

APRIL, 1987

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AASP NEWSLETTER

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AASP NEWSLETTER

Published Quarterly by the American Association of Stratigraphic Palynologists, Inc.

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J. H. WRENN, EDITOR

PRESIDENT'S MESSAGE

Thanks are extended to those members who have written to me concerning my previous comments in the Newsletter. Reader's suggestions and comments are always welcome and solicited.

The plans for the 1987 annual meeting of the AASP are mature and progressing smoothly. An announcement by the Annual Meeting Committee, the meeting program, a hotel reservation form and a Registration Form are presented elsewhere in this Newsletter. **Sedley Barss & Company** have prepared an excellent program and I URGE YOU ALL TO ATTEND, if at all possible.

Remember to VOTE in the 1987 election of AASP Officers, if you have not already done so. Ballots must be returned to **Dick Curry**, Chairman of the Ballot Committee no later than August 15, 1987, in order to be included in the election. Ballots have been distributed, but only to those individuals who have paid their 1987 AASP membership dues. If you did not receive a ballot, send a check or money order for your 1987 dues to Secretary-Treasurer, **Gordon Wood** (Amoco Production Co., P. O. Box 3092, Houston, TX, U.S.A. 77253) and a ballot will be sent to you. If you are paid-up and a ballot was not delivered to you, contact **Gordon** about obtaining one. Better hurry though, time is running out.

Preparation of the NSF Grant Proposal for travel funds for the 7th International Palynological Congress in Brisbane, Australia nears completion, according to **Norm Frederiksen**, Chairman of the Ad Hoc Committee for Brisbane Travel Funds. The proposal should be in the hands of NSF by the time you receive this Newsletter. Further details will be reported when they are available.

Finally, I am pleased to report that an ad hoc committee has been formed to provide AASP with greater input in the planning of the 5th North American Paleontology Conference (NAPC-V). **Harry Leffingwell** has accepted the chairmanship of this committee. Thank you, Harry, for undertaking this very important task.

Jon G. Benson, Jr.
President, AASP

New News, Not No News, Needed!

All newsletters run on news. The Editor needs your help in gathering that news. Your submissions of meeting announcements, papers to be given at non-AASP meetings, cartoons, technical notes, current research summaries, general announcements, editorials and so on are eagerly sought for this newsletter. Contributions for the October 1987 Newsletter should be sent to the Editor by September 30, 1987.



1987 AASP Annual Meeting

Organizing Committee Ready

This year's annual meeting will be held in Halifax, Nova Scotia, October 7-10. The programme, registration, and hotel accommodation forms are included with this issue of the Newsletter. Please return the registration and hotel accommodation forms prior to the deadlines. This will guarantee you the bargain rates being offered for the meeting.

It seems fitting that the city of Halifax is hosting the Association's twentieth annual meeting. Halifax has a series of historic firsts for a Canadian city. It was the first British settlement, being founded in 1749; it published the first newspaper; it had the first elected public assembly; and it is the first to host two annual meetings of AASP.

There are several highlights planned for this year. With undue modesty, we can state that the technical

programme is excellent. The workshop promises to be exciting and informative. The social programme includes a cruise and historic feast. And, the field trip will provide a view of some spectacular scenery, providing the fog lifts.

So make haste and register for an enjoyable few days in one of North America's most attractive cities. It will be an unforgettable experience for all.

**The Annual Meeting Committee
Halifax, Nova Scotia**

COMPUTER TECHNOLOGY "SHOW AND TELL"

Many palynologists are now using computers, especially personal computers and other technological gadgets, to increase work efficiency and to enhance the visual appeal of their output. With the blessing of the Annual Meeting Committee, an opportunity will exist for us to exchange ideas involving mainframe/personal computer applications in palynology. This will take the form of a "show and tell" event run in conjunction with the Poster Session at this year's AASP Annual Meeting, Halifax, N.S. A small selection of personal computers will be available so that contributors may demonstrate their software, though participants are strongly encouraged to also submit their contributions, including samples of output (range charts, graphics, etc.) as poster displays.

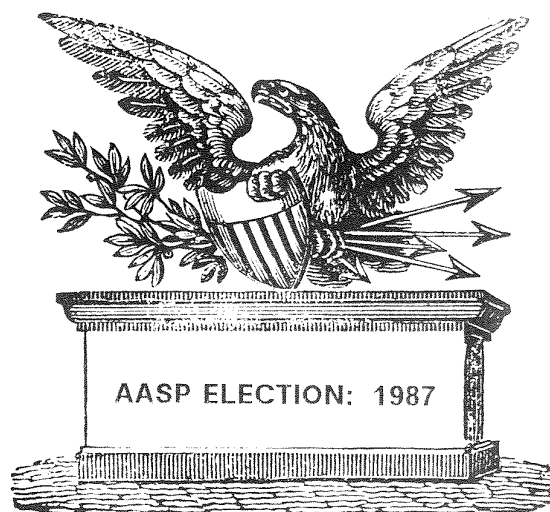
Whether your contribution is a humble off-the-shelf business package, a self-written program, or a small piece of hardware applicable to palynology, you are encouraged to bring it along. Depending on hardware compatibility, it will be possible to exchange ideas and data, such as literature reference files.

If you are interested in contributing to this "show and tell," please write to me listing your hardware needs (sorry, no Crays!) so that I may optimize resources within the limited space available.

