AASP NEWSLETTER

N. O. FREDERIKSEN, EDITOR ISSN 0732-6041

VOLUME 16, NUMBER 2 APRIL 1983

NOMINEES FOR BOARD OF DIRECTORS

Following is the slate of candidates for the 1983-84 AASP Board of Directors:

President-Elect: Vaughn M. Bryant, Jr. (Texas A&M University, College Station)
George F. Hart (Louisiana State University, Baton Rouge; Texaco Inc., New Orleans)

Managing Editor: Douglas J. Nichols (U.S. Geological Survey, Denver)
B.G. Van Helden (Chevron Standard Ltd., Calgary)

Secretary-Treasurer: Kenneth M. Piel (Union Oil Company, Brea, CA) - running unopposed

Director-at-large: Richard G. Baker (University of Iowa, Iowa City)
Lucy E. Edwards (U.S. Geological Survey, Reston, VA
E. Reed Wicander (Central Michigan University, Mt. Pleasant)
Virgil D. Wiggins (Chevron USA, Inc., Concord, CA

Article 7.03 of the AASP Bylaws states that "Additional nominations may be made by any member in good standing by submitting a petition, signed by at least nine (9) other members in good standing, to the Secretary-Treasurer by June 15," for inclusion on the ballot submitted to the membership.

BIOGRAPHIES OF NOMINEES

President-elect
Name: Vaughn M. Bryant, Jr.
Year you joined AASP: 1968
AASP offices held: Editor 1976-1979, Managing Editor 1979-present
Committee membership or other service to AASP: Public Relations Committee 1981-present
Offices held in other scientific societies: none
Any other information you feel would be pertinent: I am a Department Head of Anthropology, am familiar with administrative procedures and am familiar with the administrative structure and goals of AASP.

Managing Editor:
Name: Douglas J. Nichols
Year you joined AASP: 1968
AASP offices held: President-elect (1981-1982), President (1982-1983)
Committee membership or other service to AASP: Nominating Committee (1977, 1980); Annual Meeting Committee (1980); Newsletter Editor (1979-1981); Journal Editor (1981-present)
Offices held in other scientific societies: none

Name: Bert G. T. van Helden
Year you joined AASP: 1972
AASP offices held: none
Committee membership or other service to AASP: Judge, best student paper, 1977
Offices held in other scientific societies: Chairman, Paleontology Division, Canadian Society of Petroleum Geologists (C.S.P.G.), 1979-1981; Canadian Association of Palynologists (C.A.P.) Newsletter Editor, 1982-
Any other information you feel would be pertinent: Keen angler.

Secretary-Treasurer:
Name: Kenneth M. Piel
Year you joined AASP: 1967 (Founding Member)
AASP offices held: President, 1975-1976; Councelor, 1976-1977; Secretary-Treasurer, 1982-1983.
Committee membership or other service to AASP: Nominating Committee, 1980; General Chairman, 6th Annual Meeting, 1973.
Offices held in other scientific societies: none

Director-at-Large:
Name: Richard G. Baker
Year you joined AASP: 1970
AASP offices held: none
Committee membership or other service to AASP: Judge, best student paper, 1981
Offices held in other scientific societies: Associate Editor for Geology, Archeology, and Anthropology, for the Proceedings of the Iowa Academy of Science; Chairman of the Iowa Chapter of the Nature Conservancy.
Any other information you feel would be pertinent: I have supervised palynological work by students in Devonian, Pennsylvanian, Cretaceous-Paleocene, and starting next year, Oligocene sediments.

AASP Newsletter is published quarterly by American Association of Stratigraphic Palynologists, Inc.

Name: Lucy E. Edwards
Year you joined AASP: 1975
AASP offices held: none
Committee membership or other service to AASP: Judge, best student paper, 1980; Nominating Committee, 1982; Program Chair for Washington (1984) Annual Mtg.
Offices held in other scientific societies: none
Any other information you feel would be pertinent: scientific specialities -- dinoflagellates, quantitative and graphic methods in biostratigraphy, computerization

Name: Reed Wicander
Year you joined AASP: 1978
AASP offices held: none
Committee membership or other service to AASP: Judge, best student paper, 1980; Publicity Committee, 1981; Reviewer for Palynology
Offices held in other scientific societies: Editorial Board of Micropaleontology; Treasurer, Sigma Xi Central Michigan University-Alma College Chapter; U.S. Correspondent for C.I.M.P. Acritarch Newsletter
Any other information you feel would be pertinent: Associate Professor of Geology, Central Michigan University.

