



# PALYNOLOGOS

Volume 9, No. 2 - December 1986

NEWSLETTER of the INTERNATIONAL FEDERATION of PALYNOLOGICAL SOCIETIES

## IFPS "MINI-COUNCIL" MEETING

Taking advantage of the opportunity offered by the Third AASP/CIMP joint meeting held recently in New York City, President McGregor scheduled a meeting of the IFPS Executive and invited interested members of these two societies to attend.

This meeting was held between 1800 and 2030, October 30, in the Graduate Center of the City University of New York, located on West 42nd Street in midtown Manhattan. Included among the 20 persons attending this meeting were: **D.C. McGregor** (Pres.), **D.M. Jarzen** (Secy-Treas.), **J.E. Canright** (*Palynos* Editor), **R.A. Fensome** (Asst. Secy.), **A. Traverse** (Archivist/Historian), **H.V. Kaska & D.J. Nichols** (AASP Councillors), **B. Owens & H.A. Vischer** (CIMP Councillors), **Mary Dettmann** (PPAA Proxy), and **Annie Skarby** (CPS proxy).

**Mary Dettmann** (Brisbane) in her role as Program Chairman of the 7th International Palynological Congress, presented a report on the current status of plans for this meeting, which will be held on the University of Queensland campus, Brisbane, Australia, from 20 August to 2 September, 1988. She indicated that the distribution problems associated with the First Circular have (hopefully) been corrected; the Second Circular is now slated for distribution in February of 1987.

The 7th IPC Organizing Committee proposes to publish a Congress Proceedings volume, estimated to

encompass close to 1,000 pages. The cost of this volume will be included in the delegates' registration fees. Reprints will be made available to the contributing authors.

The number of interesting pre- and post-Congress excursions are planned, including trips to the Ather-ton Tableland, Great Barrier Reef, Heron Island, all the Australian States, and New Zealand.

In the event that you still have not received a copy of the First Circular, write to: The Secretary, 7th IPC, GPO Box 489, Sydney, N.S.W. 2001, Australia.

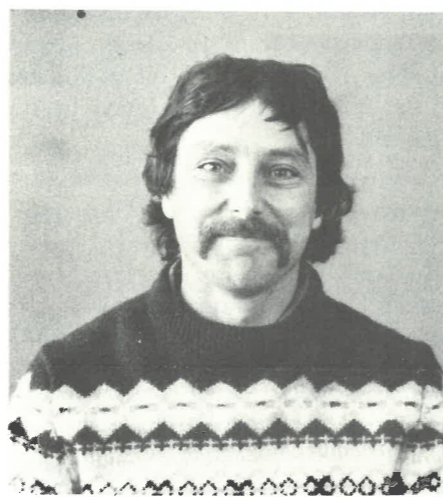
**Rob Fensome** (Halifax, N.S.) reported that more than 4,000 names and addresses of palynologists from 62 countries are now entered in the *World Directory of Palynologists*. Publication is anticipated in 1987 as soon as financial arrangements can be completed.

**Jim Canright** (Tempe, Arizona) presented a summary of costs and the nature of news coverage in the past four issues of *Palynos*. (Note: copies of these summaries, as well as David Jarzen's financial report and projection on future IFPS expenditures, have been sent to all IFPS council members).

**Al Traverse** (University Park, PA) reported that the official files covering the activities of the councils of the International Commission for Palynology (ICP) over the past eight years have been received and are being sorted and indexed for the IFPS Archives. Negotiations are currently underway to store our archives permanently at the Hunt Institute for Botanical Documentation, located at Carnegie-Mellon University, Pittsburgh, Pennsylvania.

**Doug Nichols** (Denver, CO) outlined his plans for a promotional brochure for IFPS for distribution at future national and international scientific meetings.

Just prior to adjourning this session, President **McGregor** noted that documented proposals for the 8th IPC (1992) should be submitted to him in the near future; these proposals will be voted on by the IFPS General Assembly at the Brisbane meetings in 1988.



## MEET THE NEW IFPS COUNCILLORS

Biographical sketch of  
Dr. John Dodson,  
PPAA Councillor:

I grew up in Melbourne, Victoria, and while studying at Monash University was introduced to Quaternary palynology by David Churchill. This has been my main research interest ever since. I completed a M.Sc. thesis

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entitled "Holocene vegetation and carbonate sedimentation history in western Victoria" in 1971. This experience enthused a need to continue as a researcher, so I moved to Canberra and enrolled as a Ph.D. candidate in vegetation history at The Australian National University. It took me just over four years to complete pollen analyses on four sites and write them up in my thesis "Late Quaternary vegetation history of southeastern South Australia." For the first time the study gave a glimpse of the nature of vegetation and climates during the last glacial period in southern Australia.

With formal education completed, it was time to earn a living and so I became a lecturer in geography at the University of Canterbury in New Zealand. I discovered new environments and different scales of problems, and also tried to make a small contribution to Quaternary research through teaching and pollen analysis of peat deposits in the north of South Island and on Chatham Island. In 1977 I returned to Australia and took up a lectureship at The University of New South Wales in Sydney, where I have been ever since.

