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Contributions from

The Micropalaeontological Society

The International Nannoplankton Association

The Grzybowski Foundation

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Correspondence

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Report from TMS President - Professsor Michal Kucera

Dear colleagues and friends of micropalaeontology.

To many of you, this issue of *The Newsletter of Micropalaeontology* comes as a surprise. To those who are members of The Micropalaeontological Society because of the new format and content, to those who are not because you are now holding the first issue of a new platform aiming to serve all societies and groups active along the broadest possible definition of the discipline of micropalaeontology. The establishment of this platform is the next step in a sustained effort of The Micropalaeontological Society to position itself as an umbrella for our discipline and to cater for a broad international audience. This ambition reflects the fact that over the last decades TMS grew to the largest and most international body within our discipline – a discipline that, let us be honest with ourselves, suffers from fragmentation and is notoriously underrepresented at all levels. Micropalaeontology is clearly distinct from palaeontology not least due to the equal representation of colleagues working in academia and the industry. We might deal with issues as disparate as climate change, forensics, algal blooms or biosteering of horizontal wells, but the objects and methods of our study unite us.

This breadth makes our discipline extraordinarily lively and dynamic, yet, at the same time, it makes it increasingly difficult to define ourselves as a community and speak in one voice when it is needed. An extreme example of this development is the recent closure of the micropalaeontology MSc programme at the UCL, the last of its kind in the UK and one of the few worldwide. It is in this situation that The Micropalaeontological Society decided to raise the voice for the discipline at the international level and actively works on concepts for securing graduate education in the field. In this context, we feel it is particularly appropriate to seek partnership with the micropalaeontological community beyond our Society.

TMS has traditionally served the discipline in three ways: by recognising and encouraging excellence in the field, facilitating publication and organising and supporting meetings. We are proud of our awards scheme headed by the newly established Brady Medal and newly extended by the addition of the Alan Higgins Award for Applied Micropalaeontology, both open for the micropalaeontological community at large; our *Journal of Micropaleontology* is going stronger than ever and our special publications series continues to list new titles. We support keynote speakers at interdisciplinary conferences and the yearly foraminifera and nannofossil groups' meeting organised by TMS has toured Europe the last seven years and continues to attract an ever growing audience. We are now adding a further element to our service to micropalaeontology: providing a common platform for information exchange within the discipline. We are offering all societies and groups connected in any way with the science of micropalaeontology an access to this Newsletter. This Newsletter could become an important first step towards a common voice for our discipline. This is why I would like to appeal to all readers associated with any local or regional groups, specialist societies or any other learned bodies within our discipline to step forward and encourage the organisers of these bodies to get in touch with TMS to discuss a partnership in producing this Newsletter.

I have been extremely encouraged by the positive response from the first two societies with whom the experimental first issue has been produced. Both the International Nannoplankton Association and the Grzybowski Foundation serve a distinct sector of the discipline and have different missions, yet much of their activities are of great interest beyond the immediate membership. The new Newsletter of Micropalaeontology now allows all participating societies to disseminate such information to a uniquely large international audience, whilst keeping their distinct profile and catering for their membership. The Newsletter is structured so that it clearly separates the matters of individual societies from those of common interest. It

blends information and entertainment, includes reports, opinions, book reviews as well as announcements of awards, grants and upcoming events.

Unlike many large learned organisations, TMS relies solely on the work of colleagues who volunteer their time to the Society. We know all too well what extra work we are taking on us with our ambition to serve the discipline. The Newsletter editor will be the first one taking the hit and I am indebted to him for the enthusiasm with which he took on the task of producing this new Newsletter. It is clear, though, that the success of this project rests on the enthusiasm of all of us – the Newsletter needs your input, your reports, your photographs, your reviews and your support in championing the project by potentials partner societies. The potential is enormous, so let us make the most of it!

Enjoy the rest of the summer and do not forget to take this Newsletter with you for an entertaining read on your way to the beach, in the train, bus, plane or any other means of reading-friendly transportation!

Conference Announcements

Biogeochemistry of Marine Waters and Sediments, Present and Past

2-4 September - Geological Society / Challenger Society

This meeting brings together for the first time special interest groups in the Challenger Society for Marine Science (Marine Biogeochemistry Forum) and the Geological Society (Marine Studies). There is much overlap of areas of interest between the two societies, and this joint meeting will focus on topical and important areas including ocean acidification, palaeoproxies, particle inputs to the upper ocean (SOLAS) and polar biogeochemistry. There are also more general sessions, and there will be a poster event where students can present their work, with prizes for best posters and student talk. This meeting is the most recent in the series of Marine Studies and biennial AMBIO (advances in marine biogeochemistry) events. See: www.geolsoc.org.uk

16th Meeting of the Group of European Charophytologists (GEC)

12-16 September 2009. The 16th GEC Meeting will be organized in the ancient town of Ohrid from 12th to 16th of September 2009. The oldest scientific institution in Macedonia, the Hydrobiological Institute is organizing the event while the meeting place is going to be in Ohrid's top resort the Millennium Palace, situated on the lake's shore. See: www.hio.edu.mk

11th International Paleolimnology Association Symposium

15-18 December 2009, Guadalajara, Mexico

New dates for the symposium announced due to the outbreak of swine flu in Mexico. The venue, Hilton Hotel, and the structure of the symposium remain unchanged. Online registration and abstract sumbission is open until 10th October; onsite registration is possibl eduring the meeting. Check the IPA website for further details.

4ème Congrès Français de Stratigraphie

August 30 - September 2, 2010

This International meeting dedicated to stratigraphy will cover the several aspects of this field of the geosciences: sequence stratigraphy, chemostratigraphy, advanced biostratigraphy, cyclostratigraphy. The official languages are English and French, the meeting will be held at the Université Pierre et Marie Curie, UPMC, Paris 6 (France).

For further information, contact Bruno Granier: bruno.granier@univ-brest.fr

Conference Reports

Geologic Problem Solving with Microfossils II,
University of Houston, Texas, USA March 14th-19th 2009
Malcolm B. Hart - University of Plymouth

Following the success of the first conference on "Geologic Problem Solving with Microfossils" in 2005, SEPM/NAMS organised the follow-up meeting at the University of Houston in March 2009. Local Chairman **Don Van Nieuwenhuise** organised the conference with great aplomb, the only flaw being the weather! After weeks of warm drought, the field excursion on Saturday 14th March headed off to the Brazos River in rain and cold (6 - 8ºC). After two days of rain the Brazos River was in serious "flood" conditions and, while the group visited three other locations (not seeing the K/T boundary that most had hoped to see), keeping dry and warm was the priority.

By mid-week, with us all in the lecture sessions (carefully co-ordinated by **Peter McLaughlin** and **Ronald Martin**) the weather had returned to "normal". Three days of lectures and a day of workshops covered a wide range of topics using a range of microfossils from phytoliths to planktic foraminifera. There was a concentration on solving problems in oil exploration (this was being held in Houston!) but environmental/palaeoecological problems came a close second. The poster sessions were large and informative, although there were a number of empty boards in the poster hall. The conference was held in the memory of Brian J. O'Neill and a compilation of some of the papers presented at the meeting is under discussion.

UK (and European) participation was fairly limited, probably reflecting the low number of NAMS members outside the USA and, perhaps, a meeting held in the Spring Term of most universities. One highlight of the meeting was the Conference Dinner in the Houston Museum of Natural Sciences and a visit to their fossil and (especially) mineral collections.

The Micropalaeontological Society was one of the sponsors of the meeting.

Geologic Problem Solving with Microfossils II,
by Emma Sheldon

'Microfossils II' was organized by the North American Micropaleontology Section (NAMS) of the Society for Sedimentary Geology (SEPM). The aim of the meeting was to reveal the many ways in which microfossils are integrated with geological or environmental data and contribute to solving significant geological problems. The conference was held in the memory of Shell palaeontologist and former NAMS president Brian J. O'Neill who passed away last summer. The meeting was organised by **Don Van Nieuwenhuise** and his committee, including **Nancy Engelhardt-Moore, Ron Waszczak, Ron Martin** & **Peter McLaughlin, Jr**., and was held in the Science and Engineering Classroom Building, Houston University.

Proceedings began for some with a pre-meeting field trip intending to discover the Paleogene and Upper Cretaceous of the Brazos River Valley. Enthusiastic sample bag and hammer wielding micropalaeontologists filled up on bagels and cream cheese while **Don Van Nieuwenhuise** and his team gave serious instructions on how to deal with the various poisonous snakes that we were likely to encounter. Undeterred by the threat of snakes and the disgusting weather (quote 'put on specially to enable the Europeans to feel at home'), we headed off from Houston (the 4th largest city in the USA and home to many petroleum companies), 150 km NW across the Texan countryside (nodding donkeys galore). The first stop was at Willow Creek and the Wills Point Formation (Midwayan, or in standard terminology upper Danian): the recent heavy rainfall meant that the exposure was under water, but the smug few :-) who had adhered to the rules and had brought wellies along were able to collect samples. The east bank of the Brazos River (the KT boundary) was our next stop (the classic outcrop on the west bank was recently destroyed by a large slump block), but unfortunately, due to unusually wet conditions the exposure was again under water which even the smug few couldn't compete with. We were told that normally we would have been able to walk on the KT event bed. As compensation, later at the conference, Don would bring in part of the KT slab for us to see. Our final stop, to see the Middle Eocene, Bartonian (Clairbornian, pars), was a fossil-collectors delight: sharks teeth, gastropods, bivalves and promises of dinoflagellates, foraminifera and nannofossils. In summary, no snakes (too cold), no KT (too wet), no sun (for the benefit of the high latitude attendees), but bags full of fossils, an enthusiastic and informative leading committee, an introduction to the Texan landscape, new friends made and 3 minibuses of happy but tired palaeontologists.

Conference

Proceedings began at the ice-breaker at the Hilton Hotel, University of Houston on Sunday night. 3 days of oral presentations then covered a diverse range of subjects; 1) chronostratigraphy and high-resolution biostratigraphy, 2) oceanic events and paleoclimate, 3) coastal and environmental micropalaeontology, 4) microfossils, palaeoceanography and biotic evolution 5) microfossils and biofacies, 6) technology, tectonics and provincialism and 7) from hydrocarbon reservoirs to climate and sea-level change: insights from microfossils. The oral presentations were of a high standard and so varied that our interest was captured throughout. Some of the highlights included an innovation in micropaleontology: 'biogenic silica in the Rotliegend: a new biostratigraphic tool for continental deposits', described by **Linda Garming** (for Holger Cremer) and a successful new method of biostratigraphy in industry: Micropalaeontology for coiled tube biosteering in a Saudi-Arabian Late Permian carbonate reservoir presented by **Geraint Hughes**. **Malcolm Hart** explained in two talks why an ice breaker in the Caribbean was needed to provide insight into tephrachronology and foraminiferal recolonization of the seafloor after recent and past ash falls near Montserrat, Lesser Antilles. **Sophie Warny** described 'the use of palynology to better understand past

Antarctic climates', describing some results of the recent ANDRILL Program. The sessions ended with two presentations on a group of less familiar creatures, the Thecamoebians. **Lisa Ann Neville** and **Peter van Hengstum** provided some fascinating examples of the use of Thecamoebians in continental and coastal settings in order to assess environmental recovery from industrial activities and Quaternary sea-level fluctuations respectively. An extensive and impressive exhibition of posters was on display over the lunch breaks and on Tuesday evening we had the opportunity to browse the posters with a beer as part of the second ice-breaker; a further opportunity for animated discussion on all kinds of problem solving with microfossils.

