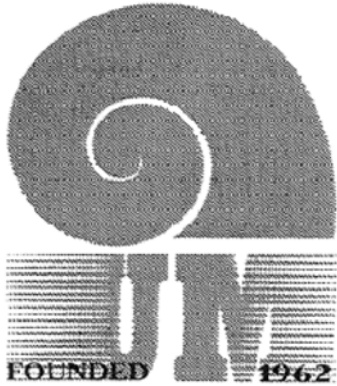


UNITAS MALACOLOGICA



Newsletter

Number 23
March 2006

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Dear Members,

In this issue, you'll find articles by the 2004 winners of the UM student research awards; these projects were undertaken during 2004/05 and each of our two winners report their results. Note that the application deadline for 2006 student awards is coming up in May! The coming summer and autumn appear to be a rich time for molluscan conferences, as you will see from the many meeting announcements.

Congratulations to Alan Kohn and Alan Kabat who collectively solved the UMN22 crossword, and who each received a book prize. Thanks especially to Alan Kohn, who has also provided the rather more complicated crossword for this issue. It is not mandatory to provide the next issue's puzzle with your answer, so send me your solutions and you can win a prize!

According to a decision by the Unitas Council, we will issue the newsletter at eight-monthly intervals (three issues every two years). This means that the next issue will come out in November 2006. Starting with the previous issue (UMN 22), the primary medium of distribution is

electronic. The newsletter is sent to members as a PDF-format email attachment, and is available for public download from the UM website. Postal copies will be sent only to affiliated associations, members without e-mail facilities or those who request it.

If you have received a copy of the newsletter by post, but have an email address, please send your email contact details to me!

We have hellos as well as good-byes in this issue. We mourn the passing of two founding member of Unitas. But we can be happy that their good work is continuing, and Unitas is growing, with the addition of a new formal affiliated organisation: Deutsche Malakozoologische Gesellschaft.

Happy reading, and Happy St. Patrick's Day!

JDS

Our aim is to further the study of Mollusca by individuals, societies and institutions world-wide

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President's Message

Dear Fellow Unitas Members

Although a long time has passed since the Unitas Congress in Perth, the Australian experience is still fresh in my mind and I guess that I'm far from alone in this respect. So I take this opportunity to once again congratulate Fred Wells and his collaborators for the splendid organisation of the congress. Indeed I feel that the Perth Congress can only be described in positive superlatives! In fact, my appreciation for what Fred and earlier congress organizers accomplished still further increases day by day—now that I myself am facing the challenge of organizing the next World Congress of Malacology in summer 2007— I can only endorse Fred's words in his President's message in UM Newsletter 18 (January 2002), for now in my turn I should confess that it is a bit frightening to know that you will expect the same high standards of the congress in Antwerp. However, I'm sure that the number of 'sexy' gray hairs on my head will have increased substantially by summer 2007, just as will the amount of open space on the upper side of the very same body part.

In the mean time, the first UM Council Meeting at the congress site in Antwerp took place this September, and since then the planning and preparation of the congress has progressed steadily. We are now at the point of constructing the congress website, which I hope will become active by July. In general, the congress format will be very similar to that of the Perth Congress, i.e. a one week congress (Monday - Friday) with a free day on Wednesday. There will be possibilities for field excursions, but perhaps I should warn you Belgium is not western Australia, for mollusc diversity is not our strongest side! Rather, our local diversity involves beer, gin, chocolates, pubs, restaurants—and in this sense I feel that the Congress may serve an important goal in providing people

with a nice setting to sit together and enjoy fruitful discussions, while tasting one or more of the many local drinks and dishes.

The Congress site is located at one of the campuses of the University of Antwerp, in a residential neighbourhood somewhat outside the town. There are, however, good connections to the city centre by public transport. If all negotiations proceed well, we will be able to provide accommodation for about 200 participants at the campus dormitories. These rooms are cheap (current rates are less than €20 per person per night), but very modest. All other participants requiring accommodation will be booked in a series of hotels in the city centre, very close (i.e. less than 300 metres) to the main railway station, the terminals of the public transport to the university campus, what we call 'subway', and the bus terminal to Brussels International Airport. Hence, reaching Antwerp, your hotels and the congress site should be a piece of cake! There are several good international train connections (e.g. Amsterdam Schiphol International Airport, London, Paris, Köln, Basel), and reaching Antwerp by plane is also easy via Brussels International Airport (with a direct bus connection to the city centre of Antwerp), Charleroi (Brussels South; with train connection to Antwerp) or even via our own International Airport in Antwerp (with bus connection to the city centre). Please note that the congress organisers will not provide transportation to and from Antwerp—we will neither pick-up people in the airports, nor bring people back to the airports.

Antwerp itself is a medium-sized town with about 450 000 inhabitants. It has a major harbour and has always been a major commercial centre. There is a nice, cosy, old city centre with many old churches, museums (Rubens, Van Dijk, Jordaens), restaurants, pubs... In fact I should not tell you too much about it... Instead, I invite all of you to come and



see for yourself! But if you want to have a taste of it, just visit the following websites:

www.visitantwerpen.be/indexuk.html
www.visitantwerpen.be/indexuk.html
www.trabel.com/antwerp.htm
www.aviewoncities.com/antwerp.htm

Of course the scientific success of the congress will mainly depend on all of you! After all, it will be your contributions that will make the scientific program exciting. In this spirit I hope there will be a diverse scope of papers covering all aspects of molluscs. **Therefore, I hereby invite you to propose symposia themes for which you are prepared to act as symposium organiser. If you are interested to do so, please contact me.**

I look forward to your being in Antwerp and to have an exciting, enjoyable and fruitful Congress with you here!

