



A.A.S.P. NEWSLETTER

Published Quarterly by the American Association of Stratigraphic Palynologists Inc.

June 2003
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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)
Dr. Svein B. Manum (awarded 2002)

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)
Dr. Robert T. Clarke (awarded 2002)

AASP Board of Directors Award recipient

Dr. Robert T. Clarke (awarded 1994)

Teaching medal recipients

Professor Aureal T. Cross (awarded 1999)
Professor Alfred Traverse (awarded 2001)

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)
Dr. Donald W. Engelhardt (awarded 2000)

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

AASP Student Scholarships may be awarded annually to three students in the amount of US\$1000. 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 and need not be members of AASP. Application forms appear in the January issue of the AASP Newsletter, are available from the Chairman of the AASP Awards Committee (Fred Rich frich@gasou.edu), or can be downloaded from our website at <http://www.palynology.org/content/scholar.html>

AASP Membership categories and dues (in US\$ per year) are as follows:

Individual (\$45.00), **Student** (\$30.00), **Retired** (\$15.00), and **Institutional** (\$70.00). Dues may be paid up to three years in advance by using credit card (MasterCard, Visa, American Express), check or money order (made payable to AASP Inc.), and must be sent to the Secretary-Treasurer. All members receive the AASP Newsletter (mailed quarterly by hard copy or via email), Membership Directory (mailed annually), and (with the exception of Retired members) the journal *Palynology* that is published annually. Overseas members can receive their Newsletter and *Palynology* by airmail, rather than book rate surface mail; an additional surcharge is required in the amount of US\$12.00 for Europe & South America, and US\$15.00 for Africa, Asia & the Pacific region (includes Australia and New Zealand).



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Carlos Jaramillo, Editor

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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. Deadline for next issues of the newsletter is October 1, 2003. All information should be sent by email. 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.

PRESIDENT'S PAGE

By James B. Riding

I start this piece by, on behalf of the entire AASP membership, offering sincere congratulations to John Wrenn, the Director of CENEX, on being awarded the AAPG Division of Environmental Geosciences Research Award for 'for contributions and achievements in developing innovative uses for palynology in environmental geosciences'. John was presented this award at the Division of Environmental Geosciences annual luncheon during the recent AAPG meeting in Salt Lake City. The award is a testament to John's success in effectively using palynology in several environmental geoscience projects. This demonstrates that our discipline is integral to applied geology, especially when integrated in a focused and imaginative way. It also is an acknowledgement that John is involved in a great variety of projects, thereby keeping the scope of CENEX a broad one.

I would also remind AASP members that we still need to raise funds for CENEX. The original aim was to establish two chairs in palynology at this specialist unit within the Department of Geology and Geophysics at Louisiana State University in Baton Rouge. The mission of CENEX is to ensure that palynology is taught in the US in perpetuity, to provide a state-of-the-art palynological preparation facility, to house a multimedia repository of palynological data and materials, to input palynology into multidisciplinary projects and to continually recruit and train students. The original financial goal was to raise \$1.2M for two endowed chairs in palynology. John Wrenn was recruited in 1993 and has run CENEX for its inaugural decade. This \$1.2M figure includes considerable co-funding from the State of Louisiana. The next step is to get an endowed chair at CENEX to obtain the two academic staff positions as was originally planned. This can only happen if AASP can raise a further \$48,000. This relatively small sum will complete the goal of attaining the \$1.2M. The AASP Board is stepping up its fund-raising initiatives in order to reach this target. I realise that we live in a radically changed economic culture to that which operated in the early

1990s, but it should be possible to find many suitable donors for this very deserving cause, especially when the money required is a tiny fraction of the overall sum needed. As I mentioned, the AASP Board will lead fund-raising efforts, however if you are aware of any possible opportunities, please contact any Board member. We would very much like to bring the search to a swift and successful conclusion so that John Wrenn gets the help he needs at CENEX.

The Board recently made a submission to the Institute for Scientific Information in Philadelphia, in order to have our journal, *Palynology*, included in the Science Citation Index. We had to make a convincing case that *Palynology* is one of the leading titles in its niche area. The Institute for Scientific Information will now review *Palynology* in terms of their very exacting selection process. They look at many criteria such as regularity of publishing, scientific content, impact factor, levels of citations, accuracy of references, clarity, a robust peer review/editorial process etc. I have to say that *Palynology* seems to meet the Institute for Scientific Information criteria, but competition to get into the Science Citation Index is intense. It may be that this review process will take a long time, but the Board fervently hopes that our Journal makes the cut into the Science Citation Index. Authors of papers are now extremely aware of the standing of journals and use the impact factor as the prime criterion in choosing where to submit manuscripts. We all know that *Palynology* is a good journal; inclusion in the Science Citation Index will formalise this within the scientific community at large.

It is now May and it is now time to submit an abstract for the St Catharines meeting which is, remarkably, at the time of writing less than five months away. All registration and abstract submission can be done electronically. You can register for the meeting online at: <http://www.geology.utoronto.ca/aasp2003/Reg%20form-web.htm>. Abstracts can be submitted at: <http://www.geology.utoronto.ca/aasp2003/Abstract%20submission-web.htm>. The registration fees can be paid online at: <https://payment.palynology.org/annmtg.php>. Furthermore, the new AASP secure web page is also capable of accepting dues payments at: <https://www.payment.palynology.org/aasp.php>. We do hope to see as many of you as possible at St Catharines.

I can report that the Board had a very successful midyear meeting at San Ramon on April 5th. We got through much business and I am pleased to report that the 2005 AASP Annual Meeting will be held at St Louis, Missouri, hosted by Francisca Oboh-Ikuenobe and Reed Wicander.

In this Newsletter you will find details of the members standing in the AASP Board elections in 2003. Please do vote in this election when your ballot paper arrives; the ballot papers will be mailed in late June, with an August return deadline. Thanks are due to Tom Davies of ExxonMobil in Houston for being the AASP Nominating Committee this year.

J. B. Riding
May 2003

FROM THE DESK OF THE SECRETARY-TREASURER

By Dr. Thomas D. Demchuk

Treasurer's Report

As reported at the mid-year Board of Directors meeting on April 5th, the AASP accounts contained \$61,064.14. This included all monies in the general checking account, money market and mutual funds, scholarship account and various certificates of deposit. This is an increase of approximately \$4500 from those numbers reported at the annual meeting in London in September of 2002. These increased funds are a result of money savings through electronic distribution of the newsletter, and greatly decreased postage costs. This is also because of some corporate sponsorship for printing of the newsletter and announcements/inserts, and mailing of membership renewals and other correspondence.

With the still volatile American stock market, value of the mutual funds has decreased slightly; To minimize risk, earlier this year the Board agreed to further diversify our mutual fund portfolio, and our funds are now spread out over four separate mutual funds rather than three. This diversification should prepare us well for when the economy settles down and stock market begins to rise. As well, there is a certificate of deposit (the L.R. Wilson fund) and money market fund which garner monthly interest.

Secretary's Report

As of April 5th, AASP total membership numbers stood at 588. This is a further decrease of 40 members since the previous year, and continues the multi-year trend of declining membership. Of that 588 total membership, 446 were individual members, 38 were retired members status, and 104 were institutional members. At this precise moment, there are 95 members who have NOT renewed their membership for this year, 2003. This is an extremely disturbing number, and all members receiving this newsletter are urged to check and make sure their memberships are up-to-date.

Members who have not paid for 2003 will receive several more renewal notices from me, but this is the last newsletter you will receive.

