A.A.S.P. NEWSLETTER

Published Quarterly by the American Association of Stratigraphic Palynologists Inc.

December 2000
Volume 33, Number 4

A.A.S.P.

American Association of Stratigraphic Palynologists Inc.

The American Association of Stratigraphic Palynologists, Inc. - AASP - was established in 1967 by a group of 31 founding members to promote the science of palynology. Today AASP has a world-wide membership of about 800 and is run by an executive comprising an elected Board of Directors and subsidiary boards and committees. AASP welcomes new members. The AASP Foundation publishes the journal Palynology (annually), the AASP Newsletter (quarterly), and the AASP Contributions Series (mostly monographs, issued irregularly), as well as several books and miscellaneous items. AASP organises an Annual Meeting which usually includes a field trip, a business luncheon, social events, and technical sessions where research results are presented on all aspects of palynology.

AASP Scientific Medal recipients
Professor William R. Evitt (awarded 1982)
Professor William G. Chaloner (awarded 1984)
Dr. Lewis E. Stover (awarded 1988)
Dr. Graham Lee Williams (awarded 1996)
Dr. Hans Gocht (awarded 1996)

AASP Honorary Members
Professor Dr. Alfred Eisenack (elected 1975)
Dr. William S. Hoffmeister (elected 1975)
Professor Leonard R. Wilson (elected 1975)
Professor Knut Faegri (elected 1977)
Professor Charles Downie (elected 1982)
Professor William R. Evitt (elected 1989)
Professor Lucy M. Cranwell (elected 1989)
Dr. Tamara F. Vozzhennikova (elected 1990)
Professor Aureal T. Cross (elected 1991)

AASP Board of Directors Award recipient
Dr. Robert T. Clarke (awarded 1994)

Teaching medal recipients
Professor Aureal T. Cross (awarded 1999)

AASP Distinguished Service Award recipients
Dr. Robert T. Clarke (awarded 1978)
Dr. Norman J. Norton (awarded 1978)
Dr. Jack D. Burgess (awarded 1982)
Dr. Richard W. Hedlund (awarded 1982)
Dr. John A. Clendening (awarded 1987)
Dr. Kenneth M. Piel (awarded 1990)
Dr. Gordon D. Wood (awarded 1993)
Dr. Jan Jansonius (awarded 1995)
Dr. D. Colin McGregor (awarded 1995)
Professor John H. Wrenn (awarded 1998)
Professor Vaughn M. Bryant (awarded 1999)

Awards at each Annual Meeting: Unocal Best Applications Paper Award, Best Student Paper Award, and Best Poster Award.

Student Scholarships to support studies in palynology. Currently up to two scholarships of $1000 (U.S.) each annually. 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 are factors that will be weighed in selection of award winners. Previous winners of this award are eligible only if they are pursuing a different degree than the one they were pursuing when they received the previous award. AASP Scholarships are available to all students of palynology in all countries. Students need not be AASP members. Application forms appear in the January issue of the AASP Newsletter. Chairman of the AASP Awards Committee iis Owen K. Davis (palynolo@geo.Arizona.EDU).

AASP Membership Application - Membership in AASP is for the calendar year. Dues are $30.00 U.S. per year for individuals and $40.00 U.S. per year for institutional members. All members of AASP receive Palynology which is published annually, the AASP Newsletter, which is mailed out four times a year, and an annual Membership Directory. Dues may be paid up to three years in advance. Overseas AASP Members (Individual or Institutional) who would like to receive their AASP Newsletter and Palynology by air mail, rather than book rate surface mail, need to include the applicable postage surcharge (noted below). Credit card users must pay a $1.00 U.S. surcharge per transaction. Air mail surcharge (increased for 1995 and beyond): Europe & South America: $12.00 U.S. per year. Africa, Asia & Australia: $15.00 U.S. per year. Credit card surcharge $1.00 per transaction.

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NEWSLETTER

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ISSN 0732-6041

Volume 33, Number 4
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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 February 1, 2001 and May 1, 2001. 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.

PRESIDENTIAL ADDRESS – 2000 AASP MEETING, RENO

by David Pocknall

It is an honor to serve as President of AASP for the next year and join a distinguished group of individuals who have served in this capacity for the last 32 years. I have worked with, and met, many of you over the past 10 years and look forward to working for AASP in my capacity as President. Initially, I would like to take you back a decade or so. I attended my first AASP meeting in Arlington in 1984 as a non-member while on study leave at the USGS in Denver. During my time at the USGS I had the good fortune to work with Doug Nichols and Farley Fleming who would constantly harass me and ask how can you be a palynologist and not be a member of AASP. Under severe pressure I joined in late 1985 - if I hadn't I don't think Doug would have taken me on the ride from Denver to El Paso for the 85 meeting. Since then I have served a term on the Nominating Committee and spent 5 years as Secretary-Treasurer, finally handing it over to Tom Demchuk in 1998. I have attended many meetings over the past 15 years, and was a member of the organizing committee for the 9th IPC held in Houston in 1996.

AASP IS A DIVERSE ORGANIZATION. And we have come a long way since 1967. The original objective of the society was to emphasize the stratigraphic nature of the work palynologists do, but most at the inaugural meeting in the offices of Pan American Petroleum Corporation, later Amoco, in Tulsa were opposed to restricting the organization to palynologists interested solely in pre-Quaternary palynology. "Basically the delegates felt that all palynologists – whether primarily morphologists, or students of Recent or Pleistocene spores and pollen, or pre-Quaternary palynomorphs, or workers in specialized such groups as the Dinophyceae – have a place in our

society and that all disciplines can and should profit by the knowledge each particular effort has to offer". An enlightened step – I am sure you would all agree. We have come further and even find it in our hearts to include forensic palynologists in our ranks! This meeting has reiterated again the thoroughly diverse nature of what we do.

Paul Nygreen was the first president of the AASP and in his initial "Presidents Message" he talked about the birth of the new organization. In particular he wrote.. "The real challenge is now at hand. The Association will prosper and progress to its fulfillment only by conscious attentive molding of those willing to actively contribute to its growth and activity. The Association will function and will become what we as individuals want it to become only as we exercise our individual and collective desires".

The key message from Paul's address rings true today: the need for member involvement in the running of the organization. Without the voluntary roles played by boards in the past we would not be where we are today – having been on the board over the past 8 years I have come appreciate the time and effort put in by our board members over the past 32 years. The future depends on this continued member involvement, so I urge those of you out there who wish to become involved, do so. We have increased the amount of travel assistance available for board members to attend mid-year and annual meetings so funding should not be the big problem it has been in the past few years. So when a member of the Nominating Committee calls you and asks if you are interested in serving your association please give it some consideration. We need you. In another quote from a later newsletter Nygreen wrote, "AASP is a vibrant organization! Our activities are many and varied, and will increase as our own personal involvement increases." We have grown into a strong international association.

MEMBERSHIP, AGE STRUCTURE, AND EMPLOYMENT deserve closer inspection. Membership - is there a problem with the numbers? Thomas Demchuk has shown you today the current numbers of individual and institutional members. There is a strong, maybe greater that 60%, representation of members who reside outside of the North American continent. Over the years the numbers have remained steady around the 700-750 mark. This may not be where they were in the late 80's and early 90's but I believe they are respectable – we are not in danger of becoming extinct as an organization.

Demographics – a popular word these days amongst HR departments, students of the baby boomer generation, amongst others. One of our younger members asked me last night "Where are all the young people?" What is the age structure of our organization – how many student papers are being presented at this meeting in our discipline? We all know of the problems students in palynology are having, and have had, getting jobs after they have finished their advanced degrees. Do we really understand the size and extent of our present student population in palynology? These are issues we must get our hands around. Yes, the situation in the petroleum industry is not what it was like in the late 70's and 80's when palynologists, and in fact all disciplines of paleontology, were a dime a dozen in oil companies. I am confident, however, that there will be opportunities in the future for biostratigraphers so where are they going to come from – industry and academia need to make a concerted effort to "stay in touch" over the next few years.

