



Canadian Association of Palynologists
Association Canadienne des Palynologues

NEWSLETTER

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Season's Greetings!

As I settle at the keyboard to write this introduction, I can look back on a topsy-turvy summer. After spending one of the wettest Julys on record in Edmonton, I went off to England where much of the country had suffered through the hottest and driest summer in recent history. Parts of Yorkshire were drier than at any time in the last 500 years, reservoirs were at extremely low levels and, according to reliable informants, water is still being trucked in to a few areas. Having been to several meetings recently where climatic variability and the effect of extreme events have been topics of discussion, I found myself wondering if these unusual seasons might be detectable through the pollen record. I suspect the answer is "probably not", because even the highest-resolution samples will inevitably integrate pollen input from several years. Although, if the English summer had sufficient impact on soil moisture reserves and groundwater recharge, the effects may be felt for several flowering seasons.

It's salutary to remember that, like the blind men and the elephant, our endeavours only give us a filtered glimpse into the past. Residing as I do in an interdisciplinary setting, I am reminded of this every time I go into the field with my colleagues, who are mostly archaeologists. We all look at the same

landscape, but we each see something different. Where an archaeologist sees fire-broken rock and the remnants of a hearth, for example, I see organic residues that might contain charred seeds. Where they see a good place for an ancient campsite, I see an alluvial fan with a recent debris flow. This constant re-evaluation of one's observations and assumptions is a very rewarding aspect of teamwork. However, I always welcome the chance to talk to colleagues in the same field and I had a great opportunity to do that, of course, at CAP-sponsored AASP Meeting in Ottawa. It was truly an impressive and enjoyable event. I found it a real inspiration to "talk pollen" with colleagues for a few days and I arrived back in Edmonton with renewed enthusiasm for palynology.

Many thanks to Ian Campbell and the Canadian Forest Service for assistance with mailing this *CAP Newsletter*. Many thanks to all contributors to this issue: Thane Anderson, Vaughn Bryant, Elliott Burden, Ian Campbell, Martin Head, David Jarzen, Susan Jarzen, Andre Levesque, Glen MacDonald, Francine McCarthy, Pierre Richard, W.A.S. Sarjeant, and Julian Szeicz. My thanks also to Yves Beaudoin for technical assistance. And, as always, my best wishes to you all for the holiday season.

NEW CAP EXECUTIVE 1995-1996

Ian Campbell	President
Rob Fensome	President-Elect
Martin Head	Secretary/Treasurer
Alwynne Beaudoin	Newsletter Editor
David Jarzen	CAP Councillor to IFPS

President's message

MUSINGS OF AN OUTGOING PRESIDENT

Writing this message as Outgoing President of CAP is a little difficult. There is a sense of much left to be done, much that one could contribute and the awareness that much of this work must now pass on to someone else. However, as I write this morning I feel very good about CAP and the future prospects of Canadian palynology. I would like to share these musings with you.

I recently attended the AASP-CAP meeting in Ottawa. What a superb event that was! David and Susan Jarzen deserve high praise indeed. The meeting was particularly stimulating for Quaternary palynologists. Pierre Richard did an outstanding job bringing together a diverse group of scientists working from British Columbia to Newfoundland, from southern Chile to the Canadian Arctic. The geographic and scientific scope was breathtaking. With so many energetic people working on such a diverse topics one must conclude that our discipline is healthy and in good hands.

Following the general sessions, there was a General Meeting of CAP. The energy and commitment of the CAP membership was contagious. Plans were made for the CAP representation at the next IPC and many other facets of the organization were discussed. New and old members traded views in an open and friendly manner. I am sure that everyone came to realize and appreciate the hard work that Martin Head and Alwynne Beaudoin have put into

keeping the organization running. If there was any troubling aspect, it is the relatively low membership. I urge you to continue building this important organization by encouraging colleagues and students to join.

One duty that I had at the CAP Meeting was to turn over the office of President to Ian Campbell. I did this with personal regrets, but with great pleasure for CAP. Ian represents a 'new wave' in Canadian palynology. He has a position at Forestry Canada, degrees in Geology and Botany, and experience in Archaeology and Geography. On top of his research credentials, Ian is fluently bilingual - a real asset in the past and particularly important in the post-referendum bridge building that must be done to make sure CAP represents all Canadian palynologists.

Of course, I left Canada and the Presidency of CAP with some regrets. However, consider the following. Before I started writing this I had a phone conversation with a colleague in Ontario. When I finish this text, I will e-mail it

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to Edmonton where it will arrive almost instantly. I will then go back to my e-mail and read messages from palynologists in western, central and eastern Canada. Later on I can check into what is new on the CAP WWW homepage and then go home and watch political analysis of Canada-Quebec relationships on CNN. We live in a very small world indeed. I take some relief in the fact that I can still remain in close contact with all of my Canadian colleagues and friends in CAP. I hope that you will feel inclined to keep in touch with me - and I promise not to upset anyone by describing the weather down here if you write or call in deepest, darkest winter! Best wishes and best of luck.

Glen MacDonald
Department of Geography, UCLA
California, U.S.A.
Retiring CAP President



INCOMING PRESIDENT'S MESSAGE: PERSPECTIVES ON POLLEN

As an undergrad in Geology, I thought of trees as brown on bottom, green on top, and most readily identifiable from their pollen. Trees were good in that they acted as thermometers and humistats, so their pollen could be used to interpret past environmental changes. Otherwise, trees were really annoying, because they made it harder to see the bedrock.

Later, as a botanist, I started to think of pollen in sediments as an accidental by-product of ecological processes, and climatic fluctuations became only one of many possible influences on a pollen assemblage. I still do not agree that only botanists can be palynologists, but it certainly helps. I also find my geological background invaluable, as it enables me to derive abundant supporting evidence from other aspects of the

enclosing sediments. And after all, as much as pollen is biological in origin, it is still a fossil by the time I get my hands on it.

Being married to an archaeologist, I also see pollen as a potential indicator of the resources available to past societies, and of the impacts those societies may have had on their environments. And as a geographer, I understand the importance of spatial patterning not only of the environment in which the vegetation lived, but also of pollen dispersal and other taphonomic processes. Pollen can also be viewed as a distinctive bioclast, and as an indicator of seasonality or source of deposits.

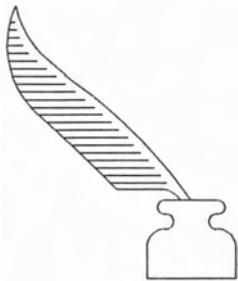
But these are not the only possible perspectives on pollen. Although there are no palynologists left in Canada's oil industry, pollen nevertheless continues to be valuable for biostratigraphy, and it is an important geothermometer. It also provides clues to evolutionary relationships.

Then of course there is melissopalynology, and pollen as the plants intended it: a critical, living component of the reproductive system.

With this incredibly diverse array of perspectives, what holds together an organization like CAP? What can an oceanographer, using pollen to date deep-sea deposits, possibly have in common with a forester, using pollen to examine possible impacts of climate change? A mutual interest in, as Glen MacDonald put it in his keynote address at the AASP in Ottawa, "our wonderful friends, the Pollen Grains".

No matter what your perspective, we can all learn from each other.

Ian Campbell
Canadian Forest Service
Edmonton, Alberta
Incoming CAP President



From the bureaucrat's desk

A large number of CAP members attended the AASP Annual Meeting in Ottawa last month, many of whom participated in the Quaternary Palynology special session convened by Pierre Richard. CAP managed to make some converts at this meeting and hence, on behalf of CAP, it is a pleasure to welcome Gail Chmura (McGill University, Montreal), Bob Clarke (Mobil, Dallas), Douglas Hallett (University of Calgary, Alberta), Arun Kumar (Ottawa), Francine McCarthy (Brock University, St. Catherines, Ontario), Ian Spooner (Acadia University, Wolfville, Nova Scotia), and Julian Szeicz (Queen's University, Kingston, Ontario) as new members.

Dues Due

If your name appears below, a gentle reminder that your membership subscription becomes due at the beginning of 1996 (or became due at the beginning of 1995):

D. Batten, A. Beaudoin, J. Bourgeois (1995), E. Burden, I. Campbell, O. Colmenares (1995), B. Cumming, T. Demchuk, L. de Verteuil, M. Garneau (1995), M. Geurts (1995), C. Hartkopf, T. Irwin, J. Jansonius, D. Jarzen, S. Jarzen, R. Kalgutkar, P. Kuhry, H. Leereveld, J. Lentin, G. MacDonald (1995), G. Mangerud, R. Mathewes, J. McAndrews, C. McGregor, D. McIntyre (1995), F. Neumann, N. Poulsen (1995), C. Rogers (1995), W. Sarjeant (1995), L. Satchell (1995), R. Stancliffe (1995), H. Sullivan (1995), A. Sweet, J. Terasmae, A.

Traverse, R. Turner (1995), B. Van Helden, S. Vardy, and Zicheng Yu.

Please note that CAP membership dues are CAN\$10 per year, payable annually or up to three years in advance. Please make cheques payable to "CAP". Following a decision taken at the CAP AGM in Ottawa (page 8), members whose dues are in arrears for 1995 will not be receiving this copy of the *CAP Newsletter* but a reminder notice. Lapsed members are removed from the CAP mailing list after one year. Funds should be sent to:

Martin J. Head (CAP Secretary/Treasurer)
 Department of Geology
 Earth Sciences Centre
 University of Toronto
 Toronto, Ontario, M5S 3B1
 Tel: (416) 978-5080
 FAX: (416) 978-3938
 E-mail: head@quartz.geology.utoronto.ca



MINUTES OF THE CANADIAN ASSOCIATION OF PALYNOLOGISTS ANNUAL GENERAL MEETING

Thursday, October 12, 1995, 6.00 pm
 Palladian Room, Chateau Laurier, Ottawa

1. Present

G. M. MacDonald (CAP President), T. Anderson, A. B. Beaudoin (Newsletter Editor, Recording Secretary), I. D. Campbell, M. Garneau, M. J. Head (CAP Secretary-Treasurer), J. Jansonius, D. M. Jarzen (CAP Councillor to IFPS), S. A. Jarzen, J. H. McAndrews, F. McCarthy, C. Peñalba, P. J. H. Richard, J. Szeicz, Z. Yu.

2. Opening

The President called the meeting to order at 6.10 pm, welcoming those in attendance. Martin Head distributed the meeting agenda and ancillary documents to those present.

3. Minutes of 1994 Annual General Meeting

The last AGM was held at the GAC Meeting at the University of Waterloo, May 17 1994, but did not have a quorum. In fact, only one person, the President, Elliott Burden, showed up for the meeting. Hence there are no formal minutes from the 1994 Annual General Meeting. It was agreed to accept the various reports presented in the *CAP Newsletter* 17(2): 4-7 (1994) as a statement of the Association's business in lieu of minutes.

4. President's Report

After introducing the Executive, Glen MacDonald, CAP President, opened his report by noting that this was an important AGM for CAP. Palynology is under attack from funding cuts and we can help the discipline to survive by a strong Association. He noted that there has been a continual worrying decline in membership over the last few years and pointed out that we can all help ensure the survival of the Association by encouraging new members, especially graduate students. He reported on an initiative that he had taken over the last year - sending out a "recruiting" letter and sample *CAP Newsletter* to a number of prominent Canadian and other palynologists who have not hitherto been members. As part of our examination of membership, the meeting would have to consider the dues structure.

