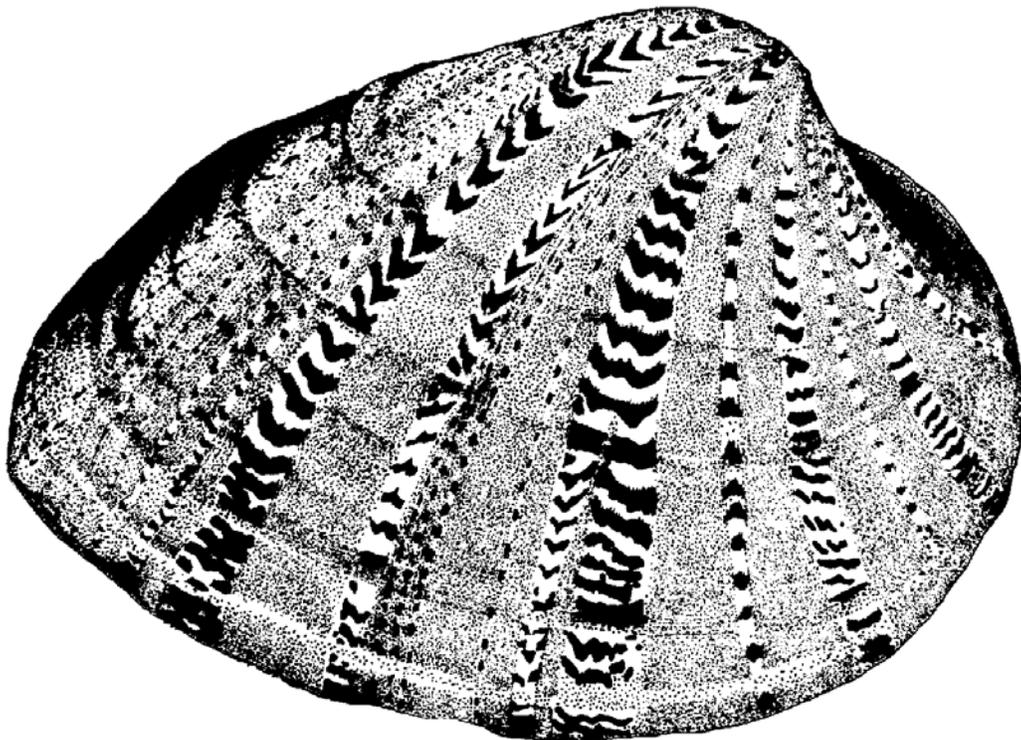


Ellipsaria

The Newsletter of the Freshwater Mollusk Conservation Society

Volume 3 - Number 2

August 2001



In this issue:

2001 FMCS Membership List

2000 Molluscan Bibliography

***Ellipsaria* – Volume 3, Number 2 – August 2001**

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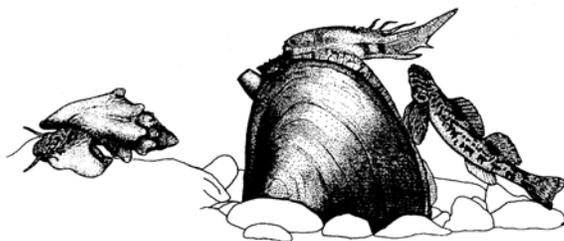
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Freshwater Mollusk Conservation Society



FMCS Reports

President's Report

It sure doesn't seem like the FMCS Symposium in Pittsburgh was five months ago! I guess field season has a way of making the time fly by. I want to give a big thanks again to all of the people and organizations that made the meeting a great success. I know how time consuming putting together a meeting can be so I want to give a special thank you to Tom Proch and his staff and the Pennsylvania DEP for all that they did.

The newly elected committee chairs have been in place for a few months now and there has been continued progress along many fronts (see the committee reports later in this newsletter). As was stated in the last newsletter, the FMCS board formed an ad-hoc committee on Advocacy and Awards to deal with letter writing about issues relevant to mollusk conservation and to set up a student travel award. Al Buchanan had agreed to serve as chair of that committee and has drafted a document relating to student travel. Unfortunately Al is swamped with other job related activities (boy that sounds familiar) and would like to vacate his chair. If anyone is interested in volunteering to chair that committee please contact me (ksc@inhs.uiuc.edu or 217-333-1623).

Although we are a young society I believe that we have made great strides in the past six years. I pulled out a copy of the National Strategy for the Conservation of Native Freshwater Mussels (The National Native Mussel Conservation Committee. 1998. Journal of Shellfish Research 17(5): 1419-1428) to see what we have accomplished in our short lifetime. The Strategy, first conceived in 1995, inspired a similar document aimed at protecting rare fishes (Strategy for the Conservation of Southeastern Imperiled Fishes 1999, http://www.sherpaguides.com/southeast/aquatic_fauna/strategy/), and a National Strategy will be drafted for freshwater gastropods sometime in the near future (<http://www.cofc.edu/~dillonr/14Mar01.htm>).

The National Strategy for the Conservation of Native Freshwater Mussels identified 10 Problems, Goals, and Strategies to help solve the problems. As I look over the Strategy I have come to the conclusion that we have made significant progress toward achieving many of the objectives outlined in that document.

Problem 1 identified the need for a coordinated effort for the conservation of mussels. The formation of the FMCS, and its various committees, the dissemination of information via the Unio listserv and *Ellipsaria*, and the on-line bibliography of freshwater mollusk literature have gone a long way toward realizing those goals.

Problems 2 and 5 addressed the problem of habitat degradation and the physical alteration of habitat (dredging,

impoundments, water quality, etc.). These are probably the toughest problems to solve. We haven't done quite so well in combating these problems but we have identified mussel hot spots in the Ohio River basin through the efforts of the Freshwater Mussel Subgroup of the Ohio River Ecosystem team. The "hot spot" issue was one of the issues to be dealt with through the Distribution and Status Committee. Perhaps one of the members of that committee could contact Kevin Roe (chair) and volunteer to begin to compile a similar list for the rest of North America (or the world!). Sort of a GAP analysis by the seat of our pants. We need to do more to identify and help protect (to borrow a phrase) the last great places.

Some juvenile mussels are being used as bioassays in some studies and fingernail clams have also been used in recent years. Research has begun trying to find out which of the Best Management Practices (BMP's) are of value to mussels, but the results could take years to compile and interpret. We have made progress on updating laws and regulations related to harvest bringing them more in line with the actual cost of implementing those regulations. Some work has also been done on using mussels as biomonitors for ranking streams or habitat but clearly more effort is needed here.

Problem 3 dealt with the issue of life history and propagation. In looking over the papers given at the Pittsburgh symposium and those published in the proceedings of the Columbus and Chattanooga meetings, we have made significant progress in this area. However, we have a long way to go to even begin to figure out the complex interactions involved in the reproduction of freshwater mussels and other mollusks. We are also only beginning to scratch the surface on what constitutes "good habitat" and on understanding the population dynamics of freshwater mollusks.

Problem 4 raised the issue of mussel population health and status. This is a tough one. In many cases the historic data for a particular state or province are available in museums waiting to be mined. However, a great deal of time, money, and effort will be needed to gather that data in a usable format. In many areas historic data are lacking and current survey efforts are uneven. The distribution and status committee on mussels has prepared a draft proposal to create a mussel atlas but so far no one has stepped up to the plate to fund such a large undertaking. A similar effort to secure funds by the gastropod distribution and status committee has met with similar results. However, given the importance of having this kind of information readily available makes it necessary to keep at it and hopefully it will become a reality in the near future. Problem 4 also addresses the need for using molecular tools to help identify imperiled mussels and recommend sound relocation strategies based population genetics. The labs of Dave Berg, Dan Graf, Randy Hoeh, Tim King, and Chuck Lydeard among others have begun to tackle this important issue but much additional work needs to be done here.

Problem 6 is the dreaded zebra mussel. Things still look grim in some spots (i.e. Mississippi River) but have improved in

others (i.e. Illinois River). Thankfully, zebra mussels haven't invaded most of our smaller streams and have been largely confined to those streams where there is commercial navigation or other boat traffic. Some predictive models have been developed to give us an idea of where we might first encounter zebra mussels and we have a pretty good network out there for tracking and monitoring existing populations. Still needed are threshold models or triggers that can direct managers when it is time to relocate or attempt cleaning operations. We have made strides in looking to hatcheries to hold mussels but clearly more needs to be done in this area.

The USGS, Sea Grant, and others have taken the lead on the zebra mussel issue but research related to the impact of *Dreissena* on freshwater mollusks is still needed. However, it is my opinion that zebra mussel studies should not take vital resources away from studies on native mollusk species. Sometimes it seems like the only thing spreading faster than zebra mussels are zebra mussel conferences and published papers on zebra mussels. More resources need to be focused on native species while we still have them around (I'll get off the soapbox now).

Problem 7 is visibility, or getting people to recognize the plight faced by native freshwater mollusks. We have made great strides through the efforts of the Outreach Committee but clearly we have a way to go to bring mollusks up to charismatic megafauna levels. The Outreach Committee has been very active and has recently completed a guide to outreach material available to the public. A pdf file of that document is available online at <http://ellipse.inhs.uiuc.edu/FMCS/Outreach/> The Outreach Workshop at the National Conservation Training Center was a success. The videos produced by Virginia Tech and others are also good tools for reaching the public. We have also had several posters featuring mussels produced in recent years. I see these in offices around the country and they help to get our message out to the public at large. I definitely think we are headed in the right direction, but in this age of short attention spans we certainly need to keep freshwater mollusk conservation front and center whenever we can. We need to engage the politicians and policy makers to a greater degree because they are the ones that can effect change the quickest.

Problems 8 & 9 deal with propagating and holding mussels. Much progress has been made in this area. The work being done at Southwest Missouri State, Virginia Tech, Tennessee Tech, and the Genoa Fish Hatchery immediately comes to mind. The efforts to hold and move the federally endangered *Lampsilis higginsii* by the Higgins eye recovery teams and others is providing important information on translocation as a mitigation strategy for zebra mussels. There are similar efforts going on in other labs as well.

Finally, problem 10 is the lack of funds needed to carry out the work. The buzzword of the past few years has been partnerships,; the merging of funds and personnel often makes an undoable project a reality. As pointed out in the strategy,

no single agency or conservation organization has sufficient funds or expertise to recover the freshwater mollusk fauna. We will need to join forces with the fish and other invertebrate people interested in the conservation of freshwater aquatic ecosystems.

I have tried to give a broad overview of what I believe have been the significant achievements that FMCS members have made in reaching many of the goals of the National Strategy. The Strategy is intended to be a dynamic document that will be revised as new information becomes available. I know I have left out many other important research projects and outreach efforts. If you have a particular effort or project that you would like to highlight please send it in and we will put it in the newsletter. The newsletter is our current vehicle for keeping abreast of what is going on in the field.

Finally, I want to remind all of those people out there that haven't renewed their membership to please do so today. It helps me to know who to pester in the coming year about becoming a member.

Submitted by Kevin Cummings, President

FMCS Board Meeting November 7 & 8, 2001

The next FMCS board meeting is November 7&8, 2001 in Kentucky in conjunction with the OVRE meetings. Exact place and time is yet to be determined. FMCS board meetings are open and any society member may attend. However, only officers and committee chairs are allowed to vote.

Items to be discussed at the meeting include:

- Site selection for the 2005 symposium
- Propagation & Restoration Workshop 2001
- Long term financial planning for society revenues
- Student awards & Advocacy Committee
- Discussion about society journal

Please send any additional agenda items to Kevin ksc@inhs.uiuc.edu

Submitted by Kevin Cummings, President

FMCS Propagation and Restoration Workshop March 14 & 15, 2002

The FMCS Propagation and Restoration Workshop will be held March 14-15 2002 at the National Conservation Training Center in Shepherdstown, West Virginia. Information and a form for pre-registration are available at the following website: <http://unionid.smsu.edu/>

Submitted by Chris Barnhart, Chair

FMCS Treasurer's Report

FMCS Profit & Loss Statement
January 2001 through June 2001

	<u>This Year</u>	<u>Last Year</u>
Income		
Dues		
Dues 2000	\$0	\$5,415
2001 dues	\$5,570	\$0
2002 dues	<u>\$60</u>	<u>\$0</u>
Total Dues	\$5,630	\$5,415
Symposiums/Workshops		
2000 Workshop		
Outreach workshop reg. fee	\$0	\$2,950
2000 workshop donations	<u>\$0</u>	<u>\$5,000</u>
Total 2000 workshop	\$0	\$7,950
2001 Symposium		
2001 symposium registration	\$19,598	\$0
2001 symposium donations	<u>\$9,500</u>	<u>\$0</u>
Total 2001 symposium	\$29,098	\$0
Total Symposiums/Workshops	\$29,098	\$7,950
Auction		
Auction	\$3,372	\$0
T-shirt/hat/poster sales	\$0	\$275
Gifts	\$10	\$0
Paul Hartfield fund	\$0	\$198
Total Income	\$38,110	\$13,838
Direct costs		
Auction costs	\$750	\$0
Symposium costs	\$20,075	\$0
Workshop costs	\$0	\$960
Hats/t-shirts/posters costs	\$0	\$2,204
Paul Hartfield fund	<u>\$0</u>	<u>\$198</u>
Total of Direct Costs	\$20,825	\$3,362
Gross Profit	\$17,284	\$10,476
Expenses		
Dues & Subscriptions	\$0	\$100
Credit card fees	\$326	\$0
Bank fees	(\$45)	\$0
License Fees	<u>\$0</u>	<u>\$500</u>
Total Expenses	\$281	\$600
Operating Profit	\$17,003	\$9,876
Net Profit / (Loss)	\$17,003	\$9,876

Submitted by Heidi Dunn, Treasurer

FMCS Committee Reports

Gastropod Status & Distribution Committee Report

Nothing to report. See their website for current news:
<http://www.cofc.edu/~dillonr/fwgnahome.htm>
Submitted by Rob Dillon, Chair

Guidelines & Techniques Committee Report

Progress is being made on the development of guidelines for the assessment of mussel kills. An annotated outline of the proposed approach will be circulated shortly to committee members who expressed an interest in assisting with the guidelines. Any other members interested in helping out on this task are invited to contact John Van Hassel (jhvanhassel@aep.com).

Submitted by John Van Hassel, Chair

The commercial committee has been placed under the Guidelines and Techniques Committee (John van Hassel, Committee Chair). This is a shift in focus for the commercial group because of the urgency involved with evaluating the dollar values for all species of freshwater mussels killed during polluting events. Contact has been made with Rob Southwick of Southwick and Associates who has done the monetary values for fish for the American Fisheries Society (AFS) and is currently under contract to the AFS to re-evaluate or upgrade the values for fish. Rob is very interested in doing the values for freshwater mussels that would be included as one document with the values for fish. The AFS is also in support of this. Costs associated with determining values are \$43,500. Wayne Davis indicated that the Mussel Mitigation Trust Fund could cover the cost of this but would want at least \$20,000-\$25,000 back into the fund from other sources (state or federal). That way the Mussel Mitigation Trust Fund would not stand alone in supporting this. The FMCS would also contribute \$5,000. I will ask Rob to give a brief presentation to the board on what he has proposed at the ORVE/FMCS meeting in November.

There is an urgent need to have values assigned to mussels because polluting events will continue to happen. Just recently, Bill Posey (Arkansas Fish and Game) contacted me concerning a diesel spill that killed mussels in Arkansas. I told him that we had nothing in place for determining the value. If anyone has a source of funding (need \$20,000-25,000), then we can get this off the ground. Please feel free to contact me (865) 545-4140 x.17.

Anyone interested in mussel sampling, my remaining field schedule follows:

Duck River - Sept 10-21 (Comfort Inn, Columbia TN) 931-388-2500

Green River - Sept 27-31 Contact Bob Butler

Big South Fork Cumberland (horsefly extravaganza) Oct 8-12 (Tobes Motel) 423-569-8581

Submitted by Steve Ahlstedt

Information Exchange Committee Report

A new list of relevant links has been added to the main page of the FMCS website (<http://ellipse.inhs.uiuc.edu/fmcs/>) and each committee has been given a web page. If your committee would like to add information to this site or add a link to a page that is hosted by the committee somewhere else, please contact Mark Hove (Mark.Hove@fw.umn.edu) or Chris Mayer (cmayer2@uiuc.edu).

Submitted by Chris Mayer

Mussel Status & Distribution Committee Report

The committee chair is developing a web page where individuals interested in writing species accounts can find out formatting information as well as which species accounts are already done and which are still open. It is hoped that the web page will be up and running in the next few months.

Also, the committee chair is working to finalize a small grant from the U.S. Forest Service to complete accounts for a number of mid-western taxa.

