

October, 1990
Volume 23, Number 4

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AASP NEWSLETTER

DEPT. GEOLOGY AND GEOGRAPHY
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GEORGIA SOUTHERN UNIVERSITY
STATESBORO, GA. 30460
Attn: F. Rich





AASP NEWSLETTER

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ISSN 0732-6041 F.J. RICH, EDITOR

Incoming President's Address Annual Business Luncheon October 12, 1990 Banff, Alberta

I'm pleased for us to have the opportunity to reflect on the current status of AASP. Together we can focus our attention on some of the basic challenges to our organization and to the science of palynology in general. I believe a bit of group introspection is in order.

Now that AASP has reached the maturity of nearly a quarter century, I thought it would be informative to look back at some of the issues the AASP president was dealing with half a lifetime ago for the association, some 12 years ago. Jack Burgess cautioned us about becoming isolated from the mainstream of the earth sciences and suggested we meet jointly with other organizations. He commented that "most other earth scientists don't take palynology very seriously, because they don't know how versatile and effective is this paleontologic technique."

So, you see concerns such as this one have been ongoing. One step toward realizing the objective of a broader interchange of ideas with other geoscientists will take place next year, when our annual meeting in San Diego will run concurrently with the annual GSA meeting. A symposium on Devonian boundary problems will be sponsored jointly by AASP and the Paleontological Society. Moreover, you recently voted to amend the by laws to allow our annual meeting to be held earlier in the year. Having more flexibility in setting a date for our meeting will facilitate our meeting jointly or concurrently with a geological society or another paleontological society.

Since AASP was organized 23 years ago, it has undergone a dynamic evolution, developing from a founding membership of 30 to a current membership of over 800. Among our members are geologists, biologists, botanists, archaeologists, and anthropologists who are engaged in palynological investigations. And within palynology itself, new sub-disciplines or specialties, such as forensic palynology, are being added. I think that Sir Peter Medewar aptly, if unwittingly, described AASP members in depicting scientists in general:

"Among scientists are collectors, classifiers, and compulsive tidiers-up; many are detectives by temperament and many are explorers; some are artists and others artisans. There are poet-scientists and philosopher-scientists and even a few mystics."

This diversity means that we are struggling with diverse career challenges: industry palynologists must cope with severe staff reductions during economic downturns; academic palynologists, with the vicissitudes of grants and departmental emphasis of some disciplines over others; government palynologists, with swings in governmental favor and funding. But the common thread of all these experiences is *inadequate funding and inadequate appreciation for what palynology has to contribute as a science*. Locked, as we now are, in a global economic crisis, we can expect stringent budgetary restrictions for the indefinite future. That's beyond our control. What about the other factor, palynology's image?

We all need to be educators of a sort; we need to educate managers, department heads, other geoscientists, grant administrators, lawmakers, the public, and students at all levels about palynology. In industry, the current trend toward task forces and integrated studies, particularly those involving sequence stratigraphy and palynofacies, is enhancing our image. Our annual review article in *Geotimes* provides a high-profile showcase for innovative technical advances in palynology. AASP local societies can help raise public awareness of palynology by establishing speakers bureaus to serve student and community groups.

It is not only palynology that is facing a crisis of viability; all earth sciences are in crisis. AASP recently took a positive step, however, when we became a member-society of the American Geological Institute (AGI). We can support and take part in AGI initiatives to further educational issues and programs in the earth sciences on a national level, and at the same time, we can publicize AASP concerns among the other member societies.

My predecessors have initiated highly constructive measures for enhancing the viability of palynology. The

initiative which will require an unparalleled degree of effort and fortitude to implement is the establishment of the AASP Center for Excellence at LSU. This landmark initiative, in the words of Jim Coleman, LSU's Executive Vice-Chancellor,

"should greatly influence the future development of palynological studies on national and international scales."

When this dream becomes a reality it will be to the enormous credit of AASP.

Only rarely can we make such a quantum leap of progress as is entailed by the AASP Center for Excellence; most of our gains in coping with long-term challenges are accomplished by means of small increments of progress involving the efforts of many dedicated and resourceful AASP members. There is much work to be done. If you are not yet an "AASP activist," I urge you to consider your own interests and talents in light of the tasks that lie ahead, and inform someone on the Board of Directors of your ideas. Only then can we continue to have a dynamic alliance between the Board and the membership, to carry out ongoing responsibilities, to implement initiatives already adopted, and to devise promising new ones. In addition, you will be infusing all of us with the spirit of self-determination necessary to guide AASP and palynology through the rest of the decade and into the new millennium.