Write to: Martin J. Head
Department of Geology
University of Toronto
Toronto, Ontario
CANADA M5S 1A1
Tel. (416) 978-5080
Telex 06-23887 GEOLOGY TOR

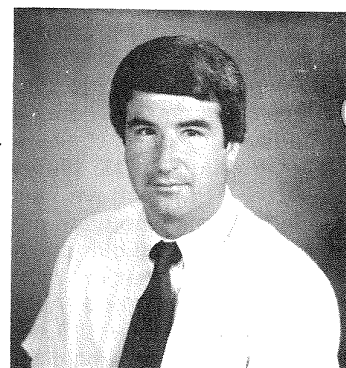
LIVING DINOFLAGELLATE WORKSHOP

The workshop to be presented by Greg Gaines at the 20th Annual Meeting of AASP in Halifax will review living dinoflagellates and is specifically tailored (no pun intended) for "paleodinophycologists". Greg will discuss dinoflagellate morphology and ecology, including life cycles, sexuality, cyst formation, red tides, and bioluminescence. Photogenic dinoflagellates will be featured in living videos. A course handbook will be available for participants.



Ballots for the election of the 1987-1988 AASP Board of Directors were mailed on June 17, 1987 to all members in good-standing. The Ballot Committee requests that you support AASP by carefully considering the qualifications of the individuals nominated for office and by voting for the candidates of your choice. Ballots must be received by the Ballot Committee Chairman on or before August 15, 1987, in order to be counted. Send your completed ballot to:

Dr. Richard P. Curry
Arco Oil and Gas Company
2300 West Plano Parkway
Plano, TX 75075 USA



**R. F. Fleming and D. S. Schafer Awarded
AASP Student Scholarships**

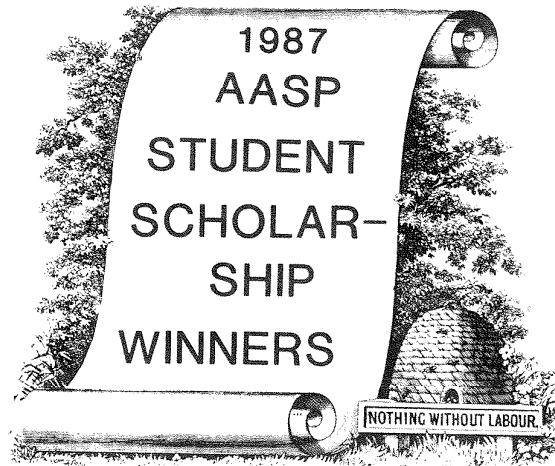
Virgil D. Wiggins, Chairman of the AASP Awards Committee announces that **R. Farley Fleming** and **David S. Schafer** have been selected to receive AASP Student Scholarship of \$250 each.

R. Farley Fleming is a student of Don Eicher in the Department of Geology at the University of Colorado. **Douglas J. Nichols** (U.S. Geological Survey) is an external advisor on Farley's thesis committee.

David S. Schafer is a PhD candidate in the Department of Geosciences at the University of Arizona. His thesis supervisor is AASP member **Dr. Owen K. Davis**.

Congratulations to David and Farley.

The following project summaries are those submitted to the Awards Committee by the scholarship winners. (Aspiring student winners--take note!)



**Paleocene Palynoflora of the Raton Formation,
Colorado and New Mexico
R. Farley Fleming**

The objectives of this investigation are: (1) to describe and illustrate the Paleocene palynoflora of the Raton Formation of Colorado and New Mexico, and (2) to analyze the development of the early Paleocene palynoflora in the Raton Basin with respect to the Cretaceous-Tertiary (K-T) boundary event.

The Raton Formation (which comprises nonmarine sedimentary rocks including coals, mudstones, and sandstones of latest Cretaceous and early Tertiary age) has become an important focus of research for various aspects of the K-T boundary problem. Numerous sections containing the K-T boundary are now known from the Raton Basin. However, a detailed palynological study of the Raton Formation has not been published. Documentation of the Raton palynoflora will provide an excellent basis for answering questions about the nature of the K-T boundary event and the rise of the Tertiary flora.

To accomplish the research objectives, I will identify, describe, and count palynomorphs in approximately 300-400 samples collected from measured sections and cores in the Paleocene portion of the Raton Formation. The recovery of the palynoflora after the K-T boundary event will be documented on the basis of detailed sampling of several sections. Patterns of survival and extinction will be examined with respect to the K-T boundary. The results of this investigation will provide insight into and constraints on the nature of the terminal Cretaceous event and its effect on the terrestrial vegetation of the Raton Basin. Results of the Raton Basin analysis will be compared and contrasted with studies from other parts of North America.

**Late Quaternary Paleocology and Paleoclimatology
of the Western Colorado Plateau:
Northern Arizona and Southern Utah
David S. Shafer**

For my doctoral dissertation research, I am examining palynomorph records to study the late Quaternary history of the Arizona monsoon climatic system. The Arizona monsoon, delivering moisture from the Gulfs of Mexico and California, is responsible for a summer precipitation maximum in much of the Southwest United States. Data from a variety of sources suggests that climatic change in the late Quaternary has greatly affected the monsoon's intensity and geographic influence, triggering significant vegetation changes.

The modern monsoon boundary runs northeast across western Arizona and southern Utah and into Colorado. This boundary is both a major climatic and plant biogeographic entity: areas to the north experience a winter precipitation maximum, areas to the south a summer monsoonal precipitation maximum. To study changes in the monsoon, I am examining the lacustrine-sediment fossil pollen records of a network of lake sites both north and south of the modern boundary (Montezuma Well, AZ; Aquarius Plateau and Fish Springs Marsh, UT; and San Luis Lake, CO). The lakes provide continuous sedimentary and fossil records for interpreting changes in the monsoon; radiocarbon dates provide chronologic control.

Northward expansion and southward boundary contractions, with concomitant vegetation changes, should have their signature in changing assemblages of fossil palynomorphs preserved in the lake sediments. Critical to my study is the identification and quantification of palynomorphs of summer rainfall dependent plants including *Kalstroemia*, mesquite, oaks, pinon and ponderosa pine, and juniper. Lake levels are being monitored with changes in percentages of palynomorphs of aquatic plants.

