

PALYNNOS

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NEWSLETTER of the INTERNATIONAL FEDERATION of PALYNOLOGICAL SOCIETIES

IFPS PRESIDENT'S VALEDICTION

When I started my term of office, I became president of the well-structured and well-administered organization into which IFPS had developed under the guidance of my predecessors. Rather than concentrating myself on organizational matters, therefore, in the past four years I have tried to obtain a clear picture of the present status of palynology. This appeared to be necessary. Since our Brisbane Congress, many palynologists pragmatically (or even pessimistically) began to emphasize that our discipline no longer gains the recognition that it deserves, neither in academic nor in industrial circles. In some of our Societies, AASP at the forefront, this apparent lack of public image already resulted in constructive self-evaluation and courses of action aimed at a revitalization of palynology.

Rather than analyzing the palynologist's view, I made an attempt to explore how palynology and palynologists are perceived by the 'decision makers' in academic and industrial research. I am now trying to summarize my many experiences for further discussion within IFPS. All things considered, I have come to the conclusion that there is no reason to believe that palynology is experiencing a sustained crisis. It is becoming widely appreciated that never in the history of our discipline have more demands been made for palynology as to what it can add to multidisciplinary paleo-environmental research. Notably,

'global change' programs and modern fossil fuel exploration through sequence-stratigraphic methodology, increasingly require integration of data and models based on the study of microscopic plant remains from both the terrestrial and the marine biosphere.

Thus, at the end of my term of office, I find myself in an optimistic mood as to the future of palynology. This implies that also IFPS can continue to play its role in the palynological world. The forthcoming 8th Congress in Aix-en-Provence will have a record number of participants; I am pleased to note that many of them belong to our younger generation, and I am looking forward to seeing how they are taking up the new challenges in palynological research.

I thank all IFPS Councillors and Officers for their time and counsel whenever asked. In particular, my thanks and appreciation go to **Wim Punt** and **Jim Canright**. As our Secretary-Treasurer, Wim has efficiently continued the IFPS organizational and financial administration. Jim, our Editor of *Palynos*, has once again managed to produce a series of professionally-composed newsletters. You may regret that this issue of *Palynos* is his last brainchild, but you can be convinced that Jim's capacities are not yet lost for IFPS. Jim has been elected to take over the federation's presidency at our meeting in Aix!

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FINAL UPDATE ON THE 8TH IPC

The preceding issue of *Palynos* (Vol. 14, No. 2, December 1991) was devoted to general information of interest to those planning to attend the **8th International Palynological Congress** at Aix-en-Provence this coming September 6-12. Pre-registrants who applied for certain parts of the events scheduled in the Congress program will receive specific information directly from the Organizing Committee prior to the meetings.

As of April 15th, more than 700 Palynologists have registered; of this number 20% are Junior Members. In addition, more than 120 Accompanying Members have indicated their intention to attend. Approximately 420 scientific contributions will be presented, including 40 posters. The oral contributions will be organized into 7 parallel sessions; specialized poster sessions are planned as well. Several international journals have already agreed to publish the papers presented at the various symposia.

The Organizing Committee has recruited 30 young multilingual palynologists to assist Congress attendees in the registration and reception area of the Law School.

Registrants planning to arrive by bus or train (provided they have sent in their "Time of Arrival" form prior to August 1st) will be met and taken to their places of residence.

Late registration for the 8th IPC is still possible, but choices of housing, excursions, etc. may be somewhat limited.

Professor Birbal Sahni, one of the foremost scientists of the country, was the first Indian to have taken to palaeobotany as his research interest. Born on 14 November 1891, Birbal Sahni had his palaeobotanical orientation in the laboratory of Professor Sir Albert Charles Seward at Cambridge University. He revived the study of fossil plants from India, and put palaeobotanical researches on an organized basis in the country. The Birbal Sahni Institute of Palaeobotany—the academic successor, proudly celebrated the birth centenary of this great man. A large number of programmes were chalked out for the occasion by a National Organizing Committee.

The Birth Centenary Celebrations commenced in the forenoon of 14 November 1991 with *Pushpanjali* at the *Samadhi* of Birbal Sahni, followed by the planting of a specimen of the Scholar's tree (*Alstonia scholaris*) in the campus of the Birbal Sahni Institute. This was followed by unveiling of a tablet commemorating the foundation of the Institute of Palaeobotany in the Department of Botany, University of Lucknow by Professor T.S. Sadasivan.

Early in the afternoon, an exhibition on "Birbal Sahni, and Past of the Green World" was inaugurated by the eminent scientist Dr. A.P. Mitra, in the Regional Science Centre, Lucknow.

