



# A.A.S.P. NEWSLETTER

Published Quarterly by the American Association of Stratigraphic Palynologists Inc.

## July, 1997 Volume 30, Number 3

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Volume 30, Number 3  
Jan Willem Weegink, Editor

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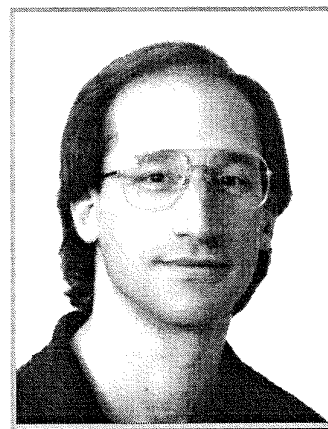
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The AASP Newsletter is published four times annually. Members are encouraged to submit articles, "letters to the editor", technical notes, meetings reports, information about "members in the news", new websites and information about job openings in the industry. Every effort will be made to publish all information received from our membership. Contributions which include photographs should be submitted a week before the deadline.

Deadlines for next issues of the newsletter, are October 3<sup>rd</sup> 1997, December 24<sup>th</sup> 1997 and March 31<sup>st</sup> 1998. All information should be sent on computer disks (MS Word for Windows is best) or by email; if possible, send a hard copy. Always send a duplicate typescript of all electronic copy sent for checking. If possible, please illustrate your contribution with art, line drawings, eye-catching logos, black & white photos, colour photos, etc. We DO look forward to contributions from our membership.

## CANDIDATES FOR BOARD OF DIRECTORS



For DIRECTOR AT LARGE: PIERRE A. ZIPPI

As noted in NL 30-2, the candidates for the board of directors lacked a few faces. Complementary to NL 30-2, here's Pierre Zippi's. A photograph of Joyce Lucas-Clarke is not available.

As a reminder, the candidates are:

For President Elect: Chris Denison and Paul Strother

For secretary-treasurer: David Pocknall

For managing editor: Dave Goodman

For directors at large: Bob Cushman, Joyce Lucas-Clark, Bob van Pelt and Pierre Zippi



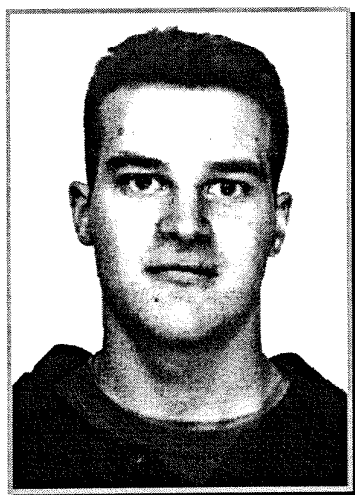
The AASP Awards Committee congratulates Danica Suballyova, Giles A. Smith, and Susan E. de Villers, recipients of 1997 AASP Student Scholarships and of the Cranwell Smith Award. Eighteen applications were received from sixteen nations by the April 4 deadline. These covered a very wide range of topics including Aeropalynology, Quaternary Palynology, and Stratigraphic Palynology.

Suballyova and Smith each receive \$1000 from the AASP Scholarship Fund. De Villers' award is made separately from the Cranwell Smith Fund, but the pool of applicants and criteria are the same. The awards are based on the qualification of the student, the originality and imagination evident in the proposed project, and the likelihood of significant contribution to the science of palynology.



*Danica Suballyova, Univ. Claude Bernard*

After graduating in geology from Comenius University in Bratislava, Danica obtained a thorough practical training in palynology from the University of Montpellier, where she obtained a post graduate degree in Paleontology and Palynology in 1994. Currently she is enrolled at the University of Claude Bernard, Lyon, France, under the guidance of Dr. John-Pierre Suc. The title of her dissertation is "Palynology and Cyclostratigraphy in the Central Mediterranean (Plio-Pleistocene)." This high-resolution study will be carried out with two tools: pollen and palynofacies analysis, and sedimentological analyses including sedimentary facies study, calcimetry, and  $\delta^{18}O$  measurements. The pollen stratigraphy will be correlated with orbital obliquity to improve chronologic control. Two stratigraphic sections will be analyzed, one from Citadel (Zakynthos) and the other from Monte San Nicola (Sicily). Danica will use her award to study the Monte San Nicola section.



*Giles A. Smith, Univ. Bristol*

Giles Smith is currently a Ph.D. student at the University of Bristol, under the guidance of Professor Michael J. Benton (Bristol) and Dr Ian C. Harding (Southampton). He graduated from the University of Birmingham in 1994 with a First Class Honors Degree in

Geology, and followed this with an M.Sc. in Micropalaeontology at the University of Southampton.

Giles' dissertation, entitled "Palynostratigraphic correlation at the Jurassic-Cretaceous boundary, and the nature and magnitude of its associated mass extinction event" has focussed on detailed palynological analysis of two J/K boundary sections in the Volga Basin of Russia. He visited the sections in the summer of 1996, and collected a suite of samples from both. Giles has been able to identify several taxa which are reported from other sites in both the Boreal and Tethyan realms. Global correlation at the Jurassic - Cretaceous boundary interval is crucial in any assessment of the end Jurassic (Tithonian) mass extinction event, and yet is extremely problematic.

The difficulties arise from the fact that the J/K boundary macrofauna is acutely provincial, being split into the two distinct faunal realms (Boreal and Tethyan) with no overlap. Dinocysts on the other hand, do not show such marked provincialism, and therefore make a valuable tool for correlation.

Giles hopes that his study will go some way to overcoming the gaps in our knowledge of Boreal-Tethyan correlation at the Jurassic/Cretaceous boundary, as well as making a significant contribution to the relatively poorly known uppermost Jurassic dinocyst assemblages.



*Susan E de Villiers, Univ. Witwatersrand*

Sue is completing her Ph.D. under the guidance of Dr. Ann Cadman at the Bernard Price Institute for Paleontology, Univ. Witwatersrand, Johannesburg.

In 1994 she completed a Masters' dissertation as a preliminary study. Sue graduated with B.Sc. (Honors) ARSM from Imperial College, London, where palynology lectures by Dr Mike Boulter formed part of the third year course.

The current research concerns peat horizons occurring in palaeochannels adjacent to South Africa's western coastline. Previously, these were dated as Pliocene based on geological evidence. Little research has been done on South Africa's Tertiary sediments due to the paucity of sites yielding palynomorphs, thus the results from the study will fill a significant gap. The research centers on identifying specimens by comparing them with published illustrations and descriptions of palynomorphs from other southern hemisphere assemblages. The palynomorphs appear to indicate that the sediments date from the Palaeogene.

The palynofloras describe vegetation which demanded wet conditions and probably consisted of large shrubs and trees. Today, the area is desert with a dry-adapted flora. Other interesting results

include the occurrence of palms and early Compositae; and precursors to today's unique Fynbos Biome.

Also of importance is the absence of any *Nothofagus*-like pollen, well known from other southern continents. The award will be used for textbooks and other items to support further research.

- Owen Davis -



#### F. H. "Hugh" Wingate, 1932-1997

Frederick Huston Wingate passed away suddenly at his home in Denver, Colorado, on 26 May 1997 at the age of 64. Hugh, as he was known to his friends and colleagues in the palynological community, was a long-time member of AASP.

Hugh Wingate was born on 21 December 1932 in Provo, Utah. He grew up with a brother and a sister in Springville, Utah. He enjoyed hunting and fishing with his family, especially his father. The Wasatch Mountains were his home as a child, and he never lost his love for the wonders and beauty of nature.

Hugh graduated from Springville High School, where his father was a science teacher. He attended the University of Utah and received both a B.S. and M.S. in geology. He joined the U.S. Air Force and became a pilot; he retired from the Air Force with the rank of Lieutenant Colonel.

In the early 1960's Hugh moved to Oklahoma City, Oklahoma, to work as a geologist for Chevron Oil Company, but in 1967 he returned to graduate school at the University of Oklahoma to begin work on a PhD in palynology. It was there that he met a fellow graduate student in botany, Janet Louise Chapman. He and Jan were married in 1971.

Hugh and Jan moved to Denver, Colorado, in 1973, where Hugh worked as a palynologist for Cities Service Oil Company and Occidental Petroleum. He completed his PhD in 1974. In 1985 Hugh created Wingate Consulting and continued to work as a palynologist. Later he worked for the Denver Botanic Gardens and most recently for the Environmental Services Agency of the City and County of Denver, where he was a water quality investigator. He also became an Adjunct Research Scientist at the U.S. Geological Survey in Denver and remained active in palynology. He was looking forward to his retirement this December on his 65th birthday.

Formal military services were held for Hugh at Fort Logan National Cemetery, in the Denver area. Members of his extended family spoke warmly and fondly of their Uncle Huston, as they called him. Hugh's life touched many people in widely diverse fields. The Air Force chaplain remarked that he could not recall such a large turnout of family and friends at such an occasion. Rain fell as a 21-gun salute echoed and a bugle sounded taps.

Hugh is survived by his two children, Ione Gobbi and Mark Wingate, both of Alaska, and his wife, Jan. He is widely remembered as a kind, gentle man with a great, dry wit, and as a meticulous scientist. His major publications in palynology include the following.

1980 - Plant microfossils from the Denton Shale Member of the Bokchito Formation (Lower Cretaceous, Albian) in southern Oklahoma. *Oklahoma Geological Survey Bulletin* 130, 93 p.

1983 - Palynology and age of the Elko Formation (Eocene) near Elko, Nevada. *Palynology*, 7: 93-132.

In press - Palynology of the uppermost Eocene lacustrine deposits at Florissant Fossil Beds National Monument, Colorado. *Geological Society of America Special Paper* (with D.J. Nichols).

- Doug Nichols -



„**Bibliography of Gondwana Palynology**“ by Roseline H. WEISS, December 1995. Geologisches Institut der Universität zu Köln, Sonderveröffentlichung No. 94, ISSN 0069-5874, 323 pages, DM 80 (postage and bank charges not included). Inquiries should be directed to Dr. R. H. Weiss, Geologisches Institut der Universität zu Köln, Zulpicher Str. 49a, D-50674 Koeln, Germany.

A compilation of papers dealing with Gondwana palynology entitled **Bibliography of Gondwana Palynology** was published recently as number 94 in the Series of Special Publications of our Cologne Institute. The bibliography covers the period from the commencement of palynological research in the last century until the beginning of 1995. It contains 3214 literature citations concerning the palaeopalynology of all former parts of the ancient Gondwana supercontinent, as well as those related to mixed microfloral assemblages containing typical Gondwanan elements from the areas surrounding Gondwana.

The bibliography reveals that palynological work in different countries is often proceeding more or less independent of progress in other areas. The cited publications were written in 11 languages. Obviously one of the reasons for an imperfect knowledge of published information is the language barrier. A great deal of work needs to be done in order to improve international scientific communication.

For a better support of scientific study it would be advantageous to find out quickly which palynological papers have been written referring to a certain country for one or more determined periods of time. Further having knowledge of as much as possible results of researches in different countries referring to a certain period of time is essential for solving questions of international and inter-regional correlations.

For these reasons a new type of infobase in tabulated form has been conceived and is being presently compiled. These tables will be published as a separate volume and will deliver detailed information on the geographical and stratigraphical occurrence of the palynomorphs covered by the publications included in the bibliography.

The fundamental aim for creating the infobase has been the completion of cross references to the bibliography with geographical and stratigraphical indices, so that the scientists could take advantage of the cited papers independently of their language.

