



A.A.S.P. NEWSLETTER

Published Quarterly by the American Association of Stratigraphic Palynologists Inc.

June 2001
Volume 34, Number 2

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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)

AASP Board of Directors Award recipient

Dr. Robert T. Clarke (awarded 1994)

Teaching medal recipients

Professor Aureal T. Cross (awarded 1999)

AASP Honorary Members

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

AASP Distinguished Service Award recipients

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

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

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

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



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Marloes Kloosterboer-van Hoeve, 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. Deadlines for next issues of the newsletter, are September 1 and December 1, 2001. All information should be sent on computer disks (preferably Word-Perfect) or 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 David Pocknall, 27 May 2001

Since the last newsletter we have had the mid-year meeting of the board of directors. It was held at the University of Florida in Gainesville and was hosted by Susan and David Jarzen. On behalf of the board I extend my thanks to them for arranging the meeting. It was a very productive meeting where we dealt with items ranging from honorary membership, meeting reports for San Antonio (see separate attachment with this newsletter), London in 2002, and applications for 2003, the status of a secure ISP server for AASP, GSA affiliated societies, a brochure/poster for AASP, and lastly CENEX (see separate report). I want to update you all on some of these.

Paul Strother, as editor and keeper of the AASP website has been investigating access to a secure ISP server. He has found a service that could provide AASP with 60Mb of storage; the cost per year to AASP, including protection of the address "palynology.org", would be somewhere in the order of \$500.00 per year. This would enable us to set up for secure credit card business on the web, therefore allowing us to pay dues, buy publications and pay for meeting registrations electronically. This is something many of us are already doing with other societies and other web based retailing sites. There is still some work to be done on this but we are hopeful that something will be available before the end of this year.

GSA's Affiliated Societies met in Boulder on February 23, 2001. Thomas Demchuk attended on our behalf. Discussions centered about how the affiliated societies should integrate together and with GSA, with GSA acting as the umbrella for the discussion of common themes and ideas. GSA has discussed the idea of acting as the "clearing house" for peer-reviewed journals produced by affiliated societies. This would include one large electronic format collection of GSA publications as well as the publications produced by the affiliated societies (e.g. *Palynology*) and selling these via CD by subscription to libraries. GSA would handle the distribution and billing for these "mass" publications CDs. AASP and the other contributors to this CD would receive a percentage of the sale profits. AASP would still continue to go through the manuscript preparation and review process, and then hand over completed manuscripts to GSA. We decided that a lot more discussion and details were needed before AASP would

THE MEDAL OF EXCELLENCE IN EDUCATION

In April of 2000, the AASP Awards Committee received the a letter of nomination from Fred Rich, identifying Dr. Alfred Traverse as a nominee for the AASP Medal of Excellence in Education. Owen Davis was Chair of the committee at the time, and forwarded the letter to committee members, who concurred with Rich's nomination. The Board of Directors accepted the nomination last year. Dr. Traverse is the second person to be honored in this fashion, the inaugural Medal of Excellence in Education having been presented to Dr. Aural Cross in 1999. Because Al and Betty Traverse were visiting the Far East at the time of the meeting in Reno, Al couldn't be present to receive the award, so we decided to wait until the San Antonio meeting to make the presentation. In the mean time, Fred Rich has become Chair of the Awards Committee, so he has submitted the letter of nomination for publication in this issue of the Newsletter.

April 13, 2000
Dr. Owen Davis
AASP Awards Committee
Dept. of Geosciences
University of Arizona Tucson,
Arizona 85721

Dear Owen and Committee Members:

I present this letter to you as my nomination of Dr. Alfred Traverse as the next recipient of the American Association of Stratigraphic Palynologists Medal of Excellence in Education.

Unlike so many former teachers, he has remained in touch with me even though it has been 22 years since I left Penn State. We have worked together on manuscript preparation and have otherwise remained in touch with each other more out of friendship and curiosity than anything else. My wife, Sherry, and I were both students in Al's palynology class, which Betty Traverse helped to teach, so the four of us became quite well acquainted over the years at Penn State. With the benefit of 22 years of retrospection, I have given the matter of this nomination a lot of thought, and cannot escape the conclusion that Dr. Traverse is richly deserving of this recognition.

I met Al Traverse (known almost universally among his students and advisees as AT) when I first arrived at Penn State in the fall of 1974. I was not destined to be his advisee, but I was to spend a great deal of time in his company. I transferred to Penn State after spending one year at Southern Illinois University. While I was at SIU I was Art Cohen's advisee, and it was while taking palynology with Art that I first became acquainted with Dr. Traverse's work. Actually meeting the man in 1974 was, then, an interesting experience. I was prepared for someone of large physical proportions and serious demeanor (an image due entirely to the apparent size of the man's reputation), but I met someone who was

casual, very friendly, and altogether different from what I had expected.

I took palynology from AT, even though I had had it at Southern Illinois, simply because I thought it would do me some good. I also took paleobotany from Bill Spackman, and had my heart set on performing some kind of work that would be paleoecological in scope. I had actually arrived at Penn State with a project in hand (the analysis of peat cores from the Okefenokee Swamp), and it was merely a matter of arranging for the tutelage that would help me to see through the muck and the peat to a clear vision of the past.

I arranged to have both Bill Spackman and Al Traverse on my thesis committee. Both men turned out to be my greatest supporters, and both worked with me to hone my rather rough ways so that I could present myself with some ability. After I completed the candidacy exam for the Ph.D. I realized that I really didn't have just one advisor. In actual practice I had two, Bill Spackman and Al Traverse, and I counted myself very fortunate.

Few of the college instructors I have had really stand out in my memory. There was John Thompson, a botanist at the University of Wisconsin whose impersonation of a butterfly pollinating a milkweed blossom will remain with me all my life. Then there was Art Cohen, a fellow who actually changed the course of my life by introducing me to the Okefenokee Swamp. At Penn State, however, a school where there were many fine teachers, one stands out as almost emblematic of those years. That person was Al Traverse. I don't put him ahead of my own advisor, mind you, but the mere fact that he became as important to me as Bill Spackman says a lot. One's advisor is supposed to look after you, and he or she is supposed to care about your success. For the rest of the faculty you come in contact with, a smile, a how-do-you-do, and an occasional bit of sound advise is usually adequate. AT never left it at that simple introductory level, though. There was always the suggestion of an additional challenge, and encouragement to meet the challenge. For me, his advise was always sound even if, at the time, I wasn't sure I wanted it.

He is the only professor that ever offered me tea in his office (I never took it with milk), and he is the only one who ever invited his class to his house for beer and an evening talk. He is one of those amazing people I run into now and then who, I am absolutely sure, never stops thinking. He was certainly the only professor I ever had who was also ordained in a church.

Furthermore, in my mind there was never any question about just where I stood with the man. Al Traverse taught me most of what I know of palynology. Art Cohen got me off to a good start, but Al was there, just down the hall from my office, for nearly five years. He helped me develop a true appreciation for the complexity of plant evolution over the millennia, and encouraged me to think critically, and to present my results honestly. I struggled over his tests, and I fought to draw pollen grains because measuring up

to his standards was very important to me. Al Traverse never misses an opportunity to teach, and by his recent fascination with learning Turkish he illustrates the fact that he never misses an opportunity to be taught.