Thierry Backeljau

President

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Conference Announcements

*Second International Workshop Of
Mollusca Aplacophora
(Caudofoveata & Solenogastres)
Santiago de Compostela, Spain
2 – 8 July 2006*

From the 2nd to the 8th of July 2006, the II International Workshop of Mollusca Aplacophora (Caudofoveata & Solenogastres) will be held at the Marine Biology Station of A Graña (Ferrol) of the Universidad de Santiago de Compostela. The EBMG-A GRAÑA has a good infrastructure for these meetings. The lecture-room has a capacity of 30 people, it boasts modern office computer systems and several teaching and research laboratories, running seawater and all the necessary optic equipment so that the researchers can work individually. Moreover, as it is situated at the seaside, it makes easier the access to

the ships for the field trips in the sea and for the transport of living samples. The station has also a residence for 28 people and nearby catering services.

In July 2002 the 'I International Workshop of Aplacophora' was held at the Marine Biology Station of Kristineberg (Sweden). In this workshop, some taxonomic problems concerning the hard parts (sclerites and radulas) that these animals present and the latest advances in the knowledge of their larval development were basically studied. The study of these Mollusca presents some problems, which are determined by their biology and morphology. The collecting methodology is very expensive and complicated, as most of these animals inhabit deep-sea bottoms. The data about the biology of these animals are also very limited, and this makes their observation *in vivo* even more interesting.

The aim of this 'II International Workshop of Aplacophora' is to discuss the problems with regard to the methodology of their sampling, the most recent advances in molecular systematics and the new data about their taxonomy, as well as to study in depth the last research works that we have about their biology and their development. Researchers that work in different fields will take part: systematics, ecology, biology and embryology, and each of these research groups are coming from different European countries (Germany, Austria, Norway and Russia), United States, Australia and Japan.

The Workshop is organized by Dr. Oscar García-Álvarez and Dr. Victoriano Urgorri of the Universidad de Santiago de Compostela. It is supported by Unitas Malacologica, the Spanish Malacology Society and the Portuguese Malacology Society. In the organizing and scientific committee, they have the collaboration of professors of the three Galician universities (Santiago de Compostela, A Coruña y Vigo) and the Marine Biology Station of A Graña (Ferrol).

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International Congress on Bivalvia
Catalunya, Spain
22 – 27 July 2006

The *Departament de Geologia-Area Palaeontologia* of the *Universitat Autònoma de Barcelona (UAB)*, the *Sociedad Española de Malacología (SEM)*, and *CosmoCaixa Barcelona*, *Museu de la Ciència de l'Obra Social "la Caixa"*, invite professionals and students with a special interest in bivalves to participate in **Bivalvia 2006**, an international congress with venue on the campus of the UAB in Bellaterra and at the *Museu de la Ciència* in Barcelona.

After nearly eight years of abstinence we think it is time for a new specific congress on this second largest group of Mollusca and to venture a new synthesis. Neontologists and paleontologists are invited to present their most recent research results on bivalve genetics, ontogeny, evolution, palaeontology, systematics, freshwater mussels, conservational biology, and stratigraphy. Contributions on other molluscan taxa are acceptable as long as they shed light on the origin and phylogeny of the Bivalvia. **Syntheses are especially welcome.** Detailed works on single organisms or containing extensive taxonomic lists should be presented as a poster.

For students at the *Facultat de Ciències* of the UAB, participation in the Congress is eligible as a course of free election valued with 2 credits (curs academic 2005/06; institució: 98000372 - Unitat Paleontologia. Departament de Geologia de la UAB).

Information and registration:
<http://bivalvia2006.uab.es>

Western Society of Malacologists &
American Malacological Society
Joint Meeting

Seattle, USA
29 July – 3 August 2006

www.malacological.org/meetings/next.html

Polyplacophoran Symposium:
Advances in Chiton Research

I am pleased to announce a symposium featuring chitons (Mollusca: Polyplacophora), to be held in Seattle during the joint annual meetings of the American Malacological Society (AMS) and Western Society of Malacologists (WSM).

Current plans for the symposium include the following: 1) A morning session devoted to presentations by invited speakers; 2) An afternoon session with contributed papers related to any aspect of research on chitons; 3) A special section of a poster session devoted to chitons; 4) A dinner following the symposium open to anyone with an interest in chitons. Please email or call me with other ideas you might have.

There is a possibility that the contributions to our symposium will be published together in a single issue of the *American Malacological Bulletin*, similar to the volume that was published in association with the 1987 AMU symposium organized by Bob Bullock on the "Biology of the Polyplacophora" in Key West, Florida [*Amer. Malacol. Bull.* 6(1), 1988]. This possibility is still being negotiated and I welcome your comments.

I am looking forward to this meeting very much and hope to see you there.

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Western Society of Malacologists &
American Malacological Society

[www.malacological.org/meetings/
next.html](http://www.malacological.org/meetings/next.html)

*Opisthobranch Symposium:
Comprehending Diversity*

A symposium featuring Opisthobranch Mollusks will be held during the joint meetings of the Western Society of Malacologists (WSM) and the American Malacological Society (AMS). For information regarding these meetings see the WSM website or the AMU meeting website. These meetings will be held at the University of Washington with reasonably priced housing available at the University dormitories and the University Inn Motel. The opening night reception will be in the Burke museum, located on campus, and the ending banquet will be at the University Club on campus. Thursday August 3 will be devoted to field trips.

The day of the Opisthobranch Symposium is tentatively set for August 1st. I am currently putting a call out for symposium speakers. This will be an excellent chance to get together and a good warm up for those of you who are attending the second International Workshop on Opisthobranchs in Bonn, Germany organized by Heike Wägele hwaegele@evolution.uni-bonn.de this September (see p. 7). We will host, as usual, an informal gathering and slide show one of the evenings, so bring your favorite slides to share with others. I am looking forward to a good turnout of opisthobranch devotees. Contact me now regarding participating in the symposium, with a title for your talk and send an abstract by April 30th.

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*Morphology, Taxonomy and Ecology of
the Large Arionids:*

Göteborg, Sweden
September 1-3 2006

We hereby call for posters and presentations that address any aspect of the morphology, taxonomy and ecology of the large Arionid species in Europe. Precise guidelines will be posted on www.gnm.se later on.

Registration for the symposium should be made no later than June 1. Abstracts must be submitted no later than August 1. Abstracts will be published in the Natural History Museum communications series.