Prof. Dr. H. WOPFNER

Geologisches Institut - Universität zu Köln - Köln - Germany

#### THE UK PALYNOLOGICAL SCENE

by James B. Riding



Yet more news from the University of Sheffield; Dr Charles Wellman was recently appointed as a lecturer in palynology. Charles did his postgraduate training with John Richardson at the British Museum in London, where he worked on Lower Palaeozoic palynology. His last position was at the University of Cardiff with the team led by Dianne Edwards working on early land plant evolution. We wish Charles all the best in his new job. Also at Sheffield, Ted Spinner has recently retired. The Sheffield Department would very much like to keep in touch with graduates of the Palynology School. Would anyone who has lost touch with

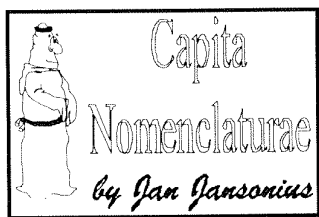
the Department please contact Tony Loy (a.loy@sheffield.ac.uk) or Duncan McLean (d.mclean@sheffield.ac.uk).

Gary Mullins has recently obtained a postdoctoral research position at the University of Portsmouth, where he will continue his work on Lower Palaeozoic palynology. Gary tells me that the Departmental library at Portsmouth is somewhat sparse in palynological literature. I am sure he would appreciate receiving any reprints. His address is: Department of Geology, University of Portsmouth, Portsmouth PO1 2DY, UK.

This years Annual General Meeting of the British Micropalaeontological Society will be held on Wednesday 19th November 1997. Unfortunately a typographical error in the last BMS Newsletter had the month of this meeting as December. We would like to point out that, as usual, this meeting is on the third Wednesday of November. The venue is the Anatomy Lecture Theatre, University College London and the event starts at 2.00 p.m. The programme has just been finalised. Dr Henk Brinkhuis of the University of Utrecht, The Netherlands has agreed to speak on his extensive research on the responses of dinoflagellate cysts at the K/T boundary. Also Dr Andy Gooday (Southampton Oceanography Centre) will be presenting a guest lecture. We do not have titles/abstracts at this stage. AASP members are of course cordially invited to this meeting.

A British Micropalaeontological Society Demonstration Meeting was held at the University of Birmingham on Wednesday the 30th of April, the day before our general election. Around fifty members braved possible security alerts in the West Midlands to attend. Phil Donoghue and Paul Smith organised this event. The StrataData prize for the best student demonstration went to Kathryn Allen of Southampton University for her work on fractal foraminifera. Posters of a palynological nature included contributions from Matt Farris (Keele University) and Mike Stephenson (Sheffield University). Richard Hallett from Westminster University did an excellent display on dinoflagellate excystment and cyst morphology and presented a superb video of live dinoflagellates in culture. He also brought along a culture in a flask; unfortunately the dinos did not survive the journey from London to Birmingham.

The BMS has now the ability to take payments by credit/debit cards. This will make subscription and other payments much easier for non-UK members. Annual subscriptions are £25, we have to add £1 for credit/debit card payments. So if the hassle and expense of obtaining a bank draft was putting you off joining, delay no longer!



Botanical nomenclature is a basic tool for communication among all those in botanical sciences. The value of this single worldwide "language" was first recognized by Linné, who wrote his name as Linnaeus, because all

scientific (and diplomatic and spiritual) communication was done in Latin. Using Latin, the young Swede could lecture at the University of Harderwijk and be instantly understood. (Harderwijk is a now small city in the Netherlands.)

In our days, few people still speak Latin, although some (like myself) have a rudimentary knowledge of its rules and grammar. It would seem that English (particularly that part of the vocabulary reflecting its Romance foundations -- e.g. the total verbiage in this clause) now is the lingua franca in commerce and science, and the most widely understood. However, botanical nomenclature, including the bulk of taxonomic descriptions, is still conducted in

Latin. Either names are (based on) Latin or latinized Greek words, or, if the names are based on words from the vernacular or invented, they are treated as Latin.

Communications between scientists are oral or written. This small chapter will deal with the oral aspect of nomenclature. Unfortunately, my increasing age makes it no easier to hear clearly what people say; if I don't pay attention, I even may miss that they are speaking at all. However, for many years I have been troubled at meetings by the wild variety of pronunciations of Latin, that hindered my understanding of the points the speakers were trying to make.

There are several 'dialects': classical Latin, church Latin, vulgar Latin and botanical Latin; the "traditional English gardeners'" pronunciation of the latter is commonly used by English botanists. Each of these has its peculiarities, but, except for the last, the vowels should be fairly consistently pronounced the same way in each. Many pronunciations of our Latin names, however, are (too) strongly colored by the speakers' native tongues. (Tongue-in-mouth disease?) This may make for uncertainty about the forms being discussed. Particularly the "English-garden" variety pronunciation can be very confusing, because it uses the phonetic values of written vowels as they have shifted in modern English, which make them differ from what they stand for in most other (continental) languages. For instance, *regina* sounds like "ree-djzye'-neh," instead of the more classical "ray-ghee'-nah."

This variance in Latin pronunciation dates back to past ages. Essentially, it is the reason for the divergent developments of the Romance languages. This phenomenon kept plaguing users of Latin throughout time. Stearn (p. 53) cites Erasmus who in 1528 related how a French ambassador addressed the court of Emperor Maximilian (where everything was in Latin) "with so Gallic an accent that the Italians thought he were speaking French; a German, in reply, sounded as if he were speaking German; a Dane, speaking third, might have been a Scotsman, so marvellously did he reproduce the Scotch phonetics."

It is easier to explain the correct pronunciation to a reader who has some knowledge of another language; in Italian (and the other Romance languages), as in German, the phonetic vowel values are not too different from what they were in Latin. It would be desirable -- and ultimately beneficial to all -- if a conscious effort were made to use a correct classic enunciation, not only at conferences, but even in the labs, workplaces and home where students learn the jargon.

Approximately, the correct pronunciation of vowels and some consonants are as the sound of the capitalized letter(s) in the following (the first example as for long vowels, the second as for short ones):

a: fAther, ApArt
e: thEY, pEt
i: machIne, plT
o: nOte, nOt
u: BrUte, fUll
y: French pUr, French dU [if necessary 'shEEEn,' 'thEse']

Two vowels following each other are always pronounced individually:

Co-to-ne-as'-ter (the second 'o' is long), not cot-on-easter.

However, Latin has some genuine diphthongs (which are per se long):

ae: AIsle, German KAIsler  
au: hOUse  
ei: rEIn (or rAIIn)  
eu: pUff [however, Germans might use 'oi']  
oe: OIl [however, Germans might use 'ö']  
ui: WE, French oUI

Most consonants are as in English, but the following need attention (NB: in 'church Latin, the consonants are essentially as in modern Italian):

c: always as in Cat  
g: always as in Go, Get  
j (consonant form of 'i'): Yellow  
r: always with a Scottish roll or Italian trill  
s: Sit, gaS  
t: Table, naTive (not as in 'nation')  
v (consonant form of 'u'): We  
z: as 'z' or 'dz'

There are a few double consonants, generally of Greek origin:

ch: as 'k' (or if possible as 'k-h')  
ng: fInGer, siNGle (not as in 'singer')  
ph: as 'p' (or if possible as 'p-h'); my preference would be 'f' as in 'photograph'  
th: as 't' (or if possible as 't-h')

This ends the guide to proper pronunciation of Latin words (including latinized Greek). However, a large number of our taxonomic names incorporate elements of personal or geographic names from many parts of the world. These are often written as in the local vernacular, in spellings that do not always utilize the same phonetic values as the European languages (particularly Latin) in their systems of romanization to convert from different alphabets (or other writing systems, e.g. Chinese, Arabic). Xixi in Chinese would be pronounced 'Sheeshee' (in "English" phonetics), Qiqi as 'Tsjeetsjee.' If we were to change the orthography of such names to approach more closely the phonetic convention of Latin, we might find it easier to pronounce them without extraneous knowledge of Chinese, but the form thus written would not be recognized as a geographic feature, or as an author whose name would be familiar in a list of cited literature.

Here, then, we have a dilemma that needs compromise and common sense. It is customary, and appropriate, to pronounce such parts of a name as closely to the vernacular as is possible, recognizing that non-native speakers may have problems as local tongue-twisters are produced too quickly: *Warszewiczella* thus comes to sound like "var-she-vi-chel'-la." Similarly, *Menziesia* is spoken "men-zees'-i-a", *Heuchera* "hoi'-khe-ra" or *Fuchsia* "Fooks'-i-a" (NOT "Foo-shi-ya"), and *Choisya* "shjoah-see'-ya"; which presupposes some knowledge of Polish, Scottish, German, French etc. pronunciations.

For instance, the Italian pronunciation of "chi" (= 'kee') differs from the French "chi" (= 'shee'); the Polish "cz" corresponds to the English "ch" (= 'tsj') and to the Italian "c" before "i" (as in 'tsjee').

The stress (based on subdivision into syllables) is almost as important in recognizing the pattern and rhythms in spoken words.

Also the length of a vowel is important in this respect; long ones may be indicated in a dictionary by a line over them, short ones by a hollow curve. In Greek, the length of some vowels is indicated, in the case of 'o' or 'e,' by the use of different letters (omicron and omega; epsilon and etha). In Latin, these distinctions are not present. The division of a word into syllables is sometimes quite different from the standard breaks made within words according to the English dictionary (where inexplicably one finds *stra\_tig'\_ra\_pher* next to *strati\_graph'\_ic*; in the Latin convention, these would be *stra-ti-gra-pher* and *stra-ti-gra-phi-c*).

English speakers apparently justify these variants as they reflect changes in pronunciation. However, in scientific context at least, we should adhere to *Po-ly-go'-num* ('many angles'), NOT say *Po-lyg'-o-num*; and measure in *mi-cro-me'-ters*, not in *mi-crom'-e-ters*.

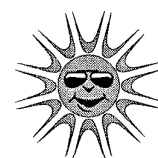
In classical Latin, the stress in words of three or more syllables is on the penultimate one when it is long (i.e. when it ends in a long vowel or a diphthong: *re-ti-cu-la'-tus*), or when the last two vowels in the word are separated by two consonants (*ca-na-den'-se*, NOT *ca-na-dens'*). However, if the penultimate syllable is short, the stress is on the third syllable from the end (*flo'-ri-dus*, *la-ti-fo'-li-a*).

In long words there may be a lesser stressed syllable in the first part, and a stronger stress in the last part (*Nus-ko'-i-spo-ri'-tes*; NOT *Nus-koi'-spo-ri-tes*).

In conclusion, when speaking always pronounce names carefully, and don't rush or slur them: your audience will stay more interested and better informed.

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### LPP PART THREE - REPRODUCTIVE BIOLOGY

by Henk Visscher

Pollen grains may qualify as the most successful category of botanical objects to be applied in modern biostratigraphical and paleoecological analysis. Yet, while operating within a biology faculty, LPP research should logically include aspects that emphasize the fundamental role of pollen in reproductive biology. Here, I will mention our research on prepollen of late Paleozoic conifers that started in the early 1980s, and culminated last year in the PhD thesis of Ruud Poort. Most of the results have been presented as contributions to LPP's '*Aspects of Permian palaeobotany and palynology*', published in the *Review of Palaeobotany and Palynology* and the *Acta Botanica Neerlandica*. A more detailed review of the prepollen concept and its 100-year history was recently given by Poort et al. (1996)

By the way, talking of reproductive biology, the fact that you received this newsletter more or less on the scheduled date is a miracle. In June, your newsletter editor has become the proud father of Samuel and Yannick. The newborn twin brothers and their mother are flourishing. Jan Willem, however, is largely distracted from DinoSys, AASP and his other palyno-responsibilities, because of a 24-hour involvement in changing nappies as well as keeping and computerizing the babies' statistics (if you send him an encouraging e-mail, he may provide you with an up-to-date digitized image of the twins). Yet, despite lack of sleep and time, he managed to produce your newsletter. Congratulations, Jan Willem, with both splendid achievements!

