



# NEWSLETTER

Volume 1 Number 1

SUMMER, 1978

## STEERING COMMITTEE REPORT

The Canadian Association of Palynologists can now be considered a reality, having a membership of 45 palynologists of various persuasions. The purpose of this first newsletter is to inform all Canadian palynologists of the present status of the Association and the proposals and comments put forward in response to the questionnaire and membership application forms.

The original questionnaire concerning the formation of a Canadian Association of Palynologists was mailed to 100 Canadian palynologists. Fifty-one were returned, of which 44 were in favour, five were against and two were undecided. Membership application forms were sent to the same 100 palynologists. Twenty-nine of the 44 originally in favour joined the Association and an additional 16 palynologists who did not reply to or receive the original questionnaire have become members. The present membership of 45 also includes two palynologists previously opposed to the concept of C.A.P.

The majority of palynologists who returned questionnaires had suggestions concerning the function of C.A.P. These can be grouped under the headings of communication and representation.

Most replies stressed the need for better communication amongst palynologists of all persuasions, whether actuo, paleo, Quaternary, aerobiological, pollen, spores, dinoflagellates, chitinozoa, acri-tarchs, etc., through a newsletter. Specific suggestions included the following:

A list of universities, government and industrial organizations where palynological studies are being undertaken. This could include listings of palynologists, with students, and their current and planned research, published papers and papers in press, and abstracts of talks given.

Details of reference collections of palynological material. For example, modern pollen, palynological preparations of samples from stratotypes or other significant sections, 35 mm colour transparencies of type material or well preserved specimens.

Listing of material available for exchange such as original sediment, water samples, palynological slides or colour transparencies, reprints or theses.

An annual bibliography of publications and theses by Canadian palynologists, or dealing with Canadian palynology. This would ideally include abstracts.

Reviews of major palynological papers and books.

Information concerning the availability of research grants or contracts.

Employment opportunities in palynology.

Calendar of events, including meetings relating to palynology, courses, visits of palynologists to or within Canada, trips of Canadian palynologists outside Canada.

Although a few people suggested regular C.A.P. Meetings, either alone or in conjunction with organizations such as A.A.S.P., C.B.A., C.S.P.G., G.A.C. or I.N.Q.U.A. (no prizes given for first correct solution to these abbreviations), most wanted to keep C.A.P. informal, with communication being primarily through a newsletter. This would not rule out the hosting by C.A.P. of meetings of other organizations such as A.A.S.P. or I.C.P.

The other major role that was frequently suggested is that of representation of Canadian palynologists at the national and international levels. For example, reports to the Canadian Geoscience Council, representation of the Canadian viewpoint on the International Commission for Palynology and a lobby for changes in legislation affecting palynologists (can anyone think of any examples?).

Majority opinion was that the Canadian Association of Palynologists should be independent, but a few suggested a combined palynological-paleobotanical or a palynological-micropaleontological organization. It was also suggested that affiliation be sought with other organizations such as the Geological Association of Canada.

Several replies also suggested the involvement of C.A.P. in Working Groups, long range cooperative projects and the production of correlation charts.

In conclusion, the answers to the questionnaire stress the need for better communication among Canadian palynologists, especially through a regular newsletter. Although this first newsletter is primarily written by the steering committee, future issues will only be possible if all members contribute.

## ELECTION OF A C.A.P. EXECUTIVE

Replies to our questionnaire show that most people prefer C.A.P. to remain as informal as possible, but it is necessary to coordinate the Association's activities through an executive. We therefore recommend that C.A.P. elect officers for the 1979

year in the following positions: president, president-elect, secretary-treasurer and newsletter editor. Please send in your nominations to the steering committee for the above positions on the attached form, after obtaining the agreement of the persons you are nominating. All nominations must be received by October 1, 1978 so that the officers can be elected in November. See nomination form on last page.

#### REPRESENTATION ON THE INTERNATIONAL COMMISSION FOR PALYNOLOGY

Dr. Alfred Traverse, President of the International Commission for Palynology, recently invited C.A.P. to accept membership on the I.C.P. Council, providing we are an official society representing Canadian palynologists, no matter how small. We replied that this decision will be made by the first elected executive for 1979. We personally recommend that C.A.P. becomes an active participant on I.C.P. Council.

Following is a list of I.C.P. executives: President, Alfred Traverse; Vice-Presidents, Claude Caratini, Siwert Nilsson, E.D. Zaklinskaya; Secretary-Treasurer, Geoffrey Norris; Newsletter-Editor, J.E. Canright; Councillors, J.J. Chateauneuf, J.A. Coetzee, C. Downie, H. Grebe, N.F. Hughes, C.R. Janssen, D.C. McGregor, P.K.K. Nair, B. Paclova, G. Playford, J.B. Richardson, L.V. Rovnina, S. Tokunaga, Dr. Vishnu-Mitre, H. Visscher and W. Volkheimer.