LETTER OF THANKS

Through the AASP Newsletter, I would like to express my personal feelings of indebtedness to **Judith Lentin**, **Graham Williams**, and **Sedley Barss**, who very kindly sent me copies of Lentin & Williams' Fossil Dinoflagellates: Index to Genera and Species, 1985 Edition, as well as Barss, Lentin & Williams' Alphabetical Listing of Fossil Dinoflagellate Species, 1987. These publications appeared as Canadian Technical Report of Hydrography and Ocean Sciences No. 60 and Ibid No. 80, respectively.

These essential reference volumes have already freed me from an inestimable amount of work in my study of Australian fossil dinoflagellates. To the kudos the authors have received, it may justifiably be added that their work has, in effect, substantially extended the productive lives of palynologists from five continents. Moreover, the guidance it offers to students of dinocyst taxonomy is bound to prevent a lot of chaos and confusion in the future, such as unfortunately now exists in the field of spores and pollen.

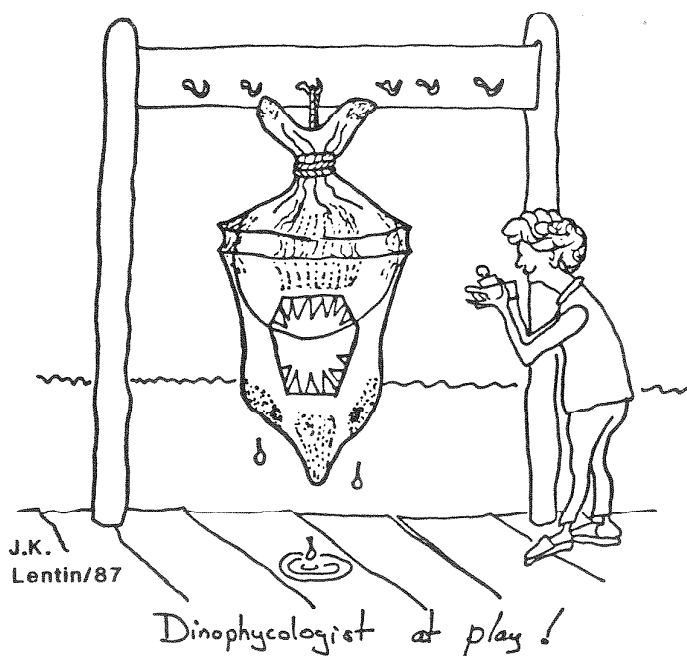
I am certain that many colleagues will endorse my feelings, and I would like to urge them wherever they may be to keep the authors informed of their published work in the field of dinoflagellates, so as to assist them in keeping abreast of the current and coming flood of literature, and thus encourage and facilitate their continuous efforts to keep future editions of the Index and the Alphabetical Listing up-to-date.

Dennis Burger
Bureau of Mineral Resources
P. O. Box 378
Canberra City, A.C.T. 2601
Australia

Editor Comments - Thank you, Dennis. I have heard these same sentiments expressed by most palynologists who have worked with dinoflagellate cysts and have used the Index. These are certainly key reference volumes for all dinocyst workers.

It is worth noting that E. H. Davies has taken the first step in addressing the "chaos and confusion" that Dennis noted with regards to the taxonomy of spores. Ed has recently published an index, evidently modeled on the Lentin and Williams volumes, entitled: The Anemiacean, Schizaeacean and Related Spores: An Index to Genera and Species. Canadian Technical Report of Hydrography and Ocean Sciences, No. 67, 218p. (1985). Copies are available from:

Atlantic Geoscience Centre
Bedford Institute of Oceanography
P. O. Box 1006
Dartmouth, Nova Scotia
CANADA B2Y 4A2



CURRENT RESEARCH

**Texas A&M University,
College Station, Texas**

Academic studies and research continue to grow as part of our graduate program in palynological studies at Texas A&M University. Through arrangements with various departments, we are able to help graduate students studying palynology seek advanced degrees in either Biology, Geology, or Anthropology. In Biology, graduate students are using palynology as a basis for paleoenvironmental reconstruction and as a taxonomic tool. Those working in Geology are using palynology to reconstruct Tertiary ecological conditions and develop stratigraphic correlations. In Anthropology, graduate students are using palynology to reconstruct prehistoric diets, determine the functional use of rooms in pueblo dwellings, determine the functional use of pottery vessels, and understand underwater shipwreck sites.

Some of the specific projects under investigation include:

John G. Jones (anthropology) is supervising a large fossil pollen study of hundreds of samples collected along a transect extending from Santa Barbara, California to east Texas. This study is part of an extensive multi-million dollar project funded by the All American Pipeline Project. John is also continuing his extensive studies of fossil pollen extracted from human coprolites recovered in a number of archaeological sites in central Peru.

Peter Warnock (anthropology) is examining samples collected from tombs at Khirbet Iskander, Jordan and from Tel el Mazar (Iron Age) also located in Jordan. Hopefully, from the study of these samples and

others from the nearby site of Tel Safut, Peter will be able to reconstruct early agricultural patterns and diet practices spanning nearly 5,000 years.

Mike Pendleton (biology) has been working with a large number of samples from Mimbres-age archaeological sites in New Mexico. Analyses are being used to reconstruct artifact functional use, dietary preferences, agricultural practices, and environmental conditions during the period when Mimbres cultures flourished in southern New Mexico.

Judy Gennett (geology) is conducting fossil pollen and macrofossil studies on Upper Eocene lignite deposits from the San Miguel Mine and outcrops near Lake Somerville, Texas. Judy will compare the spore-pollen spectrum from these deposits, which were formed in different depositional settings, to elucidate the detailed paleoecology of both areas.

Dan Covington (geology-biology) is conducting field research in Belize, Central America where he is studying the process of peat formation in mangrove swamps near the coast. These data will be used to interpret palynological data already recovered from buried Tertiary peat deposits in Belize.