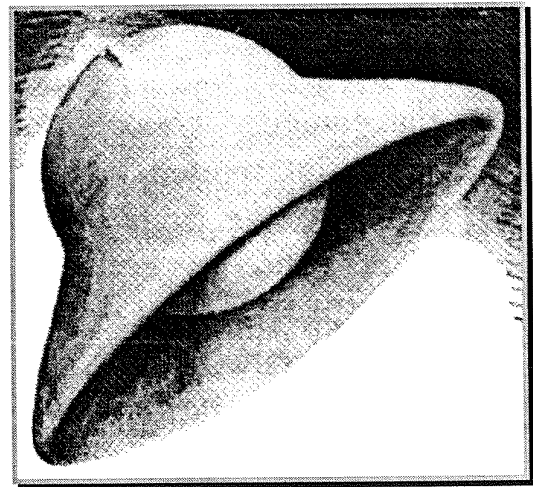
But back to prepollen. Towards the end of the 19th century it was generally assumed that seed plants, both extant and extinct, were uniformly characterized by siphonogamy. This fertilization mechanism involves formation of a pollen tube, a tubular outgrowth of the microgametophyte through which immotile gamete cells or nuclei are delivered to the archegonia. The mechanism is fundamentally different from zoidogamy, the fertilization by means of motile antherozoids as can be observed in spore-bearing plants. Then in 1896, the assumption of uniform siphonogamy in gymnosperms was definitively shown to be a false concept. The Japanese botanists Hirase and Ikeno published their classic notes on the discovery of the production of antherozoids in *Ginkgo biloba* and *Cycas revoluta*. By remarkable coincidence, in the same year, the presence of zoidogamy was independently suspected in fossil plants. The French paleobotanist Renault coined the term prepollen ('prépollinies') for large pteridospermous and cordaitalean pollen, characterized by a supposed multicellular microgametophyte that could have produced motile antherozoids, rather than developing pollen tubes. He considered this pollen to be intermediate between pteridophyte spores and cycadophyte pollen.

The discoveries of Hirase and Ikeno surprised the international botanical community and had an immediate and tremendous impact on the comparative analysis of reproductive biology in gymnosperms. Fertilization by means of motile antherozoids soon became universally recognized as the fundamental reproductive strategy of all extant cycad genera, as well for *Ginkgo*. Following Renault's observations, also the study of prepollen received considerable attention. Zoidogamy provided a functional explanation for the presence of the pollen chamber, long since known in the ovules of these taxa. It gradually was confirmed that some Paleozoic gymnosperms produced pollen with the overall morphological organization of many isospores or microspores of pteridophytes. A common feature is the presence of a proximal aperture. In modern pteridophyte spores this aperture serves as a preformed area, usually for protrusion of the antheridia-bearing gametophyte, but also, in heterosporous lycopsids, for release of internally produced antherozoids. Hence, functional interpretation of similar apertures in fossil gymnospermous pollen suggested zoidogamy. As a result, prepollen is currently defined as 'the microspores of certain extinct seed plants characterized by proximal apertures and presumed proximal germination, rather than the distal, equatorial or other typical apertures of seed plant pollen grains'. It is obvious that the fossil prepollen by definition contrasts with the two pollen categories that are morphologically and functionally recognized in extant gymnosperms: (a) pollen with a distal aperture (leptoma) for the outgrowth of a pollen tube with an exclusively nutritive function; release of motile antherozoids not via preformed apertures but by wall decay (zoidogamy of cycads, *Ginkgo*), and (b) pollen with a leptoma for the outgrowth of a pollen tube that also serves as a carrier for immotile gamete cells or nuclei (siphonogamy of all other gymnosperm taxa).

A wealth of morphological and ultrastructural data are now available for a variety of pollen types, found in situ in polliniferous organs of lyginopteridalean and medullosalean pteridosperms, mostly from North America. Although not always explicitly cited as prepollen, studies by Tom Taylor, Gar Rothwell and other American paleobotanists, firmly confirm a prepollen condition in the Lyginopteridales and Medullosales. This also applies to some cordaitalean pollen types. However, it is not yet generally appreciated that also pollen of some late Paleozoic conifers could qualify as prepollen. At LPP, as part of his PhD research, Ruud Poort (1996) has concentrated on the morphological and

ultrastructural characters of pollen grains of the Walchiaceae in order to confirm their prepollen condition.

A detailed study of the genus *Ortiseia* from the Upper Permian of North Italy, and a re-evaluation of the genera *Walchia* and *Ernestiodendron* by Jopie Clement-Westerhof (1984) had already initiated the development of a natural concept of the Walchiaceae (see also Visscher et al., 1986; Kerp et al., 1989), the most prominent conifer family of the late Paleozoic Euramerican floral province. One of the novel elements in this re-evaluation was the concept that in situ and dispersed walchiaceous pollen corresponding to the late Paleozoic form-genera *Nuskoisporites* and *Potonieisporites*, represents prepollen. Further morphological and ultrastructural analysis has now provided conclusive confirmation of this concept (Poort et al., 1997; Poort and Veld, 1997). This analysis falsifies earlier concepts of a monosaccate organization and the presence of a distal germinal area. The species is characterized by a monosaccoid sexine expansion, completely filled with an alveolate infrastructure. A proximal aperture is distinct, but there is no evidence of distal specializations indicative of the outgrowth of a haustorial pollen tube. Despite the relatively large size of the prepollen grains (up to 300 µm), the overall shape is likely to indicate wind pollination. The ovules of the walchiaceous genera are characterized by the presence of a pollen/archegonial chamber. The ovules are inverted, with a downward projecting micropyle. This would suggest a pollination drop mechanism for facilitating the entry of prepollen in the pollen chamber. The presence of such a mechanism is supported by an observed cluster of prepollen at the tip of the nucellar beak of an ovule of the walchiaceous genus *Otovicia* (Kerp et al., 1989).



Artist's impression of the shape of *Nuskoisporites dulhuntyi*, prepollen of the late Permian walchiaceous conifer *Ortiseia*.

In conclusion, it may be emphasized that during the late Paleozoic, zoidogamy was the rule rather than the exception among all major gymnosperm groups, including the conifers. Prepollen bearing plants gradually became extinct during the Permian. The youngest known genus with prepollen, the conifer *Ortiseia*, did not survive the dramatic ecological crisis at the Permian-Triassic transition (Poort et al., 1997). However, possibly as a parallel trend in a variety of late Paleozoic gymnosperms, the capacity to form haustorial pollen tubes had already developed and zoidogamous taxa with the '*Cycas/Ginkgo* strategy' could continue to dominate gymnosperm plant life during a considerable part of the Mesozoic. It is not yet possible to accurately estimate when siphonogamy

originated, and when and why this reproductive strategy started its rise to dominance over zoidogamy. Yet we have to be grateful that there are still a few 'living fossils' that have survived the progressive elimination of zoidogamous plants. Fossil pollen may help to hypothesize on the waxing and waning of zoidogamy, but we first needed the pollen of *Cycas* and *Ginkgo* to reveal, a century ago, that the very concept of zoidogamy among gymnosperms, is not a hypothesis but a reality.

Clement-Westerhof, J.A., 1984. Aspects of Permian palaeobotany and palynology. IV. The conifer *Ortiseia* Florin from the Val Gardena Formation of the Dolomites and the Vicentinian Alps (Italy) with special reference to a revised concept of the Walchiaceae (G'p'pert) Schimper. *Rev. Palaeobot. Palynol.*, 41: 51-166.

Kerp, J.H.F., Poort, R.J., Swinkels, H.A.J.M. and Verwer, R., 1990. Aspects of Permian palaeobotany and palynology. IX. Conifer-dominated Rotliegendes floras from the Saar-Nahe Basin (? Late Carboniferous-Early Permian; SW-Germany) with special reference to the reproductive biology of early conifers. *Rev. Palaeobot. Palynol.*, 62: 205-248.

Poort, R. J., 1996. The reproductive biology and extinction of the Walchiaceae (late Palaeozoic conifers). Thesis Utrecht University. Available as *LPP Contrib. Ser.*, 4, 159 pp.

Poort, R.J., Clement-Westerhof, J.A., Looy, C.V. and Visscher, H., 1997. Conifer extinction in Europe at the Permian-Triassic junction: morphology, ultrastructure and geographic/stratigraphic distribution of *Nuskoisporites dulhuntyi* (prepollen of *Ortiseia*, Walchiaceae). *Rev. Palaeobot. Palynol.*, in press. (Reprints by the end of the year)

Poort, R.J. and Veld, H., 1997. Aspects of Permian palaeobotany and palynology. XVIII. On the morphology and ultrastructure of *Potonieisporites novicus* (prepollen of Late Carboniferous/Early Permian Walchiaceae). *Acta Botan. Neerl.*, in press. (Reprints by the end of the year)

Poort, R.J., Visscher, H. and Dilcher, D.L., 1996. Zoidogamy in fossil gymnosperms: The centenary of a concept, with special reference to prepollen of late Paleozoic conifers. *Proc. Natl. Acad. Sci. USA*, 93: 11713-11717. (Reprints still available)

Visscher, H., Kerp, J.H.F. and Clement-Westerhof, J.A., 1986. Aspects of Permian palaeobotany and palynology. VI. Towards a flexible system of naming Palaeozoic conifers. *Acta Bot. Neerl.*, 35: 87-99.



## **IGCP 381 - SOUTH ATLANTIC MESOZOIC CORRELATIONS PROJECT**

by Gordon D. Wood

This is a newly formed interdisciplinary project combining geology, geochemistry geophysics, and their related specialties, to study the Mesozoic of West Africa and Eastern South America. Previous meetings have included several papers with palynological information. Co-Project leaders for SAMC are Dr. Eduardo A. M. Koutsoukos and prof. Peter Bengtson. The project leaders oversee several sub-projects. These are listed below (along with subproject contacts) :

\* Aptian/Albian and Albian/Cenomanian Stage Boundaries (E. A. M. Koutsoukos, PETROBRAS-CENPES, Rio de Janeiro, Brazil)

\* Cenomanian/Turonian and Turonian/Coniacian Stage Boundaries (P. Bengtson, Heidelberg University, Germany)

\* Coniacian/Santonian, Santonian/Campanian and Campanian/Maastrichtian Stage Boundaries (E. Olivero, CADIC, Ushuaia, Argentina)

\* Atlas of Carbonate Microfacies (D. Dias Brito, IGCE-UNESP, Rio Claro, Brazil)

\* Chemostratigraphic Correlations (R. Rodrigues, PETROBRAS-CENPES, Rio de Janeiro, Brazil)

\* Cretaceous Continental Ecosystems (I. Canvalho, UFRJ, Rio de Janeiro, Brazil)

\* Dating of The First Marine Transgression (E. Koutsoukos, PETROBRAS-CENPES, Rio de Janeiro, Brazil)

\* K.T. Boundary (E. Koutsoukos, PETROBRAS-CENPES, Rio de Janeiro, Brazil)

\* Biochronostratigraphy and Biogeography of Non-marine Microfossil Assemblages (E. Musacchio, Universidad Nacional de la Patagonia, Comodoro Rivadavia, Argentina)

\* Paleogeography (N. Cameron, Imperial College, London, U.K.; PETROBRAS-CENPES, Rio de Janeiro, Brazil)

\* South Atlantic Evaporites (P. Szatmari, PETROBRAS-CENPES, Rio de Janeiro, Brazil)

\* Tectonic Modelling (P. Szatmari, PETROBRAS-CENPES, Rio de Janeiro, Brazil)

\* Cuban Working Group (J. R. Sanchez-Arango, CEINPET, La Habana, Cuba)

\* West African Index Microfossil Species: Systematics, Biostratigraphy and Paleoecology (P. De Klasz, Nice, France)

The first SAMC meeting was included as a thematic symposium in association with the XXXIX Brazilian Geological Congress (September, 1996), in Bahia, Brazil. SAMC II was held in conjunction with the 13th Colloquium of African Micropalaeontology and 3rd Colloquium on the Stratigraphy and Palaeogeography of the South Atlantic (March, 1997), in Yaoundé, Cameroun. Both meetings had several papers with a strict, or integrated, palynological theme. The titles are listed below:

\* "Timing of the communication between the South and Central Atlantic using palynological data from eight wells in the Douala/Kribi-Campo Basin, Cameroun"

\* "Late Jurassic-Early Cretaceous dinoflagellate cyst assemblages from the Eastern Desert of Egypt"

\* "Palynologie du Crétacé au Paléocène de la marge transformante Côte d'Ivoire-Ghana, Leg ODP 153 sites 955, 960, 961 and 962"

\* "Les Dinoflagellés vraconiens du bassin de Campos, Brésil"

\* "Analyse palynologique du Sénomien Supérieur de Côte d' Ivoire: implications paléoenvironnementales"

\* "Ear-like appendage-palynomorphs from Chad and Niger and their stratigraphical significance"

\* "Chrono-lithostratigraphical chart of the Lower Cretaceous of Cabinda"

\* "Palynostratigraphy of the eastern Binda Basin, Nigeria"

\* "Early Cretaceous lacustrine ostracode faunas of intra-cratonic basin of West Africa and Brazil: palaeobiological considerations"

\* "Le kyste de dinoflagellé *Andalsuella*: emendation du genre, révision de l' espèce (*A. ivoirensis*) sp. nov."