A detailed schedule will be issued later on. The general outline is as follows:

- Friday September 1: Welcoming. First presentations.
- Saturday September 2: Poster session. Remaining presentations. Workshop. Evening dinner.
- Sunday September 3: Summing up. Excursion.

The workshop will address the internal, and primarily the genital, morphology as a means of classification. If you have specimens that you find typical, atypical or just plain strange – please bring them!

How to get to the Museum, accommodation and other necessary information will be given on www.gnm.se

Welcome!

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Christoffer Schander
University of Bergen

www.gnm.se

Last time we had to cancel out due to too few applications. Please help us make this new attempt a success!

*Second International Workshop on
Opisthobranchia*
Bonn, Germany

20 – 22 September 2006

Zoologisches Forschungsmuseum
Koenig
Adenauer Allee 160
53113 Bonn

The major topic is the phylogeny of the Opisthobranchia (Gastropoda) and how we relate consisting hypotheses to our knowledge on all kinds of biological phenomena observed and described. These include ontogeny, biochemistry, physiology, behaviour and others. Therefore specialists in other biological disciplines and not working on phylogeny are highly welcome to contribute to our understanding of the evolution of the group. The workshop is meant to be a platform to link separate efforts and to spread new methods and ideas.

Lectures and posters will be presented during 2 and a half days. One afternoon is dedicated to a general discussion of past and future research approaches.

Registration deadline: 31st May 2006

No fees have to be paid in advance

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www.dzg-ev.de/de/aktuelles/aktuelles.php

ENDANGERED SPECIES IN GLASS: THE BLASCHKA MODELS

Dublin Blaschka Congress
Dublin, Ireland
28 – 29 September 2006



An essential part of any 19th Century natural history collection, the scientific models made by Leopold and Rudolf Blaschka froze the delicate features of organisms in time, to represent specimens that were difficult to preserve for display—particularly cephalopods and nudibranchs. These sculptures famously include anatomically detailed, scientifically correct models of hundreds of species of marine invertebrates (as well as land slugs), and greatly magnified microscopic organisms.

Although molluscs may not have been a natural focus for natural history models, where displaying shells would be considered sufficient, the Blaschka models faithfully reproduced living creatures. Some models included the entire shell and body rendered in glass, whereas other, later versions used real shells fused to a glass body. The sculptures are so detailed that they are in many cases startlingly realistic. The most dramatic examples, and most fascinating to malacologists, are complete dissection models of a few bivalves (*Mytilus* and *Pecten*) and gastropods (*Aplysia*).

Leopold completed his first glass replica commission, 100 glass orchids for a local aristocrat in 1857, the same year his son Rudolf was born. Over their lifetimes the Blaschkas supplied museums, universities and institutes across Europe and North America with precise glass models of invertebrates from their catalogue of over 700 (predominantly Atlantic and European) species. Every model was hand made and painted to order. As scientific models grew to dominate a trade founded on laboratory glass and taxidermy eyes, the team sought out better “sitters” for their art, and installed large aquaria to keep live molluscs and anemones in their inland studio. In the last phase of their

collective career they signed an exclusive contract which resulted in more than 4,000 models still held by the Botanical Museum in Harvard University. Rudolf completed the Harvard commission three years before his death in 1939, leaving no heir to the family trade.

Modern glass artists have been unable to recreate these stunning, intricate sculptures, and the father and son team never recorded their techniques. The workshop where all the models were created in Dresden, Germany, was destroyed during bombing in World War II, as was a major collection of models held in the local natural history museum. Although some of their archives are preserved in the Corning Institute of Glass (Ithaca, USA), there is very little information about how they worked their glass magic. Although a charming mystery, this has led to growing concern among glass conservators, who are struggling to preserve and repair neglected models. Even the simplest forms of cleaning, to remove more than 100 years' worth of dust, is a complicated job on these delicate works of art.

September 2006 will see the first-ever international meeting focussed on the work of glass artists Leopold and Rudolf Blaschka. These 19th Century artists produced a fusion of science and art which has never been equalled. Art and science museums worldwide hold Blaschka sculptures, which are increasingly recognised for their historical, technical, and artistic importance. Bridging the gap between science and art puts the Blaschka's work in a unique position, which is long overdue for serious study.

The Dublin Blaschka Congress will be hosted in Ireland by the partnership linking University College Dublin and the National Museum of Ireland (Natural History), in collaboration with the Natural History Museum (London). Conference proceedings will include major contributions from some of the world's leading glass scholars: David

Whitehouse (Corning Institute of Glass, USA), Susan Rossi-Wilcox (Harvard University, USA), renowned Blaschka scholar Henri Reiling, and Chris Meecham (National Museum and Galleries of Wales).

'There is growing interest in Blaschka works, because these are the earliest modern objects that directly connect science and art. Scientists call them "models", artists call them "sculptures", but they clearly have a huge value to both,' says Nigel Monaghan, Keeper of Natural History in Dublin. 'This congress is very timely for our collection, and for many scholars.' In their own era, Leopold and Rudolf Blaschka described themselves as 'natural history artisans.' Their work has since been described as 'an artistic marvel in the field of science and a scientific marvel in the field of art.'

Particularly among malacologists and conchologists, where science and aesthetics find a strong natural fusion, these models have an interesting role. Models of whole animals, looking ready to crawl away, are beautiful. The continuing 21st Century persistence of using only shells to display molluscan diversity can perhaps take a lesson from this 19th Century innovation.

The Dublin Blaschka Congress will take place 28 - 30 September. The main aim of the congress is to network the growing number of people with interest in the Blaschka glass models, their history, and their conservation. The congress will include keynote addresses as well as submitted papers from areas as diverse as scientific illustration, conservation, exhibition, invertebrate anatomy and lampworking. A public exhibition of Blaschka models never before seen on display will be held in the National Museum of Ireland (Natural History), Dublin from September through December 2006.