It was the combination of unrelenting intellectual curiosity, spontaneous friendship, constant encouragement, thoughtfulness, genuine knowledge, tea, beer, and philosophy that endeared me to Al Traverse. I shall always be indebted to him for all that he brought to my life, and I will always seek to emulate him in my ability to teach with enthusiasm, clarity, and a genuine love for the enterprise.

As I said earlier, I have had many talented, memorable instructors in my life, but only a couple actually entered my life in a significant way. Al Traverse is one of those people and because of that I believe he deserves the Medal of Excellence in Education.

Respectfully yours,
Fredrick J. Rich Professor of Geology and (now) Past-President, American Association of Stratigraphic Palynologists

UPDATE ON CENEX

by David Pocknall, 5/29/2001

On the 5th and 6th of March, 2001 a group of AASP representatives visited CENEX at Louisiana State University. Those who attended the meetings included Ken Piel, Harry Leffingwell, Vaughn Bryant, David Jarzen, Susan Jarzen, John Wrenn, and David Pocknall representing AASP and CENEX, and Harold Silverman (Dean of Basic Sciences), Brooks Ellwood (Department Head, Geology and Geophysics) representing LSU, and Ernie Hill representing the LSU Foundation. The reason for this visit was three-fold. Firstly, it is time we bought to closure the first part of the CENEX agreement and in this AASP has a commitment to raise additional funds to get two positions in palynology; secondly, we had received a substantial private donation from Paul Wesendunk and this was to be recognized with an official handing over of the check by AASP to the Chancellor of the university, Mark Emmert; and thirdly, we wanted to show our support to John Wrenn in his endeavors to build a core palynological facility at LSU.

The department head, Brooks Ellwood, had spoken to some members of the board in Reno and had indicated to us that he realized AASP were having problems raising the necessary funds to endow the first chair, and that there may be some other options we could look at to reach our goal. We have a firm agreement with LSU regarding the two positions but he was suggesting there might be some room to maneuver.



Photo: Ken Piel presenting a check to Mark Emmert, Chancellor of LSU, on behalf of the estate of Paul Wesendunk

Without going into the details around the discussions here the group recommended to the board (for consideration at the mid-year meeting in April) that:

- We endow a professorship at the level of \$200,000. This would require \$120k of the existing funds and would receive matching funds from LSU in the amount of \$80k. The Department of Geology and Geophysics will find the matching funds and there would be an amendment to the original agreement between AASP and CENEX that locks the position in perpetuity; this is John Wrenn's existing position. The \$200k would be held in an interest bearing account – the interest can be used by the professor for operational expenses related to CENEX, and to fund research.

- We will continue to pursue additional funds. The short-term goal will be to raise at a minimum \$100k which will get us past the \$600k mark needed to endow a chair. The funds will hopefully be raised prior to the end of 2001 so we can apply to the Board of Regents for the \$400k matching funds in February 2002. Some discussions are already underway with corporate sponsors but we need all the help (and advice) we can get to reach this goal. Additionally, this time we are looking to the LSU Foundation for help, a source that had previously not been available to us. As part of the fund raising effort it was decided that we needed to rebuild the CENEX presentation that had been used in the past, and this is underway.

- The board discussed the recommendations and a draft of the amendment to the agreement at the mid-year meeting. The way forward was unanimously endorsed and my thanks go to the board for the way in which they embraced the “new” initiative. I had promised to get back with the Dean and the Head of Department within 45-60 days of our meeting with them. This has been done and they are presently reviewing the document. I am expecting full agreement.



Photo: left to right: David Jarzen, David Pocknall, Ken Piel, John Wrenn, Harry Leffingwell, and Vaughn Bryant, in the gardens at LSU, March 5th, 2001.

We have set ourselves a reachable target but have built in a stretch in an attempt to extend the professorship from the \$200k to the \$300k level. This will provide more operating funds for the person at the professor level.

- John Wrenn, with recent help for Sarah de La Rue have created an excellent facility at LSU and I would urge you to visit it and see for yourselves. We were all mightily impressed not only by what is there now but also what future potential exists to build the program and perpetuate palynological teaching and research.

ACRITARCH AND MARINE MICROFLORA DISCUSSION MEETING, UNIVERSITY OF SHEFFIELD,

Wednesday, 21st March, 2001

By Paul Dodsworth, Ichron Ltd.

dodsworth@ichron.com

B.M.S. Palynology Group Secretary

The Palynology Group of the British Micropalaeontological Society held its first meeting for several years at the University of Sheffield in March. Ken Dorning hosted this successful event that brought together members from across the U.K. and as far afield as Eire and Norway. The twenty-five people who attended came from various universities, the British Geological Survey, oil industry operating companies and service companies.

The morning session dealt mainly with dinoflagellates. Martin Head (University of Cambridge) began proceedings with his talk entitled, "Dinoflagellates and hydrography of the SW Baltic during the last interglacial (Eemian, ca. 130ka)". Rex Harland (Dinodata Services) and K. Grosfjeld (Geological Survey of Norway) reported, "The distribution of dinoflagellate cysts from inshore areas along the coast of southern Norway (from Kragero to Kristiansand)". Paul Dodsworth (University of Sheffield, current address Ichron Ltd.) gave the first of three

presentations dealing with phytoplankton changes across postulated faunal mass extinction intervals, "Palynology of the Cenomanian-Turonian boundary succession in Crimea, Ukraine". We broke for lunch at the University's '197 Club'.

The afternoon session was devoted to acritarchs. Dan Fiucane and Ken Higgs (University of Cork) discussed, "Microphytoplanktonic decline in the Devonian-Carboniferous boundary beds at Riescheid, Northern Rheinisches Schiefergebirge, Germany". Dave Gelsthorpe (University of Leicester) spoke about, "Microplankton changes across a mass extinction interval: preliminary results from the Early Silurian Ireviken Event". The meeting then changed to a less formal format of discussion sessions. Gareth Hughes (University of Cork) outlined his doctoral research undertaken to date and his plans for future work, "Biostratigraphic correlation of the new Devonian timescale using palynology". Ken Dorning (Pallab Research) initiated debate on anomalous high recovery of acritarchs in the Tremadoc and their extensive stratigraphical and geographical reworked distribution. Craig Harvey (University of Sheffield, current address Ichron Ltd.) summarized his doctoral research on the Devonian Campo Chico Formation in Venezuela, leading to debate on palaeogeographic floral realms and the identification of marine incursions in predominantly terrestrial environments. Ken Dorning and Craig Harvey initiated a discussion on the importance of acritarch size in taxonomy and the problems of standardizing sieve mesh size in studies of samples. Ken Dorning continued discussion on biozonations in general with reference to specific Silurian acritarch schemes in the Welsh Basin. Dave Gelsthorpe threaded together a lively debate on acritarch morphology and its possible functions.