Presently there are 205 members who receive the newsletter electronically. At the mid-year meeting, the Board decided that ALL members who provide a valid e-mail address will begin receiving the newsletter electronically beginning with the first issue of 2004. There will be several notices throughout the next two newsletters stating this fact. There will be an option to remain receiving the hard-copy of the newsletter, and exact details will be forthcoming in future announcements.

Finally, as mentioned elsewhere in this newsletter, the AASP secure server is up-and-running after a few growing pains and initial start-up problems. You can now pay your membership, purchase AASP Foundation publications, and pay for the upcoming annual meeting on-line through the AASP website. Everything is secure, and all information is safe. This should make membership renewals much easier, so those of you not paid for 2003 should visit the website and make your payments.

If anyone has specific questions and/or concerns over the mid-year Secretary-Treasurer's report, please feel free to contact me. It's my pleasure to continue serving AASP through the remainder of the year and into 2004.

Respectfully submitted,
Dr. Thomas D. Demchuk
AASP Secretary-Treasurer
Southwest Houston, Texas

NEW AASP SECURE SERVER

Through the hard work of Owen Davis and Eneida Guerra de Lima at the University of Arizona, the AASP secure server is now up-and-running. We have already been accepting membership renewals, AASP Foundation publication purchases, and registration payments for the upcoming Niagara meeting. All these utilities are accessible through the AASP website (www.palynology.org) so go on-line and renew your membership or conduct another secure transaction. Your payment information is totally secure, and you will receive an e-mail notification of the transaction for your records. Future membership renewals, publication renewals and meeting registrations will be conducted through the secure website, so go check it out and see that AASP has moved into the e-commerce realm.

PRESENTATION OF THE CANDIDATES RUNNING FOR AASP OFFICES

President elect

Joyce Lucas-Clark

Joyce received a B.A. in English, minor Geology (1969) and an M.A. in Geology at the University of California at Santa Barbara (1981). She earned a Ph.D. at Stanford University under William R. Evitt (1986). She joined AASP while working at a summer job in palynology for Mobil in 1977. Later she also held a summer position in palynology at Chevron Overseas Petroleum. During her Ph.D. program she started a consulting business, Clark Geological Services, consulting in palynology and organic petrography, and later asbestos analysis.

In palynology she is mostly interested in Cretaceous and Tertiary dinoflagellates, but will consult in other areas. Presently she teaches at the California State University at Hayward, and part time at the City College of San Francisco. She has served twice as a Director at Large for the AASP board, and has attended board meetings fairly regularly.



Martin J. Head

Martin is an Affiliated Lecturer in the Department of Geography at the University of Cambridge, UK, where he has been since 1999, and a senior member of Wolfson College. Martin's interest in palynology began at Aston University, England in the 1970s with a practical exercise on Carboniferous miospores given by Mavis Butterworth (of Smith & Butterworth fame). He progressed to a PhD program in Aberdeen, Scotland under the guidance of David Batten, and then spent 15 years at the University of Toronto where he taught and conducted research. He worked closely with Geoff Norris and his research group during these happy years. Martin's interest in late Cenozoic di-

noflagellate cysts developed while serving as a ship-board palynologist on an ODP cruise in 1985. This fascination is now reflected in about 50 peer-reviewed publications as well as numerous other reports. He and John Wrenn edited the AASP-Foundation's "green book" on late Cenozoic dinoflagellates in 1992, and a recent publication (Head and Norris, 2003, *Journal of Paleontology*, 77:1–15) describes the new acritarch genus *Leffingwellia* in honor of Harry Leffingwell who initiated the highly successful AASP-sponsored Palynology Oil Company Consortium during the 1990s.

Martin joined AASP in 1981, serving as Director-at-Large (1992–1994), Newsletter Editor (1994–1996), and its first Webmaster (1995–2000), as well as organizing various AASP workshops and symposia. The first AASP-sponsored shortcourse in Tulsa in 1989 was organized and co-instructed by Martin, whose most recent short course was in Bahia Blanca, Argentina in 2001. He has also been active with the Canadian Association of Palynologists, as Secretary–Treasurer (1987–1996), President-Elect (1998–1999), and President (2000–2001). Martin is currently on the editorial boards of *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology (Palaeo-3)* and the *Journal of Paleontology*, and serves on various committees including the ICS Subcommittee on Quaternary Stratigraphy, and the fossil plants committee of the International Association for Plant Taxonomy. He recently co-edited (with Alwynne Beaudoin) a special issue of *Palaeo-3* (vol. 180, issue 1–3) on new applications in palynology and micropaleontology in Canada, and is presently co-editing a volume on the palynology and micropaleontology of boundaries (with Alwynne Beaudoin), and another on the Early–Middle Pleistocene boundary (with Phil Gibbard).

If elected to the presidency, Martin would strive to see AASP build upon its traditional strengths in pre-Quaternary palynology, but would aim to expand its membership base. Many palynologists operate from geography, anthropology, forestry, botany and archaeology departments and institutes, and have either never heard of AASP or feel it has nothing to offer them. These palynologists would enliven AASP if only they could be attracted to join. For some years AASP has been linking in various ways with other micropaleontological groups and organizations, a particularly successful example being the joint AASP meeting in London last November. These and other initiatives would be pursued vigorously as they are critical to AASP's well being and relevance in the years ahead.



Secretary-Treasurer

Thomas Demchuk

Once upon a time, in a cold land far far away called Edmonton, there was a naive young man who studied geology. One day he met a prestigious scientist from the Alberta Research Council who studied palynology. "What's palynology?" the naive young man asked. The scientist explained, "It is the study of pollen and spore and dinoflagellates, and you can do wonderful things with the data!". Excitedly, the naive young man exclaimed, "I want to study palynology, and do wonderful things for the science of geology". So the young man studied hard and completed his Masters of Science degree.

During his studies, the naive young man had opportunity to meet several other prestigious scientists, all who studied palynology. "What a wonderful group of people! I wish to continue my research in this fascinating science!". Among the scientists the young man had met during his travels, was a renowned professor in Calgary. "Would you like to undertake your Ph.D.?" the professor asked. "Yes, yes, I would!!!". With that, the naive young man moved to Calgary, and after several years of hard work, a Doctorate was bestowed upon him.

At the end of his studies, the large multi-national oil company Amoco Corp. came calling on the young naive man. "Move to Houston", they said, "and we shall utilize your talents as a palynologist, for the betterment of mankind and in the search for hydrocarbons. We shall pay you a generous salary, and

you will be happy.” The young naïve man could not believe his good fortune. “Someone is going to pay me for conducting palynological studies? This is wonderful!” The young man packed his bags, and moved to the United States, much to the chagrin of his Canadian family.

Unfortunately over several years, palynological study at Amoco Corp. became increasingly difficult. The naive young man was exposed to the harsh and cruel reality of budget cuts and layoffs. Fortunately after four years, another company, Conoco Inc. was in need of the young man’s talents. “Come work for us!. We are not like Amoco Corp. We shall pay you a generous salary, and you will be happy” they exclaimed. So the young man packed up his boxes and moved across the street.

The young man’s work environment was wonderful for several years at Conoco Inc. Although he was no longer looking down the microscope, the data were exciting and many of his workmates became good friends. However, one dark and gloomy day, the president of Conoco said, “We are going to merge with another company, Phillips Petroleum. The new company will become ConocoPhillips. Unfortunately, some of you will not be around to enjoy this new company. But those of you who remain, will receive a generous salary, and you will be happy!” So the young man, now married to a wonderful Argentinian lady, continues to be employed by ConocoPhillips, and he is happy (and no longer naïve).