The Centenary Celebrations were formally inaugurated by Professor S.Z. Qasim, Member of the Planning Commission. His Excellency, Sri Satyanarayan Reddy, Governor of Uttar Pradesh, was the Chief Guest. Professor T.S. Sadasivan, one of the oldest students of Birbal Sahni, delivered a memorial lecture on "Professor Birbal Sahni's Contribution to Indian Botany and its Impact on the Scientific Scenario." Tributes to Birbal Sahni were paid by Dr. A.P. Mitra, President of National Academy of Sciences, and Dr. B.P. Radhakrishna, Editor of the Geological Society of India. Dr.

Harsh K. Gupta, Advisor, Department of Science and Technology, released the Birbal Sahni Memorial Volume on the "Indian Gondwana" published by the Geological Society of India.

On 15 November 1991, in the forenoon, a group discussion on "Relevance of Palaeobotany in Modern Context" was held. Mr. C.P. Vohra, Director-General of the Geological Survey of India, presided over the discussion which was moderated by Professor H.Y. Mohan Ram. In the afternoon, Professor David Leonard Dilcher, University of Florida, delivered the 21st Professor Birbal Sahni Memorial Lecture on "The Importance of Plant/Animal Interactions in the Origin and Subsequent Evolution of Flowering Plants." Mr. C.P. Vohra released two special publications, one of "Extinct Plants, Evolution and Earth's History" published by the Current Science Association, and the other, "Catalogue of Plant Fossils from India" published in 11 fascicules by the Birbal Sahni Institute of Palaeobotany.

The scientific programmes that took place during the following week included: (i) Symposium on "Evolutionary Plant Biology," 16-17 November 1991, inaugurated by Professor Alfred Traverse of the Pennsylvania State University; (ii) Symposium on "Four Decades of Indian Palaeobotany," 18-19 November 1991, inaugurated by Professor C.G.K. Ramanujam of Osmania University; and (iii) Birbal Sahni Birth Centenary Palaeobotanical Conference, 20-22 November 1991, inaugurated by Professor D. L. Dilcher.

During the week, four special lectures were also delivered. These were: (i) the 36th Sir A.C. Seward Memorial Lecture - "History of International Cooperation in Palynology" by Professor James E. Canright of Arizona State University, which was presided over by Professor R.N. Kapil; (ii) the 37th Sir A.C. Seward Memorial Lecture -

"Links with the Past in the Plant World: Cuticles as Recorders of Diversity, Kerogen Formation and Palaeoatmospheric CO₂ Level" by Professor Henk Visscher of University of Utrecht, which was presided over by Dr. B.D. Sharma; (iii) The Palaeobotanical Society International Medal Award Lecture for 1989 - "The Early History of Land Plants - Revisited" by Professor Harlan P. Banks of Cornell University (read by Professor Alfred Traverse); and (iv) The Palaeobotanical Society International Medal Award Lecture for 1991 - "Sporopollenin and Chitin—Nonbiodegradable Plastics' Trace Major Biochemical Events of the Geological Past" by Professor Alfred Traverse of The Pennsylvania State University.

NEW JOURNAL

The Association des Palynologues de Langue Francaise (APLF) reports the initiation of a new biennial journal "Palynosciences" that will be mainly devoted to the publication of papers presented at various APLF Symposia. Volume 1 (1991) contains 206 pages and includes 12 papers presented at the 11th APLF Symposium held in Orleans in 1989 with the theme "Palynology and Organic Matter." The papers were written in French but also include lengthy abstracts in English. This first volume is priced at 300 Ff.

Volume 2 is slated to appear in June 1992 and will include papers presented at the 12th APLF Symposium in Caen (1991) on the topic "Biogeography and Palynology."

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RUSSIAN EIFELIAN COLLOQUIUM

A colloquium devoted to the differentiation and correlation of Eifelian (Middle Devonian) deposits of the Russian platform was held in Volgograd from the 16th-20th of September, 1991. Palynologists from Minsk, Moscow, St. Petersburg, Voronezh, Saratov, Volgograd, Syktyvkar, Krasnojarsk and Chita contributed to this colloquium.

After lengthy deliberations, the participants decided to distinguish four palynozones in the Russian Eifelian *sensu lato* as follows:

The oldest palynozone is characterized by *Retusotriletes clandestrinus*, including the Takatinsky and Vjasovsky horizons of the eastern part of the Russian platform and the Volgograd region within. The following species are commonly found in this zone: *Retusotriletes clandestinus* Tschibrikova, *R. stylifer* Tschibrikova, *R. divulgatus* var. *plicatus* Tschibrikova and *Apiculiretusispora absurda* (Tschib.) Archangelskaja var. *spinosa* Tschibrikova.

