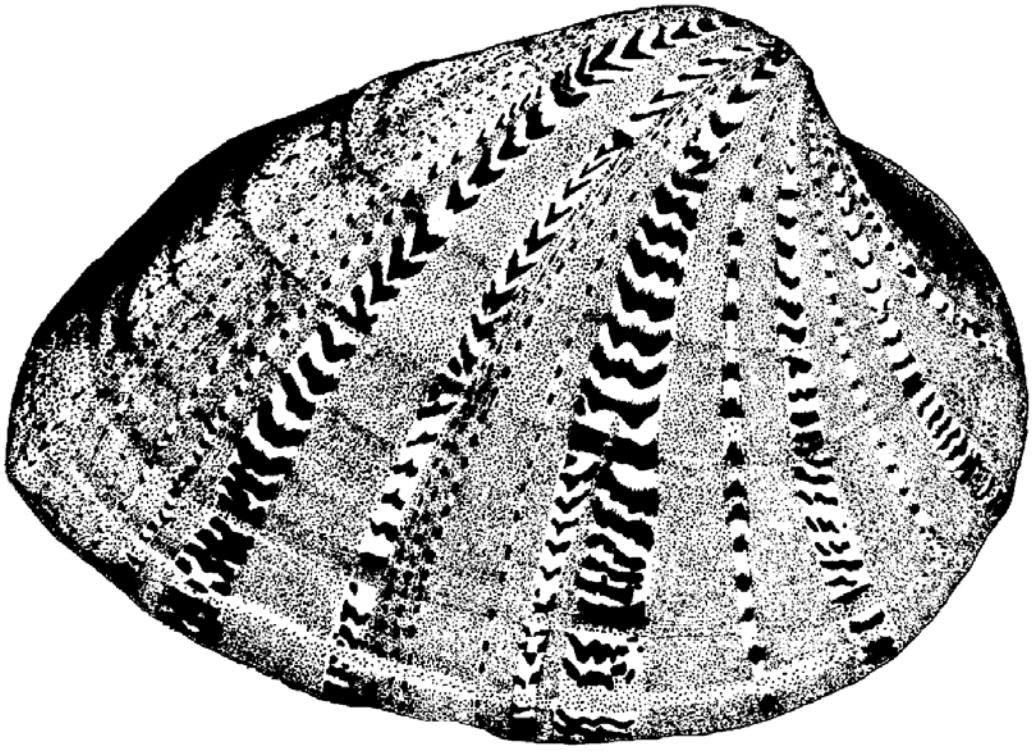
Ellipsaria

The Newsletter of the Freshwater Mollusk Conservation Society

Volume 11 – Number 1 **April 2009**



Freshwater Mollusk Conservation Society Officers

President
W. Gregory Cope
North Carolina State University
Dept. of Environ. & Molecular Tox.
Box 7633
Raleigh, NC 27695-7633
919-515-5296; Fax 7169
greg_cope@ncsu.edu

President Elect
Caryn Vaughn
Oklahoma Biological Survey
University of Oklahoma
111 E Chesapeake St.
Norman, OK 73019
405-325-4034
cvaughn@ou.edu

Secretary
Greg Zimmerman
EnviroScience, Inc.
6751 A-1 Taylor Road
Blacklick, OH 43004
614-866-8540
gzimmerman@enviroscienceinc.com

Treasurer
Heidi L. Dunn
Ecological Specialists Inc.
1417 Hoff Industrial Park
O'Fallon, MO 63366
636-281-1982; Fax: 0973
Hdunn@ecologicalspecialists.com

Past President
Steve A. Ahlstedt
PO Box 460
Norris, TN 37828
USGS: 865-545-4140 x 204
Cell: 865-776-9510
Home: 865-494-7389
ahlstedt@usgs.gov

FMCS dues are collected in January of each year. If a renewal form isn't included with this newsletter, you may download one from the Society's website.

Ellipsaria Editor

Christine Mayer
Illinois Natural History Survey
1816 S Oak Street, Champaign, IL 61820
camayer@inhs.uiuc.edu

Submissions for the August 2009 issue of *Ellipsaria* may be sent to the editor at any time but are requested by **July 31, 2009**. Anyone may submit an article but you must be a member of FMCS to receive *Ellipsaria*. Please limit submissions to about one page. Categories for contributions include news, new publications, meeting announcements, current issues affecting mollusks, job postings, contributed articles (including ongoing research projects), abstracts, and society committee reports. Electronic submissions are preferred; contact the editor with any questions. Note that submissions are not peer reviewed, but are checked for content and general editing.

Please send change of address information to the Secretary.

Ellipsaria

NEWSLETTER OF THE FRESHWATER MOLLUSK CONSERVATION SOCIETY

Volume 11, No. 1 http://ellipse.inhs.uiuc.edu/FMCS/ April 2009

President's Message

Greetings,

By the time you receive the April edition of *Ellipsaria* we will have completed our 2009 FMCS International Symposium. Since this is my final message as president I want to personally thank Catherine Gatenby and her committee for all their hard work with the symposium. These are very tough economic times affecting all of us and basically this has been a perfect storm that hit right during our 2009 symposium. I wish to acknowledge our sponsors (state, federal and private consultants) that provided critical sponsorship funding plus all the in-kind help with the symposium. I also wish to personally say thanks to all our committee chairs that have worked diligently on various issues and Heidi Dunn, Christine Mayer, and Greg Zimmerman who are all critical individuals needed for the success of our society.

My final message to all of you is to get involved with FMCS. We still have a lot of work to be done in moving our society forward plus all this work doesn't need to fall on the shoulders of a few individuals. This is our society and we can make a difference concerning the protection and restoration of our mollusk resources.

Steve Ahlstedt, FMCS Past-President

~~ FMCS Officer Election Results ~~

President-Elect: Caryn Vaughn
Secretary: Greg Zimmerman

I received a total of 100 ballots from members that I was able to include in the vote tally (i.e., ballot contained the FMCS member signature and at least one vote). I was very pleased with the participation of the number of members voting. Thanks to all the members who took the time to vote!

Leroy Koch, FMCS Nominations

FMCS 2009 Award Results

Student Travel Awards

Five students were selected for travel awards: Andrea Crownhart (Missouri State), Christopher Owen (University of Louisville), Serena Ciapris (Virginia Tech), Nathan Johnson (University of Florida), and Michael Pillow (Missouri State). One additional student travel award specifically for international students was given to Alexandra Zieritz of the University of Cambridge.

Best Student Platform and Poster Awards

The best platform award went to Jason Mays (co-authors W.G. Cope, T.J. Kwak, and D. Shea) for his talk entitled "Bioaccumulation of platinum group metals in the freshwater mussel *Elliptio complanata*". The honorable mention platform award went to Dan Allen (co-author C.C. Vaughn) for his presentation on "Mussel diversity destabilizes substrates at high flows". The best poster award went to Joe Daraio (co-authors L.J. Weber, T.J. Newton, and S.J. Zigler) for his poster on "The importance of host fish location at the time of juvenile drop off on dispersal of juvenile mussels in the Upper Mississippi River". The honorable mention poster award went to Nathan Johnson (co-authors I.J. McLean, J.D. Williams, and P.J. Schofield) for his poster on "Salinity tolerance of three freshwater mussel species: a coastal plain species shows tolerance". Congratulations to all the fine student presentations at this year's meeting!!!

Professional Awards

Gerry Mackie and Jim Layzer were each presented with the Lifetime Achievement award for 30 years of dedicated service to the conservation of freshwater mollusks. Heidi Dunn and

Christine Mayer were each presented with the Meritorious Service Award for their diligent efforts on behalf of the Society. Photos of some of the award recipients are on page 24 of this newsletter.
Teresa Newton and Greg Cope

2009 Auction/Raffle Event

This year's meeting gave way to another successful and entertaining auction/raffle event! Amid the last minute sales of raffle tickets, hors d'oeuvres, and "local" brews, Steve Ahlstedt and Tom Watters entertained the crowd with their slapstick talents. Tuesday night's event raised $4675, which will go towards student travel to upcoming meetings.

A great big thank you to those members and nonmembers who donated the items, and especially to those who bought raffle tickets and purchased auction items…some of which were "hidden treasures". We had nearly 70 items that ranged from quirky river booty to beautiful photographs and hand-carved fishes. FMCS has a wealth of artistic talent among its members, and it's always nice to see this displayed at our meetings. Finally, we wanted to recognize some enthusiastic student volunteers who helped with the auction during the week -- a special thanks to Andrea Crownhart and Mike Pillow of Missouri State University for their time and dedication!

Auction Committee:
Cristi Bishop, Lisie Kitchel, Teresa Newton, Jamie Smith

FMCS Board Meeting

Marriott Waterfront Baltimore Hotel, Baltimore, MD
April 19, 2009, 1 - 5PM

A quorum is present for the official meeting of the Board of Directors of FMCS. List of attendees:

Steve Ahlstedt (President)
Gregory Cope (President-Elect / Awards Committee)
Heidi Dunn (Treasurer)
Greg Zimmerman (Secretary)
Steve McMurray (Environmental Quality & Affairs Committee)
Tom Jones (Outreach Committee)
Chuck Howard (Guidelines & Techniques Committee)
Janet Clayton (Guidelines & Techniques Committee)
Jim Williams (Mussel Distribution and Status)
Art Bogan (Mussel Distribution and Status)
Tony Brady (Propagation and Restoration Committee)
Teresa Newton (Awards Committee)
Patty Morrison (Symposium Sub-Committee)
Catherine Gatenby (Symposium Sub-Committee)
Robert Anderson (Past President)
Emily Monroe (Genetics Committee)
John Jenkinson (Information Exchange)
Mark Hove (Photography)
Andy Roberts (Co-chair Outreach Committee)
Leroy Koch (Chair Nominations Committee)
Nate Johnson
Chris Barnhart

BOARD MEETING AGENDA

Committee Reports

Awards:
Greg Cope and Teresa Newton

Environmental Quality and Affairs:
Ryan Evans and Steve McMurry
- No need for separate committee to handles toxicity issues
- Bylaws need to be updated – post on website
- Pursue development of operations manual (covers duties of committee chairs)

Gastropod Status and Distribution:
- Paul Johnson (TN/CU/Mobile River Basin mollusk restoration plan)
- Blueprint mollusk restoration plan will address Eastern Gulf Slope
- American Fisheries Society (Conservation Status of North American Freshwater Gastropods)
- Compendium of type specimens, photography of Smithsonian types. Original descriptions, original plate, new images will be web based.
- Updating AFS Conservation Status of Freshwater Mussels
- Eventual posting of mussel and snails on FMCS web site

Genetics:
David Berg
- Possible subgroup under genetics (roles of taxonomy and rules of nomenclature…ignoring established nomenclature?)