AASP has a role to play here and should function as the instrument of liaison between the academic and industrial worlds in the field of palynology. Those in industry need to be familiar with (and fund) research projects being undertaken by colleges and universities, but at the same time the academic world needs to be more adequately acquainted with the problems characteristic of the petroleum industry. Communication is paramount but it also requires a commitment on behalf of the funding organizations to put financial support in the right hands. I would like to challenge those teachers of palynology to help shape the future job opportunities for your students.

There is no doubt that the oil sector has been through peaks and troughs. At present we are in a peak and at least in my company we are beginning to wonder where the next biostratigraphers are going to come from. I don't wish to blame the universities for the lack of students because we need to shoulder as much of the blame for the present situation, showing no tolerance for downturns. Most oil companies in the US recruit at a certain number of universities – I don't know about the rest of the world – but we traditionally don't recruit at schools where specialist classes such as palynology are taught. By doing this we could understand who is available and provide an opportunities for the next generation of biostratigraphers to showcase their work. The key message we as industry biostratigraphers need to give to our management is that biostratigraphy – and this includes palynology – is core to our business. There are many regions of the world where exploration and production cannot be achieved without the integration of our data into the total geologic picture. Remember also that our industry focus in the recent decade has been on sediments deposited in the last 25 million years, so those of you who are working on paleoclimate models, modern depositional processes, or even Quaternary palynologists would be ideally qualified for work in industry. David Jarzen, our President-Elect, and I intend to understand the demographics of our organization over the coming year so please when you receive a questionnaire – answer it honestly and return it promptly.

On a sad note we have lost to long standing members – Dr Lucy Cranwell, an honorary member of AASP, and a fellow New Zealander, passed away after a long and distinguished career in Quaternary palynology, botany, teaching, and support of many palynology students. Lucy will long be remembered as a very warm individual and she was a tremendous spokesperson for our science. Sadly, our friend and colleague, Don Engelhardt passed away after a long battle with cancer. Don was at last years meeting and many of us feel blessed that we had the opportunity to visit with him then. Don spent much of his career with Amoco working as a palynologist in both Denver and Houston, with a brief foray into exploration management. After his retirement he moved to ESRI in South Carolina and continued to do research and consulting work in many parts of the world. Don was awarded an AASP Distinguished Service Award this year. We will miss Lucy and Don immensely, and on behalf of the members of AASP, I extend our sympathies to their families.

We send our best wishes to our colleague John Wrenn who is battling illness back in Baton Rouge. John is head of CENEX at LSU, the center formed under the auspices of AASP. He has been such a fixture at AASP meetings over the years and his absence has not gone unnoticed. John, the members of AASP wish you all the best and more importantly a speedy recovery.

The Reno meeting could only be described as a huge success. This was charting new territory for AASP, meeting with GSA, even though it had been talked about as long ago as 1978 when the President Jack Burgess wrote, "It is not enough to communicate with each other, age date strata, and make time-rock correlations and solve nomenclatural problems internally. Should we not attempt to correct this situation by exploring possibilities of joint meetings with varied groups of earth scientists such as AAPG, GSA, or similar societies?" To Thomas Demchuk and Fred Rich I extend my thanks for the time and effort you put in to make this meeting a success. Additionally, thanks to those members who offered papers for the two AASP sessions and those run by other affiliate societies of GSA.

We are in for another exciting year with our annual meeting to be held in San Antonio, Texas. More information will be forthcoming on this. As your new President I give my assurance that I will function to the best of my abilities in promoting our association to a wider geological, biological, climatological, and even forensic audience although it cannot be done without the diligence of you, the Association. I feel I have an outstanding team of directors and I look forward to working with them, and you all.

SECRETARY-TREASURER'S REPORT AS GIVEN AT THE AASP BUSINESS LUNCHEON, NOVEMBER 15, 2000 RENO HILTON HOTEL, RENO NV.
Respectfully submitted to the AASP membership by Thomas D. Demchuk, AASP Secretary-Treasurer

1) Secretary's Report

As of November 1, 2000, AASP had 736 total members; 609 individual members, 13 retired status, and 114 institutional members. This number is down 35 from the same time last year, due mainly to the removal of 52 members from the organization for non-payment of dues since 1997, as well as four resignations, and two deaths. However, there have been 26 new members and some reinstatements, which accounts for the decrease of only 35 members. As well, a few new members have been added since November 1but are not included in this total.

A serious concern regarding membership is that 151 members have not paid their dues since 1998, and at least 59 members will be purged in the new year if their membership renewals are not received shortly. 298 members were only paid through the year 2000. Although membership totals have remained relatively stable over the past few years, it always seems that a plea is required at this time of year to ensure members pay back-dues and thus, maintain the membership health of the organization. Look for the "pink" sheet regarding your membership status, which should be arriving in your mailbox in the near future, and check whether your dues are up to date or in arrears. Remember that you can pay for dues up to three years in advance, and payment of back dues means you will receive those important past issues of Palynology.

2) Treasurer's Report

A significant change occurred to the AASP banking portfolio this past year, as we cashed in two certificates of deposit (CD's) as they matured, and those monies were invested in money market and mutual fund accounts. Approximately $57,000 was transferred into these higher yield investment accounts. It is hoped that the greater interest accrued from these investments will be used for such purposes as funding students for travel to the annual meetings, and/or increasing the number and amounts of the AASP scholarships. The potential higher interest will not jeopardize AASP's tax-free status.

One CD remains which contains money originally donated by L.R. Wilson (approximately $8300), as well as a scholarship account containing money from membership dues and member donations (approximately $8200). The general AASP checking account, from which many of the day-to-day transactions occur, contained approximately $16,000. In total, AASP net worth increased slightly from last year to a total of approximately $91,000.

REPORT OF ACTIVITIES, 2000 AASP ANNUAL MEETING IN CONJUNCTION WITH GSA, RENO, NEVADA, November 13-16, 2000

This year's annual AASP meeting was a historic one, holding it's gathering in conjunction with the Geological Society of America's annual meeting in Reno, Nevada, November 13-16, 2000. Several thousand geologists from around the world, but mostly from the United States, gathered for four days in the "Biggest Little City in the United States" to discuss several aspects of the geological sciences.

The meeting opened on the Sunday with a general GSA icebreaker in the Exhibits Hall, where AASP had a booth to display it's publications, and several of the members were there to discuss palynology with curious geologists who happened to stop by and chat. On Monday afternoon, an AASP sponsored topical session entitled, "Frontiers in the Palynological Sciences" was held in which 13 papers were given that illustrated several facets of palynology were presented. The size of the crowd in the meeting room fluctuated as GSA folk moved among the diverse sessions, but suffice to say, a large number of non-AASP members were present to listen to the varied results of palynological research. Monday concluded

with the traditional Board of Director's meeting of the outgoing officers, where much AASP business was discussed. Significant details from that Board meeting will be discussed elsewhere in this newsletter, or in future newsletters.

On Tuesday, AASP members had a free day to partake in the many sessions that were being held. At the AASP display booth in the exhibits hall, many interested GSA non-palynology types stopped by to collect AASP-logo trinkets, ask about our science, and look at our publications. Business was brisk over the three and half days, as Bob Clarke sold several copies of the reprinted Kapp "Pollen and Spore" book, saving him the trouble of having to transport them back to Dallas.

Tuesday evening, 40 AASP members and guests gathered at a nearby watering hole, the Great Basin Brewing Company in Sparks, to relax, partake of the local flavor, and just have a good time. Good food and drink was had by all in this laid-back pub. The beverage of choice was the "Ichthyosaur Pale Ale" locally known as an "Icky", however, the flavorful porter came a close second.

Wednesday started bright and early with the second AASP sponsored session, on the same theme. Thirteen papers were presented by several veteran AASP members, as well as a number of students. Although the crowd was a bit more sparse, the hard core following was treated to a series of excellent and diverse presentations. Wednesday afternoon had AASP members in the Poster hall, where 15 posters on a variety of palynological topics were displayed. At times it seemed like the entire AASP contingent was present around the posters, as talk of pollen, spores and dinoflagellates filled the immediate area.

In between the two Wednesday sessions was the AASP Business Luncheon, held in the Reno Hilton hotel. The luncheon attracted 57 people, many of whom were AASP members. Vaughn Bryant organized the traditional group photo, which was followed by a better than average hotel dining experience. Over dessert, AASP President Fred Rich opened the Business Meeting, introducing the head table, and presenting the outgoing officers with their plaques in recognition of their having volunteered time to the organization.