The President also indicated that this meeting marks important changes in the Executive of CAP. Owing to his move to California, he was tendering his early resignation from the CAP Presidency and so there would be an early change to a new President and President-Elect.

David Jarzen has been CAP's representative to IFPS and his term is also coming to an end.

The President pointed out several factors that indicate a strong and healthy Association. He indicated that the Newsletter is still excellent. Martin Head continues to be a very effective Secretary-Treasurer. The CAP WWW page is another new initiative and is a good resource for palynologists, especially the links to numerous other sites.

The President considered that the great success of the CAP-sponsored AASP Meeting was another tribute to the Association and its members. He singled out the outstanding Quaternary Palynology Session organized by Pierre Richard for special mention.

In conclusion, the President indicated that CAP is certainly going in the right direction and has a solid foundation on which to build. The President thanked the Executive and Members for their support and stated that he still intended to continue participation in the Association and will attempt to encourage some US colleagues to join.

5. Secretary-Treasurer's Report

Martin Head distributed the financial statement to the meeting. (This report is included on p. 8). Martin Head pointed out that on October 2, 1995, CAP had a balance of \$706 in the black. This included a subtraction for prepaid membership dues and for printing the Special Issue of the *CAP Newsletter* for the AASP meeting. Martin Head stated that the present balance was healthy.

6. Membership Report

The membership report was distributed to those present. (This report is included on pp. 11 - 12). Martin Head briefly reviewed the membership structure to the meeting, pointing out the difference between full members (those who are

Canadians or non-Canadians working in Canada) and corresponding members (those outside Canada who have an interest in Canadian palynology but are not Canadians). Martin Head noted that the membership for 1995 stood at 59; this was expected to increase into 1996 with payment of back dues. He highlighted a trend towards declining membership which began in 1992. He remarked that encouraging new members to join CAP will be important for the long-term survival of the organization. In 1995, CAP has had several new members join (see list in Dues Due section, p. 4).

This report generated considerable discussion. Some present asked if they were in arrears; Martin Head undertook to check and report back to those enquiring. Pierre Richard pointed out that reminding those who are in arrears may be

important to keeping members. This was acknowledged to be important. Martin Head raised the issue of payment by credit card, which several members had asked him about prior to the meeting. It was mentioned that AASP members now have the option to pay this way. It makes payment especially easy for overseas members who may not have ready access to foreign money orders or who may have to pay a substantial premium (in some cases, close to the value of the dues) to have a money order issued in Canadian funds. It was felt that this option might help to sustain membership. It was unclear what the charges to CAP involved in instituting this service might be, although several people noted that the charges might make it impractical. Jan Jansonius indicated that the charges to AASP are high and that there has to be a large amount of money involved before the service would be



The CAP AGM. Back row, l-r: Martin Head, Alwynne Beaudoin, Julian Szeicz, Jan Jansonius, Cristina Peñalba, Michelle Garneau, Pierre Richard, Francine McCarthy, Thane Anderson, Jock McAndrews. Front row: Zicheng Yu, Glen MacDonald, Ian Campbell, David Jarzen, Susan Jarzen (Photo: Susan Jarzen)

financially justified. Martin Head undertook to look into this, by enquiring of David Pocknall (AASP Secretary-Treasurer) and report back to the membership through the *CAP Newsletter*.

7. Dues Structure

The discussion then moved into a review of the dues structure. Martin Head reported on some of the factors that should be considered: dues are now payable up to three years in advance, money orders for overseas members are expensive, and production and postage costs for the Newsletter are increasing.

Alwynne Beaudoin distributed to the meeting a detailed breakdown of the production and mailing costs for the Newsletter and made some comments on these figures. For the benefit of those not at the meeting, these are summarized below:

A typical Newsletter (May 1995) weighs 89 g (32 pages + envelope). Mailing charges are as follows: 90¢ within Canada, \$1.17 to US, \$2.25 overseas. Mailing charges substantially increase if the item weighs more than 100 g (\$1.45 in Canada, \$2.23 to US, \$5.05 overseas). To stay under the 100 g limit, the Newsletter cannot exceed 34 pages. Total mailing charges vary, depending on the mix of domestic/US/overseas members, but are usually around \$130/issue.

Sample production costs: Printing only, 30 pages/100 copies is about \$89 + GST. This is a corporate rate and is a good price. Each photograph costs up to \$21.39 to include; this cost comprises production of black-and-white print from a colour slide (\$5.87) and production of a half-tone PMT (\$15.52).

Alwynne Beaudoin pointed out that the major component of the membership dues go towards production of the Newsletter. Mailing charges have increased recently and may go up again soon. The figures above show that one year's dues barely cover the Newsletter costs for an overseas member, especially when IFPS dues are

also factored in. She also pointed out that the actual production costs for the Newsletter can be lower than those given above (e.g., including two photos on a PMT) and that many of the costs are simply absorbed by the Editor and never appear on the balance sheet. She noted that the actual costs, which include postal charges, depend on the relative proportions of domestic/US/overseas members and that there has been a trend for the non-domestic component of membership to increase in recent years. Finally, although CAP's balance sheet may be in a healthy state at present, if costs per member continue to increase, this situation will not last for long. To be pro-active, she suggested increasing the dues now, and suggested \$15/year as a reasonable rate.

This generated much discussion. David Jarzen pointed out that the last dues increase was in 1992 and this was when membership began to decline - perhaps these facts are linked? Susan Jarzen wondered if the Newsletter could be distributed by e-mail to save on postage. Alwynne Beaudoin explained why this is not practical at present (i.e., a text-only version of the Newsletter could be distributed, but it would not have the appearance of the present Newsletter, all the formatting and graphics would be lost. The formatting and layout in particular are printer-specific). She also pointed out that CAP cannot take advantage of bulk mailing rates or any other special postal rates because the numbers we are mailing out are too small.

Francine McCarthy wondered if it might be practical to institute a differential fee for US or overseas members. This suggestion was discussed extensively. Martin Head felt that it would be complicated to administer. Ian Campbell also felt that raising dues for overseas members was not a good idea and might discourage participants.

Other suggestions were raised for decreasing the postal charges. Jan Jansonius suggested

reducing the size of the Newsletter or dispensing with an envelope. Alwynne Beaudoin pointed out that mailing charges are constant for items weighing 30 - 100 g, i.e., to get cheaper postal rates we would have to decrease the Newsletter so that it weighed less than 30 g or about 8 - 10 pages (4 sheets of paper). It was felt that reductions on this scale were not warranted, especially as the Newsletter is the main benefit of membership. Jan Jansonius further suggested that US-bound Newsletters could be sent to the US and mailed from there to take advantage of cheaper rates, similarly overseas-bound Newsletters could be shipped to a correspondent in Europe for mailing. Martin Head felt that this would create confusion and might not save much because the bulk package would still require shipping.

Alwynne Beaudoin pointed out that we have traditionally carried members in arrears for at least a year (recently reduced from two years) and that this resulted in substantial costs. Martin Head noted that many members in arrears do pay up eventually, and often pay for several years at once. However, in present circumstances, it was felt that this policy was no longer practicable. Jan Jansonius suggested that members should not be carried for a full year. After further discussion, Glen MacDonald proposed that the grace period should be decreased to one issue (i.e., May issue of the year in which dues are in arrears). Seconded by Alwynne Beaudoin. This was carried unanimously. It was suggested that those in arrears should receive a reminder letter in lieu of the December Newsletter issue. [Editor's note: This policy has been instituted with this issue].

Jock McAndrews enquired what proportion of the membership was from overseas and how a \$15 annual dues figure was arrived at. Alwynne Beaudoin acknowledged that the figure was proposed as a reasonable figure and was not based on any detailed computation of future costs. Pierre Richard noted the importance of

encouraging more domestic members. Jan Jansonius indicated that he felt that at \$15/year, CAP membership might not look like such a good deal and would be of marginal value compared to the AASP dues (\$30 USD/year which includes the *AASP Newsletter* and *Palynology*). Martin Head felt that with the present financial situation, we could carry on at the current dues level for another year.

David Jarzen wondered whether some institution might be able to absorb the Newsletter mailing costs. Ian Campbell undertook to explore this option when he takes over as CAP President.

Glen MacDonald then summarized the general consensus of the meeting: that CAP should maintain the present dues structure for another year, that CAP should explore cost-cutting measures, and that CAP should undertake a vigorous membership drive. No formal vote was taken but this proposal was accepted unanimously.

8. Newsletter Editor's Report

This report was distributed to those present and the salient points are reproduced on p. 11. Alwynne Beaudoin reported that the Newsletter was in a healthy state, with many contributors, although she welcomed more input from the membership. She noted the continual support from a number of outstanding contributors, especially David Jarzen and Martin Head, and thanked all contributors for their assistance. She thanked the meeting for their many complimentary remarks about the Newsletter but emphasized that this is mainly due to the high quality of the contributions to the Newsletter.

Alwynne Beaudoin noted the innovation of the CAP WWW page and its general popularity and success. On this topic several points were raised. Martin Head asked if the WWW page could include a list of Canadian palynology theses, because this information is often not

readily available, and noted that the statistics button needed updating. Alwynne Beaudoin undertook to correct this and indicated that a list of theses could be included. Pierre Richard noted that his palynology lab was developing a WWW page and asked about including a link to the CAP page within it.

9. Report from CAP Councillor to IFPS

This report was distributed to those present and is reproduced on p. 14. David Jarzen (CAP Councillor to IFPS) noted that CAP required a strong presence on the international palynological scene and especially at the upcoming IPC in Houston. He pointed out that he had served two terms as CAP's representative to IFPS and a replacement is needed. This new IFPS representative would take over at the closing ceremony of the IPC.

10. Selection of new IFPS Councillor

Because CAP currently does not have a nominating committee, Martin Head indicated that he proposed Julian Szeicz as the next

representative to IFPS. Glen MacDonald seconded this proposal. Glen expressed his pleasure at this nomination, not only because Julian Szeicz was formerly his student, but because the suggestion had been made independently by other CAP members. He emphasized that Julian Szeicz is an outstanding young palynologist and will be a fine representative for CAP. He summarized Julian Szeicz's career and status, especially his international experience. There were no other nominations from the meeting and so Julian Szeicz's nomination was accepted by acclamation.

David Jarzen and Julian Szeicz commented on the situation if the IFPS Councillor cannot attend an international meeting, because of funding constraints or other commitments. Julian Szeicz indicated that he was willing to accept the position, with the proviso that if he cannot attend an international meeting at which an IFPS meeting will occur, then CAP would appoint a proxy to attend on his behalf (this could be another CAP member who would be at the meeting, for example). It was agreed that this was reasonable.

David Jarzen noted that the other main expense of being CAP's IFPS Councillor is the mailing costs for *PALYNOS*. Julian Szeicz undertook to explore the possibility of his home department covering these costs. Glen MacDonald suggested that the CAP President could



The CAP Executive getting down to some serious discussions! L-R, Julian Szeicz, Alwynne Beaudoin, Martin Head, and Glen MacDonald (Photo: Susan Jarzen).

write a letter to Queen's to encourage help for *PALYNOS*. The meeting then offered congratulations to Julian.