The next overlying palynozone is named *Diaphanospora inassueta*. This includes the Koivensky horizon and the lower part of the Byisky horizon in the eastern part of the Russian platform, as well as the majority of the lowest part of the Rjazhsky sediments in the central region (Archangelskaja, 1985). The following species are present in this zone: *Diaphanospora inassueta* (Tschibr.) Archangelskaja, *D. impolita* (Tschibr.) Archangelskaja, *Apiculiretusispora sterlibaschevensis* (Tschibr.) Arch., *Hymenozonotriletes endemicus* Tschibr., *Dibolisporites capitellatus* (Tschibr.) Arch., *D. triangulatus* Tiwari & Schaarschmidt, *Archaeozonotriletes polymorpha* var. *tacatinicus* Tschibr., *Ancyrospora* aff. *nettersheimensis* Riegel, *Hystricosporites* aff. *costatus* Vigran, etc.

Morsovsky sediments with an underlying thin top bench of Rjazhsky deposits in the central region, the upper part of the Byisky horizon and perhaps the lower part

of the Afoninsky horizon in the eastern region, are referred to the palynozone *Periplecotriletes tortus*. Species characteristic for this zone include: *Periplecotriletes tortus* Egorova, *Grandispora velata* (Eisenack) Playford, *Elenisporis bififormis* (Arch.) Archangelskaja, *Sinuosisporis sinuosis* (V. Umnova) Arch., *Perotriletes meonacanthus* (Naumova) Arch. var. *rugosus* Kedo et al. In some sections, zone *P. tortus* is divisible into two subzones—the lowermost, *Elenisporis bififormis* and the uppermost, *Ancyrospora nau-movae*.

The top Eifelian palynozone in the Russian platform is *Rhabdosporites langii*; this includes Mosolovsky and Chernojarsky horizons, as well as the upper part of the Afoninsky in the eastern region. The following species characterize this zone: *Rhabdosporites langii* (Eisenack) Richardson, *Cirratniradites monogrammos* (Arch.) Arch., *Auroraspora aurora* Arch., *Hymenozonotriletes devonicus* (Richardson) Arch., and *Corystisporites collaris* Tiwari & Schaarschmidt.

The same sequence of zonal spore complexes in Eifelian sections *sensu lato* is traceable in all regions studied here.

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AASP SHORTCOURSE



The first AASP Shortcourse on Fungal Palynomorphs was held in Houston, Texas, February 26-28, 1992. Front row, l-r: David Vork, Steve Dittrich, John Wrenn and John Shane; standing, l-r: Ogbonnaya Ulu, Martin Farley, Bill Elsik, Masoud Jameossanaie, Gordon Wood, David Pocknall, Omar Colmenares, Norman Norton and Ramakant Kalgutkar. Martin Farley is Chairman of the AASP Shortcourse Committee and Bill Elsik was the Shortcourse Instructor.

PERSONALIA

Dr. Kiyoshi Takahashi, distinguished palynologist and former Councillor for the Palynological Society of Japan (PSJ), recently announced his retirement from the Geology faculty of Nagasaki University as of March 31, 1992. After October 1st his address will be: Kute-cho, Satsuka 2437, Oda-city, 694 Shimane Prefecture, Japan.

THE AMSTERDAM PALYNOLOGICAL ORGANIC MATTER CLASSIFICATION

All those engaged in palynology, palynofacies and organic facies studies will be well aware of the need for a standardised system for describing and classifying the organic matter observed in palynological preparations. The Open Workshop on Organic Matter Classification (University of Amsterdam, 27th - 28th June 1991) was convened to address this problem. The workshop participants (72 workers from 20 countries) resolved to publish a standard classification within three years. This will take the form of a colour photo atlas with an accompanying text that gives clear practical definitions for all categories and terms used.

Although the Workshop was attended by only a small proportion of the palynological community, a wide diversity of views were presented and discussed. A classification framework was established by voting on a variety of proposals from the floor. The collective view of the participants was that the creation of new jargon should be avoided, and that the classification should be hierarchical (i.e., include different levels of complexity suitable for different applications). The view was taken that the basic classification should be based upon transmitted white light, but incorporate additional resolution for those with routine access to fluorescence (only 60% of the workshop participants) and/or microscopes with incident white light illumination.