Dinner

The conference dinner was held in breathtaking surrounds in the Hall of Paleontology at the Houston Museum of Natural Science. We ate in the presence of an amazing collection of fossils (from tiny trilobites to towering *Tyrannosaurus rex*) and later many of us wandered longingly through the beautiful exhibition of 'rough cut' minerals and faceted gems of the Smith Gem Vault (personally, I am considering switching disciplines following the latter experience!). The evening was rounded off in the Planetarium by a captivating lecture by **Michael Henderson** (Burpee Museum of Natural History) who described the discovery in 2001 of Jane, a juvenile *Tyrannosaurus rex*, and 'her' extraction, in his lecture 'Jurassic Jackpot: dinosaur discoveries in south-western Montana and southern Utah'.

Workshops

For those who had the capacity to learn more, workshops were held following the oral presentations, the Chronos Online workshop was organized by **Brian Huber** & **Mark Leckie**, the TsCreator & TsCreator Pro workshop was led by **Felix Gradstein**, **Jim Ogg** & **Adam Lugowski**, and a workshop covering Multivariate Analysis of Microfossil Data was arranged by **Anthony Gary**.

The NAMS Microfossils II conference was a huge success, and provided an ideal forum for students and accomplished palaeontologists to network and to share their knowledge. A huge 'thanks' is extended to the conference organisers and their hard-working committees. We consider the financial contribution by TMS well spent.

Malcolm Hart indicating the submerged section

IGCP 555 European Working Group – RECCCE Workshop

(April 25th – 28th, 2009, Gams, Austria)

Malcolm B. Hart - University of Plymouth

On Saturday 25th April 2009, 40+ palaeontologists, stratigraphers and geochemists gathered on the Burgring in Vienna, outside the Natural History Museum. These were the participants in IGCP 555 **R**apid **E**nvironmental/ **C**limate **C**hanges and **C**atastrophic **E**vents in Late Cretaceous and Early Paleogene (RECCCE), all of whom were about to be taken to the Eisenwurzen Geopark in the Gams region of Austria.

Saturday afternoon was glorious weather and the party enjoyed the snowy scenery while visiting the Knappengraben sections across the Cretaceous/Paleogene boundary. One of the tiny sections is protected within a (locked) "shed" behind a wire grille, though it was opened for our visit. This location saw the removal of a "monolith", that was cut out of the succession and taken to Vienna for study [Grachev, A.F. (Ed.),The K/T boundary of Gams (Eastern Alps, Austria) and the nature of terminal Cretaceous mass extinctions, Special Volume of the *Geologische Bundesanstalt*, 2009, 199pp.]

Two days of lectures were held near the Geozentrum in Gams, covering topics relating to the Cenomanian/Turonian, K/T and Paleocene/ Eocene boundaries (and the PETM). Participants were welcomed to the Geopark on the Saturday evening, with many representatives of the local community being present. It is nice to see a European Geopark both encouraging, and hosting, an international geological meeting; largely the result of the enthusiasm of **Heinz Kollmann**. The book of abstracts is to be found in Berichte der *Geologischen Bundesanstalt*, 78, 74 pp. (ISSN 1017 – 8880).

On Tuesday April 28th, the party set off for the Rehkogelbraben section of the Cenomanian/ Turonian boundary (see Wagreich *et al*., 2008, *Cretaceous Research*, 29, 965-975), which is located near Gmunden (Upper Austria). This interesting succession is, unfortunately, in a small stream bed and collecting a sample can be both frustrating and wet! Following a picnic lunch the Paleocene/Eocene boundary was studied in the Anthering section near Saltzburg.

After the thanks to leaders **Michael Wagreich**, **Heinz Kollmann**, **Hans Egger**, **Andrei Grachev** and **Herbert Summesberger**, the partzy embarked on the long drive back to Vienna. This was a quite memorable, small, meeting of IGCP 555, with several informative papers being presented. Despite the enormous volume of data on all three boundaries (Ce/Tu, K/T, P/E), there are still major disagreements on their cause/significance/impact. Talking these through in such pleasant surroundings is both enjoyable and stimulating! The Austrian hospitality was tremendous though waist lines did suffer!

Michael Wagreich pointing out the succession

The Micropalaeontological Society News

Report from the Secretary - Jenny Pike

Firstly, I would like to say 'Hello!' to all TMS members! This is my first report for the Newsletter as TMS Secretary. In the past I have reported as Silicofossil Group Chair and also edited the Newsletter. In my first six months I have enjoyed interacting with many of you and am looking forward to the AGM in November and the challenge of the next few years. Current membership of TMS is buoyant with 461 individual members and 134 institution/ library members. In this light, I would like to thank Clive Jones, Membership Treasurer, for his excellent work in keeping track of all our members and Jeremy Young, co-opted Treasurer, for getting online payment set up on the website. The online payment system should make renewing your membership easier, especially for those members without sterling bank accounts. In 2009, so far, we have welcomed 31 new members to TMS:

Couapel, M., Harrington, G. J., Hesemann, M., Khanna, N., Schweers, J., Twiney, A., Olde, K., Ferguson, J., Enge, A., Tasker, A., Leighton, A., Charles, A., Tsourou, T., Shearman, H., Slater, B., Kristensen, D. K., Al Enezi, S. S., Alonso Garcia, M., Patruno, S., García-Artola, A., Ivanova, E. V., Hall, J. P., Metcalfe, B., Pendleton, J., Jamieson, R., Margit, S., Renaudie, J., De Quadros, J. P., Dos Santos Junior, E. C., Jeffery, A. and Mills, K.

AGM 2009

Complementing last year's theme of Microfossils and Extinction, this year's AGM, in the Darwin bi-centenary year, will have the theme of Microfossils and Evolution (see advert elsewhere in the Newsletter). The 2009 AGM will be held at University College London on Wednesday 18th November 2009. Items for the agenda should be sent to the Secretary by email, or in writing, by 18th October 2009. Like every year, as well as excellent science talks, the AGM will include presentations of the Society's awards and honours and will be followed by a wine reception, kindly sponsored by PetroStrat. If you can, I would strongly encourage you to come along and enjoy the convivial atmosphere!

Charles Downie Award

The Charles Downie Award is an annual award made to the member of the Society who, in the opinion of the Committee, has published the most significant paper, in any journal, based upon his or her postgraduate research. The committee has awarded the 2009 Charles Downie Award (best paper published in 2008) to Magali Schweizer for her publication: Schweizer, M. et al., 2008. Molecular phylogeny of Rotaliida (Foraminifera) based on complete small subunit rDNA sequences. *Marine Micropaleonotlogy* 66, 233-246. The Committee received five nominations, all of which were of a high standard and the decision was gratifyingly difficult.

TMS Student Awards

Five of our new members are recipients of TMS Student Awards. These are Johanna Schweers (IFM-GEOMAR, Kiel), Ben Slater (University of Bristol), Ane García Artola (Universidad del País Vasco), Adam Jeffery (University of Keele) and Kayleigh Mills (Cardiff University). These students are nominated for an award (free membership for 2009) for outstanding performance on one of the TMS-approved micropalaeontological courses (see p.14 in this Newsletter for details). Congratulations to them all. This year we are awarding two named awards: the TMS Student Award to Adam Jeffery is being awarded in memory of Brian O'Neill; the TMS Student Award for Kayleigh

Mills is being awarded in honour of Norman Savage. The TMS Student Award scheme currently has 10 approved micropalaeontological courses and I would encourage all lecturer and professor members to consider nominating their micropalaeontological course for the scheme and thereby encouraging their best students to perhaps continue with micropalaeontological endeavour.

TMS Grants-in-Aid

Three eligible applications for Grants-in-Aid were received by the 28th February 2009 deadline, and the committee decided to award each applicant £200.
Laura Cotton (Cardiff University) used her award to attend the Spring TMS Foraminifera and Nannofossil joint meeting in Zurich and, in particular, the field trip into the Einsiedler Schuppenzone which was relevant to her PhD topic investigating larger benthic foraminifera across the Eocene-Oligocene boundary.
Phil Jardine (University of Birmingham) used his award to attend the Advanced course in Jurassic, Cretaceous and Cenozoic organic-walled dinoflagellate cysts in Urbino, Italy.
Kimberley Pool (University College London) used her award to carry out a programme of funal sampling of the Paleocene-Eocene Thermal Maximum at the Contessa Road section in Gubbio, Central Italy.

I would encourage all of our student members to consider applying for a Grant-in-Aid. Grants-in-Aid are awarded annually to help student members of the Society in their fieldwork, conference attendance, or any other specific activity related to their research which has not been budgeted for. Grants-in-Aid can not be awarded for miscellaneous expenditure, neither can they be awarded retrospectively. A maximum of £200 can be awarded to each successful applicant. Awardees are expected to write a short report for the Newsletter once their grant has been used. Applications forms can be downloaded from the website (www.tmsoc.org), or obtained from the Secretary. The next deadline is 28th February 2010.

Alan Higgins Award for Applied Micropalaeontology

This year we are launching the Alan Higgins Award (see elsewhere in the Newsletter for details). Alan Higgins made a major contribution to Palaeozoic biostratigraphy and was key to establishing the value of micropalaeontology in the hydrocarbon industry. The Alan Higgins Award, established with the help of Alan's family and friends, is for early career micropalaeontologists, less than 10 years from graduation, and will be given in recognition of a significant record of achievement in applied and industrial micropalaeontology. The first award will be made in 2010. Nominations should be sent to the Secretary by 28th February 2010.

Changes to the Committee

In 2009, we have welcomed the following specialist group officers: Phil Jardine (Palynology Group Secretary), Taniel Danelian (Silicofossil Group Chair) and, most recently, Paul Smith (Microvertebrate Group Chair).

At the 2009 AGM, the terms of the following Officers come to end: Treasurer, Journal Editor, Special Publications Officer, Webmaster and Publicity Officer.

Nominations for these positions should be submitted to the Secretary by 18th October 2009. Nominees, proposers and seconders should all be members of the Society. Those who consider standing for any of the offices are welcome to contact the Secretary or President for information on what duties these posts entail.

Finally, I would like to thank those Officers and Group representatives who will stepping down at the AGM, or have stepped down over the past six months, for their support of the Society over the past few years – TMS would not be as vibrant as it is without their support: Jackie Lees (Treasurer), John Gregory (Journal Editor), Jeremy Young (Special Publications Officer), Andy Henderson (Webmaster), Mark Williams (Publicity Officer), Duncan McLean (Palynology Group secretary), David Lazarus (Silicofossil Group Chair) and Howard Armstrong (Microvertebrate Group Chair).