Eri Weinstein (anthropology) has been developing sampling procedures which he plans to use this summer when he conducts extensive underwater sampling of sediments associated with shipwrecks dating from the American Revolution period off the coast of Yorktown, Virginia.

Istlin Sobolik (anthropology) is conducting an extensive study of fossil pollen and macrofossils recovered from human coprolites found in Baker Cave located in Val Verde County, Texas. These data will offer information about dietary patterns, food processing procedures, subsistence preferences, and paleoenvironmental conditions.

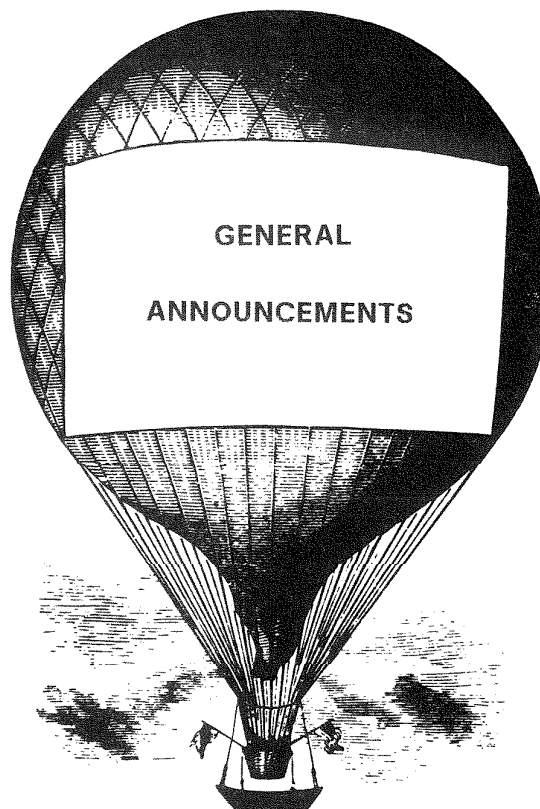
Karl Reinhard (biology) has been examining fossil pollen and human parasites found in Colonial period soils of latrine sites in the northeastern United States. He is conducting similar studies on pueblo period sites in the American Southwest. Detailed studies have shown that pollen data are useful in determining the economic status of the individuals who used the latrine sites and give us a better knowledge about actual diets than most written records of either the Colonial or Civil War periods.

Lauri Zimmerman (anthropology) is conducting a palynological analysis of human coprolite samples from Hinds Cave, an archaeological site in southwest Texas which contains the remains of human occupation spanning over 10,000 years.

Hope Armstrong (biology) is in the early stage of a large-scale project to reevaluate the late-Quaternary pollen records of the Southern High Plains. Fossil pollen samples, scheduled to be collected this summer from a number of playa lakes, will be used to reconstruct a paleoenvironmental chronology for northwest Texas. These will then be compared

against earlier studies completed during the 1950-1960s.

Vaughn M. Bryant, Jr.
Chairman, Anthropology Department
Texas A&M University



NAPC-V - A POSSIBLE OPPORTUNITY FOR PALYNOLOGISTS TO INTERACT WITH OTHER PALEONTOLOGICAL DISCIPLINES

During the last AASP meeting in New York, **Ray Christopher** led an open discussion about ways we as palynologists can interact more effectively with other geological and paleontological disciplines.

One potential forum for interaction is the Fifth North American Paleontological Association Meeting. A proposal has been made to hold this meeting in Chicago in 1992 as part of the 100th anniversary celebration of the Field Museum. It is possible that a 1991 meeting could be held if another local group would volunteer to host the gathering. An earlier date may not be feasible because the meeting could conflict with the 100th anniversary celebration of the GSA in 1988, and the 1989 meeting of the International Geological Congress.

AASP is a member of ANAPS (the Association of North American Paleontological Societies) which sponsors this meeting. In the past, the organization of NAPC meetings was largely the responsibility of the local organizing committees, and a number of palynologists familiar with past meetings believe that AASP participation has not always

received the encouragement from local committees to make such participation worthwhile. Some ANAPS representatives have expressed disappointment in the organization of some of the past meetings, and ANAPS is attempting to assure that NAPC-V will not experience similar difficulties. I believe AASP should work with ANAPS to assure that this forum more effectively fulfills the interdisciplinary function for which it was originally intended.

AASP, along with about 10 other North American paleontological societies, has received an invitation to attend an NAPC-V organizational meeting at the GSA Annual Meeting in Phoenix in October 1987. There has been an expression of interest to have all subdisciplines represented at the next NAPC, and especially the applied aspects of paleontology. One way of making palynology a more visible discipline, at least within paleontology, is for AASP to respond to this opportunity to take a more active role in organizing the next NAPC.

As AASP's representative to ANAPS, I solicit your suggestions about how NAPC V should be organized to best serve the interests of the AASP membership, including topics which you might be interested in presenting. Please mail your comments to:



Harry Leffingwell
Unocal Science and
Technology Division
Post Office Box 76
Brea, CA 92621

ATTENTION AUTHORS

PALYNODATA, Inc. would very much like to receive reprints of your palynology papers for inclusion in our computer database. Please send reprints to:

Dr. M. Sedley Barss
Atlantic Geoscience Centre
P. O. Box 1006
Dartmouth, Nova Scotia
Canada B2Y 4A2

(Editor's Comment: Palynodata, Inc. has taken over maintenance of the computerized Kremp file of palynological literature.)

ADDRESS CHANGE FOR THE SECRETARY-TREASURER OF THE IFPS

The AASP does not normally print changes of address for members because there are so many changes each quarter that they could dominate the Newsletter. The following exception, however, seems warranted.