The Palynology Group was joined by a number of other geologists for the Sorby Geological Forum lecture by former Sheffield graduate Jason Hilton (Scottish Museum) who spoke about, "Strange things from Chinese coal seams; a guided tour of the coal swamp plants of China and their significance". Both groups retired to the 'Red Deer' for refreshments.

The next Palynology Group meeting, possibly to be held at the Natural History Museum in London, will take place in early 2002.

UNDERSTANDING THE CASPIAN SEA ERRATIC FLUCTUATIONS: PALYNOLOGICAL RESULTS FROM THE SOUTH BASIN

By S. Leroy, F. Marret, F. Gasse and F. Chali. 2000
(also published in ELDP-ESF meeting, Pallanza, Italy. 7-12 Oct. 2000, extended abstract in *Terra Nostra* 7: 45-49, authors Leroy S. (1), Marret F. (2), Gasse F. (3) and Chali F. (3)

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The project

The Caspian Sea is of crucial economic importance for its five surrounding countries (fig. 1). Sudden water level changes have recently caused great damage to the growing oil and gas industries, agricultural facilities, fisheries and coastal settlements. There is, as yet, no satisfactory explanation for the Caspian Sea water level fluctuations. Apparently, climate plays a dominant role, but geological (subsidence in the north basin and uplift in the south basin) and anthropogenic factors (e. g. dams on the Volga River, irrigation) may also come into play. It has been suggested that periods of low Caspian sea levels (rapid drop from AD 1930 to 1977) are associated with climate warming and strengthened mid-latitude westerlies over the North Atlantic and vice versa (Rodionov, 1994). However, for Velitchko et al. (1987), periods of warming such as 6-5 ka ago are characterized by positive Caspian Sea water balance.

The general aim of the program is a better understanding of processes operating on the Caspian Sea water level fluctuations, in order to improve the predictability of future changes. The major tasks are: (1) a hydrological and geochemical study of the modern Caspian Sea system; (2) an investigation of the history of the system to recover the necessary time series for analysis of short-term change timing, duration and amplitude. These approaches should help identify potential mechanisms acting on the Caspian Sea system.

The Caspian Sea

The river tributaries are mainly located in the Northern basin: the Volga and Ural rivers together represent ~80 % of the total inflowing water volume. The Iranian rivers add up to ~5% of the total river inflows. This asymmetric pattern implies a North-South positive salinity gradient that increases from fresh in the northern end of the Caspian basin to an almost homogeneous 12.5-13.5 ‰ surface water salinity in the Central and southern basins. Evaporation is the main water output mechanism.

The Southern Caspian basin is the deepest part of the Sea, reaching 1,025 m water depth in its middle, with an average depth of 325 m. It is separated from the Central basin by the Apsheron topographic threshold (~180 m water depth). The Southern basin occupies just over the one third of the total sea surface and represents almost two thirds of the water volume of the entire Caspian.

Sediment and chronology

A series of long and short cores were collected during a French-Russian expedition in August 1994, using a Russian military ship rented for the purpose. A Holocene transect of short cores from the south to the north has been selected for this study.

The chronology of the sediment cores is based on AMS dating of different fractions of the sediments. Progress with the dating is slow owing to the scarcity of authigenic organic matter and the mixture of detrital and authigenic material in the inorganic carbonate fraction.

The 140 cm sediment core SR9406-CP16 (identification number in the Paris-Museum d'Histoire Naturelle core collection: SR01-GS9414.CP) is a pilot core taken with a Kullenberg corer. The core will be referred to as CP14 in the following text. It was extracted from the Southern Caspian basin at 39° 16' 18" N, 51° 27' 47" E, in 330 m water depth.

The core sediment consists of fine-grained carbonated mudstone, with alternating black and grey layers, (often scarcely visible) throughout the sequence.

Three radiocarbon dates (E. Gibert and M. Massault, unpublished data) on bulk carbonates were obtained and corrected for the detrital carbonate fraction as performed by Escudié et al. (1997). The radiocarbon timescale was transferred into calendar timescale using the programme CALIB4.0 (Stuiver and Reimer, 1993).

Palynology (pollen, spores, other microfossils and dinoflagellate cysts)

The Caspian Sea samples are rich in pollen grains, spores, dinoflagellate cysts, prasinophyte cysts, Chlorophyceae, cyanobacteria as well as some animal remains (mandibles of ostracods and gastropods, and eggs from unidentified organisms). Pollen spectra are used to reconstruct terrestrial conditions as they reflect environmental changes. The "other microfossil" fraction of the pollen slides mostly derive from algae and animals living in the lake and reflect water quality (e. g. salinity, trophic level) and lake level changes.

Dinoflagellate cysts are very sensitive indicators of palaeosalinities. Preliminary studies indicate that they are most abundant in the sediment cores from the south basin (CP04, CP14 and GS05). Many forms and species seem however to have not been described yet.

Results of CP 14 core

The CP 14 pollen diagram from the south basin indicate that terrestrial vegetation is relatively stable during the Holocene: very open steppic to semi-desertic landscape dominated by Chenopodiaceae and Artemisia (fig. 1). The arboreal component is small and would originate from the Caucasus mountains and from the mountain range bordering the South of the Caspian sea (some indicator pollen grains of *Parrotia persica* have been found). Lower pollen concentrations and higher percentages of Pinus, Compositae and spores are evidenced in the bottom 40 cm of the diagram.

Of great interest is also the analysis of the dinocysts, although only six species have been recorded (fig. 2). Several of them are probably endemic species and/or represent a wide intraspecific morphological variation. The relative proportions of dinocysts largely vary throughout the sequence. The presence of newly discovered forms hinders a detailed palaeoecological reconstruction as there is a lack of information on their ecology. The known species of Impagidinium are typically present in oceanic environments and do not tolerate salinities lower than 30. It is inferred that the two new species of Impagidinium may have the same requirements.

Three zones are distinguished according to variations in dinocyst assemblages by the CONISS statistical package in Psimpoll 3.0:

- Dinozone I (140 - 97.5 cm): Dominance of *Spiniferites cruciformis* s.l., *Tectatodinium psilatatum* and *Impagidinium rugosum* sp. nov., with *Impagidinium caspiensis* sp. nov.
- Dinozone II (97.5- 47.5 cm): Dominance of *I. caspiensis* sp. nov. with *S. cruciformis* s.l., *I. rugosum* and *Pentapharsodinium dalei*.
- Dinozone III (47.5-0 cm): Dominance of *I. caspiensis* sp. nov. and *I. rugosum* sp. nov, with the presence of *S. cruciformis* s.l. and *Lingulodinium machaerophorum*.

Dinozone I indicates brackish to estuarine environments while Dinozone II suggests more saline or warmer conditions in surface samples. Dinozone III indicates cooler waters and a lower salinity of c. 7. By extrapolation, the base of the core (at 140 cm) is 6226 14C cal. yr BP; the transition from dinozone I to II (at 97 cm) is 4288 14C cal. yr BP; the transition from dinozone II to III (at 47 cm) is at 2158 14C cal. yr BP; and finally the top of the core is 642 14C cal. yr BP.