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Publication Reviews & Announcements

REVIEW:

Martin Zuschin and P. Graham Oliver
Bivalves and bivalve habitats of the Northern Red Sea. The northern bay of Safaga (Red Sea, Egypt): an actuopalaeontological approach. VI Bivalvia

Hardbound, ISBN 3-902 421-00-2, 304 pages, publication date: Dec. 2003

Naturhistorisches Museum Wien, Grasl Druck, Bad Vöslau. Price: EUR 39,60

Martin Zuschin and Graham Oliver's "Bivalve and bivalve habitats of the Northern Red Sea" reflects an unbroken interest of Austrian scientists in marine biology and especially the Red Sea since the exploration voyages of "S.M.S. Pola" (1895-98) ⁽¹⁾. The present book draws from more than 20 years of research conducted by a team of palaeontologists and biologists, and about ten years by the first author.

The book is solidly bound and has a coloured hard cover with illustrations that already promise high quality. The content can be divided into an analysis of the taxonomic composition of bivalve habitats (i), taxonomic descriptions (ii), a photographic atlas (iii), and a set of appendices, references, and an index of taxonomic names (iv). The general "Introduction" refers to the major contributions of the working group and defines the objectives of the book: to give a detailed representation of the 226 bivalve species (218 according to the abstract) of the study area and to provide information on their spatial patterns (p. 7). The reader is then introduced into the study area, materials and methods, and substrate types in which bivalves occur.

"Study area" provides a rather brief description of the geography, topography and environmental factors such as water energy, currents, water temperatures and salinity ranges. Figure 1 is a location and

bathymetry map. This and the previous chapter give a very concise overview, but for my taste could have been a bit more extensive. There is, for example, no reference to the fact that the Red Sea evolved as part of a modern, active rift system which, I guess, had some influence on the topography of the study area. Closer to the subject of the book, the small Safaga bay area shelters over 50 percent of the entire Red Sea bivalve fauna and all of them are apparently adapted to constantly hypersaline conditions (40 – 46 per mil). These characteristics are not specifically addressed anywhere in the book. I also wonder whether the continuously growing scuba diving tourism during the past three decades in that region has left any observable impact on the evolution of the bivalve communities. Even if the research set-up excludes an in-depth treatment of this issue, the present contribution is certainly a valuable base to carry out such environmental studies, which the authors do not point out.

The chapters on "Taxonomy" and the Atlas are probably the most highly valued by any reader. "Taxonomy" provides essential information on the Safaga bivalves with over 50 nomenclatorial and identification changes with respect to Oliver (1992). Each species is described in file-card style, which includes references to the plate figures, most recent taxonomy and synonymy, distinguishing characters, ecology and geography, number of specimens found in each substrate, and an indication whether the samples are used in the quantitative analysis. This rather efficient presentation takes advantage of the synonymy lists of the cited literature and the illustrated determination key of Oliver (1992) which includes most of the species described here.

Zuschin and Oliver's book is without doubt a worthwhile purchase despite the above criticism, which applies more to the presentation style of the taphonomic analysis rather than the



quality of its content. The chapter as such provides a good summary of Zuschin's work with respect to the Safaga bivalves and includes many raw data that have not been published elsewhere to this extent. Scientists working on related topics either in the fossil record or recent will probably benefit most from this part of the book. The Atlas and taxonomy certainly attracts a much larger readership among professionals, shell collectors, scuba divers, or enthusiasts of shell books. The spectacular low price is also rather convincing, even if one is not at all interested in the analytical part. One would wish that there were more books of this sort. The only inconvenience is that the potential buyer will probably wish to have Oliver's Red Sea book as well. But, I guess, most of the interested readers already own that one.

www.nhm-wien.ac.at/NHM/3Zoo/Histabt.htm

www.univie.ac.at/Palaeontologie/researchgroups.htm

Oliver, P.G. 1992. *Bivalved seashells of the Red Sea*. C. Hemmen, Wiesbaden, 330 pp.

N. Malchus

*Universitat Autònoma de Barcelona
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STATISTICAL STUDY OF INTRASPECIFIC VARIATION IN LIVING COWRIES

Many groups of living cowry populations are known in the literature as species or subspecies but their taxonomic identity is often questioned and consensus among malacologists regarding these questions is not exist. A long-term project dedicated to study of intraspecific variation in living cowries is an attempt to elucidate this problem using statistical conchological methods. The results of the first step of this project in which more than 10,000 shells were used are now published in the report "Intraspecific variation in living cowries Part 1 2005."

In this study, the following criteria are established:

a) the main criterion for diagnosing cowry species—the existence or absence of at least one main diagnostic shell character i.e. a prominent readily-recognizable shell character found in all shells of a species;

b) two main criteria are established for recognizing subspecies: first, subspecies must be geographically separated population groups of the species; second, the majority (70% or more) of shells of the subspecies must differ by at least one diagnosable shell characteristic (the main diagnostic shell characteristic) from the other subspecies of that particular species.

All the groups of populations studied are critically examined according to these criteria:

Statistical shell characteristics are evaluated for 142 taxa, which have been described in the past as species or subspecies. These data are given for each taxon in tables showing the number of shells studied, their locality, and the number of shells (or the percentage of shells) with a given quality (shell character).

Conclusions regarding the taxonomic level of each group of cowry populations studied are based on statistical shell characteristics, both quantitative (the average shell length and relative width, and normalized teeth count), and qualitative (the percentage of shells with a given quality in a given population group). Groups of cowry populations, which stand the check, are recognized as valid subspecies.

The specific rank of 35 cowry population groups is confirmed, 15 of which are treated as monotypic species.

The subspecific rank of 69 cowry population groups is confirmed and the remaining 73 are treated as synonyms, as taxa which are not separable conchologically, or taxa which need more conchological material and further

study to re-examine their taxonomic level. The main diagnostic shell characteristics, which can be used for distinguishing between the recognized taxa, are given for all subspecies.

Numerous forms found in the studied conchological material are listed and illustrated in approximately 900 pictures.