Submitted by Kevin Roe, Chair

Outreach Committee Report

The Outreach Committee is preparing for the North American Association of Environmental Educators meeting this October in Little Rock. The committee is assembling a "guide" to aquatic biodiversity with sections on non-game fishes, crayfish, gastropods, and of course, freshwater mussels. Each section briefly describes anatomy and identifying characteristics, life history, ecological and economic value, field collection, as well as including photographs, references, and web links. The committee will host an evening session (NAAEE members sign up for sessions beforehand) that will cover the high points of aquatic biodiversity to be followed by an in-field day of sampling to experience the fauna. FMCS outreach committee members will team up with USFWS staff and Arkansas Fish and Game folks to take the educators into the field and get them in the river to collect, learn, and experience aquatic biodiversity firsthand.

Submitted by Kurt Welke, Chair

Propagation and Restoration Committee Report

See note about March 2002 Workshop on Page 3.

Symposium Committee Report

The dates and location of the 2003 Symposium have been finalized. The Symposium will be held March 16-19, 2003 at

the Sheraton Imperial, Research Triangle Park, North Carolina:



"The Sheraton Imperial Hotel and Convention Center is the largest and most conveniently located meeting facility at an airport between Atlanta and Washington D.C. The hotel is minutes away from Raleigh-Durham International Airport, which serves most major airlines with domestic and international flights. The Sheraton Imperial provides complimentary scheduled shuttle service to and from the airport for our guests. The Sheraton Imperial is the ideal central location for conducting business in the Triangle. Major business, research facilities, universities and medical centers are all within 20 minutes of the hotel." <http://www.sheratonrtp.com/>

More information on this symposium will be provided in the next newsletter.

Submitted by Judith Johnson, Co-chair

Water Quality, Habitat, and Zebra Mussel Committee Report

Nothing to report.

Announcements

New Poster Available

Here's some excellent news from Dwayne Lepitzki of Wildlife Systems Research in Banff, Alberta. The "Banff Springs Snail," *Physa johnsoni*, is featured on the Government of Canada's 2001 species at risk poster! See: <http://www.speciesatrisk.gc.ca>

The poster ("Big or Small, We Protect Them All") may be ordered from the website free of charge, even by those of us from south of the border. The reverse of the poster features a nice, popular write-up on *P. johnsoni*, including sections on its

habitat, threats, and recovery plans. There's even a photo of Dwayne and Linda Lepitzki monitoring snail numbers.

As an added bonus, the text and photos from the back of the poster headlined "Envirozine," Environment Canada's on-line newsmagazine for the week of August 3.

Congratulations are in order for Dwayne and all his colleagues for moving "The Cause" of freshwater gastropod conservation into the spotlight. Keep up the good work!

Submitted by Rob Dillon

Illinois State Museum Awarded IMLS Grant

Thanks to a \$46,000 grant from the federal Institute of Museum and Library Services (IMLS), the Illinois State Museum is purchasing new storage cabinets and supplies to rehouse the Museum's collection of 30,000 freshwater mussel shells. The shells are currently stored in crowded wooden cabinets and cardboard boxes at the Museum's Research and Collections Center in Springfield. New cabinets will help preserve the shells and also make them more accessible to Museum scientists, educators, and researchers from other institutions.

The mussel shells, most of which were collected from Illinois lakes and streams in the 1800s and 1900s, provide an important record of a rapidly disappearing form of animal life. Biologists use the shell collection to document the historical distributions and habitats of different mussel species. Archaeologists and geologists use the collection to help identify ancient shells from Native American villages and geological deposits. Educators use shells to teach students about the natural history of these fascinating animals and how people have used them in ancient and modern times. The IMLS-funded project is being directed by ISM curators Robert E. Warren and James R. Purdue.

Submitted by Robert Warren

National Shellfisheries Association Meeting

National Shellfisheries Association 94th Annual Meeting: April 14-18, 2002. Hilton Mystic Hotel, Mystic, CT. A special session on freshwater mussel biology and ecology is being organized by Catherine Gatenby (215-405-5077, gatenby@acnatsci.org). Please check <http://www.shellfish.org> for more information. For local arrangements, contact Evan Ward at 860-405-9073 (jeward@uconnvm.uconn.edu).

Submitted by Dan Kreeger

UNIO Listserver

UNIO is an Internet listserver focusing on the biology, ecology and evolution of freshwater unionid mussels. The primary objectives of the list are (1) to foster communication

and collaboration among scientists, researchers, and students engaged in mussel-related activities and (2) to facilitate the informal discussion of regional and federal research priorities. Postings related to mussel conservation issues, including the artificial propagation and captive rearing of threatened and endangered species, are especially welcomed. Subscribers are also encouraged to use the list for posting information on mussel-related meetings, symposia, workshops, and funding opportunities.

The listserver is intended to facilitate and to foster communication among the mussel community and is used to communicate some society information. For information on how to subscribe, go to:

<http://winnie.fit.edu/~rtankers/unio.html>

Ellipsaria

Submissions for the December issue of *Ellipsaria* can be sent in at any time but are due to Chris Mayer by November 15, 2001. FMCS board and committee reports are also due at that time. Anyone may submit an article but you must be a member of FMCS to receive *Ellipsaria*. Categories for contributions include society committee reports, news, announcements (new publications, meetings, job postings), contributed articles, abstracts, etc. Electronic submissions are preferred. Please send submissions to:

cmayer@inhs.uiuc.edu

or

Chris Mayer

Illinois Natural History Survey

607 E. Peabody Dr.

Champaign, IL 61820

News

Zebra Mussels in Lake Cumberland

On July 23, 2001, a mechanic at Conley Bottom Resort on Lake Cumberland, KY notified the Corps of Engineers (COE) of an unusual find on one of their rental houseboats. The next day, a Kentucky Department of Fish and Wildlife Resources (KDFWR) biologist confirmed the identification of 6 zebra mussels, the first confirmation of zebra mussels from the upper watershed of the Cumberland River system. A subsequent check of other boat docks on the lake (using SCUBA and snorkeling) found no other infestations. One other house boat at Conley Bottom Resort also had 1 adult and several newly settled zebra mussels on the motor. The adult zebra mussel measured 29mm. Since there is no commercial navigation on this reservoir, the only way this species could have been introduced into the reservoir is through recreational craft from another infected water body. KDFWR and COE

personnel will continue to monitor the area for expansion of this localized population.

Submitted by Wayne L. Davis, Kentucky Department of Fish and Wildlife Resources

Job Announcements

Ecological Specialists

Two Malacologist/Aquatic Ecologist positions are still open with Ecological Specialists, Inc. These jobs will provide the successful applicants with the opportunity to make a career of sampling unionids throughout the Midwest. We offer a competitive salary, great benefits, and a professional and fun working environment. We are looking for a few people who are hard working, fun, and career oriented, and are dedicated to preserving unionids and our rivers. For further details please see our web site <http://www.ecologicalspecialists.com> or contact me at Hdunn@Ecologicalspecialists.com

Submitted by Heidi L. Dunn

University of Maine Graduate Assistantship

Research Topic: Conservation genetics of rare freshwater mussels in Maine

A graduate assistantship is available in September 2001 or January 2002 for a M.S. or Ph.D. student to study the population genetics of two freshwater mussel species listed as threatened in Maine: the yellow lampmussel (*Lampsilis cariosa*) and tidewater mucket (*Leptodea ochracea*). The student will do independent research that combines field sampling of mussel populations within and among river drainages in the state, with molecular genetic analyses in the lab. Field work is a collaborative effort with ecologists who are determining the fish hosts of both species. Maine rivers are fragmented by numerous dams which have affected the distribution of mussels and their hosts, and a recent trend to remove dams will directly affect these species. Another component of the research could be to incorporate genetic data into a landscape habitat analysis using GIS - the full scope of the project will depend on the level at which the position is filled.

Stipend support will alternate between a Teaching Assistantship and a Research Assistantship, and includes a tuition waiver. Satisfactory GPA and GRE scores are required to enter the Wildlife Ecology or Interdisciplinary Ecology and Environmental Science graduate programs at the University of Maine. Students with an interest in evolutionary ecology and some experience in molecular genetic techniques will be given preference.

For more information, please contact:

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Department of Wildlife Ecology
University of Maine
Orono, ME 04469
(207) 581-2863
(207) 581-2858 (FAX)
judith_rhymer@umit.maine.edu
wlm13.umenfa.maine.edu

Submitted by Beth I. Swartz

Publications

"Freshwater mussels in the Great Plains: ecology and prehistoric utilization" Symposium Published

Papers from a symposium, "Freshwater mussels in the Great Plains: ecology and prehistoric utilization" presented at the 1998 Plains Anthropological Conference, have been published in the journal *Central Plains Archeology* (Vol 8, No 1, 2000). The volume includes papers by archaeologists and biologists on past and present mussel faunas of the central and northern Great Plains.

- Introduction to the symposium. Kerry Lippincott
- Mussels, bison kills, and postclarity in the archeological record. Donald J. Blakeslee
- Archeological interpretation of freshwater mussel assemblages near the Solomon River, Kansas. Ron Dorsey
- Freshwater mussels from Nebraska phase sites along the Missouri River drainage in southwestern Iowa. K. Kris Hirst
- A critical review of the unionoid mollusks reported for Nebraska by Samuel Aughey (1877). Ellet Hoke
- Mussels and marginal utility. Thomas P. Myers and Keith Perkins III
- Summary of current known distribution and status of freshwater mussels (Unionoida) in South Dakota. Douglas C. Backlund
- Prehistoric procurement and use of freshwater mussels along the Missouri River in the northern Great Plains. Robert E. Warren
- Freshwater mussel management in North Dakota. Steve Dyke
- Freshwater shell tool/ornament production and resource use in the Middle Missouri subarea of North Dakota. Paul R. Picha and Fern E. Swenson
- The freshwater mussels (Bivalvia: Unionoida) of Montana. Michael M. Gangloff and Daniel L. Gustafson
- A prehistoric freshwater mussel collection from the Schmitt Chert Mine site (24BW559) near Three Forks, Montana. Kerry Lippincott and Leslie B. Davis

Floating mussels in the upper Mississippi River, Minnesota and their implications for dispersal in paleontology and archeology. Alan M. Cvcancara

Remarks stimulated by the symposium, Freshwater mussels in the Great Plains ecology and prehistoric utilization. Alan M. Cvcancara

Copies of Central Plains Archeology can be obtained from Karin Roberts, NAPA Secretary/Treasurer, National Park Service, Midwest Archeological Center, 100 Centennial Mall North, Room 474, Lincoln, Nebraska 68508; (402) 437-5392, ext 220 (Karin_Roberts@nps.gov). The price is \$9.00 U.S. plus postage (U.S. postage \$1.00). Checks or money orders should be made payable to the Nebraska Association of Professional Archeologists.

Submitted by Robert Warren

Contributed Articles

Freshwater Mussels in the National Mollusc Collection of the Hebrew University of Jerusalem 4. The family ETHERIIDAE

Henk K. Mienis

National Mollusc Collection, Berman Building

Dept. Evolution, Systematics & Ecology

Hebrew University, IL-91904 Jerusalem, Israel

E-mail: mienis@netzer.org.il & mienis@hotmail.com

Abstract

A revision is given of the freshwater mussels belonging to the family Etheriidae present in the National Mollusc Collection of the Hebrew University of Jerusalem.

Introduction

The Etheriidae forms a small family of freshwater mussels characterized by shells with extremely irregular forms. Usually one of the valves is firmly attached to the substrates. All these features have led to their nickname "Freshwater Oysters," in spite of the fact that they belong to the Unionacea.

All four species currently recognized in the Etheriidae (Pain & Woodward, 1961) turned out to be represented by at least one sample in the National Mollusc Collection of the Hebrew University of Jerusalem.

Family Etheriidae

Genus *Etheria* Lamarck, 1807

Syn.: *Aetheria* Oken, 1818 (emendation)

Caillaudiana Bourguignat, 1880

Niloticiana Bourguignat, 1880

Chambardiana Bourguignat, 1880

Letourneuxiana Bourguignat, 1880-81

Etheria elliptica Lamarck, 1807

Material in collection:

-Kenya, Lake Victoria, 1959 (HUI 8383/1 + 3 valves);

-River Nile (HUI 8393/1 = Coen 9737);

-River Nile, Assinie, ex-col. T. Pain (HUI 8394/1 = Blok 8442);

-Lake Tsana, leg. Tancredi, 1908 (HUI 8395/1 = Coen 5030);

-Nigeria, River Oshun near Lagos (HUI 8396/1 = Coen 5029);

-Upper Congo (HUI 8397/1 = Coen 50320).

General distribution: Widely distributed in tropical Africa south of the Sahara, the Nile catchment area and Madagascar (Pain & Woodward, 1961: 3-4).

Remark: Ecological forms of this species have been described over and over again as new taxa. I refer to Daget (1998: 159-160) for a complete review of all its synonyms.

Genus *Bartlettia* H. Adams, 1866

Syn.: *Rochanaia* de Morretes, 1941

Bartlettia stefanensis (Moricand, 1856)

Syn.: *Rochanaia gutmansii* de Morretes, 1941

Material in collection:

-Amazon (HUI 8398/1 = Coen 5034);

-Amazon, ex-Ball (HUI 8399/1 = Blok 10042).

General distribution: It is known from the Amazon catchment area in Ecuador, Paraguay, Brazil and Peru (Pain & Woodward, 1961: 5).

Remarks: *Anodonta tenebricosa* Lea, 1834 may turn out to be an older name for this species (Pain & Woodward, 1961: 5).

Genus *Acostaea* D'Orbigny, 1851

Syn.: *Mulleria* de Férussac, 1823 non Leach, 1814, nec Fleming, 1828

Syn.: *Eumulleria* Anthony, 1907

Acostaea rivolii (Deshayes, 1827)

Syn.: *Acostaea guaduasana* d'Orbigny, 1851

Mulleria lobata de Férussac of authors

Aetheria novogranatensis Schaufuss, 1865

Material in collection:

-Colombia, New Grenada, Rio Magdalena (HUI 8400/1 = Coen 5031).

General distribution: This species seems to be confined in its distribution to Colombia (Pain & Woodward, 1961: 6).

Genus *Pseudomulleria* Anthony, 1907

Pseudomulleria dalyi (E. Smith, 1898)

Material in collection:

-India, river Budra, in Mysore, leg. H. Bonner (HUI 8401/2 = Coen 5033).

General distribution: This species is confined in its distribution to Southern India (Pain & Woodward, 1961: 8).

Conservation Status

Only *Etheria elliptica* seems to occur commonly throughout tropical Africa. All other species are either geographically restricted to relatively small areas: *Acostaea rivolii* – Colombia, and *Pseudomulleria dalyi* – Southern India, or their natural habitats are threatened by over exploitation of the water sources (India) and the forests bordering the streams (Columbia and the catchment area of the Amazon), resulting in increased sedimentation in rivers and streams. Local studies should be carried out for monitoring the current status of the populations of these unique “Freshwater Oysters.”

References

- Anthony, R., 1907. Étude monographique des Aetheridae. Annales de la Société Royale Zoologique et Malacologique de Belgique, 41: 114 pp.
- Daget, J., 1998. Catalogue raisonné des Mollusques bivalves d'eau douce Africains. 329 pp. Backhuys Publishers, Leiden & ORSTOM, Paris.
- Moricand, J., 1856. Description de quelques nouvelles espèces de coquilles du Pérou. Journal de Conchyliologie, 5: 175-181.
- Pain, T. & Woodward, F.R., 1961. A revision of the freshwater mussels of the family Etheriidae. Journal of Conchology, 25 (1): 2-8.
- Smith, E.A., 1898. Description of *Mulleria dalyi*, n.sp., from India. Proceedings of the Malacological Society of London, 3 (1): 14-16.

Is *Physella acuta* in Reality an American Species?

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The European Physa or Pointed Bladder snail: *Physella acuta* (Draparnaud, 1805), Fam. Physidae, is usually considered a Palaearctic species with an original Circum-Mediterranean distribution. Since the end of the 19th Century it has expanded its range slowly but steadily into other parts of Europe and Africa. As early as the beginning of the last century it was noted that the trade in aquarium plants and fishes played an important role in this expansion (Lindholm, 1910). Today it is commonly encountered all over Europe except in the far north.

The genus *Physella* Haldeman, 1843 shows a typical New World distribution pattern (Te, 1978) with numerous recent and fossil species. The only exception is *Physella acuta*. The hypothesis by Brown (1980) that *Physella acuta* was most probably introduced from America into Europe long ago is therefore understandable. This opinion found supporters in Van Damme (1984) and Giusti, Manganelli & Schembri

(1995). I am also convinced that we are dealing with a Nearctic species, since it has never been reported as a (sub)fossil from Europe, Africa, and the Levant in Asia (Mienis, 2001).

