



Newsletter

Winter 2009

No. 76



Participants gathered for the joint meeting of the Spores & Pollen and Acritarch Subcommissions at Faro, Portugal (photo courtesy of Bruno Rodrigues)

Commission Internationale de Microflore du Paléozoïque

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MESSAGE FROM THE PRESIDENT

Greetings once again from CIMP. A happy and prosperous New Year and New Decade. There are several things to report.

We have a CIMP symposium at the 3rd International Palaeontological Conference meeting in London, England. This is on Palynology and the Palaeozoic Earth System. There are also other symposia that have a significant input from CIMP colleagues. So, whatever the success of our symposium we will certainly have a high profile for Palaeozoic palynology. The IPC3 is not our main meeting in 2010 but if you can support it then please do so. We are hoping to showcase palynology and our activities and organisation. The IPC3 is being held from June 28th to July 3rd, 2010 (<http://www.ipc3.org/>). The deadline for registration and submission of abstracts is the 28th February.

Our main meeting is being organised by our Polish colleagues for September in Warsaw. You should all have received an email asking you to indicate likely attendance at both the conference and fieldtrip. Please support our Polish colleagues in making the meeting a great success. Further information is given elsewhere in this newsletter.

During the meeting in Warsaw I complete my term as CIMP President. Please think about nominating likely successors. Gary Mullins as CIMP Secretary will issue an official call for nominations later this year

with sufficient time to organise a members' ballot if required.

I hope to see you all in Warsaw and maybe London

John Marshall
CIMP President

MESSAGE FROM THE GENERAL SECRETARY

This year promises to be busy for the membership of the CIMP, with a session at the IPC3 in London and our General Meeting in Warsaw. I hope all of the membership is aware that these events are happening. All too often emails from me are replied by several tens of delivery error messages. That means some of the membership are missing out on what their community are doing. May I therefore kindly request that you keep your general secretary up to date with any email address changes so that we don't lose touch.

Finally – it is 2010, so please remember pay your subscriptions if you haven't already done so. Instructions can be found by following this link: <http://www.cimp.ulg.ac.be/Membership.html>

Thank you,

Gary Mullins, gary.mullins@fugro-robertson.com

2010 CIMP GENERAL MEETING, WARSAW, POLAND
SEPTEMBER 13th-19th, 2010



Dear colleagues,

We want kindly remind you that CIMP General Meeting will be held this year in Warsaw, capital city of Poland. Four days (13-16 September) of scientific and technical sessions will be followed by three days of post-conference field trip in Holy Cross Mountains. The excursion starts from Warsaw early afternoon of

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September 16th, 2010 at ends in Warsaw on the evening of September 19th, 2010. So, please note in the reply form the necessities of booking hotel. Due to difficulties relating to safe access to the outcrops, the field trip will be limited to the first 50 participants.

The website of the conference http://www.ing.pan.pl/CIMP-2010/index_cimp.htm is active since September 2009. You can find all the important information concerning the conference and field trip, as well as Registration Reply Form. Please, read carefully information about deadlines and fees. The invitation and first circular was sent on 16th September 2009. It's our pleasure to inform you that this invitation was friendly welcome by palynologists. Thank you very much for your response. We are still waiting for applications of those of you who have missed the deadline – please contact us as soon as possible!

The second circular will be sent on March 2010, with details on the accomodation and conference schedule.

We hope to entertain all of you in Poland, welcome!

The Organizing Committee

Dr Monika Masiak IGS PAS - mmasiak@twarda.pan.pl

Dr Marzena Oliwkiewicz-Miklasinska IGS PAS - ndmiklas@cyf-kr.edu.pl

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FUTURE MEETINGS AND CONFERENCES



European Union of Geoscience

General Assembly

Vienna, Austria, 2nd – 7th May, 2010

The EGU General Assembly 2010 will bring together geoscientists from all over the world into one meeting covering all disciplines of the Earth, Planetary and Space Sciences. Marco Vecoli is convening Session SSP4.1 on “CO₂ and biodiversity changes through geological time: is there a relationship?” together with co-conveners D. Gröcke and Ulrich Heimhofer.