A number of working groups were established to look at difficult or contentious areas (e.g., amorphous materials, degrees of preservation, maturation, etc.), and areas of overlap with other disciplines (e.g., organic petrology, geochemistry). The names of the working group convenors are given below. It was proposed that a second Workshop be held in June 1992 in Bergen (Norway), to consider revision

of the framework in light of the findings of the working groups. An international committee chaired by **M. A. Lorente** (Amsterdam) was set up to coordinate the project: **D.J. Batten** (Aberystwyth), **J.F. Raynaud** (Pau), **W. Riegel** (Göttingen), **R.V. Tyson** (Newcastle upon Tyne), **P. van Veen** (Bergen) and **R. Witmer** (Brea, USA).

The framework agreed by the Workshop is not a final product, and the Committee do not wish to prejudice its chances by premature publication. All those who would like to see a copy of the provisional classification, to become actively involved in any of the working groups, or who would be willing to submit photographic material for potential inclusion in the Atlas are urged to contact the Committee or Working Group Convenors at the earliest opportunity. Every one can play a part.

The working groups and the convenors are:

WORKING GROUPS

- I. ENVIRONMENTAL RELATIONS (Taphonomy, Biological affinity, Modern sediments). R.A. Spicer (Convener)
- II. STANDARDS IN PREPARATION METHODS (including sample processing). H.Kerp (Convener)
- III. DEFINITIONS (photo atlas?). R. Tyson (Convener)
- IV. PRESERVATION SCALE. E. Williams (Convener)
- V. ORGANIC PETROLOGY TERMINOLOGY. J. Marshall (Convener)
- VI. GEOCHEMISTRY. P.F. van Veen (Convener)
- VII. THERMALLY ALTERED MATERIALS. R. Witmer (Convener)
- VIII. INCIDENT LIGHT (FLUORESCENT AND WHITE LIGHT) LEVEL (Proposed Subgroups: Woody, Structured Debris, Opaque, Amorphous). M. Collinson and P. Van Veen (Convenors)

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COMMENTS ON *BANKSISPORITES* DETTMANN; A TRIASSIC AND PERMIAN MEGASPORE

The genus *Banksisporites* was instituted by Dettmann (1961) for Lower Mesozoic megaspores with smooth to granulose sexines and indistinct contact areas. The nature and structure of the nexine was not known to her. These characters are present in the type species, *B. pinguis* (Harris) Dettmann. Banerji et al. (1978) emended the genus and included several species of *Srivastavaesporites* Bharadwaj & Tiwari (1970), viz., *S. panchetensis* Maheshwari & Banerji, *S. karanpurensis* Bharadwaj & Tiwari and *S. tenuis* (Dijkstra) Bharadwaj & Tiwari, without valid reasons. They treated *Srivastavaesporites* as a junior synonym of *Banksisporites*. However, these authors had earlier recognized them as valid species of *Srivastavaesporites*, and differentiated them from *Banksisporites* on the basis of the presence of well-defined contact areas bounded by arcuate ridges (see Maheshwari & Banerji, 1975, p. 169 & 175). Nevertheless, recent careful detailed studies of various putative species of *Srivastavaesporites* and *Banksisporites* suggest that the two genera are clearly distinct. At least seven species, including the type species of *Banksisporites*, show the above-mentioned generic characters and therefore, are recognized here as valid species of *Banksisporites*. These include: *B. pinguis* (Harris) Dettmann, *B. dijstra* (Singh) n. comb., *B. gondwanensis* Maheshwari & Banerji, *B. granulosis* Maheshwari & Banerji, *B. minuticarpus* Maheshwari & Banerji and *B. barakarensis* Mishra & Tripathi.

Banksisporites dettmannae Banerji et al., *B. panchetensis* (Maheshwari & Banerji) Banerji et al., *B. kachchhensis* Banerji, Jana & Maheshwari and *B. tenuis* (Dijkstra) Dettmann all have well-defined contact areas bounded by arcuate ridges; therefore, these species cannot be included in the genus *Banksisporites*. It is proposed here to transfer these species to the genus *Srivastavaesporites* and rename them *S. dettmannae*, *S. panchetensis*, *S. kachchhensis* and *S. tenuis*, respective-

ly. Treatment of *S. karanpurensis* as a junior synonym of *Banksisporites sinuosus* Dettmann by Banerji et al. (1978) is invalid, as the spores of *S. karanpurensis* clearly show distinct contact areas bounded by arcuate ridges. Although the description of *S. panchetensis* by Maheshwari & Banerji (1975) is valid, its transfer by Banerji et al (1978) to the genus *Banksisporites* is invalid on the same ground.