Barbara L. Whitney
President

HIGHLIGHTS OF THE 1990 ANNUAL MEETING, BANFF, ALBERTA, CANADA

Photographs of the Canadian Rockies are not enough to prepare the first-time visitor for the majestic setting of Banff, which is surrounded by rugged, snowy peaks. The freely-roaming elk provided a picturesque element to the scene, but a bull displayed aggressive (amorous?) behavior toward more than one unwary palynologist! A memorable trip to the top of Sulfur Mountain one evening involved a thrilling tram-ride, magnificent views, and a bone-chilling group photograph (pained facial expressions will tell the tale).

The meeting's technical sessions began with a full day's symposium entitled "Event Stratigraphy, a Multidisciplinary Approach, with Emphasis on the Cretaceous of the Western Interior of North America." Art Sweet (Geol. Surv. Canada) introduced the general technical sessions with his invited paper, "The Cretaceous-Tertiary Boundary Event: a Review of Perceptions." The subsequent papers and the 22 posters, of generally high quality in both cases, defy brief characterization due to their enormous diversity of topic.

The field trip through the Front Range of the Rockies provided an overview of the Paleozoic section and appreciation of the monumental scale of Jurassic-Paleogene thrusting and early Tertiary uplift. Participants saw a number of Quaternary features: Mazama Ash, drumlin fields, and enormous glacial erratics. We had an opportunity to collect shale samples of the Campanian Belly River, Chungo, and Bearpaw Formations. The trip was enhanced by the lively narration of Dave McIntyre, Art Sweet, and Owen Davis.

The Organizing Committee for the Banff meeting is as follows:

David J. McIntyre (Geol. Surv. Canada)
Thomas D. Demchuk (Univ. of Calgary)
Jancis H. Ford (Nova Husky Research)
Bert G. T. van Helden (Chevron Canada)

Dave, Tom, Jan, and Bert, as well as their assistants, put a great deal of effort into making the meeting run smoothly. They can be justifiably proud of their success.

Barbara Whitney

PRESIDENT'S FORUM

The new Board of Directors, meeting in Banff, voted to increase AASP annual individual dues from \$20 to \$25 in 1991. I would like to share with you some of the considerations involved in this important decision of the Board.

AASP, Inc. is able to cope with the short-term or non-recurring expenses. Ongoing expenses, however, are a problem. The two most notable ongoing expenses involve postage and printing. We are facing an increase in U.S. postage rates in 1991. This will affect all the rates for posting *Palynology* and the Newsletter: first class within the U.S., first class to Canada, regular bulk rates overseas, and air mail overseas. (The optional air rate surcharge will stay the same.) Printing costs for *Palynology* and the Newsletter account for a substantial portion of AASP's income from dues, and the cost is rising every year. Each copy of *Palynology* vol. 12 (1988) cost nearly \$12 to be printed, whereas each copy of vol. 13 (1989) cost nearly \$13. We can anticipate some increase for vol. 14.

It is likely that our annual dues to IFPS (International Federation of Palynological Societies), currently at \$1 per AASP member, will be increased in 1992. AASP had additional dues expenses as a new member society of AGI (American Geological Institute),

Even such easily overlooked incidental expenses as materials (AASP stationary, plaques) contribute cumulatively to the financial pressure that the organization is experiencing.

Another consideration involves new expenses for AASP, Inc. Gordon Wood is taking the steps necessary to set up a VISA account to assist members in paying their dues. This plan is intended to be of particular benefit to overseas members, who must rely on special bank drafts for this purpose; these drafts often fail to indicate the name of the sender, creating difficulties in crediting that person with payment. A small percentage of the remittance is charged as a fee by VISA.

The current dues of \$20, which have been held at this level for six years, cannot meet the increase in ongoing expenses and the assumption of new ones without subjecting the organization to financial stress. With a dues increase, AASP can maintain a comfortable margin of economic safety that provides a measure of continuity and stability. The Board will have the opportunity to consider augmenting some programs already established, such as scholarship awards, and to consider new initiatives, such as further measures for providing student aid.

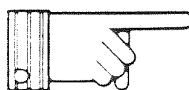
It is the Board's intention to eventually charge students a reduced rate, but this cannot be done until our by-laws are amended to allow a two-tier structure for membership. If such a proposed amendment is approved by vote of the membership, the student rate will be reduced.

In their decision, Board considered what other geoscience societies charge for dues relative to what publications they offer their membership. Some charge dues comparable to ours but provide only a newsletter and membership directory. Those societies publishing a journal typically have substantially higher dues than AASP. The general consensus was that \$30 dues for AASP is not unreasonable, considering the outstanding quality of *Palynology*.

(N.B. If you've already paid your 1991 dues at the old rate of \$20, you are considered to have "paid in full" for the year.)

Barbara Whitney

Watch for your 1991 dues notice included in the Newsletter envelope. Prompt payment will be appreciated!!