An emotional few minutes then followed as the AASP Distinguished Service Award was awarded posthumously to the late Don Engelhardt, a former AASP officer and tireless volunteer to the association. A citation by Jim Canright was read by Fred Rich, and a plaque was given to Dave Jarzen who will present it to Don's family. A donation was also made to the South Carolina Nature Conservancy in Don's name, on behalf of AASP.

Fred then passed the AASP gavel and "Robert's Rules of Order" over to incoming AASP president David Pocknall. David's first order of business was to present Fred with his plaque in recognition of his term as AASP president. David's second order of business was his Presidential address, the text of which can be found elsewhere in this newsletter. Finally, a gathering of 15 former AASP presidents produced a great photo opportunity. Then, Wednesday evening AASP activities included the incoming Board of Director's meeting chaired by our new President. Several items were discussed, several items tabled, and a few decisions made. Finally, AASP-sponsored activities culminated Thursday morning, with the designation of a new working group on low-latitude dinocysts. Details of the proposal of that working group can be found elsewhere in this newsletter.

All in all, this first meeting with GSA could be considered a success. The 60(?) AASP members present were introduced to a new format of meeting, and had many other opportunities available to them through the larger organization. As well, many non-palynologists within GSA hopefully were introduced to our science through the wonderful opportunity of having an exhibits booth in the convention center, and three technical sessions sponsored by our association.

The immediate future does not hold any more GSA meetings, thus AASP members may have missed a great opportunity to see what a larger, national geological

meeting can afford members. Nonetheless, all of you should look forward to October 21-24, 2001, when AASP will hold it's meeting in the "convention capital of the United States", San Antonio, Texas! An announcement for this meeting and many of it's proposed activities can be found elsewhere in this newsletter.

SEE YOU NEXT YEAR IN SAN ANTONIO!!

NEWS FROM THE UK
By Jim Riding, December 2000

I have now moved back to the UK from my secondment to the Australian Geological Survey Organisation so will focus primarily on the British palynological scene from now on. I hope that my letters from Australia during the last year or so were of interest; I certainly received a variety of feedback from the locals (not all of it sledging!*).

There was a smaller than usual turnout from the UK at the recent AASP/GSA meeting in Reno, with only Steve Lowe, Dave Wharton and myself there (apologies if I missed anyone out). Perhaps the somewhat more academic slant to GSA meetings put some European-based members off.

AASP members will recall the recent passing of Professor Charles Downie of the University of Sheffield. Charles supervised the postgraduate studies of many palynologists during a highly distinguished career between the 1960s to the 1980s. The present Director of the Centre for Palynology at Sheffield, Bernard Owens, decided to establish a Fund in memory of Charles and wrote to as many of his ex-research students as possible requesting donations. The capital in the fund would generate interest to provide an annual prize to the winner of a student competition. Many of Charles Downie's graduate students have already sent generous donations. If you knew Charles and wish to make a donation to the fund, please contact me at j.riding@bgs.ac.uk with your credit card details. Bernard asked that the British Micropalaeontological Society (BMS) administer the fund and adjudicate the prize winner. At the most recent BMS committee meeting, it was decided that the cash prize would go to the BMS student member who, in the committee's opinion has authored, or co-authored, the best paper on a general micropalaeontological topic. The research should have emanated from postgraduate research at either MSc or PhD level. This scenario, we felt, reflected Charles's keen interest in postgraduate research programmes and would be a fitting memorial to a giant of our subject. The research may be part of a multidisciplinary study and should be published in an established, peer-reviewed journal anywhere in the world. If you are a BMS member and wish your paper to be considered, please send a copy to the BMS Secretary, Jamie Powell, at DinoSystems, 105 Albert Road, Richmond-Upon-Thames, Surrey TW10 6DJ. Alternatively, send a copy to the relevant BMS specialist group Secretary. The inaugural award will be for papers published in 2000 and will be judged at the next committee meeting in March 2001. The award will be made at the Annual General Meeting in November 2001 in London. Clearly if you are a graduate student and intend to publish your results, it makes sense to be a BMS member at only 15 pounds per year. I will gladly process your membership applications (j.riding@bgs.ac.uk).

I am pleased to announce that AASP, NAMS and BMS have agreed to hold a joint meeting in London in September 2002. This will be the first AASP meeting in Europe since the Aix en Provence ICP in 1992. More details will follow in this column. Watch this space.

*sledging (pr. sled-ging) - verb, slang term, emanating initially from cricket in Australia, but has spread to other sports worldwide, meaning friendly (and not so friendly) verbal banter towards an opponent.

A NEW WORKING GROUP: Tropical Dinocysts

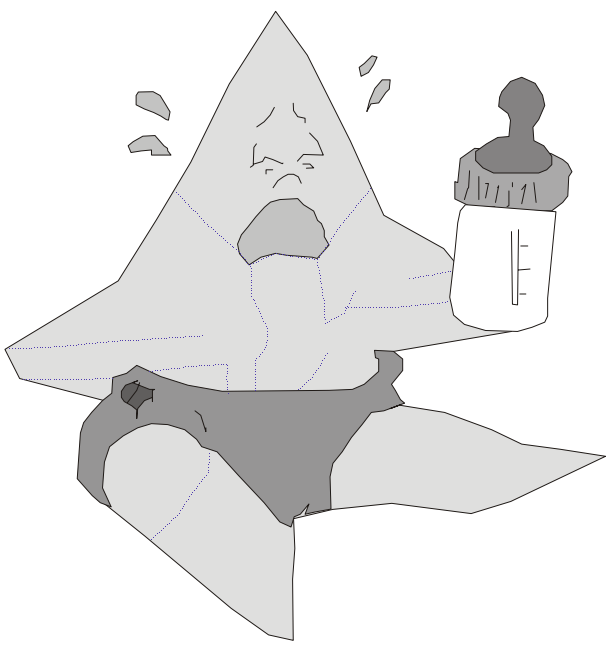
Hurray the AASP has a new Working Group! This WG was officially born on November 16th at the AASP/GSA meeting in Reno.

The aims and scope of the working group are to include dinocysts from tropical latitudes (+30/-30) of any age. Depending on technical contributions, the first emphasis may be on Oligocene to Miocene plus Recent analogs. The ultimate goal is to produce an atlas on an interactive CD.

Proposed steering committee:
Graham Williams - GSC Atlantic
Sharma Gaponoff - Chevron
Daniel Michoux - ToltalFinaElf
Barrie Dale - University of Oslo

Would YOU like to join us to help this baby grow? Send an e-mail to Sharma: SLGA@chevron.com or check the AASP homepage (http://www.bc.edu/bc_org/associations/aasp/) for the Tropical link, where among other things the revised notes from the inaugural meeting can be found.

We welcome all participants from industry, institutions, academia, from both the fossil and modern realms of dinoflagellate taxonomy, morphology, biology and cyst/theca relationships.



Let's give the WG a name and face (read Logo) contest: Propose a name and/or a logo (see example) and participate. If you want to create a nice colourful logo please remember that it should look nice in black and white as well.

Send your propositions (preferably electronic) before February 15th so that all contributions can be placed in the next news-letter. In this next newsletter we will included details about the vote. But we can already tell you that it will be a popular vote, and by sending in a proposal you agree with whatever rules we make up about the vote. But we can promise you that every AASP member can use his /her vote, and that we'll try to make a descend ballot, clear counting producers e.g. To avoid lawsuits in case of ties the steering committee will get the right to decide.

Send your proposal before 15 February to: Caroline van Mourik, Stockholm University, Department of Geology and Geochemistry, S - 106 91 Stockholm, Sweden. E-mail: Caroline.vanMourik@geo.su.se or Fax: + 46-8-674 78 97.

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AASP MEMBER MISSING IN ACTION

The following AASP members are "missing in action" having their recent mailings returned to me. If you recognize any of the names below and have information concerning their recent address or e-mail, you are urged to contact the AASP Secretary-Treasurer at thomas.d.demchuk@usa.conoco.com. Thank you very much for your cooperation.