Guidelines and Techniques:
Chuck Howard and Janet Clayton
- Freshwater mussel certification process

Information Exchange:
Walkerana update – Tom Watters, Editor and John Jenkinson, Assistant Editor
- Drafting purpose and goals statement for the journal
- Compiling list of potential members on editorial board
- Need to develop business plan for the journal
- Journal name…do we wish to change the name
- Journal content…board needs to sanction or change it
- Frequency of publication
- Increasing dues to reflect publishing Journal
- Fund part-time position for Journal preparation
- Page charges…will authors pay page charges or will dues offset costs
- Back issues of *Walkerana* (storage, cost of back issues)
- *Ellipsaria* – continue as a vehicle for FMCS announcements, members, short notes etc. Board needs to clarify between the Journal and *Ellipsaria*

Mussel Status and Distribution:
Arthur Bogan and Jim Williams
- Roles of taxonomy and rules of nomenclature (genetics subgroup?)

Outreach:
Tom Jones and Andy Roberts (FMCS webpage update status)
- Urgent need for updated membership list (mass emailing, dues, announcements)
- Funding available to incorporate Andy Roberts web page with FMCS (possible student scholarship to handle this)

Propagation, Restoration, and Introduction:
Tony Brady

National Strategy
Rachel Muir
- Update/prioritize National Strategy (status?)

Symposium 2009:
Catherine Gatenby
- Update on symposium 2009 (cost, sponsorship money)

Old Business
- Propose FMCS to document history and past presidents – responsibility (past presidents)?
- Update/prioritize National Strategy (Rachel Muir, Committee Chair)

New Business
- Revisit webpage/FMCS member list system (Greg Zimmerman) see Outreach
- Need ideas and sponsors for 2010 FMCS workshop (topics, location, sponsor)
- FMCS committee dedicated to fund raising (workshops/symposia)
- Recommend Virginia Tech for future conferencing services
- Require all committees to provide biannual updates or discontinue
- Form special International and Tribal Committee to continue collaboration/membership
- Member-at-large committee responsible for increasing membership-Pacific NW Mollusk Group
- Make contact with Pacific NW Mollusk Group for future FMCS symposium (2013)
- Possible FMCS symposium 2013 Guntersville State Park, Alabama (Paul Johnson)
- Raise membership fees (2 year membership), pay at symposium

Treasurer's Report –
Submitted by Heidi Dunn

In 2008 income was from interest ($471.16), memberships ($7,800), and sale of hats and t-shirts from the outreach booth at the SCB meeting ($343). Overall, the workshop was a success. We received $9,000 in donations, a check from SCB of $3,822 (in 2009) for income of $12,822. SCB workshop expenses totaled $4,288.98, so profit from the workshop was $8,099.02. Thanks to all who helped make this a success. We also successfully acquired *Walkerana*. We hired a lawyer to make sure the transaction was legal. The lawyer donated much of his time and only charged us $500. Credit card, bank fees, and annual registration fee made up the other expenses. Total income $17,614.16, expenses $10,222.52, for a net gain of $7,391.64.

So far in 2009, we have income from memberships ($5,810), interest ($119.62), 2008 workshop ($3,822) and the 2009 auction ($4,703.92). Expenses include the t-shirts for the symposium ($521.52; all were sold so this cost will be recouped), hats ($1,518.40; many of these were also sold at the symposium), some symposium expenses, and some credit card fees. It will be a few months before we receive the balance from the symposium, but it appears we are in the black with this one (yeah!). Catherine Gatenby obtained $44,000 in donations to cover some of the expense. Total income so far in 2009 $14,455.54, expenses $5,454.03, net $8,910.51.

FMCS now has $69,815.82 in the bank.

Secretary's Report –
Submitted by Greg Zimmerman

We will work to get the most recent Society's bylaws added to the website. Keeping track of the membership between *Ellipsaria*, the treasurer, the secretary, and others has been problematic as the society grows. Hopefully, upcoming website improvements will minimize these problems and help keep the society growing.

As a reminder, all official FMCS documents such as those signed by the president should get forwarded to the secretary. Then these documents will be posted on the website for reference.

In an effort to reduce redundancy and get all of the information in the same place, some of the Board Meeting discussions have been appended to the Committee reports where noted.

Committee Reports –
All members are encouraged to join and be active in FMCS committees. You don't have to wait until the next meeting! See the FMCS website for the respective committee chair's contact information.

Awards Committee
Submitted by Teresa Newton and Greg Cope
(Note: Dr. Emy Monroe has agreed to co-chair the Awards Committee in addition to Greg Cope and Teresa Newton.)

Student Travel Awards
The Awards committee announced and solicited nominations and applications for student awards to be presented at the biennial symposium. At the request of the 2009 Symposium Planning Committee, a procedural change was made for the student travel awards during 2008-2009. Rather than issuing individual monetary student travel awards to applicants, rooms would be booked and paid for by the Society for the selected students to assist the Society with making the contracted number of room nights at the host hotel. A total of 23 applications were received for student travel awards. Based on the allotted funds for all awards from the Society, the room cost per night at the hotel for four nights, and the estimated cost of award plaques, 5 student travel awards were possible. Five students were selected for travel awards: Andrea Crownhart (Missouri State), Christopher Owen (University of Louisville), Serena Ciapris (Virginia Tech), Nathan Johnson (University of Florida), and Michael Pillow (Missouri State). Through fund raising efforts of the 2009 Symposium Chair, one additional student travel award specifically targeted for international students was made possible. The international student selected was Alexandra Zieritz of the University of Cambridge. If this model works well in 2009, the Committee will consider adopting the hotel room night payment as the standard student travel award for future Symposia.

Best Student Platform and Poster Awards
A total of 52 students submitted abstracts for platform (26) and poster (26) presentations for the 2009 Symposium that required judging for the Best Student Platform and Best student Poster Awards. This large number of student presentations required over 20 judges from the Society membership. The awards committee wishes to send a huge thanks to all members who helped in this important endeavor!! The best platform award went to Jason Mays (co-authors WG Cope, TJ Kwak, and D Shea) for his talk entitled "Bioaccumulation of platinum group metals in the freshwater mussel Elliptio complanata". The honorable mention platform award went to Dan Allen (co-author CC Vaughn) for his presentation on "Mussel diversity destabilizes substrates at high flows". The best poster award went to Joe Daraio (co-authors LJ Weber, TJ Newton, and SJ Zigler) for his poster on "The importance of host fish location at the time of juvenile drop off on dispersal of juvenile mussels in the Upper Mississippi River". The honorable mention poster award went to Nathan Johnson (co-authors IJ McLean, JD Williams, and PJ Schofield) for his poster on "Salinity tolerance of three freshwater mussel species: a coastal plain species shows tolerance". Congratulations to all the fine student presentations at this year's meeting!

Professional Awards
The Awards committee announced and solicited nominations and applications for professional awards to be presented at the biennial symposium. We received two nominations for the Meritorious Service Award and two nominations for the Lifetime Achievement Award. At the 2009 FMCS meeting, Heidi Dunn and Christine Mayer were each presented with the Meritorious Service Award for their diligent efforts on behalf of the Society. Gerry Mackie and Jim Layzer were each presented with the Lifetime Achievement award for 30 years of dedicated service to the conservation of freshwater mollusks.

Environmental Quality and Affairs Committee
Submitted by Ryan Evans and Steve McMurray

The Environmental Quality and Affairs Committee has been busy since the Little Rock Symposium. Several letters addressing mollusk concerns have been drafted for the President's signature. These included:

- A letter to the USEPA was written requesting that national water quality criteria standards for ammonia be revised to include studies on the effects of ammonia on freshwater mussels.
- A letter in support of NSF funding for the curation of the Athearn collection at the North Carolina State Museum.
- A letter to the USFWS expressing our concerns with the proposed amendments to the ESA.
- A letter to the USEPA expressing our opposition to the modifications proposed to the OSM "Stream Buffer Zone" rule.
- A letter in support of the petition by the Center for Biological Diversity (CBD) to list 42 species of freshwater snails under the ESA was sent to the USFWS.
- A letter in support of the proposed rule to list five mussels Endangered or Threatened in Pennsylvania was sent to the Pennsylvania Fish and Boat Commission.

All of these letters are available on the Society's website. Currently a letter is being drafted to again reiterate our concerns to the Obama Administration concerning repeal of several of the amendments to the ESA. During our meeting at the Symposium in Baltimore, it was decided that Ryan Evans and Steve McMurray would continue as committee co-chairs. One issue that needs to be addressed is the proposed water quality criterion for cyanide. Due to a lack of data on the effects of cyanide on freshwater mussels, the determination of effects relied on the effects to host fish. The committee would like to see a research laboratory conduct toxicity testing to determine the effects of cyanide on glochidia, and juvenile and adult mussels to better inform the process. In a related matter, the committee would like to facilitate communications between Endangered Species Biologists and Toxicologists/Contaminants Specialists. A group of committee members is working on developing a position paper/information report on the issues surrounding gas drilling and frac water toxicity, as it could have both national and international implications. If you know of other environmental issues affecting freshwater mussels that have regional, national or even international implications, or would like to assist with some of the active issues, please contact one of the co-chairs.

It was also noted during the board meeting that FMCS should consider guidance for FERC licensees regarding minimum DO and temperature, etc.

