



# NEWSLETTER OF THE AMERICAN MALACOLOGICAL SOCIETY



OFFICE OF THE SECRETARY  
DEPARTMENT OF MALACOLOGY, ACADEMY OF NATURAL SCIENCES  
1900 BENJAMIN FRANKLIN PARKWAY, PHILADELPHIA PA 19103-1195, USA

VOLUME 38, NO 1. SPRING 2007

<http://erato.acnatsci.org/ams>

ISSN 1041-5300

## ANNOUNCEMENTS

**73<sup>RD</sup> ANNUAL AMS MEETING  
16<sup>TH</sup> INTERNATIONAL UM CONGRESS  
AMS 2007 – ANTWERP, BELGIUM  
15-20 JULY 2007**

*Submitted by Paula M. Mikkelsen, AMS President*

Update on AMS 2007 – Antwerp, Belgium  
15-20 July 2007



By now, I think everyone is aware that this summer's 73<sup>rd</sup> annual meeting will be in conjunction with the World Congress of Malacology at Universiteit Antwerpen in Antwerp, Belgium, July 15-20. Full details are available at <http://www.ucd.ie/zoology/unitas/congress.html>.

University and hotel housing are quite affordable and the reservation application is included in the registration form. In addition, I would encourage everyone to make their travel arrangements very soon, recognizing that airfare prices will only increase and seats will be less available as we approach the busy European summer season. Thierry Backeljau, current President of *Unitas Malacologica* and organizer of the meeting, has planned a week of serious science and excursions and other enjoyable events that should please every attendee, and I look forward to seeing many of you there.

The last newsletter and several emailed notices to members have mentioned our **Annual Auction** to support our student programs. But if you've missed them, here's the deal. We are holding an auction per usual in Antwerp (on Thursday evening of the Congress), despite the logistical problems of getting things to Belgium. Remember this is an auction of molluscan books and paraphernalia, but no specimen shells. Our auction not only raises the necessary funds for our student programs, it also

provides a fun-filled evening for all involved, even if you don't buy a thing! Paul Callomon will return as our auctioneer – this is something you don't want to miss! Assembling the items to auction is of course the biggest challenge, but more so this year. I have asked each attending member to bring at least one book or item for the auction in his/her luggage. Please also notify me (email: [pmm37@cornell.edu](mailto:pmm37@cornell.edu)) about your contribution if you can, so that we can plan accordingly. Please dig deeply and generously – surely everyone has an unneeded book, an extra copy of your own publication, or something malacologically silly, to contribute! We promise a good time and refreshments, including famous Belgian wine and beer, plus a surprise souvenir. Your participation in this entertaining and worthwhile event will be heartily appreciated and will help AMS present its best face to the world! A list of donations received so far is posted on the AMS website.

Among the many exciting symposia being offered this year is "Molluscan models: advancing our understanding of the eye," organized by Jeanne Serb (Iowa State University) & Laura Robles (California State University). This is the symposium being sponsored by AMS, and proceedings are already promised to *American Malacological Bulletin*.

Thanks to two donations, we were able to offer three Student Travel Awards to the WCM, chosen from applicants by Janet Voight and her capable Student Awards and Education Committee. The awardees are Marla Coppolino (Southern Illinois University), Meaghan Parker (University of Hawaii), and Andrea Walther (University of Michigan). Congratulations to each of you! Each student will be presenting her work at the Congress and I'm sure we will hear more good things from and about them in years to come. Remember too

that there will also be a number of awards at the Congress for best oral and poster presentations by students.

Please join us in Antwerp!



STUDENTS CONTRIBUTIONS  
STUDENT TRAVEL AWARD WINNERS

**Molecular Systematics of North American  
*Ferrissia* (Pulmonata: Ancyliidae)**

*By Andrea Walther, University of Michigan.*

Members of the ancyliid gastropod genus *Ferrissia* (Walker, 1903) are characterized by fine radial striae on their shell apices. They have a near-cosmopolitan distribution in freshwater ecosystems but have received relatively little systematic attention in recent decades. In North America, the last major study was that of Paul Basch (1963), who recognized 5 *Ferrissia* species but stated "I have found no way to separate species unequivocally, and believe that they may all represent different directions of clinal variations within one large super-species". I aim to revisit the systematics of North American *Ferrissia* nominal taxa using molecular phylogenies to resolve taxonomic ambiguities. I obtained samples of the constituent nominal species from throughout their ranges in North America and utilized nuclear and mitochondrial (mt) markers to generate representative gene trees. My findings reveal that two primary lineages of *Ferrissia* occur in North America and that they are not sister taxa, but form a paraphyletic clade also containing *Ancylus* and *Rhodacmea* species. One *Ferrissia* lineage appears to be restricted to North America and is comprised exclusively of individuals from two nominal species: the lotic *F. rivularis* and the lentic *F. parallelus*. These species are taxonomically polyphyletic, and the within-clade topology exhibits a pronounced geographic east/west structuring with evidence of limited secondary movement from east to west. The other primary North American lineage comprises *F. fragilis*, a minute pond-specialist capable of aestivating under drought conditions by producing a septum. *F. fragilis* has Old World sister lineages, but it has recently become globally invasive, establishing cryptic alien populations in tropical Asia and throughout Europe. It was first documented in Europe 60 years ago and has since been sequentially recorded across much of the continent as *F. wautieri* or *F. clessiniana*. It may

well be establishing cryptic invasive populations in temperate and tropical freshwater pond ecosystems worldwide.