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CADMAN, ANN
ENRICO, ROY J.
FEARN, LAWRENCE B.
GAMARRA, SILVIA L.
HAALAND, TORE
HARDY, MARTINE J.
HEUSE, THOMAS
HUGHES, JONATHAN F
KLUG, CURTIS
KNIGHT, R. R. W.
PALEY, WILLLIAM J.
POTTER, TIMOTHY L.
THOMAS, KAREN L.
WESENDUNK, PAUL R.
WILLEMSEN, JOLANDA
WILLIAMS, V. EILEEN
WOODWARD, RICK

BOOK REVIEWS

1) **Stratigraphic palynology of the Palaeozoic of Saudi Arabia,** edited by Sa'id Al-Hajri and Bernard Owens. GeoArabia Special Publication 1, Gulf PetroLink, Bahrain (Publishers Email: geoarabi@batelco.com.bh); 231 pp, 40 plates (colour), 62 illustrations. ISBN 99901-04-0108, Published April 2000. Price USD 300 (NGL 573/ Euro260.02). For further details and ordering information see http://www.elsevier.com/locate/isbn/0-444-50490-7.

Reviewed by Clinton Foster, Australian Geological Survey Organisation.

This is a handsome and informative volume comprising 13 papers and dealing with Saudi Arabian Palaeozoic palynological assemblages ranging in age from Early or Middle Cambrian through to Latest Permian. The large page A4 format, and use of colour for foldouts of well correlations, time space diagrams, and 40 plates of photomicrographs give this volume a good look and feel. I wanted to read it when I first saw it at the recent AAPG meeting New Orleans: in fact I read it on my travels through Europe en route back to Australia.

It is the result of a joint study between Saudi Arabian Oil Company (Saudi Aramco) and the Commission Internationale de Microflore du Paléozoïque (CIMP), and is the second phase in a program between these partners that began in 1990. Phase 1 appeared as a special issue of *Review of Palaeobotany and Palynology* (volume 89, nos 1&2) in 1995: Bernard Owens was also a senior editor of that volume, as well as a contributor. Many of the authors of the 1995 volume, including the present editors, have again contributed, clarifying previous results and drawing on the wealth of new data generated from the 41 well sections, as compared with 22 wells in 1995.

In the forward, the Vice President, Exploration, Saudi Arabian Oil Company, Mahmoud Abdul-Baqi, remarks that despite the significant advances in during the past 20 years in 2-D and 3-D seismic interpretation, the 'demand for ever more defined stratigraphic tools remains a high priority' and that 'the potential for biostratigraphy to provide reliable evidence of both age and paleoenviromental interpretations remains unsurpassed'. This comment reflects the success which arises from the integration of palynology into exploration and development programs, and contrasts with many current hydrocarbon explorers who have abandoned biostratigraphy, in the search for other tools to correlate at both field and prospect scale.

Equally important is a shared access to documentation which provides the basis for the biozones, their age constraints, and environmental significance. This is achieved for the 33 biostratigraphic assemblages and zones that are presented in this volume. New genera and species at established in assemblages from the Early Silurian and Late Permian. Not all workers may agree with the taxonomic treatment, but illustrations make re-interpretation possible. The use of colour plates is to be applauded, not only because it gives life to these beautiful fossils, but it provides a rapid indication of the thermal maturity of the host sediments, and a proxy for structural interpretation. For example the contrast shown by the Early Silurian acritarch *Multiplicisphaeridium breviculum* Le Hérissé 2000 (pl. 6, a, b) from assemblages from Northern Arabia (Kahf -1) which are much less mature than those from Central Arabia (Uthmaniyah-557) and suggest a distinctly different burial history.

Al-Hajri & Owens set the scene in their overview paper 'Sub-surface palynostratigraphy of the Palaeozoic of Saudi Arabia (pp10-17), by providing a set of conclusions which derive from the succeeding papers. Their time space diagram, showing well sections in relationship to the acritarch, chitinozoan, and spore pollen zones recognised in this study is clear and useful. Lithology, gamma, density, and sonic logs accompany the biozones shown in a north-south section (traverse) through the Early Palaeozoic of central Saudi Arabia, and the Middle and Late Palaeozoic of northern and central Saudi Arabia.

Molyneux & Al-Hajri's 'Palynology of a problematic Lower Palaeozoic lithofacies' (pp.18-41, 3 pls) shows how acritarch assemblages, and a key chitinozoan species, from 11 wells are used to subdivide a 2,000 ft sub-surface sand dominated unit into Early?-Middle Cambrian, through Early, Middle and Late Ordovician, to Early Silurian ages. Prior to their study, FMS (Formation Microscanner) images had been used to suggest correlation with Late Ordovician sands only. In this, and succeeding papers, the distribution of taxa for each well is shown. The authors develop further the concept of an Inshore Index, using the ratio of sphaeromorph acritarchs to the total marine palynomorphs x 100, to suggest possible palaeoenvironmental settings for the assemblages. The authors acknowledge that their interpretations may be limited because there 'is no indication that whether the palynological slides [processed over several years] were prepared using quantitative techniques' so that palynomorph yield per gram of rock cannot be calculated. This is an important point, but their findings suggest a coastal onlap event model that can be tested by other methods.

'Ordovician chitinozoans from central Saudi Arabia' are the subject of Paris, Verniers & Al-Hajri (pp. 42-56, 4 pls). Four local assemblages ranging in age from Llanvirn to Ashgill are described, but because of poor preservation, no new taxa are described, and open nomenclature is used. Despite this, forms that may be new and other key taxa are illustrated in four superb plates, with informative captions that will greatly benefit other workers. But as always the reader wants more, and it would have been useful to learn why some of the taxa are regarded as new. As might be expected, correlation of the central assemblages with those from northwestern Saudi Arabia (Al-Hajri 1995) and with North Gondwana chitinozoan zones is given. As a preliminary report, this account will prove to be very useful to Ordovician biostratigraphers.

Silurian acritarchs are the subject of two papers: 'Characteristics of the acritarch recovery in the Early Silurian of Saudi Arabia' by Alain Le Hérissé (pp. 57-81, 9 pls), and 'New Silurian acritarchs from the sub-surface of northwestern Saudi Arabia' by Mansour H. Al-Ruwaili (pp. 82-89, 2 pls).

Together these papers describe as new 12 species and a new genus. Most of the new taxa are illustrated by a single specimen, or at best two specimens: perhaps there were restrictions on the authors, but more illustrations showing morphologic range are desirable. Le Hérissé's paper looks at acritarch radiation and survivorship patterns in assemblages from the Lower Silurian Qalibah Formation, and the usefulness and importance of acritarch assemblages in biostratigraphic zonation and correlation, vis à vis chitinozoan and, to some extent, graptolite zones. Such integration is important for testing the synchronicity of zones and understanding their palaeoecology. This important paper, at least for this reader, would have been enhanced by the inclusion of a palaeographic map, showing the locations of correlative assemblages (as in Le Hérissé et al. 1995, *Review of Palaeobotany and Palynology* 89, 49-74). In fact only one paper in the volume (Steemans et al.- see below) shows a reconstruction for the Llandovery. Al-Ruwaili's paper is also based material from the Qalibah Formation, and like the previous work, includes a discussion on the palaeoecological inferences that can be drawn using acritarchs.

Silurian spores are discussed and illustrated beautifully in two papers. The first by Steemans, Higgs & Wellman 'Cryptospores and trilete spores from the Llandovery, Nuayyim-2 borehole, Saudi Arabia (pp. 92-115, 5 pls) introduces four genera and six species as new. Independent age control, using chitinozoans and graptolites, provides a firm basis for a Llandovery (Rhuddanian) for the material used in this study. A new assemblage biozone, spanning the Ashgill toTelychian is established and comprises two interval biozones, based on absence and subsequent appearance of true trilete spores. Correlative assemblages are palaeogeographically widespread (and shown on their Figure 4), suggesting that 'the parent plants were able to

survive under varied climatic conditions' or that conditions were relatively uniform. Cryptospores are often difficult to illustrate because of their complex morphology: for example, members of the newly described genus *Complectitetras* comprise tetrads enclosed by two outer envelopes, and the inner envelope is sculptured! TEM, or SEM of broken specimens, may assist in illustrating the morphology. The morphologies of the other taxa are generally clearer, and it seems likely from my records that members of *Sphaerasaccus glabellus* Steemans, Higgs & Wellman 2000 are in as yet undescribed, almost monospecific, assemblages from the Canning Basin, Western Australia.