Please note that from August 3, 1987, till September 15, 1988 the address of David M. Jarzen, the Secretary-Treasurer of the International Federation of Palynological Societies, will be:

Dr. David M. Jarzen
c/o Dr. G. Playford
Department of Geology and Mineralogy
University of Queensland
St. Lucia, QLD
AUSTRALIA 4067

Douglas J. Nichols to be Sigma Xi National Lecturer

Douglas J. Nichols, Managing Editor of AASP, has been nominated and appointed to a National Lectureship of Sigma Xi. Doug will hold one of only 30 such lectureships and will serve in this honored capacity from July 1988 to June 1990. The topic of Doug's lectures will be his research on the palynology of the Cretaceous-Tertiary boundary.

Fossil Procaryotes and Protists - A Short Course

AASP members **Lucy E. Edwards** and **Carl V. Mendelson** will lecture on dinoflagellates and acritarchs, respectively, during a short course entitled "Fossil Procaryotes and Protists." The course, sponsored by the Paleontological Society and the Cushman Foundation, will be presented on October 25, 1987 (8 a.m. - 5 p.m.) in conjunction with the Geological Society of America Annual Meeting in Phoenix, Arizona.

Fossil Procaryotes and Protists

- I. Introductory Material
 1. Introduction J. H. Lipps
 2. Fossil procaryotes and protists J. H. Lipps
- II. Procaryotes (Bacteria and Cyanobacteria)
 3. Precambrian procaryotes J. W. Schopf
 4. Stromatolites J. W. Schopf
- III. Plant-like Protists
 5. Dinoflagellates L. Edwards
 6. Acritarchs C. Mendelson
 7. Calcareous nannofossils W. Seisser and B. Haq
 8. Diatoms J. Barron
 9. Silicoflagellates and others K. McCartney
- IV. Animal-like Protists
 10. Foraminifera S. Culver
 11. Radiolaria R. E. Casey
- V. Prospects in Procaryote and Protistan Paleontology
 12. What can the fossil record of procaryotes and protists tell us about evolution? A. W. Knoll

The Short Course is free. Short Course Notes and an accompanying slide set of fossil procaryotes and protists will be available for nominal cost at the meeting or may be ordered after the meeting from The Paleontological Society (1259 Trumansburg Road, Ithaca, NY 14850).



Palynology and Ore Deposits: The Book

You are invited to write a paper for a book entitled: Palynology of Ore Deposits. Elsevier-North Holland Pub. Co. has expressed an interest to publish such a book in their "Ore Geology Reviews" series. The final deadline for manuscripts is May 1, 1988.

Please contact Eleanor I. Robbins, U.S. Geological Survey, National Center MS 956, Reston, VA 22092 (USA) (Telephone 703-648-6527) for details.

Palynology Noted in MOSAIC

A general review paper by Ben Patrusky on mass extinctions in the fossil record appeared in the National Science Foundation magazine MOSAIC (Volume 17, Number 4, Winter 1987, pages 2-13). Patrusky included palynological evidence of a paleoenvironmental catastrophe across the Cretaceous-Tertiary (K-T) boundary. The palynological research in the Western Interior of North America by **Robert H. Tschudy** and **Douglas J. Nichols** was compared to astronomical, macro- and micro-paleontological, geochemical and volcanic evidence, for or against, a mass extinction at the K-T boundary.

Their palynological results show that drastic ecological change, indicated by a major loss of vegetation, occurred at the Cretaceous-Tertiary boundary. **Tschudy** and **Nichols** suggest a sudden cooling may have caused the loss of vegetation.

Flowering plants decreased dramatically until, just above the now famous iridium-rich boundary clay layer, ferns

swept in to dominate all habitats. This is expressed in the palynological record as a "fern-spike." That is, fern spores increase from about 20% of the palynomorph assemblage in the uppermost Cretaceous deposits, to 100% in the lowermost Tertiary beds. Within 10 cm above the fern-spike, the flowering plant/fern ratio reverts to what it was in the uppermost Cretaceous deposits. This indicates, according to **Tschudy** and **Nichols**, recovery from the terminal Cretaceous event.

(Editor's Comment: Thanks are extended to Professor Dan Habib for bringing this article to the Editor's attention.)

Upcoming Presentations by AASP Members

If you are presenting a paper at an upcoming meeting, other than the annual AASP meeting, let your associates know. Send the pertinent data, as exemplified by the following announcements, to the Newsletter Editor.

Poulsen, N. E. (Geological Survey of Denmark, Thoravej 31, DK-2400 Copenhagen V, Denmark).

Albani Ammonite Zone (Upper Jurassic) in Denmark by the means of dinoflagellate cysts

Niels will present this paper at the:

2nd International Symposium on Jurassic Stratigraphy, September 12-21, 1987, Lisbon, Portugal.

MEETINGS OF INTEREST

2nd International Symposium on Jurassic Stratigraphy (September, 1987)

The Centro de Estratigrafia e Paleobiologia of the Universidade Nova de Lisboa is organizing the 2nd International Symposium on Jurassic Stratigraphy. It will be held September 12-21, 1987, at the Laboratorio Nacional de Engenharia Civil, 101 Avenida Brasil, Lisbon, Portugal. The program includes pre-symposium field trips (September 12-14), symposium, subcommission and working group meetings (September 15-18) and a post-symposium field trip (September 19-21).

The symposium will include presentations on the principal fossil groups and their potential use for subdividing the Jurassic System. Multidisciplinary methods of correlation, within and between biogeographic provinces will be discussed. In addition, the relationship of the European, American and African land masses to the Jurassic opening of the Atlantic Ocean will be the central topic of one session.