Name: Virgil Dale Wiggins
Year you joined AASP: 1968
AASP offices held: none
Committee membership or other service to AASP: Technical reviewer for Geoscience and Man, Palynology.
Offices held in other scientific societies: none
Any other information you feel would be pertinent: Presented invited papers at 3 AASP Annual Meetings (1974, 1976, 1981); Technical Program Director, 1983 AASP Annual Meeting, San Francisco.

AASP STUDENT SCHOLARSHIP AWARDS FOR 1982-1983

AASP Student Scholarship Awards of $250 for the 1982-1983 academic year have been awarded to Maria Kurmann of Ohio State University and to John Firth of Virginia Polytechnic Institute and State University.

Maria Kurmann's award is for support of her doctoral dissertation on the ultrastructure and development of gymnosperm pollen. Maria will study the development of selected gymnosperm pollen with electron microscopy in order to establish valid criteria which specify phylogenetic relationships and trends in pollen wall evolution. These studies should help evaluate features currently used to distinguish fossil angiosperm from gymnosperm grains, establish taxonomic criteria to separate major plant groups in the fossil record, and specify homologies and trace the evolution of the pollen wall. This work is being supervised by Professor Thomas Taylor.

John Firth's award is for support of his master's thesis on the dinoflagellate taxonomy, biostratigraphy and paleoecology of the Upper Cretaceous Providence Sand and Paleocene Clayton Formation of Georgia. John will study samples from two U.S. Geological Survey coreholes which penetrated the Cretaceous-Tertiary contact. His objectives are to document the dinoflagellate taxonomy and biostratigraphy represented in these cored intervals, to document changes across the Cretaceous-Tertiary boundary, to study dinoflagellate paleobiology using statistical analyses, and to zone the Providence and Clayton formations. John plans to integrate his results with U.S. Geological Survey paleontological data and with previous Cretaceous and Tertiary studies of the Atlantic and Gulf Coastal Plains. This study is being supervised by Professor Dewey McLean.

This is the first year these scholarships have been offered, and the Awards Committee received a number of excellent proposals which made the final selection difficult.

Application forms for this award were published in the October 1982 issue of the AASP Newsletter. They also can be obtained by requesting them from Harry Leffingwell, Union Oil Science & Technology Division, P.O. Box 76, Brea, California 92621. Deadline for receipt of the applications for next year's awards is February 1, 1984.

L.R. WILSON AWARD FOR BEST STUDENT PAPER SAN FRANCISCO MEETING, OCTOBER 25-29, 1983

The L.R. Wilson Award for Best Student Paper presented at the Annual Meeting will be awarded (for the third time) at the San Francisco meeting. This year the award will consist of:

1. A commemorative plaque.
2. A monetary prize of $250.00.
3. A two-year fully paid membership in AASP
4. Announcement of the recipient of the award in the Associations's journal.

Participants for this year's award should indicate to the Program Chairman that they wish to be considered for the award, so that the Program Chairman can send each participant a copy of the judging form for his/her guidance, and can schedule the paper at the appropriate time. The Program Chairman is:

Dr. Virgil Wiggins
Chevron, U.S.A., Inc.
P.O. Box 8100
Concord, CA 94524

To be eligible for consideration for the L.R. Wilson Student Paper Award, a speaker must fulfill the following requirements:

1. The speaker should be registered in a graduate degree program, or if the speaker has formally completed his/her graduate degree requirements, he/she cannot have been employed more than 6 months at the time the paper is given.

2. The paper must represent research carried out during his/her academic career.

3. The paper cannot be coauthored, and must be presented by its author.

These requirements are intended to minimize any advantage that might be gained through resources

available at post-graduate, non-academic institutions. In addition, the Awards Committee believes that oral presentation of research results is an integral part of the experience the Association is attempting to encourage with its award. The committee also recommended that in the instructions to judges it be made clear that illustrations are to be judged solely for their clarity and effectiveness, and that judges take into consideration the limited facilities available at many academic institutions.