TMS AGM 2009
Microfossils and Evolution

Date: Wednesday 18th November 2009 at 1.30 pm
Venue: University College London, room to be confirmed
Local secretaries: Tom Dunkley Jones/ Paul Bown
Organisers: Michal Kucera and David Lazarus

1:30-2:00 Society business

2:00-5:30 Scientific programme

Dr David Bass, The Natural History Museum, London
Evolution of unicellular eukaryotes

Dr Philip C. J. Donoghue, Department of Earth Sciences, University of Bristol
Embryos and ancestors: embryology at the dawn of animal evolution

Dr Charles H. Wellman, Department of Animal and Plant Sciences, University of Sheffield
The palynological record of the origin and adaptive radiation of land plants

3:30-4:00 Coffee break in South Cloisters

Professor Koenraad Martens, Museum of Natural Sciences, Brussels
Asexual ostracods in space and time

Professor Paul Pearson, School of Earth and Ocean Sciences, Cardiff University
Macro- and microevolution in Cenozoic planktonic foraminifera

Dr David Lazarus, Humbold-Museum of Natural History, Berlin
Radiolarian evolution: patterns, current understanding and prospects for future research

5:30-6:00 Awards ceremony

6:00-7:30 Wine reception in South Cloisters

We acknowledge and thank PetroStrat for supporting the the wine reception.

Abstracts of presentations at the 2009 AGM

Evolutionary and ecological complexity of unicellular eukaryotes
Dr David Bass
Zoology Department, The Natural History Museum, London

Recently, developments in phylogenetic analyses have enabled significant advances towards resolving evolutionary relationships among protozoan lineages, which themselves represent a large proportion of the evolutionary history of eukaryotes including their earliest branches. These developments include methods analysing the evolution of gene sequences among taxa, the distribution of molecular characters such as gene fusions and insertions, and the simultaneous analysis of multiple genes culminating in the current emergence of large-scale 'phylogenomic' studies. Such approaches are simplifying the classification of eukaryotes into a small number of diverse 'supergroups', e.g. unikonts (=opisthokonts plus Amoebozoa), excavates, plants, haptophytes plus cryptophytes, and the SAR group (alveolates, stramenopiles, and Rhizaria). However, this process is very much in flux and the supergroup view of eukaryote life varies among research groups as new data appear and different analytical approaches are taken. I will discuss the evolutionary diversity and phylogeny of Rhizaria, one of the least well known of the supergroups. Rhizaria is very lineage-rich and morphologically/ecologically diverse, comprising the phyla Cercozoa, Radiozoa, and Foraminifera. However, recent results are questioning this trinity and may lead to the creation of new taxa in the near future. I will then focus on the relatively new phylum Cercozoa, its internal relationships and those with other Rhizaria, and will outline some of the studies currently underway on members of this highly diverse phylum.

Embryos and ancestors: embryology at the dawn of animal evolution
Dr Philip C. J. Donoghue
Department of Earth Sciences, University of Bristol

Evolutionary change is effected through changes in embryology. Fossilised embryos, discovered in rocks laid down contemporaneously with the emergence of animal phyla, provide a unique snapshot into the embryology of early animals. These microscopic fossils are beginning to contribute to classical debates in the evolutionary embryology, such as the primacy of cleavage modes and the strategies of life history adopted by the earliest animals in comparison to their living relatives.

The palynological record of the origin and adaptive radiation of land plants
Charles H. Wellman
Department of Animal & Plant Sciences, University of Sheffield, Alfred Denny Building, Western Bank, Sheffield S10 2TN, UK

The fossil record suggests that plants invaded the land at least 30 million years before the first vascular plants appeared in the Early Silurian. The earliest vegetation consisted of stem group embryophytes believed to have been at a bryophytic grade of organization. These plants were widespread and probably generalists that tolerated a wide range of environments. The emergence of polysporangiophytes (vascular plants and their immediate predecessors) probably coincided with the shift from gametophyte to sporophyte dominance. This unleashed evolutionary potential in that the sporophyte is diploid and ultimately evolved lignified tracheids. In particular the evolution of a rigid and efficient conducting system allowed plants to increase in height and begin to explore whole new vistas of morphospace. This sparked an adaptive radiation of vascular plants seen in both the plant megafossil and the dispersed spore fossil records. The former is notoriously

incomplete and biased, arguably relying on a few temporally/spatially scattered assemblages. On the other hand the dispersed spore fossil record is more complete, and exhibits clear patterns of diversification in terms of changing diversity, disparity and palaeophytogeography. These patterns have been quantitatively analysed based on taxon counts, development of a "spore disparity index", and palaeogeographic consideration of both of these measures. Preliminary results suggest that biogeographic spread of vascular plants was complex, involving different lineages on different continents. Interestingly, on each of the continents the structure of the adaptive radiation appears to have been similar with comparable patterns of diversity and disparity increase.

Asexual ostracods in space and time
Koenraad Martens
Museum of Natural Sciences, Brussels

Ostracods are small, bivalved crustaceans that abound in a variety of limni and (semi-) terrestrial environments. They are excellent model organisms for evolutionary studies, as their excellent fossil record allows the study of evolutionary processes in real-time frames. In addition, they have a range of reproductive modes, so that they can be used to study the so-called „paradox of sex". There are fully sexual ostracods, a large number of species with mixed reproduction (in which often also geographical parthenogenesis occurs) and putative ancient asexuals. Representatives of the latter two groups are studied with a variety of methods, including palaeontology, molecular biology, phylogeny and ecology.

Macro- and microevolution in Cenozoic planktonic foraminifera
Paul N Pearson
School of Earth and Ocean Sciences, Cardiff University

Decades of systematic ocean drilling targeting sites with relatively continuous sedimentation has resulted in an excellent fossil record of planktonic foraminifera. After the end-Cretaceous mass extinction, the group underwent a major adaptive radiation followed by a long history of fluctuating diversity that continues up to the present. Peak diversity has always been in tropical and subtropical open-ocean settings, although some groups have specialized in cold and/or high productivity environments. Geochemical studies show how some clades have adopted symbiotic associations while others have adapted to different depth habitats in the open ocean. Ongoing developments in systematic taxonomy, phylogeny and biostratigraphy are revealing details of the macroevolutionary pattern more clearly than ever before including the influence of climate perturbations such as at the Eocene/Oligocene boundary. Many evolutionary lineages have been studied in detail over the years, revealing a predominance of gradual evolution in test size and shape, including some striking instances of morphological innovation. However genetic studies have revealed a diversity of cryptic genotypes suggesting that a degree of hidden biodiversity underlies the traditional morphospecies. Curiously, there is a preponderance of sudden, apparently inexplicable extinctions in the record, whereas the major climatic swings of the Pleistocene have not had a lasting effect. Mysterious apparent periodicities in speciation and extinction rates remain unexplained. Significant puzzles still exist, therefore, and following Darwin's maxim that "it is always best to study some special group", the planktonic foraminifera remain a key model system for investigating patterns of macro- and microevolution.

Radiolarian evolution: patterns, current understanding and prospects for future research

Dr David Lazarus
Museum für Naturkunde, Invalidenstrasse 43, 10115 Berlin

Patterns of radiolarian change from their origins in the early Paleozoic to the Recent pose a rich variety of questions for evolutionary biology. These include fundamental questions on the meaning of diversity of form (much higher in radiolarians than in the ecologically similar planktonic foraminifera), concepts of evolutionary progress (for which there is little evidence in post-Paleozoic radiolaria, despite 250 my of evolutionary change), and mechanisms of microevolutionary change in plankton (very diverse, based on many studies of radiolarian speciation, phyletic change and possibly hybridization). Radiolarians also show aspects of evolution not seen in calcareous plankton groups, including distinctly different patterns of evolutionary response to mass extinctions; long-term co-evolutionary change (with diatoms) and significantly more complex patterns of latitudinal and depth diversification. Recent improvements in the availability of well dated materials (IODP drilling; global MRC collections), databases (Neptune, PBDB, radiolaria.org), imaging and morphometric techniques, as well as improved knowledge of radiolarian genetics and water column ecology provide a wealth of new opportunities to advance our understanding of radiolarian evolution, and more generally, our understanding of evolution in the planktonic realm.

Alan Higgins Award for Applied Micropalaeontology

Alan Charles Higgins (1936–2004), a British micropalaeontologist and expert on conodonts, made major contributions to Paleozoic biostratigraphy and helped firmly establish the value of micropalaeontology in hydrocarbon exploration. He was a founding member of TMS, its past Chairman and Honorary Member. The award of £300 is given to a young scientist, less than 10 years from graduation, in recognition of a significant record of achievement in the field of applied and industrial micropalaeontology, as documented by publications, software, patents, leadership or educational activities. The award was established with the help of Alan's family and friends, to commemorate his contribution to micropalaeontology and encourage young researchers in the field. It is presented in person at the Society's AGM in November. The first award will be made in 2010.

Nominations can be made by any TMS member using the nomination form available on the website or from the Secretary, and sent by the end of February of each year to the Secretary of TMS. The nominees need not be members of TMS. The award is normally given each year, resubmission of unsuccessful nominees is possible.

TMS Student Awards

In order to support the teaching of micropalaeontology at all BSc, MSc and equivalent levels, as well as to encourage and reward student engagement and achievement in this field, The Micropalaeontological Society has established TMS Student Awards. Each award consists of one year's free membership of the Society, including two issues of Journal of Micropalaeontology and Newsletter of Micropalaeontology, discount on TMS and GSPH publications, discounted registration fees at TMS specialist group meetings, and eligibility for awards and grants-in-aid.

The awards are given annually by tutors of registered micropalaeontology courses. Only one award per year per institution may be given. Nominating tutors must be members of TMS and in order to register a course they must submit a completed form to TMS Secretary who will confirm in writing that the given course is approved for the award. The Secretary will keep a list of registered micropalaeontology courses, conferring with the Committee when necessary. Course tutors of registered courses may then give the award at any time of the year on the basis of any criteria to students deemed to have achieved meritorious grades. The tutor reports the name and address of the awardee, as well as a brief statement on the criteria used to select the awardee, to the Secretary, who will collate a list of citations to be tabled each year at the AGM and printed in the Newsletter.

Each year, one TMS Student Award will be awarded in memory of Brian O'Neill.

Ten courses are currently registered:

EA2009 Microfossils
School of Earth and Ocean Sciences, Cardiff University

500016 Foraminiferen im Schleswig-holsteinischen Wattenmeer
IFM-GEOMAR, Kiel

Advanced Micropalaeontology
Department of Geology, University of Leicester

Microfossils, environments and time
School of Ocean & Earth Science, University of Southampton

Mikropaläontologie
Institut für Geowissenschaften, Eberhard-Karls Universität Tübingen

Micropalaeontology
University of Bristol

Micropalaeontology: Principles and Applications
Keele University

16199 Micropalaeontology
Universidad del País Vasco

GLY 5102 Marine Micropalaeontology / GLY 5104 Applied Micropalaeontology /GLY 5207 Case Histories in Marine Micropalaeontology / research project involving micropalaeontology
Environmental and Marine Masters Scheme in the Faculty of Science, University of Plymouth

ESCM 320/440 Micropalaeontology
School of Geography, Earth and Environmental Sciences, University of Birmingham

Treasurer's Report

Jeremy Young,
The Natural History Museum, London

I took over as treasurer in March this year, since Jackie Lees had found she had over-committed herself and needed to reduce her commitments. Strictly this is a temporary position, but I will be willing to continue as Treasurer after the AGM. My basic priorities as incoming treasurer have been to familiarise myself with the accounts, resolve various outstanding issues and to establish online banking. Most of this is rather unremarkable work, although it has required a certain amount of work. There are, however, a few points which are worth commenting on.