The second paper by the same authors (Wellman, Higgs & Steemans, 'Spore assemblages from a Silurian sequence in borehole Hawiyah-151 from Saudi Arabia', pp. 116-133, 4 pls) describes spore assemblages from three cored intervals and assigns them to their newly defined assemblage biozone. This record adds significantly to the understanding of Silurian assemblages.

Loboziak further develops an earlier study (Loboziak & Streel 1995, *Review of Palaeobotany and Palynology* 89, 105-113) with his paper 'Middle to early Late Devonian miospore biostratigraphy of Saudi Arabia' (pp. 134-145, 3 pls), in which spores with southern Euramerian and western Gondwanan affinities are recognised. No new taxa are described.

Assemblages recovered from three wells, presented in two papers span the latest Devonian to Mid Carboniferous. Clayton, Owens, Al-Hajri & Filatoff (' Latest Devonian and Early Carboniferous miospore assemblages from Saudi Arabia', pp. 146-153, 1 pl.) discuss evidence of a possible hiatus with upper Tournaisian/lower Visean missing 'in many parts of the region'. In the following paper (Owens, Filatoff, Clayton, & Al-Hajri ' Evidence of mid-Carboniferous assemblages from Saudi Arabia', pp. 154-167, 3 pls) assemblages containing monosaccate pollen are regarded as earliest Namurian-pre late Westphalian in age. From this the authors conclude that the hiatus caused by the Hercynian Orogeny was not total, and that local basins became established, and preserved, on the Hercynian land surface. Moreover, a sediment source of probable latest Famennian - Strunian age is indicated by the persistent record of reworking of *Retispora lepidophyta*. Unlike the rest of the papers, there is a confusing mixture and interchangeability of time terms: e.g. earliest Namurian and early Serpukhovian (Arnsbergian-Chokerian) but the latter is not, as far as I can see, shown on any diagram or figure. The monosaccate pollen have Gondwanan affinities, although the specimen attributed to *Cannanoropollis janakii* Potonié & Sah 1960 (pl. 3,fig. g) seems more likely to belong to *Plicatipollenites* spp.

Affinities with Gondwana assemblages are reinforced in the last two palynological papers, both by Stephenson & Filatoff. The first 'Correlation of Carboniferous-Permian palynological assemblages from Oman and Saudi Arabia' (pp. 168-191, 3pls) discusses similarity with Australian Stage 2 palynofloras, and examines their relationship with the *Granulatisporites confluens* Oppel Zone, erected in Western Australia by this reviewer. Comparisons, and phytogeographic inferences, are also made with assemblages from Libya, South America, and Uruguay: this is a carefully argued and beautifully illustrated paper. It is the differences between the various Early Permian palynofloras, rather than the similarities, which make this study very interesting.

Their second paper 'Description and correlation of the Late Permian palynological assemblages from the Khuff Formation, Saudi Arabia and evidence for the duration of the pre-Khuff hiatus' (pp. 192-215, 3pls) provides strong evidence of their Late Permian age, with an admixture of European and Gondwanan taxa. Key species include, among others*: Tympanicysta stochiana* Balme 1979 (which look more like the original examples from Greenland, than *Chordecystia chalasta* Foster 1979), *Playfordiaspora cancellosa* (Playford & Dettmann) Maheshwari & Banerji 1975, *Indotriradites rallus* (Balme) Foster 1979, *Triplexisporites playfordii* (de Jersey & Hamilton) Foster 1979 (I would like to see additional specimens figured), *Lueckisporites virkkiae* (norm A of Visscher 1971), and *Strotersporites richteri* (Klaus) Klaus 1963. Also listed, but not figured is *Nuskoisporites dulhuntyi* Potonié & Klaus 1954. Four new species are described in this important paper.

The final paper in the volume by Marshall 'Palynofacies and orbital cyclicity: an example from the Silurian of Saudi Arabia' (pp. 216-231), relates the observed gamma-log cyclicity in the Qalibah Formation to Milankovitch Band orbital periodicities, and, using this relationship, calculates in Myr the duration of sedimentation for the Sharawra and Qusaiba members of the formation. The method, as noted by Marshall, enhances the precision of burial history modelling. A *predictive* relationship between these cycles and palynofacies (with key components spores, acritarchs, and phytoclasts) is less clear to this reviewer because the cross-plot data seems open to alternative interpretation. For example, TOC values associated with API about 160 range from 0.34-0.65%, which almost covers the range of TOC values for the core samples (0.28 – 0.65%), which challenges the statement that '..all gamma-ray peaks on the composite log.. will have increased TOC%'. I am sure that interpretations will vary with each reader.

I am certain that the compilation of these papers was very demanding, and the Editors and Project Coordinators (Al-Hajri and Owens) should be pleased with such a handsome outcome. Although expensive (particularly with our falling currency), the volume is essential reading for specialist palynologists to understand the Saudi Arabian Palaeozoic succession, and for placing that succession within the global context, with application to, amongst others, plate tectonics, palaeogeography, and predictive source rock studies.

2) Roadside Geology of Indiana by Mark J. Camp and Graham T. Richardson. 1999. Mountain Press Publishing Company, P.O. Box 2399, 1301 S. Third Street W., Missoula, Montana 59806. ISBN 0-87842-396-6. 328 pages. $18.00.

Reviewed by Reed Wicander, Department of Geology, Central Michigan University, Mt. Pleasant, Michigan 48859

Roadside Geology of Indiana covers the geology of our 19th state. Authors Mark Camp and Graham Richardson divide Indiana into four geographically distinct regions and explain the geology of each region as it is exposed along the state's highways and roadways. They also place the geologic history into the context of human history in the state and how the economic success of Indiana depended on the development of its natural resources.

The book is divided into five major chapters, four of which are the geographically distinct regions. The first chapter is titled "Indiana Rocks and Landscapes" and covers the major features of Indiana's geologic history. As far as surface features go, Indiana has exposures for the Ordovician, Silurian, Devonian, Mississippian, Pennsylvanian, Tertiary, and Quaternary periods. While there are no surface exposures for the Precambrian and Cambrian, rocks of these time intervals are known from drilling. During the Permian and the entire Mesozoic Era, Indiana was above sea level and undergoing erosion. Scattered gravels and sands were deposited during the Tertiary Period and glaciation is responsible for Quaternary deposits and the shaping of the current landscape.

Chapter two covers southeastern Indiana and this area contains Indiana's earliest and latest geologic history, namely Paleozoic bedrock and Pleistocene glacial deposits. An overview of the geology of this region is presented with general information about each of the major formations of this region, formations well known to Paleozoic palynologists such as the Ordovician Kope, Dillsboro, and Whitewater formations, the Silurian Brassfield Limestone, Waldron Shale, and the Wabash Formation, and the Devonian New Albany Shale. In the section on the Pleistocene Ice Age the authors mention that "fossil pollen shows that spruce and pine forests persisted for many hundreds of years after the glaciers finally melted, and the climate remained cool and wet."

The last half of this chapter covers the geology exposed in this region along the major highways and secondary roads. Interspersed are references to interesting side trips of historical interest such as the birthplace of the Indiana Academy of Science, the Whitewater Canal, and examples of stone architecture.

Chapter three covers south-central Indiana and is subtitled “Building Stones and Crinoids” because most of the chapter cover rocks deposited during the Mississippian Period. As in the preceding chapter, the first part of the chapter covers the major formations found in this part of the state. Another part of the chapter covers caves and sinkholes and how they formed, as well as some fascinating information on the building stones of this region. For example, did you know that both the Empire State Building and Pentagon are, in part, constructed of Salem limestone? The last half of the chapter is devoted to exposures along the various roads in this part of the state, along with some interesting information about the various towns and their history.