TAKE NOTE PLEASE

PALYNODATA, Inc. is converting its datafiles from a mainframe to a PC-based system which will be available in December, 1990. The new system will run under DOS 4.01 on an IBM compatible PC with 40 MB hard disk, and the datafiles will reside on an optical disk in a worm drive.

PALYNODATA will license the software and datafiles together to universities for \$6,000. This price includes user manuals and the 1991 updates (available 9/1/91), and will be a turnkey system if the hardware is in place. Users will provide their own hardware and their own copy of DOS 4.01. The annual update for 1992 will be available at a cost of \$1/document, and we would anticipate that about 1,000 - 1,200 documents would be available in that update.

The database currently contains the stratigraphic and geographic occurrences of palynomorphs from over 15,800 published documents on pre-pleistocene materials. The datafiles can be searched by author, by taxon, or by age and location. Retrievals also indicate the reference in which a taxon was synonymized, emended, combined or first described. It is possible to scroll and/or print out the search output, and to print off a complete list of references which contain information requested in a search.

Interested parties should contact either:

Kenneth M. Piel
UNOCAL Research Center
P.O. Box 76
Brea, CA 92621
USA

Ralph A. Morgan
CHEVRON USA, Inc.
935 Gravier Street
New Orleans, LA 70112
USA

Palynology Volume 14 Due Out In December

AASP Managing Editor David K. Goodman reported at the Board of Directors' Meeting in Banff (Tuesday, October 9, 1990), that the latest issue of *Palynology* is about to roll off the presses. This volume contains papers from across the palynologic spectrum, with regards to both palynomorph groups and age. It should be distributed in December and may arrive in time for the Holidays. So you may want to plan ahead to reserve free time to read the papers of interest to you. In an effort to help with

such planning, we provide a sneak preview of the contents of Volume 14, below.

Palynology

Volume 14

AASP Honorary Membership Award, 1989

On the occurrence of Ficus pollen in neotropical Quaternary sediments: SALLY P. HORN and WILLIAM RAMIREZ B.

Morphology and distribution of the miospore Teichertospora torquata comb. nov. in the Upper Devonian of Euramerica and Australia: D. COLLIN MCGREGOR and GEOFFERY PLAYFORD

Trimurornatispora, a new genus of miospores from the Cornbrook Sandstone Formation, Lower Namurian (Carboniferous), Clee Hills, Shropshire, England: N. TURNER and E. SPINNER

Paleoecological history of west-central Okefenokee Swamp based on palynologic and petrographic analysis: TONYA FAIR-PAGE and ARTHUR D. COHEN

The ultrastructure of three monosulcate pollen grains from the Triassic Chinle Formation, western United States: MICHAEL S. ZAVADA

Corroded exines from Havinga's leaf mold experiment: JOHN R. ROWLEY, JOANNE S. ROWLEY and JOHN J. SKVARLA

Three new dinoflagellate cysts from the Albian of the South Atlantic Ocean: NICHOLAS H. MILES

Fossil fungal spores: Anatolinites gen. nov.: WILLIAM C. ELSIK, VOLKAN S. EDIGER and ZUHTU BATI

Subdivision of Wilcox Group (Sabinian) argillaceous sediments using particulate organic matter: WILLIAM A. GREGORY, JR., and GEORGE F. HART

Some spores and pollen from the Cullen Formation (Upper Eocene to middle Oligocene), Tierra del Fuego, Argentina: MARLA DEL C. ZAMALOA and EDGARDO J. ROMERO

Some dinoflagellate cysts from latest Bajocian and Bathonian sediments in southern England: DAVID A. BAILEY

Exine structures of Upper Cretaceous Normapolles grains from anthers (northeastern Scania, Sweden): ANNIE SKARBY, JOHN R. ROWLEY and LENNART NILSSON

Acritarchs and other non-dinophycean marine palynomorphs from the Oxfordian (Upper Jurassic) of Skye, western Scotland, and Dorset, southern England: R.P.W. STANCLIFFE

Forensic Palynology in the United States of America: VAUGHN M. BRYANT, JR., JOHN G. JONES and DALLAS C. MILDENHALL

Abstracts of the Proceedings of the Twenty-Second Annual Meeting, Tulsa, Oklahoma

Group Photograph of Participants at the Tulsa Meeting

The Authors, PALYNOLOGY, Volume 14

Instructions for Authors

list of AASP Publications

Call For AASP Archive Materials

Norm Norton, Chairman of the Archives Committee, notified the Board of Directors that he is not receiving AASP materials in a timely fashion from former Officers of the Corporation. He noted that all AASP materials from AASP Officers and Committee Chairpersons should be sent to him for storage at the Hunt Museum. Norm is concerned that AASP, Inc. is losing valuable historical material.