My research now is still strongly orientated toward vegetation and environmental histories, but I have also tried to develop teaching and research interests on the impact of man and grazing animals on arid-zone vegetation in Australia. My pollen analytical work currently falls into three main areas: (1) I maintain an interest in compiling Quaternary vegetation histories, as there is still much to be learned on this continent. I have tried to concentrate work in regions which are sensitive to environmental shifts. As one of the few large land masses in the Southern Hemisphere Australian data is in a key position to contribute to knowledge of global circulation processes. (2) I also try and maintain interests in calibration and processing methods in pollen analysis. (3) In the last three to four years, however, I have been concentrating on small-basin and fine-resolution palynology as an ecological tool to

consider the nature of vegetation change and the role of disturbance as an ecological factor. This latter pursuit has led me to work in western Ireland and the North Cape area of New Zealand, as well as on the rainforests of northeastern New South Wales.



**DR. GANAPATHI  
THANIKAIMONI (1938-1986)**

On September 6 international terrorism again raised its ugly head with the attempted hijacking of a Pan American 747 airliner at the Karachi Airport (Pakistan), which resulted in the death or wounding of numerous passengers.

One of the innocent victims was Dr. Ganapathi Thanikaimoni, the distinguished Director of the Palynology Laboratory at the French Institute in Pondicherry, India. At the time of his unfortunate death, Dr. Thanikaimoni had been enroute to present an invited lecture at a symposium on marine palynology, as a part of the UNESCO-sponsored Second International Conference on Paleooceanography that was held September 6-12 at the Woods Hole Oceanographic Institute in Massachusetts, USA.

Thani, as he was called by his friends and colleagues, was widely known for his manifold contributions to the science of palynology.

Born on New Year's Day, 1938 in Madras, Thani received the Master of Science degree in Botany in 1962 at the University of Madras under

the direction of the eminent plant morphologist, Professor B.G.L. Swamy. At the same time Thani was awarded the prestigious Fyson Prize in Natural Science, which is reserved for truly outstanding Indian naturalists.

Soon afterwards he took a position in the newly-founded (1960) Palynology Laboratory of the *Institut Français de Pondichery* under the direction of Dr. Ph. Guinet. Within a few years Thani's scientific and administrative abilities were recognized by his promotion to the directorship of these laboratories.

In 1970 he was granted the doctorate degree by the University of Montpellier in recognition of his erudite and comprehensive thesis on the pollen morphology, classification and phylogeny of 800 species of extant Palmae (=Arecaceae). During the next decade this tireless and prolific worker published numerous significant papers concerning such essentially tropical families as the Araceae, Clusiaceae, Menispermaceae, Mimosaceae and Sonneratiaceae [see *Palynos* 8(2): 7, Dec. 1985]. In the majority of these publications, he not only gave a complete and accurate description of the pollen morphology of the species he examined, but also included the morphology of the other plant organs, in order to elucidate their probable phylogeny and to justify the classification schemes selected.

Although the bulk of Thani's early research dealt with pollen of modern floras, in recent years he turned to studies of fossil pollen as well. In 1983 he convened a workshop for French and Indian palynologists in Pondicherry [*ICP Newsletter* 6(1): 6-7] with the goal of clarifying the taxonomy of angiosperm pollen previously described from Tertiary horizons of tropical Africa and India. For this project Thani's collection of more than 20,000 slides of tropical palynomorphs was of inestimable value. From this cooperative endeavor, a clear synthesis of 47 taxa was obtained and published. Furthermore, he had recently been active in organizing a symposium on Tertiary pollen from tropical regions for the 7th IPC in Brisbane.

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Despite Dr. Thanikaimoni's previously-mentioned important contributions to the science of palynology, he probably received his greatest international recognition and acclaim for his scholarly 5-volume compilation of the literature on the morphology of angiosperm pollen—*Index Bibliographique sur la Morphologie des Pollens d'Angiospermes*, which he initiated in 1972. His wife, Kitty, mother of their two young children, gave him invaluable assistance in the preparation of these significant publications. These volumes are indispensable bibliographic aids in the laboratories of all practicing actuo-palynologists.

Thani has been referred to as "a palynologic well of erudition"—this expression fits him exactly, since he was cognizant of almost every aspect of palynology. With his untimely death, the science of palynology lost one of its most brilliant minds, his grieving wife and children have lost a loving husband and father, and many of us have lost an esteemed friend.

**C. Caratini** (CEGET, Talence) &  
**A. Le Thomas** (EPHE, Paris)

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- (1) Contribution to the pollen morphology of Eriocaulaceae. *Pollen Spores* 7: 181-191. 1965.
- (2) Pollen morphology of the genus *Utricularia*. *Pollen Spores* 8: 265-284. 1966.
- (3) Contribution à l'étude palynologique des Palmiers. *Inst. Fr. Pondichery, Trav. Sect. Sci. Tech.* 5(2): 1-92. 1966.
- (4) Pollen morphology of Sonneratiaceae. *Inst. Fr. Pondichery, Trav. Sect. Sci. Tech.* 5(2): 1-12. 1966 (With D.M.A. Jayaweera).
- (5) Morphologie des pollens des Menispermacees. *Inst. Fr. Pondichery, Trav. Sect. Sci. Tech.* 5(4): 1-57. 1968.
- (6) Esquisse palynologique des Aracees. *Inst. Fr. Pondichery, Trav. Sect. Sci. Tech.* 5(5): 1-31. 1969.
- (7) Les Palmiers: palynologie et systematique. *Inst. Fr. Pondichery, Trav. Sect. Sci. Tech.* 11: 1-286. 1970. (From his D. Sc. thesis at the Univ. of Montpellier).