If *Physella acuta* is indeed an American species then it is most probably conspecific with one of the numerous taxa mentioned by Te (1978), in which case the American species has to be called *Physella acuta*, because it is the oldest name given to any species within the genus *Physella*. I wonder whether somebody can bring some more light in this interesting problem by means of electrophoresis.

References

- Brown, D.S., 1980. Freshwater snails of Africa and their medical importance. X + 487 pp. Taylor & Francis Ltd., London.
- Giusti, F., Manganelli, G. & Schembri, P.J., 1995. The non-marine molluscs of the Maltese Islands. Museo Regionale di Scienze Naturali, Torino, Monografie 15: 607 pp.
- Lindholm, W.A., 1910. Ueber *Physa acuta* Drap. und deren Vorkommen in Russland. Nachrichtenblatt der Deutschen Malakozoologischen Gesellschaft, 42 (1): 29-34.
- Mienis, H.K., 2001. [North American aquatic molluscs occurring in the inland waters of Western Europe.] Spirula – C.B. Ned. Malac. Ver., 320: 54-55 (in Dutch)
- Te, G.A., 1978. A systematic study of the family Physidae (Basommatophora: Pulmonata). XII + 324 pp. Ph.D. Thesis, The University of Michigan, Ann Arbor.
- Van Damme, D., 1984. The freshwater molluscs of northern Africa. Developments in Hydrobiology, 25: 164 pp.

Some More Information Concerning the Invasive Mussel *Sinanodonta woodiana* (Lea, 1834)

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A note concerning its generic position

The invasive Chinese Pond mussel is usually called *Anodonta woodiana*, *Anodonta (Sinanodonta) woodiana*, or *Sinanodonta woodiana*. Falkner (1994) has pointed out in his discussion of the conchological similar *Anodonta (Euphrata)*-group living in the Euphrates catchment area, that the latter is closely connected with *Anodonta*, while the *Sinanodonta*-group seems more closely related to another Asian genus of freshwater mussels: *Cristaria*. The differences are to be found in the sculpture of the umbo, that of the Chinese Pond mussel had been figured in Falkner (1990: 264, fig. e). It is therefore better to consider *Sinanodonta* for the meantime as an

independent genus and not as a subgenus of *Anodonta*, until more information concerning the relationships within the Unionidae becomes available.

Additional data concerning the presence of *Anodonta woodiana* in Europe

AUSTRIA: I mentioned in a previous note (Mienis, 1999) that *Anodonta woodiana* had been included in the checklist of Austrian land- and freshwater molluscs (Reischütz, 1998), but that no occurrences had been published to date. Recently, Reischütz & Reischütz (2000) mentioned an occurrence of the Chinese Pond mussel in an old branch of the river Thaya, near Bernhardsthal, by Nesemann in September 1999.

CZECHIA: At that particular spot in Lower-Austria the river Thaya forms the border between Austria and Czechia and at the Czechian side, where this river is called the Dyje, Nesemann had observed it in Autumn 1991, antedating the previous find in that river near Breclav (Beran, 1997) by some five years.

SLOVAKIA: Halgo (1999) has recently reported on the mass occurrence of this mussel in Slovakia.

It should be pointed out that the majority of reported occurrences of the Chinese Pond mussel in Central Europe are in tributaries of the River Danube. Records from southern Germany, Croatia, Serbia, Bulgaria, Moldavia and Ukraine may be expected in the near future.

Effects of the introduction of *Sinanodonta woodiana*

The rapid spread of the Chinese Pond mussel in Europe and parts of America is an impending biological disaster i.e. it may completely upset the biological equilibrium present in an aquatic biotope. These mussels may reach an extra-ordinary size of up to 20 cm under favourable conditions and form hungry competitors for the native faunal elements. The spread of the Chinese Pond mussel is closely correlated to the introduction of its hosts: the Grass Carp, *Ctenopharyngodon idella* (Valenciennes, 1844), and the Silver Carp, *Hypophthalmichthys molitrix* (Valenciennes, 1844). These fish were introduced as a means of biological control of aquatic weeds and small invertebrates. If they are used as biological agents in closed reservoirs for drinking water like in Israel (Leventer, 1981) with no danger of escaping, then they can do an excellent job. However, if they are released in the wild in order to clean ditches, ponds, or canals they may cause havoc by wiping out the immersed vegetation and turning these waterbodies into aquatic “deserts.” This has happened in the Netherlands at various places near Amsterdam, where rich spawning habitats of the Smooth Newt, *Triturus vulgaris*, were completely destroyed by the introduction of Grass Carp (Melchers & Timmermans, 1991). Not only has the Smooth Newt almost disappeared from those places but the populations of many other aquatic organisms were either considerably reduced in numbers or have disappeared completely.

References

- Beran, L., 1997. First record of *Sinanodonta woodiana* (Mollusca: Bivalvia) in the Czech Republic. Acta Soc. Zool. Bohem., 61: 1-2.
- Falkner, G., 1990. Binnenmollusken. In R. Fechter & G. Falkner (Eds.): Weichtiere – Europäische Meeres- und Binnenmollusken, 112-273. Mosaik Verlag GmbH, München.
- Falkner, G., 1994. Systematik vorderorientalischer Najaden als Vorstudie zur Bearbeitung archäologischer Funde. Forschungen und Berichte zur Vor- und Frühgeschichte in Baden-Württemberg, 53: 135-162.
- Halgo, J., 1999. [The mass occurrence of bivalve clams *Anodonta woodiana* (Lea, 1834) in Slovakia.] Folia Faunistica Slovaca, 4: 25-26. (in Slovakian)
- Leventer, H., 1981. Biological control of reservoirs by fish. Bamidgeh, 33: 3-73.
- Melchers, M. & Timmermans, G., 1991. Haring in het IJ – De verborgen dierenwereld van Amsterdam. 243 pp. Stadsuitgeverij Amsterdam,
- Mienis, H.K., 1999. Once more *Anodonta* (*Sinanodonta*) *woodiana*. Triannual Unionid Report, 18: 2-3.
- Reischütz, P.L., 1998. Vorschlag für deutsche Namen der in Österreich nachgewiesenen Schnecken- und Muschelarten. Nachrichtenblatt der Ersten Vorarlberger Malakologischen Gesellschaft, 6: 31-44.
- Reischütz, A. & Reischütz, P.L., 2000. Beiträge zur Kenntnis der Molluskenfauna Niederösterreichs 17. Die Chinesische Teichmuschel *Sinanodonta woodiana* (Lea 1834) in Österreich. Nachrichtenblatt der Ersten Vorarlberger Malakologischen Gesellschaft, 8: 67.

Unionids Rescued in Pool 8, Mississippi River, La Crosse, WI

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After several years of planning, the COE and WIDNR conducted a drawdown of 1.5' in Pool 8, Upper Mississippi River, La Crosse, WI. Follow-up was to include vegetation monitoring etc, but there were no agency provisions for returning stranded mussels to deeper water. Prolonged spring high water complicated the drawdown (near record flood), but the intentional lowering of water levels began 18 June 2001, at an intended rate of 0.2' per day. The depth of the water level reduction took into account the effect on the commercial navigation channel.

By 10 July 2001 stump fields upstream of Lock and Dam (L & D) 8, Genoa, WI, were very visible, and many sand bars and mud flats had emerged. The Mississippi River Revival, Winona, MN, sponsored a unionid mussel rescue.

On 14 July 2001, ~40 volunteers in 10 boats spent 5 hours rescuing mussels stranded in shallow water, within a 0.25 mile radius of a single location, 1 mile S of Goose Island County Park, Vernon County, WI, Mississippi River Mile 690.8.

Because of the lack of funding, the mussel rescue was not meant to be a research project. 5320 mussels (21 species) were collected by wading in water < 0.3 m deep, or from exposed sand bars and mud flats. Unionids were grossly cleaned of zebra mussels by volunteers, and identified and tabulated by the author. Results were recorded on field sheets designed for the project. Mussels were returned to deeper water from the surface. Two female, Federally Endangered *Lampsilis higginsii* (Lea 1857) (0.04%), and two Wisconsin and Minnesota state threatened *Arcidens confragosus* (Say 1829) (0.04%) were found, along with juveniles of most other species.

No attempt was made to quantify zebra mussels on each unionid. There were up to ~100 *Dreissena* on some mussels, but there were far fewer than are found on unionids closer to the navigation channel.

State and federal agency personnel also rescued several thousand mussels, post-flood, in Pools 3, 5, 6, 7, and 8, for a total of over 7700 mussels. But, most agencies efforts were on monitoring vegetation in Pool 8. The drawdown was done to reclaim "thousands of acres of backwater wetlands, and will last until mid-September 2001. Before the L & D system, river levels would fluctuate several feet each season. The dams have forced the river to be maintained at unnaturally high levels, not allowing riverbank soils to dry out so wetland plants germinate. The drawdown will be as significant for the health of the river as a flood. Barge traffic will not be affected because of the Corps' extensive dredging to maintain a navigation channel."

"Pool 8 was chosen because...this large expanse of open water is habitat for plants in marginal condition, so the reduction of water levels should noticeably improve plant quality....Close to L & D 7...the water level change will hardly be detectable. Further downriver...the 1.5' drop will be more obvious....It is hoped that this new management practice will be the first of many drawdowns to bring the river's wetlands back to life" (Rivertime, Summer 2001 News, Mississippi River Revival, <http://www.cleanriver.org>).

"The main control point is at L & D 8 where water levels were reduced...until the level is reduced by 18." The second (control) point is at the La Crosse Gage where the maximum reduction will be 6", or a 4.2' reading...2 control points will help ensure minimal inconvenience for both barges and recreational use" (Water Level Management Update 4(2), 24 May 2001).

Recent river gage readings at La Crosse, WI, were:

Over Flood Stage (12'), 12 April-12 May 2001,
18 June 2001, Monday: 9.4', Drawdown Start,
22-29 June 2001, over 10.0',

7 July 2001, Saturday: 7.0',

14 July 2001, Saturday: 5.2', Mussel Rescue day,

18 July 2001, Wednesday: 4.7', lowest river level to date (4.2' La Crosse stage had not been reached as of 6 August 2001).

The public should be educated to rescue mussels in shallow water, remove visible zebra mussels and dispose of zebra mussels in areas where they will die, and then return native mussels ASAP to thigh deep water. Many mussels were stranded and had died, both in Pool 8, as well as in other pools, mostly because of prolonged high water levels, but also because of the effects of the drawdown. Mussels moved into shallower water during the flood and were not able to return to deeper water fast enough as water levels receded.

Mussel rescue costs MUST be built into the costs of any future experimental drawdown.

Second Collection of Winged Mapleleaf Valves from the Upper St. Croix River

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The federally endangered winged mapleleaf has experienced a dramatic reduction in its range. *Quadrula fragosa* (Conrad 1835) at one time inhabited at least 34 river systems in 12 states (USFWS 1997). One of the last known reproducing populations occurs in the St. Croix River where the river forms the border between Minnesota and Wisconsin.

St. Croix Falls, Wisconsin is the site of a hydropower dam on the river that prevents fish passage upstream. The hydropower plant has been in operation for nearly 100 years and there are differences in the fish and mussel fauna above and below the dam.

Until very recently winged mapleleaf were thought to occur only downstream of the St. Croix Falls dam. Doolittle conducted a mussel survey of the St. Croix and Namekagon rivers and found that *Q. fragosa* occupies a relatively small reach of the lower river (Doolittle 1988). Two years ago evidence arose suggesting the range of winged mapleleaf may extend upstream of the dam. In 1999 we worked with Lisie Kitchell, Wisconsin Dept. of Natural Resources, and were funded by both the U.S. Fish and Wildlife Service and the Minnesota Environmental and Natural Resources Trust Fund as recommended by the Legislative Commission on Minnesota Resources to conduct survey work upstream of the dam. We found three, weathered winged mapleleaf valves at Wild River

State Park, Minnesota, approximately nine miles upstream of the dam (Hove *et al.* 1999).

This summer the National Park Service, St. Croix National Scenic Riverway supported survey work to more accurately describe the range of winged mapleleaf in the St. Croix River. Nearly twenty sites have been surveyed above and below the St. Croix Falls dam to date. So far at least two winged mapleleaf valves (Figure 1) were collected relatively near to where valves of the same species were collected in 1999. We will be working with the Wisconsin Dept. of Natural Resources and Minnesota Dept. of Natural Resources to conduct additional winged mapleleaf surveys this summer and fall. This winter we will send valves to several malacologists to confirm our identifications. Live winged mapleleaf have not been observed upstream of the St. Croix Falls dam. Additional work is needed to describe the range of winged mapleleaf in the St. Croix River and determine if the species is still extant upstream of the dam.



Figure 1. Winged mapleleaf valves collected during upper river survey.

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Literature Cited

Doolittle, T. C. J. 1988. Distribution and relative abundance of freshwater mussels in the Saint Croix National Scenic Riverway. Report to Cable Natural History Museum - Sigurd Olson Environmental Institute. Ashland, Wisconsin. 230 pp.

Hove, M. C., L. A. Cunningham, K. G. Esse, and D. J. Hornbach. 1999. Range extension of the federally endangered winged mapleleaf: valves collected from upper St. Croix River, Minnesota. Triannual Unionid Report 18: 9.

U.S. Fish and Wildlife Service. 1997. Winged mapleleaf mussel (*Quadrula fragosa*) recovery plan. Fort Snelling, Minnesota. 69 pp.

Upper Mississippi River Mussel Activities: 2000 - 2001

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8-2-01

2000 Mussel Activities

1. Culture at Genoa National Fish Hatchery

1. Obtained 5 gravid female *Lampsilis higginsii* (*Lh*) from Lower St. Croix River (Hudson EHA)
2. Infected 592 largemouth bass (LMB) and 752 walleye (WE) yearlings, May 9 & 10
3. Average transformation rate:

LMB >80mm	88.0%
WE	22.5%

2. Relocation of Glochidia Infected Fish in Cages (May)

1. 2 cages, Upper Mississippi River, Pool 4 (Lake Pepin), *Lh* glochidia + other species

3. Relocation of Juvenile Mussels

1. 3750 juveniles, Lower Wisconsin River, July 10
2. 1100 juveniles, Lower Wisconsin River, August 1

4. Relocation of Adults (September)

1. Upper Mississippi River, Pool 2, Hidden Falls, 100 Higgins' eye + 1000 State-listed from Upper Mississippi River, Pool 11, Cassville, WI
2. Upper Mississippi River, Pool 3, Hastings, 100 Higgins' eye + 1000 State-listed from Upper Mississippi River, Pool 11, Cassville, WI

2001 Mussel Activities

1. Culture at Genoa National Fish Hatchery

1. Obtained 19 gravid female Higgins' eye (*Lh*) from Lower St. Croix River (Hudson EHA)
2. Infected 2782 smallmouth bass (SMB), 940 WE, and 92 LMB yearlings, May 21 & 22
3. Transformation data:

	<u>Glochidia/fish</u>	<u>Transformers/fish</u>
SMB >120mm	no fish sacrificed	47.7
SMB <80mm	75.1	55.6 (74.0% tr)
SMB *	29.6	14.7 (49.7% tr)
WE	151.0	62.0 (41.1% tr)
LMB	no fish sacrificed	52.6

* mass inoculation
tr = transformation rate

4. Currently holding at Genoa NFH:

- A. 2 tanks of large "free range" SMB & LMB yearlings
- B. 4000 juvenile *Lh* in water reuse system
- C. 7000 juvenile *Lh* in baskets

2. Relocation of Glochidia Infected Fish in Cages

1. Lower St. Croix River, Hudson EHA
 - 2 cages, 150 SMB 8,340 est. transformers
 - 2 cages, 100 WE 6,200 est. transformers
14,540 est. transformers

2. Lower St. Croix River, Prescott EHA
 - 4 cages, 300 SMB 16,680 est. transformers
 - 3 cages, 150 WE 9,300 est. transformers
25,980 est. transformers
 - 1 cage, 75 SMB w/black sandshell (*Ligumia recta*)
glochidia

3. Upper Mississippi River (Pool 3), downstream of
confluence UMR/Lower St. Croix River, River Mile
810.8, left descending bank, Prescott, WI
 - 4 cages, 300 SMB 16,680 est. transformers
 - 1 cage, 50 WE 3,100 est. transformers
19,780 est. transformers
 - 1 cage, 75 SMB w/black sandshell glochidia

4. Lower Wisconsin River (Orion EHA)
 - 6 cages, 445 SMB 24,742 est. transformers
 - 3 cages, 150 WE 9,300 est. transformers
34,042 est. transformerscages placed June 12; recovered July 5

3. Relocation of Glochidia Infected Fish

1. Cedar River, Palasades-Kepler State Park, 793 SMB,
405 WE, 69,201 est. transformers
2. Lower Wisconsin River (below Prairie du Sac dam),
450 SMB, 25,020 est. transformers

4. Relocation of Juveniles

1. Lower Black River, released 1914 juveniles at River
Mile 60.5, right descending bank, July 20

5. Relocation of Adults (July 26)

1. Upper Mississippi River, Pool 2, Hidden Falls, 271
Higgins' eye + 102 State-listed from Upper
Mississippi River, Pool 14 (Cordova EHA), Cordova,
IL. Mussels were collected and cleaned by
participants of the AFS Mussel Cleaning Workshop,
July 24 - 25, Cordova, IL.