“Session SSP4.1: From the origin of life, through the development of

photosynthesis, the accumulation of organic-rich sediments as carbon sinks, the shift of carbon accumulation on the land following the origin of land plants, the development of aerobic metabolism, and the modern-day consumption of fossil fuels, living organisms have had a huge and irreversible impact on atmospheric composition.

This session is intended to explore into the relationships between varying level of atmospheric CO₂ and changing biodiversity on Earth through geological time, from Precambrian to recent. All fossil groups are concerned: from oceanic phytoplankton to terrestrial vertebrates. Ideally, this session will eventually tackle the present-day concerns on biodiversity loss in concomitance with unprecedented rates of CO₂ changes in the atmosphere, from a geological / palaeontological perspective.”

Details of Session SSP4.1 can be found at <http://meetingorganizer.copernicus.org/EGU2010/session/2558>

Further information on the European Union of Geoscience General Assembly can be downloaded from <http://meetings.copernicus.org/egu2010/home.html>



**The Third International
Palaeontological Congress**

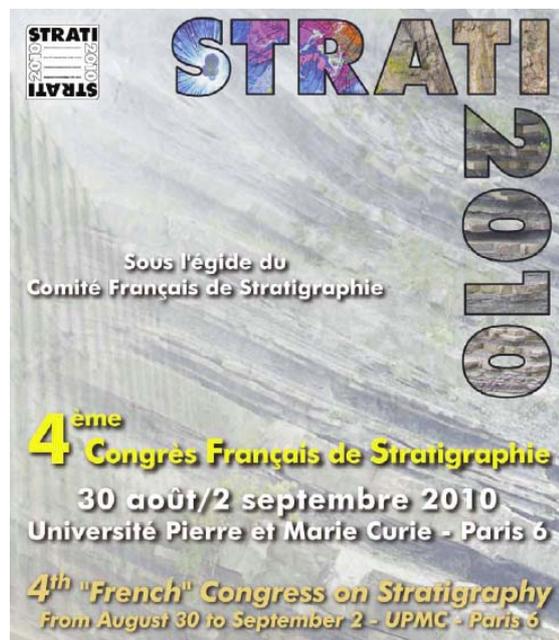
London, UK, 28th June – 3rd July, 2010

IPC is a major international meeting held once every 4 years under the auspices of the International Palaeontological Association. The meeting provides a showcase for all that is exciting and new in the fields of palaeontology and palaeobiology. IPC3 in 2010 is hosted by the Palaeontological Association and partner organizations, and will be based in Imperial College and the Natural History Museum in the heart of London's 'Albertopolis'. The programme will comprise field trips, plenary lectures, workshops, contributed talks and posters, and thematic symposia. For details, use the navigation menu to the left of the page.

There will be considerable Palaeozoic palynology interest and symposia include

the CIMP sponsored “Palynology and the Palaeozoic Earth System”. Additional symposia that are likely to be of interest include “The micropalaeontological record of global change”, “Microfossil contribution to understanding the tree of life”, “The Great Ordovician Biodiversification Event: causes and consequences”, “Devonian Bioevents - timing, palaeoecological and evolutionary patterns”, “Modelling the climate of Palaeozoic Earth” and also “The origin of life on land and its geological consequences”.

Full details can be found on the website at <http://www.ipc3.org/>.



STRATI2010

**4th “French” Congress on Stratigraphy
30th August - 2nd September, Université
Pierre et Marie Curie, Paris**

STRATI2010 will include a session on “Applied stratigraphy: to make the most of marine and continental palynomorphs” (Track Director : Alain Le Hérissé).

Marine and continental palynomorphs have a significant potential to provide fundamental data for age calibration of geological series, correlations, paleoecological and paleoclimatic reconstructions, and a specific utility for subsurface oil and gas exploration programmes.

This session, will deal with high resolution and quantitative palynostratigraphy of all geological periods, to the resolution of complex stratigraphical problems using palynomorphs, to the precision brought by palynology to the stage boundaries, of changes in palynological assemblages coupled with others markers and sequence stratigraphy, to provide precise temporal control for regional basin analysis.