(8) Pollen morphology, classification and phylogeny of Palmae. *Adansonia* 10: 347-365. 1970.

(9) *Bomarea lycina* Mirb. (Amaryllidaceae) and *Auriculiidites* Elsik. *Pollen Spores* 12(2): 177-180. 1970. (With W.C. Elsik).

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(11) Palynology in Pondicherry. *J. Palynol.* 8: 156-162. 1972. (With P. Legris).

(12) Pollen morphologie. Pp. 1-63 IN: Revision du Arophyteae (Araceae) (J. Bogner, ed.). *Bot. Jahrb. Syst.* 92: 1972. (With F. Blasco).

(13) Sarraceniaceae: palynology and systematics. *Pollen Spores* 14: 143-155. 1972. (With G. Vasanthi).

(14) Index bibliographique sur la morphologie des pollens d'Angiospermes. *Inst. Fr. Pondichery, Trav. Sect. Sci. Tech.* 12 et seq. Five volumes. 1972-1986.

(15) Relation between the pollen spectra and the vegetation of a south Indian mangrove. *Pollen Spores* 15: 281-292. 1973. (With C. Caratini and F. Blasco).

(16) Late Quaternary vegetational history of the southern region. Pp. 632-643 IN: Aspects and appraisal of Indian palaeobotany (K. Surange et al., eds.) B. Sahni Inst. Palaeobot., Lucknow. 1974. (With F. Blasco).

(17) Pollen analysis. Pp. 37-54 IN: Laang Spean and the prehistory of Cambodia by R. Mourer. Modern Quaternary Research in S.E. Asia. 1977.

(18) L'analyse pollinique de debris archeologiques du Borobudur. *Mem. Archeol. E.F.E.O.*, Paris 12: 69-72. 1977.

(19) Pollen morphological terms; proposed definitions. *Proc. IV Int. Palynol. Conf.*, Lucknow 1: 228-239. 1978.

(20) Principal works on the pollen morphology of the Compositae. Pp. 249-265 IN: The biology and chemistry of the Compositae (V.H. Haywood et al, eds.) Academic Press, New York. 1977.

(21) Mangroves of India: palynological study and recent history of the vegetation. *Proc. IV Int. Palynol.*

*Conf.*, Lucknow 3: 49-59. 1978. (With C. Caratini and C. Tissot).

(22) Index palynologus. *Proc. IV Int. Palynol. Conf.*, Lucknow 3: 344-348. 1978.

(23) Pollen morphology of primitive angiosperms: some neglected aspects. *Proc. IV Int. Palynol. Conf.*, Lucknow 1: 542-545. 1978. (With F. Roland-Heydacker).

(24) Morphological index to Van Campo's African pollen atlas. *Bull. Inst. Fondam. Afr. Noire* 41A: 286-299. 1979. (With G. Vibichanaraw).

(25) Palynological investigation on the Borobudur monument. *Bull. E.F.E.O.* 72: 237-250. 1983.

(26) Menispermaceae: palynologie et systematique. *Inst. Fr. Pondichery, Trav. Sect. Sci. Tech.* 18: 1-135. 1984. (With F. Roland, I.K. Ferguson, M.T. Cerceau & L. Derouet).

(27) Principal works on the pollen morphology of Myrtales. *Ann. Mo. Bot. Gard.* 71(3): 970-985. 1984.

(28) Omniparaterate Euphorbiaceae pollen with striate spines. *Bull. Jard. Bot. Natl. Belg.* 54 (1/2): 105-125. 1984. (With C. Caratini, S. Nilsson & E. Grafstrom).

(29) Palynology and phylogeny. *Bibl. Bot.*, Stuttgart, 137: 11-14. 1985.

(30) Pollen apertures: form and function. Pp. 119-136 IN: Pollen and Spores; Form and Function (Blackmore & Ferguson, eds.). Academic Press, London. 1985.

(31) Pollens d'Angiospermes du Tertiaire de l'Inde et leurs relations avec les pollens du Tertiaire d'Afrique. *Inst. Fr. Pondichery, Trav. Sect. Sci. Tech.* 19: (in press with multiple authors).

(32) Variation de l'aperture des Annonacees: tendances palynologiques nouvelles. IXe Symposium A.P.L.F., Montpellier, October, 1985. *Mem. E.P.H.E. Montpellier* (In press, with A. Le Thomas).