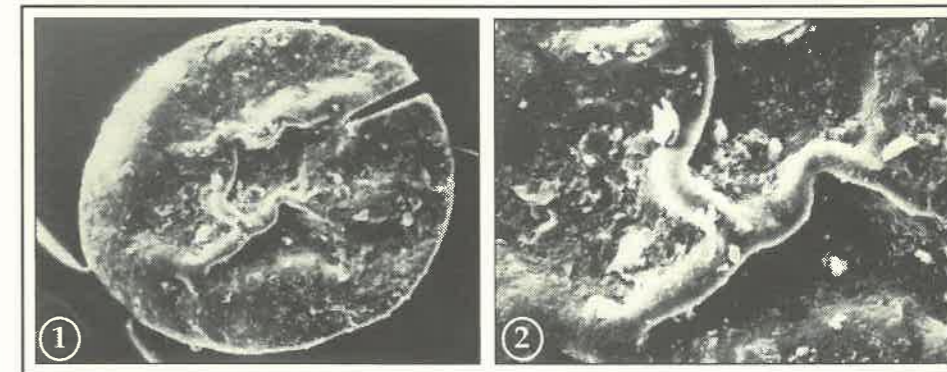
SYSTEMATIC DESCRIPTION

Supraturma SPORITES H. Potonie' 1883
Anteturma MEGASPORITES Pant 1962
Turma TRILETES (Reinsch) R. Potonie' & Kremp
Suprasubturma AZONOTRILETES Lubert 1935
Subturma APICULATI (Bennie & Kidston) R. Potonie' 1956
Suprainfraturma GRANULATI-
VERRUCOSI (*sensu* Bharadwaj & Tiwari, 1970)

Genus: *Banksisporites* (Dettmann) Banerji, Kumaran and Maheshwari 1978 emend.

Type Species: *Banksisporites pinguis* (Harris) 1961.

Emended Diagnosis: Megaspores trilete, amb circular to subcircular, trilete laesurae falling short of margin, contact areas indistinguishable, arcuate ridges absent, spore wall showing outer thick sexine and inner thin nexine, outer surface of sexine granulose to finely verrucose, nexine membranous, unpitted.



Figs. 1-2. Scanning Electron micrographs of *Banksisporites barakarensis* (n. sp. 1) megaspore, showing small proximal trilete mark with sinuous trilete laesurae, less than 1/2 radius long, contact areas are indistinct and arcuate ridges are absent, Holotype, S1. 233, X67. 2, proximal portion of megaspore shown in fig. 1, enlarged X155. Note the presence of granules over sexine.