If you have Official materials that belong in the AASP Archives, please send them to Norm Norton. If you are not sure whether or not your materials belong in the archives, call or write to Norm (Chevron Overseas Petroleum, Inc., P.O. Box 5046, San Ramon, CA 94583-0946, USA; phone 415-842-3668) for a determination of their status.

PALYDISKS Available

Owen K. Davis, Chairman of the AASP Data Committee, reported at the Board of Directors' Meeting in Banff (Tuesday, October 9, 1990) that the Committee has 10 PALYDISK titles available, and is working on obtaining an eleventh. The disks listed below are available through Owen (Department of Geosciences, University of Arizona, Tucson, AZ 85721 USA).

Please send the appropriate number of formatted 360K IBM 5 1/4" disk for each PALYDISK file you wish to obtain. See listing below for the number of disks needed. (Editor's Comment: When you receive your disks from Owen, please remit the cost of postage to him so that Owen doesn't have to pay for that out of his pocket.) Owen indicated that the PALYDISKS can be had on 3 1/2" Macintosh disks as well.

AASP DATA COMMITTEE, PALYDISKS

DAVIS, O.K., S.T. Hall, J. Schoenwetter, and G. J. West. 1988. An ASCII file bibliography of Southwestern Quaternary Palynology. AASP Data Committee, PALYDISK 1 (1 diskette).

- Elsik, W.C., 1989. An ASCII file bibliography of living and fossil fungi: annotated fungal references: AASP Data Committee, PALYDISK 2 (2 diskettes).
- Elsik, W.C., 1989. An ASCII file Bibliography of Gulf Coast palynology. AASP Data Committee PALYDISK 3 (1 diskette.)
- Fredlund, G.G. 1989, PD5.EXE: pollen diagrams on and EGA monitor. AASP Data Committee PALYDISK 4 (1 diskette).
- Davis, O.K. 1989. PONLSPSH.EXE: A spread sheet for pollen data. AASP Data Committee PALYDISK 5 (1 diskette).
- Fensome, R.A. 1989. AASPPALY.DBF: A dBase file of AASP members, 876 records, 378 characters in 17 fields. AASP Data Committee PALYDISK 6 (1 diskette).
- Holloway, Richard G. 1989. COPROLIT.DBF, and STATS.DBF: Three dBase bibliographic files of Quaternary pollen literature concerning coprolite analysis, pollen morphology, and numerical methods. AASP Data Committee PALYDISK 7 (1 diskette).
- Holloway, Richard G. 1989. ABOT.DBF, NE.DBF, and NW.DBF: Three dBase files of Quaternary pollen literature concerning archeological botany, northeastern USA, and northwestern USA references. AASP Data Committee PALYDISK 8 (1 diskette).
- Holloway, Richard G. 1989. SE.DBF: A dBase bibliographic file of Quaternary pollen literature concerning southeastern USA. AASP Data Committee PALYDISK 9 (1 diskette).
- Kovach, W.L. 1990. MEGASPOR.DBF and MEGAREF.DBF: dBase files of range data and citations from "Catalog of Mesozoic and Tertiary Megaspores", by D.J. Batten and W.L. Kovach. AASP Contribution Series (1990). AASP Data Committee PALYDISK 10 (1 diskette).

AASP Postcards

AASP has had prepared attractive postcards showing the AASP Logo printed in red with a blue border on slick postcard stock. Real pretty, they are. They can be purchased from Owen K. Davis (See above for address.) and cost .30 each, 4 for \$1.00 or 50 for \$10.00 (in U.S. dollars only). All funds raised by the sale of the cards will be applied to the AASP Student Scholarship Fund.

Future AASP Short Courses

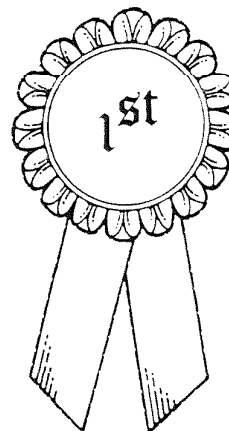
The Education and Workshop Committee Chairman, **John H. Wrenn**, presented a list of guide lines for organizing AASP sponsored short courses at the Board of Directors' Meeting in Banff (Tuesday, October 9, 1990). The guidelines will help future committees organize short courses, a number of which are being organized at this time.

Proposals for future AASP short courses under consideration include one by **Garland R. Upchurch** and **Patricia G. Gensel** entitled "Phytodebris and plant megafossils: Identification, analysis, and application to geologic problems". This course will bridge the gap between micro- and megaplant fossils and introduce biostratigraphically useful plant debris clasts that have been little used up to this time.

William C. Elsik is planning a new short course on fungal spores and fungal debris. This will update the valuable course that was convened by George F. Hart and given by Bill 10 years ago (can it be that long already!?) at Louisiana State University. This should be of great interest to all palynologists.