The End

I’m extremely happy to continue on as AASP Secretary-Treasurer for the year 2004. This will be my sixth year in this position, and my enthusiasm has not waned. I’ll admit I’ve made a few small blunders while conducting the Association’s business (it’s inevitable over five years!) but the people I get to work with year after year on the Board and Foundation are wonderful, and their enthusiasm is as great as mine. I look forward to another stellar year for the Association, including the upcoming meeting in Niagara and the IPC in Grenada.



Managing Editor

Owen Kent Davis

Owen is a Professor in the Department of Geosciences, University of Arizona, where he is the Director of The Palynology Laboratory and of the Antevs Library. He teaches classes on Introductory Biology, Biogeography, Palynology, and Quaternary Ecology. He has written more than 200 publications including 5 books, and has advised 10 M.S. and Ph.D. theses in palynology. He was born March 13, 1949, in Nampa, Idaho, received his M.S. in Botany in 1974, and his Ph.D. in Ecology in 1981. Owen first attended an AASP meeting in 1974, and has been a member continuously since 1982. He has been AASP Managing Editor since 2000. Owen is on the Editorial Boards of The Review of Paleobotany and Palynology, Radiocarbon, Aerobiologia, and the internet journal Conservation Biology. He is President-Elect of the Arizona-Nevada Academy of Science, and Past-President of the International Federation of Palynological Societies.



Directors-at-Large

Francisca E. Oboh-Ikuenobe

She is an associate professor of Geology and Geophysics at the University of Missouri-Rolla, USA, where she teaches courses on stratigraphy and sedimentation, paleontology, micropaleontology, advanced palynology, paleoclimatology and paleoecology. Her research interests have focused mainly on Cretaceous and Tertiary depositional systems, although she has recently begun working on early Paleozoic sediments. Her research projects have been conducted on various aspects of sedimentology, palynology, and micropaleontology on nonmarine to deep-sea sediments from such diverse areas as the Book Cliffs in Utah, US Gulf Coast, US Western Interior, Niger Delta, Anambra Basin (Nigeria), Cote d'Ivoire-Ghana Transform Margin (ODP Leg 159, on which she served as a shipboard sedimentologist/palynologist), Cape Basin (ODP Leg 175), Colombia, and southeastern Missouri. Her studies are multidisciplinary in nature, and she collaborates with other geologists to reconstruct paleoenvironments and sequence stratigraphy. She is embarking on geomicrobiological research with a geochemist and microbiologist in order to study microbial life in extreme environments.

Franca studied geology at the University of Ife in Nigeria (now Obafemi Awolowo University), where she was awarded both Bachelor of Science (First Class Honors) and Master of Science (Petroleum Geology option) degrees. Her mentors at Ife were Babajide Salami, Oluwasegun Adegoke, and Emmanuel Enu, who taught her palynology, micropaleontology, and sedimentology, respectively. She has continued to integrate these disciplines to solve geological problems in her studies. She worked briefly at Ife as an assistant lecturer, and spent one year working for Shell Petroleum Development Company as a reservoir geologist. In 1987, Franca went on to New Hall College at the University of Cambridge as a Commonwealth Scholar, and worked in the Department of Earth Sciences with Jenny Chapman (a paleobotanist) and Peter Friend (a sedimentologist) on the Miocene of the Niger Delta. At Cambridge, she received additional guidance from the late Norman Hughes.

Franca joined AASP in 1991 and has been active in the organization. She has twice chaired the Nominating Committee, has been on the editorial board of *Palynology* since 1995, and will complete a second, 4-year term as AASP's co-councilor to the International Federation of Palynological Societies in 2004. She was one of three conveners of a symposium on

sequence stratigraphy at the 9th International Palynological Congress held in Houston in 1996. She is currently proposing to host (with Reed Wicander and Paul Strother) the 2005 AASP annual meeting in St. Louis, Missouri. Franca is also a member of the Geological Society of America, SEPM, Association for Women Geologists, and the Paleontological Society. She chaired the geology and geophysics section of the Missouri Academy of Science from 1994 to 1998, and has been chairing the O.R. Grawe Award for outstanding undergraduate students for the Association of Missouri Geologists since 1994.

If elected, Franca hopes to continue working with the current board on ways to make palynology more integrated and attractive to younger scientists. As one of a handful of professors teaching palynology in North America, she has been and will continue to work with undergraduates on her research projects, in an effort to steer them into pursuing careers in palynology.



Francine McCarthy

She is a professor of Earth Sciences at Brock University, in St. Catharines, Canada (site of the next AASP meeting!), where she has been teaching since 1991. Her broad palynological interests (and those of her students) range from small lakes to abyssal marine environments, from the Miocene to historic times, and applications for paleoclimatic reconstruction, stratigraphy and sedimentation, sea level and lake level fluctuation, and archeology. She became interested in palynology while taking a Pleistocene Geology course at Dalhousie University, where she received a combined honours degree in geology and biology. She went on to study the Holocene pollen record of Lake Ontario with Jock McAndrews at the University of Toronto, and continues to work on Great

Lakes palynology today, together with a group from the Geological Survey of Canada. She went back to Dalhousie University for her PhD work (supervised by Peta Mudie and David Scott) which examined the Quaternary pollen, dinoflagellate cyst, and foraminiferal record of the New Jersey margin. She returned to the New Jersey margin in 1997 as shipboard palynologist on ODP Leg 174A, and subsequently studied those sediments, as well as sediments from the Atlantic Coastal Plain (ODP Leg 174AX), with a number of graduate students.

Her major research (since sailing on ODP Leg 191 in the summer of 2000) focuses on the palynological and foraminiferal record of the western North Pacific Ocean, where many of her favourite scientific issues are being addressed: paleoproductivity, taphonomy, sedimentation, and global climate change.



Oscar Yepes

He was born in Bogotá and grew up in the city of Neiva located in south-central Colombia. He earned a B.S. degree in Geology from the National University of Colombia-Bogotá in 1992. For his undergraduate thesis he studied the biostratigraphy of upper Coniacian-lower Campanian dinoflagellate cysts from a surface section in Colombia. After his graduation, he worked for several months for a consultant palynological firm in Bogotá. Then, he joined OXY-Colombia and worked as an exploration geologist in Bogotá during 1993 and 1994. Oscar received a M.S. degree in Geology and Geophysics from the University of Missouri-Rolla in December, 1996. For his master's thesis he studied the biostratigraphy of dinoflagellates of Upper Cretaceous sediments from the Ocean Drilling Program Site 959, in the Eastern Equatorial Atlantic. Oscar received a Ph.D. degree in Geology from Texas A&M University in December, 2001 where he worked under the advisement of John Firth and

Thomas Yancey. His dissertation entitled Dinoflagellates from the Upper Campanian - Maastrichtian of Colombia and Western Venezuela: Biostratigraphic and Sequence Stratigraphic Implications.

Oscar joined ChevronTexaco in August, 2001 and is currently working as a development geologist in New Orleans, Louisiana. He is happily married and has a four year old daughter and a one year old son.