Chapter four covers southwestern Indiana which is clay and coal country. Pennsylvanian-age sediments form the bedrock of this and the west-central part of the state. Sections on the coalfields, mining and reclamation, the clay industry, and the petroleum industry follow, with the last part of the chapter devoted to the geology exposed along the various roads in this part of the state.

Chapter five completes the geographic subdivision of the state and covers the northern part of Indiana. Here are exposed Ordovician rocks and large Silurian reefs. In addition, there are exposures of Devonian, Mississippian, and Pennsylvanian rocks in this part of the state. There is also a section devoted to the glacial history of this region of Indiana as well as one concerning the Trenton gas and oil fields, and the marl and peat industries. As with the other chapters, this one concludes with road logs and the geology for northern Indiana.

A Glossary, Additional Readings, and Index complete this book. Like its predecessors, *Roadside Geology of Indiana* is well illustrated with maps, diagrams, and black and white photographs.

My only criticism of this volume is that some of the photographs are not particularly good and are too dark. Other than that, this book is another welcome addition to the continually expanding *Roadside Geology* series. As I have stated in previous reviews, these books are excellent traveling guides for anyone interested in the geology of the area they cover and are very good value for the information they contain.

3) Seismosaurus - The Earth Shaker by David Gillette. 1999. Columbia University Press, 562 West 113th Street, New York, New York 10025. ISBN 0-231-07875-7. 218 pages. $17.95.

Reviewed by Reed Wicander, Department of Geology, Central Michigan University, Mt. Pleasant, Michigan 48859

It somehow seems appropriate that a book about the longest dinosaur yet known should be reviewed in a newsletter devoted to some of the smallest organisms in the world. This book is the paperback version of the hardcover book originally published in 1994. It is a personal account of the discovery and history of *Seismosaurus hallorum*, one of the biggest of all dinosaurs discovered.

Written in the first person, David Gillette takes the reader on an adventure that begins in 1979, in the hot, high-elevation desert of central New Mexico, where a pair of hikers, Arthur Loy and Jan Cummings, first spotted a line of backbones sticking out of the rock.. However, it wasn’t until 1985 that David Gillette, then curator of paleontology at the New Mexico Museum of Natural History, began the excavation that led to the removal of the bones of Sam, the nickname accorded the scientific name of this dinosaur *Seismosaurus hallorum*.

In the following chapters Gillette provides a fascinating account of the various “high-technologies” used to locate the rest of Sam’s skeleton and the excavation process itself. There is also a chapter on Sam’s stomach stones or gastroliths, as well as a chapter on how Sam died and some of the problems of fossilization or taphonomy. Gillette also covers the taxonomy and classification of *Seismosaurus hallorum* as well as its ecology. The final two chapters are devoted to the question of whether *Seismosaurus* is the longest dinosaur and what the areas of future research will be.

It should also be mentioned that this book is beautifully illustrated with copious full color photographs and outstanding paintings by the renown dinosaur illustrator Mark Hallett. The art work alone is worth the price of the book.

I enjoyed this book more for the personal account of how dinosaur paleontology is done than for the science. It is obviously written for the lay person with an interest in dinosaurs, and in that regards succeeds admirably. As mentioned, the photographs and paintings lend visual impact to the story. I do have a few criticisms. The first is that generic names of the different dinosaurs are rarely italicized. Secondly, there was no attempt to update the book. It would have been nice to have had a chapter that brings the reader up to date on where *Seismosaurus* fits in dinosaurian evolution today, and what has happened to the skeleton since 1994. At the very least, the References and Further Reading section at the end of the book could have been updated from its initial printing in 1994.

These are minor criticisms, and for those seeking a gift this holiday season for their dinosaur loving friends, this would make an excellent choice.

4) Airborne Allergens (CD-Rom) M. Hjelmroos, F. Benyon, S. Culliver, A.S. Jones and E. Tovey (Institute of Respiration Medicine Ltd., Royal Prince Alfred Hospital, [P.O. Box M77, Missenden Road] Caperdown, 2050, Australia). (1999). CD-Rom (Windows 95, 98, NT4, high resolution with color VGA monitor required), User Guide provided, 64 pages. ISBN 0 9585668 0 1. Price $260 (US). (email aatech@blackburn.med.usyd.edu.au)

Reviewed by Vaughn M. Bryant, Jr., Palynology Laboratory, Texas A&M University, College Station, Texas 77843-4352

For several reasons, this is not the usual type of palynology publication that most members might search for at a web site, might know about, or might have an opportunity to test. First, most palynologists are not directly linked to research in areas that pertain mostly to allergy research; therefore, they might never have heard about this new CD-Rom pollen and spore identification program. Second, even palynologists who may have heard about this computer program might have hesitated because of the cost, which is higher than many reference sources available in palynology. Third, those who might be curious or interested in the usefulness of this new computer program might not have been willing to invest several hundred dollars for a copy without having a chance to test the program's merits. In spite of these possible reservations, I feel that this new pollen computer program, with its guidebook, is worth the initial investment cost. I found that both the CD-Rom and the guidebook contain informative pollen keys, photographs, and useful information.

The creators of this CD-Rom pollen database explain that they felt compelled to generate this computer program because it was needed and because currently none like it are available. The authors say that their program is carefully designed to provide an interactive visual aid and information database about many pollen and fungal spores that cause allergenic reactions in humans. The advantage of putting this information into a computer-based program is that it makes a vast amount of information available at your fingertips, and the interactive program allows one to sort the data or search the more than 1,800 images of pollen and spores for the identity of some unknown type.

The central focus of the computer program is the data that are entered for each of the 100 species of pollen and 44 species of fungi. For each type of pollen and spore the program includes extensive (3-16 images per taxon) B&W light micrographs, morphological descriptions, the types of habitats where each of these plants grow, the geographic distribution of the plant, the degree to which the pollen or spore is a severe allergen, pictures of most plants, and bibliographic references for each species should the user wish to search for more details about a specific type. The creators say that they eventually would like to expand their program to include 250 pollen types and 100 species of fungi. This later expansion will

include both light and SEM micrographs for each species. The proposed expansion is currently not funded, and because the authors mention that it took eight person-years to produce the first version, it is unlikely that a new version will be out soon. Nevertheless, they say that if there is a significant demand for their current computer program, then they would find the time and funding to expand the current version.

The specific pollen and spore taxa covered by this program are heavily weighted towards the major plant allergens found in North America and Europe. The originators of this program also say that many of the pollen and spore types were chosen not only because they are known allergens, but also because they are taxa that look similar to other pollen and spore types with which they might be easily confused. Other considerations that guided the selection of pollen and spore taxa were the availability of information about each of the plant types and the potential commercial market for the program.

The interactive computer program is designed for the novice aerobiologist, but it is also of value for those who have additional knowledge of the subject. To find the identity of some unknown pollen or fungal spore captured in an air-sampling device, the user needs to go to the portion of the program designed as a pollen and spore key. In the process of trying to determine the identity of an unknown pollen or spore type, the viewer is asked to make a series of choices. First, the viewer is asked about the structure of the unknown type: is it a monad, tetrad, saccate, or polyad? Second, the program asks about the type of aperturation. Does the unknown grain have pores, colpi, pores and colpi, or neither? Next, one must identify the type of surface ornamentation the unknown type has. The computer program has nice drawings of various types of surface structures and all the viewer needs to do is click on the one that "looks" correct. After deciding on the correct type of surface ornamentation, the viewer is next asked if the unknown pollen or spore is tectate, semi-tectate, or intectate Finally, the last selection window allows the viewer to choose a size range for the unknown grain by entering the approximate size based on length and width. When all options have been selected, the user then asks the program to select a list of "potential" matches from the data base.

The program also allows the viewer to leave blank any of the specific details about an unknown pollen or spore during the search process. However, I found that the more options I left blank, the larger was the list of potential matches created by the program's data base. In other words, the more nearly precise you can be in your data entries, the smaller will be the list of potential matches, which in turn will save you time. I found that the computer-generated key worked fine *provided* I could identify all the needed information about my unknown pollen or spore. To test the program I collected fresh pollen from several flowers, stained the pollen, and then mounted the pollen on slides in glycerin.