11. Appointment of new President-Elect

Glen MacDonald noted that the lack of an AGM last year had left CAP in an anomalous situation with respect to the Executive. Ian Campbell had been nominated as President-Elect but no formal vote had been taken at the last AGM. With Glen's early retirement as President, the President-Elect would normally assume the Presidency automatically. After some discussion of this situation, the meeting confirmed the nomination of Ian Campbell as President-Elect, to take over from Glen MacDonald as President, effective at this AGM.

Martin Head had examined the CAP bylaws with respect to this situation, which was not covered explicitly in the present bylaws. However, the Executive is empowered to appoint someone to replace the President-Elect. Martin Head indicated that Rob Fensome had expressed interest and a willingness to accept the nomination, if asked. Martin Head summarized Rob Fensome's involvement with CAP, noting his service as CAP Secretary-Treasurer for many years, and that he had drafted the CAP bylaws. His status as a scientist of international stature and repute was emphasized. Among other achievements, a monograph on dinoflagellates, of which he was principal author, had recently received the prestigious Golden Trilobite Award of the Paleontological Society. The CAP Executive enthusiastically endorsed the proposal of Rob Fensome as President-Elect.

In clarification, Glen MacDonald has resigned as CAP President half-way through the 1995-96 term. Ian Campbell has taken over as CAP President for the remainder of the term. Rob Fensome has taken over as President-Elect. These positions will be confirmed at the next AGM (1996) when there will be a call for other

nominations for the next term. No formal Nominating Committee was appointed by this meeting.

12. Appointment of Auditor

Geoff Norris has been CAP's auditor for many years. Martin Head reported that Geoff Norris had agreed to continue in this capacity. Accepted by the meeting.

13. Location of AGM for 1996

Martin Head will contact Doug Nichols to arrange a time and place for the next CAP AGM during the IPC in Houston. A survey of those at the meeting showed that several of the CAP Executive were planning to attend the IPC as were several other members. It was felt that there would be sufficient CAP members there to form a quorum. Martin Head was directed to check the bylaws to see how many attendees are required for a quorum.

14. Other business

Jan Jansonius, as AASP Councillor to IFPS, drew the attention of the meeting to several concerns with respect to arrangements and funding of IPC meetings. He noted that there is at present no requirement for a local IPC committee to provide full accounting to IFPS for the meeting. Hence there is no way to check whether IFPS is receiving full funds from any surpluses generated by the IPCs. Alternatively, there would be no way to verify a loss. This unfortunate situation has led to some unpleasantness in the past. The meeting expressed general surprise and alarm at this situation. David Jarzen emphasized that it is important for the CAP Councillor to IFPS to have an opinion on this matter. He noted that the IFPS bylaws need amending to ensure proper accounting. This cannot take place until the next Plenary session (i.e., 4 years from now). David Jarzen provided the meeting with further background on this situation, drawn from his

experience with IFPS. David Jarzen will ensure that it is placed on record at the next IFPS meeting that the books from IPCs should be submitted to IFPS for record and verification. David Jarzen informed the meeting that copies of the IFPS bylaws are available from Owen Davis.

David Jarzen suggested that the new CAP Executive should check into CAP's bylaws to see if they need some refinement about election of officers, to ensure that the present situation does not arise again.

15. Closing of meeting

Glen MacDonald then thanked everyone for attending the CAP AGM. He proposed a vote of thanks to the continuing members of the CAP Executive, David Jarzen, Martin Head, and Alwynne Beaudoin. He then proposed a vote of thanks to the new members of the CAP Executive, Ian Campbell and Julian Szeicz. Glen MacDonald indicated that he felt he was leaving the Presidency in good hands. General applause. The symbolic gavel was passed on. Ian Campbell thanked the meeting for their confidence. There being no further business to discuss, the meeting adjourned at 7.36 pm, followed by a group photograph, taken by Susan Jarzen.



NEWSLETTER EDITOR'S REPORT

The *CAP Newsletter* has again had a very successful year, with two substantial issues in December 1994 and May 1995. The *CAP Newsletter Special Issue* produced for this AASP Meeting is especially noteworthy. I would like to take this opportunity to thank all the contributors to these issues and encourage all CAP members and palynologists to consider contributing to future Newsletters.

In my opinion, one major factor in obtaining material for the Newsletter has been the remind-

ers that I have sent out to all CAP members with e-mail addresses just prior to the Newsletter deadlines. I have set up an e-mail mailing list which allows me to reach a large number of people very easily and quickly.

Production costs for the Newsletter have increased substantially over the last year and mailing costs have increased again recently. I will be providing the meeting with a summary of the Newsletter costs for their review. If members want the Newsletter maintained in its present format and style, these figures carry several implications. I believe the policy of carrying CAP members who do not pay their dues for two years can no longer be sustained. In addition, these figures suggest that it is time to debate a dues increase.

As a spin-off from the Newsletter, I have established a World Wide Web page for CAP. This has also been a successful venture, judging from the feedback I have received. The Web page allows more informal and flexible ways of communicating information than the Newsletter because it can be updated and changed easily. I see this as an adjunct to, not a substitute for, the Newsletter. I welcome comments and suggestion on this presentation.

Unless these are objections, I am willing to continue serving as *CAP Newsletter* Editor and maintain the Web page for another year.

Alwynne Beaudoin
Edmonton, Alberta



CAP MEMBERSHIP REPORT

On October 2, 1995, CAP had a total of 59 members in good standing, comprising 43 full members, 14 correspondents, and 2 institutional members (see Chart and Table). The chart shows a decline in total membership that has continued since 1992 with the loss of 35 members. I

believe this downward trend reflects the shrinkage of industry and academic job markets on both sides of the Atlantic; not the benefits of CAP membership which remain very attractive through low subscription rates and two excellent issues of the *CAP Newsletter* each year.

Respectfully submitted by:
 Martin J. Head
 CAP Secretary/Treasurer

Paid up to 1993 (inclusive):

Full members	52
Correspondents	22
Institutional Members	5
TOTAL MEMBERSHIP	79

Paid up to 1994 (inclusive):

Full members	51
Correspondents	14
Institutional Members	5
TOTAL MEMBERSHIP	70

Paid up to 1995 (inclusive):

Full members	43
Correspondents	14
Institutional Members	2
TOTAL MEMBERSHIP	59

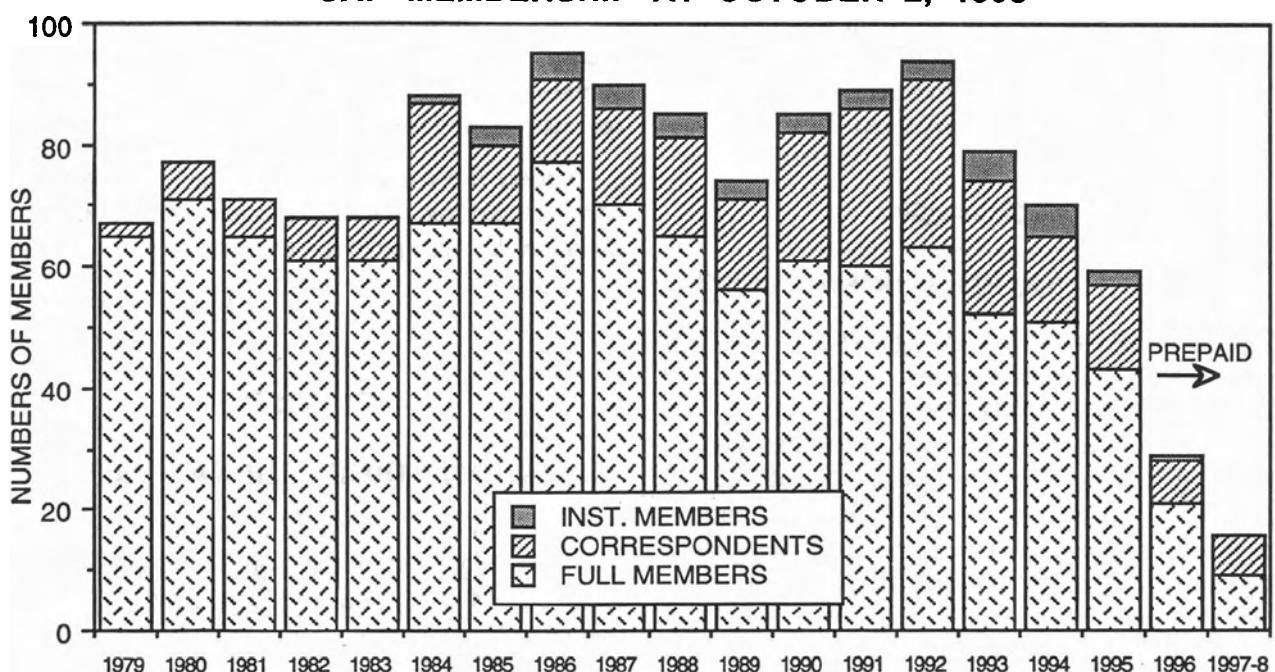
Prepaid 1996 (inclusive):

Full members	21
Correspondents	7
Institutional Members	1
TOTAL MEMBERSHIP	29

Prepaid 1997-98 (inclusive):

Full members	9
Correspondents	7
Institutional Members	0
TOTAL MEMBERSHIP	16

CAP MEMBERSHIP AT OCTOBER 2, 1995



SECRETARY/TREASURER'S REPORT

FINANCIAL STATEMENT
(for the period November 14, 1994 to October 2, 1995)**Credits:**

Balance forward (November 12, 1993)	\$1636.74
Other credits:	
Dues and subscriptions	483.62
Interest	1.49
Miscellaneous donation	40.00
Total credits:	<u>\$2161.85</u>

Debits:

Production charges for winter 1994 Newsletter	-\$38.09
Postage for winter 1994 Newsletter	-270.98
I.F.P.S. dues	-151.87
Production & mailing charges for spring 1995 Newsletter	-246.45
Returned cheque	-20.00
Miscellaneous payment	-10.00
• Printing of special issue of 1995 Newsletter	-267.66
Prepaid membership subscriptions (1996-98) (45@10.00)	-450.00
Total debits:	<u>-\$1455.05</u>

BALANCE:**\$706.80**

On October 2, 1995 funds in the CAP account stood at \$1424.46. CAP's account had not at that time been debited for printing of the special issue of 1995 Newsletter (-\$267.66).

Respectfully submitted by

Martin J. Head
CAP Secretary/Treasurer (October 2, 1995)

Statement by appointed auditor

It is my opinion that the above financial statement represents a full and fair account of the financial affairs of the Canadian Association of Palynologists for the above period.

G. Norris
Auditor for CAP (October 3, 1995)

IFPS COUNCILLOR'S REPORT

IFPS activities for 1995 have been somewhat slow. As Councillor, I have not received requests from the IFPS Executive for information or other matters for some time.

PALYNOS continues to be posted to CAP membership with two issues per year. Volume 18(1) June 1995 was posted to 58 paid members of CAP.