Enrique Martínez-Hernández

He is a palynologist of the National Autonomous University of Mexico (UNAM) who belongs to the National Researchers System of Mexico (SNI). He received his M.S. degree from Southern Methodist University, Dallas, Texas, in 1972 and his Ph.D. in Palynology under Professor Aureal T. Cross from Michigan State University, in 1979. He founded the Palynology Laboratory at Institute of Geology, UNAM, in 1975. As research professor, he teaches Palynology and Paleontology at UNAM since 1975. His current research interests include palynostratigraphy of Mesozoic and Cenozoic basins in order to contribute to the floristic history of Mexico and its climatology and paleophytogeography implications. Besides, professor Martínez has been involved in the integration of working groups in Mexico, covering several aspects of applied palynology as red tides, forensic palynology, archeology, melissopalynology, algerology and plant taxonomy. Finally, the Professor Martínez different project contributions on fossil and recent palynology allowed him to create a Pollen Database in 2001.



FORENSIC PALYNOLOGY TO THE FORE AGAIN

by Dallas Mildenhall

The palynology laboratory at the Institute of Geological and Nuclear Sciences in New Zealand is asked to look at soil and other samples relating to about 20-30 criminal investigations per year, for both defence and prosecution attorneys. Mineral and pollen analyses are an excellent way of suggesting lines of inquiry or for showing that current lines of inquiry should continue to be pursued by law enforcement agents. That is the evidence gathered may not be admissible in court but it can determine whether law enforcement agents are pursuing promising lines of inquiry or not. This is a brief case history of one recent investigation

When looking at pollen samples connected to a criminal investigation it is always good to know as little about the proposed scenario as possible, then you do not try and fit the evidence into what you think is the currently accepted scenario.

A one-armed man was seen struggling with a woman in a ditch on the side of a road, which we will call Gale Road. The Police were called and they arrived to find a woman's body in the ditch. Later, a car believed to belong to the suspect and reported as being seen at the Gale Road scene, was found burnt out near a different road, which we will call Storm Road.

Subsequent investigations indicated that the case was ideal for a forensic palynologist and petrologist to be involved. All samples were collected either by a specialist scene of crime police officer (SOCO) or a specialist forensic scene of crime officer and sent to the palynology and petrology laboratories. Neither the palynologist nor the petrologist had an opportunity to visit the scenes so the geology had to be determined from previous knowledge of the area and from geological maps. The palynologist had no chance of relating what was found in the control and evidential samples to the vegetation of the area.

Pollen and mineral control samples were collected from the road surface at both scenes. Evidential samples from the prime suspect consisted of soil samples from each of a pair of shoes, each of a pair of boots, a pair of boxer shorts, and a jacket. We were asked to relate any organic and inorganic material found on the shoes, boots, boxer shorts and jacket to either of the two scenes. Quite clearly we thought one of the questions we were being asked was to find out whether the suspect was wearing the boots or the shoes at the two scenes.

The evidential and control samples were processed so that the organic material was separated from the mineral material.

Palynology: The Gale Road surface control sample was dominated by abundant spores and pollen from tree ferns, bracken, *Pinus*, dandelion, plantain, and grass. It also contained rarer grains of *Banksia* (an introduced Australian protea), *Mentha* (mint), *Salix* (willow) and *Dacrydium cupressinum* (rimu in Maori). The Storm Road surface control sample was dominated by abundant spores and pollen of tree ferns, bracken, *Pinus*, rimu, dandelion, plantain and grass. It also contained rarer spores of *Gleichenia circinata* (tangle fern), the thick-leaved fern *Phymatosorus diversifolius* and pollen of *Nothofagus menziesii* (silver beech). Silver beech pollen is large and disc-shaped, and does not disperse far from source in any numbers.

Soil evidential samples from each shoe were dominated by spores and pollen from tree ferns, bracken, *Pinus*, dandelion, plantain and grass. They also contained rarer grains of *Banksia*, mint, willow, and rimu. *Banksia* pollen did not occur at Storm Road or in the samples from the boots. Soil evidential samples from each boot were dominated by spores and pollen from tree ferns, bracken, *Pinus*, rimu, dandelion, plantain and grass. They also contained rarer grains from tangle fern, *Phymatosorus diversifolius*, and *Nothofagus menziesii*. These three minor components did not occur at Gale Road or in the samples from the shoes.

Spores and pollen from the boxer shorts was similar to that of Gale Road but differed in containing far more *Pinus* pollen. Like the shoes and Gale Road the shorts contained *Banksia* and *Mentha* pollen. The soil sample from the jacket contained abundant tree fern spores and pollen of rimu, rata (*Metrosideros*), southern beech (*Nothofagus fusca* type), grass and dandelion. It also contained silver beech pollen and *Phymatosorus diversifolius* spores and as such soil from the jacket looked more likely to have come from Storm Road. The pollen evidence was not strong enough to determine the precise source of the soil from the jacket and only provided weak support for the contention that the soil on the boxer shorts came from Gale Road.

The palynology of the two scenes, boxer shorts, and footwear could be summarised as follows. Table data shown next are percentages of a count to 300 grains.

Taxon	Gale Road	Shoes	Shorts	Storm Road	Boots
Tree ferns	19	12-27	13	20	20-31
Bracken	6	5	3	13	11.-22
Tangle fern				0.5	trace-1
<i>Phymatosorus</i>				1	trace-1
Macrocarpa type	4	1-3	2	1	1-2
<i>Pinus</i>	12	6-8	29	7	5-8
Rimu	1	trace-1	trace	9	8-13
Daisies	trace	trace	trace	1	trace-1
Willow	2	1-7.5	1	trace	0.5-trace
Dandelion	11	7.5-10	7	4	4-5
<i>Banksia</i>	trace	trace-0.5	trace		
<i>Griselinia</i>				1	trace-0.5
Grass	21	20-25	21	21	10-11
Sedges	1	1-2			trace-0.5
<i>Ranunculus</i>	1	1-2	1		trace
Plantain	4	3	6	5	3-4
Mint	trace	trace	0.5		
Silver beech				1	1

Mineralogy: The mineral samples from the two scenes and the footwear all contained basalt rock and scoria grains, other rock fragments, quartz grains with clear, frosted and striated varieties, heavy minerals (ilmenite, magnetite, and minor pyroxene), brown fly ash glass beads and silty composite weathered grains from pumice.

The Gale Road surface control sample contained, as expected from the geology (young sediments containing quartz and pumice with basaltic ash) a lot of quartz, some white mica (muscovite), relatively abundant ilmenite/magnetite, pumice grains, and fly ash beads. The Storm Road sample contained, as expected from the geology of the area (weathered basalt flows with associated scoria) abundant basaltic volcanic rock and ash particles, and only small amounts of quartz and minor pumice.

The soil from the shoes contained a high amount of quartz grains, muscovite, ilmenite/magnetite, fly ash beads and more pumice fragments than in the Storm Road or boot samples. The soil from the boots contained abundant basaltic volcanic material, ash particles, quartz grains, and prominent creamy-white weathered rock particles unlike any seen at Storm or Gale roads. The amount of basaltic volcanic material and quartz grains was more abundant than the surface samples collected from Storm Road. Not enough mineral material was obtained from the boxer

shorts or jacket to be able to relate these items to either scene.

The petrology confirmed what was suggested by the palynology. It was quite clear that soil on the shoes related to Gale Road and soil on the boots to Storm Road so we were not able to tell which items of footwear were worn at the time of the murder unless he was wearing both pairs at different times.

We were puzzled by this because not knowing the scenario we had assumed that the murder had taken place, then the car taken away and torched to destroy evidence immediately after. How could he have been wearing both pairs of footwear? The Police upon receiving our evidence were delighted because it provided additional evidence for a scenario they had developed. They had concluded that the offender had, between the time he murdered the woman and torched the car, gone home, had a shower, got rid of the clothes he was wearing, changed footwear and then took his car away and torched it. He had changed footwear between visiting each scene.