Gastropod Status and Distribution Committee
Paul Johnson unfortunately could not make the symposium but Paul is working on the Tennessee / Cumberlandia / Mobile River mollusk conservation plan and other items with Jeff Powell as noted on the gastropod meeting agenda shown below. Due to a scheduling problem, the Gastropod meeting did not occur in Baltimore with the committee chairs. For more information, committee members and others should contact Paul Johnson or Jeff Powell.

Old Business:
<u>FMCS Web Site</u>
- Tom Jones (Outreach Chair) to lead effort to revamp FMCS web site. Once this is complete, committee will hopefully become more active
- Take suggestions from attendees on functions / items to be pursued on the website

<u>Status of AFS Project:</u>
- Effort to publish a checklist evaluating the basic Conservation Status Review of North American Freshwater Gastropods
- 10 member committee of US and Canadian participants.
- Taxonomic / Systematic review are NOT an objective of the project
- Database has completed 3 reviews, and is now under 4th review
- AFS Turgeon et al, NatureServe / Heritage Database, and COSEWIC lists were the building blocks of the review (all

lists have been vetted several times)
- Updated lists revised based on recent published manuscripts
- Revised database to be sent to committee in May or June 2009 along with an outline of draft article
- AFS article expected in 2010
- Hopefully AFS will allow an electronic database to be posted on FMCS website (build upon initial list as more distributional / taxonomic information becomes available).
- Hope the article will help generate more interest nationally in freshwater snails

Mollusk Restoration Plans:
25 conservation target species for the Cumberlandian Region
28 conservation target species for the Mobile River Basin 12 proposed conservation targets for the Choctawhatchee, Yellow, & Escambia river basins
- Once finalized copies of the plans will be available on request
- Mobile and Cumberland plans should be finalized by this summer
- Hope to make PDF's available on AABC website within a year
- Accounts have been drafted for the Cumberlandian and Mobile taxa, but not the eastern gulf slope species. The gulf coast accounts will be drafted over the next year.
- The accounts specify basic priority actions for each species and begin to form a general outline of recovery activities for each species (for many species - the first priority specifies a systematic / taxonomic status review)
- Are taxa missing from the lists that should be included?
- Plans will be revised approximately every 5 years to include changes in species status and priority recovery activities

New Business:
What are the special interests of gastropod committee in light of the possible initiation of society journal, prior to the 2011 meeting in Kentucky?

News from the AABC:
- Gastropod facility operational, culture efforts underway for 5 species
- Culture efforts are limited while construction of other facilities are completed this year
- Successfully established a new reproducing population of Leptoxis plicata (Plicate Rocksnail) with cultured stock – additional monitoring to continue
- Other test releases will be conducted later this year

Pleuroceridae Type Catalog:
- A review of all type specimens of the Pleuroceridae including original descriptions and lithographs
- Project cooperators: Smithsonian Museum of Natural History, North Carolina Museum of Natural Sciences, Alabama Aquatic Biodiversity Center
- Production of high quality plates of
- Objective is a 2 volume series published in the Smithsonian Contributions to Zoology – Volume 1 to include all USNM Types (approximately 400 types).
- Photography nearly complete for USNM Types, and approximately half the plates have been assembled for the first volume
- Possible web-based version

Nominations and election of new gastropod committee chair and alternate?
[Appendix and plates provided with agenda were not included here but can be obtained directly from Jeff Powell]

Genetics Committee
David Berg noted problems regarding genetics work ignoring established nomenclature. This also echoed Art Bogan's comments.

Guidelines and Techniques Committee
Submitted by Chuck Howard
Chuck Howard and Janet Clayton re-elected as co-chairs.

In 2008-2009, the co-chairs have been evaluating the concept of a Mollusk Taxonomy and Field Techniques Education / Certification Program. Evaluations have included a pilot mussel surveyor certification program by the Pennsylvania Fish and Boat Commission, conceptual ideas for a certification program in North Carolina (Art Bogan), and existing professional certification programs in practice by the North American Benthological Society and American Fisheries Society.

At the April 21, 2009 lunch meeting, a list of Committee Goals and Potential Initiatives for Consideration by the committee were presented to committee meeting attendees. The co-chairs invited members to address these or other initiatives over the next two years, but encouraged a unified effort to help with the development of a Mollusk Taxonomy and Field Techniques Education / Certification initiative. A draft list of tasks needed to develop this dual initiative was presented to the committee.

The committee met again the evening of April 21 to continue discussion of developing a Mollusk Taxonomy and Field Techniques Education / Certification Program. The primary tasks outlined for these initiatives included: format, certification level, geographic criteria, development of a taxonomic guidance committee, development of educational materials, testing, funding, and legal issues.

Once the co-chairs receive a complete list of society members wishing to actively serve on the Guidelines and Techniques Committee, committee members will be asked to sign up for or will be assigned to one or more tasks needed to develop this initiative. Deadlines will then be set for status reports and completion of the various tasks. Development of the taxonomic education / certification program in particular will require a long-term commitment to this endeavor by taxonomic experts and institutions (such as museums, universities, and regulatory agencies) across the country; therefore, we encourage leaders in our field to evaluate how they and their institutions could support development of this initiative and contribute to the long-term commitments (e.g., education centers or evaluation sites) of an education / certification program.

We look forward to working with committee members and members of the society to develop this important initiative

that supports the society's stated purposes to promote education of freshwater mollusks and their function in freshwater ecosystems and facilitate science-based management of freshwater mollusks. We hope to communicate with current committee members in June 2009 and assign working groups for each task.

Mussel Status and Distribution Committee
Submitted by Jim Williams and Art Bogan

During the past year we have researched the conservation status of freshwater mussels in the United States, Canada and Mexico. We have assigned conservation status to the approximately 370 taxa that are currently being recognized. The spreadsheet has been circulated to the Committee members with a request that corrections to conservation status, distribution, etc. be noted and returned by 15 May 2009. The introductory text for the manuscript is being drafted and should be completed by June 2009. NatureServe has also requested that we submit the spreadsheet to them for their review to be sure that their conservation status is in line with that proposed by the Committee. We plan to submit the final document to the American Fisheries Society for publication no later than July 2009. During our Committee meeting several individuals requested that they be allowed to review the spreadsheet to be sure recent changes in conservation status and distribution were included before submission for publication.

The distribution atlas committee has not been able to attract funding to support the required museum visits to document the historical distribution of the freshwater mussels of North America. John Alderman and I in collaboration with about 12 others have taken a new approach to examine the modern distribution of the freshwater mussels of the south Atlantic Slope. This region includes the Atlantic Coast rivers from Maryland south to north Florida. We have gathered together information from the state agencies for most of the five included states. We have worked with the state agencies to donate their survey data on freshwater mussels and are in the process of incorporating this data as layers in ArcGIS. All species distribution maps will be published at the 8 digit HUC units and no dot maps will be provided. This project can be used as a new focus to bring together the first cut of information on a particular state through the cooperation of agencies responsible for collecting distribution data. I work for a state agency and have agreed to host the various state's data on a secure server with no external access or third party access. We are suggesting the South Atlantic Slope Atlas might be a first step to gathering regional data to work toward a national atlas. However, you still have to be careful of the identifications.

Outreach Committee
The following is a summary of the Baltimore Board Meeting Discussions:

The mixer was paid for by outreach activities performed by Tom Jones at Aquarium on Saturday, the day before the symposium.

New initiatives include building a smaller outreach materials set, or sets, so they could be more easily and cost-effectively shipped. The existing "Tools for Outreach" set is in Janet Butler's possession (per Patty Morrison). Andy and Tom Jones are requesting video clips for website, photos, and other non-proprietary materials for distribution or website use.

Other ideas included special mussel areas of the US – modules. Steve A. has material that he gave Catherine on commercial shell industry and native shell mounds that could be incorporated into outreach materials.

Propagation Committee
Tony Brady has been working trying to catch up with recent staff shortages and a change in job description.

It was noted that a data clearinghouse for translocations is critical. For example, with southeastern fishes the translocation of native fishes without documentation into new streams has resulted in a "nightmare" (Jim Williams). The USACE and TN system has a database, however - we need a running tally of where these mussels are going, what species, and, to where. Matt Patterson had a database but the status of the database was unknown.

Sources of mussels for toxicology studies are also needed. It would be a good idea if the Propagation Committee could compile a list of available sources for toxicology studies.

Committee Meeting Report – Submitted by Tony Brady
Tony Brady opened meeting with seven members present. Tony was asked by the committee to remain as chair for the next two years. He agreed. Tony explained to the committee the charge from the FMCS board to develop a database of current propagators, species being propagated and stocking locations. After discussion, the committee decided to begin by generating a list of current propagation facilities, and state coordinators. Information such as species propagated can be answered by contacting the facilities and stocking locations by contacting state coordinators. The meeting was then adjourned. The next day, Tony asked Rachel Muir to co-chair the committee with him. The propagation committee now falls in line with most of the other FMCS committees by having co-chairs.

Information Exchange Committee / *Walkerana* Journal
The following is a summary of the Baltimore Board Meeting discussions, edited by John Jenkinson, additional comments by Tom Watters:

The *Walkerana* journal has been officially and legally purchased from Jack Burch. Tom Watters has agreed to serve as Editor and John Jenkinson has agreed to serve as Assistant Editor. Currently, the editors are working on a draft purpose and goals statement for the journal and are compiling a list of potential members of an editorial board. Many thanks to Jack Burch, Heidi Dunn, Kevin Cummings, Steve Ahlstedt, and others who made the transfer possible.

The official name and logistics of the journal was discussed in-depth. There are a large number of business and logistical reasons that the exact name is important. The name may be put to a vote. Proposed names:

1) "Walkerana: Journal of the Freshwater Mollusk Conservation Society"
2) "JFMCS: Walkerana"

3) "The Journal of the Freshwater Mollusk Conservation Society"

Ellipsaria will be maintained as an information exchange medium for FMCS members.

Journal details: The volume numbers should be contiguous with *Walkerana*, and it was suggested that we put a transitional letter from Jack Burch on the inside cover of the first FMCS issue. Art Bogan suggested the content should include both contributions and, unlike other journals, survey reports. Jim Williams suggest we do not include notes, as it is difficult to get credit for notes professionally.