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BILETE PALYNOMORPHS

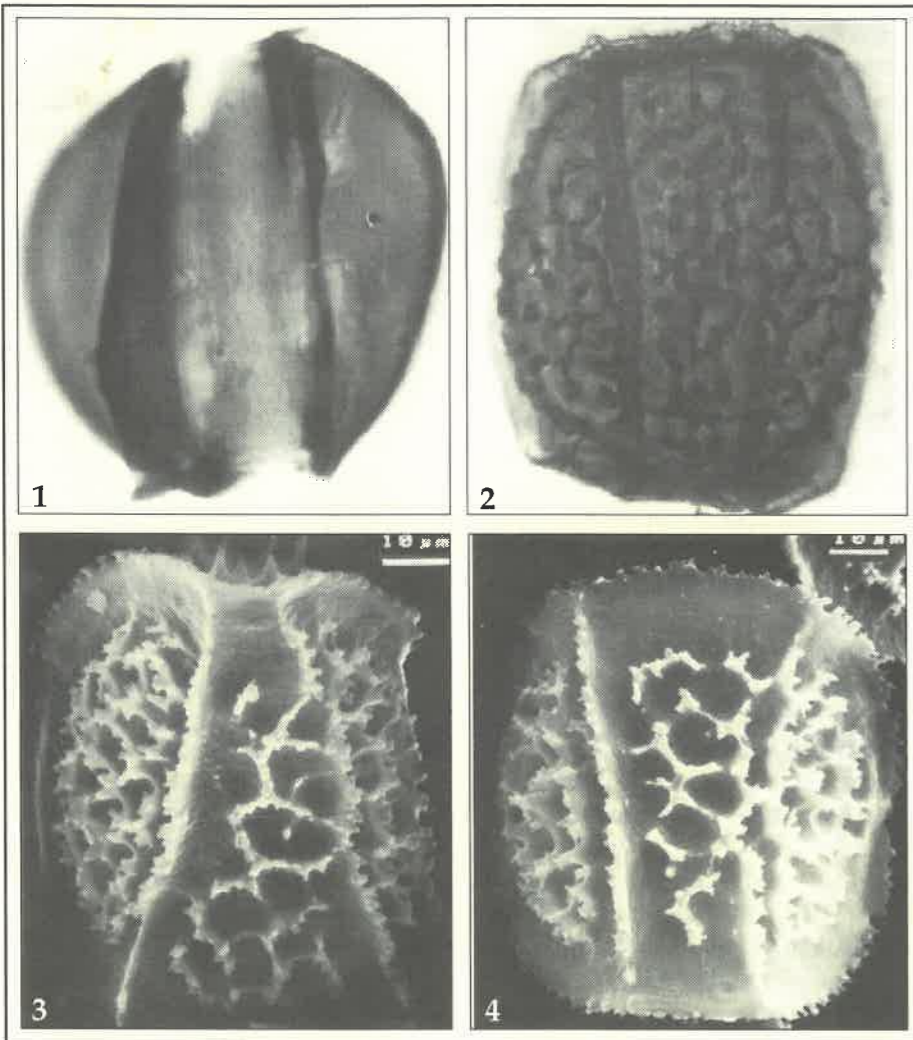


Figure 1 represents a fossil bilette spore recovered from Lower Cretaceous sediments of the Jabalpur Formation, Madhya Pradesh, India. Figure 2 shows a bilette spore of the extant liverwort *Riccia cavernosa* (Hoffm.) Reddi. Better detail of this morphotype is provided in Figs. 3 & 4; these are SEMs of the proximal surface of bilette spores of *Riccia cruciata* Kash. Although bilette spores may be occasionally produced among extant bryophytes, they are nowhere near as abundant as the usual trilete spores.

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ANNOUNCEMENT

A new group in palynology is being formed in the laboratory of Vertebrate Paleontology, URA 1433 of CNRS-France (Paris-Jussieu). This group's main research interest is in the paleoclimates of the Plio-Quaternary, poleward and equatorward of the belt of subtropical anticyclones in the longitudes of Europe-Africa. We also have an interest in the humid mode of the subtropical zone and the eastern/western margins of the continents.

We propose an exchange of reprints and would appreciate receiving your publications dealing with related topics, as well as papers on the pollen morphology of tropical and subtropical plants.

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GRANA—AN INTERNATIONAL JOURNAL OF PALYNOLOGY AND AEROBIOLOGY

GRANA publishes papers on palynology (morphology of pollen grains and spores, with reference to taxonomy, paleobotany, ecology, etc.) and aeropalynology, theoretical and as applied in medicine (allergology), plant pathology, environmental studies, etc.

GRANA will continue to consist of four issues and one part of **World Pollen and Spore Flora (WPSF)**, altogether 336 printed pages a year.

The format (printed area) will be changed to 166 x 230 mm. However, the style and layout will remain the same as hitherto.

The regular subscription price for 1992 is US\$ 195.00 (in Scandinavia: SEK 1060 or NOK 1170). Individual members of CPS (*Collegium Palynologicum Scandinavicum*) and IAA (International Association of Aerobiology) can subscribe to GRANA at a reduced price for 1992: US\$ 50.00 (in Scandinavia: SEK 350 or NOK 385).

Order GRANA directly from Scandinavian University Press, Subscription Dept., P.O. Box 2959 Toyen, N-0608 Oslo, Norway.

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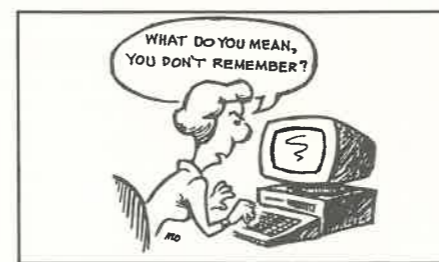
PALEOECOLOGY OF AFRICA AND THE SURROUNDING ISLANDS, VOL. 22. *Proceedings of the First Symposium on African Palynology*, Rabat, Morocco, May 15-21, 1989. **A. Ballouche & J. Maley**, eds., 289 pp. Publisher: A. A. Balkema, Rotterdam, The Netherlands and Brookfield, Vermont, USA, 1991. ISBN 90-5410-1105; ISSN 0168-6208. US \$75.

It is admittedly difficult to provide an even-handed review of this collection of 21 papers presented at a bilingual symposium of this type. Twelve of the articles are in French and the remainder are in English. However, the editors have insured that all authors have provided lengthy summaries in both languages.

The Rabat symposium was divided into three main topics: (1) Pollen Morphology (5 papers); (2) Aeropalynology & Melitopalynology (4 papers); and (3) Paleopalynology (12 papers).