This evidence is circumstantial. Investigations showed that the suspect did not live near and had no reason to be at either scene. We were not asked to compare the soil samples with any other site other than at Gale and Storm roads close to the two crime scenes. Not all evidence is presented here, of course,

and the guilt or otherwise of the offender could not be assessed on this evidence alone. We could only indicate the likelihood of that offender being at each scene wearing the two sets of footwear. We were not able to determine when the soil got onto the footwear and other clothing. That was up to others to determine from known sightings of the offender and other evidence picked up at the two scenes.

The offender was sent to trial where he was found guilty and sentenced to a mandatory life sentence.

Palynology is a useful forensic tool that should be encouraged. These short case histories can be used to advertise the science to law enforcement agencies. If anyone wants further information or even help in assessing evidence I am available to be called in anywhere, anytime.

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PALYNOS

Notice to all AASP members

In case you were unaware, or wondered why you haven't been receiving your copy of PALYNOS, it is because it is only being issued in electronic format, beginning with the June, 2002 (volume 25, no. 1) issue. You can access PALYNOS at the IFPS website <http://geo.arizona.edu/palynology/ifps.html> Presently, volume 18, no. 2 (December, 1995) and volume 22, no. 1 (June, 1999) through volume 25, no. 2 (December, 2002) are on line.

Reed Wicander
AASP IFPS Co-Councillor

AASP NEWSLETTER

Notice to all AASP members

The AASP Newsletter will ONLY be issued in electronic format beginning with the March 2004 (volume 37, no. 1) issue. You can access AASP Newsletters at the AASP website <http://www.palynology.org/pub.html#nl> Presently, volumes 33 to 36 are on line. Volumes 1 (1968) - 32 (1999) are digitally available on request from the Webmaster webmaster@palynology.org and the entire set on CD ROM can be obtained from the AASP Secretary at secretary@palynology.org

Carlos Jaramillo, AASP Newsletter editor

NEWS FROM ARGENTINA

by Mirta Quattrocchio (mquattro@criba.edu.ar)

Symposium of Palaeobotany and Palynology

One-hundred papers were submitted to the XII Symposium of Palaeobotany and Palynology in Buenos Aires city (7 to 9, April 2003). The participants to this event came from different cities of Argentina, Brasil, Chile, Uruguay, USA (Dr. Alan Graham) and Australia (Dr. Geoffrey Playford). Four scientific sessions and conferences were carried out during the Symposium. Conferences were displayed by Dr. Sergio Archangelsky (Museo Argentino de Ciencias Naturales Bernardino Rivadavia, Buenos Aires), Dr. Alan Graham (Missouri Botanical Garden; USA), Dr. Rafael Herbst (INSUGEO, Tucumán), Dr. Geoffrey Playford (The University of Queensland, Australia) and Dr. Wolfgang Volkheimer (IANIGLA-Cricyt, Mendoza). This event was in Dr. Joaquin Frenguelli memory (1883-1958), one of the most distinguished naturalist of Argentina.



Argentina-Brazil project

In the frame of the projects PIP CONICET 2307/00, the Drs. C. Azcuy (Director), H. Carrizo, M. di Pasquo, M. Vergel (Argentina) and Paulo Alves de Souza (Brazil), they are working in the resolution of palynologic taxonomic problems, which allow to improve the comparison and correlation of microfloras found in Upper Carboniferous Basins Madre de Dios (Bolivia), Tarija (southern Bolivia and northern Argentina), Uspallata/Iglesia, Paganzo, San Rafael (western Argentina) and Parana (Brazil). Likewise, the Drs. C. Azcuy, H. Carrizo and M. di Pasquo and C.R. Amenábar (Argentina) and Roberto Iannuzzi (Brasil), they are taking forward palynologic and paleobotanic studies of sections of the Devonian – Carboniferous boundary in the basins above, as Madre de Dios (Bolivia), Tarija (southern Bolivia and northern Argentina) and Uspallata/Iglesia/Paganzo (western Argentina), in order to contribute to the knowledge on the diastrophic and paleoclimatic events that generated unconformities in these places from western Gondwana, as well as the comparison and correlation of the microfloras present therein. In both projects, these knowledges will help to improve local

palaeoenvironment and regional paleogeographic-paleoclimatic schemes. Both projects consider the formation of human resources, so much in the accomplishment of doctoral theses or final degree works and also, of students who participate in the production of a scientific work.

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NEWS FROM INDIA

By Naresh C. Mehrotra (nareshmehrotra@indiatim.es.com)

Nypa megafossils dominated by fruits are described from Oligocene and Lower Miocene sediments of Assam and Mizoram, respectively. The origin, past distribution and migration of *Nypa* are discussed in

the light of recent findings. This study indicates that India might be the place of its origin. Its presence, along with some other coastal elements, reinforces the concept that the Bay of Bengal was extending considerably northward during these epochs than its present day boundary. (Source : Mehrotra, R.C., Tiwari, R.P. & Mazumder, B.I., 2003. *Geobios* 36 (1) : 83 -92).

BOOK REVIEW

Forests in Peril: Tracking Deciduous Trees from Ice-Age Refuges into the Greenhouse World, by Hazel R. Delcourt, The McDonald & Woodward Publishing Co., 2002. vii + 234 pp., illus., biblio. index, US\$22.95, ISBN 0-939923-89-0 (paperback).

If you have an interest in plants, ecology, paleoenvironments, pollen studies, archaeology, or just like to read a good mystery novel, then buy and read this book! When I began reading this book I expected it to be full of statistics like an extended version of a scientific article found in a major journal. Very quickly I realized that my initial bias was totally wrong. What I instead discovered was an exciting novel-like, very personal story of how Hazel Delcourt and her husband, Paul, began their loving bond, forged their future careers in graduate school, and then began a 30-year quest to unravel the mystery of the great American Eastern Deciduous Forest. Her personal story is full of insights and examples useful for any graduate student. It provides a personal look into what it means to pursue a mystery and then what type of dedication it takes to find the answer.

As Hazel notes, she and Paul spent many hours and days researching the early historical documents written about the eastern forest. Next, armed with notes, topographic maps, plant presses, and field gear they drove the back roads of many counties in various states in search of needed answers. As you read her chapters, you can see the two of them choking on the road dust as their Land Cruiser navigates the pot-filled gravel and dirt roads in the rural south. You are there as they unload their camping gear and all the pieces of their coring-rigs. You can hear the mosquitoes buzz and almost see the thousands of ticks and chiggers lurking in the underbrush, waiting for their next meal as Hazel and Paul approach. You can see them hacking their way up steep slopes of brush and briars, watch them wade into waist-deep, mucky ponds hoping not to disturb some water moccasin or cotton mouth snake. Finally, you can watch as the two of them pound their coring rig into the bottom sediments of many ponds and lakes and then spend all

afternoon trying to extract their coring tubes inch-by-inch using a chain hoist and a come-along. You can also smell the ozone in the air as afternoon thunder heads sweep across the darkened sky and you gaze in fear as lightning strikes hit nearby trees and narrowly miss the Delcourts running for cover while balancing their metal coring rigs on their shoulders.