Online payment of subscriptions

I have been working on this with Andy Henderson and Tom Russon and we have now got a functional system working. From the membership page of the TMS website you can click through to an online-membership page (www.tmsoc.org/onlinemembers.htm). From here you can pay your subscription or make other payments (via a "donate" button). The system we are using is PayPal, and when you click to "view cart" you will be transferred to a secure page on the PayPal site from which the payment is processed and the money transferred to the new TMS PayPal account. As with most online payment sites, there is no danger in taking a look, you can't make a payment without going through a couple of steps on the PayPal site. Although the system is run by PayPal it accepts payment from standard credit cards. The system is cost-effective and accepts payment in any currency. I hope this will make payment easier both for people like me who have almost forgotten how to use a cheque book and, especially, for non-UK members. We will of course still accept membership payment by cheque, direct debit, or direct credit transfer (please email me if you want our bank account details).

Direct debit problems:

Unfortunately the problem we had with direct debits last year has propagated into a new set of problems this year. About one third of our direct debit requests were refused by the members' banks, since the mandates had not been used for over 18 months. I have written to all affected members and I am pleased with the response, but if I have written to you about this and you have not got round to doing anything yet, please do.

Establishment of reserves;

Historically the TMS has had negligible reserves, indeed in the not too distant past I believe we used to have to occasionally delay paying for a journal part until the membership subscriptions came in. It has been a medium-term aim of the society to establish a reserve of near to one year's turnover. I am pleased to say that a review of our accounts indicates that as a result of careful management over the past 6 years we have essentially achieved this. We currently have an annual expenditure of about £35,000 and reserves of about £25,000. In the medium-term our financial position is set to improve still further due to the new contract John Gregory has established for publishing the journal. So, the society looks to be emerging from a prolonged period of tight finances into a phase where we have more potential to develop new initiatives. The committee has started debating future financial priorities but we also would welcome thoughts and suggestions from members.

Special Publications Editors' Report

Jeremy Young, The Natural History Museum, London

As you may remember the society has not one but two special publication editors, and at the moment we also have a prospective future editor since John Gregory has agreed to stand for the post in the November reshuffle. However, at the moment Daniela Schmidt is somewhere in the northern North Atlantic and John is still Journal Editor, so I end up doing the report. This is quite nice since it gives me a chance to see how much we have done since Dani and I started plotting schemes on the train back from the 2007 foram-nanno meeting in Angers.

The obvious headline achievement is that the new edition of the ostracod atlas is now in print - "Ostracods in British Stratigraphy". This is an impressive book, written by experts, lovingly edited, beautifully produced, and available to TMS members for the very reasonable price of £50. However, the credit for this lies with John Whittaker and Malcolm Hart, we have not done much more than add some final encouragement. The same applies to the Dennis Curry memorial volume which John is currently finishing off. In the pipeline are the Marine Climate Change book from last year's Lyell meeting and the volume on History of Foraminiferal Micropalaeontology. For the latter, Alan Bowden and his collaborators have assembled an impressive array of foraminiferal experts to each contribute short chapters on a wide range of topics and it should make a very interesting publication, and possibly a prototype for future volumes.

For the future Dani and I identified a range of possible topics for special volumes and although I am slightly disappointed we have not had any definite proposals yet there has been a respectable number of interested mutterings - especially for the ideas of books synthesising micropalaeontological results of major projects, and for volumes on the "Biology and Palaeobiology of..." different groups. I still like the idea of volumes on the micropalaeontology of particular basins or formations and of volumes on techniques and methods, but there has not been much uptake yet in those areas. Seeing the new ostracod atlas does, however, seem to have stimulated other groups to consider producing new atlases.

The Geological Society Publishing House is proving a very good partner for our special publications series and I hope my efforts in the area have helped it on its way, but I will now be concentrating my TMS efforts on the Treasurer job.

John Whittaker and TMS committee members celebrate publication of the latest TMS special volume, in front of the new ostracod-shaped collections building at the Natural History Museum.

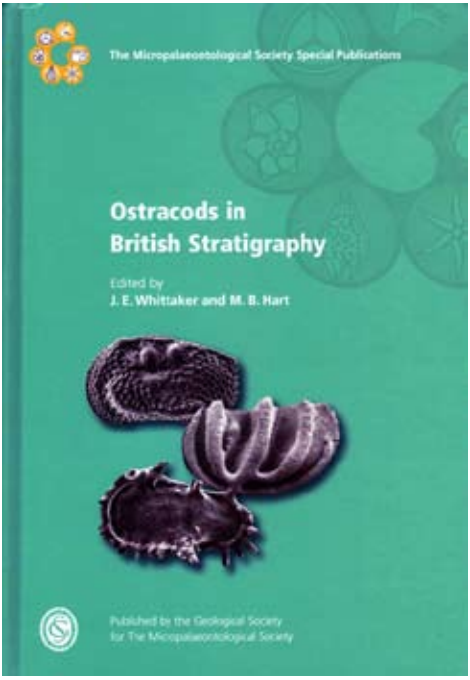
Specialist Group News

Ostracod Group Report

John E. Whittaker, The Natural History Museum, London

Ostracods in British Stratigraphy (edited by John E. Whittaker and Malcolm B. Hart), June 2009.

The Micropalaeontological Society, Special Publications, published by The Geological Society, London, viii + 485pp. ISBN 978-1-86239-274-8. Obtainable via the TMS Website (http://www.nhm.ac.uk/hosted_sites/tms/specialpubs.ht), price £100 (full price), £50 (TMS Members), £60 (Geological Society Members).



"Good wine is long in the making"…. (Anon)

This, the latest TMS Special Publication, like the proverbial good wine, has indeed been long in the making; precisely 21 years in fact!

One of the first objectives of our predecessor, the fledgling British Micropalaeontological Group (founded in 1970) was to "prepare and present in a suitable monographic form, stratigraphical correlation of the British succession based on micropalaeontology". It was not until 1978, however, that this aim was even partially fulfilled, with the publication by Seal House Press, Liverpool, of the first of these "monographs", that seminal compilation, *A Stratigraphic Index of British Ostracoda*, edited by Ray Bate and Eric Robinson, and written as a collective initiative by members of the already very active Ostracod Group. This had, according to its editors in their Preface, been modelled in style at least, on Simon & Bartenstein's *Leitfossilien der Mikropaläontologie*, published by Borntraeger, Berlin, in 1962. The Stratigraphic Index was restricted to one microfossil group, but with the advent of scanning electron microscopy it had allowed the construction of plates of uniformly high quality for the first time. Indeed the plates were excellent, as was the presentation of the book in general, and it was very well received.

The original suggestion for the updating of *A Stratigraphic Index of British Ostracoda* is ascribed to John Athersuch in a misguided moment, reportedly in a pub in Aberystwyth during the 10th International Symposium on Ostracoda, held there in 1988. For this reason he found himself appointed as the first Editor-in-Chief of the enterprise. Turning this well-intentioned suggestion into reality was, however, according to John, far more challenging and time-consuming than he ever imagined. Prospective authors were contacted and "Instructions to Authors" issued as long ago as 1989. Some chapters were finished in a matter of weeks, others took years, even decades, to write, but the ensuing time-frame did allow for several revisions on the way! Because of several authors withdrawing (for whatever reason) and lack of volunteers for others, some chapters had to be written from scratch by completely new

researchers. Still, some chapters had not been written at all, one author died and there were several changes to the editorial team, even the publisher changed, twice. Reluctantly John also had to pull out, by that time, anyway, he had become a very successful entrepreneur.

With all this new blood it had latterly become most apparent that, whatever the original intentions might have been, the new book had become no longer a Second Edition of *A Stratigraphic Index of British Ostracoda,* but something completely new, and with a different raison d'être. For this reason it clearly merited a new title, hence *Ostracods in British Stratigraphy*.

A Stratigraphic Index of British Ostracoda had 13 stratigraphic chapters (it had other chapters as well) but only 8 different authors. What we have now is an up-to-date synthesis of the ostracod record in British stratigraphy: new chapters, new authors, all new illustration – the whole reflecting the latest researches by relevant specialists in their field. There are now 17 stratigraphic chapters and no fewer than 21 different authors involved. Each chapter has an Introductory text, followed by formal sections on History of research, Principal collections, Stratigraphy and Ostracod biostratigraphy; there are other sections on Palaeobiogeography, Palaeoecology and on Future research. All the maps, diagrams, range charts and plates are new, and the plate explanations are deliberately copious, informative and complete.

I am just the latest and last editor and am thankful that I have been able, finally, to pull the book together and see it to press. It would have been impossible, however, without what had come before. Grateful thanks therefore should go to John Athersuch, Ian Wlkinson and, especially and latterly, Malcolm Hart, who have contributed so much to editorial matters over the years, often in difficult circumstances. The TMS owes a particular debt of gratitute to Malcolm Hart who spent many a long hour cajoling dormant authors after long inaction, undertaking all the first chapter readings and edits, and presenting me with advanced copy for most chapters. However, as is the nature of things, there proved much still to do (often unexpectedly) and I am grateful to my "Three Wise Men", David Siveter (latterly Chair of The Micropalaeontological Society), Alan Lord and David Horne, who have helped me immeasurably with advice, encouragement, various contributions, reviews of chapters and proof-reading. Ian Boomer, Ian Slipper, John Pollard, Malcolm Hart, Ian Wilkinson and Mark Williams are also thanked for their separate chapter reviews.

The maps, diagrams and range charts were a particularly difficult problem as they needed to be standardized from a wide range of "artistic submissions", some of a curious nature. In order to arrive at the necessary uniformity of a book like this, virtually every single figure was redrawn and improved by Lisa Barber (University of Leicester Cartographic Unit), whose drafting skills and dedication to the task warrants my sincere thanks. Fugro Robertson and BG Group generously sponsored the redrafting.

Likewise, the professionalism of Kevin Webb (The Natural History Museum Photo Studio), not only for digitizing and improving the 82 original plates, but also for spending the time scanning-in and resizing every single image to a new size and format, cannot be overestimated.

To personnel of the Geological Society Publishing House goes my sincere thanks for seeing the book finally into print: Angharad Hills and Sarah Gibbs for their assistance in the planning stages and especially their advice for the "correct" submission of the typescript on CD; John Maggs (designer) for the simple yet striking cover of the book; Sue Butterworth (Indexer) for her careful compilations; and first and foremost, Sally Oberst (Production Editor) for her meticulous attention to detail, patience and understanding - dealing with often dyslexic and (usually) apoplectic chapter authors was not easy. It was also Sally who made the decision to choose a dedicated printer to get the best out of the plates and to select a paper which has added so much to the clarity of the printed page and the overall quality of the book.

Ostracod Group Spring Meeting

1. "Ostracods and Evolution", Down House, 25th April 2009

John Whittaker (TMS Ostracod Group Secretary), The Natural History Museum, London

The Ostracod Group, for its Spring two-day meeting, has latterly been seeking something different - to use the ambience of a very special location as a trigger to get the best of out of the participating science. Last year we had a most successful visit to the Flatford Mill Field Station, Suffolk. This year, the 200th Anniversary of Charles Darwin's birth, it seemed apt to use his home, Down House, Downe, in Kent, as our meeting place. Next year, we hope to visit the Jurassic and some modern environments of the Isle of Skye…as one might say, the sky's the limit!