Other items discussed included the development of a Business Plan, color vs. black and white, page charges, fees, and having an electronic submission process. It was also concluded that the journal probably should shift to 8.5" x 11" because that size is more economical to print and format. Back issues should be stored in one place and sold as part of the operation of this journal; we ask the Board to consider the logistics of this, as well as setting prices for back issues. Should the journal be electronic only or print? Electronic only would streamline production, be "green," and minimize cost; distribution to a wider audience would be made through pay-per-download services such as JSTOR. Will it accept new species descriptions? If so, then a paper copy is required. FMCS should accept the AFS list or publish.

The journal will likely require a funded part-time layout/printer liaison person, which should be incorporated into the business plan. The initial goal for publication will likely be two issues per year with a long-term goal of 4x per year. If the journal will be distributed in printed form it may require that FMCS raise membership fees. If so, we also might switch to a two-year membership structure to reduce administrative work. The exact amount of increase will depend on the cost of printing the journal.

The editors were requested to prepare a business plan for this journal, including the anticipated costs of whatever options appear to be viable. That plan will be reviewed and approved or modified by the Executive Committee before Society funds are spent on this journal.

Symposium Committee

The following is a summary of the Baltimore Board Meeting Discussions:

Catherine Gatenby – The conference is breaking even, with approximately 225 registered from 15 countries! Approximately $44,000 in donations were obtained by Catherine to cover some of the expense.

Heidi suggested that we publish a protocol for symposia – basically a lesson's learned such as accommodating persons with limited mobility, etc. We also need a clearing house of FMCS logos to get t-shirts, etc. The subcontracting of an outfit to do registration was a great success and recommended for future meetings.

OLD BUSINESS

History of Past FMCS Presidents – The issue of documenting the work history of past presidents was re-raised, and what was the status of that effort? It was recommended that the past president (Robert Anderson) should compile an outline of past president's work history.

National Strategy – Status?? In 2007 it was agreed to have committees take their piece of conservation strategy and revise and present in March 08, with Rachel Muir to take the lead. To date this has not been accomplished. We also need a synopsis of what has been accomplished to date; this could be included as an appendix. We also still need electronic version of the original document in word format. The board will send an email out regarding number of action items for each committee. The Tennessee / Cumberland mussel conservation strategy is basically complete and can be used as a template as well.

NEW BUSINESS

Website News – Tom Jones should have time in the coming months to develop the website. A motion for a $1,500 / year Scholarship for a Marshall Student to maintain the website was proposed by Greg Cope. The scholarship will ensure that the new website is properly maintained and hosted. The motion was seconded and all were in favor.

FMCS Workshop 2010 and 2011 Symposium –

A number of options were discussed for the 2010 workshop and 2011 symposium. The 2010 FMCS Workshop will be held in (or near) St. Louis, MO. The general topic will be Regional Identification of Mussel Fauna and Sampling Methods.

For future symposia / workshops we are also considering a joint meeting with the Southeast Fishes Joint Regional Taxonomy Workshop in Guntersville, AL. The facility can accommodate 200. Steve Ahlstedt will continue to help look at locations with the incoming administration. Steve said a major key to the success of past symposia and workshops has been strong local sponsorship.

It was also discussed that the committees could also be a focus of the workshops, as was the original intent of the committees. It was suggested that the workshops include a field component but have the ability to plan for a weather contingency. There will also need to be an early November date for the board meeting.

Other Topics / Discussions

Jim Williams – through FMCS – working on a letter regarding Coosa River for FERC requirements / re-licensing. Jim and Art Bogan also requested the states to review the mussel Atlas. It was proposed to try to publish the new official mussel names in Ellipsaria, however it may be problematic as AFS is protective of publishing new fish/mussel names.

Art Bogan - suggested that a document "Addressing ethical and zoological nomenclature guidelines for documenting

mussel species" should be developed – can the genetics committee head this effort up? Or would this call under techniques and guidelines? The document would include:

- Series of voucher and photo procedures and recommendations
- Locality information
- Naming conventions

Walkerana / Ellipsaria News – See Information Exchange section for a summary of the discussion. The format of the Journal was discussed and it was agreed to keep Ellipsaria as an information exchange format
-Should there be a discount for pdf copy only of the journal?
-Can we scan and convert old *Ellipsaria* back issues to pdf?

Nomenclature / voucher procedures!!! Art Bogan –Article for Ellipsaria on how to photograph mussels, preserve and voucher specimens? FMCS should consider promoting the taking of some vouchers during surveys as a lack of vouchers is hindering the science. Need to then post article on website

Micro matrix Technology – Heidi Dunn discussed the potential of a developing "Micro matrix" technology which could allow for the species-specific delivery of lethal agents. For example, zebra mussels or silver carp could be targeted because it is species specific.

Genetics – David Berg / others - it was discussed the need to improve communication within the mollusk genetic community. Art Bogan stressed the problems of Genbank due to a lack of voucher documentation. Even photographic evidence has been extremely poor and some photos do not match the species sample. It was recommended that voucher procedures be developed.

Time and Place Sub-Committee – It was proposed that a sub-committee should be set up to be solely in charge of conference / workshop funding, due to the large amount of work required for putting the event together. Catherine added that trying to get donations and funding was about half the work of putting the symposium together. Greg Cope said other organizations have a "Time and Place Committee" where the past Symposium Chair is the head of the T&P, incorporated under the functions of the Symposium Committee.

International Sub-Committee – It was discussed that the international component of the Baltimore symposium was a great success. It was suggested to form a separate committee to promote the international aspect of the society. It was then agreed that the best approach would be to form an Ad Hoc International Committee under the Outreach Committee.

Motion to adjourn by Steve Ahlstedt, second by Jim Williams, all in favor.

Submitted by Greg Zimmerman, FMCS Secretary

Announcements & News

The First Biennial Eastern Gulf Slope Mollusk and Crayfish Meeting

The first Biennial Eastern Gulf Slope Mollusk and Crayfish Meeting was convened 20-22 January 2009 at the 5 Rivers Delta Resource Center, Spanish Fort, Alabama. It was held in conjunction with the Alabama DCNR Mollusk Meeting. Informal reviews and updates were presented for current mollusk and crayfish conservation and research activities in Alabama, Florida, Georgia, Louisiana, and Mississippi. Over 50 attendees from state and federal government, nongovernmental agencies and academia attended.

The next meeting is being planned for 18 January 2011, but location has not been determined. Anyone interested in attending should contact the organizers for specific time and location: Jeff Garner, Bleufer@aol.com, Sandy Pursifull, Sandra_Pursifull@fws.gov, or Jim Williams, fishwilliams@gmail.com .

Obituary – Louise Russert-Kraemer

http://www.nwanews.com/nwat/obits/74105/

Louise "Weez" Rothmund Russert-Kraemer, 85, professor emeritus of zoology at the University of Arkansas in Fayetteville, died Friday, Feb. 13, 2009, at Hillcrest Hospital in Cleveland [Arkansas].

She was born Dec. 17, 1923, to John W. and Wilhelmina Rothmund Russert in Milwaukee. Weezie, as she was known to her friends, attended the Milwaukee University School and began her college education at Wellesley College, finishing a B.S. in biology at Marquette University. She went to the University of Michigan in Ann Arbor for her graduate studies. On completing her M.S. and graduate course work, she accepted a tenure-track position as assistant professor of zoology at the University of Arkansas in Fayetteville in 1948, where she met William S. Kraemer, professor of philosophy. They married in the spring of 1949. Due to a nepotism rule preventing married couples from teaching in the same college, Louise lost her academic position.

While being the devoted mother to her four children, Weez returned to adjunct teaching in the department of zoology at the University of Arkansas in the mid-1950s. With her four, young children in tow, she revived her graduate studies and completed her Ph.D. from the University of Michigan in 1966 with a specialization in malacology. She regained a full-time position in the U of A zoology department where, as a dynamic teacher and innovative researcher, she quickly rose to the rank of full professor. Nationally and internationally recognized for pioneering research combining malacology and animal behavior, she was elected fellow of the American Association for the Advancement of Science and served as president of the American Malacological Union and of the American Microscopical Society. She was a cofounder of the

Society for the History and Philosophy of Biology. In the school year 1987-1988, she was a visiting fellow at Lucy Cavendish College, Cambridge University until she retired in 1993.

Preceded in death by her husband, William; sisters, Audrey Lowe and Joan Russert-Haber; and brother, Roger Russert-Malakoff, she is survived by her four children, Eric Russert Kraemer and his wife Francine Klein, Robert Russert Kraemer and his wife Ginger, Lisa Russert Kraemer and her husband Richard Lang and Soren Russert Kraemer and his wife Karen; 12 grandchildren; and a great granddaughter.

In lieu of flowers, donations may be made to the Louise Russert-Kraemer memorial fund, University of Arkansas Foundation Inc., University House, Fayetteville, AR 72701.

Obituary – Dorothea Franzen

http://www.iwu.edu/CurrentNews/newsreleases09/obt_Franzen_0109.shtml

Dorothea S. Franzen, professor of biology emerita, died Dec. 31, 2008, at Kidron Bethel Village, a retirement community in North Newton, Kan. She was 96 years old.

Franzen joined Illinois Wesleyan's faculty in 1952 and retired in 1977 as the George C. and Ella Beach Lewis Chair of Biology. Among the many honors she received in her lifetime, she was named Wesleyan's Teacher of the Year in 1967.

Her research specialty was malacology. Among her discoveries was a new species of mollusk which she found along the shores of Long Lake in southern Michigan and named *Catinella prolongata*. She served as national president of the American Malacological Union and received numerous grants for her research. In 1985 she was named Outstanding Member of the American Association of University Women.

Born to a family of teachers, Franzen received her bachelor's degree from Bethel College in North Newton, Kansas. She earned both a master's degree and doctorate in zoology at the University of Kansas, becoming the first female Bethel graduate to go on to earn a Ph.D. Bethel awarded her its Distinguished Achievement Award in 1975.