REQUEST FROM 1983 ANNUAL MEETING COMMITTEE

The San Francisco Committee for the 1983 Annual Meeting of the AASP is soliciting your help so that we may estimate the number of people who will be attending the October meeting. For this purpose there is attached to this Newsletter a questionnaire which we would like to have filled out and returned. This questionnaire is for planning purposes only. It is not a registration form. That will be included in the July Newsletter.

Filling out the questionnaire is of particular importance this year because of (1) the general tightening up of funds for attending meetings, and (2) the fact that the very successful 1982 Annual Meeting was held in Dublin, Ireland, in conjunction with the CIMP. Attendance at the Dublin meeting, unfortunately, does not give any indication of how many people we may expect in San Francisco.

We would appreciate your cooperation in returning the questionnaire. It will help us organize what we hope will be a very successful Annual Meeting.

AASP FOUNDATION, ADDRESS CHANGE

Bob Clarke is a Trustee and the Treasurer of AASP Foundation, to which Century Club and other contributions to AASP may be sent. His laboratory has recently relocated, and his new address is: Mobil Research and Development Corporation, Exploration and Production Research Division, 13777 Midway Road, Farmers Branch, TX 75234.

INQUIRY FROM ICP

Roger Jan du Chêne, President of ICP (International Commission for Palynology), has asked Ken Piel to find out whether any AASP members have not been receiving the ICP Newsletter, or whether they are perhaps receiving more than one copy because they belong to more than one palynological society. If anybody falls into one or the other of these two categories, please notify Ken Piel.

BOOK IN HONOR OF ALFRED EISENACK

The C.I.M.P. Subcommission on Chitinozoa accounced in Chitinozoan Newsletter No. 4 that they have decided to publish a special volume in memory of Alfred Eisenack. The volume will deal with Paleozoic organic microfossils and especially with chitinozoans. For further information, write: Florentin Paris, Univ. de Rennes, Inst. de Géol., Lab. de Paléontologie & Strat., 35042 Rennes, Cedex, France.

STRATIGRAPHIC PALYNOLOGIST NEEDED

Join an experienced team of three palynologists who provide expertise in unravelling stratigraphic problems of all scales in potentially all parts of the Phanerozoic column and all parts of the U.S. Five years post-doctoral industry experience is highly desirable. The expertise of Sohio's geoscientists plays an increasingly important role in our exploration effort. Send your resume for immediate and confidential consideration to: Jack Alouete, Sohio Petroleum Company, R7847, 100 Pine Street, San Francisco, CA 94111. Sohio is an equal opportunity employer.

AAPG convention attendees are invited to Sohio's hospitality suite on Tuesday, April 19, from 4-7 PM at the Hyatt Regency, 300 Reunion Boulevard in Dallas.

REQUEST FROM JUDI LENTIN

Graham Williams and I are in the never-ending struggle to keep the Index of Dinoflagellate Genera and Species up to date. We would like to ask the membership who use the index to please note errors that they may spot and send them on to me. I would also request copies of any published paper that 1) we failed to include in the last volume or, 2) has been published subsequently. Because we have decided to publish a stratigraphic volume as well as the taxonomic volume, we are in need of reprints of dinoflagellate papers which have no taxonomy as well as those with taxonomy. My mailing address is as follows:

Dr. J.K. Lentin
715 - 4th St. N.W.
Calgary, Alberta
Canada, T2N 1P3

PALEOBOTANY AND PALYNOLOGY OF SOUTH AMERICA

A symposium volume has been issued, Paleobotany and Palynology of South America. Proceedings of the 3rd Meeting of Paleobotanists and Palynologists, Institute of Geosciences, University of São Paulo, December 10-12, 1981, ed. Thomas R. Fairchild. The symposium was published in: Bulletin Instituto Geociências, University São Paulo 13: 43-134. 1982. Palynology articles are in Portuguese with English summary:

Arai, Mitsuro. Relationship between color and palynological potential of sediments. pp. 75-80.

Lima, Murilo Rodolfo & Dharani Sundaram. Relevancy of palynological data to the Brazilian upper Paleozoic. pp. 81-99.