The dinocyst assemblage succession is interestingly similar to that observed in the Black Sea during the Holocene (Wall et al., 1973).

Acknowledgements

This study is conducted within the European Contract INCO-Copernicus "Understanding the Caspian Sea erratic fluctuations" n° IC15-CT96-0112. This was supported by the Centre National de la Recherche Scientifique in the frame of the INSU-DYTEC (Dynamique de la Terre et du Climat) Program. Thanks are due to French and Russian colleagues, who organized and participated to the coring and hydrological sea expedition of August 1994.

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(Figures with diagrams from the pollen and dinoflagellates available on request at suzanne.leroy@brunel.ac.uk)

NEWS FROM THE UK

By Jim Riding

June 2001

Preparations continue for the joint AASP, NAMS and British Micropalaeontological Society meeting at University College London from the 11th and 13th of September 2002. This joint meeting will be the AASP annual meeting for 2002 and the theme will be 'Exploration Biostratigraphy'. Although the main part of the meeting will be around this theme, there will also be at least one AASP open session on palynology. If sufficient interest is forthcoming, this can be expanded and we will organize parallel sessions. Members of the organising committee are Jamie Powell, Jim Riding, Alan Lord Tom Dignes and Rachel Preece. The first circular will be produced soon and initial expressions of interest should be sent to the BMS Secretary, Jamie Powell at ajp@dinosystems.co.uk.

I regret to announce the recent death of Dr Richard S. W. Neville. Dick Neville worked in the North Wales office of Robertson Research as a part-time associate; he formally retired some years ago. His PhD at Sheffield University, awarded in 1969, was on the miospores of the Lower Carboniferous from East Fife in Scotland and supervised by Roger Neves. He worked on the St Monance to Anstruther coastal section, the Anstruther Borehole and the Randerston and Wormistone sections in this part of south-east Scotland, north of Edinburgh. Some of his thesis was published in a paper in 1968 in *Pollen et Spores*, Volume 10, pages 431-462. Dick's thesis work also contributed significantly to the major Lower Carboniferous palynostratigraphical works of Neves *et al.*, 1972 (*Krefeld Carboniferous Conference Proceedings Volume*, 347-353) and Neves *et al.*, 1973 (*Transactions of the Royal Society of Edinburgh*, v. 69, 23-70). In the early 70s, Richard undertook a post-doctoral fellowship at the Memorial University of Newfoundland, St Johns, Newfoundland, Canada. He researched the Ordovician chitinozoa of western Newfoundland, working closely with W. A. M. (Tony) Jenkins (see *Review of Palaeobotany and Palynology*, v. 18, 187-221). We extend our sincere condolences to Dick's family.

AASP members who attended Sheffield University will also be saddened to learn of the death of George Bryant earlier this year. George worked as head technician in the Department of Geology for many years and retired to Weston-super-Mare in the late 1970s.

NEWS FROM GERMANY - Evolution of the Tübingen palynoscene

By Jörg Pross, joerg.pross@uni-tuebingen.de
May 2001

Since the early 1950ies, when Alfred Eisenack came to SW Germany after he was released from a Russian prison camp, palynology has been a firmly established branch of the Tübingen micropaleontology business. Alfred Eisenack, who earned his living as a school teacher in the nearby town of Reutlingen, devoted much of his time to the investigation of chitinozoans and what was then called "hystrichospheres". As early as 1938 he had pointed out the biostratigraphic and paleogeographic potential of these then rather enigmatic objects. Being a chemist by training, Eisenack experimented successfully with various - sometimes quite exotic - preparation techniques to extract what he suspected to be fossil dinoflagellates from Tertiary phosphorite nodules of East Prussia. For instance, he found a solution of sturgeon air bladder in acetic acid to be of great value in the mounting of dinocyst specimens - a chemical not easily available from today's laboratory supply companies. Alfred Eisenack also gained a reputation for working with relatively simple methods: Using a self-designed camera more resembling a tin can than an optical instrument he obtained surprising results. At one occasion, when taking pictures of a Paleozoic ostracod holotype, he lost the specimen, but did not cease searching until he found it in the turn-up of his pants on the next day.

Photo: the research group in Tübingen at present time



Alfred Eisenack trained students who would leave their own marks in the field of palynology such as Karl Klement, Sergej von Cube, Ellen Gerlach, Joannis Agelopoulos, and Hans Gocht. Karl Klement's doctoral research, published in 1960, was concerned with dinocyst assemblages from the Upper Jurassic of SW Germany. In the same year, Sergej von Cube completed his thesis on phytoplankton from the Aptian of N Germany. The Oligocene and Miocene of NW Germany provided Ellen Gerlach with the material for her Ph.D. which she published in 1961. Picking up an old-time favourite of his advisor, Joannis Agelopoulos studied Late Eocene dinocyst assemblages from Heiligenhafen, N Germany. He finished his thesis in 1967. The final doctoral research carried out under the supervision of Alfred Eisenack was that of Hans Gocht. For his 1969 thesis on Paleogene dinocysts from the Meckelfeld well near Hamburg, Germany, Hans Gocht studied more than 90,000 dinocysts mounted as single grains. Like his advisor, Hans Gocht had also not taken the direct way to palynology. He had completed an apprenticeship as a porcelain painter, a background certainly helping to explain his meticulous drawings and preparation techniques.

The period covering the late 1970s to late 1990s was characterized by the presence of Hans Gocht (who had now gained a permanent position) and Wolfgang Wille. Together with Hanspeter Luterbacher, who took over the Tübingen Micropaleontology Chair after leaving Exxon in 1977, they supervised a number of students who are still counting paraplates today such as Gabi Ogg, Wolfram Brenner, Susanne Feist-Burkhardt, and Jörg Pross. A highlight during that period was the Hexrose Conference on Modern and Fossil Dinoflagellates in September 1981 organized by Hans Gocht and Tübingen biologist Harald Netzel.

From the early 1990s, with the advent of paleobotanist Volker Mosbrugger on the Chair of Paleontology, the focus of palynology in Tübingen increasingly included terrestrials aspects of the field.

Studies on Late Oligocene to Pliocene pollen assemblages of the Lower Rhine Embayment, Germany, are being carried out by Rahman Ashraf in conjunction with Volker Mosbrugger and University of Bonn paleontologist Torsten Utescher. The prime objectives of these studies are to reconstruct the paleoenvironment and paleoclimate for different time slices in order to facilitate regional-scale paleoclimate modelling. Within the frame of a Chinese-German joint project, Rahman Ashraf is also involved in a biostratigraphic and paleoenvironmental study of Triassic and Jurassic sporomorphs from the Junggar Basin, NW China.

At the same time, Neogene sporomorph assemblages from the circum-alpine region are evaluated for their paleoclimatic significance by A. Bruch. This study is integrated into the NECLIME program, an international research initiative investigating the paleoclimatic evolution of Eurasia during the Neogene.

On the methodology side, the development of quantitative approaches for sporomorph-based paleoclimate reconstructions is the focus of the work of Stefan Klotz, Volker Mosbrugger, and Jörg Pross. To date, a variety of different approaches are available that can be applied to Late Eocene to Holocene pollen records.

