

# Newsletter of *Micropalaeontology*



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Edited by I. J. Slipper



The Micropalaeontological Society

<http://www.tmsoc.org>

Annual  
General  
Meeting  
2008



## MICROFOSSILS AND EXTINCTION

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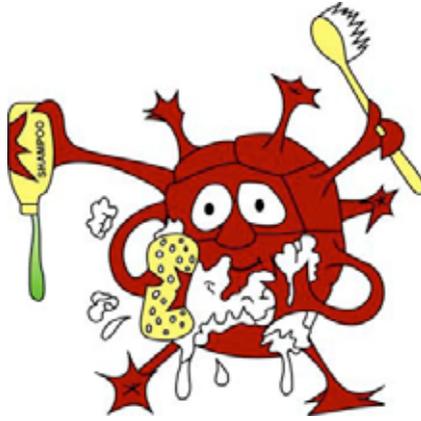
In this issue our President sets out his vision for TMS in these increasingly difficult times, including a new initiative to support micropalaeontological education. Details of that together with a fine program of talks will be on offer at our AGM on Wednesday 19th November - mark your diary now! The theme - as shown above is *Microfossils and Extinction* and six speakers will be addressing this topic: see pp 8-11 for further details.

TMS continues to support student members with Grants-in-Aid; on pages 12-13 and 29-34 you can read how they are benefiting from these grants.

**Copy date for next issue 1st December 2008**

The Micropalaeontological Society

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# Society News

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## **Report from the President** - Professor Michal Kucera

This summer is no doubt going to be memorable for two events: the highest petrol prices on record and yet another series of unpleasant weather phenomena that are increasingly ascribed to the ominous anthropogenic global warming. Even the normally sleepy and peaceful Swabian countryside around Tübingen had its share, with flash floods uprooting medieval bridges and leaving several casualties behind. In times like these, the value of the services of our science to the society is more palpable than ever, be it in hydrocarbon exploration, climate research or issues like ocean acidification. Surely, the governments and politicians of our countries should react by increased support to our science? There is clearly some logic to this argument, but the reality is bitterly different. This spring, we learnt that the University College in London decided by executive action without prior consultation with the stakeholders to close its Micropalaeontology MSc course. No matter where in the world you may be, I am sure you can immediately think of a few colleagues who have graduated from this course. If not, ask around, and you will soon realise why this is such a blow to our field. A flagship micropalaeontology course offering structured training throughout the entire spectrum of the discipline is no more, because of misguided economic considerations of a few officials at UCL.

In today's world, coordinated community action and lobbying, bottom-up initiatives and proactive measures are all essential for the survival of scientific disciplines. When I accepted the committee's nomination to stand for the office of the first TMS president, I was aware that there was a significant momentum in positioning the Society as the leading professional organisation in micropalaeontology and that there is an expectation for TMS to increase its efforts in representing the interests of the membership and of the science at a more political level. Having served at the Committee for six years, I saw the Soci-

ety changing its name to TMS, the title of the senior officer to president, establishing a highly prestigious Brady Medal, reviving its publishing activities and most significantly, increasing its membership base for several years running. The leadership and strategic decisions overseen by the past chairmen leave me with a rather large pair of shoes to fill. How to live up to the expectations? By being ambitious! I believe we ought to use our imagination and creativity and set the agenda for the next decade. My visions and ambitions as TMS President can be structured along three main areas with a potential for TMS to grow and a new niche to take. Firstly, I believe TMS should continue using the present momentum in increasing its visibility and status. We should aim towards increasing the membership beyond the 500 mark, devising an affiliation scheme for smaller and regional societies, developing a comprehensive PR policy and expanding the Society's awards scheme. Next, I feel it is imperative to extend TMS services to the profession, be it in education, in the industrial sector or as an information hub. Finally, in order to be able to support such activities, it is essential to raise TMS assets and income. To secure financial stability and flexibility, the reserve account should reach the mark of £100,000 and this operation must succeed without further increases to the membership fees.

Ambitious as it is, this vision needs priorities. I am afraid the short-sighted decision by UCL pre-empted any discussion on this matter. The highest priority of TMS at present must be to stand up for micropalaeontology, team up with the industrial sector and other stakeholders and consider how to structure and support graduate-level education in the field. This is a completely new task for TMS; its international significance and financial and political scope are beyond the Society's previous experience. Therefore, I am extremely pleased to be able to end this message on a positive note. Encour-

aged by overwhelmingly positive response by colleagues from the industry, the Committee is preparing an ambitious plan for supporting and coordinating applied micropalaeontology education at an international level. We feel TMS is the right body to lead this initiative; if not The Micropalaeontological Society, who else is going to raise the banner for the eponymous discipline? The initiative is spearheaded by the Industry Liaison Officer, a new post established by the Committee, with the first co-opted officer being the former Chairman of TMS **Haydon Bailey**. All preparations going fine, the first proposal will be presented to the Annual General Meeting in November. Besides the excellent line-up of speakers on the topic of Microfossils and Extinctions and the second Brady Medal ceremony, perhaps this is another good reason to attend the AGM?

This is the right place to remind ourselves that TMS lives and breathes because of the unstinting work of colleagues serving on the Committee, organising conferences, meetings, field trips, giving talks, editing special publications and much more. To all those who continue supporting the Society in one way or the other – your efforts are truly appreciated. To all members at large – do you want to do more for the Society? Be it by standing for one of the vacant offices listed in this Newsletter, or by organising a meeting or by just having a good idea – please raise your voice!

Have a great micropalaeontological summer and do not forget to take this Newsletter with you as you stroll towards the beach – it is full of great reading!

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## **Secretary's Report** - Dr David Horne

I write these words on the ferry Clansman in transit between the island of Barra and mainland Scotland. With this year's round of university exam boards and the June TMS Committee meeting behind me it was a pleasure to get away to the Outer Hebrides for a few days to collect freshwater ostracods. They have been wet and windy days but worthwhile nevertheless; field work, whatever the conditions, is one of the joys of micropalaeontology as far as I am concerned. It has also been an opportunity to reflect on the busy months since I was co-opted to this post when the former Secretary, **Michal Kucera**, was elected TMS President at the last AGM. While I have found the workload to be greater than I had expected, this is tempered by the feeling of being part of a dynamic team of officers committed to serving the Society and its members. It is only by seeing its workings from the inside, over the past seven months, that I have begun to appreciate fully the ways in which the Society is thriving and growing into its international role; it is inevitable that the activities and duties of its officers should become both more demanding and more satisfying.

One way in which the Society provides benefits for its membership is through the activities of its specialist groups, of which there are six: Ostracod, Foraminifera, Palynology, Nannofossil, Silicofossil and Microvertebrate. Each group, organized by a Chairman and a Secretary who are TMS Committee members, holds meetings and field activities, reports of which may be found in the pages of the current and past issues of the *Newsletter of Micropalaeontology*. The focus of group meetings has traditionally been on British venues and British micropalaeontologists, but this is changing; the recent joint meeting of the Foraminifera and Nannofossil groups was held in Germany and the Ostracod Group meeting in the UK included participants from the USA and Australia – you can read the reports elsewhere in this newsletter. There is no fundamental reason why group meetings should not be held in any country where there are TMS members willing to organize them. Are you missing out on activities that might interest you? New members, when they join TMS, do not always indicate to which specialist group or groups they wish to be affiliated; if you do not receive emails about specialist group activities, it is probably because you are not linked to that

group in the membership database. If individual members or group representatives would like to email me (d.j.horne@qmul.ac.uk) with updates I will edit the database accordingly.

### **Changes to the Committee**

The terms of office of the following Officers of the Committee come to an end at the 2008 AGM: Secretary, Webmaster, Publicity Officer. In addition there is a newly-established office: Industrial Liaison Officer. Nominations for these posts should be submitted to the TMS Secretary (d.j.horne@qmul.ac.uk) by Wednesday 29th October 2008. Nominees, proposers and seconders should all be TMS members. Those who consider standing for any of the offices are welcome to contact the Secretary or the President for information on what duties these posts entail.

### **TMS Student Awards**

The new TMS Student Awards scheme aims to reward the achievements of students taking micropalaeontological courses. The awards (a year's membership of TMS) may be made each year by tutors of registered courses; so far five courses are registered and we expect the first citations to be announced at the AGM in November. Full details may be found elsewhere in this newsletter.

### **2008 AGM**

The theme of the 2008 TMS AGM will be "Microfossils and Extinction", to be followed in 2009 with the theme "Microfossils and Evolution". The paired themes were chosen by the committee as a suitable way to mark "Darwin Year", 2009 combining the bicentennial of Charles Darwin's birthday with the sesquicentennial of the publication of *The Origin of Species*. As can be seen from details published elsewhere in this newsletter and on the Society's website (www.tmsoc.org), the "Extinction" theme will be addressed by an impressive lineup of speakers, not to be missed, so mark University College London, Wednesday 19th November in your diary now; as usual the AGM will be followed by a wine reception.

### **Grants-in-Aid 2008**

Applications for Grants-in-Aid were received from three student members and all were approved by the committee: **Nicholas Owen** (Trinity College Dublin; 200 GBP) and **Katharina Stolz** (Universität Bremen; 270 Euros), both to fund attendance of the TMS Foraminifera and Nannofossil groups joint Spring Meeting 2008 in Tübingen, and **Dinah Smith** (University of Leicester; 170 GBP) to fund attendance of the TMS Ostracod Group meeting at Flafford Mill in April 2008. Their reports of these activities may be found elsewhere in this newsletter. TMS 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 cannot be awarded for miscellaneous expenditure, nor 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 of Micropalaeontology* once their grant has been used. Application forms may be obtained from the Secretary (d.j.horne@qmul.ac.uk). The next deadline for applications is 28th February 2009.

### **Charles Downie Award**

The Charles Downie Award (£200) is awarded each year to the TMS member who, in the opinion of the Committee, has published the most significant paper, in any journal, based upon his or her postgraduate research. This year it goes to **Kirsty Edgar** (National Oceanography Centre, Southampton) for her paper: Edgar, K. M., Wilson, P. A., Sexton, P. F. & Suganuma, Y. 2007. No extreme bipolar glaciation during the main Eocene calcite compensation shift. *Nature*, 448, 908-911. Kirsty will receive her award at the 2008 AGM.

### **Membership**

Membership continues to grow steadily; currently it stands at 439 individual members of whom 225 are in the UK, 116 in the rest of Europe and 98 in other countries. As well as a few lapsed members who have rejoined, we have welcomed a total of 32 new members so far this year, of whom 13 are students:

## New Members

Kahn, A.

Rex, I.

Maquet, B.

Martin, G.J.

Mikellides, I.

Hedley, P.

Gould, J.

Tyler, M.

Crasquin, S.

Friedrich, O.

Wang, Y.

Stolz, K.

Griffin, H.

Peyrot, D.

Pfuhl, H.A.

Burgess, C.E.

Fernandes, J.P.B.M.

Briguglio, A.

Danelian, T.

Corbi, H.

Al-Ameri, T. K.

King, C.

Kurita, H.

Sexton, K. P.

Lim Jen Juen

Vandenbroucke, T.

Aze, T. L.

Viehberg, F.

Broggy, T.

Swire, P.H.

Gomez, V.M.G.

Nivia, C.C.

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## Special Publications Editors' Report -

Dr Daniela Schmidt & Dr Jeremy Young

As you may know, we have recently taken over as TMS Special Publications editors, following several years of fine work by **Malcolm Hart**. The transfer of special publications to the Geological Society Publishing House has worked very well. They have produced our latest volumes, *Deep-Time Perspectives in Climate Change* and *Recent Developments in Applied Biostratigraphy* to very high standards, and they are supplying excellent support to editors.