Arguijo, M., W. Volkheimer, & U. Rosenfeld. Palynological study of the Piedra Pintada formation, lower Jurassic of the Neuquina Basin (Argentina). pp. 100-107.

Gonzalez-Amicon, Oscar & Wolfgang Volkheimer. Palynological data from the Bayocian Cura Niyeu formation of the Sierra de Chacai Co, Neuquina Basin, Argentina. pp. 108-115.

Lima, Murilo Rodolfo. Palynology of the Codo formation in the vicinity of Codo, Maranhao. pp. 116-128.

Barth, Ortrud M. Pollen variation in Brazilian species of the family Rutaceae. pp. 129-134.

GLYCEROL JELLY PREPARATIONS GONE BAD

Roughly speaking, there are three ways in which glycerol jelly preparations perish:

1. Cushing (or crushing) effect. Grains flattened, but otherwise in fairly good shape. Reason: Too little watery jelly at preparation, ineffective protection against drying out. Cure: If the preparation is not too old, gentle heating, removal of cover-slip. After a period for recovery - usually possible - re-embed avoiding the faults indicated above. Very large grains may profit from some splinters of cover-slip incorporated in the preparation to keep the roof up.

2. Bloating. Grains blow up, become progressivel less distinct, diagnostic features degenerate. Reason: Chemical interaction between medium and exine, mechanism unknown; no explanation brought forward so far seems adequate. Cure: none.

3. Drying out. Glycerol jelly forms a dendritic pattern trapping the grains. Reason: Desiccation. Cure: If not too old and dry, such preparations can sometimes be saved. Pry off the cover-slip; if any part of the preparation is left on it, treat it like the slide. Attempts to soften the jelly with water may be successful. Should be done at room temperature and, at best, takes a long time, matter of weeks. If successful, treat like fresh jelly, adding some more. If unsuccessful, fresh jelly gently heated on and into the preparation may sometimes do the trick. Reseal and prevent another drying out by running wax under the cover-slip. Inspect the preparation after some time to check that the wax has not separated from the glass which easily happens if the latter is not absolutely clean (finger-prints, glycerol!). Lacquer seals alone are unreliable, but an immersion-oil resistant lacquer may be used for additional protection.

Best cure for all cases: Make another preparation.

Knut Faegri

PALEONTOLOGICAL SOCIETY

This year is the 75th anniversary of the founding of the Paleontological Society, an international organization of more than 1,500 persons concerned with the science of past life. Membership is open to all interested in Paleontology. The aim of the Society is to encourage the science. It pursues this goal in numerous ways, including sponsorship of national and regional meetings, publication of two scientific journals and of memoirs, working in public service, and in presentation of short courses. Members receive six issues of Journal of Paleontology each year. They also receive Paleontological Society Memoirs on an irregular basis as they are issued. The Society also publishes the journal Paleobiology quarterly. Members may subscribe to it at a reduced rate; subscription to Paleobiology is in addition to regular Society dues.

The Society is interested in new members. Regular dues are $35.00 a year; student memberships are $26.25. For further information or to join the Society, write: John Pojeta, Jr., Secretary, Paleontological Society, E-501 National Museum, Washington, D.C. 20560.

MIDCONTINENT PALEOBOTANICAL COLLOQUIUM

This colloquium will immediately precede the Symposium on Extinctions mentioned in the next article in this Newsletter. The announcement of this meeting states: We are happy to announce the initiation of an annual colloquium to bring together paleobotanists for informal and relaxed exchanges of ideas, updates on current research and discussions of topics of broad paleobotanical interest. The active participation of students is particularly encouraged, and we sincerely hope that participants will bring material for display and discussion. The first Midcontinent Palaeobotanical Colloquium will be held on Friday May 13th 1982 at the Field Museum of Natural History, Chicago.

For further information, write: Peter R. Crane, Geology, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, IL 60605, tel. (312) 922-9410 ext. 334, or Gar W. Rothwell, Department of Botany, Ohio University, Athens, OH 45701, tel. (614) 594-5711.