AASP 43rd Annual Meeting

Halifax, Nova Scotia

29th September – 1st October, 2010

Convened with the Canadian Association of Palynologists and the Paleo Division Geological Association of Canada.

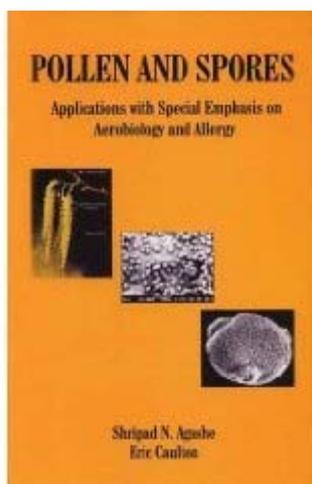
Organizers: Rob Fensome, Peta Mudie, Graham Williams,

<http://palynology.org/meetings.html>

Convention Center webpage:
<http://www.ichotelsgroup.com>

BOOK REVIEW

Pollen and Spores, Applications with Special Emphasis on Aerobiology and Allergy by Shripad N. Agashe and Eric Caulton, 2009, ISBN 978-1-57808-532-3, 400 pages, (hardcover US \$109.00), Science Publishers, Enfield, New Hampshire, USA.



To non-botanists, pollen is considered to be ubiquitous, fine dusts that are produced by weeds, trees, and grasses. They are usually unaware of the varied morphology of pollen and spores, and their usefulness to forensic science, agriculture, plant evolution and many other disciplines. For much of the 20th century, palynology (the study of extant and fossil pollen and spores) was used extensively by oil and coal companies for biostratigraphy, but with cutbacks in the exploration industry in the 1980's this subdiscipline has substantially diminished. Palynology continues to contribute today to such diverse fields as plant systematics and evolution, forensics, agriculture and allergy medicine.

Shripad Agashe and Eric Caulton's book entitled "Pollen and Spores, Applications with Special Emphasis on Aerobiology and Allergy" emphasizes two major aspects of palynology: spore and pollen morphology and procedures for preparation, and practical applications. Major emphasis is given to palynologically important plants from India and Europe, although some attention is given to plant species from Australia and the United States.

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The book begins with two introductory chapters addressing the historical account of pollen studies such as the artificial pollination of date palms by ancient Assyrians around 4000 B.C. Wodehouse's book on 'Pollen Grains' that discusses developments in palynology throughout the 13th – 20th centuries, and Gunner Erdmann's contributions regarding pollen morphology in the 20th century are also extensively discussed. This information helps to provide an overview regarding the development of palynology.

Chapters three through ten provide a basic overview of palynology, such as pollen morphology, development and physiology, and techniques for processing modern and fossil pollen. Particularly informative subsections are devoted to the shape and size classes of pollen grains, exine sculpture, techniques for preparing modern pollen and spores for microscopic analysis, step-by-step guides of recovering fossil palynomorphs from peat, lignite, coal, and methods of determining pollen viability. Detailed drawings labeling distal and proximal views of various angiosperm and bisaccate pollen, and the equatorial and polar views of bilateral spores are especially helpful. Terms regarding exine sculpture elements also are well defined. The emphasis in these chapters and throughout this book is on spores and pollen of land plants, rather than the broader scope of traditional palynology that includes any microscope organic walled organism.

Chapters 11-21 illustrate the value of pollen studies to agriculture, horticulture, forensic science, honey production, paleoecology, taxonomy, plant evolution and meteorology. Seven chapters are devoted exclusively to aerobiology and allergies caused by mold spores and pollen. These chapters include the contributions from 19th and 20th century aerobiologists, the design, advantage and disadvantages of various gravitational settling sampling devices, pollen/spore calendars from India, Taiwan, Australia, North America and Europe, and source plants (ragweed, grasses, and birch) of common allergens. The authors describe how weather patterns, geographical location, latitude, elevation, and heredity affect the severity of asthma and other respiratory problems, and note that pollen allergies have been recorded in horses, dogs and other mammals. They show how pollen production is controlled by duration of flowering, mechanisms of liberation and dispersal, pollen size, time of release, and other physiological factors. For example, higher rates of *Ailanthus excelsa* occurred from 4 pm to 10 am with a peak at 6 pm that coincides with the activity of honeybees (*Apis cerana indica*). In comparison, *Cyperus rotundus* releases pollen from 4 – 6 am with a peak at 5 am, but its pollen may remain in the atmosphere for many hours.