\* "On the occurrence of endemic Northern Gondwana Province microspores in Egypt"

\* "La végétation camerounaise: son évolution depuis 120 Ma."

\* "Biostratigraphy of the Marine Cretaceous of the Southern and Southeast Brazilian Marginal Basins based on Dinoflagellates"

\* "Analyse Palynologique du Sénomien Supérieur de Côte d' Ivoire-Implications Paléoenvironnements"

\* "Paleoenvironment of Upper Cretaceous Black Claystones from Leg 159 (Côte d' Ivoire-Ghana Transform Margin)"

\* "Les kystes de Dinoflagelles du Santomen au Paléocène du Bassin Ivoirien, au large du la Côte d'Ivoire, forage 959, croisière ODP159"

\* "Late Cretaceous Palynofloras and Foraminifera from Air El-Wadi Area, Farafra Oasis, Egypt"

\* "Palynology of Pozo D-129 Formation in the San Jorge Gulf Basin, Lower Cretaceous, Patagonia, Argentina"

\* "Palynological Studies of the Cretaceous Section of Parnaíba Basin"

\* "Palynology, palynofacies and geochemistry of the Early Cretaceous Cocobeach Group, Gabon"

\* "Paleoecologic and sequence stratigraphic implications of Chlorophyta (Chlorococcalean algae) in the Cretaceous of South America and Western Africa"

A regional assembly of IGCP Project 381 will be held jointly with the 2nd European Meeting on the Palaeontology and Stratigraphy of South America (September) in Heidelberg, Germany. Information for this meeting can be accessed at the Web Site.



The thematic sessions of SAMC are unique because they bring to bear numerous scientists, from both academia and industry, and foster integrated study of the conjugate margins of the South Atlantic during the Mesozoic. This synergy is extremely important in deciphering the complex history of the region. Palynologists interested in this area are urged to visit the Web Site or contact the Project Leaders via email and requesting the most recent SAMC Newsletter.

Dr. Eduardo A. M. Koutsoukos - Petrobras-Cenpes/Divex, Cidade Universitária, Quadra 7, 21949-900, Rio de Janeiro, R.J., Brazil  
Tel + 55-21-5986440; Fax +55-21-5986795

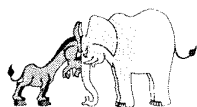
koutsoukos@cenpes.petrobras.com.br

Prof. Peter Bengtson - Geologisch-Paläontologisches Institut der Universität Heidelberg, Im Neuenheimer Feld 234, D-69120, Heidelberg, Germany

Tel. +49-6221-548293; Fax. +49-6221-548640/545503

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SAMC WWW <http://ix.urz.uni-heidelberg.de/~dc8/samc>



### MEETINGS



#### PALYNOSTRATIGRAPHY AT LOW LATITUDES

Porlamar, Isla de Margarita, Venezuela; Tues. 18th

November, 1997

3rd Circular

This symposium will be held under the auspices of the Venezuelan Geological Society (SVG), during the joint VIII Venezuelan Geological Congress and First Latin American Sedimentological Congress, at the Margarita Hilton Hotel, November 16-19, 1997. Palynostratigraphy at Low Latitudes is being organized by Geoffrey Norris (University of Toronto, Canada) and Laurent de Verteuil (Petrotrin, Trinidad) and commemorates the 50th anniversary of Industrial Palynology in Venezuela.

Terrestrial and marine plant/algal communities in the tropics differ considerably from their high latitude counterparts in their responses to climatic change. The current emphasis on genetic stratigraphy in basin analysis is providing a stimulus for palynologists to re-interpret low latitude palynomorph assemblages, in terms of how ecosystems respond to climatic and tectonic cyclicity. Some of these stratigraphic studies incorporate new ideas from the most up-to-date botanical research on tropical vegetational ecology and biodiversity mapping. This aspect will be highlighted in a keynote address by Mark Bush (Florida Institute of Technology), in collaboration with Paul Colinvaux (Smithsonian Tropical Research Institute), entitled "Pleistocene refugia reconsidered: modern and fossil pollen evidence". Building from there, other presentations will focus on the ecologic and taxonomic structure of fossil low paleolatitude plant/algal communities, and the innovative use of taphonomic and palynofacies data within a sequence stratigraphic context.

Registration - In order to register individuals must fill in a written registration form and mail it to the Sociedad Venezolana de Geólogos. Registration forms accompany the congress hardcopy second circular which can be obtained by writing to Juan H. Rios or Maria Lorente, or by contacting either of them by phone, fax or email. contacting either of them by phone, fax or email.

Maria Lorente - Maraven, Aparto 629, Caracas 1010A, Venezuela - Voice: 582 908 2381 - Fax: 582 908 2053, email: [epxgl@bioserv.maraven.pdv.com](mailto:epxgl@bioserv.maraven.pdv.com)

Juan Humberto Rios - Apdo. De Correos No. 17493, Parque Central, Caracas - Venezuela - Voice: 582 234 0716 - Fax: 582 234 0716, email: [svg@mailser.reacciun.ve](mailto:svg@mailser.reacciun.ve)

For additional information on the congress, including registration costs, field trips, short courses, hotels and travel, please visit the web site of the American Association of Stratigraphic Palynologists (<http://opal.geology.utoronto.ca/AASP/>).

*Hasta la vista en Margarita*



#### 5th EUROPEAN PALAEOBOTANICAL PALYNOLOGICAL CONFERENCE

June 26-30, 1998

Krakow, Poland



KRAKOW is the former capital of Poland and has a rich cultural and scientific

tradition. It is the second largest university center in Poland, seat of one of the oldest European universities - the Jagiellonian University- founded in 1364.

With its medieval lay-out and priceless monuments Krakow has been included in UNESCO Registers as one of the twelve most outstanding ancient cities in the world. The nearby Wieliczka Salt Mine, known world wide, has also been entered on the same list. Visitors can admire the old shafts, the huge expanses in that mysterious underworld, the fine statues and ornaments all carved in rock salt. The Wieliczka Salt Mine Museum provides the possibility to trace the complete history of Polish salt mining and to see palaeobotanical collections extracted from the Miocene salt sediments.

Scientific programme - The conference will have simultaneous paper sessions on different topics, and also poster session.

Time for presentation of each paper is 15 minutes and 5 minutes for discussion.

The official language of the Conference is English.

All lecture rooms are equipped with slide projectors (slides 5 x 5) and overhead projectors.

Poster size max. 90 x 110 cm

Intra-Conference Excursion to the Salt Mine Wieliczka for all participants (½ day).

Post-Conference Field Trips

1. Carboniferous and Permian of Upper Silesian Coal Basin (3 days).

2. Tertiary - Quaternary floras of Belchatow, Konin (Central Poland) and several localities in South-Western Poland (5-6 days).

3. Tertiary - Quaternary floras and recent vegetation of sub-Tatra and Tatra Mts region (3 days).

4. Holocene - Palaeobotany of the Neolithic settlement in the vicinity of Cracow (1 day).

Correspondence to: Mgr. Grzegorz Worobiec, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 466, 31-512 Krakow, Poland

fax. (48 12) 21 97 90, email [worobiec@ib-pan.krakow.pl](mailto:worobiec@ib-pan.krakow.pl)



#### 9th BRAZILIAN MEETING OF PALEOBOTANISTS AND PALYNOLOGISTS

in memoriam: Prof. Dr. Murilo Rodolfo de Lima  
9-12 DECEMBER 1997 - Guarulhos/SP/Brazil

The Ninth Brazilian Meeting of Paleobotanists and Palynologists (IX RPP) will be held on December 9-12, 1997, at the Universidade Guarulhos in the Greater São Paulo metropolitan

area. After nearly 20 years at the Universidade of São Paulo (I-VIII RPPs), this meeting will mark the beginning of what we hope will be a scientifically stimulating rotativity of this traditional scientific meeting among the major Brazilian centers of research in Paleobotany and Palynology.

As in all previous meetings in this series, this year's program offers a broad spectrum of activities, divided approximately equally between technical sessions (oral and poster presentations), on the one hand, and special events, on the other, which will include lectures on "Biochemistry in the Classification of Plants" and "Statistical Methods Applicable to Palynology and Paleobotany"; keynote speeches followed by round-table discussions on Carboniferous Basins of South America, the Origin and Evolution of Angiosperms, and Late Quaternary Climatic Changes in Brazilian Vegetation; and a 4-hour short course on the computer program "Tilia", popular among palynologists.

We would like to invite all interested persons to attend. The Registration Fee is US\$80, payable by check to Antônio Roberto Saad.

Abstracts for oral presentations (15 minutes plus 5 minutes for discussion) and posters should be mailed by 30 May 1997 in hard form and 3 ½ diskette (WORD 5.0 OR 6.0 format; Times New Roman 12 font). All text, title, author's names and affiliations, etc. Should fit within a single page of A4 paper (210 x 297mm) with 3.5 cm upper margin, 2.0 cm right margin, 3.0 cm left margin, and 2.5 cm lower margin.

Full papers of up to 20 pages (including all text, figures, and references) may also be submitted for publication in the Universidade Guarulhos Publications in Geosciences. Their deadline is also 30 May 1997.

Information on accommodations and how to get to the meeting site will be furnished in a second Circular to be sent out in July but will also be available after mid-May by e-mail.

For further information, contact:

Profa. Dra. Maria Judite Garcia (President, Organizing Committee), Universidade de Guarulhos, Departamento de Geociências, Praça Tereza Cristina, 01 Guarulhos, SP, Brazil - 07023-070, Telephone: 55 (11) 6464-1708, Fax: 55 (11) 6464-1702, 6464-1708 or 6440-2030, e-mail: geo@server.ung.br, www.ung.br

#### FOSSIL COLLECTIONS

The University of California - Museum of Paleontology, is pleased to invite you to help celebrate its 75th/125th Anniversary as the University's Museum of Paleontology and the State Repository of Fossil Collections. In a weekend celebration of lectures and discussions "Integrative Paleontology and the Future" which will take place in Berkeley at the Museum, February 27-28 and March 1, 1998.

The weekend will feature:

- an evening reception and lecture on Friday
- a Saturday morning symposium on "New Approaches in Integrative Paleontology"
- Saturday afternoon panel-audience discussions on "The Future of Paleontological Research" and "Challenges Facing Paleontology Museums"
- Saturday evening banquet and keynote speaker
- Sunday introduction and exploration of new Museum facilities, collections, WWW, and opportunities to browse and mingle.

More information will be provided in the early Fall. Meanwhile we hope that you will set aside these dates for a weekend of learning, exchange, exploration, and the chance to visit the history and future of paleontology and UCMP.