Some 15 participants (from the UK, Ireland, Germany, the Czech Republic and the USA) and guests assembled at Down House in the morning and were free to walk the delightful gardens (where Darwin undertook many experiments) or participate in a multimedia tour of the house (where the rooms are set out just as they were when the family lived there). I particularly liked the billiard room with the bell-pull in the Old Study with which he would summon his butler, Parslow, to a game. He wrote…"I find it does me a deal of good and drives the horrid species out of my head". Down House is a very fine place indeed (English Heritage, who maintain it, are to be congratulated) conveying as it does so much about not only Darwin the scientist, but Darwin the man. Did you know, for instance, that he allowed the villagers to use part of the Great House Meadow for their cricket matches (it was here that he had long monitored plant and insect life and established for the first time that red clover depends on bumblebees to fertilize its flowers). To this day, Downe Cricket Club plays there with a pavilion recently rebuilt to the original pattern.

So after a light(ish) lunch in the Tea room (Darwin's pantry) and adjacent terrace (where Darwin had had his cold-water treatment for his health) we repaired to Emma Darwin's bedroom in the top of the house – now converted into a delightful lecture theatre cum Board Room, to begin the serious business of our Meeting.

I was pleased to chair five talks on the theme "Ostracods and Evolution" as well as welcoming our two guests, Peter Allen (who would be leading the Sunday fieldtrips) and Simon Parfitt (our Invited Speaker of the day).

First up was Radka Symonová presenting a fascinating talk on the work of a team of Czech workers from Charles University, Prague, on the striking variability of chromosome numbers in the freshwater ostracod *Eucypris virens* in Europe and the possible reasons behind it. There was much to discuss. Next was Alison Smith (Kent State University, Ohio) who just can't keep away from our Spring meetings. This time she gave an interesting overview of non-marine ostracod dispersal in the Pleistocene and Holocene and argued that North America was a good place to study the contribution of climate dynamics in passive dispersal vis-à-vis human activities in species introductions. For this she used the biogeography of two rice-field taxa, *Isocypris* and *Dolerocypris*.

Renate Matze-Karasz (Munich) and co-workers (including our own Giles Miller) were lucky enough to have had time on the European Synchrotron Radiation Facility (ESRF) in Grenoble in order to examine specimens of the Brazilian Cretaceous ostracod *Harbinia micropapillosa* (= *Pattersoncypris* of fond memory) with soft-parts preserved. Computerized processing of the tomographies has yielded virtual and spectacular reconstructions of many of the internal organs. Pleasingly, their work is now to be published in Science and is also featured on the ESRF website.

After a break for tea (back to Darwin's pantry) David Horne (QMUL) introduced us to Dollo's Law, which contends that once complex ancestral states are lost they cannot be regained. In a most

novel talk David cited two ostracod genera, *Poseidonamicus* and *Oculobairdoppilata* for his discussion, as they seem to break this law, by having evolved species with eye-tubercles from sightless ancestors. Thomas Daniel (University of Jena) then told us about the famous German Palaeolithic hominin excavation site of Bilzingsleben and his new investigations which use ostracods and sedimentology to try to elucidate the complex and controversial nature of the depositional environment of this MIS11 (Holsteinian/Hoxnian) locale. His study, still ongoing, was already showing much promise. Already, the MOTR method had produced a useful reconstruction of the climate.

Finally, it was my pleasure to introduce my good friend and collaborator, Simon Parfitt (of the Instutute of Archaeology, UCL, and the Natural History Museum) who gave us an excellent talk and many reminiscences, entitled "Early humans in northern Europe: new evidence from East Anglia and the North Sea". It was also a useful warmer for following day's fieldtrip to the Lower Thames hominin sites, under the umbrella of "Ostracods and Human Evolution". Simon told us about all the latest finds, especially at Pakefield and Happisburgh, Norfolk, under the auspices of the Ancient Human Occupation of Britain (AHOB) Project, which had pushed back evidence of human occupation of NW Europe to 700,000 yrs and even earlier. He also stressed the role multidisciplinary studies (including ostracods) were making to biostratigraphic, palaeoenvironmental and climatic analyses of the Pleistocene

Following a very successful meeting the party reassembled at the George and Dragon "pub" for a well earned and enjoyable evening meal. We raised a toast to absent friends: David Siveter, who could not make it at the last minute owing to sickness and Robin Whatley, to whom a signed card was sent in the hope of aiding his recovery from a long and difficult illness.

Dave Horne certainly deserves immeasurable thanks for suggesting the venue and for his work in organising the liaison, booking the meeting and providing Abstracts of the talks and notes for the Fieldwork, whilst Giles Miller worked tirelessly to facilitate accommodation for participants and arrange transport to and from Down House. As I was unable to participate in the Sunday fieldtrips, I will now hand you over to Thomas Daniel to give his impressions.

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2. Field Excursion, Pleistocene of the Lower Thames, 26th April 2009 Swanscombe, Purfleet and Aveley (led by Peter Allen - Research Associate, Royal Holloway University of London)

Thomas Daniel, Institut für Geowissenschaften, Friedrich-Schiller-Universität, Jena.

As if it was made for the excursion on Sunday we were to enjoy brilliant Spring weather, with neither too hot nor too chilly temperatures. We started at 9.30 am from the Bromley Court Hotel (where we had been staying) and drove first to Swancombe Pit (now the Swanscombe Heritage Park), the highest located excavation site within the Lower Thames terrace sequence and an internationally known human fossil site (MIS 11). Peter Allen gave an introduction to the site, its history of investigation, the stratigraphic sequence and what could be deduced out of the geological setting and the palaeontological records. The perfectly matching homanin skull fragments, the most important fossils found at Swanscombe, are of a type characteristic of an early form of *Homo sapiens* and document the settlement of early humans in southern Britain. Ostracods from Swanscombe Pit have been little investigated up to now but hopefully there will be a possibility to take samples during new excavations in the near future.

From Swanscombe we drove to the second stop: Purfleet, an interglacial (MIS 9) terrace deposit and part of the Corbets Tey Formation, located in a former chalk pit. Out of the ostracod assemblages from the mollusc-rich shelly bed,

investigated by Danielle Schreve (and her co-workers and published in 2002), a saline influence could be seen (noded *Cyprideis torosa*) which suggests a position close to the upstream tidal limit of the Thames Estuary. Some of us seized the opportunity and took samples from the shelly bed for own investigations of molluscs and ostracods.

The Aveley section (MIS 7) was the last stop. The profile was excavated during road construction and is mostly covered today. Peter Allen introduced us to the section and pointed out its position in the Lower Thames terrace sequence. With the help of palaeontological and sedimentological data the history of deposition and erosion at Aveley had been reconstructed.

At the RSPB-Rainham Marshes Nature Reserve Centre we stopped for a light lunch and enjoyed the panoramic view before, shortly after, everyone was dropped off at the station required for their individual homeward journey.

Overall it was a very interesting and inspiring excursion. Thank you all for the nice time during the Spring Meeting!

Foraminifera Group Report

Robert Speijer

Two micropalaeontological meetings dealing with foraminifera were held in the first half of 2009: early March, Problem Solving with Microfossils II in Houston and early June, the Foraminifera and Nannofossil Groups Joint Spring Meeting in Zurich.

The meeting in Houston followed the successful meeting with the same name in 2005. It was organized by Don Van Nieuwenhuise under the auspices of the North American Micropaleontological Section (NAMS) of the SEPM. TMS provided financial support and in return received a poster spot for advertising the Society. The Foraminifera Group secretary attended this meeting and distributed TMS Materials. Some fifty TMS 2009 calendars found a way to a new owner. It would be interesting to evaluate whether there is any relationship between new membership and the attendees of this meeting.

The Houston and Zurich meetings are reported elsewhere in this newsletter

Malcolm Hart asked the Foraminifera Group (22.06.09) to inquire whether there is any desire to proceed with a new book on Foraminifera, succeeding the 1989 *Stratigraphic Atlas of Fossil Foraminifera* which is "out of print" and has been unavailable for many years. This survey will be carried out this summer.

Next year, September 5-10, FORAMS 2010 will be held in Bonn, Germany. Those keen to attend should check out

www.forams2010.uni-bonn.de.

This is the largest meeting devoted to foraminifera and is organized every four years. The last meeting took place in Natal, Brasil, organized by Eduardo Koutsoukos. Martin Langer will chair the Bonn meeting in 2010. Suggestions for session topics can already be submitted to Martin Langer (martin.lnger@uni-bonn.de). Currently, the following themes and workshops have been suggested:
Foram foliation; Tree of foraminifera workshop; Foraminifera as tracers of biogeochemical cycling; Modern and fossil seep foraminifera; Foraminiferal response to ocean acidification/ increased pCO2; Biogeography of foraminifera; Working group on foraminiferal classification; Denitrification, bacterial symbionts, and biochemical challenges to survive under hypoxia in sulfidic environments. Closing date for additional suggestions is February 6, 2010.

The Foraminifera and Nannofossil Groups Joint Spring Meeting 2009: Integrated Studies of evolution, taxonomy, ecology and geochemistry, June 4-6, 2009, ETH Zurich, Switzerland

Robert Speijer and Kalle Baumann

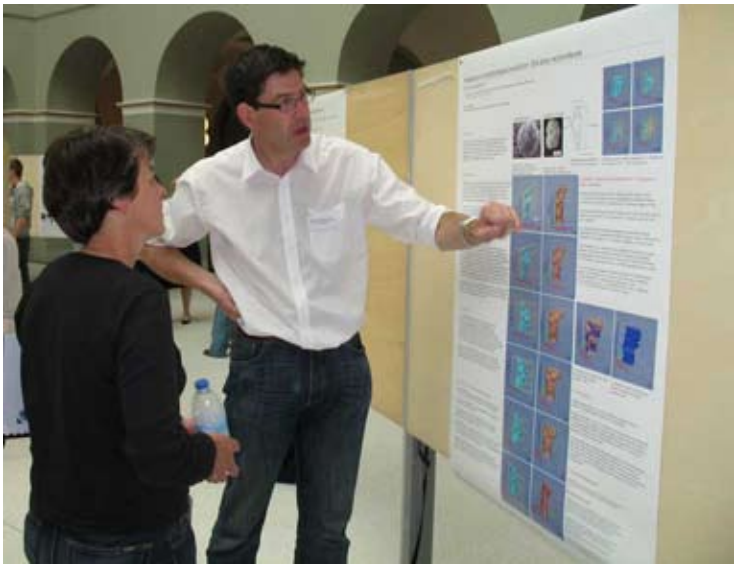
Scientific committee: Kalle Baumann, Daniela Schmidt, Kate Darling, Tom Dunkley Jones and Robert Speijer. Organising committee: Hans Thierstein, Ursi Brubacher, and co-workers.

The meeting in Zurich was the third continental Europe meeting in a row – after Angers (2007) and Tübingen (2008) – by the foram-nanno groups. It was attended by about 80 researchers from 15 different countries, confirming that TMS is really heading towards becoming a leading and international society in micropalaeontology. The meeting took place in the magnificent and fully renovated Earth Sciences building of ETH. A large lecture hall and spacious poster hall enabled an easy exchange of data and ideas.