Chapter 12 is devoted to melissopalynology (the study of pollen in honey) and is especially interesting. Attention is given to how honey is made, what makes honey an energy and nutritious food source, quantity and quality of pollen for maximum honey production, determining geographical origin of honey samples, and pollination management strategies. The shortage of honeybees to pollinate essential agricultural crops (almonds, strawberries, blueberries), throughout the United States and why honey is regarded as a medicinal food also are discussed. For example, the authors note that honey contains over 25 assorted sugars each one having a different function in human metabolism as well as an abundance of amino acids, and enzymes. They cite authorities who have claimed medicinal properties for honey, such as to promote healing, slow down cell aging, and alleviating menstrual pain.

This book will be useful to upper division undergraduate, graduate and post-doctorate students and research scientists, who want to gain an understanding of applied palynology, as well as for educators. For example, I intend to explain and utilize some of the gravitational sampling devices discussed in this book in forthcoming environmental science classes, and will likely utilize some of the described techniques in my research. Excellent drawings, tables and maps are provided throughout these chapters. Color and SEM photographs also are used

to show pollen morphology and plant features of *Ambrosia* (ragweed) an invasive plant from North America that is becoming a nuisance in Europe. This book is not without flaws; for example, there are a few misspelled words throughout the book, as well as taxonomic errors. For example, on page 89 *Anthoceros* (a hornwort) is misidentified as a liverwort. Some of the references cited in the book are rather dated (prior to 1960), although references within the last five years are also provided. Overall, this is a book I would recommend.

Dr. Nina L. Baghai-Riding, Delta State University

NEWS FROM THE MEMBERSHIP

Aurélien Delabroye

USTL Sciences de la Terre

I am finishing my PhD thesis at Lille (France) on acritarch dynamics across the Ordovician-Silurian boundary under the supervision of Marco Vecoli and Thomas Servais (CNRS, University of Lille 1, France). The public defence of the thesis will be scheduled for early 2010.

This year, analyses of literature dealing with Late Ordovician (Hirnantian) sections worldwide coupled with personal investigations on acritarchs from this period (Anticosti, Estonia, Argentina) allowed me to clarify some aspects of Late Ordovician global event stratigraphy (e.g., problems of correlations between low latitude carbonate-platforms and peri-Gondwana glacial regions).

Finally, the achievement of taxonomical work on Late Ordovician-early Silurian acritarchs from Estonia (Pirgu, Porkuni, Juuru) and Anticosti (Gamachian, Rhuddanian) allowed me to better apprehend the phytoplankton dynamics across the O/S boundary at low latitudes and to compare these with those observed in North Gondwana. The results are either already published (in press) or currently under final preparation.

aurelien.delabroye@etudiant.univ-lille1.fr

Alain Le Hérissé

Université de Bretagne Occidentale, Brest

Alain would like to draw your attention to the STRATI2010 meeting (see above) and the session “Applied stratigraphy: to make the most of marine and continental palynomorphs.”

MODIE, B.N., LE HERISSE, A. 2009. Late Paleozoic palynomorph assemblages from the Karoo Supergroup and their potential for biostratigraphic correlation, Kalahari Karoo Basin, Botswana. *Bulletin of Geoscience*, 84(2): 337-358.

Alain.Le.Herisse@univ-brest.fr

Stewart Molyneux

British Geological Survey, Keyworth

I am currently working on a revision of the Llandovery acritarch biostratigraphy in the Llandovery type section in Wales in collaboration with new mapping and interpretation of the stratigraphy by Jerry Davies and Dick Waters, graptolite work by Mark Williams and Jan Zalasiewicz, and new work on the chitinozoans by Thijs Vandenbroucke. I am also working on Silurian gas shale projects, and on the Ordovician of North Wales and Anglesey. I completed a contribution dealing with acritarch zonations and correlation for the revision of the Geological Society of

London's Special Report on the Cambrian System in Britain and Ireland (with Adrian Rushton and others).