For more information please contact Judy Scotchmoor (510-642-4877, judys@ucmp1.berkeley.edu).

#### 18th IAS REGIONAL EUROPEAN MEETING

The 18th IAS Regional European Meeting on Sedimentology (sessions 17 and 18), 2-4 September 1997, will include several sessions of interest. For complete programmes, please refer to:

<http://www.uni-heidelberg.de/institute/fak15/geol/de8/Sessions/Programm.html>

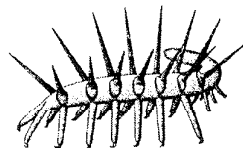
The meeting "Marine Microorganisms for Industry" to be held in Brest, France, in September has now a presentation on the web:

<http://www.ifremer.fr/general/colloque/microorg.html>

You can find there the second announcement with registration coupon, and the preliminary programme.

Though it is not specifically devoted to algae, they are an important aspect to be examined, especially for PUFAs.

#### THE DIGITAL BURGESS



A Conference on the Origins and Future of Life on Earth - Banff August 29th - September 1st.

Themes: Origins of life, mass extinction, digital tools used in

research on evolution, digital ecosystems, digital life

Speakers: Richard Dawkins, Tom Ray, Przemyslaw Prusinkiewicz, Douglas Adams, Des Collins, Steve Grand, Chris Winter, William Riedel, Mark Rudolph and many others

Special Events: guided hike to the Burgess Shale, two days of intense workshops, technology showcase and much more.

Registration is limited, see details below or visit the conference website at <http://www.biota.org>

Digital Burgess will be a groundbreaking event, bringing together some of the world's leading visionaries in science, technology, and the arts to consider deep questions in the evolution and future of life on Earth. An unprecedented showcase of digital tools for the modeling and simulation of life will be presented. Conference attendees will be trekking up a mountainside in the Canadian Rockies to visit the Burgess Shale. The Shale contains the fossil remains of the "weird wonders" of the "Cambrian Explosion" and will stimulate inspired discourse about life's origins, evolution, mass extinction and the possibility of life entering digital spaces.

Digital Burgess listserver discussions have started. If you are not signed up for this list and want to be, then send an email to [joinburgess@digitalspace.com](mailto:joinburgess@digitalspace.com):

Dear colleague,

I would like to interest you in the Digital Burgess discussions, a listserver created to discuss the themes of the upcoming Digital Burgess event, a groundbreaking conference on the origins and future of life on Earth, to be held at the Banff Centre for the Arts on August 29th through September 1st, 1997. This event will bring together members from diverse communities who are committed to exploring fundamental questions of evolution. Visionary thinkers from Paleontology and the Natural Sciences, Computer Science, and the arts will gather for three and a half days in the spectacular environs of the Canadian Rockies. A guided trek to the Burgess Shale, one of the planet's great records of the Cambrian Explosion of forms in Nature, will set the stage for two days of intense discussion.

You can begin the Digital Burgess discussions early through this listserver. Many of your fellow attendees and presenters are on this list. I kindly request that you take a look at the key themes and questions posed for Digital Burgess listed later in this email. If you want to address any of these themes or post your own, simply reply to this email and request to be placed on the list.

You don't have to be attending Digital Burgess to participate in this discussion and we hope this list will go on and inspire the next event!

Bruce Damer - Contact Consortium, Biota.org

#### THE KEY THEMES AND QUESTIONS

##### 1. Origins of the designs of life

Origins of life's designs: how did the body plans in the Cambrian seas emerge and why did certain designs survive over others?

Digital modeling of living and evolutionary systems: what kinds of insight can software systems give us into the evolution of living systems?

##### 2. Digital tools with biological inspiration (Biologics)

Use of biological metaphor in computing and engineering: will living systems inspire powerful new software and engineering solutions for humanity?

Biologic software may be stimulating whole new forms of artistic expression: what are the fundamental sources of the aesthetic that can spring from nature or a digital ecosystem?

##### 3. The future of Life on and off the Earth

Lessons learned from mass extinctions: what do past mass extinctions tell us about the vast reduction in biodiversity being perpetrated by humanity and how will this affect the future course of life?

New niches, new biota: will cloning and gene manipulation produce a radical new direction for biota on an Earth transformed by humanity?

Consequences of bona fide digital life: will a Cambrian Explosion of the digital occur in the next century and if so, what might be the impact on the future of humankind and life on and off the Earth?

The complete detailed program guide is featured at:

<http://www.biota.org/conf97/schedule.html>

A guide to the requirements and scheduling of the Burgess Shale treks is at:

<http://www.biota.org/conf97/attend.html#trek>

Note that if you are not signed up on one of the available trek times, you should contact us right away. The August 30th trek is now full but other options are available. Written proof of medical coverage in Canada is required for you to be able to come on a trek.



#### IV MEETING ON SPANISH JURASSIC

The IV Meeting on Spanish Jurassic will be held in Alcaniz (Teruel Province, Spain) on September 14th to 19th 1997. This geological meeting will be held under the general title: The Jurassic of Iberia and the perytethyan basins.

It will include a whole of 7 scientific sessions on the Jurassic of the different Iberian Jurassic basins, plus an extra session on the Jurassic of the perytethyan basins. Each session will be open by an invited Keynote lecture. All Jurassic specialists and interested colleagues are invited to apply for the meeting and to have the chance to look around the classical Jurassic outcrops of eastern Iberian, and Catalanian Chains. The pre-symposium excursion will take place from September 14th to 17th. The scientific sessions will be held in Alcaniz on Thursday 18 and Friday 19th.

The address of the web page to get access to the general and detailed information is:

<http://wzar.unizar.es/actos/juras/indi.html>

This is the English version. But in case any difficulties arise, the English version is also accessible from the Spanish version address: <http://wzar.unizar.es/actos/juras/indice.html>

The web page includes all information on the details of the meeting, the inscription form and fees, the presentations to the different sessions, the field trip and the accommodation in Alcaniz. It will be updated periodically with new information on the meeting details.

Please remember that the deadline for inscription to both the congress and excursion is May 31st 1997. After this date inscriptions will be charged a 20 per cent.

The organizing committee encourages all Jurassic specialists and interested colleagues to apply for the meeting and to join us in the interesting field trip which will be led by specialists from the University of Zaragoza and Madrid (Universidad Complutense).

Please send all inquiries to: Guillermo Melendez - Dpto. Geología, Paleontología - Universidad de Zaragoza - 50009 Zaragoza (Spain)  
Tel. 34.976.761076 - Fax. 34.976.761088

e-mail: [gmelende@posta.unizar.es](mailto:gmelende@posta.unizar.es)

#### RECOVERIES '97

"Recoveries '97" is part of the international project UNESCO - IGCP #335, "Biotic Recoveries from Mass Extinctions". This conference will take place on September 10 - 16, 1997 (actual session 12-14 Sept) in Prague, Czech Republic, in the newly built conference center IKEM under the auspices of UNESCO, Czech Academy of Sciences, and the Centre for Theoretical Studies.

Please, point your browser to:

<http://www.gli.cas.cz/conf/recovery/recovery.htm>

#### PHYCOLOGICAL SOCIETY OF SOUTHERN AFRICA

First announcement and call for papers

The Botany Department at the University of the Western Cape will be hosting the 1998 meeting of the Phycological Society of Southern Africa. This congress will be held in the coastal town of Simonstown (False Bay, Western Cape Province) from the 18th - 21st of January 1998 at the Otlands holiday resort.

The theme for the 1998 congress is: Algae in the economy: scope for community development

You are invited to attend this congress and submit a provisional title on any topic dealing with algae. Please submit your provisional title along with your registration form by no later than July 31st 1997. A second announcement, and call for abstracts and registration fees will be sent at a later date. If you have access to the INTERNET, please submit your registration form via the following URL: <http://www.botany.uwc.ac.za/pssa/> If you do not have INTERNET facilities, please email me for an email version of the registration form.

We would like to invite our colleagues from outside South Africa to join us for the 4 days of this congress. Escape from the gloom of the Northern winter and come visit us in sunny South Africa.

Gavin W. Maneveldt - PSSA Local Organizing Committee- Botany Department- University of the Western Cape- Private Bag X17- Bellville, 7535 - South Africa

Tel. +27 21 959 2743 - Fax +27 21 959 2266

[Gavin@Botany.uwc.ac.za](mailto:Gavin@Botany.uwc.ac.za) - <http://www.botany.uwc.ac.za/pssa/>

#### ENVIRONMENTAL PALAEOECOLOGY MSc AND PhD SHORT COURSES IN

In the coming academic year the Environmental Change Research Centre, University College London is offering the following one-week and two-week short courses for palaeoecologists, environmental archaeologists and other interested environmental scientists:

Introduction To Pollen Analysis (Prof. H.J.B. Birks and Dr. S.M. Peglar). December 8th-12th 1997: One week £250.00

Introduction To Diatom Analysis (Prof. R.W. Battarbee, Dr. T.E.H. Allott and Dr. V.J. Jones) January 26th-February 6th 1998: Two weeks £425.00

Diatom Micropalaeontology (Prof. R.W. Battarbee, Dr. Laurence Carvalho and Dr. Helen Bennion) February 9-13th 1998: One week £250

Introduction To Ostracod Analysis (Dr J. Holmes)

February 23rd-25th 1998: Three days £150.00

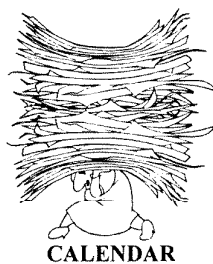
Introduction To Benthic Foraminifera Analysis (Mike Kaminski)

February 26th-27th 1998: Two days £100.00

Numerical Analysis Of Environmental Data (Professor H.J.B. Birks). March 2-13th 1998: Two weeks £450.00

Introduction To Macrofossil Analysis (Dr. H.H. Birks) March 16th-20th 1998: One week £250.00

For course registration forms or further information please contact Catherine Dalton, Environmental Change Research Centre, 26 Bedford Way, London WC1H 0AP. (Tel: +44 (0)171 380 7575, Fax: 44 (0)171 380 7565, [cdalton@geog.ucl.ac.uk](mailto:cdalton@geog.ucl.ac.uk), <http://www.geog.ucl.ac.uk/~ecrc/teaching.htm>



#### 1997

July 10-24: Second Annual Meeting of the International Geological Correlation Programme (IGCP) Project no. 396 'Continental Shelves in the Quaternary' - University of Durham, UK. Details: Mrs Alexandra Barfield FAX: 44-191-3742456 [a.m.barfield@durham.ac.uk](mailto:a.m.barfield@durham.ac.uk)

August 17-21: PaleoForams '97 Bellingham, Washington, U.S.A. Details: Charles A. Ross, Department of Geology, Western Washington University, Bellingham, WA 98225-9080. Tel: (306) 650-3624, FAX: (306) 650-3148, [rossjrp@henson.cc.wvu.edu](mailto:rossjrp@henson.cc.wvu.edu)

August 24-31: GCTE/PAGES/IGAC/BAHC Workshop "Spatial-temporal dimension of High-Latitude Ecosystem Change (Siberian IGBP Transect)". V.N. Sukachev Institute of Forest, Krasnoyarsk, Russia. Details: Dr Elena Muratova, V.N. Sukachev Institute of Forest, Russian Academy of Sciences, Siberian Branch, Akademgorodok, Krasnoyarsk, Russia, 660036 FAX: +7-39-12-43-36-86, E-mail: [dnrd@ifor.krasnoyarsk.su](mailto:dnrd@ifor.krasnoyarsk.su)

August 28 - September 2: 7th International Symposium on Palaeolimnology. Heiligkreuztal/Riedlingen, Germany. Details: Dr Andy Lotter, Geobotanisches Institut, Universität Bern, Altenbergrain 21, CH-3013 Bern, Switzerland. Tel: +41 31-631 4932, FAX: +41 31-332 2059, E-mail: [lotter@sgi.unibe.ch](mailto:lotter@sgi.unibe.ch)