Additional information on this meeting can be obtained from:

2nd International Symposium on
Jurassic Stratigraphy
Faculdade de Ciencias e Tecnologia
Quinta Da Torre - P2825 Monte Da Caparica
Lisbon, Portugal

Individuals interested in obtaining more information on
the symposium should contact:

Secretariat
Symposium on Circum-Mediterranean Palynology
Laboratory of Palaeobotany and Palynology
Heidelberglaan 2
3584 CS Utrecht
The Netherlands

The Canadian Paleontology and Biostratigraphy Seminar (September, 1987)

The 1987 Canadian Paleontology and Biostratigraphy Seminar will be held September 26-27 at the Department of Geology, University of Western Ontario, London, Ontario. For further information, see AASP Newsletter (Vol. 20, No. 2, p. 6) or contact:

Dr. A. C. Lenz
Department of Geology
University of Western Ontario
London, Ontario N6A 5B7

Symposium on the "Methods of Kerogen Analysis for Hydrocarbon Exploration: A Call for Papers" (August, 1988)

The symposium will be held in conjunction with the 7th International Palynological Congress (August 28-September 3, 1988), Brisbane, Australia. The symposium is intended to be multidisciplinary and seeks contributions from Palynologists, Geochemists and Explorationists. Additional information is available from:

Dr. Clinton Foster, Convenor
c/-Western Mining Corporation
Petroleum Division
168 Greenhill Road
Parkside, S.A. 5063
Australia

Vth Meeting of Paleobotanists and Palynologists - Brazil (December, 1987)

The Department of Paleontology and Stratigraphy of the Institute of Geoscience, University of Sao Paulo will host this meeting on December 8-12, 1987. For additional information, see AASP Newsletter (Vol. 20, No. 2, p. 6) or contact:

Thomas R. Fairchild, Coordinator
Comissao Organizadora - VI RPP
Instituto de Geociencias, USP
Caixa Postal 20.899
Sao Paulo, SP, Brazil - CEP 01498

IVth International Conference on Dinoflagellates (April, 1988)

The IVth International Conference on Dinoflagellates will be held April 16-22, 1989, at the Marine Biological Laboratory, Woods Hole, Massachusetts (U.S.A.). The meeting will consist of invited talks, contributed poster presentations, workshops, a field trip and a mid-week excursion. Interested parties should contact:

David K. Goodman
Chairman, Organizing Committee
ARCO Oil and Gas Company
Research and Technical Services
2300 West Plano Parkway
Plano, TX 75075

International Symposium on Circum-Mediterranean Palynology (April, 1988)

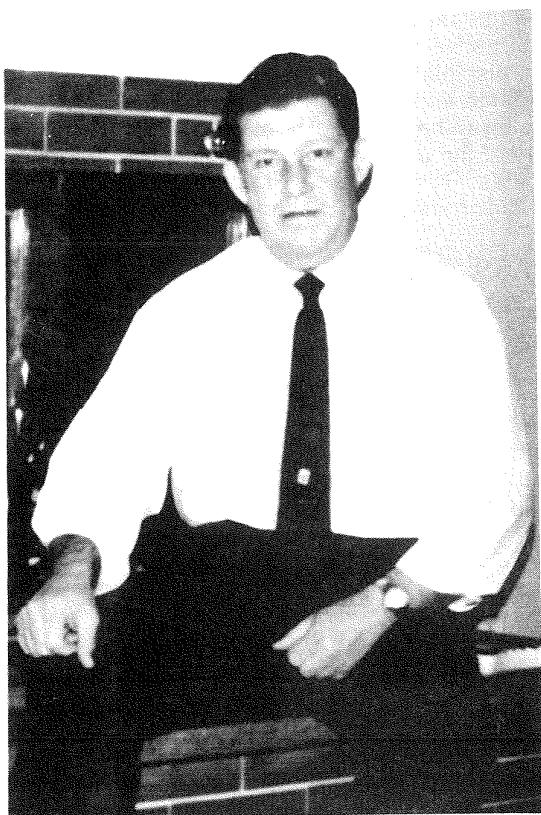
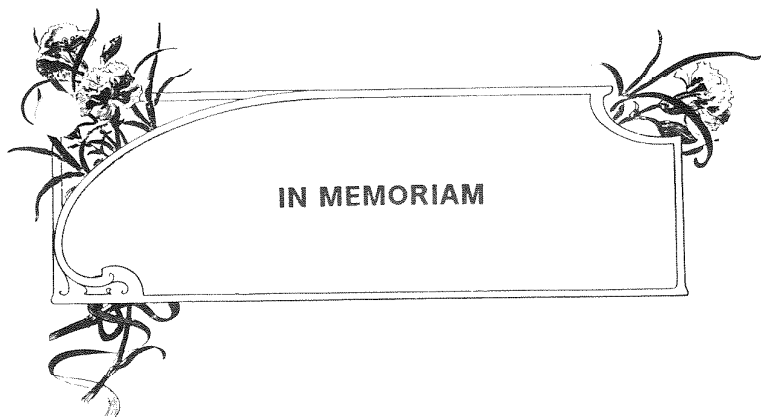
First Announcement and Call for Papers. An international symposium on "Circum-Mediterranean Palynology" is being organized by the Laboratory of Palaeobotany and Palynology, University of Utrecht, The Netherlands. The symposium will be held April 19-23, 1988, in the Sports Centre of the Royal Dutch Football Association, near Utrecht, The Netherlands. It will be held in conjunction with the 1988 meeting of the Commission International de Microflore du Paleozoique (CIMP). The symposium and the meeting will commemorate the 25th anniversary of the CIMP.

The First Symposium of African Palynology (May, 1989)

The Organizing Committee is proud to announce that the First Symposium on African Palynology will be held in Rabat, Morocco during May of 1989. Information concerning the meeting can be obtained from:

Dr. A. Ballouche
I.N.S.A.P.
Av. John Kennedy
Casier Postal
Rabat - Souissi
MOROCCO

The goal of the symposium is to present a forum for the presentation and discussion of current research in Mediterranean palynology and its impact on research elsewhere. Topics to be presented include the application of palynology in stratigraphy, palaeobiogeography, palaeoecology, palaeoclimatology, palaeogeography, palaeotectonics and hydrocarbon exploration.