We will of course continue to support Stratigraphical Atlas special publications, indeed the ostracod atlas is very near completion. We have also, however, spent some time thinking about other types of special publications we could usefully encourage in order to help promote our science and support its role in modern earth science research and petroleum geology. In fact, a minimal amount of brainstorming has resulted in a wide range of possibilities:

### **Biology and Palaeobiology of Microfossil Groups**

There has been an immense amount of research recently on the biology of microfossil groups, often largely driven by the need for better understanding of them in order to improve their use in micropalaeontology. In consequence classic guides such as the *Coccolithophores* book of Winter & Siesser (1994) or Hemleben's *Planktonic Foraminifera* are increasingly out of date. We envisage that for any of the groups we specialise in there is potential for a new guide aimed at

graduate students and researchers working with them. These might include review chapters by appropriate experts on topics such as - Organismal biology; test structure and formation; Physiological ecology; Classification and phylogeny; Extant biodiversity (with some kind of checklist or atlas); Biogeography; Study in sediment traps; study in core-top sediments; Geochemical studies; fossil record overview.

### **Micropalaeontology and stratigraphy of a formation/basin**

Micropalaeontology plays a key role in stratigraphy and we could take a lead in developing syntheses of the stratigraphy and biostratigraphy of key basins or formations. Such books might include synthesis chapters on the lithostratigraphic framework; sedimentary environments and facies; cyclostratigraphy and geochronology; macrofossil biostratigraphy; calcareous microfossil biostratigraphy; palynology, nannofossil biostratigraphy. Obviously these should be focussed on formations or basins of current industrial and/or academic research interest.

A few possibilities:

*Plio-Pleistocene of NW Europe; North Sea Early Paleogene; The Chalk; The Paratethys; The Messinian of the Mediterranean.*

### **Micropalaeontological Techniques and Methods**

As micropalaeontology has become ever more

diverse in scope and in applications the range of techniques we are using has grown considerably but there are few good manuals or information for new students. We do not think a single methods in micropalaeontology volume could be practical but do think volumes focussed on a sub-set of techniques could be invaluable. Possibilities might include:

*Actuomicropalaeontology* (methods in biological study of microfossil groups)

*Palaeoproxies from microfossils* (methods used in palaeoceanographic applications of microfossils)

*Field & laboratory methods in Micropalaeontology*

*Imaging Microfossils*

*Morphometric study of microfossils*

*Statistical Techniques in Micropalaeontology Automated identification of Microfossils.*

### **History of Micropalaeontology**

The “Heroes of Micropalaeontology” theme at the last AGM showed how rich the history of micropalaeontology is and a volume on the *History of Foraminiferal Micropalaeontology* is being developed (see article by **Alan Bowden** and **Andy Henderson** in the last Newsletter) . There almost certainly is the potential for more volumes with an historical focus, which might be focussed on particular fossil groups, or on individual scientists (e.g. *Haeckel and the study of radiolaria*) or on particular episodes (e.g. *The Deep Sea Drilling Project and the invention of palaeoceanography*).

### **Volumes arising from major research projects**

Numerous palaeoceanographic or palaeoclimatic projects involve large amounts of micropalaeontology and so provide potential for special publications. This could certainly include any IODP Leg or other research cruise with a strong palaeoceanographic focus but also EU Research Projects or other larger research projects.

### **Micropalaeontological aspects of Multi-Disciplinary Research**

The recent climate change book (full title *Deep-Time Perspectives on Climate Change: Marrying the Signal from Computer Models and Biological Proxies*) is an impressive example of micropalaeontologists taking the lead in synthesising results from a multidisciplinary field with a mix of review and research articles. Other topics which might

be suitable for this type of coverage with a strong but not exclusive focus on micropalaeontological aspects include:

*Sequence stratigraphy*

*Biosteering of horizontal wells*

*Cyclostratigraphy and recalibration of the geological timescale*

*Biominalization by eukaryotic protists*

*The evolution of eukaryote diversity*

*Biogenic fluxes to the deep sea.*

*Microfossil lagerstätten*

*Microfossils as provenance indicators in archaeological and forensic science.*

### **How to implement this?**

As series editors we intend to play a supporting role in this, encouraging proposals and supporting editors, but keeping as light a touch as possible. We will be proactively encouraging likely editors of a few of the possible topics, but we would very much like TMS specialist groups and individual members to propose taking on any of these topics. The basic process would be first to informally contact either of us to suggest working up a concept (so we can ensure there is no duplication of endeavours). We would then ask editors to develop a book proposal for approval by the TMS committee and Geological Society Publishing House. The typical length of books should be 200-400 pages.

We are not interested in loosely focussed collections of research papers from open meetings, but there is a very strong case for using focussed research meetings or special sessions of large conferences (e.g. EGU, AGU, NAPC) as benchmarks in the development of publication projects. A very effective model is to require submission of manuscripts at the time of the meeting.

Advantages of publishing through the TMS special publication series are, that this provides strong support for our society and science; that the society will provide support and encouragement; that the publishing house will provide professional copy editing, high quality publication, and effective marketing of the book.

We feel TMS has established a really valuable relationship with the publishing house and that this provides great potential to develop a series of publications which promote and enable micropalaeontology. We will be very happy to hear from any of you.



# The Micropalaeontological Society

<http://www.tmsoc.org>

Annual  
General  
Meeting  
2008



## MICROFOSSILS AND EXTINCTION

Wednesday 19<sup>th</sup> November 2008 at 1.15 pm  
University College London

**Nils Stenseth & L. H. Liow** (*Centre for Ecological and Evolutionary Synthesis, Oslo*)

Macroecological and macroevolutionary dynamics of marine plankton  
inferred through microfossils

**Guy Harrington** (*University of Birmingham*)

Paratropical floral extinction in the Late Palaeocene-Early Eocene

**Paul Bown** (*University College London*)

The roller-coaster ride of Palaeogene coccolithophore evolution:  
from mass extinction to peak diversity and back!

**Sabrina Renaud** (*Université Lyon*) & Catherine Girard (*Université Montpellier*)

Conodont strategies facing environmental perturbations  
leading to mass extinction

**Helen Coxall** (*Cardiff University*)

Forams and extinction: forces and feedbacks in marine ecosystems

**Alan Lord** (*Forschungsinstitut Senckenberg*) & Ian Boomer (*University of Birmingham*)

The extinction of the Metacopina – a major event in ostracod history

### **Meeting convenors:**

**David J. Horne** (*Queen Mary, University of London*) and **Daniela Schmidt** (*Bristol University*)

### **For further information see TMS website**

The meeting will include the presentation of TMS awards and honours  
and will be followed by a wine reception

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# 2008 TMS AGM Abstracts

Helen Coxall (Cardiff University)

## Forams and extinction: forces and feedbacks in marine ecosystems

It is the fate of most living things to evolve and eventually go extinct. Planktonic foraminiferal biostratigraphy capitalizes on this processes, using evolutionary and extinction events to define strato- and chrono- units of correlation (biozones), whereas the process complicates palaeoclimate studies that utilize foraminiferal shells because the organisms that provide the proxy signals, rather than remaining environmentally static as we would like, interact with their environments and in the worst case disappear entirely. For the most part we do not know what makes an individual species of planktonic foraminifera go extinct, especially in the case of 'background' extinction because these extinctions are rarely linked with environmental change. Interrupting intervals of background extinction, however, are times of enhanced and apparently coordinated extinction when multiple taxa disappear more or less simultaneously. These include the end Cretaceous or Cretaceous/Palaeogene (K/P) mass extinction, when a large body of evidence supports a rapid 90% reduction of planktonic foraminifera taxa, and the Eocene/Oligocene (E/O) boundary, which involved extinction of two

major Eocene lineages (*Hantkenina* and *Turborotalia cerroazulensis*-group), occurring against a backdrop of enhanced evolutionary turnover. Other significant episodes of enhanced evolutionary turnover occurred during the mid Cretaceous, associated with several of the Oceanic Anoxic Events, and during the Palaeocene-Eocene Thermal Maximum (PETM). These events involved the temporary replacement of the 'normal' assemblages with short-lived event specialists and in the case of the PETM a significant extinction of benthic organisms. Careful study of these extinction events using multiple environmental proxies and evidence from other fossil groups provides insight into the causes of the extinctions and the broader environmental impacts of the perturbations. In this talk I will explore the causes and consequences of pelagic ecosystem extinctions as recorded by fossil foraminifera, focusing on the K/P and E/O boundary events. Both events involved major disturbance to the open-ocean ecosystem and resulted in altered marine biogeochemistry, which in the case of the K/P event may have created new evolutionary opportunities.

Guy Harrington (University of Birmingham)

## Paratropical floral extinction in the Late Palaeocene-Early Eocene

EoceneThe Palaeocene-Eocene Thermal Maximum (PETM) at  $\approx 55.8$  Ma marks a transient ( $\approx 100$  ky duration) interval of rapid greenhouse warming that had profound effects on marine and terrestrial biota. Plant communities at high latitudes responded rapidly with major but transient compositional turnover. The long-term effects on tropical vegetation communities that stem from the brief period of global warming are unclear. Pollen data are presented from the paratropical U.S. Gulf Coast (eastern Mississippi, western Alabama and Georgia) which had background Palaeocene mean annual temperatures of 26-27 °C. Sporomorphs (pollen and spores) demonstrate that taxonomic diversity increases over  $\approx 1$  my in the Late Palaeocene but this trend is replaced, with the first occurrences of taxa that mark the Early Eocene (e.g. *Granulatisporites luteticus*, *Nuxpollenites psila-*

*tus*, *Interpollis microsuplicingensis*, and *Brosipollis* spp.), by a pronounced extinction in the Early Eocene ( $\approx 20\%$  of the palynoflora). Taxonomic diversity also decreases by up to 38% in the Early Eocene. The timing of the extinction is not clearly resolved but may be restricted to the earliest part of the Early Eocene. Two richness estimators (Chao 2 and Jackknife 2) both demonstrate that Late Palaeocene samples contain significantly more taxa than those in the Early Eocene. However, these estimates are compromised in part by the varying amounts of time contained within each bin. Extinction on the U.S. Gulf Coast proves that ancient tropical ecosystems were highly susceptible to changes in diversity mediated directly or indirectly by environmental change, even during equable greenhouse climates in the early Palaeocene.

**The extinction of the Metacopina – a major event in ostracod history.**

The extinction of the Suborder Metacopina in the early Toarcian (Early Jurassic) was a major event in the macro-evolutionary history of the Ostracoda. The disappearance of this long-ranging, essentially Palaeozoic, group coincides with a change in the composition of marine ostracod faunas from ones with residual Palaeozoic aspect in the pre-Toarcian (due to the presence of the Metacopina) to those dominated by the Cytheroidea, Cypridoidea and Platycopina, a pattern that continues to the present. The Metacopina had been present in many Palaeozoic assemblages and were particularly successful in Triassic and Early Jurassic times, being diverse, abundant and with an apparently cosmopolitan distribution. Why did such a successful group that had survived four of the 'Big Five' Phanerozoic extinction events succumb at this second order and apparently less significant early Toarcian event? The rapid decline and extinction

of the Metacopina followed a major regressive phase in the Pliensbachian and broadly coincided with the onset of the early Toarcian Oceanic Anoxic Event (TOAE), which has been linked to global eustatic sea-level rise and is marked by a major, negative carbon isotope ( $\delta^{13}\text{C}$ ) excursion in the global carbon cycle. The nature and likely causes of the Metacopina Extinction Event (MEE) will be discussed in the context of new environmental data for the Toarcian, with particular reference to evidence from the Mochras Borehole (West Wales). The one distinct feature that sets the Toarcian extinction event apart from previous evolutionary crises is that the Metacopina never previously had to compete against the relatively advanced ostracod, largely cytheroidean, taxa that were present during the Early Jurassic. We propose that this may have been a key factor in the demise of the Metacopina at this particular time.