To assess the fidelity of the pollen record with regard to the vegetational communities from which it is derived and, hence, to test the potential of pollen-based approaches for reconstructing paleo-vegetation patterns, a Ph.D. thesis is being conducted by Tobias Schneck on material from the Mobile Delta, Alabama/U.S.A. As the Mobile Delta vegetation represents a close modern analogue for the Neogene vegetation of the Lower Rhine Embayment, this study, which has been greatly supported by Bob Gastaldo (Colby College, Maine), may facilitate more realistic vegetation reconstructions for the Neogene of Central Europe.

Another current Ph.D. project on Quaternary terrestrial palynology in Tübingen is that of Silke Höhlig on the vegetation development in dependence of Holocene climate change in S Brazil. First results indicate repeated changes between drier and more humid conditions during the past 3,300 years. These signals will be compared to information from ice cores from the Andes and Antarctica as well as from marine cores from the S Atlantic to differentiate regional from supraregional climate signals.

Jutta Lechterbeck and Ulrich Müller recently finished their Ph.D. work on Quaternary pollen sections from southern Germany. Both theses will be published within the next few months. Based on annually laminated sediments from Lake Steisslingen, SW Germany, Jutta presented a high-resolution study on the Late Glacial to Holocene vegetation history. Apart from documenting anthropogenic influence as early as 7,400 BP, her results show the Aegelsee climatic deterioration 13,900 to 14,000 years BP, the "Mid-Younger Dryas Event" around 12,070 years BP, and a pronounced cooling event around 8,200 years BP previously not identified in palynological records. Ulrich Müller focused on a nearly complete pollen record from the Füramoos site, SW Germany, covering the past 130,000 years. This pollen record can be well correlated with the marine isotope stratigraphy. For oxygen isotope stage 5, the Füramoos pollen record reveals four warm phases as compared to the three warm phases known from marine data, thus demonstrating the high sensitivity of pollen records as climate archives. Another aspect of Ulrich's work deals with oscillations of the Alpine ice shield as represented in the Rhine Glacier. Based on his palynological data, he was able to correlate these oscillations with the marine isotope record.

On the marine side of present Tübingen research interests in palynology, Paleozoic acritarchs and chitinozoans are the passion of Michael Montenari. After finishing his Ph.D. on the palynological dating of Variscan metasediments from the Black Forest, SW

Germany, Michael now focuses on biogeochemical (biomarkers, C and N isotopes) analyses of Early Paleozoic palynomorphs in order to evaluate ancient metabolic pathways and to provide estimates of the Paleozoic global carbon cycle. Besides his paleobiochemical interests, he also studies the ultrastructures of *incertae sedis* microfossils using SEM, TEM, and electron microprobe techniques under functional morphological and functional theoretical aspects.

Going upwards in the stratigraphic column, Elmar Link and Heike Riefler are currently involved in palynofacies studies of Jurassic and Cretaceous carbonates. As part of a multi-proxy approach based on microfacies analyses, stable isotopes, clay minerals, and paleontological methods, the work of Elmar Link focuses on large-scale (10 to 100 m) cycles within the carbonate ramp of the Swabian Jurassic to possibly identify the driving factors responsible for cycle formation. Heike Riefler's doctoral research is concerned with palynofacies changes in Jurassic and Cretaceous limestone/marlstone alternations. As palynofacies constituents are less susceptible to diagenetic alterations than calcareous microfossils, this study may contribute to a better understanding of the mechanisms causing small-scale sedimentary cycles.

Arles Pacheco and Rafael Ramirez are currently involved in studies of Middle to Late Eocene palynomorphs from the Maracaibo Basin, Venezuela, in cooperation with the Venezuelan oil company PDVSA. Along with aiming to a refinement of existing biozonation schemes for that time interval and area, they also focus on a paleoenvironmental interpretation of their data to support basin analysis.

Besides being involved in quantitative pollen-based climate analyses and palynofacies analyses from terrestrial and marine environments, Jörg Pross is interested in dinoflagellate cyst paleoecology and biostratigraphy. He is currently involved in a dinocyst study on potential stratotypes for the Rupelian/Chattian boundary (with Henk Brinkhuis and Graham Williams). Together with Tübingen expatriate Susanne Feist Burkhart (now at the British Museum of Natural History in London) he also studies Jurassic dinocyst assemblages from the Aalenian (lowermost Mid-Jurassic) of S Germany. Jörg is further involved in a micropaleontological study of Aptian/Albian black shales from the Vocontian Basin, SE France, in cooperation with Tübingen nannoplankton aficionado Jens Herrle.



NEWS FROM THE WG ON TERTIARY DINOFLAGELLATES

The Working Group on Tropical Tertiary Dinoflagellates now has a short name and a logo. The winning name is Coco Dino's and our cocktail drinking dino will be the face for this working group. More information about the WG can be found at: <http://dinowg.free.fr>

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BOOKS

* Book Reviews

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

1) Roadside Geology of Massachusetts by J. W. Skehan. 2001. Mountain Press Publishing Company, P.O. Box 2399, 1301 South Third Street West, Missoula, Montana 59806. 392 pages. \$20.00.

This latest edition of the popular Roadside Geology series covers the geology of Massachusetts including such well-known historic features as Bloody Bluff, Beacon Hill, Plymouth Rock, and for those who want to get away from it all, Walden Pond. As with all the Roadside Geology books, this one begins with an Introduction, but in this book, it is a rather extensive one. Assuming no previous geologic knowledge, the author covers the topic of geologic time, the rock cycle, uniformitarianism, metamorphism, faults, plate tectonics, and igneous and volcanic rocks in the first eight pages. This is followed by a discussion of the three supercontinents, Rodinia, Laurentia, and Pangaea, and the role they played in the geologic history of Massachusetts as well as the major mountain building events and terranes of the state, followed by a brief discussion of paleontology. The last section of the Introduction concerns glaciation and the landforms produced by glaciers as they relate to Massachusetts. The rest of the book is divided into three sections - the

Eastern Seaboard, the Central Lowland and Bronson Hill Upland, and the Berkshires - based on geology and geography.

Each section has a fairly extensive overview of the geology of the area covered, along with plentiful maps, diagrams, and black and white photographs. This is followed by a Roadguides section which gives detailed information and maps to specific areas within the section. For example, the first Roadguide of the Eastern Seaboard section talks about Boston Harbor and the fact the 38 islands within it consist of two distinct groups - the inner islands which are formed of drumlins, and the outer islands which are formed of bedrock.

Interspersed throughout the discussion are interesting historical commentaries and little known facts. Did you know that the first dinosaur tracks known in North America were discovered by Pliny Moody in 1802? Mr. Moody discovered them while plowing on the family farm at South Hadley. Furthermore, 19th and 20th century geologists considered Beacon Hill to be a drumlin because of its elliptical shape. However, during the construction of the Boston Common Garage beneath the southwest slope of Beacon Hill, it was discovered that Beacon Hill is primarily a moraine. How that conclusion was reached, I'll leave for you to discover. The geology of other famous landmarks is also covered in the Roadguides such as the formation of Walden Pond, a large kettle lake 158 feet deep, and Plymouth Rock, probably the most famous erratic in the United States.