September 7-12: Peribaltic Group of the INQUA Commission on Glaciation - A Field Symposium on Glacial Geology at the Baltic Sea Coast in Northern Germany. University of Kiel, Germany. Details: Dr. habil. Jan A. Piotrowski Institute of Geology and Palaeontology, University of Kiel, Olshausenstr. 40-60 D-24118 Kiel, Germany, Tel: +49 (0)431 880 2878, FAX: +49 (0)431 880 4376, E-mail: [noe57@rz.uni-kiel.d400.de](mailto:noe57@rz.uni-kiel.d400.de)

September 9-10: Scientific Birthday Party for Herbert E. Wright Jr. Wengen, Switzerland. Details: Dr Brigitta Ammann, Geobotany, Altenbergrain 21, 3013 Bern, Switzerland. FAX: +41 31-332 20 59, E-mail: [ammann@sgi.unibe.ch](mailto:ammann@sgi.unibe.ch)

September 7-13: Third Symposium of African Palynology. University of the Witwatersrand, Johannesburg, South Africa. Includes a ten-day pre-meeting field trip to the Cape and a one-day post-meeting trip to the Makapansgat Australopithecine site. Details: Dr Ann Cadman, BPI (Palaeontology), University of the Witwatersrand, PO WITS, 2050, South Africa. FAX: 27 11 403 1423, E-mail: [106caa@cosmos.wits.ac.za](mailto:106caa@cosmos.wits.ac.za)

September 7-12: Peribaltic Group of the INQUA Commission on Glaciation - A Field Symposium on Glacial Geology at the Baltic Sea Coast in Northern Germany. University of Kiel, Germany. Details: Dr habil. Jan A. Piotrowski, Institute of Geology and Palaeontology, University of Kiel, Olshausenstr. 40-60, D-24118 Kiel, Germany, Tel: +49 (0)431 880 2878, FAX: +49 (0)431 880 4376, E-mail: [noe57@rz.uni-kiel.d400.de](mailto:noe57@rz.uni-kiel.d400.de)

September 12-14: RECOVERIES '97: The final meeting of the UNESCO IGCP Project 335 "Biotic Recoveries from Mass Extinctions". Prague, Czech Republic. Details: Conference Manager: Petra Hovorkova, Recoveries '97, Eurocongress Centre, Budejovicka 15, CZ 140 00 Praha 4, E-mail: [recovery@gli.cas.cz](mailto:recovery@gli.cas.cz) See: <http://www.gli.cas.cz/conf/recovery/recovery.htm>

September 14-19: AASP 1997 Annual Meeting. Woods Hole, MA. Includes an extended seminar series on the evolution of the marine phytoplankton in addition to the regular technical sessions. CAP's AGM will be held at this meeting. Details: Paul K. Strother at the Weston Observatory of Boston College, Department of Geology and Geophysics, Weston MA 10293 U.S.A. Tel: (617) 552 8395, FAX: (617) 552-8388 or Reed Wicander at the Department of Geology, Central Michigan University, Mount Pleasant, Michigan 48859, U.S.A. Tel: (517) 774-3179, FAX: (517) 774-2142. See: <http://www2.bc.edu/~strother/1997/1997.html>

September 26-30: Canadian Paleontology Conference. Saskatoon, Saskatchewan. Details: Brian Pratt, Convenor, Department of Geological Sciences, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 5E2, Canada. Tel: (306) 966-5725, E-mail: [brian.pratt@usask.ca](mailto:brian.pratt@usask.ca)

September 29 - October 6: RCANS Second Congress - Main Changes in the Marine and Terrestrial Atlantic During the Neogene Salamanca, Spain. RCANS = Regional Committee on Atlantic Neogene Stratigraphy, Subcommission on Neogene Stratigraphy. Scientific correspondence: Secretary of the Organizing Committee, Departamento de Geología (Paleontología), Facultad de Ciencias-Universidad de Salamanca, 37008 Salamanca, Spain. Tel: 34-23-294497, FAX: 34-23-294514, E-mail: [civis@gugu.usal.es](mailto:civis@gugu.usal.es), [angel@gugu.usal.es](mailto:angel@gugu.usal.es). Registration and non-scientific correspondence: Secretaría Técnica RCANS Second Congress, Viajes y Congresos, S.A., c/Sierpes, 9, 1ºB, 37002 Salamanca, Spain, Tel: 34-23-267292, FAX: 34-23-269208 See also <http://www.usal.es/~geologia/RCANS/RCANS.html>

October 20-23: Geological Society of America, Annual Meeting. Salt Lake City, Utah, U.S.A. Theme: "Global Connections". General chair: M. L. Allison, Utah Geological Survey. Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020, Xf33, E-mail: [meetings@geosociety.org](mailto:meetings@geosociety.org)

November 16-19: Symposium on "Palynostratigraphy at Low Latitudes". Porlamar, Venezuela. This symposium commemorates the 50th anniversary of Industrial Palynology in Venezuela and is being convened under the auspices of the Venezuelan Geological Society (SVG) in association with the 8th Venezuelan Congress of Geology and the 1st Latin American Congress of Sedimentology. Details: Laurent de Verteuil, Geological Services Laboratory, PETROTRIN Ltd., Pointe-à-Pierre, Trinidad, WI Tel: (809) 658-4200/10/20/30 Ex. 2317, FAX: (809) 658-3074, E-mail: [devert@petrotrin.com](mailto:devert@petrotrin.com)  
Website: <http://opal.geology.utoronto.ca/AASP/>

November 20-21: Pleistocene Glaciations of NW European Shelf Seas: North Sea versus Irish Sea. Amsterdam, The Netherlands. Details: Dr C. Laban, Marine Geology Division, Rijks Geologische Dienst, Richard Holkade 10, 2000 AD Haarlem, The Netherlands. Tel: ++31.23.5300302, FAX: ++31.23.5352184, E-mail: [c.laban@rgd.nl](mailto:c.laban@rgd.nl)

December 9-12: Ninth Brazilian Meeting of Paleobotanists and Palynologists Universidade Guarulhos, Greater São Paulo metropolitan area, Brazil. In memoriam: Prof. Dr. Murilo Rodolfo de Lima. Details: Profª. Dra. Maria Judite Garcia (President, Organizing Committee) Universidade de Guarulhos, Departamento de Geociências, Praça Tereza Cristina, 01 Guarulhos, São Paulo, Brazil - 07023-070. Tel: 55 (11) 6464-1708, FAX: 55 (11) 6464-1702, 6464-1708 or 6440-2030, E-mail: [geo@server.ung.br](mailto:geo@server.ung.br)

#### **1998**

February 10-13: 7th International Nannoplankton Association (INA) Conference. La Parguera, Puerto Rico. Will include results from all fields of nannoplankton research, including both palaeontological and biological aspects, with a special session on the role of coccolithophores in global change. Details from website: <http://www.uci.edu/INA7.htm>

April 6-10: 3rd International Symposium 14C and Archaeology. Lyon, France. Details: Secretariat of the 14C and Archaeology Symposium, Centre de Datation par le RadioCarbone - Batiment 217, 43, Bld du 11 Novembre 1918 69622 Villeurbanne Cedex, France. FAX (33) 72 43 13 17, E-mail: [cdrc14@cismun.univ-lyon1.fr](mailto:cdrc14@cismun.univ-lyon1.fr)

April 19-23: PAGES Open Science Meeting London, U.K. Details: Frank Oldfield, PAGES CPO Switzerland, FAX: +41 31 312 3168, E-mail: [oldfield@pageigbp.unibe.ch](mailto:oldfield@pageigbp.unibe.ch)

May 16-23: Environmental Change in Atlantic Islands Torshavn, Faroe Islands. Details: C. Caseldine, University of Exeter, UK., Tel: +44 1392 263 347, FAX: +44 1392 263 342, E-mail: [c.j.caseldine@exeter.ac.uk](mailto:c.j.caseldine@exeter.ac.uk)

May 18-20. GAC/MAC Meeting Québec City, Québec. Will include a Special Session on "Distribution Patterns of Fossils in Paleozoic Sequences of Northeastern North America". Field trip on "Paleontology, Stratigraphy and Sedimentology of Lower to Middle Paleozoic Rocks of the Anticosti Basin, National Park of Mingan Islands and Anticosti Island". The Association québécoise pour l'étude du Quaternaire (AQQUA) will hold its annual meeting during the conference, and will co-sponsor, with the Canadian Geomorphology Research Group (CGRG), a symposium on "Quaternary sea levels in Canada, particularly during the Holocene". Details: Mme Agathe Morin, Département de géologie

et génie géologique, Université Laval, Pavillon Adrien-Pouliot, Sainte-Foy, Québec, G1K 7P4, Canada. Tel: (418) 656-2193, FAX: (418) 656-7339 E-mail: [quebec1998@ggl.ulval.ca](mailto:quebec1998@ggl.ulval.ca)  
See <http://www.ggl.ulval.ca/quebec1998.html>

May 18-23. 11th of the IWGP (International Working Group on Palaeoethnobotany). Toulouse, France. Details: George Willcox, IPO, CNRS Jales-Berrias, 07460, France. FAX: +33-4-75 39 37 96.

July 6-9: Pollen and Spores: Morphology and Biology. Organized by the Linnean Society Palynology Specialist Group (LSPSG) in collaboration with the Royal Botanic Gardens, Kew and the Natural History Museum, London. Includes: Pollen development; Anther and tapetum; Pollen-pollinator interactions; Pollen-stigma interactions; Pollen morphology in systematics and evolution; Ultrastructure (fossil and living groups); Pre-Cretaceous palynology; Cretaceous palynology; Tertiary palynology; Quaternary palynology; Palynology and archaeology; Preparation and techniques. Details: Lisa von Schlippe, Conference Administrator, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB. FAX: + 44 (0)181 332 5176/5278, E-mail: [l.von.schlippe@rbgkew.org.uk](mailto:l.von.schlippe@rbgkew.org.uk)

June 7-12: Dino 6.

Trondheim, Norway. Details: Dino 6 Secretariat, NTNU Museum of Natural History and Archaeology, Attn: Morten Smelror, N-7004 Trondheim, Norway. Tel: +47-73-592147, FAX: +47-73-592223, E-mail: [morten.smelror@vm.ntnu.no](mailto:morten.smelror@vm.ntnu.no)  
Website: <http://www.ntnu.no/vmuseet/dino6>

June 24-26: 7th International Conodont Symposium (ECOS VII). Bologna and Modena, Italy. Details: M. C. Perri, Dipartimento di Scienze della Terra e Geologico Ambientali, via Zamboni 67, 40126 Bologna, Italy, Tel: 39-51- 354560, FAX: 39-51-354522, E-mail: [perri@geomun.unibo.it](mailto:perri@geomun.unibo.it)

June 28-July 5: Gondwana 10: Event Stratigraphy of Gondwana. An International "Out of Africa" Symposium. University of Cape Town, South Africa. Details: Deborah McTeer, Gondwana 10 Congress Co-ordinator, Postgraduate Conference Division, UCT Medical School, Anzio Road Observatory, 7925, Cape Town, South Africa. Tel: +27-21-406-6348, FAX: +27-21-406-6263, E-mail: [deborah@medicine.uct.ac.za](mailto:deborah@medicine.uct.ac.za)  
Website: <http://www.uct.ac.za/depts/cigc>

July 6-9: Pollen and Spores: Morphology and Biology. Palynological conference organized by the Linnean Society Palynology Specialist Group (LSPSG) in collaboration with the Royal Botanic Gardens, Kew and the Natural History Museum, London. Details: Lisa von Schlippe, Conference Administrator, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB, England, U.K., FAX + 44 (0)181 332 5176/5278, E-mail: [l.von.schlippe@rbgkew.org.uk](mailto:l.von.schlippe@rbgkew.org.uk)