Yours sincerely,

G. THANIKAIMONI

PALYNOLOGIE A LA CANTONESE<sup>1</sup>

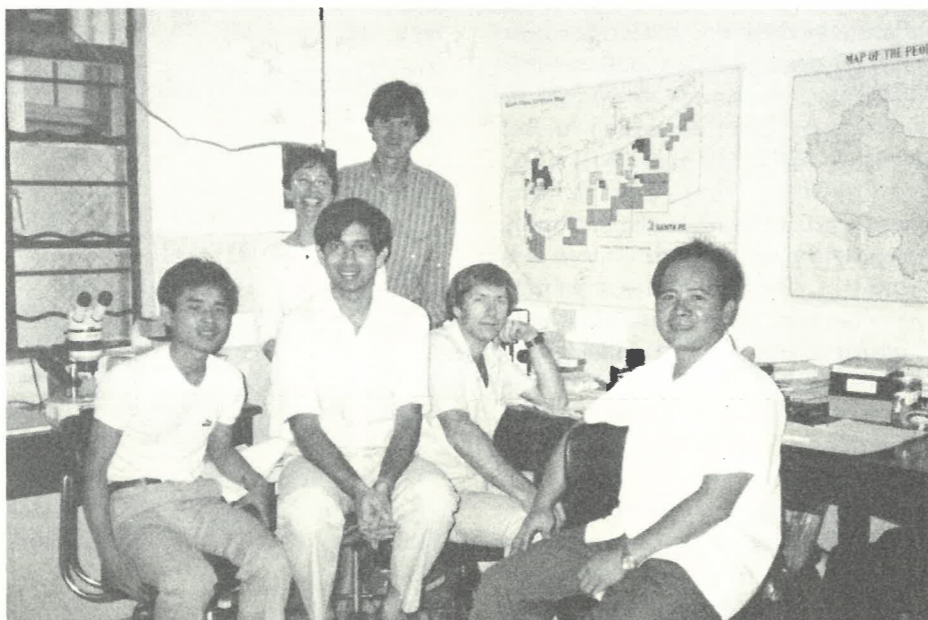
by  
Mary Lynn Richardson

It's noon on a Saturday in early May, my second day in China. Six of us from the new China Corelab joint venture have just been dropped at one end of the Beijing Lu bazaar in Canton. We have exactly an hour and a half to equip two laboratories: one for paly prep; the other for micropaleo processing. Then we rush back to the office to meet a microscope salesman from Hong Kong while our driver heads into the country to collect our chemicals. Monday we must start preparing samples; the final biostrat report on our first well is due in six weeks.

For our shopping expedition we are equipped with the equivalent of US \$120 in local currency and a bilingual shopping list. This list was laboriously compiled yesterday using an English-Chinese dictionary, sketches, pantomime, and chemical formulae. While working on our list, my Chinese colleague, Mr. Li, and I had taught each other three phrases: "Follow me!" "Wait a moment!" and "No problem!" These remain the mainstay of our verbal communication for the next several weeks.

Overhead the tropical sun, hidden for months, is burning up last puddles of rainwater, producing the atmosphere of a steambath. The entire pavement, and much of the road, is occupied by a slowly moving tide of humanity. On either side of Beijing Lu, small shops overflow their wares, casually displaying everything from vegetables to Brunton compasses. Here and there, red-white-and-blue plastic awnings provide welcome shade. The tantalizing smell of frying dumplings fills the air, and our ears are assailed with a medley of Chinese opera, hooting horns, and a cheery disco arrangement of Beethoven's Ninth Symphony.

The six of us squeeze into the first shop, filling all the available floor



Six of the 9 Cantonese Corelab occupants in July 1985. L-R: Deng Miao, Mary Lynn Richardson, Swagat Bam, Tim Timmcke, Dale Beeson, Li Zhen Xiong.

space. Shelves along the walls carry dusty samples of glassware: elaborate hand-blown chemistry apparatus among the more mundane beakers, flasks, and test tubes. The owner greets us casually from behind the tiny corner counter; in an alcove beside him, his wife continues stirring the contents of a wok fired by coal-dust briquets. We place our order. After some negotiation, money changes hands. Five minutes later we are shooed onto the pavement: our order is being carefully lowered with rope from the loft above in a large, musty-smelling basket.

Next door we find test tube racks, cleaning brushes, and pipette bulbs. Progressing down the road, we acquire a hot plate, then microscope slides, then brushes and glue for mounting forams, lab coats, lens paper, forceps, gloves, sieves, slide boxes, tweezers, face masks, covered enamel storage boxes, and a hydrometer. Soon all of us are laden with newspaper parcels tied with pink plastic string and dozens of tiny receipts. Only the centrifuge remains unpurchased; we must get

it from a shop at the far end of Beijing Lu where the driver will meet us.

The noonday crowd, which has somehow tripled in size since we entered the bazaar, appears almost stationary. But before I can despair of ever reaching our destination, Mr. Li unhooks a finger from his parcels and grasps my sleeve. Suddenly we are in the middle of the street, being rapidly carried along by the crowd.

Even after the centrifuge is procured we have ten minutes before the van is due. We find seats on wooden crates outside the shop, and drop our packages with relief. Mr. Huang — another of our Chinese colleagues — disappears, but returns in a few minutes gleefully bearing bottles of bright orange softdrink. Sitting here in the semishade, sipping sweet warm soda pop, I try to remember whether I have ever enjoyed consulting palynology this much.

On the long drive back to the office Mr. Li presents me with a pair of snow-white cotton gloves. I try them on; they fit perfectly. I am touched, but somewhat bemused:

does Mr. Li consider white gloves requisite of correct foreign-devil-woman attire? I am soon to find that, in the humidity of Canton, they are indispensable as liners for our rubber gloves.

Exactly a week later, our first 48 samples have gone through acid digestion, and I have already taught Mr. Li (who has never used a typewriter) how to enter our South China Sea species into the database of our new IBM-XT computer. We have failed to obtain zinc bromide, so now, swathed in masks and rubber aprons, we are following directions in a Chinese chemistry book for the manufacture of zinc iodide to serve as our heavy liquid. Pellets of elemental zinc are bubbling violently in a flowered enamel basin. Hydrogen iodide is staining the pristine walls of our new fumehood nicotine-brown. Various skeptics have predicted we will not emerge alive; I am beginning to believe them.