If you have any interest in either of these two courses, please send your comments to the new Chairman of the Education and Workshop Committee, Martin B. Farley, Exxon Production Research Company, P.O. Box 2189, Houston, TX 77252-2189.

In addition, if there are other topics you would like to see covered in a short course, drop Martin a line.



AWARDS COMMITTEE ANNOUNCEMENTS

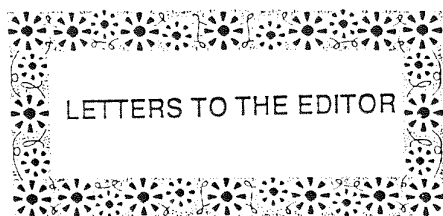
At the Banff meeting, the following awards for 1990 were announced:

Distinguished Service Award to Kenneth M. Piel (Unocal) "In recognition of his highly capable and effective leadership as President, Secretary-Treasurer, and Councilor, and his vigorous pursuit of the highest goals of the Association, as symbolized by his efforts to establish the AASP Center for Excellence in Palynology."

L.R. Wilson Award for Outstanding Student Paper to Robert Vance (Simon Fraser University), for his talk entitled "A Holocene pollen, plant macrofossil, and sediment record from southeastern Alberta: implications for paleoclimatology of the northern mixed grass prairie." The paper was co-authored by Rolf Mathewes (Simon Fraser).

Best Poster Presentation Award to John Utting (Institute of Sed. and Petroleum Geology), for his poster entitled "Palynology and thermal maturity of Lower Carboniferous oil shales of Nova Scotia and New Brunswick."

Unocal Award for Best Applications Paper to Dale Leckie (Geol. Surv. Canada), for his presentation "A shallow condensed section in the Cretaceous Shaftesbury Formation of northern Alberta: an integrated study." The paper was co-authored by Chaitanya Singh (Alberta Geol. Surv.).



I have now moved permanently to England to open an office of the Bujak Davies Group. Could you please include a note of my address change in the next AASP Newsletter and in future membership directories?

Dr. Jonathan P. Bujak
Bujak Davies Group
9 Albion Avenue
Blackpool, Lancashire FY3 8NA
England
Phone: 0253-33161 until December 31, 1990
0253-393161 after January 1, 1991

Forensic Palynology

Dallas Mildenhall, John Jones and I are researching the history and current use of pollen evidence in legal cases. Our library research and the results of a questionnaire mailed to major forensic labs in the United States suggest that most law enforcement agencies are not aware of the potential use of pollen in criminal or civil cases; very few agencies have ever tried using pollen evidence in court cases.

We hope AASP members can help us in our research. If you know of any legal cases in which pollen evidence was collected and/or examined, and/or the outcome of such studies, we would appreciate hearing from you. Please send whatever details you might have concerning such cases, and any other information you have relative to forensic palynology that might tell us the full extent to which forensic palynology has been used. Because our research effort is an attempt to report the past and present status of forensic palynology on a world wide basis, we are seeking information from all regions of the world. Today, only New Zealand appears to use forensic palynology on a routine basis. However, we hope our

research will reveal the level of its use in other countries as well.

For those who may not be familiar with forensic palynology, the classic example of its use was reported by G. Erdtman in his book PALYNOLOGY, published in 1969. In that example, a murder suspect was convinced to admit his guilt based on pollen evidence collected from mud on a pair of his boots that linked him to the scene of the crime.

Thank you for your assistance. Please contact us at:

Vaughn M. Bryant, Jr.
Palynology Laboratory
Texas A&M University
College Station, Texas 77843
Telephone (409) 845-5242
FAX# Area code (409) 845-5663

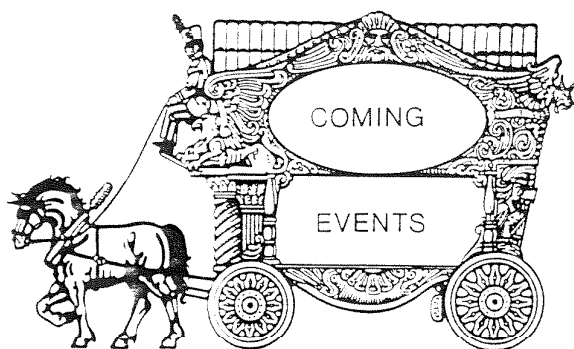
In anticipation of our new President's message, and in the spirit of spreading the news about palynology, Gil Brenner provides the following bit of news. Between August 5th and September 15th Gil gave three papers at three different scientific conferences and traveled over 20,000 miles around the globe.

On August 7th at the National Meeting of the American Institute of Biological Sciences in Richmond, Virginia, he presented a paper entitled: An Evolutionary Model of Angiosperm Pollen Evolution Based on Fossil Angiosperm Pollen from the Hauterivian of Israel.