SYMPOSIUM ON EXTINCTIONS

The Sixth Annual Spring Systematics Symposium at the Field Museum of Natural History in Chicago will be held May 13-14, 1983. The lectures will be as follows:

Walter Alvarez: "The Impact Theory for the Terminal-Cretaceous Mass Extinction"
Paul S. Martin: "Pleistocene Overkill: a Challenging Model"
Andrew H. Knoll: "Extinctions in the Evolutionary History of Vascular Plants"
Thomas E. Lovejoy: "Ecosystem Decay of Amazon Forest Remnants"
Jared M. Diamond: "Extinctions in Real and Virtual Islands"
Alan C. Walker: "Extinction in Human Evolution"
Steven M. Stanley: "Extinction in the Marine Realm"

For further information and pre-registration form, write: Matthew H. Nitecki, Symposium Chairman, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, IL 60605. Telephone: (312) 922-9410.

COPY OF GEOSCIENCE AND MAN

Michael J. Fisher has sent us the following note:

I see from the latest AASP Price List that Geoscience & Man XI (Anaheim Meeting) is out of print. I have a spare copy of this voume which I will be happy to release to the first interesting offer that arrives on my desk.

Fisher's address is: Britoil, 150 St. Vincent Street, Glasgow G2 5LJ, Scotland.

VI IPC Calgary 1984

August 26 - September 1

Please direct all correspondence to:
Sixth International Palynological Conference
Lois Kokoski Faculty of Continuing Education
The University of Calgary
Calgary, Alberta, Canada, T2N 1N4
(403)284-5051

ORGANIZING COMMITTEE:

Co-chairmen:
Leonard V. Hills
Dept. Geology and Geophysics
The University of Calgary
Phone (403)284-5848

Jan Jansonius
Esso Resources Canada Limited
Phone (403)259-0211

Program:
Judith K. Lentin
LIB Consultants

Jonathan Bujak
Petro Canada

Huon S. Walton Memorial Session:
Robert E. Turner
Amoco Canada Petroleum Co.

A. Eisenack Memorial Session:
William R. Evitt
Stanford University

Invited Speakers
Stanley A.J. Pocock
Esso Resources Canada Limited

Poster Sessions:
David J. McIntyre
Geological Survey Canada

Fieldtrips:
Arthur R. Sweet
Geological Survey Canada

Wayne W. Brideaux
Amoco Canada Petroleum Co.

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Commercial Exhibits:
Bert G. van Helden
Chevron Standard Ltd.

Publicity:
Herbert J. Sullivan
Amoco Canada Petroleum Co.

Lois Kokoski
Conference Co-ordinator

February 28, 1983

Dr. N. O. Frederiksen
Editor, AASP Newsletter
USGS National Center, St. 970
12201 Sunrise Valley Dr.
Reston, Va.
U.S.A. 22092

Dear Norm,

The program has now been set for the 1984 ICP meeting in Calgary. It is hoped that all of the different branches of Palynology have been covered in such a way that even the most arcane topic will find a niche. A copy of the second circular with the program, abstract form and registration form has been mailed to all AASP members. However, due to the constant struggle with the world's postal systems, I would like to issue, here in, a general call for papers on any topic of Palynology. The abstract deadline is December 31, 1983.

Any person who has not received a program and abstract form can contact the Conference Office at the University of Calgary, address above, or call me at (403) 264-0173.

The meeting rooms, area for poster sessions and commercial exhibits are all located on a single floor in the Science Theaters of the University of Calgary. This arrangement will allow for excellent inter-action between participants and easy access to the different meetings.

The VI ICP Committee is anxious to serve and to provide the world's best forum for the world's best. See you in Calgary, 1984.

Yours truly,

J. K. Lentin
Program Chairman

FORUM

Comment, by Alfred Traverse

The comment by my old friend, Norman F. Hughes, in the October, 1982, AASP Newletter, prompts me to note that his "three points" may come to fruition simultaneously under one head. J.K. Lentin, the VI-IPC Program Coordinator, has announced that a symposium, "Taxonomy, Nomenclature, and the ICBN" will be offered as part of the program at Calgary in 1984. That title about covers the subject. Hughes' point, calling for a symposium on data-handling, could be encompassed under the umbrella, "taxonomy". Hughes calls for a "public discussion of ICBN" as point number 2, and his request for publication of "suggestions" and "proposals" in point number 3 could also be taken care of within the framework of the scheduled symposium. Now we await only contributions to that meeting, of which I have agreed to be chairman.