Owen Davis, IFPS Secretary/Treasurer, has requested updated information from the palynological community to be included in the second edition of the "World Directory of Palynologists". The Directory will be distributed at the 9th IPC in Houston, June 1996. CAP members who have not updated their address and/or specialty for the directory are urged to contact Owen Davis (Department of Geosciences, University of Arizona, Tucson, AZ 85721, U.S.A., Tel: (602) 621-7953, FAX: (602) 621-2672, e-mail: palynto@ccit.arizona.edu).

Of major concern to the CAP Executive is the need to consider the election or appointment of a Councillor to commence a four-year term beginning at the closing ceremony at the 9th IPC. In August, I wrote to CAP President, Glen MacDonald, outlining the need to elect/appoint a new Councillor.

Preparations are now well underway for the 9th IPC to be held in Houston, Texas, in June of next year. The second circular, detailing hotel accommodations, proposed symposia and special theme meetings, as well as the numerous and exciting field trips, has been distributed and is available on the Internet World Wide Web. For those CAP members who have access to the Internet, the 9th IPC information can be viewed at: <http://www.geology.utoronto.ca/AASP>

Access is case sensitive, and although any web browser can be used Netscape™ provides the most elegant rendering of the layout. This access is the result of the time and handiwork of our own Martin Head. Martin has provided a beautiful job of making the IPC information available to a mass worldwide audience. His efforts are here acknowledged with much appreciation.

Sometime near the end of December 1995, I will receive forms requesting names for nomination of the next President of IFPS. The current IFPS President's term will expire at the close of the 9th IPC. CAP members wishing to suggest names of persons who will agree to serve as President, and who they feel would be appropriate for the position, should do so before the beginning of December. The next President will need to direct the IFPS and its member societies into the next century.

David Jarzen
Ottawa, Ontario
CAP Councillor to the IFPS

AND NOW FOR SOMETHING COMPLETELY DIFFERENT ...

You've all heard of Beatlemania. Can you believe, Pollen-mania? Yes, folks, everything's on the 'net these days. While searching the WWW with "pollen" as a keyword, David Jarzen recently discovered the following site: <http://blondie.lbl.gov/~kac/Pollen/Sound-bites.html> This is the promotional home-page for a band called, you guessed it, "Pollen", complete with sound clips, group pics, and bios. CAP's official rock-band, perhaps?



Far and wide....

CANQUA-CGRG JOINT MEETING AT ST. JOHN'S, NEWFOUNDLAND SPECIAL SESSION IN HONOUR OF DR. JOYCE MACPHERSON

The joint meeting of the Canadian Quaternary Association-Canadian Geomorphological Research Group (CANQUA-CGRG) was held this year in St. John's, Newfoundland, June 3-8, 1995. Of about 110 registrants, 16 were from points outside Canada. The conference featured four special sessions (Paleoenvironmental research, Paleoenvironmental assessment from the physical properties of lacustrine and marine sediments, Arctic Quaternary research, and Geomorphological tests and constraints in ice sheet modelling) and a half-day general session. Norm Catto led a one-day, pre-conference field excursion of the St. John's area and coastal areas to the west and south of St. John's. This was an excellent opportunity to see first hand and learn about the local geology and historical aspects of the Avalon Peninsula. It also gave us an opportunity to get some good photos of the scenic fishing villages in the Avalon and to see and photo huge icebergs up close. Martin Batterson and David Liverman led a most successful four-day post-conference field trip to western Newfoundland which I was unable to attend.

Highlights of the conference were the honoring of Joyce Macpherson for her many years of palynological research in the Department of

Geography at Memorial University and the presentation of the W.A. Johnston Medal to Prof. Paul Karrow, University of Waterloo, for his many years of excellence in Quaternary research. Of interest to us Quaternary palynologists, the Canadian Quaternary Association, at their business meeting, put Pierre Richard (palynology colleague at Université de Montréal) forward as a Vice President of INQUA; unfortunately their bid was later found to be unsuccessful.

The meeting commenced with the Paleoenvironmental Research session in honour of Joyce Macpherson who had just retired after full-time teaching at Memorial University. Over the years, Joyce has focused her pollen studies primarily on east and north-central Newfoundland. She has published papers on the progressive development of the post-Wisconsinan vegetation of these areas. She has had considerable success at understanding the composition of the earliest vegetation and using pollen stratigraphy to determine the rate and sequence of plant migration and the timing of ice retreat on Avalon Peninsula. I had the pleasure of doing joint papers on evidence for the Younger Dryas climatic oscillation in Newfoundland with her and quickly recognized her desire for detail. Priscilla Renouf, in her introductory remarks on Joyce, commented on joint pollen-archeological studies that she and Joyce are undertaking in western Newfoundland. Priscilla was gracious in acknowledging Joyce's expertise in pollen research, her contributions at Memorial University and her keen enthusiasm towards field work. Joyce seemed quite pleased and a little surprised with the honor bestowed upon her. On the second day of the meeting, Joyce had the pleasure of introducing the keynote speaker, John Andrews, who discussed Quaternary ice sheet/ocean interactions in the North Atlantic.

Papers and posters presented in the Paleoenvironmental research session were varied; all dealt with paleoenvironmental reconstruction of late-

glacial and Holocene deposits. These were followed by talks and posters which summarized specific research activities within the Canadian Working Group of IGCP-374 dealing with the physical properties of lacustrine and marine sediments.

Papers and posters in the special session on Quaternary research in the Arctic dealt with several syntheses on glacial and Holocene history, present and past changes in ground ice, vegetation and paleolimnological changes as seen by pollen and diatom evidence, respectively, and general comments on arctic archaeology and climate. The special session on ice sheet modelling generated much interest and lively discussion. Several criteria for estimating the extent, volume and flow directions of the Laurentide Ice Sheet were presented. Other papers dealt with hydrological changes associated with deglaciation of the Laurentide Ice Sheet and the significance of meltwater storage (as depicted in the proglacial hydrological record) and meltwater outbursts (as depicted by geomorphological and sedimentary evidence) to test the validity of the ice sheet models.

This was a well organized and carefully planned meeting. I and other palynologists were happy to have travelled to St. John's to be part of this occasion to honour our colleague Joyce. The talks and posters were of high calibre and generated much discussion. Norm Catto, as overall chairman, should be commended for keeping everything and everyone focused and the meeting and supplementary activities on schedule. Quaternarists who went on the 4-day post-conference field excursion were impressed with the geology and scenery of western Newfoundland. I was informed that Martin Batterson and David Liverman ran a highly organized trip touching on Quaternary stratigraphy and features at key sites and keeping the trip on schedule. Finally, superb lobster, pleasant conversation and lively entertainment combined to make a great evening at the banquet which was held at a local golf club.



Ottawa Canada a CAPital experience

I attended my first-ever AASP meeting this year with two of my honours students from Brock University. We all enjoyed ourselves tremendously through the technical program and the Saturday field excursion to the Champlain Sea deposits. There was a wide variety of excellent research papers at the meeting, including two special sessions, "Dinoflagellates and acritarchs of Mesozoic-Cenozoic oceans and marginal seas", convened by Geoff Norris and Martin Head, and "Quaternary Palynology", convened by Pierre Richard, a general session, and posters on various topics.

Glen MacDonald delivered a wonderful keynote address that reminded us all of the "challenges and opportunities in Quaternary palynology"; it was a great way to start the Quaternary session in particular, and the AASP meeting as a whole. Since it was the first scientific meeting my students had attended, that general presentation with glimpses at the vast expanse of interesting research that still remains had tremendous impact on them.

The rest of the Quaternary Palynology session had a fascinating mix of talks on pollen from the Canadian High Arctic to the coastal rainforests of Chile, from the mountains of British Columbia to the North Atlantic abyss. The session on dinoflagellates and acritarchs was organised stratigraphically, with talks dealing with the early Jurassic through the early Pleistocene. The general session, of course, had the greatest diversity, with talks dealing with everything from dinosaur's lunches to a Persian-period shipwreck's cargo.

The venue (Chateau Laurier) was wonderful, and the weather could NOT have been nicer (at least until the Saturday field trip), with temperatures in the mid to high 20's! Fortunately, the rain held off until the end of Saturday afternoon, by which time Rosemary Askin was already wet from having fallen into the creek where we were all involved in a scavenger hunt for nodules. Stephen Cumbaa and Clayton Kennedy had shown us many nodules at the Canadian Museum of Nature earlier in the day (a large number of which had been collected over the years by a former Brock student) which all collected wonderful fossils of fish, plants, etc. Unfortunately, our nodules were mainly devoid of fossils, although we had immense fun collecting and breaking them! We enjoyed the field stops and the visit to the museum, including "behind the scenes." There's nothing that could be improved upon in our trip to Ottawa, except maybe for the long drive back to St. Catharines in the rain.

Francine McCarthy
Brock University, St. Catharines



PALYNO-LIT: THE SYMMETRY OF POLLEN

... The triangles, ovals, trefoils and eared circles of pollen are minutely perfect. The pollen grain of chicory — an outer and inner hexagon united by rays — is a rose-window in a shrine of lapis-lazuli. It needs no light behind it, for it illuminates itself. Within is no mere painting, but a powerful principle, an active creature, the architect of next year's sky-blue temple. There is a striking unity in some flowers between the shape of the pollen grain and that of the calix and corolla. The open chicory flower and the pollen grain are both polygonal and rayed from the centre. The pollen grain of the passion flower — like a round filigree box with a lid — is almost exactly the same in construction as the centre of the flower with its enamelled cut-work of stamen, stigma and filament.

From: *The Spring of Joy* by Mary Webb, originally published by J.M. Dent and Sons, 1917, reprinted by Wildwood House, London, 1982, pp. 94-95.



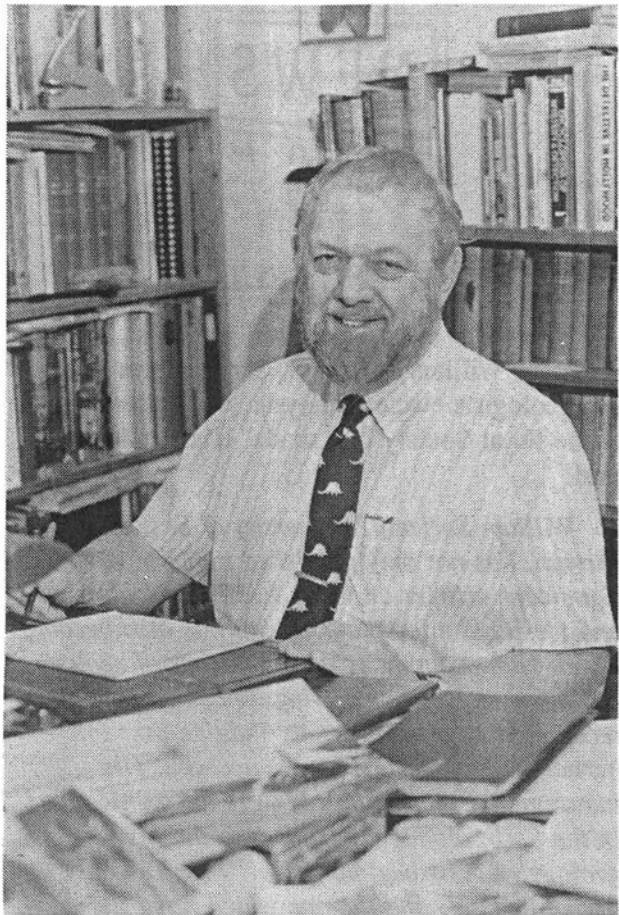
NEW RSC FELLOW

University of Saskatchewan geologist Professor William Antony S. Sarjeant was one of two geologists elected this year to a Fellowship of the Royal Society of Canada. His citation read:

William Sarjeant, University of Saskatchewan, has not only published numerous significant articles on fossil vertebrate footprints and fossilized microplankton but has also become a well-known authority on the history of geology. His book on fossil and living dinoflagellates is recognized as a leading text. Publications on acritarchs have received wide acclaim. His international bibliography covers all publications in the Latin alphabet pertinent to the history of geology from its beginnings to 1984. The only one of its kind, and the one which has brief biographies of authors as well as references, it has become an invaluable research tool for geologists and historians alike.