I have personal reservations about identifying fresh pollen, which I realize is standard practice in fields such as melissopalynology and aerobiology. Personally, I find that except for certain easy-to-identify and unique pollen types, precise identification of fresh pollen, especially entomophilous taxa, is often very difficult. Perhaps I have spent too much of my career looking at fossil pollen and pollen that has been acetolyzed. The result of this short-coming is that for some types of fresh pollen I found it difficult to determine exactly what type of ornamentation was present and whether or not the exine was tectate, semitectate, or intectate. I also discovered when I tried to key an unknown fresh pollen type, if I made a mistake in correctly describing what I thought I saw (aperturation, ornamentation, exine wall type), then the correct identity of the unknown type might not appear in the list of potential matches. I found that correct assessments were especially difficult for some pollen types when I tried to determine if the pollen grain was tectate or intectate! This is why the authors of the computer program suggest that one should "leave blank" any identification category that he/she is uncertain about. When I took their suggestion, however, I found that it increased the list of potential matches, but at least the correct match did

appear on the list as one of the choices! In addition I noted that it was easy to view all of the images of the potential matches fairly quickly, and thus, I could usually make a speedy identification. This CD program is clearly an advantage over printed taxonomy guides.

The individual photographic images of pollen grains and fungal spores are very good for what they are designed to show. There are usually 3-16 images of each taxon presented. With a click of your mouse you can enlarge any of the small, individual images to fill your monitor screen and thus examine any picture in detail for specific features on the surface or to determine the exine layering. A trained palynologist should be able to go through the pages of pollen images and instantly recognize many of them even though the pollen has not been acetolyzed. On the other hand, I found it nearly impossible to identify some of the tricolporate and tricolpate fresh pollen types first by looking at their photomicrographs. Again, I suspect that my lack of experience viewing fresh pollen very often makes it more difficult for me to recognize features that aerobiologists others might see quickly. Without being able to see the familiar, and often critical surface and exine features, I found that making some pollen identifications, using only the images on this CD-Rom program could be risky at best. Nevertheless, the computer-generated pollen and spore key, and the many photomicrographs should be of great value to aerobiologists and some melissopalynologists who may be called upon to identify fresh pollen recovered from various types of air-sampling devices or honey samples.

Would I recommend this computer program? Yes, I think this is an excellent program for anyone who is working with fresh pollen. It could also be useful for teachers and those researchers who feel they could benefit from the images and the information provided in the text portion of the program. Aside from the price of $260 (U.S.), I would think that almost any palynologist might want a copy of this program.

ANNOUNCEMENTS

1) There are some few copies of "***de Verteuil, L. and Norris, G., 1996. Miocene dinoflagellate stratigraphy and systematics of Maryland and Virginia. Micropaleontology, v.42, suppl.***" available for anyone working in the general area -for free. Naturally the authors would be pleased re receive reprints in exchange. Get in touch with Geoff Norris, Dept. Geology, University of Toronto, 22 Russell St, Toronto ON. M5S 3B1 or norris@quartz.geology.utoronto.ca

2) Funded M.S. opportunity in tropical Tertiary Paleopalynology at the University of Missouri-Rolla, Fall 2001-2003

Dr. Francisca Oboh-Ikuenobe (University of Missouri-Rolla) is seeking a student for an M.S. study of Paleocene-Eocene pollen/spores and/or dinocysts from Nigeria. The main focus of the project is biostratigraphy and vegetational change during the Eocene global warming. This project complements a broader study of low latitude palynostratigraphy that includes Colombia, Venezuela, and an ODP site in the Gulf of Guinea.

A B.S. degree in geology, geography, or biological sciences is required. Candidates should have some experience in palynology. The deadline for applications for a fall 2001 admission is March 15, 2000.

Interested students should contact Dr. Oboh-Ikuenobe (foboh@umr.edu), Department of Geology and Geophysics, University of Missouri-Rolla, 125 McNutt Hall, Rolla, MO 65409-0410,U.S.A; Tel: 573-341-6946, FAX: 573-341-6935 (Http://www.umr.edu/~geo-geop/)

AGENDA (see also http://www.ualberta.ca/~abeaudoi/cap/conf.htm and http://www.pages.unibe.ch)

2001

*** January 10-11 2001.** Fungal Spores and other microfossils in Quaternary Palaeoecology Queen Mary College, University of London, UK. Details: Jeff Blackford (J.J.Blackford@qmw.ac.uk)

*** May 27-30 2001.** GAC/MAC Joint Annual Meeting, St John's, Newfoundland. Details: St. John's 2001, c/o Department of Mines and Energy, Geological Survey Division, Regional Geology Section, P.O. Box 8700, St John's Newfoundland, A1B 4J6, Canada, Tel: (709) 729-2301, Fax: (709) 729-3493, E-mail: dmp@zeppo.geosurv.gov.nf.ca. Includes a CANQUA (Canadian Quaternary Association-sponsored symposium on "Quaternary Geology of the Northern North Atlantic Region". Also include NAMS (North Atlantic Minerals Symposium). See http://www.gov.nf.ca/nams/ Website: http://www.geosurv.gov.nf.ca/stjohns2001

*** May 29 - June 2 2001.** Canadian Association of Geographers (CAG) Annual Meeting, McGill University, Concordia University and Université de Montréal, Montreal, Canada. A joint event arranged by the three Montreal universities in celebration of the 50th anniversary of the founding of the CAG. Details: Tim Moore (moore@felix.geog.mcgill.ca), Patricia Thornton (thorpat@vax2.concordia.ca), André Roy (royandre@ere.umontreal.ca)

*** April 8-12 2001.** EUG (European Union of Geosciences) conference Strasbourg, France. Includes a symposium on 'Late Quaternary floodplains: sedimentary records of environmental change'. For details of this symposium contact: Dr. Philip E.F. Collins, Environmental Change Research Group, Department of Geography & Earth Sciences, Brunel University, Uxbridge UB8 3PH, United Kingdom, E-mail: philip.collins@brunel.ac.uk, Website: http://eost.u-strasbg.fr/EUG/

*** June 13-18 2001**. Millennial-scale events in the North Atlantic region during Termination 1 University of Ulster, Northern Ireland. Details: Dr Jasper Knight, Lecturer, Glacial and Coastal Geomorphology, Glacial Research Group, School of Environmental Studies, University of Ulster, Coleraine, Co Londonderry, Northern Ireland, BT52 1SA, UK Tel +44 (0)28 7032 3179 (direct), Tel +44 (0)28 7032 4428 (Dept. office), Fax +44 (0)28 7032, 4911, E-mail: j.knight@ulst.ac.uk, Website: http:// www.ulst.ac.uk/termination1.html

*** June 17-23 2001.** 12th Symposium of the International Workgroup for Palaeoethnobotany (IWGP) Sheffield, England, UK. Details: IWGP, Department of Archaeology and Prehistory, University of Sheffield, Northgate House, West Street, Sheffield, S1 4ET, England, UK. E-mail: iwgp@sheffield.ac.uk, Website: http:// www.shef.ac.uk/uni/academic/A-C/ap/conf/iwgp/iwgpx.html

*** 24-28 June 2001, Earth System Processes, Edinburgh, Scotland,** A global meeting presented by *Geological Society of America and Geological Society of London*, Ian Dalziel and Ian Fairchild, Co-chairs, Technical Programme Committee
For further details see the web page at www.geosociety.org or www.geolsoc.org.uk
Sessions of particular interest to members of the AASP:
- Sedimentary Systems and Microbial Communities: Dynamic Interactions
- Critical Transitions in Earth History and Their Causes
- The Snowball Earth Hypothesis: Theory and Observations
- Archean Earth and Contemporary Life: The Transition from an Anaerobic to an Aerobic Marine Ecosystem
- Controls on Phanerozoic Diversifications and Extinctions: Long-Term Interactions between the Physical and Biotic Realms
- Global Change in the Late Paleozoic
- Geological Evolution of the Earth System: Precambrian to Early Paleozoic
- Geological Evolution of the Earth System: Mesozoic to Cenozoic
- Biodegradation of Petroleum – Implications for the Deep Biosphere
- Earth Resources
- Timing and Rates in Earth System Processes