All photomicrographs and SEMs are printed on good quality coated paper and the numerous pollen diagrams appear to be professionally drafted. Dr. **A. Ballouche**, the organizer of this symposium, as well as the co-editor of this volume, should be commended for his efforts to assemble scientists interested in African palynology, and for publishing their contributions in this attractive format.

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RECENT PUBLICATIONS

PALAEOFLORA OF SOUTHERN AFRICA: MOLTEÑO FORMATION (TRIASSIC). Anderson, John M. & Heidi M. Based on a collection of 14,000 slabs from 44 localities in the Gondwana realm. Volume 1 appeared in 1983 (240 pp., \$98/£58) and contained a survey of Gondwana Triassic megafloreal formation, plus a detailed taxonomic revision of the seed fern *Dicroidium*. Volume 2 appeared in 1990 and encompasses the remainder of the gymnospermous foliage in the flora, including cuticular descriptions (no price listed). Volume 3 (Non-gymnosperms) is scheduled to appear later in 1992; Volume 4 will include fruits and seeds, as well as spores and pollen from the Molten Fm. - it is now planned to be published by A. A. Balkema (Rotterdam) in 1993. Two additional volumes will complete the series by 1997.

O PÓLEN NO MEL BRASILEIRO. Barth-Schatzmayr, Ortrud Monika. 151 pp., 18 plates, featuring Brazilian pollen grains found in honey, 1989. Instituto Oswaldo Cruz, Caixa postal 926, 20001 Rio de Janeiro, Brazil. US \$25 or DM 40.

PALAEOBIOLOGY: A SYNTHESIS. Briggs, Derek E. G. & Peter R. Crowther (eds.). Includes contributions from 120 leading researchers from many parts of the world. 1990, 608 pp., 289 illustrations, cloth, £89.50. ISBN 0-632-02525-5. Blackwell Scientific Publications, Osney Mead, Oxford OX2 0EL, UK.

SPORE ATLAS OF NEW ZEALAND FERNS AND FERN ALLIES. Large, Mark & John Braggins. Based on the doctoral thesis of the senior author, this is the only comprehensive account of the spore morphology of all species of ferns and fern allies growing in New Zealand (211 species in 65 genera and 25 families). 1991, iv + 168 pp., 39 plates (both SEM & LM images), soft

cover, ISBN 0-908654-30-8, NZ \$50 (within NZ and Australia), US \$50 elsewhere. SIR Publishing, P. O. Box 399, Wellington, N.Z.

POLLEN ANALYSIS, Second Edition. Moore, P. D., J. A. Webb and M. E. Collinson. 1991, 224 pp., 72 plates, printed case £39.50. ISBN 0-632-02176 4, Blackwell Scientific Publications Ltd., Oxford OX2 0EL, UK.

THE NORTHWEST EUROPEAN POLLEN FLORA VI. Punt, W. & S. Blackmore (eds.). Comprehensive descriptions and keys to the pollen types found in 8 more families in this important series. 1991, vi + 276 pp., ISBN 0-444-89164-1. US \$123/Dfl. 240. Elsevier Science Publishers, P. O. Box 1930, 1000 BX Amsterdam, The Netherlands.

POLLEN AND SPORES OF BARRO COLORADO ISLAND. Roubik, D. W. & J. E. Moreno. Systematic Monograph #36, Missouri Botanic Gardens, P. O. Box 299, St. Louis, MO 63166-0299. 1991. ISSN 0161-1542. US \$25.

BIBLIOGRAPHIC INDEX TO THE SPORE MORPHOLOGY OF BRYOPHYTES AND PTERIDOPHYTES. Thanikaimoni, G. This is a companion volume to the *Bibliographic Index to the Pollen Morphology of Angiosperms* series by the same author (1972-1986). Dr. Thanikaimoni, the former Head of the Palynology Department of the French Institute in Pondicherry, had just completed the manuscript for the present work when he became the victim of senseless terrorism. His wife, Kitty, was instrumental in guiding this manuscript through the details of publication. This volume lists the analysis of 2356 publications covering 1281 genera. Families and their genera are listed alphabetically, together with the relevant bibliographic entries. 222 pp., soft cover, 1991, price not indicated, ISSN 0073- 8336. French Institute, Pondicherry, India.

FUTURE MEETINGS

1992

June 28-July 1

PALEONTOLOGY (5th North American Convention), Chicago, U.S.A. (Dr. Peter R. Crane, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, IL 60605-2496, U.S.A.)

August 24-September 3

INTERNATIONAL GEOLOGICAL CONGRESS (29th), Kyoto, Japan. (Dr. Tadasahi Sato, Chairman, Japanese-National Committee on Geology, Inst. of Geoscience, The University of Tsukuba, Ibaraki, 305 Japan).