Papers published in 2009:

MOLYNEUX, S.G. 2009. Acritarch (marine microphytoplankton) diversity in an Early Ordovician deep-water setting (the Skiddaw Group, northern England): Implications for the relationship between sea-level change and phytoplankton diversity. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 275, 59–76.

ZANCHI, A., ZANCHETTA, S., BERRA, F., MATTEI, M., GARZANTI, E., MOLYNEUX, S., NAWAB, A. & SABOURI, J. 2009. The Eo-Cimmerian (Late? Triassic) orogeny in north Iran. In: BRUNET, M.-F., WILMSEN, M. & GRANATH, J. W. (eds) *South Caspian to Central Iran Basins. The Geological Society, London, Special Publications*, 312, 31–55.

Florentin Paris

University of Rennes 1, France

I will retire at the end of 2010 and thus, I started to sort my reprints. It appears that I have some duplicates that can be useful for beginners in palynology, even if the Web gives access now to most of the recent publications. I will try to make a list of these duplicates available for the colleagues interested by some of them (mostly on chitinozoans, but also some on spores and acritarchs).

Databases of Florentin PARIS

I have completed the database (CHITINOVOSP) on all the chitinozoan species described since the first publication of Eisenack on the group in 1930.

CHITINOVOSP contains 1218 chitinozoan species with the photo of the holotype, its classification, stratigraphical, geographical and repository information... I used this database recently for calculating the fluctuations of biodiversity of the chitinozoans through time from the early Tremadocian to the latest Devonian (Grahm and Paris, submitted).

Another database (CHITINOSEM) is also made. It contains more than 17000 digitalized scanning photos of chitinozoans I made since 1972 (localities from 40 different countries). In addition to the SEM photos this database includes the taxonomical, stratigraphical, repository and geographical information concerning each specimen.

I am also preparing a similar database dealing with the available rock samples I have studied during my career. This database includes in addition core samples from old boreholes, e.g. from Libya (D. Massa unpublished samples). This material for comparison will be available upon request through the curator of the collections of the Geological department of the University of Rennes 1 (<jean.plaine@univ-rennes1.fr>).

CHITINOVOSP and CHITINOSEM are not available on the web, but people interested by them can contact me at the following e-mail addresses: <florentin_paris@orange.fr> or <florentin.paris@univ-rennes.fr>. A specific website is in preparation for more details on these databases.

Thomas Servais

USTL Sciences de la Terre

Thomas has an article published in GSA Today that explains how phytoplankton diversification was possibly a trigger of the explosion of marine diversity during the Ordovician.

Servais, T., Harper, D. A. T., Li, J., Munnecke, A., Owen, A. W. and Sheehan, P. M. 2009. Understanding the Great Ordovician Biodiversification Event (GOBE): Influences of paleogeography, paleoclimate, or paleoecology? *GSA Today*, v. 19.

<http://www.geosociety.org/gsatoday/archive/19/4/>

Jaques Verniers

Ghent University

Jaques reports on the publication of an article on the early start of vascular plants in Saudi Arabia (low in the Ashgill, high in the Katian), which are well dated by chitinozoans, and two publications co-authored with Thijs Vandenbroucke, who moved to Lille in October. This year Jacques mainly continues to work on the chitinozoans of the Silurian of the Holy Cross Mountains, Poland, where the excursion of the CIMP General meeting will take place in September. Jacques also continues to supervise the PhD work of Jan Mortier.

Publications

Stemans, P., Le Hérisse, A., Melvin, J., Miller, M. A., Paris, F., Verniers J. & Wellman, C. H. 2009. Origin and radiation of the earliest vascular land plants. *Science*, 324, p. 353.

Vandenbroucke, T. R. A., Ancilletta, A., Fortey, R. A. & Verniers, J. 2009 in press. A modern assessment of Ordovician chitinozoans from the Shelve and Caradoc areas, Shropshire, and their significance for correlation. *Geological Magazine*. 146, 216–236.

Vandenbroucke, T. R. A., Armstrong H. A., Williams, M., Paris F., Sabbe K., Zalasiewicz J. A., Nolvak, J. & Verniers, J.