The report is available as an electronic book in the pdf format on a compact disk, from Mal de Mer Enterprises USA www.maldemar.com

Eduard Heiman
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2,400 YEARS OF MALACOLOGY

Eugene V. Coan, Alan R. Kabat & Richard E. Petit (2006) online at:
<http://www.malacological.org/publications/epubs.html>

This publication of 664 pages is a comprehensive catalog of biographical and bibliographical papers on malacologists, conchologists, paleontologists, and others with an interest in mollusks. This publication also provides links to online digitized works in systematic malacology.

Since the posting of the first edition (June 2004), and the second edition (January 2005), we have received comments and additions from a number of colleagues - for which we are most grateful - and we have continued our own searching through the literature.

The Third Edition has more complete coverage of paleontologists, largely from Cleevely (1983) and Lambrecht, et al. (1938), as well as more extensive coverage of the nineteenth-century explorers and naturalists in Central and South America.

Also, an increasing number of important historical and reference works are being digitized and made available online, such as the entire set of the "Challenger" Expedition volumes, the "Systema Naturae" of Linnaeus (1758)

(and many other works available online through "Animalbase" and "Gallica"), Neave's "Nomenclator Zoologicus," and Sherborn's "Index Animalium." These digitization projects are invaluable in making rare publications more readily accessible.

We have also continued to pursue those individuals whose contributions to malacology are assuredly less well known than their contributions to other fields. Among the new entries is Hans Christian Andersen, the well-known Danish author of children's stories, who turns out to have been an avid collector of land and fresh-water mollusks.

As before, this catalog is a work in progress, and we plan to continue posting updated versions on a periodic basis. We encourage readers to explore and use this catalog, and we look forward to receiving your comments, and citations to new or overlooked papers.

Gene Coan
Alan Kabat
Richard Petit
www.malacological.org/publications/epubs.html



Student Award Reports

SPECIATION ON ISLANDS: THE BULIMULID LAND SNAILS OF GALÁPAGOS

With more than 80 species and subspecies described, the *Bulimulus* group of Galápagos represents the most species rich lineage of these islands. The different species vary in shell size, shape, color, and color pattern; and they have adapted to five of the six vegetation zones described for the Galápagos islands.

The UM student award was used to collect bulimulid land snails on islands and sites particularly difficult to access, including Cerro Azul, Wolf, and Alcedo volcanos of Isabela Island, and the north-east side of San Cristobal Island. This collection completed a dataset that was then used to evaluate the relative

importance of inter-island colonization and within-island speciation as processes involved in the formation and maintenance of species diversity on islands.

I used molecular phylogenetics to infer the diversification patterns of extant species of *Bulimulus*, and multiple regression analyses to determine the causes of variation among islands in species diversity. Different phylogenetic analyses yielded well-resolved and well-supported trees with similar congruent topologies. The earliest-diverging lineages are found on the oldest-emerged islands of the archipelago, and later-derived species inhabit the younger islands. I found support for the monophyly (single-colonization) hypothesis of island assemblages on older islands, which indicates that species diversity on these islands is due mainly to within-island speciation. By contrast, inter-island colonization is common on middle-aged and younger islands, which are relatively close to one another, such that their species diversity is due to both inter-island colonization and within-island speciation.

Among the potential biogeographical factors determining island species diversity, I tested for the role of island area, maximum elevation, age, insularity (distance to nearest major island), and habitat diversity (measured as number of plant species). The result of multiple regression analyses indicated that habitat diversity, island elevation, and island area, all of which are indirect measures of niche space, are strong predictors of overall species diversity on each island. Island age is also an important independent predictor of species diversity, with older islands harbouring more species than younger islands.

I then evaluated the individual role that each of the biogeographical factors has had on both speciation within islands and speciation due to colonization between islands by assigning each species an inferred mode of speciation using the best phylogenetic tree. The number of species resulting from between-island colonization was found to be a function of island area and insularity. However, if considering only species resulting from within-island speciation, I found that habitat diversity was the only significant predictor among all biogeographical factors considered. These results provide clear evidence that the relative importance of speciation and colonization as speciation processes are determined by different biogeographical factors.

These results emphasize the value of considering what processes are responsible for the formation and maintenance of species diversity when trying to assess what biogeographical factors are significant in determining overall species richness. Ultimately, the relative importance of within- and between-island speciation is a function of how isolated individual islands of a given archipelago are, and how good dispersers are the species in the taxonomic groups considered.

Christine Parent

*Simon Fraser University
UM Student Award Winner 2004*

DETERMINANTS OF DIVERSITY IN THE PALAU DIPLOMMATINID LAND SNAILS

Adaptive radiation, the relatively rapid divergence of a single lineage accompanied by shifts into different adaptive zones, has figured prominently into explanations of species richness among Pacific island flora and fauna (e.g. Galapagos finches, Hawaiian silverswords), though seldom has it been rigorously demonstrated. Such stringent

tests are vital, if we are ever to understand how and why the great diversity of species on Earth has evolved.

Rebecca Rundell, past *Unitas Malacologica* grantee, is investigating hypotheses relating to adaptive radiation in her study of the spectacularly diverse Palau diplommatinid land snails. The diplommatinids are species-rich,

abundant and exhibit a diversity of shell forms, including elaborate spines and ribs. The isolated Palau archipelago comprises over 500 rainforest-covered islands, composed of both limestone and volcanic rock. Single island endemism is rampant in Palau, yet many of the over 500 islands remain unexplored. Rundell's data indicate that there are different suites of species inhabiting each of these island types, and shell morphologies correlate with specific substrate types. She is testing hypotheses of adaptive radiation using Schluter's (2000) criteria for adaptive radiation as a starting point.

Phylogeny is the foundation of these investigations, and *Unitas Malacologica* funds were used to partially fund travel for intensive field work in the Republic of Palau, for the collection of fresh diplommatinid land snail material. The field work in Palau (August-November 2005) also involved a detailed survey of the entire land snail fauna, which is critical for future conservation and management efforts, given the rate at which development is occurring in Palau. Field work was done in collaboration with the Palau Conservation Society,

Belau Cares, Inc., and the Palau Office of the President's Office of Environmental Response and Coordination. Collections will be deposited in the Field Museum (Chicago, IL). Rundell also produced an exhibit on land snail evolution and conservation for the Belau National Museum's new building, which opened in September 2005.