On August 23rd he was already in the Kazakhstan Republic of Soviet Asia in the City of Alma-Ata presenting a paper at the International Meeting of UNESCO on the Nonmarine Cretaceous - Project 245.

On September 6th Dr. Brenner flew from New Paltz to Jerusalem to present his third paper at the International Meeting on Cretaceous Tethyan Correlation supported by UNESCO and the International Geological Union, entitled: Palynological Evidence of an Onlap Sequence in the Lower Cretaceous Kurnub Group of Israel.

Gil reports that he is now back teaching and suffering from a mild case of jet lag! For those of you who are habitually sent on globe trotting missions for your companies this amount of travel may not seem so unusual. For those of us in academia, though, this is extraordinary. I don't doubt that it will be this level of effort that will be needed to carry us through.



MEETING CALENDAR

1991

August 2-9: XIII INQUA Congress. Beijing, People's Republic of China. Details from: Secretariat, XIII INQUA Congress, Chinese Academy of Sciences, 52 Sanlihe, Beijing 100864, China.

August 24-25. Canadian Palaeontology and Biostratigraphy Seminar and Pander Society Joint Meeting. Vancouver, B.C. Details from: M.J. Orchard, Geological Survey of Canada, 100 West Pender Street, Vancouver, B.C. V6B 1R8. Tel. (604)666-0409.

September 22-27: 12th International Congress on Carboniferous-Permian Stratigraphy and Geology. Buenos Aires, Argentina. Details from: S. Archangelsky, Mus. Argent. de Ciencias Nat., Ave. A. Gallardo 470, Buenos Aires 1405, Argentina.

1992

June 14-17. American Association of Petroleum Geologists Annual Meeting. Calgary, Alberta. Details from: AAPG, Box 979, 1444 S. Boulder, Tulsa Oklahoma 74101. Tel. (918)584-2555.

June 28-July 1. NACP-V. Chicago, USA. Details from: Peter R. Crane, Department of Geology, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605.

8th International Palynological Congress. Aix-en-Provence, France. See Palynos, 1989, Vol. 12, No. 2, p. 3 for preliminary information. Details to be announced.

MARINE QUANTITATIVE PALYNOLOGY, TECTONIC, CLIMATIC, EUSTATIC CONTROL?

ORGANIZERS:

M.J.M. BLESS	Maastricht, The Netherlands
B. OWENS	Nottingham, United Kingdom
C. POUMOT	Pau, France
M. STREEL	Liege, Belgium
J. VERNIERS	Brussel, Belgium

CIMP and APLF newly initiated working groups have decided to coordinate their efforts to jointly organize a symposium during the 1992 Palynological Conference at Aix-en-Provence.

Aim of the symposium:

Quantitative palynological analysis combined with other methods reveals that palynomorphs and organic matter distribution within marine sediments may suggest tectonic, climatic, and/or eustatic events. These last events may be related either to Milankovitch cycles or to the cycle chart from Haq *et al.*, 1987.

All related papers are welcome. Contact : M. Streel, Paleontology, The University, Pl. du XX Aout, 7, B-4000, LIEGE, BELGIUM

COURSE IN DINOFLAGELLATE CYST MORPHOLOGY

The course will be conducted by Dr. Raimond Below (University of Bonn, FRG)

Place: Laboratory of Palaeobotany and Palynology, Utrecht, The Netherlands

Next date: June 10 - June 21, 1991

Fee: Dfl. 4,500.=(ex 18.5% VAT/BTW), including material

Application: Before December 30, 1990. **The number of participants is limited to 5.**

For information please contact: Han Leereveld, Laboratory of Palaeobotany and Palynology, Heidelberglaan 2, 3584 CS UTRECHT, The Netherlands. Telephone: (31) (0) 30-532630, telefax: (31) (0) 30-531357

CONTENT

Teaching and material included in the course

Ten 8 hour days: general oral presentations and demonstrations; intensive individual observation; training on excellently preserved dinocysts in single grain preparations and comparison to SEM-photographs of the same taxa; possibilities for additional and independent study of the extensive collection of SEM-photographs;

discussions on the observations. Included in the course are a manual with figures used in the oral presentations and comparison exercises with SEM-photographs and light-microscopical material, a set of color dia-slides, a set of black and white SEM-photographs and a set of single grain preparations.

Book Reviews

Miocene-Pleistocene Spores and Pollen from Central Otago, South Island, New Zealand. 1989, D.C. Mildenhall and D.T. Pocknall. New Zealand Geological Survey Paleontological Bulletin 59, P.O. Box 30368, Lower Hutt, New Zealand. US \$60.00 softbound (includes airmail postage). 128 pages.

