD, completed 2009)
- A Genetic Evaluation of Population Structure and Reintroduction Success in Lake Sturgeon, *Acipenser fulvescens* (Purdue University, completed 2005)
- An Investigation of Heterozygosity in a Captive Population of African Lion, *Panthera leo*, Using 15 Polymorphic Microsatellite Loci (Hillsdale College, completed 2003)

TEACHING EXPERIENCE:

- Guest Lecturer, UC Davis, ANS 199: Molecular Methods in Conservation Genetics (2/11/08)
- Guest Lecturer, Kelly Middle School, Eastpointe, Michigan (9/12/07)
- Guest Lecturer, UC Davis SCB/EVE Conservation Biology Undergraduate Seminar Series (2007)
- Participated in "Orientation for New Teaching Assistants" at UC Davis (2006)
- Guest Lecturer, EnvS 10: Life on a Changing Planet, San Jose State University (3/8/06)
- Biology Tutor, Hillsdale College (Fall 2001, 2002-03)
- Undergraduate TA for Mammalian Anatomy Lab at Hillsdale College (Spring 2002)
- Undergraduate TA for Microbiology Lab at Hillsdale College (2002)

PUBLICATIONS:

Drauch Schreier, A., B. Mahardja, and B. May. 2009. Ploidy designation in white sturgeon, *Acipenser transmontanus*, using inheritance data from eight microsatellite loci. Internal review.

Drauch, A. M., B. E. Fisher, E. K. Latch, J. A. Fike, and O. E. Rhodes, Jr. 2008. Evaluation of a remnant lake sturgeon population's utility as a source for reintroductions in the Ohio River system. *Conservation Genetics* 9:1195-1209.

Börk, K. B., **A. M. Drauch,** J. A. Israel, J. K. Pedroia, J. Rodzen, and B. P. May. 2008. Development of new microsatellite DNA primers for green and white sturgeon. *Conservation Genetics* 9:973-979.

Fike, J. A., **A. M. Drauch,** J. C. Beasley, G. Dharmarajan, and O. E. Rhodes, Jr. 2007. Development of fourteen multiplexed microsatellite loci for raccoons (*Procyon lotor*). *Molecular Ecology Notes* 7: 525-527.

Drauch, A. M. and O. E. Rhodes, Jr. 2007. Genetic evaluation of the lake sturgeon reintroduction program in the Mississippi and Missouri Rivers. *North American Journal of Fisheries Management* 27(2): 434-442.

SELECTED TECHNICAL REPORTS:

Drauch Schreier, A., J. Rodzen, and B. May. 2009. White sturgeon range-wide population structure – July 2009 progress report. Report to California Department of Fish and Game. 7pp.

Israel, J., **A. Drauch,** and M. Gingras. 2009. Life History Conceptual Model for White Sturgeon. Report to Bay Delta Ecosystem Restoration and Improvement Program. 54 pp.

Drauch, A. and B. May. 2009. Examination of Temporal Trends in Genetic Diversity and Reproductive Success of White Sturgeon in the Lower Columbia River. Project report submitted to the Oregon Department of Fish and Wildlife. 17 pp.

Drauch, A. and B. May 2008. Continued Genetic Monitoring of the Kootenai Tribe of Idaho White Sturgeon Conservation Aquaculture Program. Project report submitted to the Kootenai Tribe of Idaho. 10pp.

Drauch, A., K. Börk, J. Rodzen, and B. May. 2006. Development of new microsatellite genetic markers for white sturgeon and continued genetic monitoring of KTOI broodstock. Project report submitted to the Kootenai Tribe of Idaho. 22 pp.