One of the features of this particular Roadside Geology book I like is the fact that the author has a sense of humor in his writing. Many of the titles and subtitles just jump out at you, such as "Boston has its Faults." In discussing the pocket and singing beaches between Gloucester and Beverly, Skehan says "Interspersed among the pocket beaches are rocky 'singing' beaches. A chorus - some folks might inelegantly call it a rock group - of granite, syenite, rhyolite, basalt, and cobbles of quartz clatter up and down the beach, creating music in tune with the melody of waves." Or, "An impish glacier arranged the erratics at Rocking Stone Public Park"

As with all the other Roadside Geology books, a Glossary, Additional Readings, and Index complete the book. For anyone interested in the geology of Massachusetts or planning a trip there, this is the book to have. It is reasonably priced and contains a wealth of information presented in an interesting, informative, and at times, humorous manner.

2) Geology Underfoot in Central Nevada by R. L. Orndorff, R. W. Wieder, and H. F. Filkorn. 2000. Mountain Press Publishing Company, P.O. Box 2399, 1301 South Third Street West, Missoula, Montana 59806. 312 pages. \$16.00.

Following in the footsteps of its three Geology Underfoot predecessors, *Geology Underfoot in Central Nevada*

continues the tradition of examining the geology of a specific area. This particular volume covers the geology along U. S. Highway 50 from Lake Tahoe and Reno east to Great Basin National Park, Nevada.

Because this book is written for the layperson, the first section, titled "Geology of Central Nevada" gives a general overview of geology and geologic time in the context of Central Nevada. This introduction is followed by 24 vignettes or chapters that tell the story of a particular geologic feature or area along U. S. Highway 50, also known as "the loneliest road in America."

Each chapter begins with a map and directions of how to get to the area covered in that chapter. Each chapter is well written, amply illustrated with numerous black and white photographs, as well as additional maps and diagrams. The writing style is conversational and easy to follow, yet contains lots of useful information. Some of the areas covered include: Vulcan's Throat (Cave Rock), Take a Walk on the Wild Slide (Slide Mountain), Nevada's Greatest Lake (Lake Lahontan), Whole Lotta Shakin' Going On (Fairview Peak), Explosions in an Alien Landscape (Lunar Crater Volcanic Field), Gnarled Elders of the Snake Range (Bristlecone Pines), Nevada's Only Glacier (Glacial Features in Great Basin National Park), and my favorite, Mesozoic Monsters of the Deep (Nevada's Ichthyosaurs).

The vignette on Nevada's ichthyosaurs contains lots of information about these marine reptiles, how they were discovered in the state, the geology and paleogeography of the area, and the fact that Ichthyosaur State Park became a Registered Natural Landmark in 1975 and the ichthyosaur is Nevada's official state fossil.

A Glossary, Sources of More Information, and Index complete this book, and for \$16.00, you can't go wrong. With this book as your traveling companion, U. S. Highway 50 will seem a little less lonely.

3) Glacial Lake Missoula and Its Humongous Floods by D. Alt. 2001. Mountain Press Publishing Company, P.O. Box 2399, 1301 South Third Street West, Missoula, Montana 59806. 208 pages. \$15.00.

This book tells the story of glacial Lake Missoula, which is one of the largest lakes ever impounded behind an ice dam. Numerous times the ice dam broke, causing catastrophic floods in eastern Washington. David Alt takes the reader along the path of the floodwaters as they scoured and sculpted the landscape from western Montana across the Idaho Panhandle, through eastern Washington and down the Columbia Gorge to the Pacific Ocean. Not only is this the story of Lake Missoula and its humongous floods, but also a story about scientists grappling with scientific controversy. As with all Mountain Press geology books, this one is written for the interested lay person but also contains a lot of information for geologists.

Amplly illustrated with maps, diagrams and black and white photographs, *Glacial Lake Missoula and Its Humongous Floods* is divided into 30 chapters, an Epilogue, Glossary, and Selected Bibliography. One of the things I liked about this book is the way Alt weaves the geology and personalities together in telling the story of this amazing lake and the floods resulting from the periodic break up of the ice dams that allowed it to form.

The story mainly revolves around J Harlan Bretz (the J is his first name and not an initial, hence there is no period after the J), who originally proposed at the 1923 annual meeting of the Geological Society of America that the channeled scablands of eastern Washington were the result of glacial erosion and torrential flows of water from the melting glacial ice. Most geologists accepted this interpretation. However, several months later, Bretz presented essentially the same evidence in a second paper, but this time he concluded the channeled scablands resulted from a single, gigantic flood that lasted, at most, probably only a few days. This time, he was denounced by most of the geologic community. The problem for Bretz was that he could not identify an adequate source for his floodwater. This problem was resolved with the discovery of Lake Missoula, an enormous ice-dammed lake in western Montana. As more evidence was amassed, it became obvious that more than one flood occurred. Most geologists would argue that at least seven, and perhaps as many as nine floods eventually scoured the region.

This is a very well written book and one that anyone interested in geology, history, or scientific controversies and personalities will find enjoyable to read and an excellent addition to their personal library.

4) Deep Time: Paleobiology's Perspective by D. H. Erwin and S. L. Wing (eds.). 2001. The University of Chicago Press, 1427 E. 60th Street, Chicago, Illinois 60637. 371 pages. \$25.00.

Deep Time: Paleobiology's Perspective is a special volume commemorating the 25th anniversary of the journal *Paleobiology*. The fifteen invited papers in this volume represent the diversity of viewpoints and current research in the field of paleobiology. These papers provide an overview of recent advances in the field and, perhaps more importantly, many of the questions that remain to be answered. As the preface states "Deep time is a perspective that paleobiology alone brings to the study of living things and their interactions with one another and with the inorganic world."

Leading off this volume is "Directionality in the history of life: diffusions from the left wall or repeated scaling of the right?" by Andrew H. Knoll and Richard K. Bambach. In this paper they discuss how the history of life can be defined by six major evolutionary steps or megatrajectories. David Jablonski then discusses "Micro- and macroevolution: scale and hierarchy in evolutionary biology and paleobiology." "Conversations

about Phanerozoic global diversity" by Arnold I. Miller covers the topic of Phanerozoic global diversity as a central theme of investigation. Other papers I found interesting included "Taphonomy and paleobiology" by Anna K. Behrensmeyer, Susan M. Kidwell, and Robert A. Gastaldo, "Pelagic species diversity, biogeography, and evolution" by Richard D. Norris, and "Modeling fossil plant form-function relationships: a critique" by Karl J. Niklas. Obviously, there were nine other papers covering a variety of topics, but the ones mentioned above were those I found particularly interesting.

This is a fine volume dedicated to the topic of paleobiology and a fitting tribute to the memory of J. John Sepkoski, Jr., whose energy, dedication, and insight made *Paleobiology* the success it is today.