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Sabrina Renaud (Université Lyon) & Catherine Girard (Université Montpellier)  
**Conodont strategies facing environmental perturbations leading to mass extinction**

What are the conditions for survival or extinction during a mass extinction event? Is the ability to respond to minor perturbations a key to survival of a major crisis? To tackle these questions we compared the strategies of two Late Devonian conodont genera: *Palmatolepis* and *Ancyrodella*. The former survived the Frasnian/Famennian (F/F) crisis while the latter went extinct at this time. A morphometric study of the platform outline of *Palmatolepis* throughout the interval demonstrated a strong environmental influence on the morphology of the feeding apparatus during the events preceding the crisis. The response was exacerbated during the crisis itself. This suggests that *Palmatolepis* conodonts were able to adapt to changes in the trophic chain occurring during background environmental fluctuations as well as during the crisis. Was this strategy the key to their survival? We tested this hypothesis on *Ancyrodella*, in which allometric growth was the prevailing source of morphometric variation. By disentangling

size-free from size-related shape variations, we found evidence that *Ancyrodella* responded to environmental variations preceding the F/F crisis as well. Alternate hypotheses consider that *Ancyrodella* was a rare species in the assemblages and its worldwide distribution in restricted environments points to a specialist taxon. Considering survivorship curves, *Ancyrodella* was characterised by a low and constant mortality, suggesting long growth associated with a strong allometry and progressive investment in reproduction. We hypothesise that the combination of such ecological strategies and life-history traits made it unable to overcome the profound rearrangement of the marine ecosystems that marked the F/F crisis. In contrast, *Palmatolepis*, appearing as a generalist species with survivorship curves suggesting a rapid investment in reproduction, was able to overcome the crisis by an evolutionary step evidenced by the sharp morphometric shift at this time.

Paul Bown (University College London)

## The roller-coaster ride of Palaeogene coccolithophore evolution: from mass extinction to peak diversity and back!

The diversity record of Palaeogene coccolithophores includes the most extreme highs and lows of the group's history. Near-total extermination at the Cretaceous/Tertiary (K/T) mass extinction event was followed by rapid diversity recovery, maximum evolutionary turnover rates across the Palaeocene/Eocene boundary, peak diversities during the Middle Eocene and decline to a diver-

sity minimum in the Oligocene. In this presentation I will review this extraordinary evolutionary history and describe the forcing factors that were influential, including the singular events at the K/T boundary and succession of climate changes that characterised much of the remaining Palaeogene, including the Eocene hyperthermals and late Eocene onset of glacial-mode climate.

Nils Stenseth & L. H. Liow - (Centre for Ecological and Evolutionary Synthesis, Oslo)

## Macroecological and macroevolutionary dynamics of marine plankton inferred through microfossils

Knowing the geographic extents of species is crucial for understanding the causes of diversity distributions and modes of speciation and extinction. In this presentation we will use data on microfossils to explore the temporal trajectories of geographic extents over the entire lifespan of marine nannoplankton, diatom, planktic foraminifer and radiolarian species. We show that geographic extents are not static over geological time-scales. Temporal trajectories of species geographic ranges are asym-

metric: the rise is quicker than the fall. We propose that once a species has overcome its initial difficulties in geographic establishment, it rises to its peak geographic extent. However, once this peak value is reached, it will also have a maximal number of species to interact with. The negative of these biotic interactions could then cause a gradual geographic decline. We will discuss the multiple implications of our findings with reference to macroecological and macroevolutionary studies.

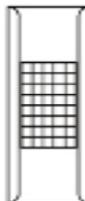


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- Picking trays 3 1/4 x 3 1/4 (97x84mm)
- 00 and 000 picking brushes in synthetic or sable

# Specialist Group News

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## **Foraminifera and Nannofossil Groups' Report**

Nicholas Owen & Katharina Stolz - TMS Grant-in-Aid recipients

### **Joint spring meeting "Bioindicators of past and present environments"**

The historic German town of Tübingen was the setting for the annual TMS Foraminifera and Nannofossil Groups Joint Spring Meeting, held from the 15th to 17th May 2008. More than 80 people were in attendance with most arriving on the 14th May and being treated to a splendid icebreaker in the Palaeontological Museum. It was good to see participants from several European and non-European countries present (particularly France, Spain, Germany, England, Czech Republic, The Netherlands, Poland, Belgium, Norway, Switzerland, Italy, Romania, Russia, Japan, Iran, India, Colombia, Israel, New Zealand, and, of course, Ireland), emphasising the growing international appeal of this conference. Those who were not tired from travelling enjoyed the nice weather in Tübingen, and continued the icebreaker with a visit to the famous Neckarmüller beer garden, with a delightful view of the river Neckar.

Following a warm welcome from **Michal Kucera**, the first session commenced with an invited talk by **Kai Schulz**. He introduced us to some aspects of coccolithophorid calcification which are dependent on changing CO<sub>2</sub> concentrations in the ocean. The remainder of this session focused on the potential applications of benthic foraminifera in palaeoenvironmental research. **Yvonne Milker** outlined a transfer-function based technique for reconstructing Holocene sea-level, with some interesting results. Personal highlights from this session included talks by **Stephan Margreth**, discussing the relationship between species of benthic foraminifera and active cold-water coral mounds and **Hidetaki Nomaki** talking about organic matter (particulate versus dissolved) uptake by benthic foraminifera using in-situ <sup>13</sup>C-labelling.

The lunch break was accompanied by the first poster session. You had to be quick to glance at all of the posters before all the other participants were doing the same. The high abundance of posters and people discussing them gave a good impression of how lively this meeting was.

Session two consisted of a series of talks discussing the development of proxies and their use in palaeoceanographic reconstructions. **Jeroen Groenveld** opened the session with an outline of a proposed salinity influence on planktonic foraminiferal trace elements, focusing on the Red Sea area. **Basak Kisakürek** provided us with a useful guide to calcium isotope fractionation in foraminifera; **Raphaël Morard** and **Ralph Auerhals** each gave very informative presentations on current efforts to understand pseudo-cryptic speciation in planktonic foraminifera and its potential impact on biogeochemical proxies. The session ended with a presentation by **Nick Owen**. Nick presented a preliminary outline of how assemblages of foraminifera on the Porcupine Bank have been affected by bottom-current activity, focusing on the effects of enhanced bottom-current activity during MIS 3.

This was followed by the conference dinner at the delightful Die Kelter restaurant. The relaxed atmosphere, as well as fantastic food and wines, enabled discussion of some of the interesting topics raised during the first day.

Session three was dedicated to coccolithophores. **Luc Beaufort** introduced us to the problem of calcification behaviour of coccolithophores in different carbonate chemistries in the ocean. Later in the session, the application of coccolithophores as palaeoceanographic proxies was presented in talks given by **K. Stolz**, **M. Saavedra-Pellitero**, **A. Mejia-Molina**, **C. Lupi** and **E. Ivanova**. Käthe's talk focused on the results of coccolith assemblage studies, as well as on the problems that can occur in the application of coccolith and fine fraction (<20µm) stable isotopes to palaeoenvironmental reconstructions from the subpolar North Atlantic during the Last Glacial. Mariem presented palaeotemperature reconstructions for the Last Glacial in the South Pacific, based on numerous assemblage studies and her own transfer-function technique.



Conference participants during the field trip to the Swabian Jurassic - Nagel quarry.

Alejandra introduced us to the study of coccolith assemblages off NW Africa. She reported interesting links between the occurrence of the lower photic zone taxon *Florisphaera profunda* and an enhanced dust supply during Heinrich-like events. Claudia pointed out some climate events that she studied in a Pleistocene section from the SW Pacific Ocean. Elena presented results of a combined study of coccolith and foraminiferal assemblages in order to reconstruct changes in bioproductivity in the Eastern Equatorial Pacific. **Montserrat Alonso-García** showed us the results of her foraminifera-based palaeotemperature reconstructions from the North Atlantic. She compared several reconstruction techniques, and also observed changes in the ecology of several foraminifera species from the mid-Pleistocene to the present day. The second poster session also received a lot of attention from the delegates, and special attention from the scientific committee, still on the look-out for the best poster.

Session four focused more on Cenozoic/Mesozoic research utilising calcareous microfossils. The session kicked-off with **Andre Bornemann's** talk regarding interpretations of stable isotope data from Cretaceous planktonic foraminifera, with some implications for the timing of the development of photosymbiosis involving dinoflagellates. **Peter Stassen** provided an interesting insight into inferred sea-level change at the PETM. **Chaim Benjamini** highlighted an engaging problem involving Lessepsian foraminifera in the Western Mediterranean, and **Cristina Casellato** outlined changes in nannofossil and calpionellid assemblages across the Tithonian-Berriasian Interval. The conference closed with the award of the inaugural poster prize to **Takashi Toyofuku** for *A new model of foraminiferal calcification pathways in shallow benthic foraminifera: miliolids vs hyaline species*. Toyofuku, T., de Nooijer Jan Lennart,

Nomaki, H., Oguri, K. and Kitazato, H. Institute for Research on Earth Evolution (IFREE), Japan Agency for Marine-Earth Science and Technology (JAMSTEC). The presentation was followed by an invitation from Prof. **Hans Thierstein** to attend next year's joint annual meeting in Zurich.

The field trip (led by our affable guide, Dr. **Michael W. Maisch**) took us on a journey through the Jurassic of Southern Germany. The highlight was undoubtedly a visit to the clay pit of Holcim (and the associated museum with a playground for geologists), but the road-cut of the Bundesstraße 27 also proved popular, once the rare plants were successfully negotiated and sufficient belemnites harvested.

As in previous years, the atmosphere and intimacy of this conference were particularly enjoyable. One of the main attractions of this meeting is the presentation of results from nannofossil as well as foraminiferal studies. This enables younger researchers to engage with other aspects of micro-palaeontology with which they are less familiar, which in turn generates discussion and improves the quality of their own scientific research. It is especially good that attendants of this meeting are not only senior academics, but also postgraduate students and people from industry, with everyone encouraged to present their research. Our warmest thanks go to the scientific committee (**Kate Darling, Karl-Heinz Baumann, Daniela Schmidt, and Tom Dunkley-Jones**) as well as to the organising committee (**Michal Kucera, Petra Heinz, Ralf Aurahs, Gabi Trommer, Michael Siccha, Lea Nummerger, Anne Schulze**, and many others), for ensuring that everything ran smoothly (they did an excellent job).

Zurich 2009 will have a hard act to follow.

# ***Palynology Group Report*** - Ian Harding & Duncan Mclean

## **Eighth International Conference on Modern and Fossil Dinoflagellates “DINO8” held in Montreal (Canada) May 4 to May 10, 2008**

Within the framework of the Eighth International Conference on Modern and Fossil Dinoflagellates “DINO8” organized by **Anne de Vernal** (GEOTOP-UQAM) and **André Rochon** (GEOTOP-ISMER), the faculty of science of UQAM hosted 120 scientists representing 27 countries: Germany, Saudi Arabia, Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Colombia, Korea, Ivory Coast, Denmark, Spain, United States of America, Finland, France, Italy, Japan, Morocco, Mexico, Norway, The Netherlands, The Philippines, Portugal, United Kingdom and Sweden.

This multidisciplinary conference takes place every 3 to 4 years and gathers biologists, chemists, petroleum geologists, palaeontologists, oceanographers and palaeoclimatologists whose work concerns dinoflagellates or their fossilisable cysts (dinocysts). Dinoflagellates are diversified unicellular eukaryotic organisms that

are developing in almost all aquatic areas. Since the last decades, dinoflagellates have undergone an increasing attention due to their role in generating toxic blooms (red tides). Moreover, dinocysts are often very abundant in marine sediments and constitute useful proxy for the reconstruction of changing Ocean.

The scientific program of DINO8 was established by a committee formed by **Susan Carty** (Heidelberg College, Ohio, USA), **Marianne Ellegaard** (University of Copenhagen, Denmark), **Martin J. Head** (Brock University, Canada), **Alexandra Kraberg** and **Jens Matthiessen** (Alfred Wegener Institute for Polar and Marine Research, Germany), **Jane Lewis** (University of Westminster, UK), **Fabienne Marret** (University of Liverpool, UK), **Edwige Masure** (Université Pierre et Marie Curie, France), **Marina Montresor** (Stazione zoologica di Napoli, Italy), **Vera Pospelova** (University of Victoria, Canada), **Taufik Radi** (GEOTOP-UQAM, Canada), **Suzanne Roy**, (ISMER-UQAR, Canada) and **Karin Zonneveld** (University of Bremen, Germany).