Constituent Societies of the I.C.P. are (with their representatives on the I.C.P. Council given in parentheses): American Association of Stratigraphic Palynologists (J. Canright, D.C. McGregor); African Committee for Palynology (J.A. Coetzee); Asociacion Latinoamericana de Paleobotanica y Palinologia (W. Volkheimer); Association des Palynologues de Langue Francaise (C. Caratini, J.J. Chateauneuf); Arbeitskreis für Paläobotanik und Palynologie (H. Grebe); British Micropalaeontology Group, Palynology Section (J.B. Richardson); Commission Internationale de Microflore (Microfossiles Organiques) du Paleozoïque (C. Downie, H. Visscher); Collegium Palynologicum Scandinavicum (S. Nilsson); Organization of Czechoslovak Palynologists (B. Paclova); Palynologische Kring (C.R. Janssen); Palynological Society of India (P.K.K. Nair); Palynological Society of Japan (S. Tokunaga); Palaeobotanical Society, Lucknow (Vishnu-Mitre); Soviet Palynological Commission of the Botanical Society and Paleontological Society, USSR (L.V. Rovnina, E.D. Zaklinskaya). Dr. G. Playford has been co-opted on I.C.P. Council pending formal organization of a palynological society in the Australasian region.

#### ELIGIBILITY FOR C.A.P. MEMBERSHIP

We have had requests for C.A.P. membership from palynologists outside Canada. It seems preferable to restrict C.A.P. membership to palynologists working in Canada if C.A.P. is to be representative of Canadian palynologists nationally and internationally. However, we suggest subscription to the newsletter by interested non-members outside Canada for \$2.00.

#### AFFILIATION WITH OTHER SOCIETIES

It is probably not advisable to affiliate with any other society since C.A.P. would be better served

as an independent organization. Furthermore, affiliation would necessitate individual membership and dues in the parent society.

#### PALYNOSCENE

This series is intended to highlight palynological research in individual university, government and industry departments. Because of the limited time available to collect information, we take this opportunity to discuss our research at the Atlantic Geoscience Centre.

#### ATLANTIC GEOSCIENCE CENTRE, GEOLOGICAL SURVEY OF CANADA, DARTMOUTH, N.S.

The Atlantic Geoscience Centre was set up as a division of the Geological Survey of Canada in 1972. A.G.C. (for explanation of this abbreviation please see the previous sentence) is located on the campus of the Bedford Institute of Oceanography, the largest Oceanographic Institute in Canada. Approximately one hundred people work at A.G.C., 47 being scientists of which three are palynologists. All three palynologists work in the Eastern Petroleum Geology Subdivision. Sedley Barss and Graham Williams have been at the Bedford Institute since 1971 and Jon Bujak arrived in 1975 to replace Tony Jenkins. The palynological research is primarily concerned with providing a biostratigraphic framework for the Lower Paleozoic to Recent sediments of eastern Canada. Upper Paleozoic spores are the domain of Sedley Barss because he is the oldest one of the group, while the two youngsters analyse Mesozoic-Cenozoic spores, pollen and dinoflagellates. In our spare time, the group also studies dispersed organic matter from offshore wells and its significance to oil and gas generation, the Carboniferous of northern Canada, the Late Cretaceous-Cenozoic of the Deep Sea Drilling Project coreholes from the Atlantic, the Cretaceous-Cenozoic of Greenland and the eastern Arctic, the Jurassic of Portugal, and type Mesozoic-Cenozoic sections from Europe. Sedley undertakes numerous analyses for provincial and federal government geologists to aid their mapping programs. Graham and Jon also study modern dinoflagellates and plan to publish an illustrated S.E.M.-optical Atlas of modern pollen from Nova Scotia.

Publications in press and preparation include: Barss, Bujak and Williams, in prep., "Organic type and coloration of 85 wells, offshore eastern Canada", Geological Survey of Canada Paper. Bujak, in press, "Proposed evolution of the dinoflagellates *Rhombodinium* and *Cochtodinium*", Micropaleontology.

Bujak, Barss and Williams, in prep., "Organic matter studies and hydrocarbon potential of offshore eastern Canada: A Synopsis", Canadian Journal of Earth Sciences.

Bujak, Downie, Eaton and Williams, in prep., "Dinoflagellate cysts from the Eocene of southern England", Palaeontology.

Bujak and Williams, in press, "Dinoflagellate diversity through time", Marine Micropaleontology.