The basin is about to overflow when I am hailed from outside: Mr. Chiu Gin is here from Hong Kong with our microscopes! By the time we can leave the lab, our office has been buried in cartons and styrofoam peanuts. Amidst the clutter on the desks, three Leitz microscopes, straight from Germany, are in various stages of assembly. Mr. Chiu, a Geotechnical Engineer who has never seen such 'scopes before, is puzzling out how they fit together.

He calls me over. "Here, Madame, please sign here. I show you. Everything is here. Special ice pieces. Extra bombs. Extra fumes." He points to the high-point eyepieces. The bulbs. The fuses.

Indeed, everything *is* here. Well, nearly everything. . . we could still use a few minor items. Proper chairs, for example. And space. (Five of us are now working in an area of less than 12 square metres; within three weeks that number will have swelled to nine!)

By late Monday afternoon, propped on stacks of cartons, legal pads, and reprints, we are looking at our first mounted specimens. Just as they jump into focus, the power

flickers and dies. "Mo mon ti!" (No problem!) "Gung ngo lei!" (Follow me!) "Dung yut chung!" (Wait a moment!) We move outside to the washing trough. Sitting in the sun, surrounded by red hibiscus blooms and sweet-smelling jasmine, we scrub test tubes.

\* \* \* \* \*

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## BOOK REVIEW

**PALYNOLOGIA MADAGASSICA ET MASCARENICA.** In: *Tropische und Subtropische Pflanzenwelt*, Volumes 44 (1983), 49 (1984), 51 (1984), 55 (1986).

Since 1964 when Straka initiated the plan for a pollen flora of Madagascar and the Mascarene Islands, pollen morphological descriptions of single plant families or groups of families have appeared at irregular intervals in various journals, primarily in *Pollen et Spores*, but also in *Revue of Paleobotany and Palynology* and even in Straka's textbook (*Pollen and Sporenkunde*, in: *Grundbegriffe der modernen Biologie*, v. 13, Fischer, Stuttgart, 1975). Thus, it is fortunate that the series "*Tropische und Subtropische Pflanzenwelt*" (ed., W. Rauh) is publishing since 1983 the forthcoming issues of the Madagascan pollen flora, making it easier for the potential user to keep track of the progress.

From the onset this pollen flora (written in French and/or German) was well planned and executed, with excellent photomicrographs. More recently, scanning electron micrographs and occasional line drawings of structural or sculptural details have been included. In line with most pollen taxonomical treatises, the pollen morphological terminology primarily follows Erdtman's ontogenetically-defined nomencla-

ture. Although pollen taxonomists will certainly find use for this pollen flora in their quest to answer questions in plant evolution, greater use is probably expected from pollen stratigraphers, who generally are trained with Faegri-Iversen's more user-oriented nomenclature.

An additional challenge arises for the user of this pollen flora by the tables compiled for each group of taxa described. With the aim to summarize the pollen morphological data and tabulate it (originally planned for punchcards), Straka established a detailed numerical classification for the terms. The key for this necessarily lengthy classification is, however, not published in each issue of the flora, but for the French and German reader in the first issue only (*Pollen et Spores*, v. 6:239-288), and for the English reader in the most recent issue only (*Tropische und Subtropische Pflanzenwelt*, v. 55:167-181). As one cannot expect the reader to memorize the nomenclature, the use of the table is limited. Especially now, where punchcards have become a thing of the past, the author(s) would be better advised to produce a synoptic table of pollen morphological characters that can be read without much explanation, or perhaps even binary identification keys for each pollen morphological group, which would make best use of the wealth of data available.

Another suggestion, in view of the growing mass of data, is the publication of an overall index which would allow tracking down the families already described. As it now stands, one has to screen each publication separately.

Without knowing how large a fraction of the actual pollen flora of Madagascar and the Mascarenes has already been described, I hope that Straka and his co-workers will continue in their laborious task until completion, now that a journal has been found that seems to guarantee future publication under the same high standards of reproduction.

**Vera Markgraf**  
Inst. Arctic & Alpine Research  
University of Colorado  
Boulder, CO 80309

<sup>1</sup>A longer version of this article appeared in the *CAP Newsletter*, Vol. 9(1): 3-4, Summer 1986. Your editor admired the author's writing style and prevailed on her to somewhat reduce her text in order to make this article available to a wider audience.

## Soviet Palynological Microscopy

by  
Anna F. Chlonova

The light microscope (LM) has long been an indispensable tool for all palynologists. However, modern palynological studies with the aid of electron microscopes (SEM & TEM) permit examination of details of pollen and spore wall structures that are normally invisible under the light microscope. Accordingly, Soviet palynologists now observe the morphology of both recent and fossil pollen grains and spores not only with the LM, but also with the SEM and TEM. Each of these microscopic procedures has its own advantages (and sometimes disadvantages).