GRANTS FUNDED (CO-PI):

- Spokane Tribe of Indians “Investigation of White Sturgeon Population Structure in the Transboundary Reach of the Columbia River using Polysomic Microsatellite Markers” (\$65,260)
- Idaho Power “White Sturgeon Genetics Study” (\$300,712)
- Oregon Department of Fish and Wildlife “Estimation of Effective Population Size in White Sturgeon” (\$19,988)

GRANTS FUNDED (PRINCIPLE WRITER):

- UC Davis Ecology Graduate Group Block Grant Fellowship “Effects of Impoundment on Genetic Diversity and Effective Population Size of Sturgeon” (\$5500)
- California Department of Fish and Game “Genetic Investigation of California White Sturgeon: Resolving Critical Uncertainties” (\$143,202)
- UC Davis Ecology Graduate Group Block Grant Fellowship “Parentage Analysis in the Endangered Kootenai River White Sturgeon Population” (\$5500)

INVITED PRESENTATIONS:

“Genetic Management of the KTOI Conservation Aquaculture Program.” A. Drauch and B. May. USFWS Kootenai River White Sturgeon Recovery Meeting, March 2009

“Population Genetics and Lake Sturgeon Management: Population Assignment and Assessment of Reintroduction Success.” A. Drauch and O. E. Rhodes Jr. Missouri Department of Conservation Sturgeon Monitoring Project Meeting, October 2004

ORAL PRESENTATIONS:

“Tracking Temporal Trends in Effective Population Size for White Sturgeon in the Lower Columbia River.” A. Drauch, T. Jones, C. Chapman, and B. May. American Fisheries Society Meeting, August 2008

“Using Parentage Assignment in Sturgeon Conservation Aquaculture – A Kootenai Case Study.” A. Drauch, K. Börk, J. Rodzen and B. May. American Fisheries Society Meeting, September 2007

“Genetic Evaluation of the Remnant White River Lake Sturgeon Population: A Suitable Source for Ohio River Reintroductions?” A. Drauch, B. Fisher, and O. E. Rhodes Jr. Great Lakes Lake Sturgeon Coordination Meeting, November 2006

“A Preliminary Evaluation of the White River Lake Sturgeon Population as a Source for Reintroductions into the Ohio River Drainage.” A. Drauch, B. Fisher, and O. E. Rhodes, Jr. Midwest Fish and Wildlife Meeting, December 2004

“An Investigation of Heterozygosity in a Captive Population of African Lion, *Panthera leo*, Using 15 Polymorphic Microsatellite Loci.” A. Drauch and D. York. Beta Beta Beta Northeast District Convention, April 2003

POSTER PRESENTATIONS:

“Using Genetics to Resolve Critical Uncertainties in White Sturgeon Management and Enforcement.” A. Drauch, J. Rodzen, J. Banks, and B. May. American Fisheries Society Meeting, September 2007

“White Sturgeon Conservation Genetics at the UC Davis Genomic Variation Lab.” A. Drauch, J. Rodzen, and B. May. (White Sturgeon Summit, March 2006)

“Genetic Evaluation a Lake Sturgeon Reintroduction Program in the Mississippi and Missouri Rivers.” A. Drauch, B. Fisher, and O. E. Rhodes, Jr. 2nd International Conservation Genetics Symposium, September 2005

“Preliminary Evaluation of the Appropriateness of the White River Lake Sturgeon Population as a Source for Reintroductions into the Ohio River Drainage.” A. Drauch, B. Fisher, and O. E. Rhodes, Jr. Great Lakes Lake Sturgeon Coordination Meeting, November 2004

“Population Assignment and Assessment of Reintroduction Success in Lake Sturgeon, *Acipenser fulvescens*, Using Genetic Criteria.” A. Drauch, B. Fisher, and O. E. Rhodes, Jr. Purdue University Department of Forestry and Natural Resources Research Symposium, April 2004

“A Comparison of Heterozygosity Levels of *ex situ* African Lions, *Panthera leo*, from Republic of South Africa, with Six *in situ* African Lions.” A. Drauch, A. Jackson, and D. York. American Genetics Association Conservation Genetics Conference, Sept 2003; Midwest Ecology and Evolution Conference, March 2004

PROFESSIONAL SERVICE:

- Student Volunteer Organizer for the Cal-Neva Chapter American Fisheries Society Meeting (2009)
- Secretary of the Sacramento-Davis Subunit of the Cal-Neva Chapter of the American Fisheries Society (2008-2009)
- Co-Author of the Bay Delta Ecosystem Restoration and Improvement Program White Sturgeon Species Model (2008)
- Co-chair of the UC Davis Ecology Graduate Student Association (2007-2008)
- UC Davis Graduate Group of Ecology Application Review (2007)
- Co-organizer of two-day symposium "Bridging the Gap: Addressing Critical Uncertainties in North American Sturgeon Conservation and Restoration" at the American Fisheries Society National Meeting, September 2007
- Planning committee for American Fisheries Society National Meeting in San Francisco, September 2007
- Mentor for Undergraduate Student – Brian Mahardja (2007 to present)
- Planning committee for UC Davis Animal Conservation Genetics Seminar Course (2006-2007)
- Host for U. S. Department of State International Visitor Leadership Program (2006)
- Purdue University Graduate Student Government (2004-2005)
- Beta Beta Beta Iota Psi Chapter Historian (2002-2003)

EXTERNAL REVIEWER:

Aquaculture	Transactions of the American Fisheries Society
Conservation Genetics	BMC Evolution
Fisheries	North American Journal of Fisheries Management
Minnesota Sea Grant	Journal of Applied Ichthyology
Journal of Molecular Evolution	

PROFESSIONAL/HONORARY AFFILIATIONS:

- World Sturgeon Conservation Society (2008 to present)
- American Association for the Advancement of Science (2008-2009)
- Society for Conservation Biology (2006)
- American Fisheries Society (2004-present)
- Beta Beta Beta Biological Honorary Society (2001-2003)
- Sigma Zeta National Science and Mathematics Honor Society (2001-2003)

AWARDS AND HONORS:

- UC Davis Graduate Student Association Travel Award (2009)
- American Fisheries Society James E. Wright Award (2008)
- Fisheries Recognition Award (2008)
- Bodega Marine Lab Applied Phylogenetics Course Travel Award (2007)
- Animal Science Department Hart-Goss-Cole Summer Research Fellowship (2007, 2008)
- UC Davis Graduate Non-Resident Tuition Fellowship (2006)
- 2nd International Symposium of Conservation Genetics Travel Award (2005)
- Purdue University Frederick N. Andrews Doctoral Fellowship (2003-2005)
- Hillsdale College John Catenhusen Merit Scholarship (2002-2003)
- South African Center for Conservation Research Summer Internship (2002)
- Hillsdale College Alex and Katherine Nason Scholarship (2001-2002)
- Hillsdale College 4.0 Dean's List (2001-2002)
- Hillsdale College Bertram A Barber Scholarship (2000-2002)
- Hillsdale College Dean's List (1999-2003)
- Hillsdale Independence Grant (1999-2001)
- Hillsdale College R. M. & C. Buhner True Scholarship (1999-2001)
- Hillsdale College Taylor Educational Scholarship (1999-2001)

COMMUNITY SERVICE:

Co-facilitator of Just Matters Social Justice ministry at UC Davis Newman Center (2009-2010)
“Watch It Don’t Squash It” Outreach at Caesar Chavez Elementary, Davis, CA (Jan 2009)
UC Davis Newman Center Pastoral Council (2007-2009)

REFERENCES:

Dr. Bernie P. May – Professor, Department of Animal Science, University of California, Davis, CA 95616 – PhD Advisor
Telephone: (530) 754-8123; E-mail: bpmay@ucdavis.edu

Dr. Peter B. Moyle – Professor, Department of Wildlife, Fisheries, and Conservation Biology, University of California, Davis, CA 95616 – PhD Committee member
Email: pymoyle@ucdavis.edu

Dr. Olin E. Rhodes, Jr. – Professor, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN 47907 – Masters Advisor
Telephone: (765) 494-3601; E-mail: rhodeso@purdue.edu

Dr. Francis X. Steiner – Dean, Division of Natural Sciences and Mathematics, Professor, Department of Biology, Hillsdale College, Hillsdale, MI 49242 – Worked closely with Dr. Steiner on undergraduate research project
Telephone: (517) 437-7341 x 2399; E-mail: frank.steiner@hillsdale.edu