**Snails from America's Heartland: Diversity and  
Abundance of Terrestrial Gastropods in  
Southern Illinois, USA**

*By Marla L. Coppolino, Southern Illinois  
University.*

Land snails have been recognized as a group of conservation concern in the state of Illinois (USA). Nine out of thirteen terrestrial gastropod species listed in the Illinois Comprehensive Wildlife Conservation Plan are known to have extant populations in southern Illinois. This study surveys 30 sites in a six-county area of southwestern Illinois, bordering the Mississippi River. These sites represent the areas of highest gastropod diversity in Illinois and are currently believed to support approximately 115 species. This region also includes the greatest diversity of vegetation in the state, and comprises several areas with high-calcium, high-pH soils. Although previous collectors have contributed to records of snail occurrences in this region, none have provided quantitative data or accompanying soil studies. I am employing a quantitative method (timed searches in replicated square-meter quadrats), as well as qualitative methods (e.g., leaf litter sampling) to maximize diversity recovery. Data on ecological variables including rock type, soil chemistry and various microhabitat variables are also being collected. Representatives of 26 species have been found at the eleven sites surveyed thus far. Preliminary analyses show there are significant differences between sites in terms of abundance (one-way ANOVA,  $F=6.35$ ,  $d.f.=10$ ,  $121$ ,  $P<0.0001$ ) and diversity (one-way ANOVA,  $F=9.66$ ,  $d.f.=10$ ,  $121$ ,  $P<0.0001$ ). Sites showing the highest levels of both parameters were in areas of limestone; lowest levels occurred in areas of sandstone. A jackknife analysis estimated species richness  $S^*=41.91$ .



**Achatinellid Land Snails of the Pacific Islands:  
Phylogenetics, Phylogeography and Evolution**

*By Meaghan E. Parker, University of Hawaii.*

The Pacific island orthurethran land snail family Achatinellidae includes five subfamilies: the endemic Hawaiian subfamilies Achatinellinae and Auriculellinae, and three Pacific-wide subfamilies,

Pacificellinae, Tornatellinae and Tornatellidinae. The Achatinellinae, which include the conspicuous and endangered Oahu tree snails (genus *Achatinella*), exhibit great variability in shell color and banding pattern and have thus, attracted much scientific interest. The other four subfamilies include smaller, less colorful snails and have consequently attracted less attention. This study addresses the phylogenetic relationships among species in the four non-achatinelline subfamilies. Partial mitochondrial DNA cytochrome *c* oxidase subunit I (COI) gene sequences have been obtained from 250 individuals from 26 sites on 4 of the main Hawaiian Islands and from four sites in the Ogasawara Islands of Japan. Using a pupilloid outgroup (also Orthurethra), these preliminary results indicate that: 1) COI is appropriate for resolving species, genera and subfamily relationships (although some of the deeper nodes are not well supported); 2) the four non-achatinelline subfamilies are supported as monophyletic groups 3) one species appears to have colonized Ogasawara from Hawaii, either naturally or through human introduction; and 4) many sites in Hawaii harbor more than one species. These data on the four non-achatinelline subfamilies complement published research on the phylogenetic relationships in the subfamily Achatinellinae, and with more comprehensive data to be collected in the future will permit a broad understanding of the evolutionary relationships and biogeography of the entire family.



Congratulations! Each student received \$1000 to defray her expenses to the World Congress. We look forward to their presentations at the meeting in Antwerp!



#### MEMBERS CONTRIBUTIONS

##### **Movie on Oyster-Boring Snail *Urosalpinx* Now on Internet**

*Contributed by Mel Carriker*

The movie "Predatory Behavior of the Shell-Boring Snail *Urosalpinx cinerea*: A Sound, Color, Motion Picture", produced by Melbourne R. Carriker and James G. Schaadt, at the Marine Biological Laboratory in Woods Hole in 1973, has been restored, re-edited, and reproduced for viewing and international distribution by IWF Wissen und Medien gGmbH in Nonnenstieg, Gottengen, Germany.

The film is narrated by Mel Carriker, and first illustrates the approach of an adult snail to a living oyster, then under magnification the snail's chemical-mechanical shell-boring process (including magnified rasping sounds), and finally penetration of the snail's proboscis into the cavity of the oyster and rasping on and swallowing bits of oyster flesh.

The film can be viewed at the IWF Wissen und Medien website:

<http://www.iwf.de/iwf/media/infotheque?Signatur=C+13067>

At the time of submission of this note, Melbourne Carriker was retired but was still working on his favorite writing projects at the College of Marine Studies, University of Delaware (Lewes). Unfortunately it is with deep regret that we learned that Mel died on February 25 this year. Schaadt is retired and at home.



#### MESSAGE FROM THE NEWSLETTER EDITOR

Contributions to the biannual AMS newsletter are always welcomed. Send articles, short notes or news items to **Christine Parent**, the newsletter editor, at the following address:

*Department of Biological Sciences  
Simon Fraser University  
8888 University Drive  
Burnaby, BC V5A 1S6  
Canada*

*E-mail: [cparent@sfu.ca](mailto:cparent@sfu.ca)*