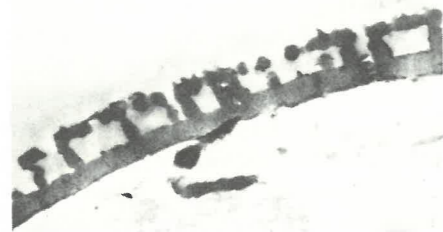
Routine palynological analyses of strewn slides for stratigraphic purposes traditionally require LM examination, in order to provide data on the taxonomic composition and diversity of the palynomorphs in the rock samples being processed. The whole suite of microfossil plant remains and the percentage of each species should be recorded for each sample. Details, such as the ambitus, structure and sculpture of the sporoderm, are examined under transmitted light (in both high and median optical section) at magnifications of 400-1,000X.

One can determine the shape and size of sculptural elements of pollen and spores by observing individual grains under the SEM at high magnifications, usually 1,500 to 20,000X. When using the SEM, pollen and spores are picked out from anthers or sporangia of identified species, or else from preparations previously studied under the LM. Palynomorphs examined under the LM are most readily recognized and comparable with those viewed under SEM if their morphology or surface possess diagnostic characters, e.g., as in the Cretaceous genus *Aquilapollenites*. On the other hand, the surface features of palynomorphs viewed under SEM may not closely resemble those seen under the LM, e.g., many types of fossil grains belonging to the Normapolles group.

Therefore, proper identification of spore and pollen taxa is difficult under the SEM in cases where these taxa were originally described by LM examination, because with the SEM only the surface morphology of the grains are determinable, and not the nature of the exine layers.

TEM observations enable us to study the connections of the exine layers in both the aperturate and nonaperturate areas. It should be emphasized that the correct interpretation of the exine layer depends on the preparation of true cross sections; oblique sections usually provide misleading concepts of the exine ultrastructure.

In recent years palynologists at botanical institutions in the USSR are making increased use of electron microscopes with modern pollen and spores for the purpose of obtaining important information that is of value in their studies in plant taxonomy and phylogeny. Although Soviet paleopalynologists may also utilize the SEM and TEM, they do so to a lesser degree, because of the difficulty of picking out fossil spores and pollen from the organic residues for observation with electron microscopes. Nevertheless, SEM and TEM examinations of pollen and spores significantly enrich LM observations for the recognition and definition of affinities with both extinct and extant plants, as well as for aid in solution of some theoretical issues. The following TEM of a cross section of the exine of a monosulcate grain of *Clavatipollenites incisus* Chlonova from the Cretaceous of Siberia may be used as an example:



*Clavatipollenites incisus* Chlon. (X 18,000). Section prepared by Dr. Surova.

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## NEW PUBLICATIONS

Berglund, B.E. (ed.) HANDBOOK OF HOLOCENE PALAEOECOLOGY AND PALAEOHYDROLOGY. John Wiley & Sons, 605 Third Ave., New York, NY 10158. 1986, 896 p., \$100.

Birks, H.J.B. & A.D. Gordon. NUMERICAL METHODS IN QUATERNARY POLLEN ANALYSIS. Academic Press, Orlando FL 32887, U.S.A., 1985, 305 p., \$59.

Boudouresque, Laurence. UPPER CRETACEOUS & PALEOGENE PALYNOLOGICAL STUDY IN NIGER AND MALI. Unpublished thesis available on microcards from CENADDOM, Domaine Universitaire, F-33605 Talence Cedex, France. \$4 (plus postage).

Deacon, H.J., E.M. van Zinderen Bakker, J.A. Coetzee & L. Scott (eds.) PALAEOECOLOGY OF AFRICA AND THE SURROUNDING ISLANDS, Vol. 17. Proc. of the 7th Biennial Conference, March-April 1985, Stellenbosch, South Africa. A.A. Balkema, P.O. Box 230, Accord, MA, U.S.A., 1986, 260 p., \$35.

Newbury, D.E., D.C. Joy, P. Echlin, C.E. Fiori & J.I. Goldstein. ADVANCED SCANNING ELECTRON MICROSCOPY AND X-RAY MICROANALYSIS. Plenum Publ. Corp., 233 Spring St., New York, NY 10013, 1986, 454 p., \$37.50.

APLF Dinoflagellate Working Group. GUIDE PRATIQUE POUR LA DETERMINATION DE KYSTES DE DINOFLAGELLES FOSSILES. (LE COMPLEXE GONYAULACYSTA). Bull. Centres Rech. Explor. Prod. Elf-Aquitaine, Mem. 12, 64018 Pau Cedex, France, 1986, 479 p., 84 tabl., 152 pl., hardbound, 465 F (postage & handling included). 365 species treated and indexed; the English specialized morphological vocabulary includes French, German and Italian translations.

## TRIVIA

Q. Is there a word in the English language that contains all six vowels?

A. Unquestionably.

## THE IFPS SECRETARY-TREASURER MOVES DOWN UNDER

This is the first notice of a forthcoming change of address for our Secretary-Treasurer, Dr. David M. Jarzen. David has been granted a Professional Development Leave from the National Museum of Natural Sciences, Ottawa, Canada, to pursue a one-year project on Australian latest Cretaceous palynofloras with Mary Dettmann in Brisbane.

Mary Dettmann has promised a rewarding and challenging project comprising a closely-sampled Campanian-Maastrichtian borehole section from the Perth Basin (Western Australia), and two subsurface sections of similar age in the offshore portion of the Otway Basin (Victoria and South Australia). The project on Australian latest Cretaceous pollen and spore floras will complement David's studies on palynofloras across the Cretaceous-Tertiary boundary from the Western Interior of North America. It is a rare opportunity to be able to study firsthand the palynofloristics of high southern latitude localities with the professional guidance and expertise of one of the world's leading palynologists.