Having said that, I would like to add a few words of comment on the rest of what Norman says. First, he is right that the IAPT Committee for Fossil Plants ("IAPT-CFP"!) tends to be self-perpetuating. However, that is really from necessity. A reasonable balance must be kept in the Committee between countries of the world, and between megafossil and microfossil specialists. The Committee is named after each Congress by the appropriate officers of IAPT (Int. Assoc. for Plant Taxonomy), but in practice they tend to appoint the nominees of the chairman and secretary, as they know who is available and willing. I have been on the Committee for over twenty years, and have been secretary for 13 years. I seem to recall that the difficulty has been getting people to serve! We would welcome at any time nominations of people who are interested, and well enough versed in ICBN, and willing to serve. At the moment we especially would like to find new, young members. Remember, however, that because of the national and subject-matter balance, your favorite candidate might not be acceptable to IAPT, even if he/she would serve.

Now, one further comment, please. It is clear to me that Sarjeant's and Hughes' difficulties with the IAPT-CFP come partly from the fact that they don't understand what it is about. The ICBN is a document dealing with, and only with, the application of formal nomenclature to plants, including fossil plants. It has nothing directly to do with classification schemes, or with "data-handling" generally. I believe Messrs. Sarjeant and Hughes have not realized how very narrow the charge of IAPT-CFP really is. The Nomenclature Section of the International Congresses studies proposals to amend this or that article of the Code and ultimately votes on them. The IAPT-CFP is asked for its opinion on those proposals that seem to affect fossil plants, and ordinarily the Committee's recommendation is accepted. The Nomenclature Section obviously would not accept, for example, a proposal establishing a completely different series of named categories for fossil plants. The Code has over the years accepted a few differences for fossil plants from plants generally--for example, Latin diagnosis is not required for fossils, and (except for algae!) names of extant taxa take priority over named fossil taxa, regardless of date of publication. Form-genera are different from other genera, but nomenclaturally they are handled under all the same Articles. In brief, then, if Messrs. Hughes and Sarjeant and others want to establish a "new ball game" for palynomorphs, that is certainly their privilege. But it has nothing directly to do with ICBN, and it is unreasonable of them to expect that IAPT-CFP would provide an avenue for establishing the new ball game within the ICBN. It won't happen, and it wouldn't, even if both the chairman and secretary of IAPT-CFP desired it. That's not what the Code is about. On the other hand, Chairman Chaloner and I are both sensitive to the criticism that we need to communicate with paleobotanists about our deliberations. The principal business before the Committee for Berlin-1987 so far is to make a final decision on the fascinating and pressing issue of whether the starting-point for fossil plants should be with Sternberg, 1820, as at present, or with Schlotheim, 1820. We will get something into print about this and other issues well before the 1987 Congress, and will duly consider all opinions on the matters concerned as we have done in the past.

Remark, by Norman Frederiksen

I have been struggling with the term "sporomorph," because I had always assumed that it meant a spore or pollen grain specimen. It seemed to me that if people look down the microscope and say "I see a sporomorph," they mean they see a specimen (which must belong to some taxon, of course, but that is not what they mean). But a couple of years ago, in reviewing a manuscript of mine where I had written something about a "sporomorph taxon," Doug Nichols wrote that the word taxon was not necessary because sporomorph means a taxon.

In Kremp's Encyclopedia (p. 157-158), Erdtman and Potonié are quoted to the effect that a sporomorph is a group of spores or pollen grains all having the same morphology, that is, a taxon (even if one that is not formally named). Kremp (p. 158) also refers to Thomson and Pflug (1953) as giving the same definition, but actually these authors use sporomorph both in the sense of a taxon (mainly at species level; for example, p. 41-44) and as individual specimens (p. 43, paragraph 5). In the American Geological Institute Glossary of Geology (2nd ed., 1980, p. 603), sporomorph is defined only as "A fossil pollen grain or spore."