Virtually nothing is known of the Palau diplommatinid land snails, and, with the exception of species descriptions and a species list (Smith, 1993), little has been published about them. Although only 26 diplommatinid species are described from Palau (Smith, 1993), Rundell's field work has uncovered at least double that number of diplommatinid species, many of which are endemic to individual islands or island groups.

Rundell is currently compiling data on her survey work for Palau National and State governments and NGOs for use in future conservation planning. She is incorporating the diplommatinid material into her molecular phylogenetic analyses and SEM work on shells and radulae. Rundell is presenting these data at future malacological meetings, and plans to publish the work as part of her dissertation research at the University of Chicago and the Field Museum (Chicago, IL, U.S.A.).

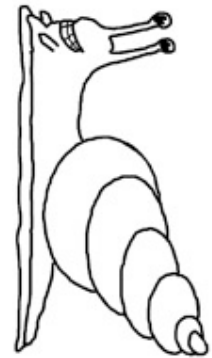
Schluter, D. 2000. *The ecology of adaptive radiation*, Oxford University Press, Oxford.

Smith, BD. 1993. Working list of the terrestrial gastropods of Palau, Caroline Islands. Working List No. 4, Dickinson Memorial Mollusc Collection, Marine Laboratory, University of Guam, 5 p.

Rebecca Rundell

University of Chicago

UM Student Award Winner 2004



Treasurer's Column

Dear members,

Undoubtedly, the most exciting financial news since my previous column is the receipt of 10,186 euros donated by Fred WELLS as an excess of balance of the World Congress of Malacology in Perth, July 2004. Again thank you very much Fred on behalf of Unitas.

This additional income definitely enables us to provide further benefits for students and young researchers, such as extra travel grants and research awards.

Positive reaction from members on my invitations to pay membership dues could be better, to be honest could be *much* better! I am continuously forced to invest time in remembering for paying membership dues. Frankly, it becomes a bit fatiguing.

Anyway, other members do react in a very kind way, convinced as they are of the multiple benefits to young malacologists offered by the Unitas Malacologica Trust Fund. In the period August 2004 – January 2006, donations to the Trust Fund were received from various members: three generous donations from David R. LINDBERG, Jon-Arne SNELI and Karl-Heinz BECKMANN, smaller ones by J. Terrence FREST, Edward JOHANNES, Alan R. KABAT, Winston PONDER and Frank WESSELINGH, and round-ups by Dolf C. VAN BRUGGEN, Henk H. DIJKSTRA, Karl-Otto NAGEL, Sven N. NIELSEN, Willy SLEURS and Hans TURNER.

Finally we welcome a new affiliated society through the courtesy of its President Dr Vollrath Wiese: Deutsche Malakozoologische Gesellschaft.

Thank you very much for your support.

Jackie VAN GOETHEM
Treasurer

Membership

Current annual subscription to Unitas Malacologica is 16 euro. However members are asked to subscribe for periods of three years which will allow for benefits such as reduced congress fee, travel grants, etc.

For international transactions you can use:

IBAN code: BE07 0001 5390 6866 being the account number of Unitas Malacologica, Vautier Street 29, B-1000 BRUSSELS, and BIC code: BPOTBEB 1 to characterise the Belgian Postcheque Bank, Koloniën Street 56, B-1100 BRUSSELS, Belgium.

Visa, Eurocard and Mastercard are accepted, as are international *postal* money orders (available from your post office), payment by bank draft in EURO currency, *drawn on a Belgian bank*. Receipts are not sent unless requested, except for transactions in cash which also are accepted.

Charges to Unitas to enable the credit card payment system have increased over the years. Right now I have received a notification that Unitas will be charged additionally on a monthly basis. May I therefore ask members, who use their credit card for paying dues, to add a small extra to the 48 euros covering a three years period, *i.e.* 4 euros. This I think will cover the credit card payment costs so that the annual membership fee of 16 euros still is a netto income for Unitas. Council members during the 2005 meeting in Brussels agreed on this principle.

A membership application form can be obtained from the treasurer. Also you can download a membership application from the UM website at: www.ucd.ie/zoology/unitas/membership.html

Thank you very much for your kind consideration.

Jackie VAN GOETHEM
Treasurer

Secretary's Column

On September 9th the UM Council met in Antwerp for its first meeting since the General Assembly held in Perth during the WCM. Hosted by our President, Thierry Backeljau, our principal business was naturally the planning for the next WCM, to be held in Antwerp in 2007. Thierry's plans are developing well and he has made excellent progress. The venue for the congress will be the University of Antwerp, and the lecture halls and catering facilities will be more than adequate for our purpose. The city itself is delightful and will have a lot to offer delegates on the social front – with an historical European atmosphere perhaps not dissimilar to Tübingen, and of course plenty of good Belgian beer!

In addition to WCM business, we also finalised our assessments of the UM *Student Research Awards* for 2005. Since we had 15 good applications, this was not an easy business. After much discussion Council decided, in view of the high quality of the applications and the good profit made by the Perth WCM, that we could afford to make four awards for 2005, instead of the usual two.

The winners, in alphabetical order, were:

Josh Auld, University of Pittsburgh – *The reciprocal effects of plasticity in defensive and mating-system phenotypes in freshwater snails.*

Zoë Doubleday, University of Tasmania – *Stock structure and dispersal in two commercial octopus species: a comparison between benthic and planktonic early life histories.*

Ken Hayes, University of Hawaii – *Molecular systematics, phylogeography and evolution of South American apple snails (Pomacea spp).*

Thor-Seng Liew, University of Malaysia – *Analytical biogeography of the land snail fauna of Mount Kinabalu, Borneo.*



Congratulations to all. Reports from our 2004 award winners are included in this newsletter (pp. 11 - 12). With regard to future UM Student Research Awards, Council resolved that these be open only to applicants who are themselves members of UM. In future, membership of affiliated organisations alone will not be sufficient to qualify. This will represent a significant benefit associated with UM membership and will hopefully encourage young scientists to join our society. Student Travel Awards for attending WCM meetings will, however, remain open to members of affiliated organisations, to encourage broader participation.