FMCS 2000 Freshwater Mollusk Bibliography

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The following bibliography lists papers dealing with freshwater mollusks that have been published up to and including 2000 and have not appeared in the previous FMCS bibliography. The citations are split into five groups for the convenience of researchers: Unionoida, Sphaeriidae, Corbiculidae, Dreissenoida, and Gastropoda. Those papers which list taxa from more than one of the above categories will be included in each group. An on-line searchable database of over 11,000 references on freshwater mollusks can be found at: <http://ellipse.inhs.uiuc.edu/mollusk/biblio.html>. To insure that papers are cited correctly, researchers are encouraged to send reprints to: Kevin S. Cummings, Illinois Natural History Survey, 607 E. Peabody Drive, Champaign, Illinois 61820; ksc@inhs.uiuc.edu

UNIONOIDA

- Aldridge, D.C. 2000. The impacts of dredging and weed cutting on a population of freshwater mussels (Bivalvia : Unionidae). *Biological Conservation* 95(3):247-257.
- Alvarez-Claudio, C., P. Garcia-Roves, R. Ocharan, J.A. Cabal, F.J. Ocharan, and M.A. Alvarez. 2000. A new record of the freshwater pearl mussel *Margaritifera margaritifera* L. (Bivalvia, Unionoida) from the River Narcea (Asturias, north-western Spain). *Aquatic Conservation: Marine and Freshwater Ecosystems* 10(2):93-102.
- Araujo, R., and M.A. Ramos. 2000. Status and conservation of the giant European freshwater pearl mussel (*Margaritifera auricularia*) (Spengler, 1793) (Bivalvia : Unionoida). *Biological Conservation* 96(2):233-239.
- Araujo, R., and Ramos, M.A. 2000. Action plan for *Margaritifera margaritifera* in Europe. Council of Europe T-PVS (2000)10.
- Araujo, R., and Ramos, M.A. 2000. Action plan for *Margaritifera auricularia* in Europe. Council of Europe T-PVS (2000)9.
- Araujo, R., D. Bragado, and M.A. Ramos. 2000. Occurrence of glochidia of the endangered *Margaritifera auricularia* (Spengler, 1793) and other mussel species (Bivalvia : Unionoida) in drift and on fishes in an ancient channel of the Ebro River, Spain. *Archiv Fur Hydrobiologie*. 148(1):147-160.
- Baird, M.S. 2000. Life history of the spectaclecase, *Cumberlandia monodonta* Say, 1829 (Bivalvia, Unionoida, Margaritiferidae). M.S. Thesis. Southwest Missouri State University xi + 108 pp.
- Baker, S.M., and D.J. Hornbach. 2000. Physiological status and biochemical composition of a natural population of unionid mussels (*Amblema plicata*) infested by zebra mussels (*Dreissena polymorpha*). *American Midland Naturalist* 143(2):443-452.
- Bartsch, M.R., D.L. Waller, W.G. Cope, and S. Gutreuter. 2000. Emersion and thermal tolerances of three species of unionid mussels: survival and behavioral effects. *Journal of Shellfish Research* 19(1):233-240.
- Beasley, C.R., and D. Roberts. 1999. Assessing the conservation status of the freshwater pearl mussel in the North of Ireland - relevance of growth and age characteristics. *Journal of Conchology* 36(6):53-61.
- Beasley, C.R., and D. Roberts. 1999. Towards a strategy for the conservation of the freshwater pearl mussel *Margaritifera margaritifera* in County Donegal, Ireland. *Biological Conservation* 89(1999):275-284.
- Beasley, C.R., E. Tury, W.G. Vale, and C.H. Tagliaro. 2000. Reproductive cycle, management and conservation of *Paxyodon syrmatophorus* (Bivalvia : Hyriidae) from the Tocantins River, Brazil. *Journal of Molluscan Studies* 66(3):393-402.
- Beckvar, N., S. Salazar, M. Salazar, and K. Finkelstein. 2000. An in situ assessment of mercury contamination in the Sudbury River, Massachusetts, using transplanted freshwater mussels (*Elliptio complanata*). *Canadian Journal of Fisheries and Aquatic Sciences* 57(5):1103-1112.
- Berg, D.J., and P.H. Berg. 2000. Conservation genetics of freshwater mussels: Comments on Mulvey et al. *Conservation Biology* 14(6):1920-1923.
- Biggins, R.G., and R.S. Butler. 2000. Bringing mussels back in the southeast. *Endangered Species Bulletin* 25(3):24-26.
- Biswas, A., and S.K. Raut. 1999. Spatial distribution of the edible mussels *Lammelidens marginalis* (Lamarck) (Bivalvia: Unionidae) in a pond in West Bengal, India. *Journal of the National Taiwan Museum* 52(2):79-85.
- Bogatov, V.V., E.M. Sayenko, and Ya.I. Starabogatov. 1999. Anodontine bivalves of the genus *Kunashiria* Starabogatov from the southern Kurile islands, with descriptions of two new species. *Ruthenica* 9(1):57-62.
- Brim Box, J, and J.D. Williams. 2000. Unionid mollusks of the Apalachicola Basin in Alabama, Florida, and Georgia. *Bulletin of the Alabama Museum of Natural History* 21:1-143.
- Britton, J.C. 2000. Freshwater molluscan biology. Review of The ecology of freshwater molluscs by Robert T. Dillon, Jr. *Trends in Ecology and Systematics* 15(10):426-427.
- Burlakova, L.E., A.Y. Karatayev, and D.K. Padilla. 2000. The impact of *Dreissena polymorpha* (Pallas) invasion on unionid bivalves. *International Review of Hydrobiology* 85(5-6):529-541.
- Byrne, M., and P.A. Vesik. 2000. Elemental composition of mantle tissue granules in *Hyridella depressa* (Unionida) from the Hawkesbury-Nepean River

- system, Australia: inferences from catchment chemistry. *Marine and Freshwater Research* 51(2):183-192.
- Carpenter, C.C. 2000. Early Oklahoma naturalists and collectors. *Occasional Papers. Sam Noble Oklahoma Museum of Natural History* 6:1-46.
- Cordeiro, J. 2000. Status of the tidewater mucket, *Leptodea ochracea* (Say, 1817) (Bivalvia: Unionidae), in Halfway Pond, Massachusetts, USA. *Nautilus* 114(2):80-83.
- Corgiat, D.A., and T.L. Moore. 2000. The Illinois-Missouri cooperative mussel project - Report of 1999 mussel surveys of five beds on Mississippi River Pool 24; Blackbird Island, Lower Hickory Chute, Champ Clark Bridge, Crider Bend, and Cash Island. Final Report. Prepared for the Illinois Wildlife Preservation Fund 19 pp.
- Cosgrove, P.J., M.R. Young, L.C. Hastie, M. Gaywood, and P.J. Boon. 2000. The status of the freshwater pearl mussel *Margaritifera margaritifera* Linn. in Scotland. *Aquatic Conservation: Marine and Freshwater Ecosystems* 10(3):197-208.
- Davidson, C.L., G.L. Harp, and J.L. Harris. 1997. A survey of Mollusca (Bivalvia: Unionacea) inhabiting Myatt Creek, Fulton County, Arkansas. *Proceedings of the Arkansas Academy of Science* 51:193-196.
- Davis, W.R., A.D. Christian, and D.J. Berg. 2000. Nitrogen and phosphorus cycling by freshwater mussels (Bivalvia: Unionidae) in a headwater stream ecosystem. pp. 141-151 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.*
- Dietz, T.H., A.S. Udoetok, J.S. Cherry, H. Silverman, and R.A. Byrne. 2000. Kidney function and sulfate uptake and loss in the freshwater bivalve *Toxolasma texasensis*. *Biological Bulletin* 199(1):14-20.
- Diggins, T.P., and K.M. Stewart. 2000. Evidence of large change in unionid mussel abundance from selective muskrat predation, as inferred by shell remains left on shore. *International Review of Hydrobiology* 85(4):505-520.
- Dillon, R.T., Jr. 2000. *The ecology of freshwater molluscs.* Cambridge University Press, UK xii + 509 pp.
- Dimock, R.V., Jr. 2000. Oxygen consumption by juvenile *Pyganodon cataracta* (Bivalvia: Unionidae) in response to declining oxygen tension. pp. 1-8 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.*
- Downing, J.A., H. van Leeuwen, and L. Antonio Di Paolo. 2000. Substratum patch selection in the lacustrine mussels *Elliptio complanata* and *Pyganodon grandis grandis*. *Freshwater Biology* 44(4):641-648.
- Dunn, H.L. 2000. Development of strategies for sampling freshwater mussels (Bivalvia: Unionidae). pp. 161-167 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.*
- Dunn, H.L., B.E. Sietman, and D.E. Kelner. 2000. Evaluation of recent unionid (Bivalvia) relocations and suggestions for future relocations and reintroductions. pp. 169-183 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.*
- Dusoge, K., K.B. Lewandowski, and A. Stanczykowska. 1999. Benthos of various habitats in the Zegrzanski Reservoir (central Poland). *Acta Hydrobiologica* 41(2):103-116.
- Fisher, G.R., and R.V. Dimock, Jr. 2000. Viability of glochidia of *Utterbackia imbecillis* (Bivalvia: Unionidae) following their removal from the parental mussel. pp. 185-188 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.*
- Fisher, G.R., R.V. Dimock, Jr. and R.E. Kuhn. 2000. The symbiotic water mite *Unionicola formosa* (Acari: Unionicolidae) ingests mucus and tissue of its molluscan host. *Journal of Parasitology* 86(6):1254-1258.
- Fraley, S.J., and S.A. Ahlstedt. 2000. The recent decline of the native mussels (Unionidae) of Copper Creek, Russel and Scott counties, Virginia. pp. 189-195 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.*
- Gatenby, C.M., P.A. Morrison, R.J. Neves, and B.C. Parker. 2000. A protocol for the salvage and quarantine of Unionid mussels from zebra mussel-infested waters. pp. 9-18 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels*

- Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Gittings, T., D. O'Keefe, F. Gallagher, J. Finn, and T. O'Mahony. 1998. Longitudinal variation in abundance of a freshwater pearl mussel *Margaritifera margaritifera* population in relation to riverine habitats. *Biology and Environment - Proceedings of the Royal Irish Academy* 98B(3):171-178.
- Gong, Z., P. Xie, and S. Wang. 2000. Macro-benthos in 2 shallow, mesotrophic Chinese lakes with contrasting sources of primary production. *Journal of the North American Benthological Society* 19(4):709-724.
- Graf, D.L. 2000. The Etherioidea revisited: A phylogenetic analysis of hyriid relationships (Mollusca: Bivalvia: Paleoheterodonta: Unionoidea). *Occasional Papers of the Museum of Zoology, University of Michigan* No. 729. 21 pp.
- Graf, D.L., and D. O'Foighil. 2000. The evolution of brooding characters among the freshwater pearly mussels (Bivalvia: Unionoidea) of North America. *Journal of Molluscan Studies* 66(2):157-170.
- Haag, W.R., and M.L. Warren, Jr. 2000. Effects of light and presence of fish on lure display and larval release behaviours in two species of freshwater mussels. *Animal Behaviour* 60(6):879-886.
- Haggerty, T.M., and J.T. Garner. 2000. Seasonal timing of gametogenesis, spawning, brooding and glochidia discharge in *Potamilus alatus* (Bivalvia : Unionidae) in the Wheeler Reservoir, Tennessee River, Alabama, USA. *Invertebrate Reproduction & Development* 38(1):35-41.
- Hallac, D.E., and J.E. Marsden. 2000. Differences in tolerance to and recovery from zebra mussel (*Dreissena polymorpha*) fouling by *Elliptio complanata* and *Lampsilis radiata*. *Canadian Journal of Zoology* 78(2):161-166.
- Hanson, J.M., and A. Locke. 2000. The status of the dwarf wedgemussel, *Alasmidonta heterodon*, in Canada. *Canadian Field-Naturalist* 114(2):217-278.
- Harman, W.N. 2000. Diminishing species richness of mollusks in Oneida Lake, New York State, USA. *Nautilus* 114(3):120-126.
- Harris, J.L., P.J. Rust, A.C. Christian, W.R. Posey II, C.L. Davidson, and G.L. Harp. 1997. Revised status of rare and endangered Unionacea (Mollusca: Margaritiferidae, Unionidae) in Arkansas. *Proceedings of the Arkansas Academy of Science* 51:66-89.
- Hastie, L.C., M.R. Young, and P.J. Boon. 2000. Growth characteristics of freshwater pearl mussels, *Margaritifera margaritifera* (L.). *Freshwater Biology* 43(2):243-256.
- Hastie, L.C., M.R. Young, P.J. Boon, P.J. Cosgrove, and B. Henniger. 2000. Sizes, densities, and age structures of Scottish *Margaritifera margaritifera* (L.) populations. *Aquatic Conservation of Marine and Freshwater Ecosystems* 10(4):229-247.
- Havlik, M.E., and J.S. Sauer. 2000. Native freshwater mussels of the Upper Mississippi River system. U.S. Geological Survey Project Status Report 2000-4:1-2.
- Hayes, T. 2000. Our native freshwater mussels. *American Currents* 26(4):21-22.
- Hocknull, S.A. 2000. Mesozoic freshwater and estuarine bivalves from Australia. *Memoirs of the Queensland Museum* 45(2):405-426.
- Hoggarth, M.A., D.L. Rice, and T.L. Grove. 2000. The correlation of mussels with fish in the upper Blanchard River in Hardin and Hancock counties, Ohio, with special regard to the rayed bean (*Villosa fabalis*). pp. 19-26 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Hove, M.C., K.R. Hillegas, J.E. Kurth, V.E. Pepi, C.J. Lee, K.A. Knudsen, A.R. Kapuscinski, P.A. Mahoney, and M.M. Bomier. 2000. Considerations for conducting host suitability studies. pp. 27-34 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Howells, R.G. 2000. Reproductive seasonality of freshwater mussels (Unionidae) in Texas. pp. 35-48 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Howells, R.G., C.M. Mather, and J.A.M. Bergmann. 2000. Impacts of dewatering and cold on freshwater mussels (Unionidae) in B.A. Steinhagen Reservoir, Texas. *Texas Journal of Science* 52(4)Supplement:93-104.
- Hubbs, D. 2000. Augmentation of natural reproduction by freshwater mussels to sustain shell harvests. pp. 49-51 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Ishibashi, R., A. Komaru, and T. Kondo. 2000. Sperm sphere in unionid mussels (Bivalvia : Unionidae). *Zoological Science* 17(7):947-950.
- Johnson, P.D., and K.M. Brown. 2000. The importance of microhabitat factors and habitat stability of the