In 1976, Franzen was interviewed by Wesleyan's student newspaper, the *Argus*, about her journey as an educator and a pioneer as a woman in her field. "Now women can be reasonably sure of getting a position but must go through the rigors of being prepared and staying qualified," she said. Franzen also issued a challenge to IWU women who she felt "were not availing themselves to the opportunities they have. How many of Wesleyan's women have gone for a Ph.D.?"

While Franzen was devoted to her research, she told the Argus, "Teaching is my life. I've kept up research to keep myself alert as a zoologist. One has to work above one's teaching level to maintain an alert outlook and an alert mind. One must be stimulated to be able to stimulate."

Memorial contributions may be made to Bethel College, 300 E. 27th St., North Newton, KS 67117-0531.

Publications

Esarey, J., D. Soucek, J. Levengood, R. Hudson, W. Wimer, and R. Halbrook. 2008. Contaminants in unionid mussels from the confluence of the Mississippi and Illinois Rivers. Illinois Natural History Survey Bulletin 38:197-214.
To order: http://www.inhs.uiuc.edu/resources/bulletin.php

Graf, D.L., and K.S. Cummings. 2009. Actual and alleged freshwater mussels (Mollusca: Bivalvia: Unionoida) from Madagascar and the Mascarenes, with description of a new genus, Germainaia. Proceedings of the Academy of Natural Sciences of Philadelphia 158: 221-38.

Contributed Articles

The following articles were contributed by FMCS members and others in the malacological community. The contributions are incorporated into the newsletter with minimal editing and the opinions expressed therein are those of the authors.

Maryland Mussel Workgroup – January 27, 2009 Meeting

On January 27th, 2009 the first meeting of the Maryland Mussel Workgroup was held. We had eight participants at the initial meeting including: Jim McCann, Dave Brinker, Dan Feller (Maryland Natural Heritage Program), Matt Ashton (Maryland Biological Stream Survey), Julie Devers (U.S. Fish & Wildlife Service), Rita Villella Bumgardner, Glenn Nelson, and Cara Campbell (U.S. Geological Survey).

Distribution and status of Maryland's mussels:

(JM) Overview of Maryland's native unionid fauna with emphasis on the status of *A. heterodon*, *A. varicosa*, and *L. subvirids*. What are Maryland's taxonomic issues involving lanceolate *Elliptios*? How can we better determine the identity of *L. cariosa* vs. *L. cardium* in the Potomac River drainage?

Recently completed and ongoing work:

(JM) NHP database, permitting, and supportive surveys. Upper Choptank River survey to follow up 2007 MBSS *A. heterodon* record. (MA) Documenting mussel presence at MBSS sites and using data to describe coincident ecological conditions. Long-term monitoring at sites with exceptional mussel communities. Analyzing factors that describe the distribution of Coastal Plain assemblages. Conducting timed searches in conjunction with EPA NSRA sites on Potomac River and non-wadeable tributaries. (JD) Additional host trials with *E. complanata* and migratory fishes; results support suitability of American eels. Captured eels and translocated them to above Conowingo

Dam; should continue translocations in 2009. Also improving eel passage at Conowingo as part of FERC relicensing. (RV) Summarized surveys in Sideling Hill Creek, C&O Canal, Potomac River below Dam No. 4 and Little Falls. Noted recent sightings of *L. subviridis* in Potomac River. Discussed recent surveys in Potomac tributaries including Cacapon River, Back and Sleepy creeks. Participating in multiagency environmental flow analysis of lower Potomac River. (CC) Developing a landscape model for Atlantic mussels, predictive modeling of *A. heterodon*, thermal and hydrologic stability, indicator species of mussels.

Inventory, research, and conservation priorities:

Identify reasons for decline and persistence in *A. varicosa* and *L. subviridis* populations. Will this require a regional effort? Upcoming MBSS study in Sideling Hill Creek watershed can address some data needs. Work towards a consensus on the status and identification of *Lampsilis sp.* in the Potomac River. Assist those investigating lanceolate *Elliptio* taxonomy. Should we look into propagation facilities and what are Maryland's current options? Data gaps (e.g. tidal fresh and Potomac River).

Because of poor weather the group left several items unattended, including effects of stream blockages, temperature and drought, zebra mussels, and filming a segment on mussels for Maryland Public Television. The group will continue to meet (TBA), but will informally discuss new items at the FMCS Symposia. For further information on the meeting, contact Matt Ashton at mashton@dnr.state.md.us or (410) 260-8604.

More about the Expansion of the Distribution of *Dreissena bugensis* in Europe

Henk K. Mienis
National Collections of Natural History, Dept. Zoology, Tel Aviv University, IL-69978 Tel Aviv, Israel, *and*
National Natural History Collections, Berman Bldg., Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel.
mienis@netzer.org.il

In previous short reports I have reviewed the presence of the invasive Quagga mussel *Dreissena bugensis* (Andrusov, 1897) in the lower part of the Danube (Mienis, 2006), in the delta of the Rhine and the possible role of the Main-Danube Canal in its expansion (Mienis, 2007) and its presence in the Netherlands (Mienis, 2008). Although we may not rule out the possibility that the Quagga mussel started its infiltration of Europe's main waterways – the Danube and the Rhine, independently from both ends at about the same time – the Main-Danube Canal seems to play a much more important role. The question is: Where are the records from the intermediate area? Has the Quagga mussel been overlooked or has this species failed in establishing viable populations over large stretches in both the Danube and the Rhine?

Two recently published reports show some more light on the conquest of Europe by the Quagga mussel. Hubenov & Trichkova (2007) have reported the first find of *Dreissena bugensis* in the Bulgarian stretch of the Danube between the villages Koshava (km 811) and Sandrovo (km 477). The collected material turned out to be 2-4 years old according to the size of the mussels. Szekeres, Szalóky & Bodolai (2008) reported Quagga mussels from six localities in the Hungarian part of the Danube: Komárom, Kisoroszi and Leányfalu upstream Budapest, Budapest itself, and two localities downstream Budapest near Dunaújváros.

According to these new localities it is only a matter of time before we may expect the first localities of this invasive mussel species from stretches of the Danube in Moldavia, Croatia, Austria and Germany.

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Szekeres, J., Szalóky, Z. & Bodolai, K. 2008. [The first data of *Dreissena bugensis* (Andrusov, 1897) from Hungary.] Malacological Newsletter, 26:33-36. (in Hungarian)

Additional Information Concerning the Conquest of Europe by the Invasive Chinese Pond Mussel *Sinanodonta woodiana*. 19. News from Austria, France, Hungary, Moldova, Romania, Serbia and Sweden

Henk K. Mienis
National Collections of Natural History, Dept. Zoology, Tel Aviv University, IL-69978 Tel Aviv, Israel, *and*
National Natural History Collections, Berman Bldg., Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel.
mienis@netzer.org.il

During the second half of 2008 the invasive Chinese Pond mussel *Sinanodonta woodiana* was again in the news in several European countries. The most important information, including the first records from Moldova, is here summarized.

Austria

Sinanodonta woodiana is incorporated in the list of benthic Neozoa present in the rivers and streams of Austria (Moog et al., 2008)

France

Relatively small specimens (8.7-13.5 cm) of the Chinese Pond mussel have been found recently in an eutrophic reservoir the Grand Large, which is part of catchment basin of the river Rhône upstream of Lyon Mouthon, 2008). These mussels are accompanied among others by two other invasive bivalve species *Dreissena polymorpha* (Pallas, 1771) and *Corbicula fluminea* (Müller, 1774) and a native species *Unio pictorum*

(Linnaeus, 1758). *Sinanodonta woodiana* had been recorded since the end of the eighties from various localities in the delta of the Rhône (Girardi & Ledoux, 1989 and Girardi, 2002).

Hungary

During a survey of a stretch of the Danube in Hungary and two of its tributaries, the Hosszúvölgyi stream and the Börzsönyi stream, *Sinanodonta woodiana* was located only at two stations (out of 15) in the Danube just south of Budapest and just north of Pacs (Bódis et al., 2008).

Moldova

In Moldova empty shells of *Sinanodonta woodiana* were found in Lake Manta in 2003 while living specimens were discovered to be present in Lake Beleu in the summer of 2008 (Munjiu & Shubernetski, 2008). Both localities are situated in the catchment basin of the river Prut. Since the latter is connected to the delta of the Danube near the Black Sea, the discovery of the Chinese Pond mussel in that river was only a matter of time. These records are the first ones from Moldavian territory.

Romania

Information is presented about the process of establishment of the Chinese Pond mussel in Romania in general and the Danube in particular (Popa et al., 2008). According to the authors the entire stretch of this major European river was settled by this highly invasive species within a time span of 10 years.

Serbia

A hydro-biological survey of the river Sava carried out in Serbia in 2006 showed that *Sinanodonta woodiana* was abundant in bottom habitats predominated by the presence of sand, fine sand and mud (Paunović et al., 2008). This mussel species was only collected by diving. The authors consider the river Sava as an important part of the Southern Invasive Corridor of Europe.

Sweden

The situation of the Chinese Pond mussel in Sweden has been described recently by von Proschwitz (2008a-b). So far it has been found at two localities: Hjärnarp in 2005 and Askim (southern part of Göteborg) in 2007. They had reached these localities most probably by means of respectively carp and goldfish infected with glochidia of Sinanodonta woodiana. The locality in Askim forms at this moment the northernmost known in Europe.

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New malacological records from Paraná State, Southern Brazil region, with a general synthesis of current knowledge

A. Ignacio Agudo-Padrón
Projeto Naiade (Naiade Project), Avulsos Malacológicos
Caixa Postal (P. O. Box) 010, 88010-970 Centro,
Florianópolis, Santa Catarina – SC, Brasil
ignacioagudo@gmail.com - http://www.malacologia.com.br

Since the year of 2001 (Agudo 2008a; Agudo-Padrón 2008b), we have been developing the continental inventory of freshwater/limnic and terrestrial mollusk fauna present in the territory of Paraná State, Southern Brazil region (Fig. 1), with a total of 133 species and subspecies confirmed (77 terrestrial and 56 freshwater; 23 mussel/clams & 33 gastropods), systematically included in 2 classes, 35 families, and 64 genera (classification based on Bouchet & Rocroi (2005), Poppe & Tagaro (2006), Simone (2006) and Thomé et al (2006, 2007)). Once we incorporate information concerning the regional marine/estuarine species (193 forms), the total number of known species and subspecies will rise to 326 forms .