Professor Sarjeant has been a member of the Faculty of the Department of Geological Sciences, University of Saskatchewan, since 1972. He was a joint recipient of a Golden Trilobite Award from the Paleontological Society for his participation in the writing of *A Classification of Living and Fossil Dinoflagellates* and has also received the Sue Tyler Friedman medal of the Geological Society of London, the Founders' Medal of the Society for the History of Natural History and the History of Geology Award of the Geological Society of America. Under the pen-name Antony Swithin, he has

CANQUA AWARDS



Professor William A. S. Sarjeant

published four novels of historical science fantasy, under the series title "The Perilous Quest for Lyonesse". A second Supplement to his bibliography of *Geologists and the History of Geology*, in three further volumes, is scheduled for publication early in 1996.

[Editor's note: The preceding news item and photograph were submitted by Dr. Sarjeant. I am sure all CAP members join with me in offering him sincere congratulations on this honour.]

During the biennial meeting of CANQUA (Canadian Quaternary Association) held June 5th -7th at Memorial University of Newfoundland, the following awards were given to Rod SMITH and Bianca FRECHETTE, respectively for the best oral presentation and the best poster presentation made by students: Rod Smith (University of Alberta): Late-Quaternary Glaciation And Ice Dynamics on the Hazen Plateau, Northern Ellesmere Island, and Bianca Frechette (Université de Montréal): Pollen-rich Inorganic Lake Sediments in the Cratère du Nouveau-Québec Area, Ungava: An Attempt to Assess Primary and Secondary Pollen Grains. Both are to be warmly congratulated!

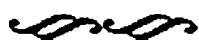
The abstract of Bianca's paper is as follows:

Pollen-rich Inorganic Lake Sediments in the Cratère du Nouveau-Québec Area, Ungava: An Attempt to Assess Primary and Secondary Pollen Grains by Bianca Frechette, Département de géologie, Université de Montréal, Québec, Canada, H3C 3J7

Basal inorganic fine-grained sediments of lakes from glaciated regions derived from the catchment through early postglacial erosion are generally low in palynomorph content. In contrast, the basal silty part of the postglacial sediments of two lakes from the Cratère du Nouveau-Québec area, Ungava shows outstandingly high pollen concentrations. Previous work has indicated that these unexpected high pollen concentrations are the result of early postglacial washing of a pollen-bearing till in the catchment area. The till probably incorporated pollen by cumulative recycling of interstadial and/or interglacial pollen-bearing sediments, preserved beneath the glacial ice divide zone, which repeatedly occupied Ungava throughout successive glacial events of the Wisconsinan time. The pollen content of the basal, inorganic segment of these cores is thus a mixture of

pre-glacial pollen grains from eroded surficial deposits (so-called 'secondary pollen grains') and airborne and waterborne pollen grains from scattered contemporaneous local, regional and extra-regional vegetation (so-called 'primary pollen grains'). The present research attempts to decipher the secondary pollen grains from the primary ones with the use of numerical comparative analytical tools. Multidimensional scaling analysis, which allows a high-resolution comparison between fossil and modern pollen spectra, suggests that the pollen grains are dominantly pre-Wisconsinan. The pollen content of these lacustrine silts therefore may reflect mainly the vegetation of the last interglacial stage, which according to the observed assemblages, is indicative of a somewhat milder climate.

Submitted by: Pierre J.H. Richard
Montreal, Quebec, Canada



AASP AWARDS

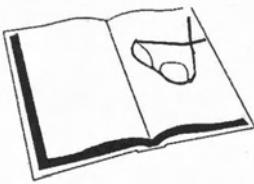
Two students, both members of CAP, were given awards during the recent 28th AASP Meeting in Ottawa. Florin Neumann (University of Toronto) was given the AASP Best Student Paper award for his presentation, co-authored with Geoffrey Norris (University of Toronto), entitled "Copepod Remains in Palynological Preparations from DSDP Site 502 (Leg 68, Columbia Basin, Western Caribbean Sea)". The Best Poster award went to Zicheng Yu (University of Toronto) and Jock McAndrews (Royal Ontario Museum and University of Toronto) for their presentation on "Postglacial Paleohydrology at Crawford Lake, Ontario: Dry Climate Triggered Mid-Holocene Hemlock Decline?" The awards were announced during the AASP Business Luncheon to an appreciative audience. Our congratulations to all the authors!



Florin Neumann (r) accepting the AASP Best Student Paper Award from AASP President, Reed Wicander, in Ottawa.
(Photo: Susan Jarzen)



Zicheng Yu (r) accepting the award for Best Poster Presentation from AASP President, Reed Wicander.
(Photo: Susan Jarzen)



On the shelf

RECENT PUBLICATIONS BY CANADIAN PALYNOLOGISTS - 4

Case, R. A., and G. M. MacDonald, 1995. A Dendroclimatic Reconstruction of Annual Precipitation on the Western Canadian Prairies Since A.D. 1505 from *Pinus flexilis* James. *Quaternary Research* 44:267-275.

Garneau, M., 1995. Reference Collection of Seeds and Other Botanical Macrofossils From Arctic Canada. Open file 3049. Geological Survey of Canada. 19 pp.

Mott, R. J., 1994. Wisconsinan Late-glacial Environmental Change in Nova Scotia: A Regional Synthesis. *Journal of Quaternary Science* 9:155-160.

Mott, R. J., and R. R. Stea, 1993. Late-glacial (Allerød/Younger Dryas) Buried Organic Deposits, Nova Scotia, Canada. *Quaternary Science Reviews* 12:645-657.

Pellatt, M., and R. W. Mathewes, 1994. Paleoecology of Postglacial Tree Line Fluctuations on the Queen Charlotte Islands. *Écoscience* 1:71-81.

Szeicz, J. M., and G. M. MacDonald, 1994. Age Dependent Tree-ring Growth Responses of Subarctic White Spruce to Climate. *Canadian Journal of Forest Research* 24:120-132.

Szeicz, J. M., G. M. MacDonald, and A. Duk-Rodkin, 1995. Late Quaternary Vegetation History of the Central Mackenzie Mtns., N.W.T., Canada. *Palaeogeography, Palaeoclimatology, Palaeoecology* 113:351-371.

Géographie physique et Quaternaire, Special Issue: Paleogeography and Paleoecology of 6000 yr BP in Canada, edited by Hélène Jetté. Volume 49, No. 1.

Canadian palynologists have made a major contribution to a recent research initiative focussing on the 6 ka interval. Among the twelve papers in this volume are the following contributions by CAP members:

Jetté, H. A Canadian Contribution to the Paleoclimate Model Intercomparison Project (PMIP). pp. 4-12

Cwynar, L. C., and R. W. Spear. Paleo-vegetation and Paleoclimatic Changes in the Yukon at 6 ka BP. pp. 29-35.

MacDonald, G. M. Vegetation of the Continental Northwest Territories at 6 ka BP. pp. 37-43.

Hebda, R. J. British Columbia Vegetation and Climate History with Focus on 6 ka BP. pp. 55-79.

Vance, R. E., A. B. Beaudoin, and B. H. Luckman. The Paleoecological Record of 6 Ka BP Climate in the Canadian Prairie Provinces. pp. 81-98.

Anderson, T. W. Forest Changes in the Great Lakes Region at 5-7 ka BP. pp. 99-116.

Richard, P.J.H. Le Couvert Végétal du Québec-Labrador il ya 6000 ans BP: Essai. pp. 117-140.

Jetté, H., and R. J. Mott. Vegetation and Climate of Maritime Canada 6000 years BP: A Synthesis. pp. 141-162.

Macpherson, J. B. A 6 ka BP Reconstruction for the Island of Newfoundland from a Synthesis of Holocene Lake-sediment Pollen Records, pp. 163-182.

The remaining papers focus on the eastern Canadian Arctic (Williams, Short, Andrews, Jennings, Mode and Syvitski), and permafrost distribution in west-central Canada (Zoltai).

NEW BOOKS

Wang Fuhsing *et al.*, 1995. *Pollen Flora of China*. 2nd edition. Science Press, Beijing, PRC. 461 pp., 205 plates (Chinese version). Price: \$89 USD.

The main contents include: Descriptions of pollen morphology, and their distribution in China, ecological habitat; 121 families, 912 genera and over 1400 species of pollen are described and illustrated (with both Chinese names and Latin names).

Zhang Yulong *et al.*, 1990. *Spore Morphology of Chinese Pteridophytes*. Science Press, Beijing, PRC. (English version: 592 pp. + 101 plates, price: \$100 USD. Chinese version: 451 pp. + 101 plates, \$40 USD)

In this book, the authors systematically described the morphology of spores of over 1000 species representing 175 genera and 52 families. The illustrations include 119 text-figures (line-drawings) of spore types, 89 plates of photo-micrographs of extant spores, and 12 plates of fossil spores. The main contents are: geographic distribution of extant pteridophytes in China; distribution of fossil fern spores in geological periods; general spore morphology of pteridophytes; spore types of pteridophytes; description of spore morphology in all families of pteridophytes.

Postage: surface mail: \$15 (each book), air mail: \$25 (each book) (USD). If you are interested in either of the books, please contact:

Dr Changqing Song
Palaeobotany Section
Institute of Botany
Beijing 100093
P.R. China

[Editor's note: This message was posted to the QUATERNARY discussion list]

Johnson, D., L. Kershaw, A. MacKinnon and J. Pojar, 1995. *Plants of the Western Boreal Forest and Aspen Parkland*. Lone Pine Publishing and Canadian Forest Service, Edmonton. 392 pp. ISBN 1-55105-058-7 [softcover] \$24.95 Can or \$19.95 USD

The book includes more than 800 colour photographs and about 900 line drawings of plants from the boreal zone. It covers the area from Alaska, Yukon, British Columbia to western Ontario. Besides descriptions and photographs, many of the entries contain notes with additional information, such as an explanation of the botanical name, and ethnobotanic details. The publisher has a toll-free phone number: 1-800-661-9017 and a toll-free FAX number: 1-800-424-7173.



Kirk, William, 1994. *A Colour Guide To The Pollen Loads Of The Honeybee*. IBRA, Cardiff, UK, softcover/spiral bound, 54 pp. ISBN 0-86098-216-5. £13.50 plus £1.35 for surface mail or £2.00 for airmail (sterling).

Being able to identify the plants producing the pollen collected by your bees is vital for unlocking important information about beekeeping in your area. This guide contains a key of over 500 colours, and describes the pollens of 268 plant species. While these are all European species, many are common in other parts of the world. The text is given in English, French and German.