Mostly on the basis of palynologic studies by the late R.A. Couper in the 1950's, parts of the Cenozoic stratigraphic succession in Central Otago, South Island, New Zealand, were interpreted to be Oligocene in age. Data presented in NZGS Paleontological Bulletin 59 indicate that the oldest Tertiary rocks in the region are early to middle Miocene in age. The rocks investigated in this study are assigned to the lower to middle Miocene Manuherikia Group and the upper Miocene to lower Pleistocene Maori Bottom Group. The report is a complete palynological analysis centered on a thorough taxonomic treatment of selected fossil algae, spores, and pollen recovered from these rocks and is a major contribution to Cenozoic palynology of the Southern Hemisphere.

The authors report 240 generic- or specific-level palynomorph taxa from the Miocene; they discuss 88 species, most in great detail. Five new genera, 22 new species, 14 new combinations, and 1 new name are proposed, and the circumscriptions of 6 species are revised. The systematic section is arranged morphologically. Each new taxon is carefully and completely described, and its stratigraphic distribution and botanical affinities are indicated. The fossils are illustrated in 20 plates of brightfield and scanning-electron photomicrographs.

Palynological samples were obtained from surface sections and drill holes, and pertinent geologic and biostratigraphic data for each locality are presented. The fossils are distributed in four nonmarine palynostratigraphic zones, two of which are described here for the first time. A chart shows the palynomorphs included in the zones and the stratigraphic ranges of 64 species in the Miocene to Pleistocene succession in Central Otago.

The diversity of palynofloras reflects changing local terrestrial paleoenvironments, which were under the influence of tectonism and climate through much of the Neogene. Palynologic and other evidence indicate that the climate was warm-temperate and humid but possibly subject to periodic droughts and associated fires.

This is an excellent, comprehensive taxonomic study, but perhaps the most impressive aspects of the work are its thoroughly documented stratigraphic basis and its relevance to local and regional geology. It lays a solid foundation for future geologic research in the area and for comparative palynological analyses here and elsewhere. The authors should be complimented on their approach and on their accomplishments.

Douglas J. Nichols
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Nothofagidites Erdtman ex Potonie, 1960: a Catalogue of Species with Notes on the Paleogeographic Distribution of Nothofagus Bl. (Southern Beech). 1990, Mary E. Dettmann, David T. Pocknall, Edgardo J. Romero, and Maria del Carmen Zamalao. New Zealand Geological Survey Paleontological Bulletin 60, P.O. Box 30368, Lower Hutt, New Zealand. US \$50.00 softbound (includes airmail postage). 79 pages.

The illustration on the cover of NZGS Paleontological Bulletin 60 is a landscape photograph of a forest in Fiordland National Park, New Zealand, showing silver beech (*N. solandri* var. *cliffortioides*). No genus better characterizes the extant forests of southern South America and Australia than does *Nothofagus*, and no palynological form-genus better characterizes the Cenozoic palynofloras of this region and Antarctica than does *Nothofagidites*. The authors of Bulletin 60 (who are from Australia, New Zealand, and South America) recognize 36 valid species of the pollen genus, which ranges from the Campanian to the Holocene in their part of the world. In this thoroughly researched and carefully prepared monograph, they reassess each of these species on the basis of its type specimen and provide new descriptions for 35 of them.

Each relocated holotype is reillustrated in one or more brightfield photomicrographs, and many also were photographed in differential interference contrast or phase contrast illumination. In all, there are 129 photomicrographs on 12 plates. These are supplemented by 53 line drawings. Uniformly formatted redescription using consistent terminology are provided for 30 holotypes and 5 lectotypes and for 8 paratypes and 2 topotypes. One of the lectotypes designated by the authors is for *Nothofagidites flemingii*, type-species of

the genus. Discussions of the valid species provide detailed data on typification, synonymies, type localities, comparisons of specimens and affinities with ancestral or modern groups of Nothofagus defined by pollen morphology. Repositories of types and the stratigraphy of type localities are listed in a separate section. Also discussed are a *nomen nudum*, a species regarded as valid but excluded from the genus, and 11 records of the genus in the Northern Hemisphere. The authors determined these records to be based on misidentifications or to be of questionable status, which indicates that Nothofagidites is exclusively a Southern Hemisphere genus.

This excellently documented monograph is not restricted

to the intricacies of pollen morphology and the details of taxonomy and nomenclature. These data are applied in valuable summaries of phytogeography, phylogenetic

relationships, and the stratigraphic distribution of the seven pollen-morphological groups in nine regions within the Southern Hemisphere. Maps and range charts supplement these treatments. This volume will stand not only as the definitive work on the genus, but also as a standard of excellence in palynological research, which, as stratigraphic palynologists, perhaps we should all seek to emulate.

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REWORKED PALYNOMORPHS

Reworked palynomorphs (R. P.) are considered by some biostratigraphic workers as valuable tools for the reconstruction of palaeogeographical events, allowing the tracing of tectonic movements and source areas of the sediments, rather than being mere contamination.