So what do we learn from reading this book? First, we learn that for years there was a great-unresolved mystery about where the present Eastern Deciduous Forest originated and how old it was. During the early part of the twentieth-century E. Lucy Braun, a professor of botany at Ohio State University, conducted one of the most thorough descriptions of the Eastern Deciduous Forest region and then published her life-long work in 1950. She believed that the Eastern Deciduous Forest had been firmly established hundreds of thousands of years earlier and that elements of it had remained firmly in place throughout the great glacial cycles of the Pleistocene. It was from an ancient core location in the Allegheny plateau region that she believed those forests originated and then eventually expanded to cover most of eastern North America after the end of the Wisconsin full glacial period. In the opposite camp was Edward S. Deevey, a botanist from the University of Florida, who also studied the Eastern Deciduous Forest and wrote a long monograph in 1949, outlining his views of where it came from and how it had changed. According to Deevey, the effects of the glacial advances during the Pleistocene had affected regions much further south than the actual glacial front. Deevey believed that the glacial advances caused widespread and major climatic changes that had profound effects on the composition and function of biological habitats throughout eastern and southern North America. He was the first to propose that during full glacial periods boreal plants and animals were forced out of Canada as far south as Florida and even Mexico. He noted that during that process most elements of the Eastern Deciduous Forest had been forced much further south, were destroyed, or had retreated into small refuge areas waiting to expand after the end of the glacial period.

Hazel Delcourt decided that she would try to solve the puzzle and find out which earlier researcher was correct. Her step-by-step investigation reads like any good murder mystery where tiny clues of forensic evidence here and there began to fit together like pieces of a jigsaw puzzle. In Hazel's case she searches the sediment records of countless ponds and bogs for a trace of a spruce cone here, or evidence of an acorn or walnut shell there, or sifts through the charcoal remains from ancient Indian campsites searching for

the species of wood being burned. But most of all it is the fossil pollen records of these deposits that provide the critical clues that finally solve the mystery.

I don't want to spoil your fun of reading the book by giving away too much of the plot. Instead I shall try to whet your appetite. It is fascinating how she unlocks the mystery of why certain plant species are now found only in some regions, while other plant species seem to be ubiquitous throughout the Eastern Deciduous Forest. Do you know, for example, why walnut and butternut trees are found only in certain forested areas rather than being widespread throughout the whole region? Why are small remnant populations of the Kentucky coffee tree (*Gymnocladus dioicus*) and horse-apple (*Malclura pomifera*) so very restricted today in their distribution whereas once they were widespread? Why do the oaks and maples now dominate much of the Eastern Deciduous Forests, and what happened to the once vast forests of Critchfield spruce (*Picea critchfieldii*)?

In the last part of her book Hazel worries about the loss of the richness of plant communities still found in many areas of the Eastern Deciduous Forest. She points out that one-half of the rare plant species found in the higher elevations of the Eastern Deciduous Forest are now restricted to relic habitats that are dependent on today's climatic conditions. But, with global warming a reality, she fears many of those habitats and the species they protect will soon disappear. The author also pleads for conservation and for the protection of the remaining populations of distinct plant communities. She talks about how for thousands of years in the past, the plants of the Eastern Deciduous Forest could migrate along protected forest corridors and thus ensure the survival of critical species as environmental conditions changed. Today, highways, suburban housing communities, commercial malls, farmlands, pasture lands, and man-made lakes and reservoirs have cut many of those protected forest corridors thereby preventing any future plant migrations. It is within our ability, Hazel insists, to convince present government and private agencies to recognize the current problems and be willing to work to prevent the most vulnerable plant and animal species of the Eastern Deciduous Forest from becoming extinct.

Would I recommend that you buy and read this book? You bet! Will I use this book as a supplemental reading the next time I teach my graduate course in palynology? You bet!

The next time anyone asks me, "Why is the study of fossil pollen important?" I will tell them the answer will

become very clear as you read "*Forests in Peril*"

Vaughn M. Bryant, Jr.
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Plants invade the Land: Evolutionary and Environmental Perspectives by Patricia G. Gensel and Dianne Edwards, Columbia University Press, New York, 2001, 304 pp., US\$ 33.5, ISBN: 0-231-11161-4 (paperback).

This is an important book. Many of the contributions present original research results and even the review papers contain new information that is extremely well presented. The topic of the origin of land plants ranges from the description of new species of fossil plants to atmospheric modeling – this is very broad coverage which is extremely useful to both specialists and more general readers.

Edwards and Wellman present an overview of the paleobotanical and palynological record of the earliest embryophytes, covering a period from the Llanvirn (lower middle Ordovician) to the Lochkovian (Lower Devonian). This paper presents tables which summarize the entire record of both macrofossil and microfossil occurrences. Having this data laid out all in one place is really the best way to quickly comprehend the overall nature of the fossil record. One can very quickly see the range in morphology of *Cooksonia* and the various rhyniophytoid species. The authors have been responsible for demonstrating the detailed morphology of *in situ* spores, especially with TEM work, and this work is reviewed in the chapter. The record of phytodebris is briefly noted with mention of new work on possible fungal and bryophytic affinities of some of the cuticles and tubes (nematoclasts) that are often associated with cryptospores in Silurian assemblages. Finally, a comprehensive survey of paleogeographic distributions of the earliest terrestrial floras is presented. This is the best review of plants from this time interval that has ever been written. You can use this review in conjunction with the bibliography to gain a comprehensive understanding of the earliest land plant fossil record.

Shear and Selden present an equally impressive review, site by site and group by group, of the earliest terrestrial animals. They conclude that the food chain for the earliest terrestrial animals was based on detritivory – herbivory apparently came later. While it may be that the Siluro-Devonian record is largely a sample of soil-dwelling organisms, fossil evidence would indicate a very different trophic structure for the earliest terrestrial ecosystems.

The next two chapters present important new primary information on Devonian fossil plants. Kerp, Hass & Mosbrugger describe the least known vascular plant from the Rhynie Chert, *Nothia aphylla*. This work is a significant contribution to the general paleobotanical literature. *Nothia* had a rhizomatous habit with leafless erect axes bearing distal reniform sporangia. The vascular anatomy is unique which makes it difficult to place the plant systematically. Illustrations are excellent and they convincingly document the connections between rhizomes and erect axes. Gensel, Kotyk & Basinger discuss the early Devonian plant record with respect to rooting structures and habit morphology. This is a new way of thinking about how to describe fossil plants – paleobotanists typically describe morphology with the goal of using fertile or anatomically-preserved material to provide systematic information. But, for the purposes of reconstructing the earliest terrestrial ecosystems, both above-ground and below-ground morphology is important. Buried in this paper are new descriptions of plants from Bathurst Island. You can see *Drepanophycus* with rooting structures attached along with tufted roots of *Zosterophyllum*. The origin of roots with respect to embryonic development is very interesting. It appears from their data that roots may have evolved from early shoot branching, but how this became incorporated into embryonic root development is unknown.

Devonian plants in review are presented in chapters 6 and 7. Shou-Gang & Gensel present a well-illustrated guide to the 16 fossil taxa known from the early Devonian Posongchong Floral Assemblage from Yunnan, China. The flora contains a mixture of familiar Laurussian elements along with character complexes that are unique to this assemblage. Berry & Fairon-Demaret next review Middle Devonian plants worldwide. The review begins with a systematic survey, discusses the origin of major plant groups, and finishes with a nice section on plant communities and associations.

The next two chapters discuss neontological aspects of early land plant evolution. Graham & Gray start with a review of the extant phylogenetic evidence for the origin of land plants from the green algae. Then they discuss character evolution which is useful before moving to more recent arguments regarding the possibility that the palynological record in the Ordovician and especially Silurian may contain phytodebris of bryophytic origin. This is ongoing research in Graham's laboratory at the University of Wisconsin and this section provides a good starting point for catching up on this line of research. Cooper-Driver has a chapter on plant phenolics and their possible

role in plant evolution. This should be required reading for paleobotanists.