12 keynote talks, 45 oral presentations and 56 posters were presented within 9 sessions:

The first session concerned the polar dinoflagellates. It was dedicated to dinocysts as palaeoenvironmental tracers in the Arctic Ocean. Several research programs in the Arctic were presented, in particular, the "Arctic Coring EXpedition" project (ACEX) of the IODP, which has for objective to reconstruct the palaeoceanographical history during the Palaeogene and the Neogene in the Lomonosov Ridge. Besides, several presentations illustrated qualitative or quantitative reconstructions of sea surface temperature, salinity and sea ice cover during the Holocene based on dinocyst assemblages. Finally, a new species called *Protoperidinium canadiense* was described in the Canadian Arctic.

During the second session dealing with harmful dinoflagellates and their blooms, several presentations stated the toxicity of species such *Alexandrium fundyense*, *Alexandrium ostenfeldii* and *Karenia brevis* notably in the Bay of Maine, the Bay of Fundy, and the Florida and West Mexican coastal waters. Recent studies also demonstrated that micro-turbulences contribute to the modulation of the dynamics of the toxic blooms by favouring encystments. The session was closed by a public lecture "shady waters" given by **André Rochon** and concerning the toxic tides and their economic and environmental impacts.

The third session had for subject living dinoflagellates, their life cycle and the relationship cyst-theca. Presentations showed that the biological cycle of dinoflagellates is extremely complex, including various morphological and physiological stages as well as different forms of encystment, which involve both sexual and asexual reproductions. Interesting fact, it was demonstrated that, in anoxic sediments, some dinoflagellate cysts remain viable during periods as long as 100 years. The relation cyst-theca of some species such as *Islandinium minutum* and *Polykrikos kofoidii* was also discussed.

The fourth session concerned molecular, morphological and phylogenetic approaches to dinoflagellate ecology and palaeoecology. Among oral and poster presentations, data on the effect of dimethylsulphide produced by some dinoflagellates upon climate have been presented. Data on the molecular composition of the organic wall of dinocysts (dinospirine) and the use of some macromolecules, produced by dinoflagellates such as dinosterols as biomarkers in fossil records have been also presented.

The fifth session on the biostratigraphy and the palaeoecology of fossil dinoflagellates highlighted the contribution of dinocysts to the Neogene biostratigraphy of the North Atlantic Ocean, the Arctic Ocean, the Nordic seas, the Porcupine basin (Southwest of Ireland), the Bahamas Islands and the basin of Vienna (Austria). The biostratigraphy of the Cretaceous was approached from series of the West Greenland margins and southern margins of Australia, notably in reference to the interest for oil exploration.

The sixth session concerned the dinoflagellates of continental water bodies. The topics of communications and discussions included the taxonomy, the genetic diversity, the taphonomy and the palaeolimnological applications. The seventh session dealt with the feeding mechanisms and behaviours of dinoflagellates, which seem much more variable than expected. Indeed, the mixotrophy would occur much more frequently.

On the topic of the carbon budget, the eighth session was dedicated to dinoflagellates as tracers of the primary productivity, the upwelling intensity and the eutrophication of coastal waters. Examples of upwelling and productivity changes during the Holocene were presented from studies done in the Iberian sea, along the Californian margin and in the Gulf of St.-Lawrence, where the decrease of oxygen concentrations in the deep waters at the scale of the last decades seems related to water masses warming rather than eutrophication.

Finally, the ninth session concerned the use of dinocysts as palaeoceanographical proxies. Several examples were presented. Some of them treated recent variations in fjords; others showed changes during the Plio-Pleistocene and the Holocene in the Nordic seas, the Pacific Ocean, the Mediterranean Sea and the Black Sea. The use of a new proxy for the salinity based on the processes length of *Lingulodinium machaerophorum* was also discussed. The quantitative reconstructions of sea surface conditions using dinocyst assemblages and applying the method of the modern analogues suggest that the use of a hemispherical reference database rather than regional databases should provide better reconstructions.

Besides the presentation of recent works, five methodological workshops were organized.

The first workshop entitled “Quantitative treatments and palaeoceanographical reconstructions from dinocyst assemblages” was attended by 44 participants. This workshop, given by **Anne de Vernal**, **Taoufik Radi** and **Fabienne Marret** aimed to investigate various methodological approaches of transfer functions based on dinocyst assemblages. The workshop has an objective to introduce the software packages and reference dinocyst databases through training exercises using the software “R” (ref). The modern analogue techniques, revised analogue technique and the artificial neural network method have been explored by the participants. The exercises also permitted an assessment of the different methods for computing errors and the relevancy of data transformations.

The second workshop, entitled “Treatment of sediments for the analysis of the calcareous dinoflagellates” was given by **Marion Kohn** and **Sonja Heinrich**. 20 participants attended a summary training on the techniques of laboratory preparations of sediments for the observation of the calcareous shells of some dinoflagellates, which can be used for isotopic measurements.

The third workshop “Taxonomy of Quaternary and Neogene dinocysts” was organized by **Martin Head** and **Jane Lewis**. 56 participants met for microscopy observation of “tricky” dinocyst specimens. The workshop allowed “taxonomic” discussions concerning several taxa including the species belonging to the genera *Bitectatodinium*, *Echinidinium*, *Impagidinium*, *Islandinium*, *Polykrikos*, *Spiniferites* and *Stelladinium*.

The dinoflagellate databases on the Web were the subject of the fourth workshop. **Alexandra Kraberg** presented to 25 participants the databases available on the Web (e.g. <http://www.planktonnet.eu/en/home/>; <http://www.dinophyta.org/>). These databases include illustrations and descriptions of dinoflagellate thecaes and cysts.

Finally, the fifth workshop on the culture of dinoflagellates was organized by **André Rochon** and **Jane Lewis**. The various stages for the “fruitful” culture of dinoflagellates were explained by the organizers followed by a discussion among the 44 participants about different methods used in different laboratories.

The DINO8 conference ended by the distribution of awards and bursaries for students. The awards were provided by the Faculty of Science of UQAM, the GEOTOP, ISMER, the University of Victoria, the American Association for Stratigraphic Palynologists (AASP) and the Natural Science and Engineering Research Council of Canada (NSERC). Finally, the medal DINO8 was awarded to **Rex Harland** to underline its contribution to the study of the Quaternary dinocysts.

Before closing the conference, **Fabienne Marret** from the University of Liverpool and **Jane Lewis** from the University of Westminster in London suggested organizing the next international conference on modern and fossil dinoflagellates. The meeting, DINO9, will be held in Liverpool in 2011!

The DINO8 Organising Committee

# **Ostracod Group Report** - Giles Miller & John E. Whittaker

## **Ostracod Group weekend Field Meeting Flatford Mill, Suffolk 25th-27th April 2008**

Little did William Lott, gentleman farmer, think that nearly 200 years later members of the TMS Ostracod Group would actually be staying in his cottage during their Spring Field Meeting at nearby Flatford Mill. Of course Willy Lott's Cottage is famed for John Constable's painting *The Hay Wain*, as are many locales along Dedham Vale as sites of his other notable works. Now in the hands of the Field Studies Council, Flatford Mill provided us with an admirable venue for our scientific endeavours. That weekend 13 of us (specialists and students) shared the excellent facilities with the Acrylic Painters Group and members of the Otters and Other Aquatic Mammals Society. We were given an upstairs laboratory to ourselves, generously equipped with microscopes and everything we needed to collect, process and observe. We even had tea or coffee and an endless supply of scones and biscuits always on hand!

The purpose of the meeting was... "to give students, postgraduates and other interested parties an introduction to the collection study of living ostracods" -: collecting in the field, and observation and identification in the laboratory. So amongst the "students" we had **Soumaya Belmecheri** (Paris), **Lynda Howard** (a coleopterist from Loughborough), **Stephen Poropat** (from Monash, Australia, over here to get some basic instruction from **Dave Horne** before commencing his Ph.D.), and **Carys Bennett** (Leicester) and **Giles Miller**, Ostracod Group Chairman, no less, both forsaking the (known) Palaeozoic for the (unknown) Recent. At one stage, even one of the Acrylic painters tried to jump ship and join us, such was the ca-

maraderie! Field collecting took place at several freshwater and brackish localities on the Stour on the Saturday and Sunday, ably marshalled by **Dave Horne** and **Ian Boomer**, and over the weekend we built up a quite impressive list of finds, including two interesting candonids, one a possible small and rare species, and the other a bright red species whose ID awaits more detailed study. Slightly more experienced ostracodologists from both sides of the Atlantic (it was particularly nice to welcome **Alison Smith** from the USA in this regard) were on hand to offer guidance, an opinion, a "talking-shop" or just enthusiasm...whilst several copies of **Claude Meisch's** freshwater "bible" were on hand and much used by the puzzled.

**Alan Lord**, whose country seat lies nearby ("English House", Manningtree), invited us all back for convivialities on the Saturday night, and Alan himself (a pillar of the local community) drove us there and back in the Manningtree Community Bus! **Minoo Lord** did us proud with a superb buffet and yet more ambience and we were also able to welcome the Siveters who had just driven down from Leicester.

I cannot recommend the Flatford Mill Field Centre enough for any future scientific meeting, not only do they have laboratory facilities suitable for parties of 20-25, but they have a well-equipped conference centre and library (contact: enquiries\_fm@field-studies-council.org). The people were also most accommodating and the food first class. Come Sunday afternoon, it was somewhat sadly that we had to leave, and journey back into the real world. Our thanks are due Ian Boomer and Alan Lord for all their hard work in organising and leading the trip - John E. Whittaker

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The next meeting of the TMS Ostracod Group will be a one-day "talks" meeting at the NHM on Friday, 26th September. Offers of talks will be gratefully received. **Giles Miller** (cgm@nhm.ac.uk) will be local secretary. The Spring Field Meeting will be on Skye, at a date to be announced. We aim to look at the Jurassic (Lias and Bathonian) with **Alan Lord** and **Matt Wakefield** and the Recent (with **Dave Horne**). It is hoped to visit one or more whisky distilleries.

## ***Microvertebrate Group Report*** - Rob Raine

Please contact **Howard Armstrong** or **Rob Raine** with suggestions for the December trip of the Microvertebrate Group. This years Pal-Ass annual meeting is in Glasgow and so there are many good sites in southern Scotland which would make an ideal itinerary for a field trip. It is proposed that the trip runs for the two days prior to the meeting. Please feel free to let us know

if you are interested in attending so that we can obtain an idea of how many people wish to attend. We will then let interested parties know the sites that we plan to visit. Sites in the Southern Uplands were particularly of interest when visited on the ICOS 2006 field trip and many bedding plane conodont elements were found, so this trip promises to be worthwhile.

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## ***TMS Student Award List 2008***

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 announces the establishment of TMS Student Awards.

Each award consists of 1 year free membership in 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, eligibility for awards and grants-in-aid.

The awards are given annually by tutors of micropalaeontology courses. Only one award per year per institution may be given. Nominating tutors must be members of TMS and they must send a brief description of the course 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 merito-

rious 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.

The following 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)

## **TMS FOUNDATION**

The Micropalaeontological Society Foundation is a sponsorship scheme to help support the *Journal of Micropalaeontology*. The Foundation is made up of members, non-members and institutions who wish to support the science of micropalaeontology via the production of the Journal. Any level of subscription is welcome. A minimum annual donation of £25 is suggested; donors of £25 or more will be acknowledged in the *Journal* and in the *Newsletter*.

Subscription is welcome at any time. Please send donations to:

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### **TMS Foundation - Brady Medal**

Support received towards the commissioning of the Brady Medal is gratefully acknowledged from the following:

Alan Lord, David Siveter, John Whittaker, Michal Kucera.