In addition to his palynological studies, David and his wife, Susan, will be travelling extensively throughout Australia and will make field and laboratory visits to New Zealand, New Caledonia and some areas of Indonesia. These trips will provide collections and a photographic study which will be used in future lectures, displays and popular publications at the National Museums of Canada.

The tenure of David's "Australian adventure" will commence in late July 1987 and will end at the close of the 7th International Palynological Congress in Brisbane, September 2, 1988.

A formal change of address will appear in the June 1987 issue of *Palynos*, and David will contact all societies affiliated with IFPS notifying each of his new address.

## NEWS FROM PSJ

The Palynological Society of Japan (PSJ) has elected the following officers for 1986-1988 in a general assembly held at Okayama, October 26, 1986 and conferred the title of Honorary President on the ex-President, Dr. J. Ueno:

President: M. Ikuse

Vice-President: K. Takahashi

Councillors: N. Fuji, K. Hatanaka, K. Hayashi, M. Matsuka, H. Miki, J. Miki, N. Nakamura, T. Nasu, M. Sado, N. Sahashi, Y. Saito, K. Takahashi, H. Tanaka, A. Usami, K. Watanabe

Members of Standing Committee: H. Miki (Editor in Chief), M. Sado (Finance), N. Sahashi (General Affairs), K. Takahashi (Foreign Affairs)

Auditors: A. Kamijo, T. Uehara

A preparatory committee of the PSJ for the purpose of planning to invite the VIIIth International Palynological Congress (IPC) to Japan has made the following proposal which was accepted in the general assembly:

- 1) *Locale of the VIIIth IPC*: Nagasaki (Nagasaki University)
- 2) *Period*: Late in March or early in April, 1992\*
- 3) *Main Programme*:  
Pollen physiology and biochemistry  
Palynomorph morphology and ultrastructure  
Statistical methods in palynology  
Nomenclature and taxonomy of palynomorphs  
Data storage and retrieval  
Maturation and preservation of sedimentary organic matter  
Quaternary vegetational history  
Pre-Quaternary palynology  
Angiosperm origins  
Microphytoplankton  
Melissopalynology  
Aerobiology and allergen studies
- 4) *Field excursions*:  
a) Torihama shell mound—central mountains—Biwa lake  
b) Pliocene and Quaternary of middle Kyushu and Aso volcano  
c) Karako peat, Quaternary in Shimabara Peninsula, Unzen National Park (Unzen volcano

and "hell") and Shimabara City (Castle, Samurai houses, volcano and earthquake observatory of Kyushu University)

- d) Upper Cretaceous and Tertiary of the Joban region and coal-fossil Museum at Iwaki
- e) Submarine coal mine (Paleogene coal seams)
- 5) *Social programme*:  
a) Historical places in Nagasaki City  
b) Subtropical botanical garden  
c) Mitsubishi shipyard  
d) Holland village  
e) Saikai National Park (sight-seeing tour of 99 islands)  
f) Unzen National Park (volcano and "hell") and Shimabara City (castle and Samurai houses)

\*The cherry blossom season at Nagasaki comes in late March and we have a cherry festival during this time.

K. Takahashi, IFPS Councillor  
Nagasaki University

**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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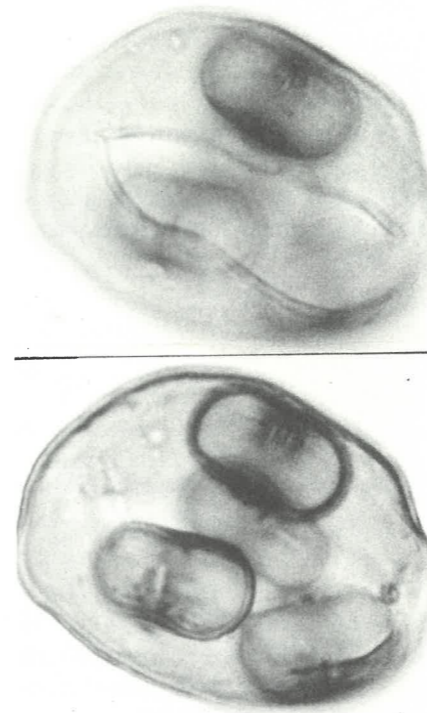
## CORRECTION

In the previous issue of *Palynos* (Vol. 9, No. 1, June 1986) in the IFPS Treasurer's Report on page 3, the designated initials of the last two alphabetically-listed societies were either scrambled or lost in outer space. SPC refers to the Soviet Palynological Commission of the USSR and TCP refers to the Turkish Committee for Palynology. Furthermore, both of these societies have paid their IFPS dues through the 1985 calendar year.