* Currently available upon request (with pre-paid postage for shipping) are volumes of the 'Catalogue of Fossil Spores and Pollen, Pennsylvanian State Museum'. Included are Volumes #11-22, #24-36, and #38-44; Translation Volumes #1 and 2; and Index volumes #11-20, #21-30, and #31-40. Please contact Dr. John H. Wrenn, CENEX, Louisiana State University, (225) 578-4683 or e-mail: wrenn@geol.lsu.edu."

AGENDA (partly from <http://www.ualberta.ca/~abeaudoi/cap/cap.html>)

2001

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

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

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

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

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

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

2002

August 29 - September 2, 6th European Palaeobotany - Palynology Conference, Athens, Greece. Details: Prof. D. Evangelos Velitzelos, Organizing Committee, 6th European Palaeobotany-Palynology Conference, Department of Historical Geology-Palaeontology, Faculty

of Geology, University of Athens, Panepistimioupolis, Zografou, 157 84 Athens, Greece. Tel./Fax: +30-1-7274162, E-mail: velitzel@geol.uoa.gr

September 1-6, Vienna, Austria The Third International Congress "Environmental Micropaleontology, Microbiology and Meiobenthology", EMMM'2002.

Driven by concerns ranging from pollution to global climate change, the last decade has seen increasing emphasis on the environmental sciences. Academic departments in the earth, chemical, engineering, and biological sciences are reorganizing in response to this trend, and many researchers have shifted their emphasis in response to new funding and employment opportunities presented by these changes.

The EMMM2002 is the third in a series of conferences - the previous conferences were held in 1997 (Tel Aviv - Israel) and 2000 (Winnipeg - Canada). The congress is organized by the International Society of Environmental Micropaleontology, Microbiology and Meiobenthology (ISEMMM), Institute of Paleontology (Vienna-Austria) and the Avalon Institute of Applied Science Inc., (Winnipeg-Canada). The president of the Congress is the director of the Institute of Paleontology Prof. Johann Hohenegger.

The main objectives of the Congress are: (1) to present innovative multidisciplinary research on recent and fossil micro- and meioorganisms, addressing environmental/paleoenvironmental problems in the biological, geological, and environmental sciences, as well as in agriculture and industry; (2) to bring together specialists with biological and geological backgrounds for the enhancement of professional and public educational programs and research benefiting the environment, human health and welfare; (3) to increase public awareness of the importance and value of recent and fossil micro- and meioorganisms in the environmental sciences, in order to bridge the gap between science, industry, and regulatory environmental agencies.

The purpose of the First Circular is to provide you with information on initial planning for the Congress. Your comments about the plan and main topics of the Congress are most welcome. Please fill out the Intent Form and return it to us. Please send this message to other colleagues working in the areas of environmental micropaleontology, microbiology and meiobenthology.

The information about the congress will be posted on Internet shortly (<http://www.isemmm.org>). We also have a dedicated e-mail address congress@isemmm.org. Depending on your preference, we will communicate with you either via post or e-mail. The distribution of the Second Circular is scheduled for May 2000.

All interested parties from academia, government, educational institutes and industries are invited to participate in the Congress. Students are very welcome. Reduced registration fee will be available for the ISEMMM members. Presented papers will be published in a special volume of a newly established peer reviewed journal Environmental Micropaleontology, Microbiology and Meiobenthology.

September 2-7, Environmental Catastrophes and Recovery in the Holocene: Brunel University, 2002. The central theme of this conference is the inter-disciplinary investigation of past geological and environmental catastrophes, and their impact on our society. This conference will involve not only the Quaternary community but also biologists, archaeologists, historians and economists. See for more information: <http://www.brunel.ac.uk/depts/geo/Catastrophes/>

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

September 11-13. (Proposed), Joint Meeting of AASP, BMS and NAMS (American Association of Stratigraphic Palynologists, British Micropalaeontological Society, North American Micropaleontology Section of SEPM), University College London, England, UK. Details: James Powell, Dinsystems, 105 Albert Road, Richmond, Surrey TW10 6DJ, England, UK, Tel: +44 20 8948 6443; Fax: +44 20 8940 5917, E-mail: ajp@dinosystems.co.uk

2003

March 29 - April 2, 3rd International Limnogeology Congress, Tucson, Arizona. The organizing committee at the University of Arizona invites all interested participants to submit proposals for theme sessions and field trips. A first circular, describing the meeting venue and general plans for the Congress will be circulated by mailings and electronically later in 2001. Contacts: Theme session proposals should be sent to Andrew Cohen, general chair of the Congress. Dept. of Geosciences, University of Arizona, Tucson, AZ 85721. Tel: 1-520-621-4691. Fax: 1-520-621-2672. E-Mail: acohen@geo.arizona.edu. Field trip proposals should be sent to David Dettman, field trip coordinator for the Congress. E-Mail: dettman@geo.arizona.edu. For further information concerning housing and registration, please contact Noah Lopez. E-Mail: noahl@u.arizona.edu

November 2-5, Geological Society of America, Annual Meeting, Seattle, Washington, U.S.A. Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020, X133, E-mail: meetings@society.org

2004

July, 4-9, 2004., 11th International Palynological Congress (*IPC*) in Granada, Spain:

Dear AASP members:

As President of the Spanish Palynological Association (*APLE*) it is my great pleasure to invite you all to attend the 11th International Palynological Congress (*IPC*) in Granada, Spain, July, 4-9, 2004. Last Fall, at it's 2000 annual meeting, the **AASP** Board of Directors voted to hold it's 2004 annual meeting at IPC 11. Allow me to share with you some of the factors that lead to the Board's decision, and the decision of IFPS to hold the 11th IPC in Spain. The Scientific Program covers the breadth of Palynology.

Proposed Scientific Programme

Pollen biology

- Ontogeny and development
- Biochemistry and molecular biology
- Pollen in plant biotechnology

Pollen and spore morphology

- Systematics and evolution

Aerobiology

- Monitoring and environment
- Clinical aerobiology
- Applications
- Satellite symposium on *Olea* pollen allergy

Entomopalynology and melissopalynology

Forensic palynology

Palaeopalynology and evolution

- Precambrian acritarchs, chitinozoans and scolecodonts
- Dinoflagellate Cysts and Dinoflagellate biology
- Palaeozoic palynology / CIMP symposium
- Mesozoic palynology
- Cenozoic palynology
- Quaternary palynology

Palynology and climatic changes

- Identification and characterisation of climatic events
- Cycles in climatic changes
- High resolution and climatic changes
- Climatic and/or antropic changes in the last millennium

Palynology and the palaeoenvironment

- Natural deposits in lakes, bogs, etc.
- Archeopalynology

Evolution of the landscape and climate in the Mediterranean ecosystem

World pollen databases

Palynology in the new millennium

- New technology
- Data management and computerization
- Vegetation mapping

* The Proceeding will be published in specialized scientific reviews.

Suggested pre- and post-congress tours:

Various Spanish universities have offered to organise scientific excursions to different parts of the Iberian Peninsula, Morocco and the Balearic Islands. These excursions will include tourism, botanical, geological, palynological and palaeontological aspects:

- Pre-congress tour of Andalusia (including Córdoba, Seville, Cadiz and Málaga). The tour will last 6 days and the provisional cost is \$435.