Others who wish to add to Brady Medal funds are welcome to do so.

## **TMS Advertising Rates**

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Full page, 1 issue £100

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### *Journal of Micropalaeontology*

Full page, 1 issue £190

Full page, 2 issues £280

Half page, 1 issue £90

Half page, 2 issues £160

# Conference Announcements

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## **12th International Nannoplankton Association Meeting**

Lyon 7th - 10th September 2008

<https://ina2008.univ-lyon1.fr/index.html>

Time has run so fast since our last International Nannoplankton Association Meeting in the United States, and it is time now to announce the 12th conference! The next biannual meeting of the INA will be held for the first time in France.

A program of oral and poster presentations, and subject-specific workshops will be held at the campus La Doua, University of Lyon 1 and at the laboratory UMR 5125 PEPS (PaleoEnvironments and PaleobioSphere).

For those of you that have never attended an INA conference, this meeting represents a unique opportunity to be informed about recent advances in living and fossil coccolithophore studies. Specific topics will present new insights into coccolithophores' biology (genomic, physiology, ecology), (paleo)oceanography, and contribution to pelagic sediments. Beside diverse receptions, a special conference dinner will be organized in a traditional Lyon restaurant, with a selected tasting of French gastronomy and wines.

The conference field trip will visit sections located in the famous Vocontian basin where marl-limestone alternations spectacularly crop out from the lowermost Jurassic to the Upper Cretaceous. The unconformable transition to the 'Nummulitic Sea' deposits will be also visited. On the way to the south-east of France, a stop will be devoted to the topic 'Geology and Wine' thanks to a visit to the Côtes du Rhône vineyards.

The abstracts of the conference will be published in the *Journal of Nannoplankton Research* and the proceedings in *Geobios*, the international Palaeontological Journal of the University of Lyon (Elsevier publications).

If you have any question or need more detail about the conference organization please contact us. Hope to see you next year in Lyon!

**Emanuela Mattioli** - [emanuela.mattioli@univ-lyon1.fr](mailto:emanuela.mattioli@univ-lyon1.fr) and

**Fabienne Giraud** - [fabienne.giraud@univ-lyon1.fr](mailto:fabienne.giraud@univ-lyon1.fr)

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## The 5th International Symposium on Extant and Fossil Charophytes University of Rostock, Germany, 23rd-26th September 2008

### **Themes of the symposium**

1. Phylogeny of charophytes: relationship with other Algae and plants.
2. Evolution of charophytes.
3. Systematics of modern taxa.
4. Charophytes and the restoration of waterbodies: conservation and management.
5. Molecular studies.
6. Ecology of modern taxa.
7. Biogeographical studies.
8. Charophytes and physiology.
9. Fossil charophytes: systematics, extinction, and biostratigraphy.

10. Palaeolimnology: use of extant taxa as modern analogues for palaeoenvironmental reconstruction

11. Quaternary studies: charophytes and climate change.

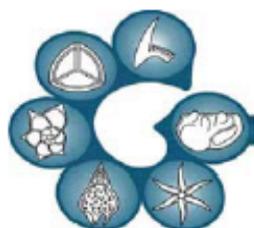
12. Geochemistry using charophytes.

### **Hendrik Schubert**

email: [hendrik.schubert@uni-rostock.de](mailto:hendrik.schubert@uni-rostock.de)  
Institute of Biosciences, University of Rostock  
Einsteinstrasse 3  
D-18051 Rostock  
Germany

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# TMS

(founded 1970)



The Micropalaeontological Society

TMS is the world's leading micropalaeontological society. We organize specialist meetings through the year on aspects of research into foraminifera, palynology, ostracods, silicofossils, nannofossils & microvertebrates.



The society holds its AGM in the Autumn of each year with 6 invited speakers on themes such as climate change.



We publish the *Journal of Micropalaeontology* (two parts a year), whose remit includes palaeobiology, palaeoenvironments, evolution, taxonomy & biostratigraphy.



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# TMS Membership application/renewal form

Membership is open to individuals as student, ordinary, or retired members (for libraries please contact the society) **subscriptions are due 1<sup>st</sup> January**

## Rates for 2008 are:

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**Individual Membership** - £35 per annum

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I would like to become a member of The Micropalaeontological Society in the category of: Student  Ordinary  Retired

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In addition to normal membership, I would also like to become a TMS foundation member (suggested additional donation £25)

I would be interested in receiving details of the following specialist groups

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I enclose cheque/money order/banker's draft for the sum of.....

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Signed ..... Date.....

Student's supervisor.....

Supervisor's institute.....

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# **GSA Joint Annual Meeting**

## Houston, Texas, 5th-9th October 2008

Field and Quantitative Paleontology, Micropaleontology, and Taxonomy:  
A Memorial to Roger L. Kaesler

Paleontological Society; Society for Sedimentary Geology (SEPM); Gulf Coast Association of Geological Societies - Topical Session chaired by **Julie B. Retrum & Stephen T. Hasiotis**

This session is in honor of Roger Kaesler, an innovative micropaleontologist and former editor of the *Treatise on Invertebrate Paleontology*. This session is open to all aspects of micropaleontology, invertebrate quantitative paleontology, and taxonomy that were inspired by Kaesler's innovations in these fields and the *Treatise on Invertebrate Paleontology*. Topics may also include geochemistry, ichnology, paleoecology, paleoclimate reconstructions, phylogeny, macroevolution, and heterochrony.

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## **11th International Paleolimnology Symposium**

23rd - 26th June 2009

Guadalajara, Jalisco, Mexico



We would like to encourage the scientific community to submit presentations related with every field of paleolimnology. We are aiming to achieve a wide representation of disciplines and an ample geographical cover. We consider Guadalajara an ideal location for this meeting as it lies in a region of major volcanic and tectonic complexity which has given origin to several of the main lacustrine basins in Mexico.

The organizing committee of the is now calling for the proposal of special sessions. The deadline for submitting a special session proposal will be the 1st of October 2008. The number of special sessions will be limited by the availability of space during the meeting; therefore we suggest sending your proposal as early as possible. For submission, please send an e-mail to [maga@geofisica.unam.mx](mailto:maga@geofisica.unam.mx) with a brief description (one paragraph or so) of the theme of the session you intend to organize, including name(s) and contact details of the convener(s). If two or more special sessions are proposed on very similar subjects you might be asked to combine the sessions.

We are also pleased to announce that the symposium's web page is now active at:  
<http://www.geofisica.unam.mx/paleolimnologia/>

The Organizing Committee:

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# ***Geologic Problem Solving With Microfossils II*** ***University Of Houston 15th-18th March 2009***

Final Abstracts due October 1, 2008

The North American Micropaleontology Section (NAMS) of SEPM invites you to attend the 2nd international conference on Geologic Problem Solving with Microfossils, "Microfossils II".

"Microfossils II" is intended to bring together a diverse range of geoscientists to showcase the problem-solving power of microfossils across a broad variety of geologic settings. The planning committee is dedicated to developing a strong program and stimulating the "cross-fertilization" of ideas that result when a diverse group of scientists gather in a common venue.

The first conference on Geologic Problem Solving with Microfossils, held at Rice University in March, 2005, was a major success. More than 150 participants from dozens of countries attended, and the high-quality program has resulted in a special publication to be published by the Society for Sedimentary Geology (SEPM) that is currently in final editing stages.

For "Microfossils II", we are seeking high-quality oral and poster presentations in which microfossils are integrated with related geologic data and contribute to solving significant geologic problems. Presentations that demonstrate new techniques or novel applications are encouraged, and studies of all geologic ages and geographic areas will be considered. Tentative session themes for the conference include:

- Microfossils and Problems in Eustasy and Tectonics
- Biostratigraphy and its Role in Sequence Stratigraphy
- Paleooceanography, Paleoecology, and Paleoclimatology
- Biochronologic Correlation
- Micropaleontologic Applications to Reservoirs and Drilling
- Micropaleontology Tools and Techniques
- Ecologic Analogs
- Environmental Analysis
- Roundtable Discussions of one or more topics based on participant interest

We encourage potential participants to solicit abstracts from colleagues to develop theme sessions of interest to you.

## FORMAT FOR ABSTRACT SUBMISSIONS:

1) Please submit 250-word abstracts (SEPM format) on above or related themes by October 1, 2008 to SEPM (online submission to become available). NO ILLUSTRATIONS, PLEASE.

2) Abstracts should be informative and present the main conclusions of the study. We ask that authors please avoid vague phrases such as "data will be presented", etc.

3) The official language of the conference is English, but the organizing committee hopes for strong international participation. If you are not a native English speaker, it would be most beneficial to have your abstract proof-read and corrected by someone fluent in English before submission.

4) Presentation Format: Please indicate preference for poster, oral, or both. However, the Technical Program Co-Chairs will make the final decision as to presentation format.

Authors should submit a preliminary presentation title to the Technical Program Chairs at [daddy@udel.edu](mailto:daddy@udel.edu) OR [ppmclau@udel.edu](mailto:ppmclau@udel.edu)

Submit full abstracts online to the SEPM website ([www.sepm.org](http://www.sepm.org)) by October 1, 2008.

# TMS Grant-in-Aid recipients' reports

## ***Chitinozoan palaeoecological dynamics during end-Ordovician climate change*** Tom Challands, Durham University, UK

Chitinozoans are microfossils of unknown biological affinity and little is known about their palaeoecology. They are relatively large and abundant in a wide variety of Ordovician marine environments and commonly occur in graptolite-rich sediments but also persist where graptolites are absent. Since their formal naming and description by the German palynologist Alfred Eisenack in 1931, their potential for biostratigraphical purposes has been realized and biozone schemes have been erected for nearly all of the major palaeocontinents from the Ordovician to the Devonian. The most recent scheme, and one that is still being revised, is for Avalonia (Vandenbroucke & Vanmeirhaeghe 2007).

Despite their wide application, the palaeoecology of these organisms remains enigmatic and we cannot be certain of the robustness of these biostratigraphical schemes. For instance, the occurrence and distribution of marine organisms is controlled in modern oceans by numerous biotic and abiotic processes that are intricately interlinked and we have no reason to assume such processes behaved any differently in the Palaeozoic. Unfortunately for biostratigraphy, organisms are strongly controlled by facies distribution which is directly governed by climate, so we can expect even the best biozonation scheme to break down in some part of the world at some point in time. The opportunity exists in Wales to investigate the pattern of ecological replacement in Chitinozoa in a well-constrained environmental context and also to contribute to the existing Avalonian chitinozoan biozonation scheme.

The aims of this study were:

- 1) To contribute to the ongoing development of an Avalonian chitinozoan biozonation from new Upper Katian (Ashgill) data from central-southern Wales.
- 2) To test hypotheses of ecological structure and facies control on chitinozoan distribution. These hypotheses are:
  - Chitinozoa are constrained ecologically by water

column stratification in the Welsh Basin during the Ashgill. This has been demonstrated for graptolites in the Caradoc and Hirnatian (Williams et al. 2003; Finney et al. 2007)

- Chitinozoa biozones can be facies controlled and diachronous.

The Welsh Basin not only provides a nearly complete section through the Upper Katian (Ashgill) but one where the mechanisms for change in basin hydrodynamics are well understood. Four repeated dysoxic-anoxic organic-rich events punctuate a background of burrow-mottled oxic-dysoxic grey shales (Fig. 1). These events occurred during short periods of invigorated upwelling, increased organic matter productivity and expansion of the oxygen minimum zone and preclude diachroneity of this facies throughout the basin.



Fig. 1. Contact between organic-poor grey shales and organic-rich black shales (Locality: Traeth Penbryn, Penbryn, Ceredigion).