In summary, it seems that sporomorph can mean either a taxon of spores or pollen grains or an individual spore or pollen grain. Presumably the same sort of thing would be true of the word palynomorph. If Newsletter readers disagree (or agree), it would be interesting to receive (and print) your comments.

References

Bates, R.L., and Jackson, J.A., eds., 1980, GLOSSARY OF GEOLOGY, 2nd ed. American Geological Institute, Falls Church, Virginia.

Kremp, G.O.W., 1965, MORPHOLOGIC ENCYCLOPEDIA OF PALYNOLOGY. University of Arizona Press, Tucson.

Thomson, P.W., and Pflug, H., 1953, Pollen und Sporen des mitteleuropaeischen Tertiaers. PALAEONTOGRAPHICA, ABT. B, 94:1-138.

Comment, by Judith K. Lentin

As part of the reason that Norm is "struggling with the term 'sporomorph'", I think that I should present the reasons why I chose to dispute his all-encompassing use of the term sporomorph. In reviewing his excellent manuscript (Frederiksen, in prep.), I stated repeatedly that I much prefer the use of the word palynomorph (instead of sporomorph). The main reason for this preference is that in pure stratigraphic palynology and paleoecological applications of palynology we must look at all of the 'morphs' on the slide. Although his manuscript on Tertiary paleoecology refers generally to the pollen and spores of the Tertiary, other factors are often important in the ecological interpretations, i.e., were there any dinos, microforams, acritarchs and what was the nature of the macerals?

Tschudy, 1961, p. 53 states that Dr. Richard Scott of the U.S. Geological Survey proposed the term palynomorph to be inclusive of all types of microfossils found in palynological preparations. He goes on to say "Dr. Scott's suggestion fills a need, and is acceptable because of its simplicity and inclusiveness." I took the above information from the Kremp Encyclopedia (p. lll). In Frederiksen's final paragraph he states "...sporomorph can mean either a taxon of spores or pollen grains or an individual spore or pollen grain. Presumably the same sort of thing would be true of the word palynomorph.". Why should he presume such a thing in a summary when he could have looked up the definition in the same source he quotes in the second paragraph?

The term palynomorph is a good term that has found general usage in our field of science. It is simple and all-inclusive. Sporomorph is an archaic term employed before the diversification of the science. The use of the word 'spore' as part of any term, suggests that only spores are considered; in the past, that was the case. Today with our greater understanding of the interrelationships of all things found in a palynological preparation - palynomorphs are what we study.

References

Frederiksen, N.O. (in prep.) Review of Early Tertiary sporomorph paleoecology; in Lentin, Ed., PALEOECOLOGICAL APPLICATIONS OF PALEOECOLOGY (in prep. for AASP Contribution Series).

Kremp, G.O.W., 1965, MORPHOLOGIC ENCYCLOPEDIA OF PALYNOLOGY. University of Arizona Press, Tucson.

Tschudy, R.H., 1961, Palynomorphs as indicators of facies environments in Upper Cretaceous and Lower Tertiary strata, Colorado and Wyoming. WYOMING GEOL. ASSOC. GUIDEBOOK, 16. ANNUAL FIELD CONFERENCE, 1961, p. 53-59.

BOOK REVIEWS

The Equatorial Rain Forest: A Geological History, by J.R. Flenley. Butterworth's Publishers, Inc., 10 Tower Office Park, Woburn, Massachusetts 01801. 1979 (first published), 1982 (reprint). 162 p., 131 figs. $74.95.

If one replayed a time-lapse sequence from a satellite of the past 30,000 years of equatorial vegetation history, one would see shrinking and expanding patches of green. These vacillating patterns result from periodic changes in the areal extent and zonal boundaries of vegetation. This important new synthesis allows us to peek into this equatorial past as Flenley summarizes the relevant Late Quaternary tropical palynological records and concludes that equatorial ecosystems are dynamic entities, subject to environmental fluctuations.

By the author's own admission in the preface, this work offers more than the title implies and might be more appropriately entitled "Late Quaternary vegetation history of the tropics." He treats vegetation history and paleoecology of many plant community types of tropical regions focusing on studies between 10°N and 10°S of the equator, and not exclusively equatorial rain forests. In fact, I could find no direct paleoecological record from a tropical lowland evergreen rain forest (Whitmore's term equivalent I think to Flenley's "equatorial rain forest").