Eugene Joseph Tynan was born in Connecticut on September 15, 1924, and died on July 12, 1986.

Gene was commissioned in the U.S. Army Air Corps from 1942-45, receiving the Distinguished Flying Cross, Bronze Star and other decorations while serving as a lead bombardier in southern Europe.

He received a B.A. from the University of Connecticut in 1954, an M.S. from the University of Massachusetts in 1956, and a PhD from the University of Oklahoma in 1962.

Gene was an instructor at the University of Massachusetts and a Research Assistant at the American Museum of Natural History before joining the University of Rhode Island (URI) Geology Department in 1959. While at URI,

he was responsible for establishing the M.S. program in Geology. He was the major professor of the first group of graduate students upon whom M.S. degrees were conferred. All of these students subsequently received PhD degrees. He also served as Acting Chairman of the Geology Department for 1-1/2 years.

Gene coauthored, with J. Allan Cain, two introductory texts entitled "Geology, A Synopsis" and "Geology: A Synopsis - Historical Geology." The volumes were published in 1980 and 1981, respectively, by Kendall/Hunt Publishing Co., Dubuque, Iowa. His research on siliceous microfossils was supported by the American Chemical Society Petroleum Research Fund and by Woods Hole Oceanographic Institution. Gene was forced into early retirement by ill-health and, in 1984, was awarded professor emeritus status.

Gene was well-known for his integrity and generosity. His breadth of expertise included photography, carpentry and sailing, as well as geology and micropaleontology.

Gene will be remembered with affection by his colleagues.

To honor Gene's memory and in recognition of his 26 years of service to URI, the Geology Department is establishing the Eugene J. Tynan Memorial Prize. This award will be given to a deserving student each year.

If you wish to remember Gene in this way, please address your check to "The Tynan Memorial Prize Account," and send it to:

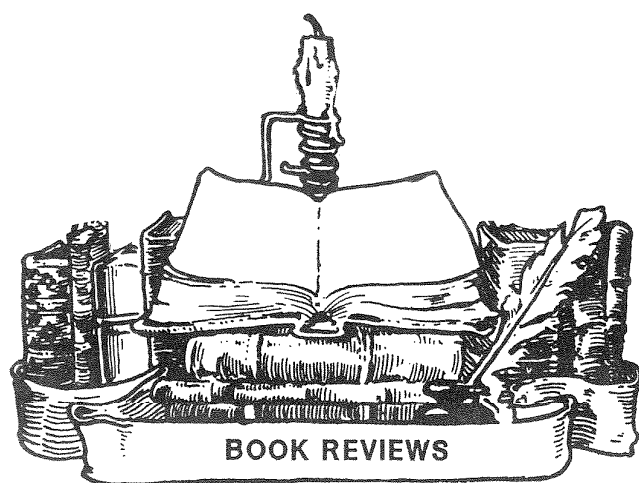
"Tynan Memorial Prize Account"
Geology Department
University of Rhode Island
Kingston, RI 02811

(Editor's Comment: Thanks to Raymond A. Christopher, William C. Cornell and Richard W. Hedlund for the photograph and information on Gene Tynan.)

POSITION WANTED

The Newsletter provides this column to assist AASP members who are seeking employment. If you are an AASP member looking for employment, send a brief summary (full resumes and vitae will not be accepted) of your qualifications and experience. This should include your university degrees, palynological specialties, work experience, familiarity with particular parts of the geologic column or geographic areas and your name and address. If you wish to remain anonymous, this Editor will code your entry and forward to you (please include a self-addressed stamped envelope) any inquiries about your notice that are received. Send your brief summary to:

John H. Wrenn
AASP Newsletter Editor
Amoco Production Company
P. O. Box 3385
Tulsa, OK 74102



Plant and Invertebrates from the Lower Cretaceous Koonwarra Fossil Bed, South Gippsland, Victoria, edited by P. A. Jell and J. Roberts, 1986, Association of Australasian Palaeontologists, Memoir 3, Sydney, 205pp. A\$ 25. Available from Dr. P. A. Jell, Queensland Museum, P. O. Box 300, St. H. Brisbane, Qld. 4101, Australia. ISSN 0810-8889, Softcover.

Memoir 3 from the Association of Australasian Palaeontologists is a continuation of the high standard of quality publications we have come to expect from the Association. This volume comprises a collection of three contributions, covering the palynology, paleobotany and invertebrate paleontology of the Lower Cretaceous (late Aptian to early Albian) Koonwarra fossil bed in southern Victoria.

Plant Macrofossils: The first section by Andrew M. Drinnan and T. Carrick Chambers is a study of the plant macrofossils recovered from a highway outcrop section southeast of Melbourne. The descriptive treatment is arranged taxonomically and provides for each specimen, a classification to division, synonymies, listing of the material investigated, a description or diagnosis of new taxa and a discussion which includes previous reports, comparisons and affinities. The photographs of all identified taxa are clear, well organized and dispersed throughout the text as they are described - a feature I personally appreciate in such a treatment. Six new species are described, while 13 others are treated taxonomically or are revised.

Palynology: The second part of this volume by Mary E. Dettmann, is a treatment of the palynoflora of subsurface strata correlative with the Koonwarra fossil bed. The 62 described palynomorphs include 45 cryptogams, 10 gymnospermous taxa, one angiosperm, one fungal and five algal taxa. The 56 spore and pollen species are described systematically and include synonymies, and a discussion on affinities when applicable. Four full pages of clear, well-organized photographs illustrate the described taxa, and as in the other sections of this memoir are interspersed within the text. I found Dettmann's descriptions and discussions complete, precise and readable. One new species is erected and one genus is formally emended.