Because of their frequency and interest, a program of research on the R.P. is now being developed at the University Liege (Belgium). All the stratigraphic Stages will be considered, from the oldest to the present. An complete bibliography is essential; unfortunately the published data are generally incomplete. In order to create a data bank we would appreciate all interested parties completing the following questionnaire. Thank you in advance for your help.

Questionnaire

- 1) Where exactly, were your palynological samples containing R.P. collected?
- 2) What is (are) the ages of the samples? And dated by what?
- 3) What is (are) the age(s) of the R.P.?
- 4) What is the nature of the R.P. and of the P. in situ (spores, acritarches...)?
- 5) Have you any idea of the proportion of the R.P. to the total of all palynomorphs?
- 6) Did you observe some vertical variations (on the ages, nature, proportions..) of the R.P.?
- 7) Did you observe some horizontal variations?
- 8) Have you deduced some palaeogeographical, tectonic, or other implications based on the R.P.?

- 9) What are the observations which have allowed you to identify the presence of the R.P. (reflectance, biostratigraphical or palaeogeographical incompatibility...)?
- 10) Are these data published?
 If yes - can you send a reprint (or give the references)?
 If no - do you give me the authorization to use these data for my research and, eventually, publications (with of course complete citation to the origin of data)?
- 11) Are you interested by the creation of working group on this subject?

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MASTER IN PRECAMBIAN TO TERTIARY PALYNOLOGY

Paleontologie, Universite de l'Etat a Liege

Palynology, the study of microscopic organic walled fossils, is of fundamental importance to geologists in the oil industry where they are used for analysis of the stratigraphy and paleoenvironment of sediments found in subsurface exploration.

The training of palynologists for developed and developing nations is therefore an essential part of the search for more energy resources.

The Master course draws on the wide-ranging expertise of Belgian specialists to provide a course that is well balanced and authoritative in all the major palynomorph groups. The objectives of the Master are: a) to provide training in field methods (surface and core sampling) and laboratory techniques (sample processing, microscopy, including coalification measurements, data analysis)

b) to provide a detailed approach on each palynomorph group

c) to give an introduction to related sedimentology (clay minerals) and stratigraphy

Course Content

- Sampling and laboratory methods, quantitative palynology; palynofacies (M. STREEL, Universite de l'Etat a Liege)
- Acritarchs from Precambrian to Carboniferous (M. VANGUESTAINE, Universite de l'Etat a Liege)
- Chitinozoa from Ordovician to Devonian (J. VERNIERS, Rijksuniversiteit Gent)
- Spores/Pollen from Silurian to Lower Cretaceous (M. STREEL and Ph. STEEMANS, Universite de l'Etat a Liege)
- Megaspores from Devonian to Triassic (P. PIERART, Universite de l'Etat a Mons)
- Spores/Pollen in situ, wood and cuticles (M. FAIRON-DEMARET Universite de l'Etat a Liege)
- Dinoflagellates from Permian to Neogene (J. DE CONINCK, Rijksuniversiteit Gent)
- Spores/Pollen from Upper Cretaceous to Neogene (E. ROCHE, Musee Royal d'Afrique Centrale a Tervuren)
- Coalification of organic matter (Y. SSMERS, Institut National des Industries Extractives a Liege)
- Use of computers in paleontology (J.M. CORDY, Universite de l'Etat a Liege)

- Sedimentology of palynomorph bearing rocks (J.THOREZ, Universite de l'Etat a Liege; R. DRESSEN, Institut National des Industries Extractives a Liege)
- Litho- and biostratigraphic characteristics of chronostratigraphic reference units (M.COEN, Universite Catholique de Louvain, a Louvain-la-Neuve; M. DUSAR, Belgisch geologisch dienst, Brussel; E. POTY, Universite de l'Etat a Liege; F. ROVASZYNSKI, Universite de l'Etat a Mons and J. DE CONINCK, E. ROCHE, M. STREEL, J. THOREZ, M. VANGUESTAINE and J. VERNIERS)
- Independent project (5 months): a practical study of a palynological problem, making use of laboratory techniques plus reference to the extensive collection of books, journals and indexes. The results of the project will be presented in a written thesis.

Duration

Twelve months at least, commencing October 1st.

Structure

Seven months of lectures and formal laboratory work.

Examinations are at the end of April. The remaining time is devoted to the Independent Project which can be completed by the end of September or continued during a second year.

Entry Requirements

A Bachelor's degree in a Science subject such as Geology or Biology. Applications from those with other qualifications plus relevant industrial experience will also be considered.

Applications and requests for further information should be sent to:

Prof Streel, Paleontology, Universite de l'Etat a Liege
7, Place du XX Aout, B-4000 LIEGE (Belgium)