Bujak and Williams, in press, "Cretaceous palynostratigraphy of offshore south-eastern Canada", Geological Survey of Canada Bulletin 297.

Jansa, Bujak and Williams, in prep., "Triassic evaporites of the western North Atlantic", Canadian Journal of Earth Sciences.

Lentin and Williams, in press, "Alphabetical listing of fossil dinocyst species", Bedford Institute of Oceanography Report series.

Lentin and Williams, in prep., "Distribution patterns in Campanian peridiniacean dinocysts".

Williams, Barss and Bujak, in prep., "Palynology of 65 exploratory wells, eastern Canada", Geological Survey of Canada Paper.

Williams, in press, "Palynological biostratigraphy, Deep Sea Drilling Project Sites 367 and 370", Initial Reports of the Deep Sea Drilling Project.

Williams and Bujak, in press, "Palynological stratigraphy of DSDP Site 416A", Initial Reports of the Deep Sea Drilling Project.

Williams, Sarjeant and Kidson, in press, "A glossary of the terminology applied to dinoflagellate amphiesmae and cysts and acritarchs: 1978 Edition", American Association of Stratigraphic Palynologists Contribution Series.

Forthcoming talks:

Barss, August 28, 1978. "Organic matter type, coloration and hydrocarbon potential, offshore eastern Canada", Workshop of Canadian Coal Petrologists, Victoria, B.C.

Barss, October 25, 1978. "The Pennsylvanian-Permian boundary in Canada", Symposium on the Pennsylvanian-Permian boundary, A.A.S.P. Annual Meeting, Phoenix, Arizona.

Williams, October 26, 1978. "Dinoflagellate zonation of the Eocene, southern England", A.A.S.P. Annual Meeting, Phoenix, Arizona.

Williams, October 31, 1978. "Geology of the Baltimore Canyon and correlation with the Scotian Basin", Society Economic Geophysists Annual Meeting, San Francisco.

NATIONAL MUSEUMS CANADA  
Paleobiology Division

David Jarzen reports that the Palynology Laboratory at the National Museums of Canada, Ottawa, maintains a modern reference collection of prepared pollen and spore slides numbering approximately 6,000 entries. Use of the collection at Ottawa is encouraged and exchanges of prepared material with other institutions is desired. A copy of the material available for exchange from the NMC will be forwarded to interested individuals. Please write: Dr. David M. Jarzen, Paleobiology Division, National Museum of Natural Sciences, Ottawa, Ontario K1A 0M8.

Dr. K.A. Pirozynski, Paleomycologist at the National Museums of Canada will be taking a six month (Aug.-Feb.) leave of absence from Ottawa to work and study with Professor B. Bouillard and others in France.

UNIVERSITY OF TORONTO, DEPARTMENT OF GEOLOGY  
Research Projects

Principles of Dinoflagellate Cyst Provincialism by  
by G. Dörhöfer

Principles of dinoflagellate cyst provincialism have been elucidated from abundance data in the Cretaceous of the northern hemisphere and from

comparative studies on extant dinoflagellate distribution patterns. Provinces are related to paleo-watermasses defined mainly by latitudinal temperature (climatic) gradients and also to specific ecological preferences of cyst taxa. They are further modified by paleo-currents. The distributional patterns were also linked to morphological and physiological characteristics of dinoflagellate cysts. A strong correlation of supra-generic groupings with cyst provinces favours a concept of evolution of earliest dinoflagellates from isolated high-latitude ancestral (acritarch?) communities.

Evolution of Dinoflagellate Cyst Archeopyle: Evidence from the Jurassic and Lower Cretaceous of Arctic Canada and Germany  
by G. Dörhöfer, E.H. Davies

Jurassic to Lower Cretaceous dinoflagellate cysts from Arctic Canada and Germany demonstrate evolutionary lineages from a Late Triassic stock. These lineages have been traced in the development of tabulations and archeopyle. The tabulation evolved by fusion of plates to greater plate units from ancestral complex patterns, characterized by high and variable plate numbers to simplified ones. At the same time the protoplasm release openings (archeopyle) within the cysts became structurally simplified from disintegration types to several types (apical, intercalary, preingular) of definite cyst position. Archeopyle formation and evolution is related to a plate overlap scheme, in which plates overlap like shingles on a roof, the structure always being closed mid-dorsally (keystone plate), where all archeopyle types initiate.

Ultrastructure of Early Dinoflagellate Cysts  
by G. Dörhöfer, E.H. Davis

In continuation of the research project on archeopyle evolution, ultra-structural (SEM) investigations are undertaken to reveal characteristics of earliest dinoflagellate cysts mainly from the Canadian Arctic. These throw light on early dinoflagellate evolution.