It was with sadness that Council learned of the recent passing of two founder members of UM, Dr Adolf Zilch (Forschungsinstitut Senckenberg, Frankfurt) in January 2006, and Prof. Dr. Ferdinand Starmühlner (Institut für Zoologie, Universität Wien) in February 2006. Both were distinguished malacologists with long, fruitful careers and members of UM for almost four decades. On behalf of UM as a whole, Council has sent a message of condolence to their colleagues.

Election of new office bearers

In 2007 the terms of office of two Council members, Paula Mikkelsen and Marco Oliverio come to an end, and we will of course need to identify a new President and venue for the 2010 WCM. In accordance with Article V, Section 4 of our constitution, Council is now calling for nominations for these positions, for which we will hold a ballot prior to the next General Assembly in Antwerp. Each nomination requires a proposer and a seconder, as well as the signed agreement of the nominee (all three of whom must be personal UM members in good standing). Although it

may seem that the next General Assembly is a long time away, I ask that members give this matter serious thought now as we need to get the ball rolling – don't leave it up to Council alone to make the nominations. Since it is important that we have at least one good option for the venue for WCM 2010 and the associated President, Council will be considering this matter at its next meeting in August/September 2006.

Dai Herbert
Secretary

Student Awards – 2006

CALL FOR APPLICATIONS: UM STUDENT RESEARCH AWARDS FOR 2006

Two awards, each of up to €1 000, are offered every year to students engaged in research projects of a malacological nature. These will generally be projects undertaken in pursuit of higher academic degrees (e.g. M.Sc. and Ph.D.). Normal budget items include supplies, expendable equipment and research-related travel. The awards cannot be used to cover salaries, institutional overheads, permanent equipment or conferences. Only students who are members of UM in good standing are eligible to apply for these awards.

The next deadline for submissions is 31st May 2006.

Application forms are available by request from the UM Secretary (below) or online.

www.ucd.ie/zoology/unitas/projects.html

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News from Latin America

THE LATIN AMERICAN SOCIETY OF MALACOLOGY

The society, Asociación Latinoamericana de Malacología, will work as a non-profit regional organization and be legally established in the next few days in Venezuela, and in the upcoming weeks, in a number of other countries of the region.

Almost 15 years have passed since the First Latin American Congress of Malacology, I CLAMA, held in July 1991 in Caracas, Venezuela. During this meeting, participants discussed the building of a professional society of malacology that would embrace and represent all researchers of the field in the region. As a result of this meeting, the Comité Organizador de Congresos Latinoamericanos de Malacología was created. COCLAM was not a society: it was a non-profit entity, assisted by volunteers, in charge of building links among malacologists in Latin America and to guarantee the periodic celebration of malacological meetings in the region.

It was clear that in 1991, malacologists in Latin America did not feel ready to have a professional society and needed to wait. And so they did while meetings started to come and go. II CLAMA happened in Porto Alegre, Brazil, in June 1995. This meeting also held the XIV Encontro Brasileiro de Malacologia, the I Feira Internacional Sobre Moluscos and the I Reunião Nacional dos Conchiliologistas. CICESE, from Ensenada, Mexico, hosted the III CLAMA in October 1997, together the VI Reunión Nacional de Malacología y Conquiliología. During this meeting, it was decided that CLAMAs should be held each year after the UNITAS/World Congress events. And so, in September 1999, Universidad Católica del Norte, in Coquimbo, Chile, hosted the IV CLAMA and the II Encuentro Nacional de Investigadores en Malacología de Chile. Three years later, in June 2002, Instituto

Butantan and the University of São Paulo, Brazil, hosted the V CLAMA and in July 2005, the Smithsonian Tropical Research Institution in Panama hosted the VI meeting.

During the VI CLAMA, once again, participants met and discussed the possibilities of building a professional society of malacology, and this time Latin American malacologists were ready. On July 5, in the Earl S. Tupper Conference Center at STRI, after an exciting hour-long meeting, 46 scientists, representing universities and research institutions in Argentina, Brazil, Chile, Colombia, Mexico, Panama, Portugal, Spain, US, and Venezuela, voted for the creation of the new society, Asociación Latinoamericana de Malacología. The objectives of the society include, but are not limited to, building new and enhancing existing ways of communication among Latin American malacologists, promoting national and international meetings, promoting and enhancing the interchange of students and professionals throughout the region, and serve as a supra-national entity of scientific reference able to study and address problems related to the basic knowledge, sustainable use, exploitation and conservation of the biodiversity of mollusks. Two days later, on July 7, a president, a vice-president, a secretary, a treasurer, and five vocal members were directly voted from and by VI CLAMA participants as heads of the transitory entity addressing the building of the new international society.

Now, COCLAM no longer exists. In fourteen years, it promoted six international meetings, one international student prize for the encouragement of malacological research (Premio Dr. Antonio García-Cubas), one international mail list (MOLUSCOS, with 200 members in February 2006), and above all, the reassurance for hundreds of researchers and students in the region that, besides political, social and economical instability, limitations in the interchange of currency, different

idiosyncrasies and long distances to travel, many good things can be done if working together. COCLAM laid the bases to build the new society.

If you would like more information about the **Asociación Latinoamericana de Malacología**, please contact Dr. Roberto Cipriani. Events are rapidly unfolding and new information about this society will be published accordingly during the coming weeks in molluscan newsletters and mail lists.

Roberto Cipriani
rcipri@usb.ve
Universidad Simón Bolívar
Venezuela



Letter to the Editor

Hi Julia,

First let me say excellent work with the UNITAS Newsletter!

That said, I am compelled to have a little nit pick regarding something I spotted in the crossword, specifically the clue to 15 across. If the answer to this is Carolus, the answer is wrong, for Linnaeus's *born* name was Carolus Linnaeus (the Swedes still have names like this). In 1762, he was ennobled Carl von Linne. Folks who use Linne for 1758 taxa are not really pedantic, but simply wrong.