The icebreaker on Wednesday evening provided the first contact between attendees and led to the first explorations into historic downtown Zurich in search of good place to eat. On Thursday morning the participants were welcomed by TMS president Michal Kucera and by the ETH host Hans Thierstein. This was followed by seven presentations by mostly young researchers, with topics ranging from the faunal response of larger foraminifera to the PETM (Jawad Afzal) to a comparison of size trends between planktic foraminifera and coccoliths (Sandra Hermann).

The posters received plenty of time slots for display and discussion, both during coffee breaks, after lunch and prior to dinner. In this way everyone was able to pay sufficient attention to the posters. The afternoon session was a bit of a surprise party devoted to the research career of Hans Thierstein, who will be retiring this year. Hans already had some suspicions about a possible surprise – but did not dare to ask – since this session was left blank in the programme he received the week before. The session consisted of six talks by senior researchers, Paul Bown, Tim Bralower, Dave Lazarus, Gerold Wefer, Jeremy Young and Helmut Weissert, respectively. These former pupils or colleagues (Scripps, ETH) highlighted Hans' former research fields and their modern developments (e.g. Cretaceous and K/T nannofossils, morphometrics and automated microfossil recognition, proxies in paleoceanography) as well as some personal anecdotes. This session set the stage for the next highlight of the meeting: the meeting dinner and subsequent nightly visit to downtown Zurich.

The second day of the meeting continued with



another 13 talks divided in two sessions. The morning session was partly devoted to the development and applications of geochemical proxies, e.g. on Mg/Ca palaeothermometry (Stephan Steinke), whereas the afternoon session was more devoted to microfossil patterns and taphonomy of foraminiferal assemblages (transportation, dissolution, reworking). The meeting was closed by Michal Kucera, who awarded the prize for the best student poster to Laura Pea (Parma) on the nannofossil record of the Middle Eocene Climatic Optimum. Michal also stressed that this meeting was organised by and for members of The Micropalaeontological Society, although non-members were of course very welcome. Many meeting participants were non-members and a further plea was made for joining TMS. But it was not fully over yet.

After the two days of micropalaeontological presentations many were anxious to go into the field and find some larger foraminifera by themselves. So on Saturday the meeting was followed by an excursion into the Einsiedler Schuppenzone, a peculiar, repetitive sequence of marls and nummulitic limestones and lots of larger foraminifera. The field trip was guided by Hans Thierstein who took us to the Sihlsee area, which is part of the northernmost folded tectonic units which were originally deposited on the northern edge of the Tethys Ocean. Unfortunately, the weather forecast was right and it rained a lot. Thus, we first stopped at the Kloster Einsiedeln, a Benedictine monastery in Einsiedeln town. On entering the abbey church, we were all fascinated by the marvellous ceiling paintings. We were also very fortunate to briefly experience a moving choral performance during the morning mass, though this prevented us adventuring further into the church. Hans took us along the western side of the Sihlsee to Steinbach, where we visited a rather complete section of Amander marls, overlain by nummulitic limestones along the road, and topped by the Steinbachfossilschicht with lots of Assilina, Nummulites, and Discocyclina.

After a lunch break with Wiener Schnitzel, French fries and the opportunity to taste Rivella, a Swiss soft drink which is produced from milk

whey, Hans took us to the other side of the Sihlsee. Outcrops on the eastern side allowed us to sample the Amander marls, consisting of marls with Santonian planktic foraminifera and nannofossils. We had another stop at the Unteriberg, where we had a look on marl-limestone alterations of Barremian age overlain by steep walls of Schrattenkalk. Echoing shots from a nearby firing range highlighted the fact that Swiss citizens conscripted into the armed forces are required to present themselves with their rifle at a shooting range for target practice. Ignoring the rain that had set in again, we drove up to the Ibergeregg for an overview of the Helvetic and Penninic nappes around the Vierwaldstätter See with views which Hans described as looking into the heart of Switzerland. Here the Old Swiss Confederacy, the precursor of modern-day Switzerland, was formed. From here we drove back to the modern main commercial and cultural centre of Switzerland and straight into the Zurich Saturday evening rush hour. We're looking forward to the next group meeting in London in 2010.

Palynology Group Report

Ian Harding

TMS Palynology Group meeting report – 13th May 2009, Natural History Museum, London

This year's annual meeting of the TMS Palynology Group took place at the Natural History Museum, London on the 13th May. The meeting was co-organised by the TMS Group officers and local host Susanne Feist-Burkhardt and was attended by a pleasing mix of established names and post-graduates, with 28 participants in total.

The meeting began with a reception in the Earth Galleries of the NHM, which gave everyone a chance to catch-up/get acquainted before the talks started. Following an introduction by Susanne and Ian Harding, the first session of talks, chaired by Tim Potter (NHM), got underway with a keynote address by Dianne Edwards (University of Cardiff). This focused on the wealth of knowledge available from the *in situ* spore record for properly understanding dispersed spore diversity and morphological trends. Using numerous examples from the mid-Palaeozoic, Dianne demonstrated the importance of combining the micro- and meso-/megafossil plant records, and provided a fascinating review of early land plant and spore evolution.

Next, Charles Wellman (University of Sheffield) presented the results of a detailed study examining the wall ultrastructure of several species of the Devonian spore genus *Emphanisporites*. The overall aim was to determine the affinities of this taxonomically and morphologically diverse genus, using transmission electron microscopy on serial sections of many individual spores. Unexpected levels of ultrastructural variability in the species studied suggested that very different plant groups might have produced these spores, but converged on a common morphological type. The prevalence of generalized but transient morphological themes in the spore and pollen fossil record was discussed in relation to evolutionary processes and models.

Phil Jardine (University of Birmingham) then skipped forward in time to the Late Paleocene, giving a talk on spatial heterogeneity in paratropical forests on the U.S. Gulf Coast. The sporomorph record from the Gulf Coast documents the response of highly diverse plant communities to environmental change, but whilst temporal trends are by now quite well understood, the spatial dynamics of this system have not been quantified. Despite the coarse spatial resolution imposed by the marginal marine deposits, this analysis showed clear compositional differences between the eastern and western Gulf Coast, demonstrating the possibility of quantifying spatial trends from the fossil pollen record.

A coffee break was followed by a demonstration of the John Williams Index of Palaeopalynology, given by the eponymous developer of this invaluable resource. This is in part an enormous collection of literature that has been photocopied, donated, and, since the advent of Google Scholar, downloaded over the last three decades. However, what sets this apart from simply being a library of palynological literature is the extensive card catalogue that John has painstakingly created. Every mention of every species of spore, pollen, dinoflagellate and acritarch that has passed under John's scrutiny has been carefully recorded, with the result that users of the Index can search for entries by taxon name, geological period, and geographical area. A discussion led by Susanne following the demonstration dealt with the possibility of digitalising the Index; a logistic nightmare, but a process that would make this meticulously organized collection available to a much wider community of researchers.

Geoff Eaton (NHM) chaired the second session of talks. Ian Harding (University of Southampton) kicked off this session with an analysis of high

latitude climatic change across the Eocene-Oligocene boundary (Nature, 18th June 2009). This interval marks the transition from the greenhouse world of the Cretaceous and early Palaeogene to the icehouse world of the last 33 million years. Climatic conditions from northern high-latitudes during this period are poorly known, leading Ian and his colleagues to produce temperature estimates from terrestrially derived sporomorph assemblages preserved in the sediments of the Norwegian-Greenland Sea. Using a nearest living relative approach, this study suggests a reduction in mean winter temperatures and increased seasonality across the E/O transition, supporting previous analyses which indicate cooling at this time.

Susanne Feist-Burkhardt (NHM) kept up the dinoflagellate end of palynology with a high-resolution study of dinoflagellate cyst assemblages throughout the Toarcian/Aalenian (Early/Mid Jurassic) in the Jura Basin of southwest Germany (Lethaia, 2009). This is a key period of diversification in dinoflagellate cyst evolution, and these well-preserved assemblages from Germany document unprecedented levels of diversity for this time period. Several new species have been recorded, including some not previously recognised as dinoflagellate cysts. Independent age-calibration has allowed a high-resolution biostratigraphic subdivision of the Aalenian stage.

The final talk was delivered by Keith Richards (KrA Stratigraphic), on the modern Volga Delta as an analogue for the Pliocene Productive Series in the Caspian Sea. Palynofacies analogous to environments in the modern delta had previously been identified within the palaeo-Volga deposits of the Productive Series. A study of the modern delta, involving detailed palynological reconstructions coupled with extensive seismic analyses, has documented the evolution of the Volga Delta since the Late Pleistocene. This work suggests that the modern Volga Delta is a partial analogue for the Pliocene palaeo-Volga, although major river incision occurred in the Late Miocene and Pliocene.

Palynological discussions are well known to work up an appetite, and those of us who didn't have trains to catch rounded off the meeting with some Italian cuisine at Spago in South Kensington. Special thanks must go to Susanne for organizing a splendid meeting, and we look forward to a joint meeting with the Silicofossil Group in 2010.

Call For Nominations

At the 2009 AGM, the terms of the following Officers come to end:

Treasurer,
Journal Editor,
Special Publications Officer,
Webmaster,
Publicity Officer.

Nominations for these positions should be submitted to the Secretary by 18th October 2009. Nominees, proposers and seconders should all be members of the Society. Those who consider standing for any of the offices are welcome to contact the Secretary or President for information on what duties these posts entail.

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International Nannoplankton Association

Report from INA President - Dr Paul R. Bown

I'm sure most of you are already aware of the *International Nannoplankton Association*, as a number of its members double-up as *TMS* regulars and contributors. However, for those who've missed us so far, this is a brief introduction. The *INA* was founded in 1977 in order to enhance communication between the widely scattered academic and industrial scientists working on calcareous nannofossils and living coccolithophores. Membership is open to any interested individuals, or libraries, and currently there are around 200 members from 43 countries, so we are a truly global association. These members include algologists, biostratigraphers, geologists, micropalaeontologists and oceanographers, in both universities and industry. The global scope of the organisation is well illustrated by the scientific meetings that we organise every two years. The next two meetings are in Yamagata (Japan, 2010: meeting website http://ksgeo.kj.yamagata-u.ac.jp/~INA13/) and Cluj-Napoca (Romania, 2012), and recently we have met in Lyon, Lincoln (Nebraska), Lisbon and Puerto Rico.

The association has always produced a newsletter but over the years the scope and content have increased and this eventually led to the launch of a full-blown journal. Since 1994 we have published the *Journal of Nannoplankton Research* twice yearly, and it serves as a prime means of communication within the field. Circulation is predominantly to *INA* membership, with some additional library coverage. It comprises peer-reviewed scientific articles on calcareous nannofossils and extant coccolithophores (but also other fossil groups that occur in the same microfossil preparations, e.g. ascidians), and it is a particularly appropriate place for taxonomic studies and discussion. In the last five years,

around 150 new nannofossil species have been described and illustrated here. Back issues older than two years will be made available on the website (see below).