Mesozoic Palynology of the Moose River Basin, Ontario  
by G. Norris

Middle Jurassic and Albian palynofloras have been identified in the subsurface Mattagami Formation and Mistuskwa Beds. Correlations within and outside the basin have been achieved and the age of the Onakawana Lignite has been determined as Albian. The spores and pollen are currently being described and illustrated. The assemblages show affinities with both western and northern Canada and with the Atlantic coastal plain.

References: Can. J. Earth Sci. 14, 153-158.  
Abstracts, 4th Int. Palyn. Conf., Lucknow, 1976.

Taxonomy of Triassic-Quaternary Dinoflagellate Cysts  
by G. Norris

Structural and functional considerations of dinoflagellates have identified tabulation and archeopyle types as key high-level taxonomic features. Wall separation, degree of contraction, and orna-

mentation are of less importance and have evolved repeatedly in response to environmental stress, leading to evolutionary convergence. Four sub-orders and 32 families of peridinialean dinoflagellates have been recognized. The Triassic-Lower Jurassic taxa represent more primitive types of organization than the majority of later taxa.

Publication: N. Jb. Geol. Pal. Abh. 1978 and in press.

**Late Cretaceous-Early Tertiary Dinoflagellates from Alabama**  
by S. Poplawski, G. Norris

Several sections from the Upper Maastrichtian Prairie Bluff Chalk and Lower Tertiary Clayton Formation have been collected and examined for palynomorphs. Dinoflagellates are common and well preserved in many samples. Preliminary analysis suggests dominance of chorale cysts in the Upper Cretaceous, with proximate cysts becoming more common in the Lower Tertiary. The Cretaceous-Tertiary boundary is marked by an interval containing abundant terrestrial palynomorphs. Current work is refining taxonomy and ranges of dinoflagellate cysts.

**Jurassic-Cretaceous Stratigraphic Palynology of the Sverdrup Basin, Arctic Canada**  
by E.H. Davies, G. Norris

Surface and subsurface sections of thick clastic sequences comprising the Jurassic and Lower Cretaceous (Savik to Deer Bay Formations) distributed across the Sverdrup Basin have been analyzed in detail for marine and terrestrial palynofloras. Rich assemblages of dinoflagellates and miospores have allowed correlations employing both graphical chrono-zones (Shaw 1964) and traditional Oppel zones. Basinal evolution, paleogeography and paleoecology will be examined in terms of palynostratigraphy. Age determination derived from palynomorphs will be compared to those from macrofossils.

**Evaluation of the North American Mid-Continent Palynofloras and their Stratigraphic Applications**  
by D. Artzner, A. Fasola, G. Norris

Previous studies of Cretaceous floras from the Cordilleran region have demonstrated that steady evolutionary changes occurred and that these changes may be used for stratigraphic zonation of both marine and non-marine rocks. Sampling carried out in Manitoba and Utah has provided sufficient quantities of palynomorphs for study.

The palynological content of the Senonian sedimentary sequences in the Manitoba Escarpment area is being studied in order to establish a stratigraphic zonation and determine the influence of the western and eastern floral provinces over the Late Cretaceous floras of the Mid-Continent. The objectives of the Utah study, besides a detailed description of pollen, spore, and dinoflagellate assemblages, will be to establish the variation in distribution of palynomorphs deposited within different sedimentary environments. Presently, over 300 species of dinoflagellates, pollen and spores have been identified from the Book Cliffs of east central Utah. These taxa suggest an Upper Campanian age and are similar to Upper Cretaceous floras from Western Canada, Australia and

adjacent areas of the Mid-Continent of the United States. Correlation of marine sections will be made between both areas by using marine dinoflagellates.

Sylvana Poplawski is also conducting research with J. Casey and W. Kidd on an Ordovician chitinozoan assemblage from the North Arm Mountain Allochthon, Newfoundland.

**Theses**

GRADUATE STUDENT	THESIS TOPIC	DEGREE EXPECTED	PRINCIPAL SUPERVISOR
Artzner, D.	Palynology of the Upper Cretaceous of Utah	Ph.D.	Norris
Burden, E.T.	Pollen and dinoflagellate in recent lacustrine sediments of Simcoe County, Ontario	M.Sc.	McAndrews, Norris
Davies, E.H.	Stratigraphic palynology and ecology of Jurassic strata, Sverdrup Basin	Ph. D.	Norris
Fasola, A.	Cretaceous palynology of Manitoba	Ph.D.	Norris
Hoyer, P.W.	Palynology of the type Barremian, southern France	M.Sc.	Norris
Poplawski, S.	Maastrichtian dinoflagellates and the Cretaceous-Tertiary boundary in Alabama	Ph.D.	Norris

**Publications**

Artzner, D.G., Davies, E.H., Dörhöfer, G., Fasola, A., Norris, G., and Poplawski, S. in press: A systematic illustrated guide to organic-walled dinoflagellate genera (Dinophyceae, Triassic-Quaternary); Royal Ontario Museum - Life Science Miscellaneous Publications. 276 illustrated genera.