Invertebrate Macrofossils: The third and final section of Memoir 3, by Peter A. Jell and Peter M. Duncan treats the invertebrates recovered from the freshwater deposits in a roadcut section of the Koonwarra fossil bed. The faunal remains identified include insects (representing more than 85% of the total fauna), several Crustacea, arachnids, earthworms, bryozoans and one bivalve mollusc. Again, as in the previous two sections, the text is clearly written, well-organized and accompanied by clear detailed photographs as well as numerous beautifully drawn line illustrations. Thirteen new genera and 19 new species (all insects) are described and treated taxonomically.

Synthesis: All three parts of this volume follow a similar format which may be somewhat surprising considering the differing methodologies associated with the separate disciplines. Each section is followed with its own complete set of references, which provides the reader with valuable additional or supportive information. Perhaps the most attractive purpose of this volume is the synthesis of three disciplines presented as a unit, providing a rather complete understanding of the paleoecology of the Koonwarra fossil bed and correlative strata. Memoir 3 is an example of the achievement of cooperative interdisciplinary studies. The authors and editors are to be congratulated for producing this scholarly treatment.

Anyone interested in southern hemisphere Cretaceous biotas, paleoecology and environments should purchase this memoir without delay. With a cost of only A\$ 25, price should not be a deciding factor.

Reviewed by:
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Ore Fields and Continental Weathering, by J. C. Samama, 1986, Van Nostrand Reinhold, 115 Fifth Avenue, New York, NY 10003, 326p., \$44.95.

This book is primarily about the processes that weather rocks and ore deposits and result in the secondary reprecipitation of copper, nickel, iron, manganese, and uranium. However, it can also be interpreted to explain important aspects of the palynomorph degradation in rocks. Unfortunately, palynomorphs and algal remains, once solubilized, do not become reconstituted into secondary concentrations. The complexity of weathering processes is so clearly described in this book that it is easy to understand why palynomorphs are destroyed by weathering. In fact, oxidizing weathering processes can be active down to 50-150 m in nonfractured rocks and much deeper along fracture zones, thereby destroying palynomorphs.

The first chapter discusses the physical, chemical, and some of the biological processes that act on the origin, formation, transformation, and destruction of ore deposits. Chapter 2 presents a clear description of the effects of time: climatic factors and geographical differences are

presented; the changing distribution of land and sea are discussed; the effect of the differences between Precambrian and Phanerozoic atmospheres is explored; and a discussion of the types of changes in the geochemistry of world oceans before and after the presence of abundant microbial populations is presented. The chapter then shifts to the differences between ideal diagrams and real life weathering profiles. Chapter 3 emphasizes mobilization of different elements during leaching and flushing events, and then discusses mechanisms of secondary concentration. For example, periods of high rainfall not only mobilize iron, but also gold, chromium, nickel, manganese, and aluminum.

Hidden in this book are useful directions for palynological research. For example, organic matter acts as a reductant that enhances the precipitation of uranium and copper. Palynologists could make a contribution to the discovery and understanding of the genesis of the types of deposits that result from secondary concentration. For example, the presence of copper in a sample would be obvious in the first step of palynologic preparation when HCl is added. As copper went into solution, it would turn the acid green. Does the presence of uranium leave fission tracks or some other degradation pattern on palynomorphs?

Sulfide mobilization is an important part of weathering because it leads to the formation of distinct gossans. One type of mobilization is caused by oxidizing ground waters; another type is caused by thermally-heated through-flowing formation waters. Palynologists could easily make contributions to understanding sulfide mobility because the presence or absence of bound or even

detrital pyrite, as well as the crystalline pyrite, are both easily observed in kerogen separates. Some events that leach sulfides probably destroy palynomorphs as well. In particular, the mixture of oxygenated water and pyrite leads to the formation of sulfuric acid in the weathering zone. How does this sulfuric acid affect palynomorphs? Does it darken tissues? Does it leach organically-bound metals? Does it destroy tissues?

While this is a book devoted to weathering and the genesis of ore fields, palynology does get mentioned on p. 225. The Les Malines Zinc district in France is a Mississippi Valley-type paleokarst deposit, and within the mine are stalactites composed of marcasite, barite and galena. Varraes reported on and dated the palynomorphs found within the paleosols that fell into the collapse structures of the mine.

I read this book to discover the fate of organic tissues and how they affect the weathering of ore deposits and enhance secondary concentration. Someday perhaps, someone will write a book on this subject. Until then, palynologists are limited to tantalizing glimpses of weathering processes that keep the rock environment reducing and therefore enhance the possibility of precipitating base-metal sulfides in association with dateable organic tissues.

Reviewed by:
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**She's the new
spore-pollen worker.**

AASP NEWSLETTER TECHNICAL SECTION

The Technical Section is still a feature of this Newsletter, when there is something to put in it! Surely, with some 900 members in AASP, someone out there must have a bit of technical news that the membership would like to read about. After all, we only need four items per year. I await your contribution with cheese-on-tongue, that is, baited-breath.

Contributions for the October Newsletter should be sent to the Editor by September 30.

Unique Dinoflagellate Cyst Discovered

A naked dinoflagellate cyst, bearing reflected features of the motile dinoflagellate, has been reported in a paper submitted to the *Journal of Phycology*. The apparently fossilizable cysts withstand standard palynological proc-

essing procedures. The cysts bear a microreticulate ornamentation, some of which is oriented to reflect the acrobase, cingulum, sulcus, and flagellar pores of the motile naked dinoflagellate. The chasmic archeopyle is variably developed.

The authors, D. M. Anderson and D. Jacobson (Woods Hole Oceanographic Institution), I. Bravo (Instituto Español de Oceanografía) and J. H. Wrenn (Amoco Production Company) report that incubation has shown this is the cyst of *Gymnodinium catenatum* Graham 1942. This species of naked dinoflagellate has been linked to a number of fatal red tides in Spain, Mexico and Tasmania. Species bloom dynamics and geographic distribution of *G. catenatum* must be reconsidered in light of its ability to produce resistant cysts.