The *INA website:*

www.nhm.ac.uk/hosted_sites/ina/

provides information about the society and journal, as well as news, links and images from past meetings and workshops. But in addition to this, the site contains an incredibly valuable archive of nannoplankton research information and images. This includes web versions of key papers on nannoplankton higher taxonomy and terminology, hundreds of images of, in particular, modern coccolithophores, as well as bibliographic files (*Nannorefs*) and pdfs of the *JNR* and *INA Newsletters* going back to 1979.

The *INA* is also involved in the production of a CD of nannoplankton taxonomic information called *NannoWare* (see website for details), and we have recently added to this a new web-based resource called *Nannotax* (http://nannotax.org). *Nannotax* is an interactive database of taxonomic information and images, and enables online discussion through the addition of images and text from external users. The website is already up and running for the Neogene (thanks to Jeremy Young), and we are currently working on the Paleogene and Mesozoic parts of the site.

Finally, the *INA* is excited to be affiliated with the TMS and the newly expanded *Newsletter of Micropalaeontology*, which we hope will provide a valuable forum for groups and societies with common interests for the dissemination of information to micropalaeontologists, worldwide.

International Nannoplankton Association

Below: Participants at INA12 in Lyon 6th-10th September 2008

The Grzybowski Foundation

Report from GF Chairman - Dr Mike Kaminski

With the publication of this newsletter, the Grzybowski Foundation begins its collaboration with The Micropalaeontological Society in terms of publishing news, reviews and items of general interest to both societies. Colleagues from outside our speciality have sometimes asked "What is the Grzybowski Foundation?" The simple answer is that the GF fulfils the role of a Micropalaeontological Society in Poland by organising meetings, sponsoring students, and by maintaining a physical presence in the form of the Grzybowski Library. When the Foundation was established 17 years ago, the original aims were quite modest. In 1992 Poland's post-communist economy was undergoing serious restructuring, and the idea was simply to assist Micropalaeontology at the Jagiellonian University, perhaps by sponsoring a student project or two. However, the Foundation's activities quickly expanded to include publishing a Special Publication series, hosting/sponsoring the International Workshops on Agglutinated Foraminifera (the IWAF-meetings), and a national meeting for micropalaeontologists in Poland (the *MIKRO*- meetings). A few years later, we expanded the scope and geographical extent of our activities, for example we now sponsor the Micropalaeontological Session at the Romanian Paleontological Symposium, which is held on alternate years, and we initiated an International Working Group on Foraminiferal Classification that meets at regular intervals. Members of the Foundation have established a training network through the European Community SOCRATES Programme, which has enabled students from Poland and Romania to undertake study visits at universities in western Europe and vice-versa. The collaboration we initiated has resulted in numerous publications and research grants.

Another question that I am asked is "Why did you choose an unpronounceable name for the foundation?" The answer is simple. Jozef Grzybowski was the first person who applied micropalaeontological techniques for petroleum exploration (in 1897-98), he was the first lecturer who taught a university course called "Micropalaeontology" (in 1905), he was the first Professor of Palaeontology at the Jagiellonian University (1919), and to our knowledge he was the first Professor who successfully graduated a female PhD student in the field of Micropalaeontology (Maria Dylazanka, who finished her PhD in 1923). In many ways, he was the forerunner of Joseph Cushman.

Over the past 17 years our foundation has taken on more of an international character. We have published a total of 15 Special Publications, four of which were printed in Italy and one of which in Romania, and three more books are currently in the production stage. Our *MIKRO* meetings, originally a Polish-language Micropalaeontological meeting, are now attended by researchers from neighbouring countries, and the language of the meeting is English. Our website contains more and more useful information, including FORAMREFS, the current bibliography of the Foraminifera. This is an activity that was once done by Ruth Todd through the Cushman Foundation. In 2001, we instituted the "Grzybowski Award", which recognises a scientist's lifetime achievements and contributions to our field. I've noticed that the award certificate we present at a *MIKRO* or IWAF meeting is proudly displayed in a prominent place in the person's office. Last year we initiated the "International School of Benthic Foraminifera", a short course taught at the University of Urbino in Italy. This year's course had the largest group ever, with 23 participants coming from as far away as Moscow and Brazil. Finally, we can now take pride in the fact that at least five of the MSc students we once assisted through the "Stanisław Geroch Memorial Grant-in-Aid" programme have completed their PhDs in the subject of Micropalaeontology and are now making useful contributions to our field. This activity alone makes a positive impact on the future of our subject.

What does the future hold for the Grzybowski Foundation? One noticeable trend is the fact that the *MIKRO*- meetings are going from strength to strength. This year's *MIKRO*-2009 meeting in the Holy Cross Mountains at the end of September appears to be the biggest one yet, with over 70 abstracts received so far. The abstract/field guide volume will be published as a GFSP, and will be available on-line. The GF Library has expanded its holdings owing to more and more donations of literature (and a friend of a friend at the paper recycling factory in Krakow – that's how we obtained a copy of Felix Gradstein's PhD thesis!). The catalogue of the GF Library's holdings will be shortly listed on-line. Our GFSP volumes are already listed in GEOREFS, Petroleum Abstracts, and in the Zoological Record, and now they have been submitted to Thompson/Reuters for inclusion into the Science Citation Index for Conference Proceedings. We are continuing to support students by awarding conference grants (including the Brian J. O'Neill Memorial Conference Grant). It would be great if the GF were able to do more, that is if we had sufficient resources to do so. In future sections of this newsletter, we'll submit reports on the GF's activities and bring you news and views about Micropalaeontology in Poland and other eastern European countries. Our first report is by our Foundation's Secretary, Jarek Tyszka, and tells more about the *MIKRO*- series of meetings.

Finally on a personal note, it gives me great satisfaction to see that two organisations that have similar overall aims can collaborate on this joint newsletter. It seems we're off to a good start, and this new initiative with The Micropalaeontological Society can only bring positive results. In Polish we say "Sto Lat", which literally means "a hundred years" and is used in the sense of saying "Good luck, or Good Fortune". May this initiative last a hundred years!

The MIKRO-workshops

Jarosław Tyszka, Grzybowski Foundation Secretary

MIKRO with "K" – this is not a spelling error. This is what we used to call our course in *MIKROpaleontologia* at the Jagiellonian University in Kraków. That time we were not aware that it was probably the world's first university-level course in micropalaeontology, already given by Prof. Józef Grzybowski at least in 1905. It was therefore straightforward to name our new series of meetings – *MIKRO*- workshops. Besides, it's a lot shorter than the "Ogólnopolskie Warsztaty Mikropaleontologiczne", which is quite a mouthful even for Polish people. The original idea for the first meeting was based on the concept of the long-running (British) Micropalaeontological Society group meetings. This idea was even more "British" because we came upon this idea in the Polish Veterens' Club in Plymouth during the Fifth International Workshop on Agglutinated Foraminifera in 1997. Don't even ask who first proposed this meeting … Yes, … Mike Kaminski. Actually, the idea behind the first *MIKRO*-meeting was clear – Poland has a large number of micropalaeontologists – the only thing missing was a society or a reasonable excuse to meet from time to time and share some latest research news.

The first *MIKRO*-workshop was organised at the Research Centre of the Institute of Geological Sciences of the Polish Academy of Sciences in Kraków in March, 1998. The first workshop was so successful that we decided to hold a second one. The 2nd *MIKRO*-workshop was a two-day event held at the Institute of Geological Sciences of the Jagiellonian University. At this meeting, we discussed another idea of organising a formal "Polish Micropalaeontological Society", but the results of a survey were inconclusive. Nevertheless, we agreed that the Grzybowski Foundation would fulfil such a function. It was also agreed that the *MIKRO*-meetings would be held every two years, giving people reasonable time to prepare new material to present at the next meeting.

In May 2001, we met in Zakopane for the first "Field *MIKRO*-3 Meeting". This meeting, organized by the Pedagogical University in Kraków and the Grzybowski Foundation, combined a scientific session with a post-meeting field excursion to the Tatra Mountains. The *MIKRO*-4 meeting was held in Central Poland, and was organised by the Warsaw branch of the Polish Geological Institute in 2003. This meeting took place in the sunny and picturesque town of Kazimierz, along the right bank of the Wisła River. The *MIKRO*-5 meeting went back to the Geological Sciences of the Polish Academy of Sciences, but it was organized in Szymbark, in the middle of the Carpathians in 2005. We managed to publish peer-reviewed proceedings volume of *Studia Geologica Polonica* entitled "*Methods and Applications in Micropalaeontology*". You can still enjoy this publication by downloading the chapters from: http://www.ing.pan.pl/stud4www/124tom.html
In 2007, we gathered in the outskirts of Gdańsk for *MIKRO*-6 thanks to the Marine Geology Branch of the Polish Geological Institute. It was hard to collect microfossils there, but we enjoyed the fruitful meeting, the field trip along the seashore, and a friendly Russian-American bath in the cold brackish Baltic water.

This year, in late September 2009, the Institute of Palaeobiology of the Polish Academy of Sciences in Warsaw and the GF are organizing *MIKRO*-7 at Święta Katarzyna in the Holy Cross Mountains in Central Poland. More than 60 international participants have applied so far, from as far away as Georgia. We hope to have another successful workshop, and you will be able to download the abstract volume from the Grzybowski Foundation Website.

It's our wish that the *MIKRO*-meetings can continue long into the future, and make a lasting contribution to micropaleontology. This way we can promote our scientific heritage and improve the current state of knowledge in Earth and Ocean Sciences.

Members of the International Working Group on Foraminiferal Classification, at the MIKRO meeting in Gdansk, June 2007.

The International Working Group on Foraminiferal Classification

Tom Dignes

With recognition of the need for continued effort on the suprageneric classification of the Foraminifera beyond the monumental work of Loeblich & Tappan (1987), the International Working Group on Foraminiferal Classification was first convened by Mike Kaminski in Cluj-Napoca Romania in 2003. Its objective is to: 1) reach consensus on the validity of newly published genera, 2) revise existing genera as needed, and, 3) agree on the higher systematics of the foraminiferal families and upper-level taxa. The group has met on three subsequent occasions, with an initial focus on agglutinated forms. The immediate goal of the working group is to provide a revised and updated catalogue of agglutinated foraminiferal genera.

Most recently (September 10, 2008), the Working Group conducted a day of discussions at the close of the Eighth International Workshop on Agglutinated Foraminifera at the Department of Geology, Babes-Bolyai University, in Cluj-Napoca, Romania. Its activities included consideration and selected modification of new compilations of updated descriptions and illustrations of all validly recognized agglutinated genera received through that date. Those in attendance included Miroslav Bubik, Claudia Cetean, Tom Dignes, Johann Hohenegger, Mike Kaminski, Valeria Michalevich, Jeno Nagy, Theodor Neagu, Gheorghe Popescu, Eiichi Setoyama, and Jaroslaw Tyszka. Details of the Working Group resolutions for particular taxa may be obtained through Mike Kaminski at m.kaminski@ucl.ac.uk

Grzybowski Foundation - NEWS

Congratulations:
The Grzybowski Foundation wishes to extend our warmest congratulations to Dr Teodora Blaj, who successfully defended her PhD entitled "*Late Eocene through Oligocene calcareous nannofossils from the paleo-equatorial Pacific Ocean*" at Stockholm University. Theodora was the recipient of the Stanislaw Geroch Memorial Grant-in-Aid in 2002.