Data were collected over two field seasons from sections representing a basin to shelf transect between the coast north of Cardigan, Ceredigion (basin facies) and further inland in the type Llandovery region, Powys (shelf-break to shelf facies). A Grant-in-Aid award from The Micropalaeontological Society allowed me to spend one week visiting the University of Ghent Palaeontology Research Unit in January of 2007 to view holotype chitinozoan material for comparison and to aid identification of the Upper Katian Chitinozoa I had collected. The resources for chitinozoan research at the University of Ghent are second to none and the extensive library they hold on nearly every chitinozoan paper ever published along with their vast catalogue of taxa listing synonymies is an extremely valuable archive.

I was specifically interested in viewing holotype material for two taxa that give their names to Avalonian chitinozoan Biozones, *Spinachitina fossensis* Vanmeirhaeghe, 2004 and *Bursachitina umbilicata* Vandenbroucke, 2005. Also during my visit, it proved invaluable for me to view specimens of taxa associated with each of these newly-defined zones and to gain an impression of the range of preservation, particularly for index taxa.

My data-set comprises a total of fifty-three taxa from a yield of 1414 chitinozoans recovered from 64 samples. One new taxon has been recognised and is currently being described. The preservation of chitinozoans varies from poor, crushed and broken specimens typically found in grey shales to slightly worn 3-dimensional vesicles maintaining diagnostic features.

Results show a good concordance with the developing Avalonian chitinozoan biozonation scheme of Vandenbroucke & Vanmeirhaeghe (2007). The Baltoscandian-Avalonian *Tanuchitina bergstroemi* Biozone is present and the endemic Avalonian index taxon *Spinachitina fossensis* (Fig. 2) was recorded for the first time from Wales allowing confident correlation between basin and shelf-break sections. Further to this, the overlying index taxon *Bursachitina umbilicata* was also recorded from basin deposits

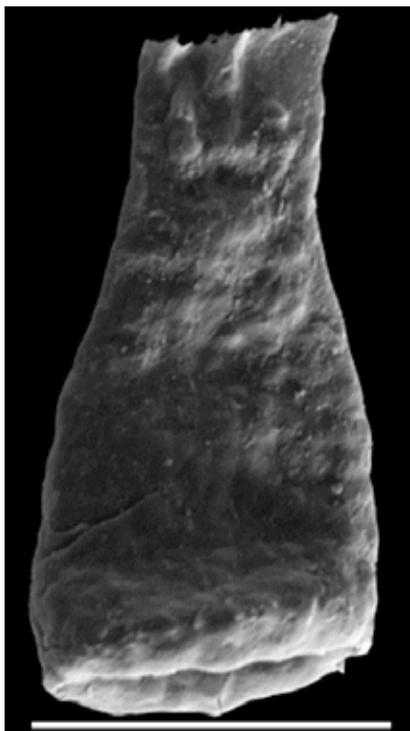


Fig. 2 *Spinachitina fossensis* Vanmeirhaeghe and Verniers, 2004 from the anoxic organic-rich facies of the Nantmel Mudstones Formation, Traeth Penbryn, Ceredigion, Wales. This eponymous index taxon is diachronous between the basin and shelf-break sections of the Welsh Basin (scale bar = 72  $\mu\text{m}$ ).

but uniquely, it seems associated with periods of organic-rich deposition.

For chitinozoan palaeoecology, I considered the approaches of Williams et al. (2003) and more recently Finney et al., (2007) who recognised that glacioeustatic controls induced changes in basin hydrography which displaced graptolite biotopes allowing remaining graptolite taxa to flourish. From this study, I have now been able to apply a similar model to chitinozoan assemblages in the Welsh Basin and recognize that facies dependent depth stratification of Chitinozoa was primarily controlled by water column oxygenation as well as glacioeustatic sea-level. The results suggest that Chitinozoa are planktonic forms, like graptoloids, and can be used as powerful tools for investigating oceanographic

dynamics in open water and restricted settings. Further detailed results from this study of the responses of chitinozoan assemblages to hydrographic processes were presented at the 2007 Palaeontological Association Annual meeting in Uppsala last December.

## Acknowledgments

I am grateful to The Micropalaeontological Society for awarding me a Grant-in-Aid Award allowing me to visit Ghent University helping me complete this work. I would also like to acknowledge the kind hospitality of **Jacques Vernier** and **Jan Vanmeirhaeghe** of the Palaeontological Research Unit at the University of Ghent during my visit and especially **Thijs Vandembroucke** for accommodation and for showing me the sights and sounds of Ghent.

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## **Flatford Mill Field Centre - TMS Ostracod Group Spring meeting** - Dinah Smith, University of Leicester

My research at the University of Leicester is centred on understanding the mechanics of the sedimentary fill of the Holocene silts and sands in the roddons found in the Fens of East Anglia. The roddons are fossilized tidal creeks which started to form after the last ice age, between about 6000 and 2000BP with at least two main generations. These are seen on aerial photographs and were also mapped by the British Geological Survey in the late 1970s.

As well as deciphering the sedimentology of the roddons, I am also investigating the microfossils which appear plentiful in some sections of the sampled silts/sands. These microfossil samples are the product of hand augering - samples tak-

en every 10cm down a roddon. The host clays which broadly represent a saltmarsh palaeoenvironment are also being processed. It is hoped that at a later date we may be able to find out more about the provenance of the sediments.

The TMS Grant-in-Aid allowed me to attend the Ostracod Group Flatford Mill Field Centre meeting where I was able to gain expert advice on the sediments and the microfossils which consist of foraminifera, ostracods, echinoid spines and some reworked Cretaceous forams. **John Whittaker** cast his expert eye over the samples I had brought along and helped with taxonomic identification. He was also able to identify the habitat and palaeoenvironment which the mi-

crofossils favoured, making suggestions as to why there could be reworked Cretaceous fauna in the sediments. He also pointed out that the roddon systems may have been influenced at that time by tidal currents and sediment supply around Doggerland in the southern North Sea – and this needs investigating further.

I was able to observe methods for collecting samples from river sediments in the Flatford area (demonstrated by **Ian Boomer**) and the subsequent processing for eventual microscope viewing. It was the intertidal samples from the River Stour which proved interesting for me as they comprise several species of ostracods and foraminifera which I am finding in the roddons as fossils, and also in like quantities i.e. many more foraminifera than ostracods.



The Ostracod Group at Flatford Mill

After farewells on Sunday, I took the opportunity to visit the River Blackwater creek system at Tollesbury, Essex which on aerial photographs show very distinctive dendritic channels. This rounded off a very happy and memorable weekend with much to remember and assimilate. My thanks go to the organizers for a very successful field meeting.

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## ***Palaeocene-Eocene shallow marine larger foraminifera of the Indus Basin, Pakistan*** Jawad Afzal <ja136@le.ac.uk>

The Paleocene-Eocene interval was a time of major changes on Planet Earth, both with global climate (PETM) and regional tectonics (e.g. collision of Asia and India). Microfossil extinctions and diversifications are well documented in pelagic and open-marine ecosystems for this time interval. In comparison, the response of shallow marine ecosystems to these changes is less well documented, particularly in the eastern Tethys region exemplified by the Indus Basin, northern Pakistan. The Early Tertiary stratigraphy of the Indus Basin provides critical evidence to investigate the response of shallow marine ecosystems to these global and regional changes. The best exposures of marine strata in this region are in the Kohat area, Salt Range and Sulaiman Range, where the rocks are mainly limestones

with subordinate shales. These rocks preserve a range of shallow marine larger benthic foraminifera.

The Micropalaeontological Society provided a Grant-in-Aid to support my field activities during 2007. This enabled me to collect carbonate and mudstone rock samples and measure four stratigraphic sections from the Kotal Pass, Tarkhobi and Panoba sections of the Kohat Basin; and the Nammal Section in the Salt Range. All of these sections are within the Upper Indus Basin and comprise an important component of my PhD project area. My sampling strategy includes collection of foraminifera for palaeoecological and biostratigraphical analyses, and carbonates for microfacies analysis and

geochemistry. The improved stratigraphic resolution determined by my work will enable me to decouple local from global effects on sea-level, leading to a fuller understanding of the evolution of shallow marine ecosystems in this region during the Paleocene and Eocene.

Since returning from Pakistan I have made about 100 polished thin sections of my samples and have studied the foraminifera using quantitative and qualitative methods. Preliminary results constrain the timing of carbonate platform evolution and the first expansion of larger benthic foraminifera into the basin. Biostratigraphic data from the larger benthic foraminifera have proved extremely useful for resolving local stratigraphic problems. More exciting results are expected from these and newly collected sections in the near future as the geochemical data are integrated with those of foraminiferal palaeoecology and carbonate microfacies analysis.



Jawad hunting microfossils in the Palaeocene strata of the Kotal Pass section of Kohat, Pakistan

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## ***TMS Foraminifera and Nannofossil Groups Joint Spring Meeting 2008 15th - 17th May 2008 Tuebingen, Germany***

Lea Numberger

At the first meeting of the organising committee the motto “Bioindicators of past and present environments” was quickly chosen for its meaning in our scientific work. The organising committee was composed of several members of the working group: **Michal Kucera, Petra Heinz, Ralf Aurahs, Gabi Trommer, Michael Siccha, Anne Ulmer** and myself, **Lea Numberger**.

At this first meeting, set half a year before the meeting, everyone was assigned their duties; in my case it was contributing to the packing of the conference bags, inviting plenary speakers and helping with the decoration.

We also decided that everyone should think of funding possibilities, like advertisements of companies or related ideas. Finally we ended up being sponsored by *Leica* and *Hydrobios*, which we really thank for their engagement.

Another point was finding a convenient location for the meeting: not too far away from the hotels and the city centre and with enough space for about 120 people and 60 posters.

This turned out to be a special challenge considering the current refurbishment of the whole geosciences institute. In the end we got permission to use the Lothar-Meyer-Bau building and lecture hall.

I learned how many things are needed for a successful meeting like the composition of the website (tough work, Siccha), correspondence with delegates and formatting of the abstracts, the layout of posters, circulars and name badges (thanks to Gabi and Ralf doing a good job), arrangement of the conference dinner (menu, location) and the ice-breaker party, organisation of the field trip (route, bus, program), preparation of the conference hall and poster walls, finding helpers for installations and the washing up, and last but not least the important coffee-breaks (how many cookies? should we buy fruit juice or not?).

Many meetings later, the first, second and third circulars were sent, speakers were confirmed,

the program was set and the bags were packed; the great evening was there.

Gabi and I organised the registration desk and welcomed the first participants, with a cold drink in our hand after an exhausting day, having to care about the always forgotten last things. Lots of old friends, good colleagues and new faces entered the nicely decorated museum, getting their badges and bags and enjoying beer and pretzels.

This was my fourth TMS spring meeting and I was really happy to meet all those people again. While the guests seemed to have a really good time, we realised that almost all 111 participants on our list were attending the opening party; we counted that as a huge success.

Early the next morning, we opened the registration desk again, welcoming the arriving attendants with a bright smile. Last registrations were done and the posters were pinned up. Now we started to calm down a bit, everything seemed to work and we settled down in the lecture hall to enjoy the program.

The scientific presentations began on Thursday morning, with Kai Schulz on the topic of coccolithophorid calcification in a high-CO<sub>2</sub> ocean. In the afternoon session, **Jeroen Groeneveld**

spoke about the salinity influence on planktonic foraminiferal Mg/Ca ratio: A case study from the Red Sea. Next morning **Luc Beaufort** gave us a great overview of the effect of ocean carbonate chemistry on Isochrysidales (Coccolithophore) calcification and in each session many more interesting presentations.

That evening, the conference dinner took place, and the pub “*Die Kelter*” regaled us with an Italian buffet and extraordinary wine. On the last day, we went on our field trip: “The Jurassic of the Swabian Alb”, visiting paleontologically meaningful locations in southern Germany under the guidance of **Michael Maisch** from the Paleontological department. Many of us carried bags full of Jurassic fossils home.