- threatened Louisiana pearl shell, *Margaritifera hembeli* (Conrad). *Canadian Journal of Zoology* 78(2):271-277.
- Johnson, R.I. 1997. Comments on "The final report" of a massive search for *Lasmigona decorata* (Lea, 1852) and *Alasmidonta robusta* Clarke, 1981 (Bivalvia: Unionidae) from the Carolinas. *Occasional Papers on Mollusks, Museum of Comparative Zoology, Harvard University* 5(71):371-377.
- Johnson, R.I. 1998. A new mussel, *Potamilus metnecktayi* (Bivalvia: Unionidae) from the Rio Grande system, Mexico and Texas with notes on Mexican *Disconaias*. *Occasional Papers on Mollusks, Museum of Comparative Zoology, Harvard University* 5(76):427-455.
- Johnson, R.I. 1999. Unionidae of the Rio Grande (Rio Bravo del Norte) system of Texas and Mexico. *Occasional Papers on Mollusks, Museum of Comparative Zoology, Harvard University* 6(77):1-65.
- Johnson, R.I. 1999. Taxa omitted from "Unionacea" by Fritz Haas, 1969. *Occasional Papers on Mollusks, Museum of Comparative Zoology, Harvard University* 6(77):66.
- Kelner, D. 2000. Mussel bound in Minnesota. *Minnesota Conservation Volunteer* July-August 2000:32-43.
- Kelner, D.E., and B.E. Sietman. 2000. Relic populations of the ebony shell, *Fusconaia ebena* (Bivalvia: Unionidae), in the Upper Mississippi River drainage. *Journal of Freshwater Ecology* 15(3):371-377.
- Kesler, D.H., and D. Manning. 1996. A new mussel record for Tennessee: *Lampsilis siliquoidea* (Mollusca: Unionidae) from the Wolf River. *Journal of the Tennessee Academy of Science* 71:90-94.
- Khym, J.R., and J.B. Layzer. 2000. Host fish suitability for glochidia of *Ligumia recta*. *American Midland Naturalist* 143(1):178-184.
- King, T.L., M.S. Eackles, B. Gjetvaj, and W.R. Hoeh. 1999. Intraspecific phylogeography of *Lasmigona subviridis* (Bivalvia : Unionidae): conservation implications of range discontinuity. *Molecular Ecology* 8(12) Suppl. 1:S65-S78.
- Kownacki, A. 1999. Checklist of macroinvertebrates in the River Vistula. *Acta Hydrobiologica* 41(1):45-75.
- Lauer, T.E., and A. Spacie. 2000. The effects of sponge (Porifera) biofouling on zebra mussel (*Dreissena polymorpha*) fitness: Reduction of glycogen, tissue loss, and mortality. *Journal of Freshwater Ecology* 15(1):83-92.
- Lellis, W.A., T.A. Plerhoples, and K.A. Lellis. 2000. Evaluation of potential anesthetics for the freshwater mussel *Elliptio complanata*. *Journal of Shellfish Research* 19(2):983-990.
- Lemarie, D.P., D.R. Smith, R.F. Villella, and D.A. Weller. 2000. Evaluation of tag types and adhesives for marking freshwater mussels (Mollusca: Unionidae). *Journal of Shellfish Research* 19(1):247-250.
- Lydy, M.J., C.G. Craford, and J.W. Frey. 2000. A comparison of selected diversity, similarity, and biotic indices for detecting changes in benthic-invertebrate community structure and stream quality. *Archives of Environmental Contamination and Toxicology* 39(4):469-479.
- Mackie, G. 2000. Recovery plan initiated for mussels. *Recovery*. *Canadian Wildlife Services* March 2000(15):8.
- Marangelo, P.J., and D.L. Strayer. 2000. The freshwater mussels of the Tonawanda Creek basin in western New York. *Walkerana* 11(25):97-106.
- Markich, S.J., P.L. Brown, R.A. Jeffree, and R.P. Lim. 2000. Valve movement responses of *Vesunio angasi* (Bivalvia: Hyriidae) to manganese and uranium: An exception to the free ion activity model. *Aquatic Toxicology (Amsterdam)* 51(2):155-175.
- Maxted, J.R., M.T. Barbour, J. Gerritsen, V. Poretti, N. Primrose, A. Silva, D. Penrose, and R. Renfrow. 2000. Assessment framework for mid-Atlantic coastal plain streams using benthic macroinvertebrates. *Journal of the North American Benthological Society* 19(1):128-144.
- McGregor, S.W. 2000. A freshwater mussel survey of selected stations in the Conecuh River system Alabama, 1998-2000. *Geological Survey of Alabama, Environmental Geology Division*. In cooperation with the Alabama Dept. of Conservation and Natural Resources. 14 pp. + appendix.
- McGregor, S.W. 2000. A survey of freshwater mussels in selected tributaries of the upper Tombigbee River system, Alabama and Mississippi. *Geological Survey of Alabama, Environmental Geology Division*. In cooperation with the Alabama Dept. of Conservation and Natural Resources. 22 pp. + appendix of maps.
- McGregor, S.W., and J.M. Pierson. 2000. Recent freshwater mussel (Bivalvia: Unionacea) records from the North River system, Fayette and Tuscaloosa counties, Alabama. *Journal of the Alabama Academy of Science* 70(4):153-162.
- McGregor, S.W., H.N. Blalock-Herod., and J.J. Herod. 2000. A mussel survey of the Choctawhatchee/Pea River system of Alabama and Florida: 1998-2000. *Geological Survey of Alabama, Environmental Geology Division, U.S. Geological Survey, BRD, Florida Caribbean Science Center*. In cooperation with the Alabama Dept. of Conservation and Natural Resources. 26 pp. + appendix.
- Metcalfe-Smith, J.L., G.L. Mackie, J. Di Maio, and S.K. Staton. 2000. Changes over time in the diversity and distribution of freshwater mussels (Unionidae) in the Grand River, southwestern Ontario. *Journal of Great Lakes Research* 26(4):445-459.
- Metcalfe-Smith, J.L., J. Di Maio, S.K. Staton, and G.L. Mackie. 2000. Effect of sampling effort on the efficiency of the timed search method for sampling freshwater mussel communities. *Journal of the North American Benthological Society* 19(4):725-732.

- Metcalfe-Smith, J.L., S.K. Staton, and E.L. West. 2000. Status of the wavy-rayed lampmussel, *Lampsilis fasciola* (Bivalvia: Unionidae), in Ontario and Canada. *Canadian Field-Naturalist* 114(3):457-470.
- Mikkelsen, P.M., and A. Bradford. 1997. Annotated catalog of type specimens in the Malacological Collection of the Delaware Museum of Natural History. Part II. Additions and corrections to Part I (Prosobranchia, Heterostropha, and Opisthobranchia), plus Bivalvia, Scaphopoda, and Polyplacophora. *Nemouria. Occasional papers of the Delaware Museum of Natural History*. 41:1-76.
- Milam, C.D., J.L. Farris, J. Van Hassel, and M.L. Barfield. 2000. Reintroduction of native freshwater mussels using in vivo and in vitro propagation techniques. pp. 53-61 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Miller, B.B., D.C. Smith, M.A. Gates, and M.J.S. Tevesz. 2000. Analysis of aquatic mollusk distributions in relation to chemical parameters in a series of northern U.S. lakes. *Walkerana* 11(25):75-95.
- Morrone, J.J. 2000. A new regional biogeography of the Amazonian subregion, mainly based on animal taxa. *Anales del Instituto de Biología Universidad Nacional Autónoma de México Serie Zoológica*. 71(2):99-123.
- Mulvey, M., and C. Lydeard. 2000. Let's not abandon science for advocacy: Reply to Berg and Berg. *Conservation Biology* 14(6):1924-1925.
- Myers-Kinzie, M. 2000. In vitro transformation of *Lampsilis siliquoidea*: a suitable species for glochidial and juvenile research. pp. 63-65 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Nagel, K.-O. 1999. Anatomische untersuchungen an Binnenmollusken. *Heldia* 2(3):33-48 + 2 plates.
- Nagel, K.-O. 2000. Testing hypotheses on the dispersal and evolutionary history of freshwater mussels (Mollusca : Bivalvia : Unionidae). *Journal of Evolutionary Biology* 13(5):854-865.
- Nagel, K.-O., G. Badino, and G. Celebrano. 1998. Systematics of European naiades (Bivalvia: Margaritiferidae and Unionidae): a review and some new aspects. *Malacological Review Supplement* 7:83-104.
- Nedeau, E.J., M.A. McCollough, and B.I. Swartz. 2000. The Freshwater Mussels of Maine. Maine Department of Inland Fisheries and Wildlife, Augusta, ME. 118pp.
- Nichols, S.J., and D. Garling. 2000. Food-web dynamics and trophic-level interactions in a multispecies community of freshwater unionids. *Canadian Journal of Zoology* 78(5):871-882.
- Nichols, S.J., M.G. Black, and J.D. Allen. 2000. Use of on-site refugia to protect unionid populations from zebra mussel-induced mortality. pp. 67-75 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- O'Dee, S.H., and G.T. Watters. 2000. New or confirmed host identification for ten freshwater mussels. pp. 77-82 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Obermeyer, B.K. 2000. Recovery plan for four freshwater mussels in southeast Kansas: Neosho mucket (*Lampsilis rafinesqueana*), Ouachita kidneyshell (*Ptychobranhus occidentalis*), rabbitsfoot (*Quadrula cylindrica*), and western fanshell (*Cyprogenia aberti*). Kansas Department of Wildlife and Parks, Pratt, Kansas 52 pp.
- Payne, B.S., and A.C. Miller. 2000. Recruitment of *Fusconaia ebena* (Bivalvia: Unionidae) in relation to discharge of the lower Ohio River. *American Midland Naturalist* 144(2):328-341.
- Riusech, F.A., and M.C. Barnhart. 2000. Host suitability and utilization in *Venustaconcha ellipsiformis* and *Venustaconcha pleasii* (Bivalvia: Unionidae) from the Ozark Plateaus. pp. 83-91 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Roe, K.J. 2000. The utility of DNA sequences to aid in the identification of rare or problematic species of freshwater mussels. pp. 197-202 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Roth, B. 2000. Atlas of the land and freshwater molluscs of Britain and Ireland. (Review). *Veliger* 43(1):104.
- Shadoan, M.K., and R.V. Dimock, Jr. 2000. Differential sensitivity of hooked (*Utterbackia imbecillis*) and hookless (*Megaloniais nervosa*) glochidia to

- chemical and mechanical stimuli (Bivalvia: Unionidae). pp. 93-102 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Smith, C., J.D. Reynolds, W.J. Sutherland, and P. Jurajda. 2000. Adaptive host choice and avoidance of superparasitism in the spawning decisions of bitterling (*Rhodeus sericeus*). Behavioral Ecology and Sociobiology 48(1):29-35.
- Smith, D.G. 2000. On the taxonomic placement of *Unio ochraceus* Say, 1817 in the genus *Ligumia* (Bivalvia : Unionidae). Nautilus 114(4):155-160.
- Smith, D.G. 2000. Investigations of the byssal gland in juvenile unionids. pp. 103-107 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Smith, D.R., R.F. Vilella, D.P. Lemarié, and S. von Ottingen. 2000. How much excavation is needed to monitor freshwater mussels? pp. 203-218 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Starkey, R.W., A.G. Eversole, and D.E. Brune. 2000. Growth and survival of juvenile and adult freshwater mussels in the Partitioned Aquaculture System. pp. 109-114 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Starliper, C.E., and P. Morrison. 2000. Bacterial pathogen contagion studies among freshwater bivalves and salmonid fishes. Journal of Shellfish Research 19(1):251-258.
- Staton, S.K., J.L. Metcalfe-Smith, and E.L. West. 2000. Status of the northern riffleshell, *Epioblasma torulosa rangiana* (Bivalvia: Unionidae), in Ontario and Canada. Canadian Field-Naturalist 114(2):224-235.
- Straka, J.R., and J.A. Downing. 2000. Distribution and abundance of three freshwater mussel species (Bivalvia: Unionidae) correlated with physical habitat characteristics in an Iowa reservoir. Proceedings of the Iowa Academy of Science 107(2):25-33.
- Stuart, K.R., A.G. Eversole, and D.E. Brune. 2000. Effect of flow rate and temperature on algal uptake by freshwater mussels. pp. 219-224 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Szafoni, R.E., K.S. Cummings, and C.A. Mayer. 2000. Freshwater mussels (Mollusca: Unionidae) of the Middle Branch, North Fork Vermilion River, Illinois/Indiana. Transactions of the Illinois State Academy of Science 93(3):229-237.
- Tankersley, R.A. 2000. Florescence techniques for evaluating the lipid content of larval and juvenile freshwater mussels. pp. 115-125 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Tankersley, R.A., and S.W. Butz. 2000. Design, construction, and evaluation of a laboratory-scale recirculating aquaculture system for the captive care of freshwater mussels. pp. 127-134 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Taylor, D.W. 1997. A new mussel, *Disconaias conchos* (Bivalvia: Unionidae) from the Rio Conchos of the Rio Grande system, Mexico. Occasional Papers on Mollusks, Museum of Comparative Zoology, Harvard University 5(75):419-425.
- Theler, J.L. 2000. Animal remains from Native American archaeological sites in western Wisconsin. Transactions of the Wisconsin Academy of Sciences, Arts and Letters 88:121-142.
- Therres, G.D. 1999. Wildlife species of regional conservation concern in the Northeastern United States. Northeast Wildlife 54:93-100.
- Treasurer, J.W., and T. Turnbull. 2000. The pathology and seawater performance of farmed Atlantic salmon infected with glochidia of *Margaritifera margaritifera*. Journal of Fish Biology 57:858-866.
- Turner, T.F., J.C. Trexler, J.L. Harris, and J.L. Haynes. 2000. Nested cladistic analysis indicates population fragmentation shapes genetic diversity in a freshwater mussel. Genetics 154(2):777-785.
- Vaughn, C.C. 2000. Changes in the mussel fauna of the middle Red River drainage: 1910 - present. pp. 225-232 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part II.

- Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Vaughn, C.C., and C.M. Taylor. 2000. Macroecology of a host-parasite relationship. *Ecography* 23(1):11-20.
- Watters, G.T. 2000. Freshwater mussels and water quality: A review of the effects of hydrologic and instream habitat alterations. pp. 261-274 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Watters, G.T. 2000. Freshwater mussels: A complicated resource to conserve. pp. 37-39 in R.A. Abell, D.M. Olson, E. Dinerstein, P.T. Hurley et al. (eds.). Freshwater Ecoregions of North America: A conservation assessment. World Wildlife Fund / Island Press. 319 pp.
- Watters, G.T., and S.H. O'Dee. 2000. Glochidial release as a function of water temperature: beyond bradycty and tachycty. pp. 135-140 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- West, E.L., J.L. Metcalfe-Smith, and S.K. Staton. 2000. Status of the rayed bean, *Villosa fabalis* (Bivalvia: Unionidae), in Ontario and Canada. *Canadian Field-Naturalist* 114(2):248-258.
- Wright, J.F., J.M. Winder, R.J.M. Gunn, J.H. Blackburn, K.L. Symes, and R.T. Clarke. 2000. Minor local effects of a River Thames power station on the macroinvertebrate fauna. *Regulated Rivers: Research and Management* 16(2):159-174.
- Wu, W.-L. 1999. Mollusks in CITES. Academia Sinica and Council of Agriculture. Taipei, Taiwan 143 pp.
- Yeager, M.M., R.J. Neves, and D.S. Cherry. 2000. Competitive interactions between early life stages of *Villosa iris* (Bivalvia: Unionidae) and adult Asian clams (*Corbicula fluminea*). pp. 253-259 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- SPHAERIIDAE**
- Araujo, R., and A.V. Korniuschin. 1998. Microsculpture of *Pisidium casertanum* (Poli, 1791) (Bivalvia: Sphaeriidae) and some related species and forms. *Malakologische Abhandlungen* 19(7):59-69.
- Beekey, M.A., R.H. Karlson, and A.R. Greenberg. 2000. Parental care in *Sphaerium striatinum* Lamarck: evidence for retention of competent offspring. *Canadian Journal of Zoology* 78(10):1697-1701.
- Britton, J.C. 2000. Freshwater molluscan biology. Review of "The Ecology of Freshwater Molluscs" by Robert T. Dillon, Jr. *Trends in Ecology and Systematics* 15(10):426-427.
- Carpenter, C.C. 2000. Early Oklahoma naturalists and collectors. *Occasional Papers. Sam Noble Oklahoma Museum of Natural History* 6:1-46.
- Chyla, M.A. 1998. An attempt to application of benthic macroinvertebrates for the assessment of water quality. *Acta Hydrobiologica* 40(2):55-65.
- Cooley, L.R., and D. O'Foighil. 2000. Phylogenetic analysis of the Sphaeriidae (Mollusca : Bivalvia) based on partial mitochondrial 16S rDNA gene sequences. *Invertebrate Biology* 119(3):299-308.
- Dillon, R.T., Jr. 2000. The ecology of freshwater molluscs. Cambridge University Press, UK xii + 509 pp.
- Dusoge, K., K.B. Lewandowski, and A. Stanczykowska. 1999. Benthos of various habitats in the Zegrzanski Reservoir (central Poland). *Acta Hydrobiologica* 41(2):103-116.
- Gong, Z., P. Xie, and S. Wang. 2000. Macroinvertebrates in 2 shallow, mesotrophic Chinese lakes with contrasting sources of primary production. *Journal of the North American Benthological Society* 19(4):709-724.
- Grigorovich, I.A., A.V. Korniuschin, and H.J. MacIsaac. 2000. Moitessier's pea clam *Pisidium moitessierianum* (Bivalvia, Sphaeriidae): a cryptogenic mollusc in the Great Lakes. *Hydrobiologia* 435(1-3):153-165.
- Heinonen, J., J. Kukkonen, and I.J. Holopainen. 2000. Toxicokinetics of 2,4,5-Trichlorophenol and Benzo(a)pyrene in the clam *Pisidium amnicum*: Effects of seasonal temperatures and trematode parasites. *Archives of Contamination and Toxicology* 39(3):352-359.
- Hocknull, S.A. 2000. Mesozoic freshwater and estuarine bivalves from Australia. *Memoirs of the Queensland Museum* 45(2):405-426.
- Ituarte, C.F. 2000. *Pisidium taraguayense* and *Pisidium pipoense*, new species from northeastern Argentina (Bivalvia: Sphaeriidae). *Veliger* 43(1):51-57.
- Johannsson, O.E., R. Dermott, D.M. Graham, J.A. Dahl, E.S. Millard, D.D. Myles, and J. LeBlanc. 2000. Benthic and pelagic secondary production in Lake Erie after the invasion of *Dreissena* spp. with implications for fish production. *Journal of Great Lakes Research* 26(1):31-54.
- Kilgour, B.W., R.C. Bailey, and E.T. Howell. 2000. Factors influencing changes in the nearshore benthic community on the Canadian side of Lake Ontario. *Journal of Great Lakes Research* 26(3):272-286.
- Korniuschin, A.V. 2000. Review of the family Sphaeriidae (Mollusca, Bivalvia) of Australia, with description of four new species. *Records of the Australian Museum* 52(1):41-102.