The chronological results of research previously generated can be found in the contributions of Agudo (2005, 2006 a-c, 2007 a), Agudo-Padrón (2007), Agudo (2007 b, 2008 a-c), and Agudo-Padrón (2008 a-b, 2009).

Figure 1. Geographical location of the Paraná's State, Brazil

Additional registrations of species for the State included, in this opportunity, two not certain aquatic/limnic species of the Alluvial Plain (or of Flood) of the High Paraná River, located in the extreme Northwest of the State, regional Third Plateau (Souza *et al* 2008: 310) (Fig. 1):

Systematic Species List :
Class GASTROPODA
Subclass Caenogastropoda / Prosobranchia
Family THIARIDAE
- *Aylacostoma* sp
Class BIVALVIA
Order VENEROIDA
Family SPHAERIDAE
- *Eupera* sp (the first well-known record)

Finally, some other geographical registrations, referred in the regional specialized literature, including researches in the general State territory (Belz & Netto 2008) and specific localities of the Coastal Plain (Agudo 2008 c: 12; Arruda *et al* 2009)(*), the Southwest ("Chopinzinho") and Central North ("Londrina") regions (Carboni *et al* 2006; Guardia 2006)(**), the Metropolitan region of "Cascavel" (Netto et al 2008; Pereyra *et al* 2008), border places localities of the "Iguazú Waterfalls National Ecological Park" (Rumi *et al* 2005, 2008; Gregoric *et al* 2008), the Alluvial Plain of the High Paraná River, in the Third Plateau (Takeda *et al* 2002; Sorte & Martins-Silva 2008; Souza *et al* 2008), and the organization of a coastal malacological collection in Museum of Natural History (Fraguas *et al* 2002).

(*)For the amphibian slug *Omalonyx matheroni* (Potiez & Michaud, 1835), in the "Inferninho River", Paranaguá …
(**)For the native giant freshwater mussel naiad *Anodontites trapesialis* (Lamarck, 1819) …

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General mollusk fauna of Rio Grande do Sul State, Southernmost Brazil region: a preliminary revision rehearsal

A. Ignacio Agudo-Padrón
Projeto Naiade (Naiade Project), Avulsos Malacológicos
Caixa Postal (P. O. Box) 010, 88010-970 Centro,
Florianópolis, Santa Catarina – SC, Brasil
ignacioagudo@gmail.com - http://www.malacologia.com.br

A brief revision and preliminary bibliographical compilation of the mollusk fauna for the Rio Grande do Sul State is presented in this report, based on the fact that abundant and diversified references exist, included general ecological aspects and specific descriptions, but are dispersed and not always of easy access, seeking to minimize part of this informative deficiency.

Located in the brazilian Southernmost region, Rio Grande do Sul State is the largest geo-political portion of the South area of the country (Fig. 1), geographically close to the remaining States of the brazilian Southern region, Santa Catarina and Paraná and the neighboring countries of Uruguay and Argentina, of the "Atlantic Slope of the Southern Cone of South America", placed in the oriental face of the Andean Mountain range. Occupying a total area of 282.062 km², and an large Atlantic sandy coast with more than 622 kilometers of extension, Rio Grande do Sul possesses a soft, super-humid subtropical, mesothermal climate, with hot summer and without station it evaporates very defined. The annual medium temperature oscillates between 16 and 20°C. The average of the hottest month is between 22ºC and 26°C and the average of the coldest month between 10° and 15°C. The annual pluviometric precipitation varies between 1000 and 1500 mm and the number of frosts a year varies since 1º, in "Torres" - emblem with coast Atlantic of Santa Catarina's State , to the North, to more than 15º in "Santa Vitória do Palmar", in the close interior to the end South of the State.

The Metropolitan area of Porto Alegre, also known as Great Porto Alegre, located between the Central Depression and the portion of the Coastal Plains that outline the hidrographic delta of the Jacuí River, the "Guaíba Lake" and the "Patos Lagoon" (Fig. 1), it gathers 31 of the Municipal districts of RS, in intense process of urban occupation, term that refers to the extension of capital Porto Alegre, forming with its bordering Municipal districts a continuous urban stain, in a mixture of areas typically urban, agricultural rural spaces and representative several remainders of the original natural environment, now integrating 9.800,194 km².

In general, reasonable swinging of 562 species and confirmed subspecies, including 271 continental – 106 freshwater (53 limnic mussels/clams and 53 gastropods – Caenogastropoda/Prosobranchia and Pulmonata) & 165 terrestrial, besides 291 marine forms it is the preliminary general result of this regional analysis.

Figure 1. Rio Grande do Sul State, territory (top) in Brazil, and the Atlantic Slope of the Southern Cone of South America (bottom).

A compilation on some main bibliographical sources of interest follows, seeking to contribute to the regional knowledge of this diversified invertebrate fauna:

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First confirmed record of amphibian slugs *Omalonyx* (Gastropoda: Pulmonata: Succineidae) for Santa Catarina's Island, Southern Brazil

A. Ignacio Agudo-Padrón
Projeto Naiade (Naiade Project), Avulsos Malacológicos
Caixa Postal (P. O. Box) 010, 88010-970 Centro,
Florianópolis, Santa Catarina – SC, Brasil
ignacioagudo@gmail.com - http://www.malacologia.com.br

Santa Catarina's Island is the largest islander geographical territory of the Santa Catarina's State. Our malacological inventory, begun in March 1996 (Agudo 2002 a-b), includes a confirmed total of 253 species and subspecies, including 211 marine forms (Agudo & Bleicker 2009) and 42 continental representatives – 13 freshwater / limnic and 29 terrestrial (Agudo 2007; Agudo-Padrón 2008).

On March 30-31 2009, two lots of 18 specimens (7 and 11 animals) of *Omalonyx convexus* (Heynemann, 1868) were collected by us in a strait sandbank stream (drainage channel) close to human residences on "Campeche Beach" (Travessa Manoel Rafael Inácio), Florianópolis city, to the North of "Peri Lagoon" (Agudo 2007:10), coastal SE area of Santa Catarina Island, densely populated by riverside aquatic plants (predominancy of macrophytes *Eichornia azurea* and *Hydrocotyle ranunculoides*), with presence of flotation vegetable species *Pistia stratiotes* and *Spirodela intermedia*, the little limnic snail Planorbidae *Drepanotrema cimex* (Moricand, 1838) and abundant small native tropical fishes Poecilidae, characteristic of this type of aquatic environment in the island. Preserved in liquid by the searching malacologist Janine Oliveira Arruda, a specialist in Succineidae gastropods (Malacology Laboratory, Museum of Science and Technology - MCT, PUCRS, Porto Alegre, RS), on 09/04/2009.

In general, *Omalonyx convexus*, representative pulmonate gastropod species of the genus *Omalonyx* d'Orbigny, 1837 and family Succineidae Beck, 1837 (Thomé et al 2006: 46, 58; Arruda & Thomé 2008 a: 94; Arruda & Thomé 2008 b: 159), is a small Neotropical amphibian slug with an external reduced, flattened nail-shape shell (Simone 2006: 236-fig. 907) that lives on macrophytes and adjacent vegetation in swamps, marshes and floodplains (Arruda & Thomé 2008b:159), usually in polluted waters close to environments modified by humans, and can be found in artificial lakes, dams and even in parks and public squares of cities.

In southernmost Brazil it is present in the Santa Catarina and Rio Grande do Sul states (Thomé et al 2007:26; Agudo-Padrón 2008b). Already in the southern State of Paraná (Agudo 2008 a:10), the genus is represented by the species *Omalonyx matheroni* (Potiez & Michaud, 1835) (Agudo 2008b:12; Arruda et al 2009). In the Santa Catarina's State territory, it has been just listed for the following continental Municipal Districts: São João do Sul (high Mampituba River basin), Criciúma, Paulo Lopes (to the South), and Camboriú (to the North) (Agudo-Padrón 2008

Thus, the present report characterizes the first historical record of an amphibian slug in an islander territory of the Santa Catarina´s State, the smallest geographical portion of the Southern Brazil region (Agudo & Bleicker 2006:8). Elevating to 254 the general inventory of well-known species and subspecies (30 terrestrial) for Santa Catarina's Island.

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Host Identifications or Confirmations

G. Thomas Watters, Trisha Gibson & Brooke Kelly
Columbus Zoo & Aquarium Freshwater Mussel Research & Conservation Facility
& The Ohio State University

All transformations at 20° C

Mussel	Host	Average # juveniles/ fish	% Transformation	Days to Transformation	Starting month
Lampsilis fasciola	Longear Sunfish	3	43%	29	August
Ligumia recta	Largemouth Bass	64	38%	25	November
Megalonaias nervosa	Shovelnose Sturgeon	20	24%	28	December
	Black Bullhead	30	56%	28	December
	Black Bullhead	5	12%	20	January
	Yellow Bullhead	253	92%	28	December
	Northern Studfish	174	64%	28	December
	Golden Shiner	2	3%	28	December
	Largemouth Bass	2	12%	28	December
	Green Sunfish	79	54%	28	December
	Green Sunfish	14	64%	26	October
Ptychobranchus fasciolaris	Fantail Darter	3	6%	35	April
	Rainbow Darter	27	*	30	April
Quadrula cylindrica cylindrica	Rainbow Darter	26	8%	25	May
	Striped Shiner	20	3%	25	May

* Not measured

Mollusk Survey of Crystal Creek-Spring Creek Ranches, Blaine County, Idaho, USA

Steven J. Lysne[1] and Ron Pierce[2]
[1]Department of Math and Science, College of Western Idaho, 5500 University Way, Nampa, Idaho 83687; stevelysne@cwidaho.cc
[2]Lolo, Montana

The Crystal Creek-Spring Creek Ranches cover an area of about 16 km^2 and are located in the floodplain of the Big Wood River near the town of Bellvue in Blaine County, Idaho. We completed two mollusk surveys in the ground-water fed, irrigation supplemented, Willow, Spring, and Crystal creeks. The first was on 13 and 14 May, 2008 and the second completed on 18 and 19 July, 2008. For the May survey we used ocular inspection over approximately 16 kilometers of Willow Creek, Crystal Creek, and Spring Creek following the methods of Young et al. (2001). For the July survey we used an adaptive cluster design (Strayer and Smith 2003) at three locations in Willow Creek based on observations of *Margaritifera falcata* valve fragments from the May survey.