Artzner, D.G., and Dörhöfer, G. 1978: Taxonomic note: *Lejeunecysta* nom. nov. pro. *Lejeunia* Gerlach 1961 emend. Lentin and Williams 1976 - dinoflagellate cyst genus, Can. J. Bot, 1381-1382.

Dörhöfer, G. 1977: Palynologie und Stratigraphie der Bückeberg-Formation (Berriasium-Valanginum) in der Hilsmulde (NW-Deutschland). Geol. Jb. A42, 1-120.

Dörhöfer, G. in press: Distribution and stratigraphic utility of Oxfordian to Valanginian miospores in Europe and North America. Palynology 2.

Dörhöfer, G. and Norris, G. 1977: Discrimination and correlation of highest Jurassic and lowest Cretaceous terrestrial palynofloras in northwest Europe. Palynology 1, 79-93.

Dörhöfer, G. and Norris, G. 1977: Palynostratigraphische Beiträge zur Korrelation jurassisches-kretazischer Grenzschichten in Deutschland und England. N. Jb. Geol. Paläont. Abg. 153, 50-69.

Norris, G. 1977: Palynofloral evidence for terrestrial Middle Jurassic in the Moose River Basin,

Ontario. Can. Jour. Earth Sci. 14, 153-158.

Norris, G. 1977: Phytoplankton changes near the Cretaceous-Tertiary boundary. In: Cretaceous Tertiary extinctions and possible terrestrial and extra-terrestrial causes, *Syllogeus*, no. 12, 51-57.

Norris, G. 1978: Phylogeny and a revised supra-generic classification of Triassic-Quaternary dinoflagellate cysts. Part I. Cyst terminology and assessment of previous classifications. *Neues Jb. Geol. Paläont. Abh.* 155, 300-317.

Norris, G. in press: Phylogeny and a revised supra-generic classification for Triassic-Quaternary organic-walled dinoflagellate cysts (Pyrrhophyta). Part II. Families and sub-orders of fossil dinoflagellates. *Neues Jb. Geol. Paläont. Abh.* 156.

UNIVERSITY OF WESTERN ONTARIO  
*Department of Geology*

We have received the following from Stephen Hicock.

Stephen Hicock is studying the pollen stratigraphy of mid-Wisconsin and older sediments in southwestern British Columbia as part of his Ph.D. thesis under Prof. Aleksis Dreimanis (Geology Dept., Univ. Western Ontario) and Dr. J.E. Armstrong (formerly with the GSC, Vancouver). This is being done in collaboration with Dr. Neville F. Alley (formerly with the B.C. Ministry of the Environment) and in conjunction with radiocarbon, amino acid, paleo-magnetic, and lithostratigraphic methods. Dr. Richard J. Hebda (Biology Dept., Univ. of Waterloo) and Mr. Hicock are studying palynomorphs from a late-Wisconsin peat deposit in Coquitlam, B.C. Hicock and Dr. Philip L. Gibbard (Subdept. of Quat. Research, Univ. of Cambridge) are studying palynomorphs from a sequence of mid-Wisconsin peat layers, also in Coquitlam, B.C., in conjunction with paleoentomological studies of the peats by Dr. J.V. Matthews, Jr. (GSC, Ottawa).

*Department of Geography*

Michael Kearney is currently engaged in doctoral research on the late Quaternary vegetational history of Jasper National Park, Alberta. Most of the work concerns palynological investigations of small basins of differing altitudes to reconstruct fossil altitudinal changes in biomes. To complement this research he is also investigating the characteristics of the modern pollen rain, the geochemistry of the lake sediments and the evidence of past advances of small cirque glaciers. Some of these results will hopefully be presented this fall at the GSA-GAC Conference.