*** July 10-13 2001.** Global Change Open Science Conference, Amsterdam, The Netherlands. Sponsored by the International Geosphere Biosphere Programme, along with the World, Climate Research Programme and the International Human Dimensions Programme. Website: http://www.sciconf.igbp.kva.se

*** August 20-24 2001**. CANQUA (Canadian Quaternary Association) meeting, Whitehorse, Yukon. Details: John Storer (jstorer@gov.yk.ca), Website: http://www.mun.ca/CANQUA

*** August 23-28 2001.** 5th International Conference on Geomorphology, Tokyo, Japan. E-mail: 5icg@c-linkage.ca.jp, Website: http://wwwsoc.nacsis.ac.jp/jgu/icg_hopa/indexicg.html

*** September 18-22 2001.** PAGES - PEP III Conference. Le Centre de Congres, Aix-en-Provence, France. PAGES - PEPIII is concerned with studies of past climate variability in Europe and Africa. Key aims are to assess variability on different time-scales, to assess the impacts of past climate change on natural ecosystems and human society, and to provide a firm basis for the verification and testing of climate models. There will be a number of plenary lectures from invited speakers plus a series of poster sessions open for all participants, plus a post-conference excursion to the Massif Central, France (subject to interest). Details: Dr Catherine E. Stickley, Environmental Change Research Centre, University College London, 26 Bedford Way, London, WC1H 0AP, England, UK E-mail: C.stickley@ucl.ac.uk, Website: http://www.geog.ucl.ac.uk/ecrc/pep3

*** September 22-24 2001.** 11th Canadian Paleontology Conference (CPC-XI), London, Ontario. Details: Jisuo Jin, Chair, CPC Organizing Committee, Department of Earth Sciences, University of Western Ontario, London, Ontario, Canada, N6A 5B7, Tel. (519) 661-4061, Fax (519) 661-3198, E-mail: jjin@julian.uwo.ca

*** October 21-24, 2001. AASP 2001 San Antonio, Texas, First Announcement and Call for Symposia Proposals**

With the Reno meeting behind us, it's time to start looking forward to the next AASP meeting. We will be on our own again, in San Antonio, Texas, October 21-24, 2001. This venue will offer meeting goers an opportunity to behold what's great about Texas, and give them an insight to Texas culture and a part of history that helped shape the United States.

The meeting will be held at the historic Menger Hotel, right next door to The Alamo, a landmark of Texas independence. As well, the hotel is only a block away from the famous RiverWalk, which is the collecting point of tourists and convention folk, and also the locale of numerous exceptional restaurants, bars, and several fine shopping boutiques displaying southwestern arts and designer fashions. The Menger Hotel has recently undergone a facelift, and this historic building which was built in the 1870's will serve as a fine meeting place for our technical sessions and Association get-togethers. Room rates have been guaranteed at US$110/night single or double occupancy, which is a bargain in this convention capital hotel where all the amenities are within walking distance. A block of 50 rooms has been reserved in the Association's name. Watch for announcements in future newsletters for reservation information. For those of you on limited budgets, a wide range of other less expensive hotels are located within walking distance of the Menger.

As mentioned, the Menger Hotel will serve as the meeting's focal point, housing our proposed technical sessions, Icebreaker, the board of director's meetings, and the annual business luncheon. It is currently scheduled that the Icebreaker will be held on the Sunday evening, October 21st, with technical sessions running through the next three days, Monday through Wednesday. The business luncheon will be held on the Wednesday, October 24th. Incoming and outgoing board meetings will be held on the Monday and Wednesday evenings, respectively. Presently, there are no other social activities scheduled. Look for announcements in future newsletters as events are finalized.

The Organizing Committee would like to request all members to submit formal proposals for special sessions and symposia for this meeting. Presently, a symposium based on the new AASP working group on low-latitude dinocysts has been proposed (Dominique Portouy et al.), as has a session on deepwater palynofloral/dinoflagellate assemblages (Joyce Lucas-Clark and Sharma Gapanoff). Another idea put forward has been a session on South American palynology. However, none of these proposals have been formally proposed and all AASP members are urged to think of appropriate topics that will be of considerable interest to the general AASP population. As well, a one-day fieldtrip has been discussed, but nothing has been finalized.

Weather in south Texas in mid-October should be ideal, in the 75-80F. degree range, perfect for strolling the RiverWalk or just sitting outside on a patio enjoying a coffee or a Margarita. However, don't count out temperatures being hotter than that, since summer in Texas may not end until November. San Antonio is easily accessible by air, as a short flight from major international airports in Houston and Dallas-Fort Worth. A shuttle bus is available from the San Antonio airport to the Menger Hotel. Or you may wish to rent a car in Houston or Dallas and drive the three hours to San Antonio through the scenic Texas Hill Country, stopping at the vineyards and orchards, or at the numerous antique shops and country stores characteristic of Hill Country towns.

The current organizing committee consists of Thomas Demchuk (Conoco), David Pocknall (BP) and Don Benson (irf Group). A great event is planned and all AASP members, spouses, significant others and guests are invited. If you have never been to San Antonio, you need to attend this meeting. Chances are you have heard all about San Antonio and it's attractive and busy RiverWalk, it's unique south Texas culture, and of course The Alamo. This is a meeting you will not want to miss! SEE YOU IN SAN ANTONIO!!!

* **November 5-8 2001**. 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

*** May 26-29 2002.** GAC/MAC Meeting, Saskatoon, Saskatchewan, Canada, Website: http://www.usask.ca/geology/

*** August 29 - September 2 2002.** 6th European Palaeobotany - Palynology Conference, Athens, Greece. Details: Prof. D. Evangelos Velitzelos, Organizing Committee, 6th European Palaeobotany-Palynology Conference, Department of Historical Geology-Palaeontology, Faculty of Geology, University of Athens, Panepistimioupolis, Zografou, 157 84 Athens, Greece. Tel./Fax: +30-1-7274162, E-mail: velitzel@geol.uoa.gr

*** September 5-7 2002.** CIMP Symposium and Workshops, Lille, France. Details: Thomas Servais (thomas.servais@univ-lille1.fr) or Ludovic Stricanne, (ludovic.stricanne@univ-lille1.fr), University of Lille

*** September 11-13 2002**, Exploration biostratigraphy 2002, University College London, England

The American Association of Stratigraphic Palynologists (AASP), the British Micropalaeontological Society (BMS) and the North American Micropaleontology Section of SEPM (NAMS) are holding a joint meeting in September 2002 at University College London, England.

The theme of this international meeting will be recent developments in applied biostratigraphy, and will not be restricted to palynology alone. Contributions will be invited on four main themes:

1. Sequence biostratigraphy.
2. Deep-water exploration.
3. Reservoir/Development studies.
4. Outcrop analogue studies.

The vision for the meeting is to encourage trans-Atlantic exchange of ideas, ultimately to seed new research initiatives. In particular, we aim to develop an integrated multidisciplinary approach in both the academic and industrial realms. There will be no taxonomic or geographical restriction on contributions. Posters will be invited on any micropalaeontological, nannopalaeontological, palynological or biostratigraphical theme.

Post-meeting excursions are planned to the Dorset Coast (Jurassic - Cretaceous), the Isle of Wight (Cretaceous - Paleogene), Kent and Essex (Paleogene), and Suffolk (Neogene).

A circular giving details of the meeting, costs and abstract from will be issued to interested parties early in 2001. The deadline for abstracts and early registration will be 31st March 2002. Expressions of interest should addressed in the first place to the BMS Secretary, address below.

Contact convenor: Dr James Powell, 105 Albert Road, Richmond, Surrey TW10 6DJ, England, UK (Tel: +44 20 8948 6443; Fax: +44 20 8940 5917; Email: ajp@dinosystems.co.uk).

*** October 27-30 2002.** 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

2003

*** March 29 - April 2 2003.** 3rd International Limnogeology Congress, Tucson, Arizona. Theme session proposals to Andrew Cohen, General Chair of the Congress, (acohen@geo.arizona.edu). Field trip proposals to David Dettman, field trip coordinator for the Congress (dettman@geo.arizona.edu).

*** November 2-5 2003**. Geological Society of America, Annual Meeting. Seattle, Washington, 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