In May we visually inspected all spring creeks on both ranches with viewing buckets and counted a total of 248 *Margaritifera falcata* valve fragments but documented only a single live *M. falcata*. Although shells were found over much of the study area, they were concentrated at four locations; three in the upstream portion of the study area, approximately 2 km from the confluence with the Big Wood River and the fourth in the downstream portion of the study area only 450 meters from the confluence. The single live *M. falcata* was found at our most downstream site. It was positioned on its side on gravel/pebble substrate and measured approximately 6 cm in length.

During the July survey, we sampled a total of 30 1 m^2 quadrats by ocular inspection (i.e. 20% of 150 possible quadrats). From those quadrats, we excavated 30 0.25 m^2 quadrats to a depth of approximately 10 cm (ca. 0.75 m^3 of sediment). No live *Margaritifera falcata* were collected or observed. Molluscan species richness in Willow Creek, based on our collections, is eight species from six families (Table 1). Molluscan species richness was greatest at our most upstream site approximately 2 km above the confluence with the Big Wood River. We also used viewing buckets to survey an approximately 500 meter reach of the Big Wood River above and below the confluence with Willow Creek. No live *M. falcata* or sign of any mussel species was observed.

Table 1. Mollusks collected or observed during this survey from sampling sites on Willow Creek and the Big Wood River, Blaine County, Idaho; May - July, 2008.

Family	**Genus**	**Species**	**Authority**	**Willow Cr. Status**
Ancylidae	*Ferrissia*	*rivularis*	Say, 1817	Rare
Hydrobiidae	*Fluminicola*	*fuscus*	Haldeman, 1847	Abundant
Hydrobiidae	*Potamopyrgus*	*antipodarum*	Gray, 1853	Rare
Lymnaeidae	*Radix*	*auricularia*	Linnaeus, 1758	Wood R. only
Lymnaeidae	*Stagnicola*	*hinkleyi*	Baker, 1906	Wood R. only
Physidae	*Physa*	*gyrina*	Say, 1821	Abundant
Planorbidae	*Gyraulus*	*parvus*	Say, 1817	Rare
Planorbidae	*Planorbella*	*subcrenatum*	Carpenter, 1857	Uncommon
Margaritiferidae	*Margaritifera*	*falcata*	Gould, 1850	Rare
Sphaeriiddae	*Pisidium*	sp.	Pfeiffer, 1821	Uncommon

Numerically, two families, represented by one species each, dominated the molluscan community in Willow Creek; *Fluminicola fuscus* (Haldeman, 1847) (Hydrobiidae) and *Physa gyrina* (Say, 1821) (Physidae). Only one individual each of *Margaritifera falcata*, *Ferrissia rivularis* (Say, 1817), *Potamopyrgus antipodarum* (Gray, 1853) and *Gyraulus parvus* (Say, 1817) was collected. It is assumed that a small population of *F. rivularis* and *G. parvus* exist within the Willow Creek Complex as these species are considered habitat generalists and persist relatively well in degraded habitats. It is also assumed that there is a population of *P. antipodarum* in Willow Creek given the highly invasive potential of this species (Richards et al. 2001) and its presence in nearby Silver Creek (Richards and Lester, 2005). We had hoped to find additional buried or emergent *M. falcata* individuals in those areas with considerable evidence of past utilization (i.e. valve fragments) and/or nearby the collection site of the single live individual. Although we failed to find any additional mussels, we were surprised at the number of species observed and are optimistic with regard to their conservation in Willow Creek.

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An Updated Review of Attempts to Smuggle Freshwater Snails from Thailand into Israel

Henk K. Mienis
National Collections of Natural History, Department of Zoology, Tel Aviv University,
IL-69978 Tel Aviv, Israel, and National Natural History Collections, Berman Building, Hebrew University of Jerusalem, IL-91904 Jerusalem, Israel. mienis@netzer.org.il

Since 2005 inspectors of the Plant Protection and Inspection Services (PPIS) of the Ministry of Agriculture of Israel, stationed at the international Ben-Gurion Airport, have so far come across nine cases of attempts to smuggle life freshwater snails by temporary labourers arriving in Israel from Bangkok.

The first discovery of life snails among the personal belongings of these labourers took place on 17 March 2005, the most recent one on 27 February 2009. The quantity of intercepted snails ranged from less than ten specimens to almost 2 kg (about 500 specimens!) in a single batch and consisted of one to three different species. These snails are being confiscated because not only the whole phylum Mollusca is protected by law in Israel, but it is also prohibited to import molluscs alive or dead without a proper permit. So far seven different species have been discovered. They are enumerated here in systematic order.

GASTROPODA
Family VIVIPARIDAE
Filopaludina (Filopaludina) sumatrensis polygramma (von Martens, 1860)
Filopaludina (Siamopaludina) martensi cambodjensis (Mabille & Le Mesle, 1869)
Filopaludina (Siamopaludina) martensi martensi (von Frauenfeld, 1865)
Family AMPULLARIIDAE
Pila ampullacea (Linnaeus, 1758)
Pila gracilis (Lea, 1856)
**Pomacea canaliculata* (Lamarck, 1819)
**Pomacea insularum* (d'Orbigny, 1839)
*An invasive species from South America, which has become naturalized in Thailand.

All seven gastropods belong to relatively large species which are eaten all over Thailand. Since similar, edible species are not available in Israel, new or returning Thai workers try to smuggle them into Israel with the intention to grow them in aquatic habitats in the vicinity of the complexes were they are living.

The diversity of the snail species, which they try to smuggle into Israel, depends on the area where they live in Thailand. The different species combination of the various interceptions has been tabulated below.

Date	17.03 2005	16.11 2005	02.01 2006	09.04 2006	20.04 2006	04.12 2006	22.02 2007	20.02 2008	27.02 2009
PPIS mollusc sample #	199	205	210	214	213	218	222	244	259
Species									
Filopaludina sumatrensis polygramma	-	-	-	-	-	-	-	-	+
Filopaludina martensi cambodjensis	-	-	+	-	-	-	-	-	-
Filopaludina martensi martensi	+	+	-	+	+	+	-	-	+
Pila ampullacea	-	-	-	+	+	+	+	+	+
Pila gracilis	-	-	-	-	-	-	-	+	-
Pomacea canaliculata	-	-	+	-	-	-	-	-	-
Pomacea insularum	-	-	+	-	-	-	-	-	-
Total	1	1	3	2	2	2	1	2	3

The problem with these interceptions is not only that they have taken place already nine times, but more seriously is the fact that we have no idea how many times these workers succeeded in smuggling such snails into Israel. If these snails manage to get a foothold in Israel, then most likely they may have a negative effect on the whole aquatic biodiversity in general and the local mollusc fauna in particular. The latter is already suffering from pollution and a general lack in rainfall during the past 10 years.

Also a health risk is involved: all species of *Filopaludina* and *Pila* living in Thailand are well-known intermediate hosts of trematodes, which may cause among others Echinostomiasis in man, a snail-borne disease not known in Israel (Brandt, 1974).

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I like to thank Dr. Shmuel Moran, who recently retired from the PPIS, Ministry of Agriculture, and Mrs. Svetlana Vaisman of the same institute for submitting at least part of the intercepted molluscs for identification and permanent storage in either the Mollusc Collection of the Tel Aviv University or the Hebrew University of Jerusalem.

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Spectaclecase (*Cumberlandia monodonta*) host studies produce more negative results

Mark C. Hove and Dan J. Hornbach, University of Minnesota and Macalester College
Bernard E. Sietman and Andrea K. Crownhart, Minnesota Department of Natural Resources (MN DNR)
Matthew S. Berg - Grantsburg High School – Biology Department
480 East James Avenue, Grantsburg, WI 54840 - (715) 463-5165 – mberg@grantsburg.k12.wi.us

Despite exhaustive trials by our laboratories and others (*e.g.*, Baird (2000)), no suitable hosts have been identified for spectaclecase (Watters, 2008).

We conducted spectaclecase glochidia host suitability trials using standard methods (Zale and Neves, 1982). Gravid spectaclecase and silver lamprey were collected from the St. Croix River and other in/vertebrates were collected from streams and rivers outside the watershed. Host suitability trials were conducted at the University of Minnesota Wet Laboratory and at the Grantsburg High School Biology Laboratory during 2007. Treated subjects were inoculated with at least 10-20 glochidia and transferred to clean aquaria. Inoculated subjects were held in aquaria at 19°C ± 2 °C and fed at least three times a week. Aquaria were generally siphoned and siphonate checked for presence of glochidia and juveniles three times a week. A suitable host was verified if we observed glochidia encapsulation and metamorphosis to the juvenile stage.

We exposed a variety of vertebrates and invertebrates to spectaclecase glochidia but did not observe metamorphosis. Seven fish species were tested at the University of Minnesota and fourteen additional species including an agnathan fish, two amphibians, two gastropods, two crayfish, two ephemeropterans, one plecopteran, and four odonates were tested at Grantsburg High School (Table 1, next page). Although each of the 14 non-fish test subjects remained in the infestation tank for at least a 30 minute period, glochidial attachment was minimal. Using a stereoscope, we observed that anisopteran odonates anal respiration resulted in the near continuous inspiration and expiration of the neutrally buoyant glochidia without any apparent attachment. Despite direct contact with zygopteran odonate, ephemeropteran and plecopteran external gills, we observed no attachment. Rather, glochidia attached only to tibial setae on the crayfish and odonates, antennae and caudal cerci on the plecopterans, and not at all on ephemeropterans or gastropods. We did not directly observe glochidia on the internal gills of either the lampreys or the tadpoles, but the number of sloughed glochidia recovered from each suggests some attachment did occur. Ultimately, no test subjects facilitated glochidia metamorphosis, nor did we observe growth of any sloughed glochidia.