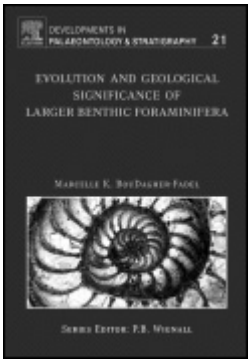
We also congratulate Adam Gasinski (co-founder of the Foundation) on his election to the position of President of the Geological Society of Poland. We look forward to even closer collaboration with this society.

Finally, congratulation go to our student members: Stefano Patruno, who won the 2009 Dennis Curry Award of the Geologist's Association for the best MSc thesis in the subject of stratigraphic micropalaeontology; Eiichi Setoyama (Polish Academy of Sciences) for receiving a Sepkoski Memorial grant-in-aid to support his PhD research; and Fabrizio Frontalini (U. Urbino) for receiving the Grzybowski Foundation's Brian J. O'Neill Memorial Conference Grant for 2009.

NEW BOOK!!!!

EVOLUTION AND GEOLOGICAL SIGNIFICANCE OF LARGER BENTHIC FORAMINIFERA

by
Marcelle BouDagher-Fadel,
Department of Earth Sciences, University College London, UK



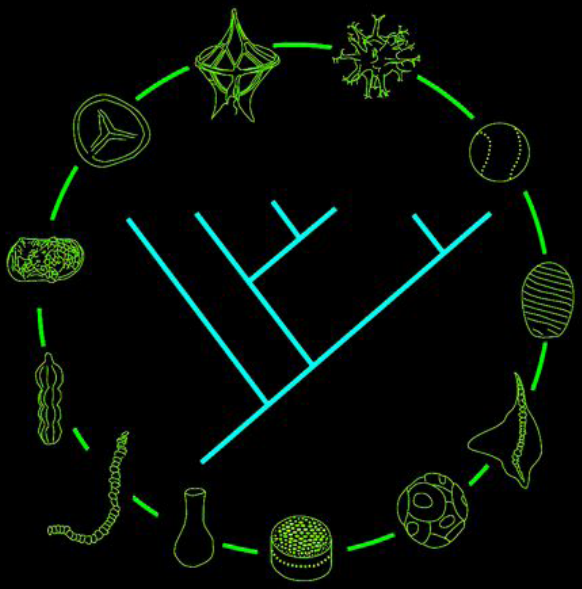
The over-all aim of the book is to describe the evolutionary, paleontological and geological significance of the Larger Foraminifera. Their long and well-marked evolutionary record makes foraminifera of outstanding value in zonal stratigraphy. Different families mark the Eras and major time periods. They are extremely abundant in most marine sediments. Their role as markers for biostratigraphical zonation and correlation underpins most drilling of marine sedimentary sequences as well as hydrocarbon exploration. The so-called "larger" benthic foraminifera were all marine, neritic and benthic. They developed complicated endoskeletons, which were reproduced precisely similarly with each successive generation. The book provides taxonomic descriptions of all families and all major genera of larger foraminifera, illustrated with over 100 plates (many showing photographs of type specimens). Their phylogenetic relations are discussed, and their biostratigraphic, palaeoenvironmental and palaeogeographic distribution and significance are outlined and discussed in the context of the Mid- to Late Phanerozoic global evolution.

To order this title, and for more information see:
http://www.es.ucl.ac.uk/people/fadel/Larger%20Benthic%20Foraminifera.htm

The Micropalaeontological Society

http://www.tmsoc.org

Annual General Meeting 2009



Microfossils and Evolution

Speakers:

Dr David Bass – Evolution of unicellular eukaryotes. **Dr Philip C. J. Donoghue** – Embryos and ancestors: embryology at the dawn of animal evolution. **Dr Charles H. Wellman** – The palynological record of the origin and adaptive radiation of land plants. **Prof. Koenraad Martens** – Asexual ostracods in space and time. **Prof. Paul Pearson** – Macro- and microevolution in Cenozoic planktonic foraminifera. **Dr David Lazarus** – Radiolarian evolution: patterns, current understanding and prospects for future research.

Venue: University College London, Wednesday 18th November, 2009. For further information see TMS website. The meeting will include presentation of society Awards & Honours, & will be followed by a wine reception.

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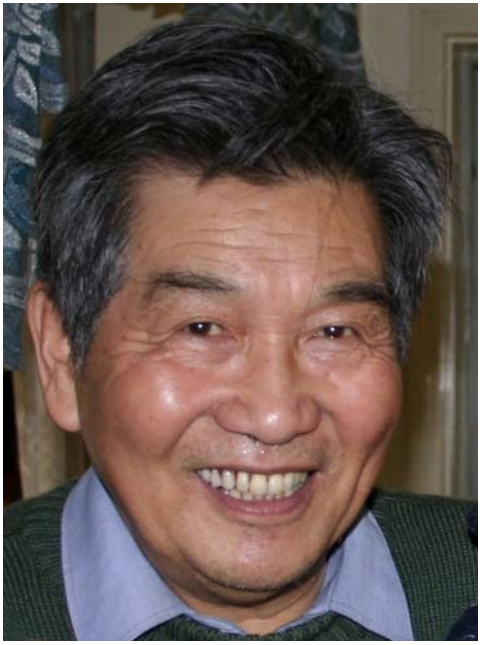
Obituary

Zhencheng Sun (1935-2009)



The micropalaeontologist and biostratigrapher Prof. Zhencheng Sun died on February 13, 2009 in Beijing (China). He had suffered from an incurable illness during his last two years. Prof. Sun was born as brother of three in Suzhou, Jiangsu Province, on September 12, 1935. He studied petroleum geology at the Department of Geology of the Beijing Petroleum Institute and at the age of 21 started to work as technician and engineer at the Geology Research Institute of the Qinghai Petroleum Exploration Bureau in 1956. This work focused on the use of ostracods from the Qaidam Basin as biostratigraphical indicators which became one of his most intensively studied research areas. In 1974, he left the Qinghai Petroleum Exploration Bureau to work at the Research Institute for Exploration and Development of the Liaohe Petroleum Bureau as senior engineer and professor until 1991. After this time Prof. Sun worked at the Faculty of Natural Resources and Information Technology of the China University of Petroleum (Beijing) as senior engineer and professor engaged in teaching and studying petroleum geology with a focus on bio- and chronostratigraphy until 1998. Although retired after 1998, Prof. Sun continued to work as associated scientist on the biostratigraphy and oil and gas exploration of the Qaidam, Liaohe and Tarim Basins in China.

Beside his strong focus on the use of ostracods for biostratigraphical correlation, Prof. Sun was very interested in palaeoecology and palaeoenvironmental inferences and palaeoclimate research. In addition, he provided significant contributions to the saline lakes research, and worked and published on the distribution and origin of foraminifera and calcareous nannofossils in Neogene salt lake deposits of western China.

Probably atypical of a scientist working mainly in exploration geology, Prof. Sun participated very actively in scientific debates and presented the palaeoenvironmental and palaeoclimatic implications of his research during international conferences such as the International Symposium on Ostracoda and the International Paleolimnology Symposium. One of the most appreciated publications apart from countless papers in national and international journals including *Palaeogeography, Palaeoclimatology, Palaeoecology* and the *Journal of Micropalaeontology* was the English-language book on "*Sedimentary environments and hydrocarbon generation of Cenozoic salified lakes in China*" by Prof. Sun and co-authors, published in 1997 (Petroleum Industry Press, Beijing, 364 pp). Prof. Sun was one of the editors of China's most important micropalaeontological journal, the *Acta Micropalaeontologica Sinica*, and the *Journal of Palaeogeography*. Colleagues, scholars and friends of Prof. Sun knew him as a most helpful and frank, dedicated and sincere person. We will miss him.

Steffen Mischke and Fan Yang

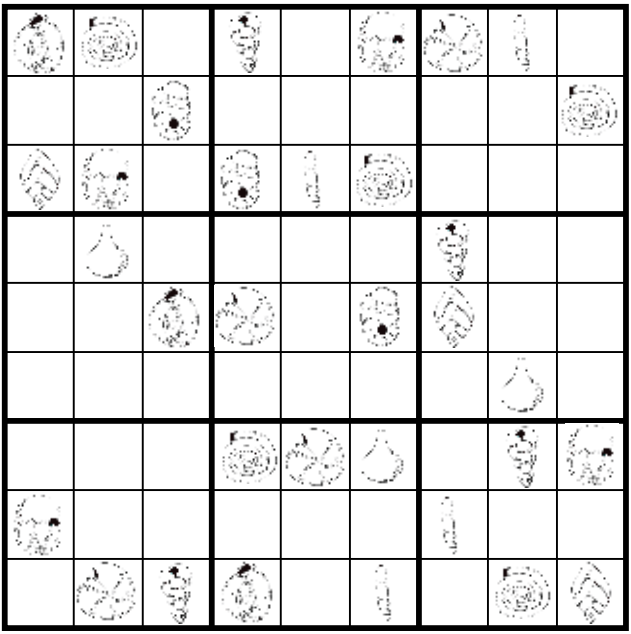
Micropalaeontology Diary

2009

Sept 2-4	Geol. Soc./Challenger Society Meeting, Biogeochemistry, London
Sept 6-12	8th International Cretaceous Symposium, Plymouth
Sept 12-16	16th Meeting of the Group of European Charophytologists, Ohrid
Sept 13-18	Interrad 12 - Nanjing, China
Sept 27-30	AASP 42nd Annual Meeting, Tennessee
Oct 18	Deadline for TMS Committee position nominations
Oct 29	Lin Soc. Palynology Specialist Group Meeting, Burlington House
Nov 18	TMS AGM
Dec 1	Copy date for *The Newsletter of Micropalaeontology*
Dec 15-18	11th International Paleolimnology Association Symposium, Mexico

2010

Feb 28	Deadline for TMS Grants-In-Aid aplications
Feb 28	Deadline for Nominations for Alan HIggins Award
June 28-July 3	3rd International Palaeontology Congress, London
Aug 30-Sept 10	4ème Congrès Français de Stratigraphie, Paris



Microdoku #2

Foraminifera

The images here are taken from The Urbino Summer School in Paleoclimatology, 2005 Deep Sea Benthic Foraminifera handout illustrating the different chamber arrangements - by Ellen Thomas.

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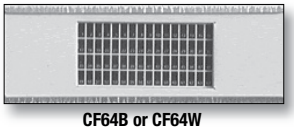

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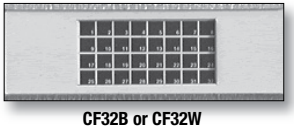

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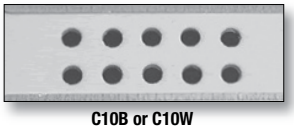

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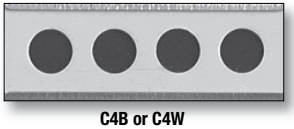

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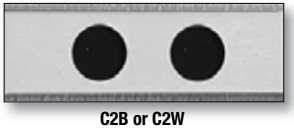

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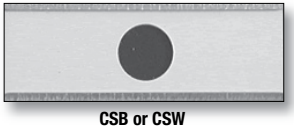

CSB or CSW

CSBDD or CSWDD

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