Please send payment with order, either cheque or credit card (Visa/Access/Mastercard/Eurocard). Please send orders to:

Sue Warburton
IBRA Publications Sales
International Bee Research Association
18 North Road
Cardiff, CF1 3DY, Wales, UK

Jones, G. D., V. M. Bryant Jr., M. H. Lieux, S. D. Jones and P. D. Lingren, 1995. *Pollen of the Southeastern United States: With Emphasis on Melissopalynology and Entomopalynology*. AASP Foundation Contribution Series Number 30, 76 pages + 104 photographic plates. ISSN 0160-8843. \$27.00 USD.

Some CAP Newsletter readers may recall the article I submitted for the December 1994 issue of the Newsletter on "Palynology and the Mole Cricket" (Volume 17, Number 2). In that article I discussed a project that I was working on with researchers at the University of Florida. We were attempting to identify pollen adhering to, or in the gut of, flies (*Ormia depleta*) that were predators on the destructive mole cricket. My problem in identifying the pollen, was that most of the pollen found was external, that is, adhering to the head area of the flies. SEM photographs were my source for most of the identifications. Until the publication of the Jones, Bryant, *et al.* Atlas, my source of comparative SEM photographs was indeed very limited.

The very purpose of developing the Atlas, as stated by the authors, "...to assist research involving the association of pollen and insects..." certainly fit the work I was doing and has already proven to be a valuable addition to my library. Even before I began using the Atlas, I was struck by the utility and format of the publication. The Atlas is hardcover, spiral bound, with large size pages (Palynology format) and opens flat; a real bonus when flipping back and forth through the pages and making comparisons through the 'scope or with numerous photographs.

The main text of the Atlas discusses the availability of other atlases, their strengths and limitations; the methods and procedures used in preparing pollen used in the plates; and a discussion on the value (necessity really) of collecting voucher specimens and collecting pollen samples from prepared herbarium

material. This latter section on the use of herbarium material I found very well written, and of major concern to palynologists.

Herbarium curators are sometimes a cautious lot, and tend to fear the onslaught of palynologists eager to obtain a supply of modern pollen for their reference collections. I have visited many of the world's larger herbaria and often needed to spend considerable time assuring the curators that I would not damage or "rape" the sheets of all flowers or spore-bearing material. Jones, Bryant *et al.* have clearly outlined the steps needed to make the necessary collections of polliniferous material, while at the same time protecting the herbarium specimens. Palynologists could refer curators to this section of the Atlas before collecting specimens, as an indication that we are professionals and respect the needs of the herbarium staff and collections.

Most of the Atlas is devoted to the plates (104) and listings of the photomicrographs, searchable in a variety of ways. A family list itemizes the species illustrated, their pollen ornamentation and aperture configuration. A second list is quite similar but is referenced by genus, species and infraspecific ranks investigated within that genus. These lists provide a quick reference to the pollen types expected within a given taxon. Lists of aperture type and ornamentation type follow and give an overview of taxa sharing the same or similar morphological features. A final list sorts all pollen types by micrograph number. Jones, Bryant *et al.* have opted to make our search for a taxon, its pollen type and ornamentation as easy as possible.

The 104 black and white plates illustrate pollen specimens of excellent quality, in both polar and equatorial orientation, with each individual micrograph bearing its own bar scale. The plates are arranged by surface ornamentation type from psilate through to reticulate. Thus, similar pollen types are found near each other,

again facilitating comparisons. In some ways this replaces the usual "key to pollen types" of other atlases, by providing a "visual key."

Overall I found the Atlas extremely valuable for my work, and urge all palynologists concerned with making comparisons of their "unknown" pollen forms with modern pollen taxa, to add this Atlas to their libraries. As a closing note, I must comment on the cover micrograph selected by the authors. The photograph is that of seven pollen grains of *Helianthus annuus* L., arranged in a closed circle of six grains with the seventh grain placed neatly in the center of the circle. The grains are all in perfect, clean condition, and aligned with geometric accuracy. What is truly remarkable about this photograph is that the arrangement of the grains was a purely serendipitous occurrence!! What an Atlas !!

David M. Jarzen
Canadian Museum of Nature
Ottawa, Ontario, Canada



Farrar, John Laird, 1995. *Trees in Canada*. Fitzhenry and Whiteside Ltd. and the Canadian Forest Service. x + 502 pp. ISBN 1-55041-199-3. \$45.

This book is the successor to the popular *Native Trees of Canada*, which has been a standard reference work for many years. The 300 tree taxa described are arranged into 12 groups, primarily on the basis of leaf shape and arrangement on the twig. Taxa include native and introduced trees. Most entries contain a distribution map, descriptions, notes, drawings, photos, and "Quick Recognition" hints. The price is very reasonable, given the number of colour illustrations and the contents. [Editor's note: If you look around, you may find it for less - I obtained my copy from a large discount store for \$22.99, a solitary solemn tome nestling among the thrillers and romances!]



palyno bytes

WORLD PALYNOLOGY E-MAIL DIRECTORY ON WWW

A global e-mail directory of palynologists (paleo- and actuo-) is being compiled on the web site of the American Association of Stratigraphic Palynologists (AASP), at: <http://opal.geology.utoronto.ca:80/AASP/aaspemail.html>

Palynologists need not be members of AASP to appear in this directory. The directory also contains links to personal home pages. If you are not on this directory, but wish to be, please e-mail me a short message with:

- 1) your full name (upper cased, e.g., SMITH, JOHN B.), 2) your e-mail address, 3) if available, your personal home page address.

The purpose of this initiative is to simplify and broaden communication within the palynological community. There is no charge for listing. This directory will be maintained and updated regularly, and entries added, deleted, or changed promptly on request. Of course, you need not be connected to the WWW to have your e-mail address listed in the directory.

Martin J. Head
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FAX: (416) 978-3938
E-mail: head@quartz.geology.utoronto.ca

HERB-L: A DISCUSSION LIST FOR PEOPLE INTERESTED IN HERBARIA

Subject: Matters that relate to herbaria of the Pacific Northwest and/or Intermountain Region (USA).

List address: HERB-L@idbsu.idbsu.edu

List owner: Jim Smith (Boise State University, Idaho, USA).

How to subscribe: Send to listserv@idbsu.idbsu.edu an e-mail message (with a blank subject line) containing only the following line: subscribe HERB-L your name

[Editor's note: This information was submitted by Dr. Mary Barkworth (E-mail address stipoid@cc.usu.edu) to BEN #112 (Botanic Electronic News)]



UPDATE ON THE CAP WEB PAGE

The CAP WWW page, which was launched on March 8 1995, continues to expand. Following a suggestion by Martin Head at the CAP AGM, I have started compiling a list of Canadian theses, which can be found as part of the *CAP Library* component. I would be grateful for more additions to this list, especially from university faculty who may have lists of their former graduate students' theses. The "Dictionary of Quaternary Acronyms and Abbreviations" is also growing rapidly and contains well over 500 entries. Many of these now have WWW links, making this a versatile and useful resource. If you haven't seen the page for a while, drop by and take a look at <http://www.ualberta.ca/~abeaudoi/cap/cap.html> Incidentally, if anyone can dream up a gender-neutral substitute for "WebMaster", I'd appreciate hearing about it!

Alwynne B. Beaudoin
Edmonton, Alberta
CAP Newsletter Editor and WebMaster



Julian M. Szeicz, 1994. *Climate Change and Vegetation Dynamics At the Subarctic Alpine Treeline in Northwestern Canada*. Ph.D. dissertation. Geography Department, McMaster University, Hamilton, Ontario. xiii + 202 pp.

It is expected that anthropogenic increases in atmospheric levels of CO₂ and other greenhouse gases will have a substantial impact on climate in the next 100 years. Knowledge of the response of high latitude vegetation to past climate variation is useful for understanding the possible response of such vegetation to potential future anthropogenic climate changes. The objectives of this thesis were to investigate climate change, treeline dynamics and vegetation-climate relationships at the subarctic alpine treeline in northwestern Canada on a variety of spatial and temporal scales. In order to address these objectives, three hypotheses were tested: 1) Postglacial treeline change in the Mackenzie Mountains, N.W.T. was driven by changes in the seasonal and latitudinal distribution of solar radiation; 2) Establishment and mortality patterns of trees at treeline are episodic, controlled by climate variations; and 3) The position of the treeline in the Mackenzie Mountains is in equilibrium with current climatic conditions.

The first hypothesis was tested using the palynological analyses of cores from three lakes in the tundra, forest-tundra and open forest of the central Mackenzie Mountains. Although there was no evidence for higher treeline in this region at any time during the Holocene, the data suggest

that *Picea* populations in the forest-tundra were greater than present between about 8000 and 5000 yr BP, and have since declined steadily. These results are consistent with predicted changes in summer insolation based on the Milankovitch theory.

The second two hypotheses were addressed using tree-ring analyses of white spruce at a number of sites in the alpine treeline zone of northwestern Canada. Dendroecological analyses of climate-growth relationships indicated that the response of trees to climate at these sites varied with tree age, which violates a basic assumption of standard dendroclimatic research. Age dependent modelling was therefore used to produce a 350 year record of summer temperatures in northwestern Canada from five sites in the N.W.T. and Yukon. Comparison of this record with white spruce recruitment/survival and mortality patterns indicated that the patterns are episodic, and controlled primarily by climatic variations. A warming trend during the last 150 years has resulted in increases in forest-tundra density, although there is evidence for only minor increases in treeline. The establishment of white spruce seedlings at sites within the upper forest-tundra, including several treeline sites, indicates that the treeline is in equilibrium with current climatic conditions.

These results indicate that 1) climate-growth relationships are complex, and the simplifying assumptions made in order to reconstruct climatic records from radial growth records may in some cases be invalid; 2) in this region the response of white spruce populations to climate change on a variety of timescales has been manifested primarily as changes in forest-tundra density, with little change in treeline altitude; and 3) seedlings are currently being produced within forest-tundra white spruce populations, and thus a rapid response to further climatic amelioration may be possible.

Levesque, Andre J., 1995. *Late-glacial Climate and Vegetation Change in Atlantic Canada*. Ph.D. thesis, University of New Brunswick, Fredericton, New Brunswick, Canada. 167 pp.

High resolution analysis of the organic and pollen content of sediment from a number of lakes in Atlantic Canada has revealed a previously unrecognized late glacial cold event immediately preceding the Younger Dryas (10,770- 10,000 years before present yr B.P.) It has been named the Killarney Oscillation and occurred between 11,160 and 10,910 yr B.P. During the Killarney Oscillation, lake sediments became more inorganic, and the vegetation, determined via pollen analysis, reverted from shrub-tundra at intermediate sites, and changed little at the southernmost sites.

The Killarney Oscillation correlates with a number of short-term pre-Younger Dryas cooling events reported from across the North Atlantic Seaboard, and all are subsumed under the proposed informal name "AmphiAtlantic Oscillation".

At Pine Ridge Pond, changes in the pollen and macrofossil content of late-glacial sediment occurred simultaneously with changes in chironomid-inferred summer surface-water temperatures associated with the Killarney Oscillation and the Younger Dryas, indicating that changes in vegetation do not lag appreciably the late-glacial changes in climate recorded in Atlantic Canada.