I presented a poster with my recent results about how the existence of *G. ruber* (white) morphotypes influences stable isotopic measurements to reconstruct past SST temperatures. I had fruitful discussions in between my duties of the host committee. Because of my role as an organising member I talked to nearly all participants and got to know new people and thus potential co-workers for the future or potential employers. I think co-organising such a meeting was a great experience, and the development of my future work will greatly benefit from it.



Tankers regularly deliver ammonite-laden sediments to Hocim Quarry

# Conference Reports

## **Lyell Meeting - 20th February 2008 - The Geological Society, Burlington House** Daniela Schmidt

This year's Lyell Meeting *Marine Climate Change – past and future* aimed to bring together researchers who do not usually talk with each other: micropalaeontologists reconstructing the past and people predicting the future of climate change. The meeting was organised by **Daniela Schmidt** and **Sarah Cornell**, University of Bristol, and **Jennifer Pike**, Cardiff University. It was well attended by 130 people with a large number of PhD students and young researchers.

The talks covered five major science themes: ocean acidification represented by **Carol Turley** (PML) and **Sam Gibbs** (NOCS); ocean temperature by **Carol Robinson** (UEA) and **Carrie Lear** (Cardiff); sea-level change by **Mikis Tsimplis** (NOCS) and **Robin Edwards** (Trinity Dublin); climate active gases by **Jeremy Young** (NHM) and **Peter Liss** (UEA); and sea-ice by **Xavier Crosta** (Bordeaux) and **Seymour Laxon** (UCL). The meeting ended with a talk on the past, present and future of policy by **David Cope** (Parliamentary Office for Science and Technology). Unfortunately, a talk by **Claus Otto** (Shell) on carbon capture and storage was cancelled due to lack of flights leaving Schiphol Airport, Amsterdam, due to fog.

**Carol Turley** started the day with an overview on ocean acidification: vulnerabilities for the future. Carol emphasised the high uncertainty of our knowledge of ecosystem changes due to ocean acidification in marginal sea, shelf areas and upwelling systems. The Arctic Ocean will be especially strongly affected, with the water projected to become undersaturated with respect to aragonite in 2040 and calcite by 2070. She highlighted the need for further research on all life stages of organisms since different developmental stages might have different sensitivities to ocean acidification. Turning to the

past, **Samantha Gibbs** outlined the insights we can obtain from records of ocean acidification and then explored the contradictions between laboratory results and the geological record of coccolithophore calcification. She drew attention to our lack of knowledge in regard to adaptation and microevolution.

**Carrie Lear** gave an overview of palaeo-temperature reconstructions from magnesium/calcium ratios in foraminifera, alkenones produced by coccolithophores and the new TEX86 palaeothermometry technique based on Crenarcheota. She demonstrated how these proxies can be applied to improve our understanding of the sequence of events at the Eocene Oligocene boundary, from sea-level changes via carbonate compensation depth to temperature, by combining the proxies. **Carol Robinson** continued on records of present and predictions of future changes in ocean temperature. She showed examples of changes in stratification of the ocean surface and its effect on primary productivity, and the effect of temperature changes on the oxygen content of the ocean and hence respiration of organisms. The talk covered changes in upwelling in the California Current, the change in sea-ice in high latitudes and the frequency of hurricanes and their effects on ecosystems from physiology and distribution to phenology. She set priorities for future research with regards to resilience of organisms to climate change, potential for adaptation and its effect on ocean chemistry and biogeochemical cycles.

**Robin Edwards** showed examples of reconstructions of Holocene sea-level change (with great pictures of micropalaeontological field-work!). In his presentation he combined evidence from a wide range of microfossils such as pollen, diatoms, foraminifera and testate amoebae. **Michael Tsimplis** linked global,

regional and local sea-level change, and described how the lack of long term records of past changes is a major constraint in forecasting future changes. He also emphasised the differences between recent sea-level rise due to warming compared to changes observed in the earlier part of the 20th century. Both of these presentations highlighted the need for more regional and local records and predictions of sea level change in vulnerable areas of the world, as opposed to using large-scale, global average sea-level predictions.

**Peter Liss** presented an overview of the effects of climate change on the production of climate active gases ranging from increased wind speed, to changes in the mixed layer depth or solar radiation due to changes in cloud cover. He predicted that ocean acidification will decrease the production of dimethyl sulphide (DMS) by phytoplankton and that this trend will be reinforced by predicted increases in mixed layer depth and stratification. His talk was followed by a joint presentation by **Jeremy Young**, Dan Franklin and **Gill Malin** on past records of DMS producers. Jeremy summarised the results of culture experiments on DMS and DMSP production, talked about biological function and provided an ecological framework for the different phytoplankton groups. This was followed by a discussion on glacial-interglacial changes in DMS production highlighting our lack of understanding of short-term changes. He finished the talk with a geological perspective on DMS production driven by the evolutionary rise of the diatoms and decline of coccolithophores.

**Seymour Laxon's** presentation showed the dramatic changes in sea-ice in the Arctic. He highlighted the effect of sea-ice changes on the Earth's albedo, resulting in an important contribution to future temperature changes. Seymour explained the technical improvements in sea-ice thickness measurements which are the basis for extrapolation of sea-ice changes into the future. Current data suggest that there will be no summer sea-ice in the Arctic from 2030 onwards. His data, showing the dramatic

2007 sea-ice low, was the most iconic graph of the meeting. **Xavier Crosta** then provided an overview of reconstructions of past sea-ice cover as a way to overcome the problem of our short instrumental records of sea-ice distributions. He showed a series of regional and time resolved reconstructions of Antarctic sea-ice covering the last 200,000 years, with an emphasis on high frequency changes in the Holocene. These show regular changes suggesting that increases in solar energy increase the frequency of storms and increase temperature which in turn leads to ice break-up.

The final talk of the meeting, and an appropriately thought-provoking one, was presented by **David Cope**. His "rule of thumb" is that interest in future changes lie in the timeframe of two generations, often articulated as "saving the planet for our children and their children". Projections of climate change far into the future will get little policy response unless the impacts are brought into this human-scale timeframe. He discussed current concerns about rapid climate change, and the urgent need to think about adaptation to committed climate change, for example using geo-engineering solutions such as carbon capture and storage for climate management. Unfortunately, **Claus Otto's** planned talk was cancelled; Claus was due to discuss carbon sequestration into deep saline aquifers, depleted oil and gas fields and into producing oil reservoirs. We would have loved to hear his views, especially on storage of CO<sub>2</sub> in the deep ocean and fixing of CO<sub>2</sub> by chemical mineralization, however, the European weather defeated us!

In short, the meeting was a great success with modellers and micropalaeontologists discussing the future climate over a glass of wine and nibbles at the reception. The organising committee would like to thank sponsors The Micropalaeontological Society, the Challenger Society for Marine Sciences, the Geological Society, London, the Palaeontological Association and QUEST, as well as the local organising team at the Geological Society, London, especially **Alys Johnson**.

# **ROLF 22 : 22<sup>ème</sup> Réunion des Ostracodologistes de Langue Française – Brussels, 2-4 June 2008**

Jean-Paul Colin

At the invitation of **Jean-Georges Casier**, the 22nd Meeting of the French-Speaking Ostracodologists (ROLF 22) was held in Belgium June 2-4 2008. During the first day, about 20 participants coming from 9 different countries and 4 continents: Belgium, Brazil, France, Great-Britain, Morocco, Portugal, Romania, Thailand and Tunisia, gathered in the Royal Belgian Institute of Natural Sciences in Brussels.

After a tribute to Yvette Tambareau who left us early this year, 10 scientific communications were presented: Devonian of Belgium and Bolivia, Purbeckian of Romania, non-marine Eocene of Algeria, Miocene of the Aquitanian stratotype, non-marine Pleistocene of Portugal, Holocene of Brazil, use of ostracodes for palaeoclimatic evaluations in the Quaternary-Recent. Some of these papers will be published in a spe-

cial issue of the electronic journal, *Notebooks on Geology (Carnets de Géologie)*.

During a break we had the opportunity to visit the new magnificent Bernissart *Iguanodon* gallery in which several specimens have been reconstructed in life position.

During the last two days, 9 of us went on a field-trip in the Ardennes to visit several fossiliferous localities of the Middle and Upper Devonian (Givetian, Frasnian, Fammenian) in the synclinorium of Dinant and particularly the Senzeille section where Gosselet (1877) defined the Frasnian-Fammenian boundary and the superb Frasnian reefs the Beauchâteau quarry.

The next meeting (ROLF 23) will be organized in 2010 by **Rakia Benzarti** (SEREPT) in Tunisia.



Companions with a companion of *Theriosynocum* in Brussels

# **Annual German Speaking Ostracodologists Meeting 27th-28th July 2008, Braunschweig, Germany**

Finn Viehberg email: finn.viehberg@tu-bs.de

The annual German-speaking ostracodologists' meeting was held in Braunschweig, Germany (27-28 July 2008) and was organized by the members of the Institut für Umweltgeologie (Institute of Environmental Geology), Technische Universität Braunschweig.

First, we met for a field day at some fish ponds in Braunschweig/Riddagshausen, which were cultivated by Cistercians monks some 800 years ago and are still extensively used today. Those ponds were already the subject of an ostracod study by **Burkhard Scharf**, who investigated the ostracod fauna when the ponds were drained in the winter of 1992-93. We were able to add two common species (*Herpetocypris* sp. and *Cypridopsis vidua*) to the list from the 1990s. After the field trip we met with those who could not arrive earlier and we had a nice supper in a group of seventeen colleagues.

The next day, we had a lively discussion after each of the seven talks. **Liseth Peréz** (Braunschweig) presented her first results from the ICDP-project of the Lago Petén Itzá Scientific

Drilling Project in Guatemala. An ecological dataset of 63 different sites throughout the Yucatan Peninsula is going to be established within the next two years. **Claudia Wrozyna** (Braunschweig) introduced us to Tibetan ostracods as proxies for lake system response of Nam Co area, and then to studies in the very near future of aquatic ecosystem evolution and monsoon dynamics. **Manuela Langenberg** (Jena) presented the Holocene ostracod and geochemical record of Lake Chiemsee including a new limnocytherid species. **Peter Frenzel** (Jena) sent us to the brackish environments of the Baltic Sea presenting an overview on Holocene ostracods and using them to reconstruct the environmental history of several sites in his study area. **Finn Viehberg** (Braunschweig) talked about the potential and limits of quantitative transfer functions in Holocene studies. **Benjamin Sames** (Vienna) gave us a profound overview of the origin, early evolution and distribution of the non-marine Cypridoidea in the Mesozoic. **Claudia Dojen** (Münster) introduced to the biogeographical problems of Devonian marine ostracods in Turkey and adjacent areas.



The oral presentation program was followed by a short presentation of newly developed gadgets for palaeolimnological work by **Burkhard Scharf**. The lively discussion continued during a barbecue.

The next meetings will be during the ISO in Brazil 2009 and probably in Jena in 2010.

# Tales from the Archive

## 2. New Beginnings – 1976/1977 – The Newsletter

Richard L. Hodgkinson (TMS Archivist)

The Editor, Peter Bigg, produced the *British Micropalaeontologist*, the Newsletter of the British Micropalaeontological Society, for its first issue in 1976 - the British Micropalaeontological Group having just changed to a fully fledged Society in 1975. In fact, within this first Newsletter was an announcement that the Inland Revenue had granted approval of this name change, so that members could claim their fees against tax. Before the dawn of the Newsletter the only contact for members had been through the circulars sent out to the various groups and there had always been a degree of anonymity to many articles and reports. Peter Bigg had set himself the task of changing this to a “broader based magazine”, an “in-house journal in which [members] can air their views, make appeals for exchanges of material and place news items and advertisements”. Essentially, therefore, it was to provide a forum. How members wished to use this...“better produced Circular”...was...“up to you”. “If you don’t, it will just be a case of ‘the Circular is dead, long live the Circular!’” The final Circular was produced in the January of 1976.