#### RECENT AND FORTHCOMING PUBLICATIONS IN PALYNOLOGY

A new publication entitled "An Atlas of Airborne Pollen Grains and Common Fungus Spores of Canada" by J. Bassett, C.W. Compton and J.A. Parmelle has been compiled for all those who are interested in identifying airborne pollen grains and spores. It should be of special interest to workers in allergology, botany, geology and palynology. Descriptions, light and SEM photos and keys are presented for 143 pollen and several spore types that have been found to be airborne in different areas of Canada. The general abundance, distribution of taxa, time of pollen

shedding, significance in causing hay fever and other pertinent data are also included in this text. The observations were made in Canada, but most of the information also is applicable to much of the northern part of the United States. The hard-cover book will contain 4 line drawings, 707 photographs and approximately 350 pages. The price will be \$12.00 in Canada and \$14.40 (Canadian Funds) when ordered from other countries. The book is currently in press but advance order forms are available from Scientific Editing Section, Research Program Service, Research Branch, Ottawa, Ontario, Canada K1A 0C6. (Reprinted from the A.A.S.P. Newsletter)

Elizabeth Kemp and Wayne Harris are authors of "The palynology of Early Tertiary Sediments, Ninety-east Ridge, Indian Ocean", Palaeontological Association Special Paper 19. Price \$14.00 Canadian from B.H. Blackwell Ltd. (Periodicals Division), P.O. Box 40, Hythe Bridge Street, Oxford OX1 3EU, England.

Marjorie Muir and William Sarjeant are editors of the two latest publications in the series "Benchmark Papers in Geology". These are "Palynology, Part I. Spores and pollen" and "Palynology, Part II. Dinoflagellates, acritarchs and other microfossils". These volumes represent an attempt to compile key papers in the field of palynology. Price for the complete set is \$42.50 U.S. Volumes sold separately cost \$24.50 U.S. each. From Academic Press Inc., 111, 5th Ave., New York 10003.

Frank Staplin has the following three papers in preparation or in press. "Tertiary climate, Beaufort Sea area, Canada" and "Lower Tertiary correlations, Beaufort area, Canada" with E.M. Gammon, and "Triassic microplankton, Sverdrup Basin, arctic Canada".

The ninth and tenth publications of Paleodata Banks by Gerhard O.W. Kremp, University of Arizona, appeared in 1978. Number 9 is "Pliocene palynological literature: Five hundred implemented references". Number 10 is "Devonian palynological literature: Seven hundred implemented references".

#### RECENT MEETINGS

##### Seventh Annual Workshop, Eastern Canadian Arctic

This meeting was held at the Institute of Arctic and Alpine Research, University of Colorado, April 7-8, 1978. The following palynological papers were given:

P.T. Davis: Late and middle Holocene pollen records from S. Cumberland Peninsula.  
W. Mode: Holocene pollen diagrams from Clyde and northern Baffin Island.  
P. Mudie: Pollen record for the past 22,000 years in marine sediments - Labrador.  
P. Richard: Pollen analytical research in arctic and sub-arctic Quebec.  
S.K. Short: The pollen record in Labrador 8000 to 10,000 BP.

##### Penrose Conference on Dinoflagellates

Modern and fossil dinoflagellates were discussed at the recent Penrose Conference, Vail, Colorado,

April 17-21, 1978. Canadian participants included W.W. Brideaux, J.P. Bujak, Judi Lentin, D.J. McIntyre, Peta Mudie, G. Norris, Silvana Poplawski, A. Prakash, W.A.S. Sarjeant, F.J.R. Taylor and G.L. Williams. In accordance with Geological Society of America policy, no proceedings will be published and a report will not be given here.

### First International Conference for Aerobiology

This conference took place in Munich, Federal Republic of Germany, on August 13-15, 1978. The following four symposia were held. (1) Pollen and seeds. (2) Spores, insects, mites, viruses, bacteria. (3) Medical aerobiology. (4) Meteorology, methodology, statistics.

This list of meetings is incomplete. Future newsletters can include only as much information as submitted by members. So please send in all those articles by October 1st (we mean this year).

### LETTERS

Dear Sedley, Jon & Graham:

I have, of course, heard about CAP. As Canadian-born, I am perhaps even qualified to belong?

However you might answer that query, this letter is intended to inquire whether CAP is representative of most Canadian palynologists as a formal society. I am not being patronizing, I just don't know anything at this time. If CAP is an official society representing Canadian palynologists, no matter how small, it is entitled to membership on the ICP Council according to our statutes under IUBS (we are nearing similar recognition with IUGS). I would very much like to have CAP appoint or elect a Council member for ICP (whichever your organization would consider appropriate) if you agree that it is desirable. I am sure you have heard of the flap about the \$1 per year per member of each constituent organization. However, I have been urging everybody to regard that as some sort of an eventual moral obligation rather than a sine qua non. We would rather have representation without contribution than not have representation. At the moment we have every palynological society in the world aboard as far as I know. The most recent joiner is Fritz Cramer as the appointed Councillor for APLE. We hope to convince everybody that it is a good thing to have an international palynological organization and since ICP is already in the field, it is the logical one to carry on.