Detailed analysis of late-glacial chironomid assemblages from four New Brunswick sites revealed that the richness and diversity of larval assemblages were consistently lower in sediments deposited soon after deglaciation, and during the

Younger Dryas. The pattern of chironomid succession differed substantially between sites, and is related to differences in oxygen availability of the lakes, combined with the possible existence of strong temperature gradients across the transect.

Changes in late-glacial summer surface-water temperatures were reconstructed for the four New Brunswick sites, and an additional site in Maine, USA, all of which are situated along a 240 km north-south transect.

The resulting temperature curves indicate that lake surface-waters cooled by 2.8-7.3 degrees C during the Killarney Oscillation and Younger Dryas, respectively. Furthermore, they reveal that temperature differences of 11.9 degrees Celsius existed over 55-240 km at certain times during the late-glacial period, resulting from higher than modern summer insolation values for the region, in combination with the nearby presence of the Laurentide ice sheet.



Announcements

INTRODUCTORY COURSES

The Environmental Change Research Centre (ECRC) at University College London is offering the following short courses:

Introduction to pollen analysis. Professor H.J.B. Birks and Dr. S. M. Peglar. December 11-15 1995. One week. Cost £200.

Introduction to diatom analysis. Professor R. W. Battarbee, Dr. T.E.H. Allott and Dr. V. J. Jones. January 22 - February 2 1996. Two weeks. Cost £400. (Course is full)

Introduction to ostracod analysis. Dr. J. Holmes. February 12-14 1996. Three days: £120.

Introduction to cladocera analysis. Dr. W. Hofman. February 15-16 1996. Two days: £80.

Introduction to macrofossil analysis. Dr. H. H. Birks. March 18-22 1996. One week. £200.

Numerical analysis of environmental data. Professor H.J.B. Birks. March 25-29 1996. One week. £300.

Further information and course registration forms can be obtained by e-mail or snail mail from the address below. All prices are in pounds sterling. Please note that places are limited on all the above courses so early booking is essential.

Ewan Shilland
Environmental Change Research Centre
University College London
26 Bedford Way
London, WC1H 0AP, England, UK
Email: ucfaems@ucl.ac.uk

QUATERNARY EVENTS AT THE GAC MEETING

Winnipeg, Manitoba
May 27-29, 1996

The Geological Association of Canada is holding its annual meeting in Winnipeg on May 27-29, 1996. At this 3-day meeting a full complement of geoscience topics will be presented, along with several shortcourses, fieldtrips, exhibits, and social events. Of course this will include regular sessions on Quaternary geology, sedimentology, geochemistry, geomorphology, hydrogeology, and paleontology, but there also will be two Special Sessions that may be of particular interest. One on "Late Quaternary Lake and River Systems", which will include talks on the sedimentary, paleoecological, and geomorphic records of lacustrine and fluvial systems and how they are used to interpret paleoclimatic and paleohydrological conditions during late glacial and Holocene time. Another will be on the "Physical environment and history of the Lake Winnipeg Basin", a new multifaceted project on one of North America's largest lakes. Special issues in the *Journal of Paleolimnology* are being considered for the papers presented in both of these sessions.

In addition, there will be two Quaternary fieldtrips associated with this GAC meeting. Trip A2, "Late Holocene Environmental Changes in Southern Manitoba", will be a one day, pre-meeting trip, led by Erik Nielsen, Dave McLeod, Eva Pip, and John Doering. This trip will examine the fluvial geomorphology and chronostratigraphy (including dendrochronology) of overbank sediments, including mid-Holocene to 20th century human influences. Lower Fort Garry, a 19th century Hudson Bay trading post and fort, will be visited. Lake Winnipeg also will be visited, and late Holocene isostasy and shoreline problems will be discussed. Trip B2, "Geomorphic and Sedimentological History of the Central Lake Agassiz Basin", will be a two-

day, post-meeting trip, led by Jim Teller, Harvey Thorleifson, Gaywood Matile, and Erik Nielsen. This trip will begin at Delta Marsh Field station on the southern shores of Lake Manitoba (leaving the University of Manitoba before dinner and just after the Special Session on "Late Quaternary Lakes and River Systems" on May 29); the next day, the trip will cross Lake Agassiz and its beaches to the giant Assiniboine fan-delta complex to the catastrophically-eroded Assiniboine spillway. Lake Agassiz beaches, flood gravels, distal fan deposits, offshore clays with ice rafted clasts, Holocene dunes, and a section of complexly thrusted and folded till and bedrock will be visited.

We have coordinated this post-meeting, 2-day fieldtrip with the Midwest "Friends of the Pleistocene" fieldtrip, which starts just south of Winnipeg (in Grand Forks, North Dakota) the next morning (Saturday, June 1). The Friends' meetings are strictly fieldtrips with evening social events, and typically are attended by more than 50 Quaternarists. We will arrange for vans to transport all those interested in continuing the GAC Lake Agassiz fieldtrip into the southern end of the basin with the Friends, which will go as far as the lake's southern outlet. Although details of the Friends' trip are not yet set, sections of glacial, fluvial, and lacustrine sediments will be visited, as will eskers, end moraines, and saline spring sites; the history of late glacial ice flow and Lake Agassiz sedimentation will be discussed. In addition, for those on the Friends' trip, an optional "extension" of that trip is planned for Sunday afternoon and Monday (June 2-3), which will see and discuss compaction ridges (tunnel valley fills?) on the Agassiz plain, ice-marginal sediments, paleosols, archaeological sites in fluvial and eolian sediments, and will visit the southern outlet of Lake Agassiz. For details of (and to register for) the Friends of the Pleistocene fieldtrip and its extension, please contact Ken Harris at the Minnesota Geological Survey, 2642 University Ave., St. Paul,

Minnesota, 55114-1057 (harri015@maroon.tc.umn.edu).

For more details on these Quaternary events at the GAC meeting, please contact:

Jim Teller
 Department of Geological Sciences
 University of Manitoba
 Winnipeg, Manitoba, R3T 2N2
 FAX: (204) 261-7581
 E-mail: jt_teller@umanitoba.ca

**SIXTH CANADIAN
 PALEONTOLOGY CONFERENCE:
 "ECONOMIC AND APPLIED
 PALEONTOLOGY"**

Corner Brook, Newfoundland
 September 21-23 1996

Newfoundland is currently the focus of hydrocarbon and mineral exploration both in terms of surface and subsurface studies and lease bidding. This has provided an unparalleled opportunity for local paleontologists to demonstrate how paleontology can contribute to the location and development of economic plays.

The meeting next September is planned to illustrate the key fossiliferous units of western Newfoundland, ranging in age from Cambrian to Recent and incorporating everything from oceanic graptolitic shales to shallow marine shelly carbonates and fluvial plant-bearing sandstones. The oral forum will include discussion of how paleontological studies can be applied to the solution of economic and other more general geological problems. The three-day meeting will be based in Corner Brook; the first and last days will comprise excursions to the Port au Port Peninsula, presently the site of intense hydrocarbon exploration activity. Technical sessions will be held on Sunday 22 September in newly-

completed facilities at the Sir Wilfred Grenfell College campus of Memorial University of Newfoundland. We will encourage presentations related to the theme for the meeting, although other papers, especially from students, will also be welcome.

The Second Circular will be mailed automatically to members of the GAC Paleontology Subdivision. Otherwise, to receive further information, please contact:

Elliott Burden
 Department of Earth Sciences
 Memorial University of Newfoundland
 St. John's, Newfoundland, A1B 3X5
 Tel: (709) 737-8395
 FAX: (709) 737-8142
 E-mail: etburden@morgan.ucs.mun.ca

**SPECIAL SESSIONS AT THE
 CANADIAN ASSOCIATION OF
 GEOGRAPHERS (CAG) MEETING**

Saskatoon, Saskatchewan
 May 11-16 1996

Among the many other events at this meeting, there are three Special Sessions and a field-trip which may be of interest to readers of this Newsletter:

**GLOBAL CHANGE IN THE PALLISER
 TRIANGLE: LESSONS FROM THE PAST
 TO PREPARE FOR AN UNCERTAIN
 FUTURE**

This session is sponsored by the Canadian Geomorphology Research Group (CGRG). GCM predictions of increased warming and decreased precipitation over the northern Great Plains give rise to concerns about the viability of sustainable agriculture in the region. Presentations will include new Holocene paleoclimatic records as

well as studies of geomorphic processes, geomorphic response to climatic variability, and GIS evaluation of landscape sensitivity for land use management issues. The session represents the final meeting of the Geological Survey of Canada coordinated Palliser Triangle IRMA, but encourages contributions from persons not formally associated with that project. If you are interested in contributing a paper or a poster, please contact Don Lemmen (Geological Survey of Canada, 3303-33rd Street NW, Calgary, Alberta, T2L 2A7, Tel: (403) 292-7184, FAX: (403) 292-7034, E-mail: lemmen@gsc.emr.ca)

AEOLIAN RESEARCH

Aeolian research is a growing field in both Canada and the United States, with issues related to global change and sustainable activities providing an increasingly applied backdrop for this research. Much of this research focusses on processes, and deals with the common issues such as mechanisms limiting sediment supply (including moisture, vegetation, fire, crusting, ice or snow) and how these effect both processes and morphology. This session, also sponsored by the CGRC, will provide an opportunity to present recent and on-going research on aeolian processes and paleoenvironmental interpretations in both Canada and internationally. The session will be structured to ensure that there will be ample time for discussion and open debate. If you are interested in contributing to this session, please contact Steve Wolfe (Geological Survey of Canada, Tel: (403) 920-8529, FAX: (403) 669-9700, E-mail: swolfe@gsc.emr.ca)

FIELD TRIP

A 3 1/2 day pre-meeting field trip related to both of the CGRG-sponsored sessions is planned for May 9-12. The trip will take participants through the semi-arid core of the Palliser Triangle and across the Cypress Hills, a forested oasis in the middle of the prairies. Stops will

discuss Tertiary and Pleistocene geomorphology, with emphasis on Holocene paleoenvironmental records and geomorphic processes. Highlights include visits to the Great Sand Hills, Killdeer Badlands (Grasslands National Park), unglaciated terrains, the St. Victor Petroglyphs and fine dining at the Spring Valley Guest Ranch. For aeolian researchers, it will be an excellent opportunity to observe active parabolic dunes, cliff-top dunes and loess deposits. Number of participants will be limited. If you are interested in attending this field trip, please contact Don Lemmen (address given above).