- Korniushin, A.V., Z. Krstanovski, and G. Kostoski. 2000. Anatomical evidence of close affinity between endemic species of *Pisidium* (Bivalvia, Sphaeriidae) from some ancient lakes, and the widely distributed taxa. *Journal of Zoological Systematics and Evolutionary Research* 38(2):81-86.
- Kownacki, A. 1999. Checklist of macroinvertebrates in the River Vistula. *Acta Hydrobiologica* 41(1):45-75.
- Kukula, K. 1998. Alterations of the bottom macrofauna of a mountain stream (Wolosaty stream, Bieszczady National Park, southeastern Poland) caused by a tourist hotel. *Acta Hydrobiologica* 40(4):277-286.
- Lauer, T.E., and A. Spacie. 2000. The effects of sponge (Porifera) biofouling on zebra mussel (*Dreissena polymorpha*) fitness: Reduction of glycogen, tissue loss, and mortality. *Journal of Freshwater Ecology* 15(1):83-92.
- Lydy, M.J., C.G. Craford, and J.W. Frey. 2000. A comparison of selected diversity, similarity, and biotic indices for detecting changes in benthic-invertebrate community structure and stream quality. *Archives of Environmental Contamination and Toxicology* 39(4):469-479.
- Marmonier, P., C. Claret, and M.-J. Dole-Oliver. 2000. Interstitial fauna in newly-created floodplain canals of a large regulated river. *Regulated Rivers: Research and Management* 16(1):23-36.
- Maxted, J.R., M.T. Barbour, J. Gerritsen, V. Poretti, N. Primrose, A. Silva, D. Penrose, and R. Renfrow. 2000. Assessment framework for mid-Atlantic coastal plain streams using benthic macroinvertebrates. *Journal of the North American Benthological Society* 19(1):128-144.
- Mikkelsen, P.M., and A. Bradford. 1997. Annotated catalog of type specimens in the Malacological Collection of the Delaware Museum of Natural History. Part II. Additions and corrections to Part I (Prosobranchia, Heterostropha, and Opisthobranchia), plus Bivalvia, Scaphopoda, and Polyplacophora. *Nemouria. Occasional papers of the Delaware Museum of Natural History*. 41:1-76.
- Miller, B.B., D.C. Smith, M.A. Gates, and M.J.S. Tevesz. 2000. Analysis of aquatic mollusk distributions in relation to chemical parameters in a series of northern U.S. lakes. *Walkerana* 11(25):75-95.
- Naimo, T.J., W.G. Cope, and M.R. Bartsch. 2000. Sediment-contact and survival of fingernail clams: Implications for conducting short-term laboratory tests. *Environmental Toxicology* 15:23-27.
- Naimo, T.J., W.G. Cope, E.M. Monroe, J.L. Farris, and C.D. Milam. 2000. Influence of diet on survival, growth, and physiological condition of fingernail clams, *Musculium transversum*. *Journal of Shellfish Research* 19(1):23-28.
- Park, J.K., and D. O'Foighil. 2000. Sphaeriid and corbiculid clams represent separate heterodont bivalve radiations into freshwater environments. *Molecular Phylogenetics and Evolution* 14(1):75-88.
- Roth, B. 2000. Atlas of the land and freshwater molluscs of Britain and Ireland. (Review). *Veliger* 43(1):104.
- Smith, J.G., and J.J. Beauchamp. 2000. Evaluation of caging designs and a fingernail clam for use in an in situ bioassay. *Environmental Monitoring and Assessment*. 62(2):205-230.
- Solimini, A.G., P. Gulia, M. Monfrinotti, and G. Carchini. 2000. Effet de différentes méthodes d'échantillonnage sur les valeurs d'indices biotiques de la qualité de l'eau du cours inférieur d'un fleuve méditerranéen: le Tibre. *Annales de Limnologie - International Journal of Limnology* 36(2):135-143.
- Wright, J.F., J.M. Winder, R.J.M. Gunn, J.H. Blackburn, K.L. Symes, and R.T. Clarke. 2000. Minor local effects of a River Thames power station on the macroinvertebrate fauna. *Regulated Rivers: Research and Management* 16(2):159-174.

CORBICULIDAE

- Blalock, H.N, and J.J. Herod. 1999. A comparative study of stream habitat and substrate utilized by *Corbicula fluminea* in the New River, Florida. *Florida Scientist* 62(2):145-151.
- Britton, J.C. 2000. Freshwater molluscan biology. Review of "The Ecology of Freshwater Molluscs" by Robert T. Dillon, Jr. *Trends in Ecology and Systematics* 15(10):426-427.
- Byrne, M., H. Phelps, T. Church, V. Adair, P. Selvakumaraswamy, and J. Potts. 2000. Reproduction and development of the freshwater clam *Corbicula australis* in southeast Australia. *Hydrobiologia* 418:185-197.
- Dillon, R.T., Jr. 2000. The ecology of freshwater molluscs. Cambridge University Press, UK xii + 509 pp.
- Eldredge, L.G., and S.E. Miller. 1997. Numbers of Hawaiian species: supplement 2, including a review of freshwater invertebrates. *Bishop Museum Occasional Papers* 48:3-22.
- Fraysse, B., J.P. Baudin, J. Garnier-Laplace, A. Boudou, F. Ribeyre, and C. Adam. 2000. Cadmium uptake by *Corbicula fluminea* and *Dreissena polymorpha*: effects of pH and temperature. *Bulletin of Environmental Contamination and Toxicology* 65(5):638-645.
- Gong, Z., P. Xie, and S. Wang. 2000. Macroinvertebrates in 2 shallow, mesotrophic Chinese lakes with contrasting sources of primary production. *Journal of the North American Benthological Society* 19(4):709-724.
- Kolar, C.S., and D.M. Lodge. 2000. Freshwater nonindigenous species: Interactions with other global changes. pp. 3-30 in H.A. Mooney and R.J. Hobbs (eds.). *Invasive species in a changing world*. Island Press, Washington, D.C.
- Kramer, M., and I. Hubner. 2000. Significance of an in vivo genotoxicity test for surface waters is increased when the physiological characteristics of the test organism

- (Bivalvia : Mollusca) are taken into account. *Acta Hydrochimica et Hydrobiologica*. 28(2):83-91.
- Leff, L.G., and A.A. Leff. 2000. The effect of macroinvertebrates on bacterial distributions in freshwater microcosms. *Archiv Fur Hydrobiologie* 147(2):225-240.
- Maxted, J.R., M.T. Barbour, J. Gerritsen, V. Poretti, N. Primrose, A. Silva, D. Penrose, and R. Renfrow. 2000. Assessment framework for mid-Atlantic coastal plain streams using benthic macroinvertebrates. *Journal of the North American Benthological Society* 19(1):128-144.
- Mikkelsen, P.M., and A. Bradford. 1997. Annotated catalog of type specimens in the Malacological Collection of the Delaware Museum of Natural History. Part II. Additions and corrections to Part I (Prosobranchs, Heterostropha, and Opisthobranchia), plus Bivalvia, Scaphopoda, and Polyplacophora. Nemouria. Occasional papers of the Delaware Museum of Natural History. 41:1-76.
- Miyauchi, K., M. Matsumiya, and A. Mochizuki. 2000. Purification and characterization of lysozyme from brackishwater clam *Corbicula japonica*. *Nippon Suisan Gakkaishi*. 66(2):275-281.
- Mizoguchi, K., M. Kagawa, M. Nakamura, and K. Sato. 2000. Forms of vitamin B-12 compounds containing sulfiteB(12) in *Corbicula*. *Journal of Nutritional Science and Vitaminology*. 46(2):97-100.
- Park, G.-M., T.-S. Yong, K.-I. Im, and E.-Y. Chung. 2000. Karyotypes of three species of *Corbicula* (Bivalvia: Veneroida) in Korea. *Journal of Shellfish Research* 19(2):979-982.
- Park, J.K., and D. O'Foighil. 2000. Sphaeriid and corbiculid clams represent separate heterodont bivalve radiations into freshwater environments. *Molecular Phylogenetics and Evolution* 14(1):75-88.
- Rajagopal, S., G. vanderVelde, and A.B. deVaate. 2000. Reproductive biology of the Asiatic clams *Corbicula fluminalis* and *Corbicula fluminea* in the river Rhine. *Archiv für Hydrobiologie* 149(3):403-420.
- Renard, E., V. Bachmann, M.L. Cariou, and J.C. Moreteau. 2000. Morphological and molecular differentiation of invasive freshwater species of the genus *Corbicula* (Bivalvia, Corbiculidae) suggest the presence of three taxa in French rivers. *Molecular Ecology* 9(12):2009-2016.
- Simon, O., F. Ribeyre, and A. Boudou. 2000. Comparative experimental study of cadmium and methylmercury trophic transfers between the Asiatic clam *Corbicula fluminea* and the crayfish *Astacus astacus*. *Archives of Environmental Contamination and Toxicology* 38(3):317-326.
- Siripattawan, S., J.K. Park, and D. O'Foighil. 2000. Two lineages of the introduced Asian freshwater clam *Corbicula* occur in North America. *Journal of Molluscan Studies* 66(3):423-429.
- Tran, D., A. Boudou, and J-C. Massabuau. 2000. Mechanism for maintaining oxygen consumption under varying oxygenation levels in the freshwater clam *Corbicula fluminea*. *Canadian Journal of Zoology*. 78(11):2027-2036.
- Vidal, M.L., and J.F. Narbonne. 2000. Characterization of Glutathione S-transferase activity in the Asiatic clam *Corbicula fluminea*. *Bulletin of Environmental Contamination and Toxicology* 64(3):455-462.
- Yeager, M.M., R.J. Neves, and D.S. Cherry. 2000. Competitive interactions between early life stages of *Villosa iris* (Bivalvia: Unionidae) and adult Asian clams (*Corbicula fluminea*). pp. 253-259 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.

DRESSENOIDEA

- Anderson, K.E., and J.H. Waite. 2000. Immunolocalization of Dpfp1, a byssal protein of the zebra mussel *Dreissena polymorpha*. *Journal of Experimental Biology* 203(20):3065-3076.
- Anon. 2000. Lake Ozark marina puts zebra mussels in dry dock. *Missouri Conservationist* 61(4):29.
- Baker, S.M., and D.J. Hornbach. 2000. Physiological status and biochemical composition of a natural population of unionid mussels (*Amblema plicata*) infested by zebra mussels (*Dreissena polymorpha*). *American Midland Naturalist* 143(2):443-452.
- Baker, S.M., J.S. Levinton, and J.E. Ward. 2000. Particle transport in the zebra mussel, *Dreissena polymorpha* (Pallas). *Biological Bulletin* 199(2):116-125.
- Berkman, P.A., D.W. Garton, M.A. Haltuch, G.W. Kennedy, and L.R. Febo. 2000. Habitat shift in invading species: zebra and quagga mussel population characteristics on shallow soft substrates. *Biological Invasions* 2(1):1-6.
- Bettinetti, R., G. Morabito, and A. Provini. 2000. Phytoplankton assemblage structure and dynamics as indicator of the recent trophic and biological evolution of the western basin of Lake Como (N. Italy). *Hydrobiologia* 435(1-3):177-190.
- Bially, A., and H.J. MacIsaac. 2000. Fouling mussels (*Dreissena* spp.) colonize soft sediments in Lake Erie and facilitate benthic invertebrates. *Freshwater Biology* 43(2):85-97.
- Brazner, J.C., and D. A. Jensen. 2000. Zebra mussel [*Dreissena polymorpha* (Pallas)] colonization of rusty crayfish [*Orconectes rusticus* (Girard)] in Green Bay, Lake Michigan. *American Midland Naturalist* 143(1):250-256.
- Britton, J.C. 2000. Freshwater molluscan biology. Review of "The Ecology of Freshwater Molluscs" by Robert T. Dillon, Jr. *Trends in Ecology and Systematics* 15(10):426-427.

- Burlakova, L.E., A.Y. Karatayev, and D.K. Padilla. 2000. The impact of *Dreissena polymorpha* (Pallas) invasion on unionid bivalves. *International Review of Hydrobiology* 85(5-6):529-541.
- Caraco, N.F., J.J. Cole, S.E.G. Findlay, D.T. Fischer, G.G. Lampman, M.L. Pace, and D.L. Strayer. 2000. Dissolved oxygen declines in the Hudson River associated with the invasion of the zebra mussel (*Dreissena polymorpha*). *Environmental Science & Technology* 34(7):1204-1210.
- Clayton, M.E., R. Steinmann, and F. Kent. 2000. Different expression patterns of heat shock proteins hsp 60 and hsp 70 in zebra mussels (*Dreissena polymorpha*) exposed to copper and tributyltin. *Aquatic Toxicology (Amsterdam)* 47(3-4):213-226.
- Cottrell, C.M., J.M. Dormon, T. Debies, D.G. Allen, and J.K. Spelt. 2000. Zebra mussel biofouling as function of copper dissolution rate. *Journal of Environmental Engineering - ASCE* 126(4):340-347.
- Custer, C.M., and T.W. Custer. 2000. Organochlorine and trace element contamination, in wintering and migrating diving ducks in the southern Great Lakes, USA, since the zebra mussel invasion. *Environmental Toxicology and Chemistry* 19(11):2821-2829.
- Darrigran, G., and I.E. de Drago. 2000. Invasion of the exotic freshwater mussel *Limnoperna fortunei* (Dunker, 1857) (Bivalvia: Mytilidae) in South America. *Nautilus* 114(2):69-73.
- deLafontaine, Y., F. Gagne, C. Blaise, G. Costan, P. Gagnon, and H.M. Chan. 2000. Biomarkers in zebra mussels (*Dreissena polymorpha*) for the assessment and monitoring of water quality of the St. Lawrence River (Canada). *Aquatic Toxicology* 50(1-2):51-71.
- Dermott, R., M. Munawar, L. Witzel, and P.A. Ryan. 1999. An assessment of food-web changes in eastern Lake Erie: impact of *Dreissena* spp. and phosphorus management on rainbow smelt, *Osmerus mordax*. *State of Lake Erie: Past, Present and Future*. *Ecovision World Monograph Series* 367-385.
- Dillon, R.T., Jr. 2000. The ecology of freshwater molluscs. Cambridge University Press, UK xii + 509 pp.
- Dusoge, K., K.B. Lewandowski, and A. Stanczykowska. 1999. Benthos of various habitats in the Zegrzanski Reservoir (central Poland). *Acta Hydrobiologica* 41(2):103-116.
- Dzialowski, A.R., W.J. O'Brien, and S.M. Swaffar. 2000. Range expansion and potential dispersal mechanisms of the exotic cladoceran *Daphnia lumholtzi*. *Journal of Plankton Research* 22(12):2205-2223.
- Edwards, W.J., L. Babcock-Jackson, and D.A. Culver. 2000. Prevention of the spread of zebra mussels during fish hatchery and aquaculture activities. *North American Journal of Aquaculture* 62(3):229-236.
- Fahnenstiel, G.L., R.A. Stone, M.J. McCormick, C.L. Schelske, and S.E. Lohrenz. 2000. Spring isothermal mixing in the Great Lakes: evidence of nutrient limitation and nutrient-light interactions in a suboptimal light environment. *Canadian Journal of Fisheries and Aquatic Sciences* 57(9):1901-1910.
- Fraysse, B., J.P. Baudin, J. Garnier-Laplace, A. Boudou, F. Ribeyre, and C. Adam. 2000. Cadmium uptake by *Corbicula fluminea* and *Dreissena polymorpha*: effects of pH and temperature. *Bulletin of Environmental Contamination and Toxicology* 65(5):638-645.
- Frischer, M.E., S.A. Nierzwicki-Bauer, R.H. Parsons, K. Vathanodorn, and K.R. Waitkus. 2000. Interactions between zebra mussels (*Dreissena polymorpha*) and microbial communities. *Canadian Journal of Fisheries and Aquatic Sciences* 57(3):591-599.
- Garton, D.W., and L.E. Johnson. 2000. Variation in growth rates of the zebra mussel, *Dreissena polymorpha*, within Lake Wawasee. *Freshwater Biology* 45(4):443-451.
- Gatenby, C.M., P.A. Morrison, R.J. Neves, and B.C. Parker. 2000. A protocol for the salvage and quarantine of Unionid mussels from zebra mussel-infested waters. pp. 9-18 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Gewurtz, S.B., R. Lazar, and G.D. Haffner. 2000. Comparison of polycyclic aromatic hydrocarbon and polychlorinated biphenyl dynamics in benthic invertebrates of Lake Erie, USA. *Environmental Toxicology and Chemistry* 19(12):2943-2950.
- Graham, D.M., W.G. Sprules, and S.J. Nepszy. 1999. Growth and condition of juvenile yellow perch (*Perca flavescens*) and white perch (*Morone americana*) during zebra mussel establishment in western Lake Erie (1988-1991). *State of Lake Erie: Past, Present and Future*. *Ecovision World Monograph Series* 337-349.
- Haltuch, M.A., P.A. Berkman, and D.W. Garton. 2000. Geographic information system (GIS) analysis of ecosystem invasion: Exotic mussels in Lake Erie. *Limnology and Oceanography* 45(8):1778-1787.
- Harman, W.N. 2000. Diminishing species richness of mollusks in Oneida Lake, New York State, USA. *Nautilus* 114(3):120-126.
- Jack, J.D., and J.H. Thorp. 2000. Effects of the benthic suspension feeder *Dreissena polymorpha* on zooplankton in a large river. *Freshwater Biology* 44(4):569-579.
- James, W.F., J.W. Barko, M. Davis, H.L. Eakin, J.T. Rogala, and A.C. Miller. 2000. Filtration and excretion by zebra mussels: Implications for water quality impacts in Lake Pepin, Upper Mississippi River. *Journal of Freshwater Ecology* 15(4):429-437.
- Jaouen, A., C. Galap, C. Minier, R. Tutundjian, and F. Le Boulenger. 2000. Bioaccumulation of pollutants and measures of biomarkers in the zebra mussel