### WOULD YOU BELIEVE?

Al Traverse reports the following odd palynological phenomenon obtained from a legload of a Costa Rican honeybee: The large monosulcate pollen of a palm (cf. *Scheelea* Karst.) in the investigated sample regularly contained 1-8 sapotaceous tricolporate pollen grains (see accompanying photos taken at different focal levels). Many of the palm grains in this sample were fully packed with sapotaceous grains! Presumably either: (1) the foraging bee inadvertently forced the smaller pollen into the larger monosulcates during collecting, or (more likely) (2) the invasion of the smaller pollen into the acetolysed, hollow "pockets" of the palm pollen occurred during centrifugation following acetolysis in the laboratory. (We would be pleased to hear from any of our readers who may have previously noted a similar type of phenomenon - Ed.)

Department of Geosciences  
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*Scheelea*(?) pollen containing 4 smaller sapotaceous grains (X 1000).

### FUTURE MEETINGS OF INTEREST TO PALYNOLOGISTS

April 2 - 3, 1987

MICROPALAEONTOLOGY, PALYNOLOGY AND PETROLEUM EXPLORATION, ON- AND OFFSHORE EUROPE (Meeting), Aberdeen, Scotland, U.K. (Geological Society, Burlington House, Piccadilly, London W1V 0JU, U.K.)

April 13 - 15, 1987

ARGENTINE PALEOBOTANY & PALYNOLOGY (7th Symposium), Buenos Aires. M.A. Caccavari, Mus. Arg. Cs. Nat., Av. Angel Gallardo 470, Buenos Aires 1405. Meeting simultaneously are: IGCP Project 242 - CRETACEOUS OF LATIN AMERICA. W. Volkheimer, PRIBIPACRICYT, C.C. 131, Mendoza 5500 Argentina; IGCP Project 237 - GONDWANA FLORAS. O. Rosler, Rua Nossa Senhora de Fatima 45, Capao do Imbuia, Curitiba 8000, Brazil. ANTARCTICA PALEOBOTANY & PALYNOLOGY (2nd Symposium). E.J. Romero, Depto. Biología, FCEN, Pab. II, Cd. Universitaria, Nunez, Buenos Aires 1428, Argentina.

April 26 - May 1, 1987

WORLD PETROLEUM CONGRESS (12th) Houston, Texas, U.S.A. (12th WPC Association, c/o American Petroleum Institute, 1220 L Street NW, Washington DC 20005, U.S.A.)

April 27 - 29, 1987

LATE CENOZOIC PALEOENVIRONMENTS AND GEOLOGY OF THE ARCTIC (Workshop), Spidsbergseter Fjellstue, Norway. (Dr. A. Elverhoi, Norwegian Polar Research Institute, P.O. Box 158, 1330 Oslo Lufthavn, Norway).

May 16 - 24, 1987

PALAEOECOLOGICAL-PALAEOHYDROLOGICAL STUDIES BASED ON STRATIGRAPHICAL RESEARCH IN LAKES AND MIRES, AND FLUVIAL ENVIRONMENTS (IGCP-158 Symposium), Sweden. (B.E. Berglund, Department of Quaternary Geology, Tornav. 13, S-223 63 Lund, Sweden).

June 7 - 10, 1987

AAPG and SEPM (Annual Meeting), Los Angeles, Calif., U.S.A. (AAPG Headquarters, Box 979, Tulsa OK 74101, U.S.A.)

July 6 - 11, 1987

FOSSIL ALGAE (4th International Symposium), Cardiff, Wales, U.K. (Dr. R. Riding, Department of Geology, University College, Cardiff CF1 1XL, Wales, U.K.)

July 24 - August 1, 1987

XIV INTERNATIONAL BOTANICAL CONGRESS, Berlin (West) Germany. (The Second Circular is now available from: The Secretary, XIV IBC, Konigin-Luisse Strasse 6-8, D-1000 Berlin 33).

August 10 - 14, 1987

MESOZOIC TERRESTRIAL ECOSYSTEMS (4th Symposium), Drumheller, Alberta, Canada. Conference Coordinator, Tyrrell Museum of Palaeontology, Box 7500, Drumheller, Canada T0J 0Y0.

August 17 - 20, 1987

SECOND INTERNATIONAL SYMPOSIUM ON THE DEVONIAN SYSTEM. Calgary, Alberta, Canada. (First Circular is available from: Canadian Society of Petroleum Geologists, 505 - 206 7th Ave., SW, Calgary T2P 0W7).

August 31 - September 4, 1987

CARBONIFEROUS STRATIGRAPHY AND GEOLOGY (11th International Congress). Beijing, P.R. China. Languages: Chinese and English. (Prof. Yang Jing-zhi, Nanjing Institute of Geology and Palaeontology, 39 East Beijing Road, Chi-Ming-Ssu, Nanjing, P.R. China).

September 11 - 17, 1987

PALEOENVIRONMENTAL INTERPRETATION OF PALEOSOLS (GSA Penrose Conference), Warm Spring Indian Reservation, Oregon, U.S.A. (G.J. Retallick, Department of Geology, University of Oregon, Eugene, OR 97403, U.S.A.).

September 28 - October 2, 1987

PALYNOLOGY, ECOLOGY, PALEOECOLOGY (10th Symposium of Assoc. des Palynologues de Langue Francaise), Bordeaux, France. (Claude Caratini, CEGET-C.N.R.S., Domaine Universitaire, 33405 Talence Cedex).

October 26 - 29, 1987

GEOLOGICAL SOCIETY OF AMERICA (Annual Meeting), Phoenix, Arizona U.S.A. Meetings Department, GSA, Box 9140, Boulder, CO 80301, U.S.A.).

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