- Post-congress tour of Morocco (including Tanger, Tetuan, Chetchauen, Fes, Meknes and Rabat). The tour will last 6 days and the provisional cost is \$410.

- Post-congress tour of Central Spain (including Seville, Salamanca, Avila, Segovia and Madrid). The will last 4 days provisional cost is \$295.

- Pre or post-congress tour of Balearic Islands (including Sierra de Tramontana, Sierras de Artà and the central area of Mallorca, Cabo Formentor and Albufera de Alcudia and the southern area of Mallorca). The tour will last 5 days.

Other options being planned: North-western Spain (including León, Santiago de Compostela, etc), Eastern Spain (including Murcia, Valencia, Alicante, etc), South-eastern Spain (Almería), and the Atlas Mountains of Morocco.

Conference Facilities

The proposed venue for **THE XI INTERNATIONAL PALYNOLOGICAL CONGRESS** is the Palacio de Exposiciones y Congresos de Granada (Granada Conference and Exhibition Centre), which is one of the most modern facilities of its kind in Spain, designed to provide all the necessary services and infrastructure required for a successful international conference of this type. The ultramodern air-conditioned facility will provide the most advanced and comfortable accommodations for scientific meetings from computer projection systems to overhead projectors and white boards. Exhibition facilities totaling 3,000 m² exhibition area are available.

The Granada Conference and Exhibition Center can provide hot and cold meals throughout the congress, with specially priced meal tickets on sale daily. And, a wide variety of restaurants serving both Spanish and international fare are located within walking distance of the congress center.

Host City

The city of Granada, in eastern Andalucía, is a major center for international scientific and cultural events. The city itself is surrounded by a wealth of natural beauty; to the south the Sierra Nevada mountains at a height of more than 3,000 meters are the highest in the Iberian peninsular and to the west the wide vistas of the luxuriant fields and woodlands of the plains of the Genil River. The Mediterranean sea and beaches lie just sixty kilometers to the south, where the climate becomes sub-tropical.

Granada has long enjoyed the privilege of witnessing major developments in the fields of culture, learning and discovery, all of which have emerged in response to the city's location at a veritable cultural crossroads, as a key center both in mediaeval Islamic and Christian history. But Granada is first and foremost a

university city; its university was originally founded by the Emperor Charles V in 1526 and is considered to be one of the foremost institutions of higher education in Spain. Currently it has more than 60,000 students and its academic, cultural and economic influence is clearly felt throughout the city.

The weather can be quite hot in Andalucía during July but Granada has the advantage of being at a height of 800 meters, just below the snow-covered peaks of the Sierra Nevada, and consequently the temperatures are never excessive, particularly at night. The average day-time temperature during July in Granada is 27°C and conditions are ideal for taking trips to nearby areas of natural beauty or cultural interest, having dinner in the open air and attending local fiestas.

The attractively landscaped complex is close to the city center and easily reached from all the main access roads leading into the city from all directions. Just across the street from the congress center is a promenade along the banks of the Genil River.

Leisure activities

Conference participants will have ample opportunity to visit many buildings of cultural interest in the city. There are also concerts, recitals and exhibitions. Well worth a visit are the isolated villages in the Alpujarra mountain region between the Sierra Nevada and the sea, and of course the sea itself. There will be a daily optional excursion to Sierra Nevada National Park, an area of great botanical interest with more than 2000 species of which 30% are only found in these high mountains.

Travel to Granada: National and International connections

Granada is well connected by road with all main Spanish cities, and by train with most national and international capital cities. Granada Airport is only 20 minutes drive from the Conference Center and has four daily flights to and from Madrid and Barcelona and weekly flights to other Spanish destinations. The International Airport of the Costa del Sol at Málaga, 130 km from Granada (about 1½ hour by car) is connected to all European and American destinations by daily flights. Special rates and arrangements for the delegates on national, European and intercontinental flights, destination Granada and return: - 25% discount on full fares (business and tourist class) has been negotiated.

Hotel accommodation

A total of 7,000 hotel beds in new 3-star and 4-star hotels are currently available in Granada, 2,000 of them within walking distance of the Conference Center (1 km) and three five-star hotels are currently being planned in restored palaces in the city.

The Hotels Association of Granada will offer special rates for the accommodation of the delegates attending the 11th IPC. The rates already approved for 2000 range from \$59 for a double room in a three-star hotel to \$85 for a double room in a four-star hotel, including breakfast. All the hotels are fully and comfortably equipped and offer top quality service. It is also possible to offer more economical accommodation in two-star hotels ranging from \$25 to

\$40. Very attractive university halls of residences are also available at similar price including meals.

Registration Fees

These cover the Welcoming Reception, concert, flamenco dinner, gala dinner, a guided visit to the Alhambra and Generalife, transport to social events and the accompanying persons' program.

\$350..... Participating member
30% discount..... Student member
\$190..... Accompanying member

Child care will be available

We anticipate receiving extra funding from various public institutions such as the Spanish Ministry of Education, the Andalucían Regional Government, the University of Granada and the Spanish Council for Science and Research (CSIC).

I am very happy to know that The American Association of Stratigraphic Palynologists is going to celebrate its 2004 Annual meeting in Granada during the 11th IPC and I very much look forward to working with Owen Davis (head of the 2004 organizing committee).

The first circular will be sent during the summer of 2002. We have prepared a web page about the Granada congress which will regularly be updated <http://www.ugr.es/local/bioveg>

It is a great pleasure for me to collaborate with AASP. We would like that all AASP members can attend the 11th IPC. If you need some contact to the Granada Conference Centre, please contact to palacio@pcgr.org If you need anything more, please let me know.

See you in Granada!

All the best

Ana Teresa Romero

APLE President

Departamento Biología Vegetal

Facultad de Ciencias

Universidad de Granada

E-18071 GRANADA (Spain)

NEW WEBSITES

* Check out this news release on pollen by Dr. John Jones: <http://www.usatoday.com/news/science/aaas/2001-05-21-mexican-maize.htm>

* Palynomorphs will be included on the PaleoBase Microfossils volume due out next year, see more details on the web site www.PaelBase.com in the next few months.* Forencis pollen article now available on the website: <http://crimeandclues.com/pollen.htm>

* Pollen is evidence for domestic Mexican maize! To learn more, visit <http://www.usatoday.com/news/science/aaas/2001-05-21-mexican-maize.htm>

Photo's from the the mid-year meeting of the board of directors. It was held at the University of Florida in Gainesville and was hosted by Susan and David Jarzen (see also President's page, page 3).

Photo 1: Picture of President-Elect David Jarzen and current President David Pocknall over discussion of various AASP business.

Photo 2: Picture of Past-President Fred Rich, Sue Jarzen (hostess in Gainesville) and President-Elect David Jarzen as we discuss AASP business.

Photo 3: Picture of Mastadon skeleton in foyer of Florida Museum of Natural History, site of the AASP mid-year meeting