2010. Epipelagic chitinozoan biotopes map a steep latitudinal temperature gradient for earliest Late Ordovician seas: Implications for a cooling Late Ordovician climate. *Palaeogeography, Palaeoclimatology, Palaeoecology*. doi:10.1016/j.palaeo.2009.11.026

Abstracts of presentation in 2009:

Mortier, J. Harper, D. A. T. , Zalasiewicz, J. A., Claeys, P. & Verniers, J. 2009. The Upper Ordovician to lower Silurian Tihange sections, Condroz Inlier: a litho- and biostratigraphical study with chitinozoans combined with carbon isotopes. International Subcommittee on Silurian Stratigraphy Field Meeting, Sardinia, 4-12 June 2009, p. 317-318.

Vandenbroucke, T. R. A., Armstrong, H., Williams, M., Paris, F, Sabbe, K., Zalasiewicz, J., Nolvak, J. & Verniers, J. 2009. Epipelagic chitinozoan & graptolite biotopes map a steep latitudinal temperature gradient for earliest Late Ordovician seas: implications for a cooling Late Ordovician climate. IGCP 205, 25 Aug – 4 Sept. 2009, Copenhagen, p. 19-20.

Mortier, J., & Verniers, J. 2009. The Telychian to Gorstian sections of Neuville-sous-Huy, Condroz Inlier: preliminary results. *Geologica Belgica Congress* 14-15 Sept. 2009. p. 80-81.

Vandenbroucke, T. R. A., Armstrong, H., Williams, M., Paris, F, Sabbe, K., Zalasiewicz, J., Nolvak, J. & Verniers, J. 2009. Epipelagic chitinozoan & graptolite biotopes map a steep latitudinal temperature gradient for earliest Late Ordovician seas: implications for a cooling Late Ordovician climate. *Geologica Belgica Congress*, 14-15 Sept. 2009, Ghent, p. 52-53.

MEETING REPORT: CIMP FARO'09
II JOINT MEETING OF SPORES/POLLEN AND ACRITARCH
SUBCOMMISSIONS



(photo courtesy of Bruno Rodrigues)

The second joint meeting of the Spore/Pollen and Acritarch Subcommissions was held at the University of Algarve, Campus de Gambelas, in Faro, Portugal from September 20, 2009 to September 22, 2009. Building on the success of CIMP Lisbon'07, the theme of CIMP Faro'09 was the Euramerica - Gondwana collision and the utility of palynomorphs in its reconstruction. Although the theme was the Euramerica - Gondwana reconstruction, the program was open to all Paleozoic palynology topics.

The meeting began with an icebreaker held at the Faro City Museum on Sunday evening. Participants were treated to a selection of Portuguese wines and ports as well as a variety of snacks that complimented the beverages.

The scientific meeting began at the civilized hour of 10:00 am with registration at the University of Algarve campus. A total of 32 people registered for the meeting and 14 countries were represented (Algeria, Czech Republic, Germany, Iran, Ireland, Peru, Poland, Portugal, Saudi Arabia, Spain, Sultanate of Oman, The Netherlands, United Kingdom, and the United States). Twenty-one talks were given in all. The venue consisted of two morning sessions and two afternoon sessions each day, with either two or three talks per session. Lunch was provided on campus, allowing for further interchange between the attendees.

The meeting was officially started by welcoming remarks by Paulo Fernandes, one of the conference organizers, followed by CIMP President John Marshall, and lastly Acritarch Subcommission president Reed Wicander.

What followed were two days of talks on various aspects of Paleozoic palynology that sparked much discussion both at the end of a talk, and during the coffee breaks and lunch hour.

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The traditional closing ceremony was chaired by Paulo Fernandes who expressed thanks to all of the participants and everyone who helped to make CIMP Faro'09 the success that it was. John Marshall also thanked everyone, and especially the organizers for a very well run and successful meeting.

An expanded report on the meeting, as well as the post-meeting field trip in Southwest Portugal, will be available in the upcoming Acritarch Newsletter, due out in early February, 2010. The abstract book is available on the CIMP website at: <http://www.cimp.ulg.ac.be/>

Reed Wicander