July 8-10: Geocongress '98 Geological Society of South Africa, Pretoria, South Africa. Theme: "Past Achievements/Future Challenges". Details: Geocongress '98, P.O. Box 798, Pretoria 0001, South Africa, FAX: (012) 841-1221, E-mail: [caucamp@geoscience.org.za](mailto:caucamp@geoscience.org.za)

July 7-11: FORAMS '98. Monterrey, Mexico. Details: [gamperma@fiu.edu](mailto:gamperma@fiu.edu)  
See <http://www.fiu.edu/~longoria/forams98.htm>

August 17-20: 5th International Symposium on the Jurassic System IUGS Jurassic Subcommittee. Vancouver, British Columbia, Canada. Details: Paul L. Smith, Earth and Ocean Sciences, University of British Columbia, 6339 Stores Road, Vancouver, British Columbia, V6T 1Z4, Canada. Tel: (604) 822-6456, FAX: (604) 822-6088, E-mail: psmith@eos.ubc.ca  
See <http://www.eos.ubc.ca/jurassic/announce.html>

September 11-15: CIMP Symposium 1998 Pisa, Italy. Details: Organizing Committee CIMP '98, Università di Pisa, Dipartimento di Scienze della Terra, Via S. Maria 53 - I 56126 - Pisa, Italy. FAX: +39 50 500932. E-mail: alban@dst.unipi.it

Date: TBA. Canadian Paleontology Conference Antigonish, Nova Scotia

September 21-25: IAEG 1998 - 8th Congress of the International Association of Engineering Geology Vancouver, British Columbia, Canada. Theme: Engineering Geology, A Global View from the Pacific Rim, Vancouver, British Columbia, Canada. Information: Ms Kim Meidal, Secretariat, 8th Congress IAEG, c/o BC Hydro, 6911 Southpoint Drive, Burnaby, British Columbia, Canada, V3N 4X8. Tel: (604) 528-2421, FAX: (604) 528-2558, E-mail: kim.meidal@bchydro.bc.ca  
See <http://www.bchydro.bc.ca/bchydro/IAEG/IAEG98.html>

October 26-29: Geological Society of America, Annual Meeting. Toronto, Ontario. Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020, X133, E-mail: meetings@geosociety.org

### 1999

Date: TBA. GAC/MAC Meeting Sudbury, Ontario

Date: TBA. Fourth Symposium of African Palynology Sousse University, Tunisia

August 3-12: XV INQUA Congress. Durban, South Africa. Theme: "The Environmental Background to Hominid Evolution in Africa". Details: Dr. D. M. Avery, Secretary-General, South African Museum, P.O. Box 61, Cape Town 8000, South Africa. Tel: +27-21-243330, FAX: +27-21-246716, E-mail: mavery@samuseum.ca.za  
See also <http://www.geoscience.org.za/inqua/inqua.html>

October 25-28: Geological Society of America, Annual Meeting. Denver, Colorado, U.S.A. Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020, X133, E-mail: meetings@geosociety.org

### 2000

Date: TBA. GAC/MAC Meeting Calgary, Alberta

Date: TBA. 10th International Palynological Congress (IPC) Nanjing, China.

Date: TBA. Canadian Paleontology Conference Toronto, Ontario.

November 13-16: Geological Society of America, Annual Meeting. Reno, Nevada, U.S.A. Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020, X133, E-mail: meetings@geosociety.org

### 2001

Date: TBA. GAC Meeting

November 5-8: Geological Society of America, Annual Meeting. Boston, Massachusetts, U.S.A. Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020, X133, E-mail: meetings@geosociety.org

### 2002

Date: TBA. GAC Meeting

October 28-31: Geological Society of America, Annual Meeting. Denver, Colorado, U.S.A. Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020, X133, E-mail: meetings@geosociety.org



### THE WEB IN ALL OF ITS COLOURFUL GUISES



#### NAPD CALL FOR DATA

This is a general call for data to all potential contributor's to the North American Pollen Database (NAPD). The North American Pollen Database (NAPD) is a repository for Quaternary pollen data and related metadata. Entry of a large backlog of data is approaching completion and in anticipation of that time we are sending out a request for new data.

NAPD is a public database available from the World Data Center-A for Paleoclimatology sponsored by the NOAA Paleoclimatology Program and housed at the National Geophysical Data Center (NGDC) in Boulder, Colorado. NAPD is, in fact, a subset of the Global Pollen Database, housed at NGDC. The complete relational database as well as various ASCII and spreadsheet files for individual sites are available from the the NGDC Web site. The relevant URL's are:

<http://www.ngdc.noaa.gov/paleo/paleo.html> - Paleoclimatology

<http://www.ngdc.noaa.gov/paleo/pollen.html> - Pollen Database

<http://www.ngdc.noaa.gov/paleo/napd.html> [NAPD Page]

As an incentive to contributors, we have conducted an inventory that identifies over 2000 potential sites for inclusion in NAPD. At present, over 600 of these sites are already archived. The "Unacquired Sites Inventory" is a listing of sites that NAPD would like to acquire. This inventory is available in a MapPad file. MapPad displays site locations and associated publications. You can obtain the MapPad file and program from our Web site:

<http://www.museum.state.il.us/research/napd/mainmenu.html>.

NAPD includes a list of workers who have contributed data or are referenced bibliographically. In order to maintain a current list of e-mail addresses, postal addresses, and position titles, we additionally request that you return a short note to us containing your name, address, position, and e-mail address.

Stephen C. Porter - Illinois State Museum - Research and Collections Center - 1011 East Ash St - Springfield, IL 62703 USA  
North American Pollen Database [napd@museum.state.il.us](mailto:napd@museum.state.il.us)  
phone: 217-524-0493 - fax: 217-785-2857

<http://www.museum.state.il.us/research/napd/mainmenu.html>



## PALEONTOLOGY IN THE 21ST CENTURY

A Senckenberg Conference

<http://www.nhm.ac.uk/paleonet/paleo21/>

★ If you're an adventurous and/or imaginative type, consider coming to the Digital Burgess conference to be held in Banff, August 29 to September 1, 1997.  
<http://www.biota.org/conf97/index.html>

★ A dinosaur database is under construction at University of Bristol. <http://palaeo.gly.bris.ac.uk/dinobase/dinopage.html>

★ A quick background to the Pliocene  
<http://www.esd.ornl.gov/ern/qen/pliocene.html>

★ The Milwaukee Public Museum's Geology Section is in the process of developing a World Wide Web Site based on the Museum's Silurian Reef Diorama and the current research of the Geology Section. The Web site is aimed primarily at middle school students and teachers, but will also serve the general public and should be of interest to paleontologists. A 'lite' test version of the site can now be visited at: <http://www.mpm.edu/reef>

★ Spring Edition, Newsletter of the British Micropalaeontological Society is now up on the British Micropalaeontological Society's website at: <http://www.nhm.ac.uk/bms>

The site includes reports from the Conodont, Foraminifera, Ostracod, Palynology and Nannoplankton Groups of the Society as well as book and conference reports and information about forthcoming meetings. Check out the micropal links page on the site.

### ★ Download USGS Open-File reports

Select Open-File Reports from the U.S. Geological Survey are available for downloading as Adobe Acrobat (.pdf) files at the following website:

<http://geology.er.usgs.gov/gmapeast/sergp/seacrob.html>

Currently, three reports are available, but more will be added in the future. All include paleontological data, maps, charts, and hotlinks, and one includes some pretty pictures of dinoflagellates. Try them out and let us know how you like them.

Gohn, G.S., Brewster-Wingard, G.L., Cronin, T.M., Edwards, L.E., Gibson, T.G., Rubin, Meyer, and Willard, D.A., 1996, Neogene and Quaternary geology of a stratigraphic test hole on Horn Island, Mississippi Sound: U.S.

Geological Survey Open-file Report 96-20A, 23 p. (Prepared in cooperation with the U.S. National Park Service - Gulf Islands National Seashore.)

Self-Trail, J.M., and Gohn, G.S., 1996, Biostratigraphic data for the Cretaceous marine sediments in the USGS-St. George No. 1 core (DOR-211), Dorchester County, South Carolina: U.S. Geological Survey Open-file Report 96-684, 29 p. (Prepared in cooperation with the U.S. Department of Energy - Savannah River Site.)

Edwards, L.E., Bybell, L.M., Gohn, G.S., and Frederiksen, N.O., 1997, Paleontology and physical stratigraphy of the USGS-Pregnall No. 1 core (DOR-208), Dorchester County, South Carolina: U.S. Geological Survey Open-file Report 97-145, 35 p. (Prepared in cooperation with the U.S. Department of Energy - Savannah River Site.)

The Acrobat Reader Program needed to read .pdf files is available at no charge from the Adobe Acrobat Reader Page. Acrobat readers are available from that site for a variety of computer platforms. Additional information about Adobe Acrobat software is available from the Adobe Acrobat Page and the Adobe Home Page

.Adobe(R), Acrobat(R), and Acrobat Reader(R) are registered trademarks of Adobe Systems Incorporated. (The use of tradenames in this report is for descriptive purposes only and does not constitute endorsement by the U.S. Government).  
Lucy E. Edwards [leedward@usgs.gov](mailto:leedward@usgs.gov)



For anyone interested in algal resources on the web, we have just added a web page on red tides to our envirofacts pages:

<http://www.botany.uwc.ac.za/Envfacts/redtides/>

There is also a new seaweed page in our envirofacts pages at:

<http://www.botany.uwc.ac.za/Envfacts/Seaweeds/>

In addition, the "Introducing Algae" and "Tides and Zonation" resources have been completely revamped, and now include an autoplay facility (Netscape only). They are respectively located at:

<http://www.botany.uwc.ac.za/presents/algae1/> and

<http://www.botany.uwc.ac.za/presents/SeaShore1/>

There is sound as well, but that is mainly there for our students' benefit. I doubt if it will be worth your while to try to play the sound across the Internet.

The second Rocky Shore Zonation package will also be available in this new format soon at

<http://www.botany.uwc.ac.za/presents/Seashore2/>

where the old version is still available.

★ The site for the "Metazoa (tm)" CD-ROM.

<http://members.aol.com/kbclark/metahome/index.html>

★ The Florida Museum of Natural History (University of Florida, Gainesville) is pleased to announce its first "on-line" virtual museum exhibit: "Fossil Horses in Cyberspace"

<http://www.flmnh.ufl.edu/natsci/vertpaleo/fhc/fhc.htm>

The first phase of FHC exhibit design includes components on fossil horse phylogeny and interrelationships, morphology and adaptations, nomenclature, and the time context of North American extinct species of the Family Equidae. An on-line Visitor's Guest Book and Survey Questionnaire allowed input about the audience profile and desired content (front-end evaluation).

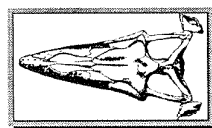
The first phase will culminate with an FHC exhibit "opening," to be held on 1 November 1997. The second phase of exhibit design, to be developed during late 1997 and throughout 1998, will include user-interactive components.

FHC is funded by the State of Florida and National Science Foundation.

★ OCEAN98 has just opened its website on the Internet at: [www.ocean98.org](http://www.ocean98.org)

OCEAN98 promotes the Year of the Ocean. It sets out to create awareness for all aspects of oceans, seas and coastal waters.

Please, visit the website regularly for news and updates. If you have any ideas or suggestions, please contact OCEAN98 at: [ocean98@unesco.org](mailto:ocean98@unesco.org)



Some pictures of a juvenile 'Platecarpus sp.' mosasaur. It was found in Kansas, U.S.A., about the middle of the Smoky Hill Chalk (Late Cretaceous marine, early Santonian, about 84-85 mya). The

skull is nearly complete and we have most of the pre-caudal vertebrae, but no limb material.