Three chapters discuss ecosystem-level aspects of the invasion of land. Berner's contribution is an extended abstract about the role of the rhizosphere in the GEOCARB II model of atmospheric CO₂ concentration. Algeo, Scheckler & Maynard present a comprehensive paper summarizing some of their research on the relations between global geochemistry, climate and the development of vascular plants in the Devonian. They have a complex hypothesis concerning the extinction at the end of the Devonian. It is a fun paper to read as a palynologist, because you can fit the missing palynological data into their scheme as you read along. Dreise & Mora review their paleosol data of the past decade or so. This has been very important work in establishing a "ground-truthing" data set for the modelers. You will get a crash course in the reconstruction of CO₂ from isotopes in paleosols.

But I have saved the best for last - there is a chapter by Hotton, Hueber, Griffing & Bridge entitled, "Early terrestrial plant environments: An example from the Emsian of Gaspé, Canada," that is truly great. It has everything – sedimentology, palynology, taphonomy, facies analysis, paleobotany and alpha taxonomy – and it is truly integrated into a composite paleoenvironmental picture. This may sound like something that others have done before, but this paper succeeds where others have only tread superficially. In papers written by sedimentologists, the plants get superficial treatment – in papers by paleobotanists, the sedimentary context is never addressed thoroughly. In studying the Cap-aux-Os section by first generating the facies analysis and then thinking about the plants and spores within that context, the authors have set a new standard for all of us. The era of fossil plant "collecting," that has served us well for centuries, is over – it will now be necessary to describe plants only within the context of a properly characterized sedimentary context. For example, this level of data enables the authors to conclude that "[T]he diversity of the dispersed spore record strongly suggests that many forms, perhaps whole classes of plants, have thus far escaped sampling in the megafossil record." Early land plants tend to form monospecific stands. Others have suggested this, but now we know it to be the case because Hotton et al. have bothered to work through the facies analysis and taphonomy that shows that sampled distributions are real.

This is a valuable book from the perspective of both researchers in the field of early land plant studies and for a comprehensive overview of this rather multifaceted topic. But, in addition, there are some highly

significant papers hidden in this volume which should become significant contributions to the literature of paleobotany. This is especially true regarding the integration of plant studies into paleoecology

Paul K. Strother,
Research Professor
Palaeobotanical Laboratory
Weston Observatory of Boston College

JOB OPENINGS

See up to date openings at www.palynology.org/news.html

Curator Stonerose Interpretive Center

The Stonerose Interpretive Center, a world renowned Eocene fossil site located in Republic, WA is accepting applications for a Curator. Candidates must have a Bachelor degree or applicable experience, plus major course work in paleobotany or related fields, one year experience in a museum environment, experience with administrative and supervisory responsibility, computer and internet skills, and a valid WA driver's license. Experience with grant/fundraising a plus. Salary \$12,000 - \$15,000 DOE This is a 6 months/year position.

Employment will begin May 1, 2004. Application deadline is August 1, 2003. EOE. Send letter of interest and resume to Stonerose Interpretive Center, PO Box 987, Republic, WA 99166. Position description is available at www.stonerosefossil.org or by writing to the above address. For questions please call Lisa Barksdale at (509)779-4412.

Postdoc University of Amsterdam

3-year Postdoctoral Research Fellowship 'Complex dynamics in time series of terrestrial plant diversity in relation to Global Change' in which paleoecology and mathematical data analysis are combined. Institute for Biodiversity and Ecosystem Dynamics (IBED), University of Amsterdam, The Netherlands. Funded by the Netherlands Organisation for Scientific Research (NWO) within the programme 'Biodiversity in relation to Global Change.

We will study diversity changes in terrestrial pollen assemblages, and derived estimates of plant taxa, in paleovegetation along three long-term time axes. We use new insights in possible chaotic behavior of multi-taxa systems. Parallel to this, we will analyze the same diversity changes as function of the principal parameters of global change (precipitation, pCO₂, caloric insolation, and temperature). We will analyze the relationship between downcore

changes in the pollen assemblages and principal parameters of global change. Our intention is to use pollen records to understand the predictability of effects of global change on floral diversity. Working along this line we explore the potential of pollen records for scenario building of Andean biodiversity change in the coming centuries. For this purpose we will use pollen records with very high temporal resolution from three intervals (Holocene and Holocene-analogue stages of MIS5 and MIS11) from climate-sensitive cores at 2550 m above sea level in the Andes.

Supervisors are Dr. Joost Duivenvoorden duivenvoorden@science.uva.nl (Quaternary biodiversity and ecology, multivariate analysis, time-series), Prof. Henry Hooghiemstra hooghiemstra@science.uva.nl (tropical palynology), and Prof. Jef Huisman (population dynamics, plankton time-series).

Applicants: Please submit a letter outlining your research interests, curriculum vitae, and the names of two referees (full address and e-mail) **before 20 June 2003**, to Prof. Dr. Henry Hooghiemstra, IBED-PPA, Kruislaan 318, 1098 SM Amsterdam, The Netherlands. Tel: +31 20 5257857 (5257844 secretary), Fax: +31 20 5257832, e-mail: hooghiemstra@science.uva.nl

Professorship for palynology

At the Georg-August-University of Goettingen (Albrecht-von-Haller-Institute for Plant Sciences) a full professorship (permanent position) for palynology and paleoclimatology is available for reappointment as of **October 1, 2003**. You will find details at <http://www.gwdg.de/~botanik/palynologie/Vacancy.html>

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MAILS MISSING IN ACTION

The following e-mails have been returned due to non-delivery. If you recognize one of the e-mail addresses below, and know that it has been changed and updated, please contact the Secretary-Treasurer. Thank you.

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WORKSHOP ON MIDDLE LATITUDE DINOFLAGELLATES AND THEIR CYSTS

Bedford Institute of Oceanography, Dartmouth
(Canada) April 29-May 2, 2002.

By Fabienne Marret and André Rochon

Participants (in alphabetical order): Gail Chmura (McGill, Canada), Barrie Dale (Oslo, Norway), Anne de Vernal (GEOTOP-UQAM, Canada); Rob Fensome (GSCA-BIO, Canada), Kari Grøsfjeld (GSN, Norway), Rex Harland (DINODATA Services, R-U), Martin J. Head (Godwin Institute for Quaternary Research, R-U), Maryse Henry (GEOTOP-UQAM, Canada), Jobien Laurijssen (LPP, The Netherlands), Elisabeth Levac (St. Francis Xavier University, Canada), Laurent Londeix (DGO, France), Fabienne Marret (SOS-UWB, R-U), Jens Matthiessen (AWI, Germany), Francine MacCarthy (Brock University, Canada), Andrew McRae (GSCA-BIO, Canada), Peta J. Mudie (GSCA-BIO, Canada), Vera Pospelova (McGill, Canada), Taoufik Radi (GEOTOP-UQAM, Canada), André Rochon (GSCA-BIO, Canada), Sandrine Solignac (GEOTOP-UQAM, Canada), Merlijn Sprangers (LPP, The Netherlands), Jean-Louis Turon (DGO, France), Graham Williams GSCA-BIO, Canada).

The third workshop on dinoflagellates and their cysts organised by André Rochon and Fabienne Marret was held at the Bedford Institute of Oceanography. The objectives were to document the morphology, taxonomy and distribution of modern dinoflagellates and their cysts in middle latitudes, and to promote discussions between ecologists and paleoecologists.