With good wishes and good humour,

Bruce Marshall
BruceM@tepapa.govt.nz

Obituaries

Dr. Adolf Zilch (1912- 2006)

With sorrow and great concern I have to announce the death of Dr. Adolf Zilch. After a long and fulfilled life A. Zilch passed away on January 1st, at the age of 94.

Dr. Zilch was one of the most recognized malacologists worldwide. With his handbook on the "Euthyneura" which is a standard tool even today nearly 50 years after its publication, he gained high international reputation. His vast knowledge in the field of worldwide terrestrial malacology became famous. A. Zilch was one of the founders of the Unitas malacologica and for many decades president of the German malacological society. At the research institute Senckenberg Adolf Zilch held the position of the curator of the mollusc collection for more than forty years, he served as vice-director of the institute and head of the department of zoology as well as editor of three scientific journals, among them the *Archiv für Molluskenkunde*. After retirement in 1976 A. Zilch still worked in the malacological section for another 20 years as honorary collaborator. Besides malacology, his interests focused on music and history and he was a highly recognized specialist in the field of numismatics.

An obituary will be published in *Archiv für Molluskenkunde*.

Ronald Janssen
*Forschungsinstitut Senckenberg
Germany*

Prof. Dr. Ferdinand Starmühlner (1927 – 2006)

After a serious illness lasting half a year, Dr. Ferdinand Starmühlner recently passed away on February 2nd. With Dr. Starmühlner's death we have now lost another founding member of the Unitas Malacologica (1962). Despite his residence in Vienna, Austria— where he went to school and university (Ph.D. 1949), pursued his scientific career with his appointment (1953) and professorship (1974) at the Zoological Institute of the Universität Wien, and lived since his retirement (1992)— Starmühlner's scientific interest was mainly focused on island limnic biotopes and their molluscan faunas. His numerous expeditions around the world in this field made him a top specialist in those biotopes. (All his extensive collection material and photographic documentation, as well as his scientific library, is now safely housed at the Natural History Museum Wien.) At the zoological institute in Vienna he promoted the school of malacology and produced numerous scholars, and he popularised malacology as well as zoology in general with a wide range of activities on television, lectures in popular education, and symposia on vivaristics.

Dr. Ferdinand Starmühlner was an obliging, co-operative and communicative, self-effacing person who was a well-acknowledged scientist and an esteemed colleague. We are thankful for his contribution to malacology and we mourn for a dear friend.

Oliver E. Paget (Vienna)
UM president 1965-1968

**Luitfried v. Salvini-Plawen
(Vienna)**
UM president 1998-2001

Acrostic:

“Mollusca may be the best phylum, but it’s not the only one”

				1	2	3	4	5	6	7	8	9	10		11	12	13	14	15	16
	17		18	19	20	21		22	23	24	25	26	27		28	29	30	31		32
33	34		35	36	37	38	39		40	41		42	43	44	45		46	47	48	49
50	51		52	53	54		55	56	57	58	59	60	61		62	63		64	65	66
	67	68	69	70		71	72	73	74	75	76	77		78	79	80	81	82	83	84
	85	86		87	88	89	90	91	92		93	94	95		96	97	98	99	100	
101	102		103	104	105	106		107		108	109	110	111	112		113	114	115	116	117
118		119	120	121		122	123	124	125	126	127	128	129		130	131	132	133		134
135	136	137	138	139		140	141	142		143	144		145	146	147		148	149	150	151
152	153		154	155	156	157		158	159	160		161	162	163		164	165	166		167
168	169	170	171		172	173	174	175	176	177	178		179	180	181	182				

Acrostic set by: **Alan Kohn**

How to solve the acrostic puzzle:

Guess the words defined in the clues, and write them over their numbered dashes. Numbers in parentheses indicate the number of letters in two-word answers. Transfer each letter to the correspondingly numbered square in the grid. Black squares indicate word endings. The filled pattern will reveal a quotation reading from left to right. The first letters of the guessed words, reading down, will give the author’s name and the title of the work. One clue (W.) has been done to get you started.

A. Like the sea surface

____ _
180 68 115 63

E. *Teredo*

____ _
11 119 97 84 28 90 96

B. What pogonophorans are

____ _
98 40 51 42 116 93 175

F. Kind of hydroid

____ _
106 146 151 57 17 108 38

C. Top side of medusa

____ _
7 67 161 137 179 15

G. Snail’s drilling aid (abbr.)

____ _
19 140 59

D. Prepare gastropod for dinner (4,7)

____ _
125 147 143 169

H. Polychaete genus (alt. spelling)

____ _
80 45 41 99 136 33 182 128

____ _
55 1 117 152 75 159 65

I. Taxon above species

35 131 6 141 171

J. True (zool. prefix)

21 155

K. Tropical marine gastropod

71 158 130 8 83 30

L. Source of male's Y chromosome (3,6)

129 36 157

167 10 163 12 173 72

M. Squid's greeting (4,2)

127 74 78 102 94 2

N. Freshwater oligochaete genus

132 134 79 70

O. The Conus proboscis is a weapon of:

13 24 44 95 89 61 176

P. Food and shelter for gribbles (4,4)

87 160 52 16

69 25 120 156

Q. Ramus of crustacean appendage

149 5 54 68 3 86 27 76 91 114

R. Babe or baby

174 22 85 29

S. Stage or genus of Malacostraca

148 139 122 110 105

T. Where the gastropod's head resides in the shell (4,5)

177 181 81 100

121 64 144 150 20

U. Aid (6,4)

164 39 145 9 32 133

109 73 18 172

V. Older relative of "the worm" (genus)

66 82 124 101 77 43 142 4 111

W. Opposite of dorsal

V E N T R A L
37 88 165 112 113 138 26

X. Goal of potential trophy wife (8,7)

46 126 178 118 14 34 23 123

58 162 135 62 107 31 166

Y. Description of this puzzle (9,3)

170 56 103 49 153 50 154 48 92

47 104 53