Several people and organizations assisted with this project. We thank the MN DNR ‘mussel survey team’ (Ben Dickinson, Mike Davis, Paula Frank, and others) and Vanessa Kleiss, Mitchell Evenson, Nicole Davis, Lydia Benge-Briggs, Charlie Falk, Tyler Myers, Ingrid Ames, Vanessa McKinley, Kevin Johnson, and many others in the 2007 Biology 2 classes at Grantsburg High School. Thanks also to the USFWS for funding this study and Wisconsin DNR for administering the project.

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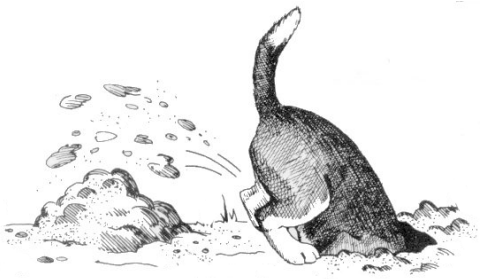
Table 1: Spectaclecase host suitability trial results

Test Host	Trial	No. of individuals inoculated	No. of survivors	Glochidia attachment period (days)
Fish				
pallid sturgeon (*Scaphirhynchus albus*)	Trial 1	1	1	1-4
	Trial 2	2	2	1-4
lake sturgeon (*Acipenser fulvescens*)	Trial 1	2	2	1-4
	Trial 2	3	3	1-4
longnose gar (*Lepisosteus osseus*)		2	2	3-6
shortnose gar (*Lepisosteus platostomus*)		3	3	3-6
American eel (*Anguilla rostrata*)		3	3	4-13
gizzard shad (*Dorosoma cepedianum*)		1	1	4-7
mottled sculpin (*Cottus bairdii*)		5	5	4-7
silver lamprey (*Ichthyomyzon unicuspis*)		2	2	1-8
Amphibians				
green frog tadpole (*Rana clamitans*)		20	16	1-7
mudpuppy (*Necturus maculosus*)		1	1	1-7
Gastropods				
physa snail (*Physa* sp.)		10	**	**
viviparus snail (*Viviparus* sp.)		5	**	**
Crustaceans				
rusty crayfish (*Orconectes rusticus*)		4	3	1-7
native crayfish (*Orconectes* sp.)		2	2	1-4
Insects				
humpback mayfly (*Baetisca* sp.)		20	**	**
"hex"mayfly (*Hexagenaia* sp.)		15	**	**
stonefly (*Pteronarcys* sp.)		2	2	1-4
bluet damselfly (*Enallagma* sp.)		2	**	**
dancer damselfly (*Argia* sp.)		2	**	**
stygian shadowdragon (*Neurocordulia yamaskanensis*)		25	15*	1-8
swift river cruiser (*Macromia illinoiensis*)		16	8*	1-15

* Terminal instars emerged as flying adults before the end of study, no mortalities ** No glochidial attachment observed

Helpful Hints from Hoppy:

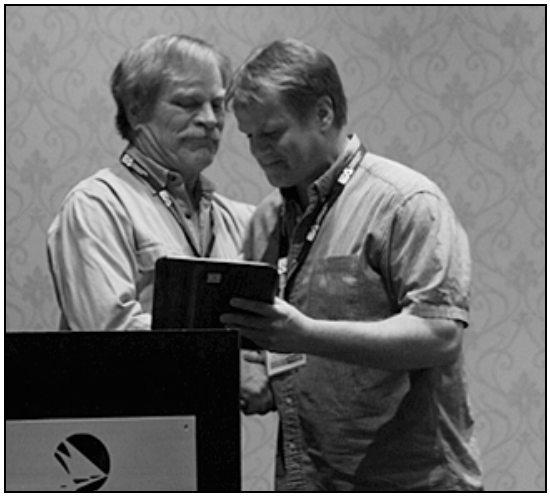


Hoppy Says — my eternal message for dedicated shellheads…never give up digging. Farewell!

Submitted by Steve Ahlstedt

FMCS 2009 Awards

Photos from Mark Hove



Lifetime Achievement Award: James Layzer (on left)

Lifetime Achievement Award: Gerrie Mackie

Meritorious Service Award: Heidi Dunn

Best Student Platform Award: Jason Mays

Honorable Mention Student Platform Award: Dan Allen

Honorable Mention Student Poster Award: Nathan Johnson
Not pictured: Best Student Poster Award: Joe Daraio
Presenter is Teresa Newton, Awards Committee Co-Chair.

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Awards
W. Gregory Cope – North Carolina State, Dept. Environ. & Molecular Toxicology, Box 7633, Raleigh, NC 27695-7633
919-515-5296; greg_cope@ncsu.edu

Teresa Newton – Upper Midwest Environmental Science Center, 2630 Fanta Reed Rd., LaCrosse, WI 54603
608-781-6217; tnewton@usgs.gov

Emy Monroe – Miami University, Zoology Dept., Rm 212 Pearson Hall, Oxford, OH 45056
513-529-0272; monroeem@muohio.edu

Environmental Quality and Affairs
Ryan Evans – Kentucky State Nature Preserves Commission, 801 Schenkel Lane, Frankfort, KY 40601
502-573-2886 x102; fax: 2355; Ryan.Evans@ky.gov

Steve McMurray – Missouri Department of Conservation, 1110 S. College Ave., Columbia, MO 65201
573-882-9909; stephen.mcmurray@mdc.mo.gov

Gastropod Status and Distribution
Paul D. Johnson – Alabama Aquatic Biodiversity Center, Route 3, Box 86, Marion, AL 36756
334-683-5000; paul.johnson@dcnr.alabama.gov

Jeff Powell – USFWS, 1208 B Main St., Daphne, AL 36526
251-441-5181; jeff_powell@fws.gov

Genetics
David J. Berg – Miami University, 546 Mosler, Oxford, OH 45069
513-785-3246; bergdj@MUOhio.edu

Guidelines and Techniques
Chuck Howard – TVA, Natural Heritage Program, 400 W Summit Hill Dr., WT 11C-K, Knoxville, TN 37902
865-632-2092; cshowar1@tva.gov

Janet Clayton – West Virginia Division of Natural Resources, PO Box 67, Ward Road, Elkins, WV 26241
304-637-0245; janetclayton@wvdnr.gov

Information Exchange
Al Buchanan – 1001 S. Johnmeyer Lane, Columbia, MO 65203
573-445-1521; gandalfpoint@yahoo.com

G. Thomas Watters – Museum of Biological Diversity, The Ohio State University, 1315 Kinnear Road, Columbus, OH 43212
614-292-6170; Watters.1@osu.edu

John Jenkinson – 305 Revere Ave., Clinton, TN 37716
865-457-0174; jjjenkinson@hotmail.com

Mussel Status and Distribution
Arthur E. Bogan – North Carolina State Museum of Natural Sciences, 4301 Reedy Creek Road, Raleigh, NC 27607
919-733-7450 x 753; arthur.bogan@ncmail.net

James D. Williams – 4820 NW 15th Place, Gainesville, FL 32605
352-737-3743; fishwilliams@gmail.com

Outreach
Andy Roberts – USFWS, 101 Park DeVille Drive, Suite A, Columbia, MO 65203
573-234-2132 x 110, andy_roberts@fws.gov

Tom Jones – Marshall University, 110 Heather Court, Scott Depot, WV 25560
304-389-5832; jonest@marshall.edu

Propagation, Restoration, and Introduction
Tony Brady – Genoa Fish Hatchery, S 5689 State Road 35, Genoa, WI 54632
608-689-2605; tony_brady@fws.gov

Rachel Muir – U.S. Geological Survey, 2171 Cabots Point Lane, Reston, VA 20191
703-648-5114; rachel_muir@usgs.gov

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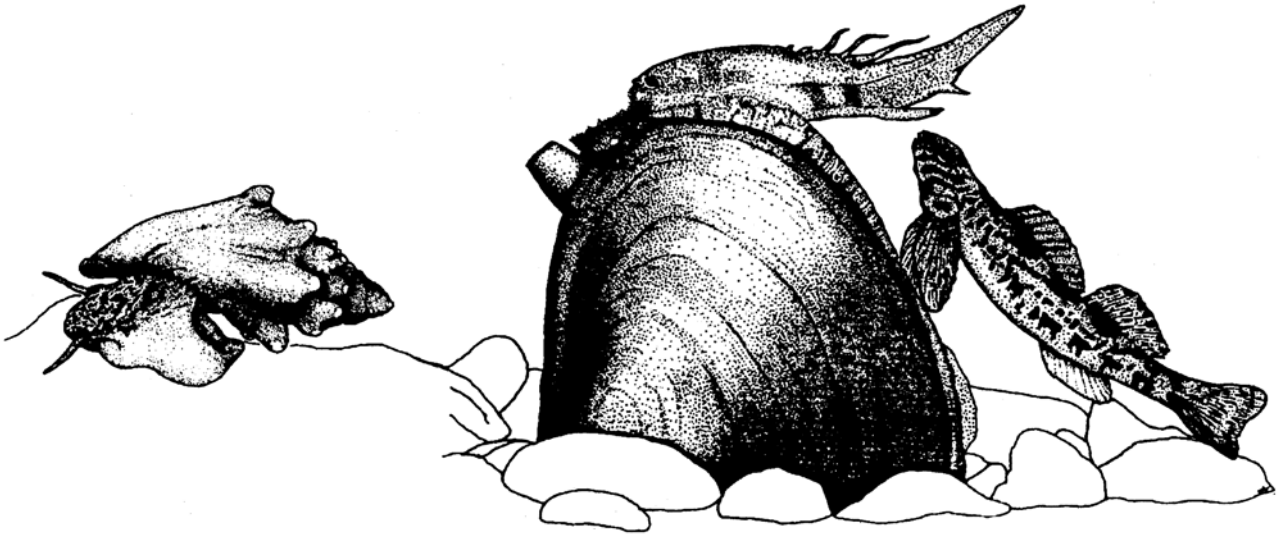

…dedicated to the advocacy and conservation science of freshwater molluscan resources