The workshop was held in the honour of Dr. Peta J. Mudie in recognition for her contribution to Quaternary palynology and paleoecology. A total of 15 presentations were made over 3 days. The afternoons were devoted to microscopic observation of slides and plenary sessions/discussions. Studies on several mid-latitude regions were presented. In particular, sediments from the Black and Caspian seas, which can be considered as extreme environments, proved to be extremely useful to study the influence of environmental parameters on cyst morphology and intraspecific variations. Several points were raised during the discussions, including the influence of hydrographical conditions on the cyst distribution, such as the stratification of water masses, vertical and lateral transport. The methods and interpretations of ecologists differ from those of paleoecologists and it became obvious that consultation and collaboration will be needed to avoid future misunderstandings on the value of paleoenvironmental reconstructions based on fossil assemblages of dinoflagellate cysts.

Andrew MacRae gave a demonstration of the software package DINOFLAJ, which was developed at the Bedford Institute of Oceanography. André Rochon and Frank Thomas gave us a tour of the Environmental Scanning Electron microscope, which allows observing wet samples with minimum preparation. We had the opportunity to examine fresh specimens of *Bitectatodinium tepikiense*, collected in Bedford Basin, just outside the Institute. An excursion organised by Rob Fensome, Williams MacMillan, Andrew MacRae and Graham Williams led us to the famous Carboniferous fossil cliffs at Joggins, with abundant fossils of tree trunks and leaves (*Sigillaria*, *Calamites*, giant ferns) and amphibians (*Dendroperon acadianum*), the Triassic-Jurassic dinosaur-bearing red beds of the Parrsboro area, and the Fundy Geological Museum, including a behind-the-scenes tour.

Scientific Program:

Monday April 29 (9:30-12:00)

Opening remarks

Fabienne Marret – Shelf sea environments: the potential of dinocyst studies for reconstructing palaeoceanographic conditions.

Rex Harland – The seasonal succession of dinoflagellate cysts in Koljö Fjord, west coast of Sweden.

Vera Pospelova and Gail L. Chmura – Modern dinoflagellate cysts and their spatial distribution along environmental gradients in Buzzards Bay embayments (Massachusetts), USA.

Tuesday April 30 (9:00-12:00)

Peta Mudie, André Rochon and Helen Gillespie – Recent

dinoflagellate cyst assemblages from the Aegean-Marmara-Black sea corridor and their relevance to the Noah's Flood myth.

André Rochon, Peta J. Mudie, Ali E. Aksu and Helen Gillespie – Pterocysta: a new dinoflagellate cyst genus from Late-Glacial sediments of the Black Sea.

Fabienne Marret – Dinoflagellate cysts in the Caspian Sea, Kara-Bogaz Gol Bay and the Aral Sea: A new genus, *Caspidium*, a new *Impagidium* species and morphotypes of *Spiniferites cruciformis*.

Wednesday 1 May (9:00-12:00)

Rex Harland – The use of dinoflagellate cysts as high resolution proxies for environmental change and the characterization of recent anthropogenic activity.

Jobien Laurijssen – Recent distribution of organic-walled dinoflagellate cysts from offshore SE South America.

Merlijn Sprangers – Modern organic-walled dinoflagellate cyst distribution offshore NW Iberia

Martin Head – Eemian dinoflagellate cysts from the Baltic Sea.

Thursday 2 May (9:00-12:00)

Kari Grøsfjeld – Dinoflagellate cysts and hydrography of the last interglacial in the White Sea region.

Francine M.G. McCarthy – What do palynological records record? Examples from the mid latitude abyssal North Atlantic and North Pacific Oceans.

Taoufik Radi – Preliminary results on dinoflagellate cyst distribution from surface sediments along the coast of British Columbia and in the Gulf of Alaska.

Barrie Dale – Views and thoughts on the use of dinoflagellate cyst assemblages for paleoecological reconstructions.

André Rochon – *Gonyaulax Spinifera*: Perpetuating the paradox.

A CD-ROM including the discussions and presentations in PowerPoint format is available upon request (contact Fabienne Marret: f.marret@bangor.ac.uk).

THE MEASUREMENT AND ORIGIN OF BIODIVERSITY, FIRST CIRCULAR

A one-day meeting to be held in association with the Australasian Association of Paleontologists / Geological Society of New Zealand annual conference, Dunedin, New Zealand, Friday 5th December, 2003

Understanding the origin, history and controls of biodiversity remains one of the primary goals of paleontology and biology. The measurement and interpretation of biodiversity data, however, is fraught with problems. In this meeting we will bring together paleontologists and biologists to explore some of the

perplexing questions surrounding biodiversity. Using New Zealand and global examples of living and fossil clades, we will examine topics such as species-area effects, onshore-offshore diversity gradients in the marine realm, latitudinal gradients, and distortions of the paleobiodiversity record related to preservational biases.

The meeting has been scheduled to allow attendees to also participate in field trips associated with the Geological Society of New Zealand conference. Some of these trips will have a paleontological focus.

For further information please contact:

James Crampton, Institute of Geological & Nuclear Sciences, P.O. Box 30-368, Lower Hutt, New Zealand. Ph. +64-4-570 4887, Fax. +64-4-570 4600. Email j.crampton@gns.cri.nz

AGENDA

2003

July 23-31, XVI Congreso INQUA Reno, USA
<http://inqua2003.dri.edu>

August 10-16, XVth International Congress on Carboniferous and Permian Stratigraphy (XV ICC-P), Utrecht, The Netherlands
<http://www.nitg.tno.nl/eng/iccp/iccp.shtml>

September 21-24, The Society for Organic Petrology (TSOP), 20th Annual Meeting, Washington, DC, USA.
<http://www.tsop.org/mtgdc.htm>

October 5-8 Joint AASP/CAP/NAMS meeting Niagara. A joint meeting of the American Association of Stratigraphic Palynologists, the Canadian Association of Palynologists, and the North American Micropaleontological Section of SEPM will be held in Canada's Niagara Peninsula October 5-8, 2003. The meeting will be held at the Four Points Sheraton Hotel, St. Catharines, Ontario, where a large block of moderately priced rooms has been reserved. The hotel is a 5-minute walk from Brock University where we will take advantage of banquet facilities for the Opening Mixer and laboratory facilities if required for workshops. St. Catharines is ~1.5 hour drive from Toronto Airport and less than an hour drive from Buffalo or Hamilton Airports, and ground transportation is available from Toronto or Buffalo Airports. More information in our meeting website www.geology.utoronto.ca/aasp2003

October 16-18 2003 Open Meeting of the Human Dimensions of Global Environmental Change Research Community. The 2003 Open Meeting of the Human Dimensions of Global Environmental Change Research Community will be held on October 16-18, 2003 in Montreal, Canada. The local host is the McGill School of the Environment, and the meeting itself will take place at the Wyndham Hotel. The overall theme of the Open Meeting is "Taking Stock and Moving Forward." The program will include a set of plenary speakers addressing key questions concerning past progress and future directions in human dimensions research. The Program Committee also invites submission of focused "stock-taking" panels to review progress in particular areas of human dimensions research such as land use/land cover change, integrated assessment, population, environmental security, industrial transformation, institutions, and environmental economics. Proposals for individual research papers are also welcome. These may be on any area within the broad Human Dimensions research agenda. Poster sessions will also be held. For further information on the Open Meeting, see: <http://sedac.ciesin.columbia.edu/openmeeting>.

November 2-5, Geological Society of America, Annual Meeting, Seattle, Washington, U.S.A.
<http://www.geosociety.org>