The Newsletter went from strength to strength, although Peter Bigg did record an initial apathy to contribute, supported by a letter from Brian Holdsworth in the October 1976 issue. The Editor actually included a short article “Have you got a problem?”, directed towards the groups dealing with conodonts, acritarchs, calcispheres, coprolites and microproblematica and suggested a BMS symposium or “talk-in” could be arranged. Because of increasing pressures of work Peter Bigg asked to stand down as Editor towards the end of 1977 and Martin Brasier took over from no. 5 (October 1977).

The new *Newsletter* (May 1976, no. 1) announced the Paleoservices Ltd. Micropalaeontology Award, initially of £400 annually and to be awarded “to acknowledge the publication

which represents the most significant advance in the field of Applied Micropalaeontology relevant to the study of the stratigraphy of the Northwest European Continental Shelf and its adjacent land areas”. Judgement on those fulfilling the strict criteria would be made by a special committee, comprising members of the main BMS Committee and representatives of industry.

Many then as now famous micropalaeontologists were contributing to meetings. To give a flavour, they included J.W. Murray, F.T. Banner, T. Barnard, R.H. Cummings, J.W. Neale, P.J. Bigg, M.B. Hart, R.H. Bate, J.B. Richardson, W.L. Diver, K.J. Dorning, D.D. Bayliss, M.D. Brasier, D.J. Siveter, M.C. Keen, R.L. Austin, M.J. Orchard and B.K. Holdsworth. The Conodont and Palynological groups were very active but the sad death of the Chief Panderer, J.W. Huddle, a founder member of the Pander Society was announced.

Then second issue of the *Newsletter* came out in October 1976. The newly formed Microplankton Group was invited to elect two representatives to serve on the BMS Committee whilst other groups appeared to be flourishing. However, a grim warning was issued to those who did not pay their subscriptions....“Out, until you pay”!

In Issue no.3 (January 1977) it was announced that a Jurassic Research Group was in organisation, but a Lower Palaeozoic Palynomorph Working Group, which had also just been formed, had no desire to apply for Specialist status with the BMS. In the same issue Ron Austin and Mike Orchard had included a Directory of Conodont Workers, and it was announced that a complete Directory of Society members was in production. In the letters column there was an attack on the new book “*Marine Micropalaeontology*”, published by the Elsevier

Scientific Publishing Company (Amsterdam) as an un-necessary burden on our pockets ...nothing new here!

The new constitution of the BMS was in preparation and was indeed published in full in the January 1977 issue (no. 3), after ratification.

The Editor of the Newsletter continued to seek financial support from the Oil Industry and in April 1977 (no. 4) he proudly reported that 12 companies had obliged. This support needed to be put to good use and it was suggested that it could be put to several uses: to aid expenses of foreign speakers at Society meetings; set up and finance new publications (like the stratigraphic indices that were planned), but NOT a journal; for the preparation of monographs; or for holding international symposia.

Publication grants were requested to aid the production of *A Stereo-Atlas of Ostracod Shells*, originally devised by Professor Sylvester-Bradley and David Siveter in 1973 at Leicester University. In January 1977 agreed to take over publication in association with Robertson

Research International Ltd. Grants-in-Aid were still things to come, but in Issue 4 (April 1977) it was announced that a maximum of £50 could be applied for towards the page-costs of peer reviewed publications. By Issue no. 4 Abstracts also began to appear, from members wishing to draw attention to their publications. In the same issue a list of the micropalaeontological collections in the Natural History Division of the National Museum of Ireland, Dublin, was issued.

In the October 1977 issue (no. 5) the new editor, Martin Brasier, introduced a new style to the Newsletter. The front logo changed to an on-board oil rig, formal book reviews were introduced, and it was announced that the Society had been asked to give a lead in Laboratory Health and Safety, and to issue techniques for dialysis and the handling of hydrofluoric acid.

Finally I cannot resist this item from the *British Micropalaeontologist*, no 3, January 1977.....“Lonely fossil Column – lonely female *Schuleridea thoenensis* seeks male. Box BMS 100”!

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## Announcements

### Rex Harland

Despite being semi-retired Rex Harland has been appointed as a Guest Professor in Marine Geology (Marine Micropalaeontology) at the Department of Earth Sciences, Gothenburg, Sweden. The appointment is for an initial period of three years from the 1st July 2008 and will entail research on the dinoflagellate cyst record of the last 2500 years and certain teaching duties within the department.

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# Obituaries

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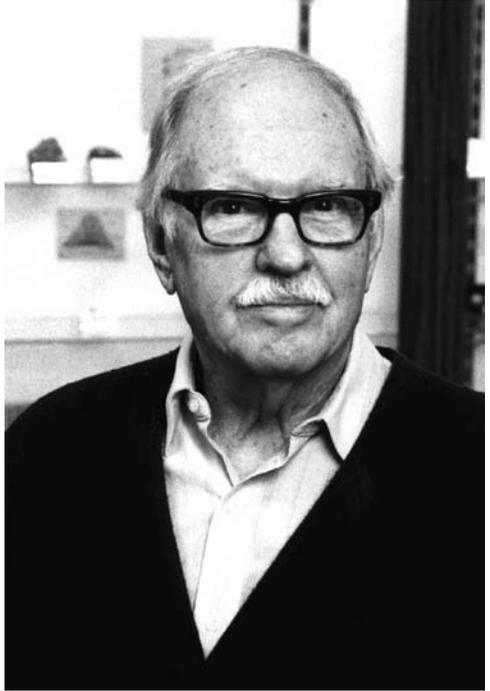
## **Frederick Morrill Swain (1916-2008)**

Frederick Morrill Swain, an Emeritus Professor of the Department of Geology and Geophysics, University of Minnesota died on March 2, 2008 of cancer, two weeks shy of his 92nd birthday.

Fred came to the University as an Assistant Professor in 1946 after teaching at Pennsylvania State University for 3 years after receiving his PhD from the University of Kansas in 1943. In 1969, Fred moved part time to the University of Delaware and retired from Minnesota in 1979 becoming a Professor Emeritus. Fred served as the Chairman of the Geology Department at Delaware from 1983 to 1986. He came back to the Twin Cities when he retired from Delaware in 1986. Fred's tall, ramrod straight figure was a familiar sight in Pillsbury Hall until late last fall when his failing health obliged him to stay home.

Fred was active in the research of non-marine ostracodes, stratigraphy, and organic geochemistry. He advised 13 PhD and 46 Master's students, and was a Fellow of Geological Society of America and of Paleontological Society. Fred was the GSA representative (1965-68) to the American Committee on Stratigraphic Nomenclature, a committee that was tasked to bring a semblance of rationality to the chaotic world of stratigraphic names.

As a micropaleontologist specializing in ostracodes, Fred was perhaps the last of the classic ostracodologists who worked fearlessly with both living and fossil species, all the way from Ordovician (first fossil records are from this geologic period, 505 to 438 million years ago) to the modern species living in peatlands that have no calcite carapace (just chitin). Fred was a pioneer in the use of organic geochemistry to study non-marine sediments, focusing on amino acids, lipids and carbohydrates in ancient and modern sediments.



He wrote a textbook "*Non-marine Organic Geochemistry*" which was published by Cambridge University Press in 1970. His other active area was petroleum geology and it is easy to think that his interest in organic compounds and fossil ostracodes had something to do with petroleum geology. Before the advent of radiogenic isotope dating methods, fossil ostracodes were the main biostratigraphic tool to "date" rocks that were recovered in drilling operations.

Fred's wife of 68 years, Frances, died in April, 2007. He is survived by 2 daughters, 3 grandchildren, 1 great-grandchild and 2 great-great-grandchildren.

Emi Ito <eito@umn.edu>

## **Yvette Tambareau (Jan 28th 1938 - Feb 26th 2008)**

Yvette Tambareau was born in Toulouse on January 28th 1938 to parents who were both school teachers. Between 1954 and 1957 she followed the course of the Ecole Normale and then for one year taught in a primary school in the small village of Montesquieu Lauragais. In 1958 she registered at the Faculty of Sciences of the University of Toulouse and after successful graduation in 1964 she joined the Centre National de la Recherche Scientifique (CNRS), and in 1970 she presented her PhD Thesis “Thanétien supérieur et llerdien des Petites Pyrénées”.

In 1981 she spent one year in Pau at ELF-Aquitaine research centre in which she worked under the supervision of H. J. Oertli on the inventory and palaeobiogeography of Cretaceous ostracodes of the Atlantic margins.

She retired in 1998, but during these last 10 years she never lost contact with her colleagues and friends. She used to come often to the University to help PhD students and she never missed any meeting of the ostracodologists’ community. Despite her weak health, she was always ready to follow her colleagues and friends all over the world to attend symposiums or geological field trips: Japan, China, Australia, Mexico, Oman...

Her contribution to science is important (more than 60 publications), essentially concerning ostracodes from the Palaeogene and at the Cretaceous-Tertiary boundary in the continental



realm, and to a lesser degree larger foraminifera. Her culture was not only scientific. She was very much interested in the arts, mostly theatre and opera, and by family tradition, rugby.

Yvette had many friends all over the world among scientist colleagues and any of them knew that they could rely on her on any occasion. Yvette was straight, courageous and devoted, faithful to her land and friends. We miss her.

Jean-Paul Colin

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## **Neven Lončarić (1966-2008)**

With deep regret, I inform you that on Monday the 14th of January 2008, our dear colleague and friend Neven Lončarić passed away. Neven was born in Zagreb, Croatia, in 1966.

After obtaining his Bachelors degree in Zagreb, he passed his MSc in 1994, at Utrecht University, The Netherlands. From 1995 to 1998, he was junior scientist in the research group of Fatima Abrantes at the Department of Marine

Geology at the Instituto Geológico e Mineiro in Lisbon, Portugal.

From 1998 until 2005 Neven Lončarić worked on his PhD thesis at the Royal Netherlands Institute for Sea Research, under the direction of Dick Kroon and Geert-Jan Brummer. In December 2005 he defended his PhD thesis entitled “*Planktic foraminiferal response to changing SE Atlantic oceanography*”. In December

2006, Neven arrived as a postdoc in our team at Angers University to work on the ecology of planktic foraminifera in the Bay of Biscay.

In the year that Neven spent with us, we have learned to know him as a very special person. Neven shifted between periods when his mood was excellent, and periods in which he was evidently very depressed. When he was in a good mood, Neven was an extremely pleasant personality, a very keen research partner, a great help for PhD students; in other words, a very much appreciated colleague. During his depressed periods, Neven retracted in his office, and contact with him became difficult. However,

in all circumstances, the quality of his scientific work remained of prime importance for him.

We all feel very sorry that life had become unbearable for Neven. His departure leaves a vacuum which we are not ready to fill in. We will all remember Neven for the rest of our days. We express our sympathy to his family, and to the many friends he has made all over the world.

Frans Jorissen and all members of the Laboratory of Recent and Fossil Bio-Indicators at Angers University.

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## ***Micropalaeontology Diary***

### **2008**

Aug 30-Sept 5	12th IPC and 8th IOPC, Bonn, Germany
Sept 7-10	12th International Nannoplankton Association - Lyon
Sept 7-13	20th International Diatom Symposium Dubrovnik, Croatia
Sept 23-26	5th International Charophyte Symposium, Rostock
Sept 26	TMS Ostracod Group meeting NHM
Oct 1	Deadline - Abstracts for Geologic Problem Solving
Oct 5-9	GSA Joint Annual Meeting, Houston, Texas
October	Palynology Group Meeting - London
Oct 29	Deadline for nominations for TMS officers
Nov 19	TMS AGM
Dec 1	Copy date for <i>Newsletter of Micropalaeontology</i>

### **2009**

Feb 28	Deadline for Grant-in-Aid applications
Spring	TMS Ostracod Group field meeting to Skye
June 21-26	NAPC - Cincinnati, USA
June 23-26	11th Int. Palaeolimnology Symposium, Gaudalajara
July 26-30	16th International Symposium on Ostracoda, Brazil
September	Interrad 12 - Nanjing, China

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