In any event, I certainly do hope that we can begin preliminary discussions of getting CAP aboard, if it would be appropriate. I can't judge that unless you will let me hear from you.

Canada, of course, is already well-represented on ICP Council -- Colin McGregor is AASP Councillor, Geoff Norris is Secretary-Treasurer and I still lay some claim to being Canadian despite the little book that I carry around when abroad that states some other connection. Looking forward to hearing from you about CAP and my proposition, and with very best wishes to you, I am,

Yours very truly,  
Alfred Traverse, Pres., ICP

WE WOULD LIKE TO HAVE CONSTRUCTIVE COMMENTS ON THIS FIRST ISSUE OF THE C.A.P. NEWSLETTER. PLEASE SEND CONTRIBUTIONS FOR THE NEXT NEWSLETTER BY OCTOBER 1st TO J.P. BUJAK, ATLANTIC GEOSCIENCE CENTRE, BEDFORD INSTITUTE, P.O. BOX 1006, DARTMOUTH, N.S. B2Y 4A2. THE NEXT ISSUE OF THE C.A.P. NEWSLETTER WILL ONLY BE SENT TO MEMBERS OF THE ASSOCIATION. WHY NOT FILL IN THE ENCLOSED APPLICATION FORM NOW!!!

### NIGHTCAP

Here are a few comments about C.A.P.

"Would provide yet another organization and yet another series of positions and fancy titles for those who love politics."

"Not only will it (C.A.P.) facilitate the dissemination of information on current palynological research in Canada, but it will be also a great help to beginning palynologists."

"Palynology is a tool science; it has no philosophic coherence, no methodological structure; the intellectual roots of the membership would be widely disparate and it could never function as a 'unifying body' to address governments, etc.....Please don't clutter up the Canadian scene with yet another mediocre, parochial conglomeration of scientists who can't quite make it in the big, competitive outside world."

"If the cap fits, wear it!"

"There has been too much going on around the country which individuals never get to hear about - and never do until a formal publication comes out, that, usually overseas."

"C.A.P. = "Covering Aspects of Palynology"

### CALENDAR OF EVENTS

#### 1978

September 2-4, American Quaternary Association. Fifth Biennial Conference, Edmonton, Alberta. For details contact N.W. Rutter, Department of Geology, University of Alberta, Edmonton, Alberta T6G 2E3.  
September 9-12, International Symposium on the Devonian System, Bristol, England. Twelve palynology papers will be given including a keynote paper by Colin McGregor.  
October 25-28, Eleventh Annual Meeting, A.A.S.P., Phoenix, Arizona. For details contact J.E. Canright, Palynology Laboratory, Department of Botany, Arizona State University, Tempe, Arizona 85281.

#### 1979

May 10-June 1, Ninth International Congress of Carboniferous Stratigraphy and Geology (IX-ICC), Washington, D.C. and Urbana, Illinois. For details contact E.L. Yochelson, Museum of Natural History, Washington, D.C. 20560.  
October 8-11, Association des Palynologues de langue française, Symposium IV, Paris, France.  
October 31-November 3, Twelfth Annual Meeting, A.A.S.P., Dallas, Texas. For details contact H.M. Simpson, Geological Science Group, Atlantic Richfield Company, Executive Plaza, P.O. Box 2819, Dallas, Texas 75221.

#### 1980

June 29-July 6, Fifth International Palynological Conference, University of Cambridge, England. For details contact Mrs. G.E. Drewry, Geology Department, The Sedgwick Museum, Downing Street, Cambridge, England.