The work develops in a logical and progressive fashion, and since the present is the key to the past, it begins with a chapter on the extant vegetation of each of the three principal biogeographic regions of equatorial forest. This chapter is adequate in scope but incomplete. For instance, mention should be made of the correlation between climatic parameters and modern vegetation, as this is presently left to the reader to determine. The discussion of palynological techniques should include additional references, not the least of which are included in the palynology section of Kummel and Raup's Handbook of Paleontological Techniques (1965).

The second chapter establishes the plant geographic picture through Cretaceous and Tertiary plant evolution and migration in a framework of continental movement and mountain building. Although it provides ample paleobotanical and palynological background evidence, this chapter is ill-suited for the work and could be better handled as capsuled introductions to each biogeographic region. Additionally, some statements pertaining to the earliest angiosperms are misleading due to brevity and incompleteness. For example, I would rephrase the sentence "The oldest definitely angiosperm pollen record is from England." Coeval early angiosperm pollen records are known from world-wide Barremian strata.

The core of the book contains a comprehensive palynological review of the three principal equatorial forest areas - Africa, Latin America, and Indo-Malasia. A chapter is devoted to each region and includes a treatment of the present vegetation,

biogeographical problems, modern pollen rain, and the fossil pollen evidence. (For companion reading I recommend the corroborative summary "Palaeogeography and Palaeoclimatology" by Livingstone and Van der Hammen, 1978. In: Tropical Forest Ecosystems, UNESCO, France).

About half of each of these chapters is devoted to illustrations - photographs and pollen diagrams. The latter have been summarized and redrafted from the originals. While a couple of these are reduced too much, most are quite readable. The uniformity of graphics and layout enhances the quality of the illustrations. The modern pollen rain and the fossil pollen diagrams comprise the bulk of the generous 131 figures in the work, which also include five original figures by the author. These latter illustrations are helpful summary diagrams that effectively develop the key concept: that vegetation limits have been altered significantly in the tropical Late Quaternary, and probably the areal extent of individual plant communities has vacillated as well. Examples from the three equatorial biogeographic regions are in harmony with certain global climatic changes. For instance, from c. 20,000 to 14,000 BP the vegetation on mountain slopes was depressed by at least 1000 m and the lowland vegetation experienced a pronounced dry season. This reflects a cooler, drier interval. From c. 14,000 to 7,000 BP the vegetation zones gradually shifted to current positions responding to warmer, wetter conditions.

The next chapter "Seral changes in equatorial vegetation" is well written and complete. Again, a helpful original summary diagram serves to illustrate the changes recorded in equatorial hydroseres. The following chapter pertaining to the influence of man highlights the types of disturbance patterns recorded in the fossil record from each of the three equatorial biogeographic regions.

The final chapter deals with summary statements and remarks concerning the implications of the accumulated research. This is a good idea, but some of the statements in my judgement are hasty and not well grounded. For instance, I do not think the climax concept is invalidated by the palynological record as Flenley states. For a climax condition to be met a steady state condition is required, a condition measured by numerous parameters not just relative stability and species diversity, which presumably the pollen record mirrors. In a similar vein, the stability-diversity controversy of tropical ecosystems is more complex than Flenley would have us believe, and cannot be considered settled by the fluctuating pollen spectra. For one thing, it is never indicated what kind of stability and diversity is being touched upon. If we are concerned with the tropical lowland evergreen rain forest, it would be helpful to know how much these factors have changed in the Late Quaternary, information that can only be obtained by inference at present.

The three helpful appendices list the key pollen types found in each biogeographic region with notes on the autecology and dispersibility. By expanding this section of the book with illustrations (minimally with LM and preferably with SEM as well), and perhaps a pollen key, its value as a reference source could be substantially strengthened.

While Flenley's book does not advance palynological theory, it does fill the much needed gap of assessing the state of research in tropical palynology. Because of the lucid and integrative style of this work it may be regarded as a state of the art summary and a stimulus for future studies in tropical palynology and paleoecology. With implications for many natural science disciplines, it will also be of interest to resource planners, ecologists, geographers, and climatologists.

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