<http://www2.southwind.net/~mjever/page7a.html>

★ There is also a new seaweed page in our envirofacts pages at <http://www.botany.uwc.ac.za/Envfacts/Seaweeds/>



In addition, the "Introducing Algae" and "Tides and Zonation" resources have been completely revamped, and now include an autoplay facility (Netscape only). They are respectively located at: <http://www.botany.uwc.ac.za/presents/algae1/> and

<http://www.botany.uwc.ac.za/presents/SeaShore1/>

There is sound as well, but that is mainly there for our students' benefit. I doubt if it will be worth your while to try to play the sound across the Internet.

The second Rocky Shore Zonation package will also be available in this new format soon where the old version is still available:

<http://www.botany.uwc.ac.za/presents/Seashore2/>

## **JOBS AND POSITIONS**

**Graduate Students** - The Geology and Geophysics, Department at the University of Missouri-Rolla is seeking qualified candidates for M.S. and Ph.D. degrees in palynology and stratigraphy. Financial assistance in the neighborhood of \$10,000 - \$14,000 are available. For more information, contact Dr. Francisca Oboh-Ikuenobe, Dept. of Geology and Geophysics, University of Missouri-Rolla, 125 McNutt Hall, Rolla, MO 65409-0410, USA; foboh@umr.edu; Tel: (573) 341-6946, FAX: (573) 341-6935



**Head of Palaeontology Curation** - Applications are invited for the post of Head of Palaeontology Curation at The Natural History Museum. This position is to manage curation within the Palaeontology Department, and to help develop curatorial activities Museum-wide. In addition you will undertake personal curation and research.

Managerial experience and computer literacy are essential as is a degree in geology or biology. A postgraduate degree and/or several years curatorial experience in palaeontology is desirable.

The appointment is permanent. Starting salary will be from 27,815 GBP per annum. Other benefits include a non-contributory pension scheme, season ticket loan and 25 days annual leave.

Application is by CV and covering letter together with the names and addresses of 2 referees. For further details please write enclosing an A5 SAE to Pauline Thomas, Personnel Section, The Natural History Museum, Cromwell Road, London SW7 5BD.

Closing date for receipt of applications is 22 August 1997.



**Palaeontology Curator** - Applications are invited for the post of Palaeontology Curator at The Natural History Museum. This position is within the Fossil Invertebrate and Plants Division of the Palaeontology Department. In addition you will answer queries and interact with research and conservation colleagues.

You should have A-level geology or biology and computer literacy is essential. A degree in geology or biology and training and experience in curation are desirable.

The appointment is permanent. Starting salary will be from 16,483 GBP per annum. Other benefits include a non-contributory pension scheme, season ticket loan and 22 days annual leave.

Application is by CV and covering letter together with the names and addresses of 2 referees. For further details please write enclosing an A5 SAE to Pauline Thomas, Personnel Section, The Natural History Museum, Cromwell Road, London SW7 5BD.

Closing date for receipt of applications is 18 July 1997.



**Ph.D. research** - opportunities at the University of Portsmouth. Funding (fees, maintenance (stlg6,000 p.a.), field expenses) is available to support one of the three projects below.

1. Palynology of the Silurian Lechthaylus Shale, Midwest of the USA

2. Dendroid graptolites from Silurian Lagerstätten in the Midwest of the USA

3. Palynology of the Llandovery-Wenlock of Wisconsin and Illinois, including the Waukesha Lagerstätte.

Supervisor: David Loydell, in association with Don Mikulic (Illinois State Geological Survey) and Joanne Kluessendorf (University of Illinois).

In addition, the following projects are included in a list of ten earth science bursary projects, to start September/October 1997. At least two of the ten projects (and we hope that at least one of these will be a palaeontology project) will be fully funded.

1. Graptolite biostratigraphy of the Trannon area, mid Wales (supervisor David Loydell)

2. Marine vertebrate communities in Jurassic organic-rich mudrocks (supervisor David Martill)

3. Migration and dispersal within Upper Jurassic benthic communities (supervisor Mike Barker)

Students interested in any of these projects, or in research in related fields, who have (or are predicted to obtain) a good degree (2.1 or above) are invited to apply. For the Silurian projects with fieldwork in the USA the closing date is 30 June. For the earth science bursaries, the closing date is 1 August.

Please contact: Dr. David Loydell, Geology Department, University of Portsmouth, Burnaby Building, Burnaby Road, Portsmouth PO1 3QL, UK e-mail: [David.Loydell@port.ac.uk](mailto:David.Loydell@port.ac.uk)

Portsmouth University offers very attractive terms for self-funded part-time postgraduate students. If interested in pursuing part-time research in palaeontology, leading to a higher degree (M.Phil. or Ph.D.), again please contact David Loydell, at the address above, who will provide details.



**Postgraduate Research Institute for Sedimentology** - Sequence Evaluation of the Kimmeridge Clay: from cored boreholes at the Dorset type section to regional appraisal (ukcs and beyond)

**INTRODUCTION** - In October 1996 the NERC-funded project "Anatomy of a source rock: environmental, climatic and stratigraphic signatures in the type Kimmeridge Clay" began. This is a multi-institutional project involving the British Geological Survey and researchers in earth science departments at the universities of Oxford, Reading, Southampton, Newcastle, Luton and the Open University. Its aims are to develop a high-resolution stratigraphy for the Kimmeridgian Stage comparable to that already produced for the Plio-Pleistocene. To these ends continuous core of the Kimmeridge Clay has been obtained by drilling new wells close to the type section at Kimmeridge, Dorset. The cores from these wells, and the very full suite of newly obtained downhole logs, will provide the primary database for this project.

**AIMS** - To investigate the sequence stratigraphic comparisons between the newly cored wells (and the existing outcrop information) and Kimmeridgian successions in adjacent areas onshore (Wessex-Weald Basins), the Channel Basin, the North Sea and Western Shelf areas. To establish a sequence stratigraphic framework for the Kimmeridge Clay in the British area and to correlate the cycles and sequences recognised in the type area with successions in the more distant areas.

To evaluate the source rock facies in the Kimmeridge Clay in the context of the stratal patterns recognised and both to calibrate and correlate the sequences, and the cyclicity. In this context it will be particularly important to integrate the organic geochemical results (generated by the University of Newcastle) from the new wells with well-log information derived both from the new wells and from wells in the offshore areas.



**DELIVERABLES** - This project will help to establish the sequence stratigraphic significance of Kimmeridgian source rocks in particular, and of marine shale source rocks in general, and help to define the cycle order within which significant sands were delivered to basinal areas during Kimmeridgian times.

**LIAISON AND INTERACTION WITH ENTERPRISE OIL PLC**- The project will be supervised at Reading University (Postgraduate Research Institute for Sedimentology) by Professor Bruce Sellwood and Dr Andrew Parker and at Enterprise Oil by Mr Ron Daniel. The appointee will be expected to spend approximately two months of each year working at Enterprise using systems based on PC and LANDMARK workstations and to interact closely with exploration and production teams there. Quarterly reports of progress will be presented to Enterprise as the project proceeds.

**STARTING DATE, REGISTRATION AND APPLICATIONS** - It is hoped that the project will commence September 1997. The appointee should have a good honours degree in Earth Sciences and will be registered for a higher degree by research. Applications should be made to Professor Bruce W. Sellwood at: PRIS, The University of Reading, PO Box 227, Whiteknights, Reading RG6 6AB - b.w.sellwood@reading.ac.uk  
Telephone: 0118 9318947 - Fax: 0118 9310279



### **BOOKS**

**PALEO LIBRARY DISPOSAL** - Now that my administrative duties with IFPS have ended, I am in the process of moving out of my departmental office. Accordingly, I am now disposing of my professional library, mainly titles in paleobotany and palynology, including a complete set of the journal Palynology. Anyone with specific interests should contact me for further details of the titles I have available.

James E. Canright - Professor Emeritus - Department of Botany - Arizona State University - Tempe, Arizona 85287-1601  
Phone: 602-965-1762 - Fax: 602-965-6899 - jecbot@imap1.asu.edu

**Paleontological Monographs** - This monograph series from New Zealand's Institute of Geological and Nuclear Sciences began in 1993.

Mon1 - Cretaceous and Cenozoic sedimentary basins of western Southland, South Island, New Zealand. 86 p., 2 microfiche. Turnbull, I M, et al., 1993. \$120.00

Mon2 - Cretaceous-Cenozoic geology and biostratigraphy of the Chatham Islands, New Zealand. 269 p. Campbell, H J, et al., 1994. \$80.00

Mon5 - Description, correlation and depositional history of Miocene sediments outcropping along north Taranaki coast. 199 p. King, P R, Scott, G H, Robinson, P H, 1993. \$120.00

Mon6 - Geology of the Waikato Coal Measures, Waikato Coal Region, New Zealand. 236 p., 8 sheets. Edbrooke, S W, Sykes, R, Pocknall, D T, 1994. \$120.00

Mon7 - Palynological reconnaissance of Early Cretaceous to Holocene sediments, Chatham Islands, New Zealand. 206 p., 23 plates. Mildenhall, D C, 1994. \$90.00

Mon8 - Cretaceous and Cenozoic sedimentary basins of Northland. 203 p., 4 sheets. Isaac, M J, 1994. \$120.00

Mon9 - Bibliography and index of New Zealand geology 1970-1989. 488 p. Taylor, N J, et al., 1994. \$80.00

### **Classic Paleontology bulletins**

PB12 - Wilkens, O. 1927 Contributions to the paleontology of the New Zealand Trias. 66 p. \$50.00

PB22 - Couper, R.A. 1953 Upper Mesozoic and Cainozoic spores and pollen grains from New Zealand. 77 p. \$50.00

PB32 - Couper, R.A. 1960 New Zealand Mesozoic and Cainozoic plant microfossils. 87 p. \$50.00

For further information contact Dr Lee Aitken - Publications, Institute of Geological and Nuclear Sciences, Box 30-368, Lower Hutt New Zealand.

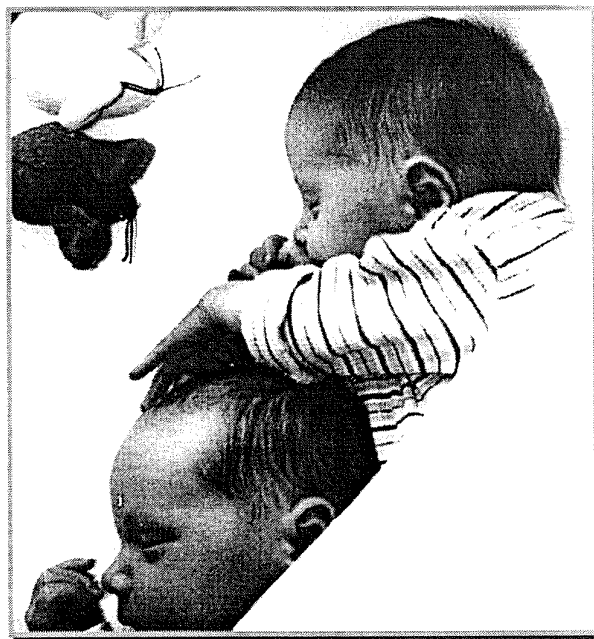
Fax +64 4 569 9074, email L.Aitken@gns.cri.



Most of the information on coming events and new websites emanate directly from Internet discussion groups, and AASP and CAP websites, which are hereby gratefully acknowledged.

Artwork is 100% proof digital, and is stolen oops ahem borrowed from Corel Clipart and some uncited websites.

Since this is already Volume 3 of the Year 30, I would like to invite all members to help commemorate AASP's 30th birthday, by submitting contributions and suggestions of informative, inquisitive or uplifting nature to my address. As always, yours truly, Jan Willem Weegink.



*N.B. As noted by an observant friend, it has become customary for NL editors to depict fresh offspring. Alors, behold ye olde twins Yannick (upper) och Samuel (lower) (dos hermanos), nati Junio 8 1997, as usual building up an appetite.*