**MEMBERSHIP LIST**

Achab, Aicha INRS pétrole, 2700 rue Eistein, C.P. 7500 Ste Foy, P.Q., G1V 4C7 (418) 657-2372 Ordovician Chitinozoans	Brideaux, Wayne W., Amoco Canada Petroleum Co. Ltd., 444 7th Ave. S.W., Calgary, Alberta, T2P 0Y2 (403) 267-2191 Mesozoic-Cenozoic dinoflagellates, spores and pollen, Canadian Arctic including the Mackenzie Delta	Gunther, Paul R., Petro-Canada, P.O. Box 2844, Calgary, Alberta T2P 2M7 (403) 232-8029 Organic metamorphism related to the petroleum industry
Audretsch, Anton P., Shell Can. Resources Ltd., P.O. Box 100, Calgary, Alberta T2P 2H5 (403) 232-3799 Devonian to 'grass-roots'	Bujak, Jonathan P., Atlantic Geoscience Centre Geological Survey of Canada P.O. Box 1006, Dartmouth, N.S. B2Y 4A2 (902) 426-5657 Mesozoic-Cenozoic dinoflagellates and spores. Modern dinoflagellates. Modern pollen of Nova Scotia. Organic type and colour (TAI) studies	Hebda, Richard J., Biology Dept., University of Waterloo, Waterloo, Ontario N2L 3G1 (519) 885-1211 Quaternary palynology. Archaeology and palynology.
Artzner, Darrah G., Dept. of Geology, University of Toronto, Toronto, Ontario M5S 1A1 (416) 978-4851 Upper Cretaceous pollen, spores and dinoflagellates, North American mid-continent. At present working on palynomorphs of the Book Cliffs in east central Utah.	Camfield, Martha, 10 Madawaska Dr., Ottawa, Ontario K1S 3E6 (613) 232-7833 Devonian spores	Hicock, Stephen R., Department of Geology, University of Western Ontario, London, Ontario N6A 5B7 (519) 679-3187 Quaternary Stratigraphy and Glacial Geology
Barss, M. Sedley, Atlantic Geoscience Centre Geological Survey of Canada, P.O. Box 1006, Dartmouth, N.S. B2Y 4A2 (902) 426-2731 Carboniferous spores. Organic type & colour (TAI) studies	Chi, Byung I., BP Canada Ltd., 335-8th Ave. S.W., Calgary, Alberta T2P 1C9 (403) 266-7071 Devonian biostratigraphy. Paleozoic stratigraphy of Western Canada	Ioannides, Nicos S., Inst. of Sedimentary & Petroleum Geology Geological Survey of Canada, 3303-33rd St. N.W. Calgary, Alberta T2L 2A7 (403) 284-0110 Mesozoic and Cenozoic palynology (Taxonomy, Stratigraphy, Paleo-ecology). Interests: Paleozoic Palynology (Silurian-Carboniferous)
Bassett, I. John, Room 204, Saunders Bldg., Biosystematics Research Inst., C.D.A., Ottawa, Ontario K1A 0C6 (613) 994-9608 Taxonomy of Vascular Plants with emphasis on pollen morphology	Crowder, A.A., Biology Dept., Queen's University, Kingston, Ontario K7L 3N6 (613) 547-6675 Pollen transport. Paleo-ecology of eastern Ontario	Jarzen, David M., National Museum of Natural Sciences, Paleobiology Division, 1767 Woodward Dr., Ottawa, Ontario K1A 0M8 (613) 996-4518 Paleopalynology with emphasis on Cretaceous/Tertiary angiosperms; paleoecology, evolution, distribution
Berti, Albert A., 3839 7A St. S.W. Calgary, Alberta T2T 2Y8 (403) 267-5910 Mesozoic and Tertiary dinoflagellates, pollen, spores, especially in the Arctic Islands	Dreimanis, Aleksis, Dept. of Geology, University of Western Ontario, London, Ontario N6A 5B7 (519) 679-3136 Quaternary stratigraphy	Kearney, Michael S., Dept. of Geography, University of Western Ontario, London, Ontario N6A 5C2 (519) 432-7038 Postglacial vegetational history of the Canadian Rockies
Boyko-Diakonow, Maria 3688 Parkview St., Penticton, B.C. V2A 6H1 (604) 492-8228 All aspects of palynology, particularly postglacial, with emphasis on human disturbance to the vegetation.	Fensome, Robert A., 108 General Purpose Building Univ. of Saskatchewan, Saskatoon, Sask., S7N 0W0 (306) 343-3502 Dinoflagellates. Mesozoic spores and pollen	Legault, Jocelyne A., Dept. of Earth Sciences, University of Waterloo, Waterloo, Ontario N2L 3G1 (519) 885-1211 Ext. 3233 Paleozoic palynology; Chitinozoa, Acritarchs, Spores
Braman, Dennis R., 4539 17th Ave. N.W., Calgary, Alberta T3B 0N9 (403) 284-5028 Devonian miospores	Gill, Leanne D., Geological Survey of Canada 601 Booth Street, Room 609, Ottawa, Ontario K1A 0E8 (613) 995-4680 Quaternary Palynology	

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 Modern pollen and spores,  
 western interior of Canada.  
 Provinciality of Late Cre-  
 taceous dinoflagellates.  
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 Mesozoic palynology. Particu-  
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 Tropical pollen of S.E. Asia.  
 Palynology of Gymnospermae

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 post-Wisconsinian paleophytogeography  
 (paleochorology, paleobioceanology,  
 paleoecology). Methodology of the  
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 Pollen analysis and geomorphologic  
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 Mesozoic stratigraphic palynology  
 of Alberta. Description of micro-  
 floral assemblages consisting of  
 microspores, conifer and angiosperm  
 pollen, megaspores, dinoflagellates  
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