August 30-September 3

INTERNATIONAL ORGANIZATION OF PALEOBOTANY (4th Conference), Paris, France. (Secretariat 4th IOPC, Universite de Paris VI, 12 rue Cuvier, 75005 Paris. Fax: (33) 143 54 40 97.)

AIX-EN-PROVENCE

1992



Olea europaea L.

VIII IPC

Laissez les bon temps rouler!

September 6-12

INTERNATIONAL PALYNOLOGICAL CONGRESS (8th), Aix-en-Provence, France. (J-P Suc, Laboratoire de Palynologie, Univ. Montpellier II, F-34095 Montpellier cedex 5).

September 21-25

PALEOCEANOGRAPHY-GLOBAL CHANGE (4th International Conference), Kiel, FRG. (ICP IV Organizing Committee, c/o GEOMAR, Wischhofstrasse 1-3/Bldg. 4, D-2300 Kiel 14, FRG).

October 12-15

ATLANTIC GENERAL EVENTS DURING NEOGENE (1st Congress), Lisbon, Portugal. (Centro de Estratigrafia e Paleobiologica (I.N.I.C.) Quinta Da Torre, P-2825 Monte de Caparica, Portugal, Phone: 1 295 4465; Telefax: 1 295 7668).

November 23-25

SEDIMENTARY BASINS OF LIBYA (1st Symposium), "Geology of Sirt Basin," Tripoli, Libya. (For more information: N.O.C., P.O. Box 2655, Tripoli, Libya. Phone: 21-46181; Fax: 21-31930).

1993

April 19-25

MODERN AND FOSSIL DINOFLAGELLATES (5th International Conference), Zeist, The Netherlands. (Jan Weegink, Lab Palaeobot. & Palynology, Univ. Utrecht, Heidelberglaan 2, 3584CS Utrecht, Netherlands).



June 7-11

EUROPEAN ASSOCIATION OF PETROLEUM GEOSCIENTISTS & ENGINEERS (5th Annual Meeting and Technical Exhibition), Stavanger, Norway. (Evert van der Gaag, Business Manager EAPG, P.O. Box 298, 3700 AG Zeist, The Netherlands. Phone: +31 (0)3404 62655; Telefax: +31 (0)3404 62640).

August 28-September 3

INTERNATIONAL BOTANICAL CONGRESS (15th), Toyko, Japan. (M. Furuya, Frontier Research Programs, The Riken Institute, Wako City, 351-01, Japan).

September 18-26

ASSOCIATION OF EUROPEAN GEOLOGICAL SOCIETIES (AEGS) (8th Congress), Budapest, Hungary. (Geological Society of Hungary, P.O. Box 433, H-1371 Budapest, Hungary. Phone: (36-1) 2019129; telefax: (36-1) 1561215; telex: MTESZ MFT 224343).

September 27-30

ENVIRONMENTAL BIOGEOCHEMISTRY (11th International Symposium), Salamanca, Spain. (Dr. J.F. Gallardo Lancho, I.E.T./CSIC, Aptdo. 257, Salamanca 37071, Espana, Spain. Phone: (923) 219606; telefax: (923) 219609).

4th European Palaeobotanical-Palynological Congress - Heerlen

The fourth European P & P Congress will be organized in Heerlen, The Netherlands, the 3rd week of September, 1994. Previous meetings were held in Montpellier (France), Madrid (Spain) and Vienna 1991 (Austria). The local organizing committee is chaired by Dr. **H.W.J. van Amerom** (Heerlen); General-Secretary is Dr. **G.F.W. Hengreen** (c/o Geological Survey, P.O. Box 157, 2000 AD, Haarlem). The first circular will be sent in early 1993 to those who attended the Vienna meeting. For further information, please contact the Secretary.



COMPUTERIST SYMBOLS

- (:-) The Smiley
- (;-) The Wink
- (:0) The Shock
- (:() The Sorrow
- (:/) The Sarcasm

(N.B.- Rotate this page 90° clockwise and reexamine symbols. Originator unknown).

PALYNOS (ISSN 0256-1670) is published semiannually (June and December) and is distributed to all individual members of the scientific organizations affiliated with the **International Federation of Palynological Societies (IFPS)**. News items, photos, member and society activities are welcomed. Please forward to the Editor:

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ORT

The following statement was spotted in the March 1992 issue of the magazine *Omni*: The strongest drive is neither Love nor Hate; it is one person's need to ~~change~~ another's copy."

*modify.
rewrite
amend
alter
chop to pieces*

(My reaction to the above is that it was written either by an editor or else a "wannabe" editor!).