- (*Dreissena polymorpha*) from downstream river Seine. Bulletin de La Societe Zoologique de France 125(3):239-249.
- Johannsson, O.E., R. Dermott, D.M. Graham, J.A. Dahl, E.S. Millard, D.D. Myles, and J. LeBlanc. 2000. Benthic and pelagic secondary production in Lake Erie after the invasion of *Dreissena* spp. with implications for fish production. Journal of Great Lakes Research 26(1):31-54.
- Karatayev, A.Y., L.E. Burlakova, D.P. Molloy, and L.K. Volkova. 2000. Endosymbionts of *Dreissena polymorpha* (Pallas) in Belarus. International Review of Hydrobiology 85(5-6):543-559.
- Kilgour, B.W., R.C. Bailey, and E.T. Howell. 2000. Factors influencing changes in the nearshore benthic community on the Canadian side of Lake Ontario. Journal of Great Lakes Research 26(3):272-286.
- Kolar, C.S., and D.M. Lodge. 2000. Freshwater nonindigenous species: Interactions with other global changes. pp. 3-30 in H.A. Mooney and R.J. Hobbs (eds.). Invasive species in a changing world. Island Press, Washington, D.C.
- Kownacki, A. 1999. Checklist of macroinvertebrates in the River Vistula. Acta Hydrobiologica 41(1):45-75.
- Kraft, C.E., and L.E. Johnson. 2000. Regional differences in rates and patterns of North American inland lake invasions by zebra mussels (*Dreissena polymorpha*). Canadian Journal of Fisheries and Aquatic Sciences 57(5):993-1001.
- Kuhns, L.A., and M.B. Berg. 1999. Benthic invertebrate community responses to round goby (*Neogobius melanostomus*) and zebra mussel (*Dreissena polymorpha*) invasion in southern Lake Michigan. Journal of Great Lakes Research 25(4):910-917.
- Lake, P.S., M.A. Palmer, P. Biro, J. Cole, A.P. Covich, C. Dahm, J. Gibert, W. Goedkoop, K. Martens, and J. Verhoeven. 2000. Global change and the biodiversity of freshwater ecosystems: Impacts on linkages between above-sediment and sediment biota. Bioscience 50(12):1099-1107.
- Landrum, P.F., D.C. Gossiaux, T.F. Nalepa, and D.L. Fanslow. 2000. Evaluation of Lake Michigan sediment for causes of the disappearance of *Diporeia* spp. in southern Lake Michigan. Journal of Great Lakes Research 26(4):402-407.
- Lapteva, N.A., and I.O. Solntseva. 2000. Influence of the zebra mussel and fish fry on structural and functional characteristics of microorganisms in experimental ecosystems. Russian Journal of Ecology 31(4):269-273.
- Lauer, T.E., and A. Spacie. 2000. The effects of sponge (Porifera) biofouling on zebra mussel (*Dreissena polymorpha*) fitness: Reduction of glycogen, tissue loss, and mortality. Journal of Freshwater Ecology 15(1):83-92.
- Lavrentyev, P.J., W.S. Gardner, and L.Y. Yang. 2000. Effects of the zebra mussel on nitrogen dynamics and the microbial community at the sediment-water interface. Aquatic Microbial Ecology. 21(2):187-194.
- Lewis, K.M., J.L. Feder, and G.A. Lamberti. 2000. Population genetics of the zebra mussel, *Dreissena polymorpha* (Pallas): local allozyme differentiation within midwestern lakes and streams. Canadian Journal of Fisheries and Aquatic Sciences 57(3):637-643.
- Lewis, K.M., J.L. Feder, T.G. Horvath, and G.A. Lamberti. 2000. Heterozygosity and fitness: No strong association in Great Lakes populations of the zebra mussel, *Dreissena polymorpha* (Pallas). Malacologia 42(1-2):113-122.
- Makarewicz, J.C., P. Bertram, and T.W. Lewis. 2000. Chemistry of the offshore surface waters of Lake Erie: Pre- and post-*Dreissena* introduction (1983-1993). Journal of Great Lakes Research 26(1):82-93.
- Marsden, J.E., and D.M. Lansky. 2000. Substrate selection by settling zebra mussels, *Dreissena polymorpha*, relative to material, texture, orientation, and sunlight. Canadian Journal of Zoology 78(5):787-793.
- Marvin, C.H., E.T. Howell, and E.J. Reiner. 2000. Polychlorinated dioxins and furans in sediments at a site colonized by *Dreissena* in western Lake Ontario, Canada. Environmental Toxicology and Chemistry 19(2):344-351.
- Marvin, C., L. Allan, D. Bryant, and B. McCarry. 2000. Use of the zebra mussel (*Dreissena polymorpha*) as a bioindicator for aromatic hydrocarbons in Hamilton Harbour. Water Quality Research Journal of Canada 35(1):59-72.
- Mayer, C.M., A. VanDeValk, J.L. Forney, L.G. Rudstam, E.L. Mills. 2000. Response of yellow perch (*Perca flavescens*) in Oneida Lake, New York, to the establishment of zebra mussels (*Dreissena polymorpha*). Canadian Journal of Fisheries and Aquatic Sciences. 57(4):742-754.
- Millard, E.S., E.J. Fee, D.D. Myles, and J.A. Dahl. 1999. Comparison of phytoplankton photosynthesis methodology in Lakes Erie, Ontario, the Bay of Quinte and the Northwest Ontario Lake Size Series. State of Lake Erie: Past, Present and Future. Ecovision World Monograph Series 441-468.
- Misamore, M.J., and J.W. Lynn. 2000. Role of the cytoskeleton in sperm entry during fertilization in the freshwater bivalve *Dreissena polymorpha*. Biological Bulletin 199(2):144-156.
- Mitchell, J.S., R.C. Bailey, and R.W. Knapton. 2000. Effects of predation by fish and wintering ducks on dreissenid mussels at Nanticoke, Lake Erie. Ecoscience 7(4):398-409.
- Nicholls, K.H. 1999. Evidence for a trophic cascade effect on north-shore western Lake Erie phytoplankton prior to the zebra mussel invasion. Journal of Great Lakes Research 25(4):942-949.
- Nicholls, K.H., S.J. Standke, and G.J. Hopkins. 1999. Effects of dreissenid mussels on nitrogen and phosphorus in

- north shore waters of Lake Erie. State of Lake Erie: Past, Present and Future. Ecovision World Monograph Series 323-336.
- Nichols, S.J., M.G. Black, and J.D. Allen. 2000. Use of on-site refugia to protect unionid populations from zebra mussel-induced mortality. pp. 67-75 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). Freshwater Mollusk Symposia Proceedings. Part I. Proceedings of the Conservation, Captive Care and Propagation of Freshwater Mussels Symposium. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- O'Gorman, R., J.H. Elrod, R.W. Owens, C.P. Schneider, T.H. Eckert, and B.F. Lantry. 2000. Shifts in depth distributions of alewives, rainbow smelt, and age-2 lake trout in southern Lake Ontario following establishment of dreissenids. Transactions of the American Fisheries Society 129(5):1096-1106.
- Park, J.K., and D. O'Foighil. 2000. Sphaeriid and corbiculid clams represent separate heterodont bivalve radiations into freshwater environments. Molecular Phylogenetics and Evolution 14(1):75-88.
- Penchaszadeh, P.E., G. Darrigran, C. Angulo, A. Averbuj, M. Brögger, A. Dogliotti, and N. Pérez. 2000. Predation of the invasive freshwater mussel *Limnoperna fortunei* (Dunker, 1857) (Mytilidae) by the fish *Leporinus obtusidens* Valenciennes, 1846 (Anostomidae) in the Rio de la Plata, Argentina. Journal of Shellfish Research 19(1):229-231.
- Perry, W.L., D.M. Lodge, and G. Lamberti. 2000. Crayfish (*Orconectes rusticus*) impacts on zebra mussel (*Dreissena polymorpha*) recruitment, other macroinvertebrates and algal biomass in a lake-outlet stream. American Midland Naturalist 144(2):308-316.
- Pothoven, S.A., T.F. Nalepa, and S.B. Brandt. 2000. Age-0 and age-1 yellow perch diet in southeastern Lake Michigan. Journal of Great Lakes Research 26(2):235-239.
- Protasov, A.A., and O.O. Sinitsyna. 2000. Biotopic variation and phenogeography of *Dreissena polymorpha* (Pallas). Russian Journal of Ecology 31(6):415-421.
- Putchakayala, S.M., and J.L. Ram. 2000. Toxic and excitatory effects of the molluscicide metaldehyde on the biofouling bivalve *Dreissena polymorpha* Pallas. Pest Management Science. 56(1):39-42.
- Rao, D.G.V.P., and M.A.Q. Khan. 2000. Zebra mussels: Enhancement of copper toxicity by high temperature and its relationship with respiration and metabolism. Water Environment Research 72(2):175-178.
- Reed-Anderson, T., S.R. Carpenter, D.K. Padilla, and R.C. Lathrop. 2000. Predicted impact of zebra mussel (*Dreissena polymorpha*) invasion on water clarity in Lake Mendota. Canadian Journal of Fisheries and Aquatic Sciences 57(8):1617-1626.
- Ricciardi, A., and H.M. Reiswig. 2000. Comment on "Zebra mussel destruction by a Lake Michigan sponge: Populations, in vivo P-31 nuclear magnetic resonance, and phospholipid profiling". Environmental Science & Technology 34(7):1379-1380.
- Roditi, H.A., N.S. Fisher, and S.A. Sanudo-Wilhelmy. 2000. Field testing a metal bioaccumulation model for zebra mussels. Environmental Science & Technology 34(13):2817-2825.
- Roditi, H.A., N.S. Fisher, and S.A. Sanudo-Wilhelmy. 2000. Uptake of dissolved organic carbon and trace elements by zebra mussels. Nature 407(6800):78-80.
- Roth, B. 2000. Atlas of the land and freshwater molluscs of Britain and Ireland. (Review). Veliger 43(1):104.
- Rutzke, M.A., W.H. Gutenmann, D.J. Lisk, and E.L. Mills. 2000. Toxic and nutrient element concentrations in soft tissues of zebra and quagga mussels from Lakes Erie and Ontario. Chemosphere 40(12):1353-1356.
- Ryan, P.A., L.D. Witzel, J. Paine, M. Freeman, M. Hardy, S. Scholten, L. Sztramko, and R. MacGregor. 1999. Recent trends in fish populations in eastern Lake Erie in relation to changing lake trophic state and food web. State of Lake Erie: Past, Present and Future. Ecovision World Monograph Series 241-289.
- Silverman, H., J.W. Lynn, and T.H. Dietz. 2000. In vitro studies of particle capture and transport in suspension-feeding bivalves. Limnology and Oceanography 45(5):1199-1203.
- Starliper, C.E., and P. Morrison. 2000. Bacterial pathogen contagion studies among freshwater bivalves and salmonid fishes. Journal of Shellfish Research 19(1):251-258.
- Steingraeber, M.T., and P.A. Thiel. 2000. The round goby (*Neogobius melanostomus*): Another unwelcome invader in the Mississippi River basin. pp. 328-344 in Transactions of the 65th North American Wildlife and Natural Resources Conference.
- Strayer, D.L., and L.C. Smith. 2000. Macroinvertebrates of a rocky shore in the freshwater tidal Hudson River. Estuaries 23(3):359-366.
- Yu, N., and D.A. Culver. 2000. Can zebra mussels change stratification patterns in a small reservoir? Hydrobiologia 431(2-3):175-184.

GASTROPODA

- Agi, P.I. 1996. Ecology and dynamics of freshwater snail vectors of *Schistosoma haematobium* (Bilharz, 1852) in Ahoada local government area (Rivers State, Nigeria). Acta Hydrobiologica 38(1/2):9-17.
- Bandoni, S.M., M. Mulvey, and E.S. Loker. 2000. Population structure and taxonomic discrimination among three species of *Biomphalaria* Preston, 1910 (Gastropoda : Planorbidae) from Kenya. Zoological Journal of the Linnean Society 129(3):387-401.
- Barnes, R.S.K., and C.J. deVilliers. 2000. Animal abundance and food availability in coastal lagoons and intertidal

- marine sediments. *Journal of the Marine Biological Association of the United Kingdom* 80(2):193-202.
- Barsiene, J., G. Ribic, and D. Barsyte. 2000. Comparative karyological analysis of five species of *Viviparus* (Gastropoda : Prosobranchia). *Journal of Molluscan Studies* 66(2):259-271.
- Boyle, J.P., and T.P. Yoshino. 2000. The effect of water quality on oviposition in *Biomphalaria glabrata* (Say, 1818) (Planorbidae), and a description of the stages of the egg-laying process. *Journal of Molluscan Studies* 66(1):83-93.
- Britton, J.C. 2000. Freshwater molluscan biology. Review of "The Ecology of Freshwater Molluscs" by Robert T. Dillon, Jr. *Trends in Ecology and Systematics* 15(10):426-427.
- Campbell, M.M., K.N. White, R. Jugdaohsingh, J.J. Powell, and C.R. McCrohan. 2000. Effect of aluminum and silicic acid on the behaviour of the freshwater snail *Lymnaea stagnalis*. *Canadian Journal of Fisheries and Aquatic Sciences* 57:1151-1159.
- Carpenter, C.C. 2000. Early Oklahoma naturalists and collectors. *Occasional Papers. Sam Noble Oklahoma Museum of Natural History* 6:1-46.
- Chyla, M.A. 1998. An attempt to application of benthic macroinvertebrates for the assessment of water quality. *Acta Hydrobiologica* 40(2):55-65.
- Colgan, D.J., and W.F. Ponder. 2000. Incipient speciation in aquatic snails in an arid-zone spring complex. *Biological Journal of the Linnean Society* 71(4):625-641.
- Culver, D.C., L.L. Master, M.C. Christman, and H.H. Hobbs, III. 2000. Obligate cave fauna of the 48 contiguous United States. *Conservation Biology* 14(2):386-401.
- Désy, J.C., J.-F. Archambault, B. Pinel-Alloul, J. Hubert, and P.G.C. Campbell. 2000. Relationships between total mercury in Sediments and methyl mercury in the freshwater gastropod prosobranch *Bithynia tentaculata* in the St. Lawrence River, Quebec. *Canadian Journal of Fisheries and Aquatic Sciences* 57(supplement 1):164-173.
- Dillon, R.T., Jr. 2000. The ecology of freshwater molluscs. Cambridge University Press, UK xii + 509 pp.
- Dillon, R.T., Jr., and E.P. Keferel. 2000. A survey of the pleurocerid gastropods of South Carolina. pp. 153-160 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium*. Ohio Biological Survey Special Publication, Columbus. 274 pp.
- Dusoge, K., K.B. Lewandowski, and A. Stanczykowska. 1999. Benthos of various habitats in the Zegrzanski Reservoir (central Poland). *Acta Hydrobiologica* 41(2):103-116.
- Eldredge, L.G., and S.E. Miller. 1997. Numbers of Hawaiian species: supplement 2, including a review of freshwater invertebrates. *Bishop Museum Occasional Papers* 48:3-22.
- Filion, A., and A. Morin. 2000. Effect of local sources on metal concentrations in littoral sediments and aquatic macroinvertebrates of the St. Lawrence River, near Cornwall, Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* 57(supplement 1):113-125.
- Flessas, C., Y. Couillard, B. Pinel-Alloul, L. St.-Cyr, and P.G.C. Campbell. 2000. Metal concentrations in two freshwater gastropods (Mollusca) in the St. Lawrence River and relationships with environmental contamination. *Canadian Journal of Fisheries and Aquatic Sciences* 57(supplement 1):126-137.
- Florin, L., B. Fried, and A. Reddy. 2000. Growth and fecundity of *Lymnaea elodes* (Gastropoda: Lymnaeidae) under laboratory conditions. *Veliger* 43(1):78-81
- Gong, Z., P. Xie, and S. Wang. 2000. Macroinvertebrates in 2 shallow, mesotrophic Chinese lakes with contrasting sources of primary production. *Journal of the North American Benthological Society* 19(4):709-724.
- Haase, M. 2000. A revision of the genus *Belgrandia*, with the description of a new species from France (Caenogastropoda : Hydrobiidae). *Malacologia* 42(1-2):171-201.
- Haase, M., E. Weigand, and H. Haseke. 2000. Two new species of the Family Hydrobiidae (Mollusca: Caenogastropoda) from Austria. *Veliger* 43(2):179-189.
- Harman, W.N. 2000. Diminishing species richness of mollusks in Oneida Lake, New York State, USA. *Nautilus* 114(3):120-126.
- Haynes, A. 2000. The distribution of freshwater gastropods on four Vanuatu islands: Espiritu Santo, Pentecost, Éfate, and Tanna (South Pacific). *Annales de Limnologie - International Journal of Limnology* 36(2):101-111.
- Healy, P.F., K. Emery, and L.E. Wright. 1990. Ancient and modern Maya exploitation of the jute snail (*Pachychilus*). *Latin American Antiquity* 1(2):170-183.
- Hershler, R., and D.W. Sada. 2000. A new species of hydrobiid snail of the genus *Pyrgulopsis* from northwestern Nevada. *Veliger* 43(4):367-375.
- Hertel, L.A., S.A. Stricker, and E.S. Loker. 2000. Calcium dynamics of hemocytes of the gastropod *Biomphalaria glabrata*: effects of digenetic trematodes and selected bioactive compounds. *Invertebrate Biology* 119(1):27-37.
- Holznagel, W.E., and C. Lydeard. 2000. A molecular phylogeny of North American Pleuroceridae (Gastropoda : Cerithioidea) based on mitochondrial 16S rDNA sequences. *Journal of Molluscan Studies* 66(2):233-257.
- James, M.R., I. Hawes, and M. Weatherhead. 2000. Removal of settled sediments and periphyton from macrophytes by grazing invertebrates in the littoral zone of a large oligotrophic lake. *Freshwater Biology* 44:311-326.

- Johannsson, O.E., R. Dermott, D.M. Graham, J.A. Dahl, E.S. Millard, D.D. Myles, and J. LeBlanc. 2000. Benthic and pelagic secondary production in Lake Erie after the invasion of *Dreissena* spp. with implications for fish production. *Journal of Great Lakes Research* 26(1):31-54.
- Johnson, S.G. 2000. Population structure, parasitism, and survivorship of sexual and autodioid parthenogenetic *Campeloma limim*. *Evolution* 54(1):167-175.
- Kilgour, B.W., R.C. Bailey, and E.T. Howell. 2000. Factors influencing changes in the nearshore benthic community on the Canadian side of Lake Ontario. *Journal of Great Lakes Research* 26(3):272-286.
- Kolar, C.S., and D.M. Lodge. 2000. Freshwater nonindigenous species: Interactions with other global changes. pp. 3-30 in H.A. Mooney and R.J. Hobbs (eds.). *Invasive species in a changing world*. Island Press, Washington, D.C.
- Kownacki, A. 1999. Checklist of macroinvertebrates in the River Vistula. *Acta Hydrobiologica* 41(1):45-75.
- Kukula, K. 1998. Alterations of the bottom macrofauna of a mountain stream (Wolosaty stream, Bieszczady National Park, southeastern Poland) caused by a tourist hotel. *Acta Hydrobiologica* 40(4):277-286.
- Lefcort, H., E. Ammann, and S.M. Eiger. 2000. Antipredator behavior as an index of heavy-metal pollution? A test using snails and caddisflies. *Archives of Environmental Contamination and Toxicology* 38(3):311-316.
- Leppäkoski, E., and S. Olenin. 2000. Non-native species and rates of spread: lessons from the brackish Baltic Sea. *Biological Invasions* 2(2):151-163.
- Lewis, D.B., and J.J. Magnuson. 2000. Landscape spatial patterns in freshwater snail assemblages across Northern Highland catchments. *Freshwater Biology* 43(3):409-420.
- Lo, C.-C., and T.-T. Hsieh. 2000. Acute toxicity to the golden apple snail and estimated bioconcentration potential of Triphenylphosphate Oxide and series of related compounds. *Bulletin of Environmental Contamination and Toxicology* 65:104-111.
- Lydy, M.J., C.G. Craford, and J.W. Frey. 2000. A comparison of selected diversity, similarity, and biotic indices for detecting changes in benthic-invertebrate community structure and stream quality. *Archives of Environmental Contamination and Toxicology* 39(4):469-479.
- Marmonier, P., C. Claret, and M.-J. Dole-Oliver. 2000. Interstitial fauna in newly-created floodplain canals of a large regulated river. *Regulated Rivers: Research and Management* 16(1):23-36.
- Maxted, J.R., M.T. Barbour, J. Gerritsen, V. Poretti, N. Primrose, A. Silva, D. Penrose, and R. Renfrow. 2000. Assessment framework for mid-Atlantic coastal plain streams using benthic macroinvertebrates. *Journal of the North American Benthological Society* 19(1):128-144.
- McCarthy, T.M., and W.A. Fisher. 2000. Multiple predator-avoidance behaviours of the freshwater snail *Physella heterostropha pomila*: responses vary with risk. *Freshwater Biology* 44(3):387-397.
- Mikkelsen, P.M., and A. Bradford. 1997. Annotated catalog of type specimens in the Malacological Collection of the Delaware Museum of Natural History. Part II. Additions and corrections to Part I (Prosobranchs, Heterostropha, and Opisthobranchia), plus Bivalvia, Scaphopoda, and Polyplacophora. *Nemouria. Occasional papers of the Delaware Museum of Natural History*. 41:1-76.
- Miller, B.B., D.C. Smith, M.A. Gates, and M.J.S. Tevesz. 2000. Analysis of aquatic mollusk distributions in relation to chemical parameters in a series of northern U.S. lakes. *Walkerana* 11(25):75-95.
- Monteiro, W., and T. Kawano. 2000. Location of allospermatozoa in the freshwater gastropod *Biomphalaria tenagophila* (d'Orbigny, 1835) (Pulmonata: Planorbidae). *Nautilus* 114(2):74-79.
- Morales, J.B.T., and A.K. Ward. 2000. Differential incorporation of algae and bacteria by *Elimia clara* (Prosobranchia: Pleuroceridae) - A study using dual-labeled epilithon. *Journal of the North American Benthological Society* 19(2):289-297.
- Morales, J.B.T., and A.K. Ward. 2000. Snail grazers affect the fate of labile dissolved organic C in streams. *Journal of the North American Benthological Society* 19(4):659-669.
- Myers, M.J., C.P. Meyer, and V.H. Resh. 2000. Neritid and thiarid gastropods from French Polynesian streams: how reproduction (sexual, parthenogenetic) and dispersal (active, passive) affect population structure. *Freshwater Biology* 44(3):535-545.
- Ostrowski, M.F., P. Jarne, and P. David. 2000. Quantitative genetics of sexual plasticity: The environmental threshold model and genotype-by-environment interaction for phallus development in the snail *Bulinus truncatus*. *Evolution* 54(5):1614-1625.
- Ponder, W.F., and G.J. Avern. 2000. The Glacidorbidae (Mollusca: Gastropoda: Heterobranchia) of Australia. *Records of the Australian Museum* 52:307-353.
- Pusterla, N., E. Johnson, J. Chae, J.B. Pusterla, E. DeRock, and J.E. Madigan. 2000. Infection rate of *Ehrlichia risticii*, the agent of Potomac horse fever, in freshwater stream snails (*Juga yrekaensis*) from northern California. *Veterinary Parasitology* 92(2):151-156.
- Ramos, M.A., B. Arconada, E. Rolan, and D. Moreno. 2000. A new genus and a new species of hydrobiid snail (Mollusca : Gastropoda : Hydrobiidae) from eastern Spain. *Malacologia* 42(1-2):75-101.
- Roth, B. 2000. Atlas of the land and freshwater molluscs of Britain and Ireland. (Review). *Veliger* 43(1):104.
- Samadi, S., A. Roumegoux, M.D. Bagues, S. MasComa, M. Yong, and J.-P. Pointier. 2000. Morphological studies of lymnaeid snails from the human

- fascioliasis endemic zone of Bolivia. *Journal of Molluscan Studies* 66(1):31-44.
- Samadi, S., P. David, and P. Jarne. 2000. Variation of shell shape in the clonal snail *Melanoides tuberculata* and its consequences for the interpretation of fossil series. *Evolution* 54(2):492-502.
- Scarratt, D. 2000. Chinese black carp and the control of fish parasites. *Hatchery International* 1(5):12, 14-15.
- Solimini, A.G., P. Gulia, M. Monfrinotti, and G. Carchini. 2000. Effet de différentes méthodes d'échantillonnage sur les valeurs d'indices biotiques de la qualité de l'eau du cours inférieur d'un fleuve méditerranéen: le Tibre. *Annales de Limnologie - International Journal of Limnology* 36(2):135-143.
- Stothard, J.R., P. Brémond, L. Andriamaro, N.J. Loxton, B. Sellin, E. Sellin, and D. Rollinson. 2000. Molecular characterization of the freshwater snail *Lymnaea natalensis* (Gastropoda: Lymnaeidae) on Madagascar with an observation of an unusual polymorphism in ribosomal small subunit genes. *Journal of Zoology (London)* 252(3):303-315.
- Thiengo, S.C., S.B. Santos, J.J. Vicente, and R. Magalhaes Pinto. 2000. Occurrence of *Contracaecum* sp. larvae (Nematoda, Anisakidae) in *Gundlachia radiata* (Guilding, 1828) (Mollusca, Gastropoda, Ancyliidae) in Brazil. *Journal of Invertebrate Pathology* 75(2):178-179.
- Thompson, F.G. 2000. An identification manual for the freshwater snails of Florida. *Walkerana* 10(23):v-96.
- Thompson, F.G. 2000. Freshwater snails of the genus *Elimia* from the Coosa River system, Alabama. *Walkerana* 11(25):1-54.
- Thompson, F.G. 2000. Three new freshwater snails of the genus *Cincinnatia* from peninsular Florida (Prosobranchia, Hydrobiidae). *Walkerana* 11(25):55-73.
- Thorne, R.S.J., and W.P. Williams. 2000. The macroinvertebrates of a polluted stream in Ghana. *Journal of Freshwater Ecology* 15(2):209-218.
- Udalov, A.A., I.V. Burkovsky, and A.P. Stoljarov. 2000. Biology and establishment of population of mudsnail *Hydrobia ulvae* on the White Sea muddy-sand intertidal. *Okeanologiya* 40(1):56-64.
- Urabe, M. 2000. Phenotypic modulation by the-substratum of shell sculpture in *Semisulcospira reiniana* (Prosobranchia : Pleuroceridae). *Journal of Molluscan Studies* 66(1):53-59.
- Venable, D.L., A.P. Gaude, III, and P.L. Klerks. 2000. Control of the trematode *Bolbophorus confusus* in channel catfish *Ictalurus punctatus* ponds using salinity manipulation and polyculture with black carp *Mylopharyngodon piceus*. *Journal of the World Aquaculture Society* 31(2):158-166.
- Watson, C.N. 2000. Results of a survey for selected species of Hydrobiidae (Gastropoda) in Georgia and Florida. pp. 233-244 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus.* 274 pp.
- West, K., and E. Michel. 2000. The dynamics of endemic diversification: Molecular phylogeny suggests an explosive origin of the thiarid gastropods of Lake Tanganyika. *Advances in Ecological Research* 31:331-354.
- Wethington, A.R., E.R. Eastman, and R.T. Dillon, Jr. 2000. No premating reproductive isolation among populations of a simultaneous hermaphrodite, the freshwater snail *Physa*. pp. 245-251 in R.A. Tankersley, D.I. Warmolts, G.T. Watters, B.J. Armitage, P.D. Johnson, and R.S. Butler (eds.). *Freshwater Mollusk Symposia Proceedings. Part II. Proceedings of the First Freshwater Mollusk Conservation Society Symposium. Ohio Biological Survey Special Publication, Columbus.* 274 pp.
- White, R.D., B.H. Horstman, K.E. McFadden, and L.K. Skorina. 1999. A type catalogue of fossil invertebrates (Mollusca: Gastropoda) in the Yale Peabody Museum. *Postilla* 218:1-76.
- Wilke, T., and G.M. Davis. 2000. Intraspecific mitochondrial sequence diversity in *Hydrobia ulvae* and *Hydrobia ventrosa* (Hydrobiidae : Rissoidae : Gastropoda): Do their different life histories affect biogeographic patterns and gene flow? *Biological Journal of the Linnean Society* 70(1):89-105.
- Wright, J.F., J.M. Winder, R.J.M. Gunn, J.H. Blackburn, K.L. Symes, and R.T. Clarke. 2000. Minor local effects of a River Thames power station on the macroinvertebrate fauna. *Regulated Rivers: Research and Management* 16(2):159-174.
- Wu, W.-L. 1999. Mollusks in CITES. *Academia Sinica and Council of Agriculture. Taipei, Taiwan* 143 pp.
- Yusa, Y., N. Sugiura, and K. Ichinose. 2000. Predation on the apple snail, *Pomacea canaliculata* (Ampullariidae), by the Norway rat, *Rattus norvegicus*, in the field. *Veliger* 43(4):349-353.

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Helpful Hints from Hoppy:



Sampling tip: "You have to flip rocks to find young or rare shell"

Submitted by Steve Ahlstedt

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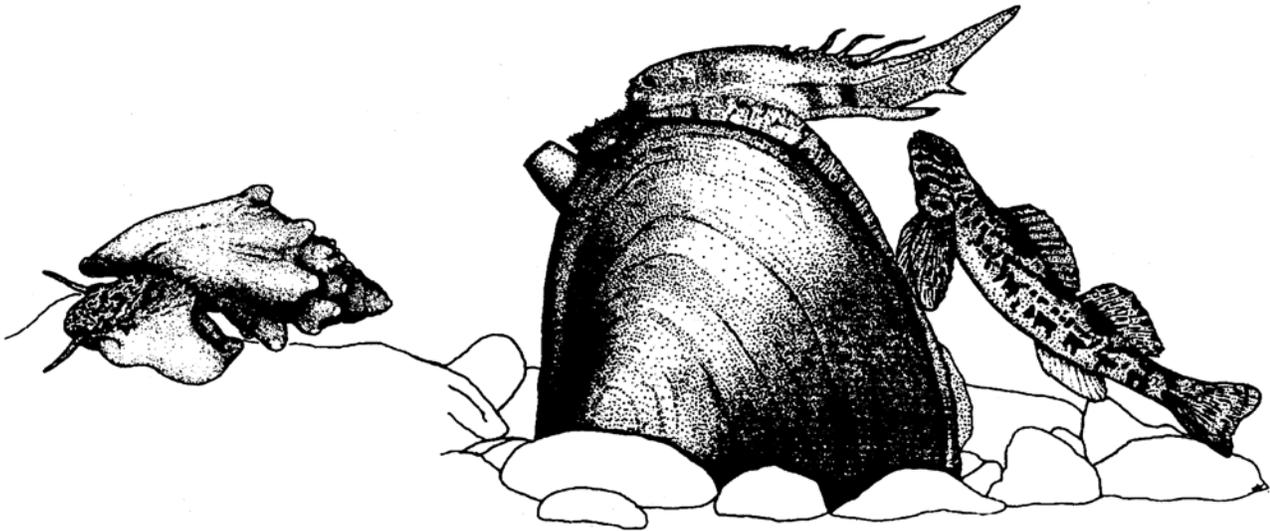
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