THE CHANGING HUMAN LANDSCAPE DURING THE HOLOCENE ON THE CANADIAN PRAIRIES

This session, sponsored by the Canadian Quaternary Association (CANQUA) will focus on human-landscape interactions in the Canadian Prairies during the Holocene and especially prior to EuroCanadian settlement. Among the topics that could be explored are: droughts and hydrology, soil erosion and sediment redistribution, biogeography and biodiversity, climate change, the archaeological record, and the perception of the landscape by early explorers and settlers. The session is intended to foster an exchange of ideas between archaeologists, anthropologists, historians, geographers, palaeoecologists and Quaternary geologists working in the Canadian Prairies. All Quaternary researchers working or interested in the Canadian Prairies are invited to consider presenting a paper and participating in this session, which is being organized by Alwynne B. Beaudoin (Archaeological Survey, Provincial Museum of Alberta) and Dana Naldrett (Environmental Earth Science Associates Inc., Calgary). For more information, please contact Alwynne B. Beaudoin, Archaeological Survey, Provincial Museum of Alberta, 12845-102nd Avenue, Edmonton, Alberta, T5N 0M6, Tel: (403) 453-9192, FAX: (403) 454-6629, E-mail: abeaudoi@gpu.srv.ualberta.ca

The First Circular for the CAG Meeting, which included abstract information, was distributed by the CAG in early December. To obtain a circular or for more details on the conference, please contact:

Alec Aitken
 Local Committee, CAG '96 Meeting
 Department of Geography
 University of Saskatchewan
 Saskatoon, Saskatchewan, S7N 0W0

Tel: (306) 966-5672
 FAX: (306) 966-5680
 E-mail: aitkenae@sask.usask.ca



WANTED: NEW AND USED MEMBERS!



At the recent CAP AGM during the AASP Meeting in Ottawa, the Executive decided not to raise CAP membership fees at this time. After much discussion, it was felt that we could make ends meet with some cost-cutting measures and a membership drive. However, this strategy has only one year in which to prove itself. So, **BRING IN NEW MEMBERS!** Buy your students gifts for the holidays! Check the lapsed members list in this issue to see if you yourself are in arrears! One of our cost-cutting measures will be earlier removal of lapsed members from the mailing list, so don't delay, renew today! Remember, your CAP membership brings you both the *CAP Newsletter*, keeping you abreast of developments in Canadian pollen news, and *PALYNOS*, keeping you current with the world.

Ian Campbell
 Edmonton, Alberta
 CAP President



9TH IPC MEETING UPDATE

The 9th International Palynological Congress (IPC) will be held at the J.W. Marriott Hotel in Houston, Texas, 23-28 June, 1996. The meeting is sponsored by the International Federation of Palynological Societies (IFPS) and hosted by the American Association of Stratigraphic Palynologists (AASP). A very full program of field-trips, symposia, theme and general sessions is planned. The organizers (Vaughn Bryant and John Wrenn) are busy with the arrangements for the meeting, as outlined in this update submitted by Vaughn Bryant:

The pace of work needed to keep the 9th IPC meeting on track is increasing almost daily. We have already received some abstracts, even though the deadline is still six months away. We expect a "flood" of them arriving later this fall and early next spring. Previous experience as the local chairs of AASP Annual Meetings has shown that palynologists always seem to wait until the very last minute, or often even after the last minute, to send in abstract and registration materials. Because of this, we are preparing to computerize all of the abstracts and registration forms almost immediately after they arrive.

During the past six months our time has been taken up by a number of tasks related to the 9th IPC. John Wrenn has been working on the organization of the many symposia, producing a complete list of individual names and topics that were sent to us with responses to the First IPC

Circular. John has also been in contact with the chairs of each symposium and is doing his best to keep them on track regarding the organization of each symposium. Vaughn Bryant has been spending much of his time sending personal letters of invitation to many potential participants, sending out hundreds of copies of the Second IPC Circular, contacting the Marriott Hotel in Houston to ensure that everything during the June meeting will go according to our plans, and entering needed data on computer files.

Almost 600 people returned the Response Form from the First Circular, indicating that they intend to participate in the 9th IPC. This included approximately 400 oral and 120 poster presentations, covering a wide variety of topics. We estimate that we can schedule about 700 oral presentations in the seven concurrent sessions that are being organized for the 5-day meeting session.

Thirty-seven symposia or technical sessions have been defined to date. Only one has been canceled to date. Twenty-seven of the symposia or technical sessions currently have organizers; the remaining eight do not. We will try to find chairs for these additional sessions, or perhaps include them in one of the existing symposia, if appropriate. Currently, we are searching for volunteers who would be willing to chair one of the "chairless" sessions. Additional sessions may be added to this list, should sufficient interest, or enough abstracts on a given subject be received to warrant it. For more information, contact:

Dr. Vaughn M. Bryant
Palynology Laboratory (MS-4352)
Texas A&M University
College Station, Texas 77843, USA

Tel: (409) 845-5242
FAX: (409) 845-4070
E-mail: vbryant@tamu.edu

POSITION WANTED

Palynologist with over twenty years experience in biostratigraphic and paleoenvironmental studies; has worked with oil industry and taught at universities; previously worked on Jurassic to Neogene dinoflagellate cysts, pollen and spores from India, Southeast Asia, Japan, Trinidad, and U.S.A. Looking for a suitable position in industry or academia. Landed immigrant in Canada. Please contact through the Editor of the *CAP Newsletter*.



CHANGE OF ADDRESS

Please note that Glen MacDonald's new address is as follows:

Department of Geography, UCLA
405 Hilgard Ave
Los Angeles, CA 90024-1524, USA

Tel: (310) 825-2568
FAX: (310) 206-5976
E-mail: macdonal@geog.sscnet.ucla.edu



WANTED: POLLEN AND MACROFOSSIL DATA FOR *Dryas integrifolia*

I am a graduate student at McGill University in Montreal, working on post-glacial arctic plant migration. I am making this request because I need to retrieve pollen or macrofossils data for *Dryas integrifolia* (Rosaceae) in order to reconstruct its past range during the Quaternary.

I have already consulted the following sources: Biological Abstract, Georef and the North American Pollen Database. They provided good, but fragmentary results: as *Dryas* is not the focus of interest in most studies, it is not always reported in the sources mentioned above. This is why I am making a public announcement to those familiar with Quaternary research: could

you let me know about any encounter of *Dryas* you have seen in the literature (e.g., in pollen diagrams) or in your own work? If you know of some published data, please send me the reference; if you have unpublished data that you are willing to share, please let me know. Any help or suggestions will be greatly appreciated. Thank you very much!

Nicolas Tremblay
Department of Biology
McGill University
1205 Docteur Penfield Avenue
Montreal, Quebec, H3A 1B1
Tel: (514) 398-4084
FAX: (514) 398-5069
E-mail: tremblay@bio1.lan.mcgill.ca



DEADLINES

Please submit items for the next *CAP Newsletter* (Volume 19, Number 1, May 1996) by April 15 1996. I prefer to receive material on disk using MS-DOS WordPerfect 5.1 or 6.0; MS-DOS or Macintosh text files or Word files are also fine. Either 5.25" or 3.5" disks (low or high density) are acceptable. Each item should also be submitted as hardcopy. Articles may include diagrams and photos; for photographs, please provide a glossy black-and-white print (3" x 5" or 6" x 4") from a picture with good contrast. Illustrations may be submitted on disk in CorelDraw 4.0 format. Text and illustrations may be submitted by e-mail. Please note the new 'phone and FAX numbers below. Please send material to:

Alwynne B. Beaudoin
CAP Newsletter Editor
Archaeological Survey
Provincial Museum of Alberta
12845-102nd Avenue
Edmonton, Alberta, T5N 0M6

Tel: (403) 453-9192
FAX: (403) 454-6629
E-mail: abeaudoi@gpu.srv.ualberta.ca

Meeting calendar

1996

January 8-9: Workshop on Climate and Biodiversity Changes In Canada During the Last Millennium. Ottawa, Ontario. Details: Don MacIver, Environment Canada, Tel: (416) 739-4391, FAX: (416) 739-4882, E-mail: maciver@aestor.am.doe.ca

April 10-14: 61st Annual Meeting of the Society for American Archaeology. New Orleans, Louisiana. Includes a symposium on: "Impacts of Early Holocene Warm/Dry Interval on Early and Middle Archaic Cultures of the East Coast of North America". Details: Doug Kellogg (Symposium Organizer), 765 E. Avondale-New London Road, West Grove, Pennsylvania 19390, U.S.A. Tel: (610) 344-0531 (John Milner Assoc.), E-mail: dkellogg@strauss.udel.edu

May 19-22: American Association of Petroleum Geologists Annual Meeting. San Diego, California. Details: AAPG Meetings, Box 979, Tulsa, Oklahoma 74101, U.S.A. Tel: (918) 584-2555, FAX: (918) 584-0469.

May 11-16: Canadian Association of Geographers (CAG) Meeting. Saskatoon, Saskatchewan. Includes Special Sessions: "Global Change in the Palliser Triangle", "Aeolian Research", and "The changing human landscape during the Holocene on the Canadian prairies". See announcement, p. 28-30. Details: Gilles Viaud, Assistant Executive CAG '96, Geography Department, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0. Tel: (306) 966-5664, FAX: (306) 966-5680, E-mail: viaud@sask.usask.ca See also <http://www.usask.ca/~martzl/cag1.htm>

May 20-22: AMQUA 14th Biennial Meeting. Flagstaff, Arizona. Theme: Global Warming:

Interglacials, Interstadials, Climatic Optima, and Other Events. Details: Dr. Jim I. Mead, Department of Geology, Northern Arizona University, Flagstaff, Arizona 86011-4099, U.S.A. FAX: (520) 523-9220, E-mail: jim@vishnu.glg.nau.edu

May 27-29: GAC-MAC Joint Annual Meeting. Winnipeg, Manitoba. See announcement, p. 27-28. Details: Dr. G.S. Clark, General Chair, Department of Geological Sciences, University of Manitoba, Winnipeg, Manitoba, R3T 2N2. Tel: (204) 474-8857, FAX: (204) 261-7581. See also GAC Web Page at <http://www.umanitoba.ca/geosci/GAC/gac.html>

June 3-7: 8th AQQUA Congress. Laval, Québec. Details: Arnaud Hequette, Centre d'étude nordiques, Université Laval, Ste-Foy, Québec, G1K 7P4. Tel: (418) 656-2363, FAX: (418) 656-2978.

June 9-12: North American Paleontological Convention VI. Smithsonian Institution, Washington, DC. Details: M.A. Buzas, Chair, NAPC-VI, Department of Paleobiology, NMNH MRC-121, National Museum of Natural History, Smithsonian Institution, Washington DC 20560, U.S.A.

June 22-29: 9th International Palynological Congress (IPC). Houston, Texas, U.S.A. Symposia, technical session, fieldtrips, special events. See update, p. 30-31. Details: Dr. Vaughn M. Bryant Jr., Texas A&M University, College Station, Texas 77843-4352, U.S.A. Tel: (409) 845-5242, FAX: (409) 845-4070, E-mail: vbryant@tamu.edu

June 23-28: 7th International Symposium on Pollination: From Theory To Practice. Lethbridge, Alberta. Details: Ken Richards, Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, Alberta, T1J 4B1. E-mail: richards@abrsle.agr.ca

June 30-July 5: International Organization of Paleobotany. University of California, Santa Barbara, California, U.S.A. Details: Bruce H. Tiffney, Department of Geological Sciences, University of California, Santa Barbara, California 93106, U.S.A. FAX: (805) 893-2314, E-mail: tiffney@magic.ucsb.edu.

August 20-24: Second World Congress on the Preservation and Conservation of Natural History Collections. Theme: "Natural History Collections - A Resource for the Future". Cambridge, England, UK. Details: The Administrator - World Congress, Department of Earth Sciences, University of Cambridge, Downing Street, Cambridge, CB2 3EQ, England, UK. Tel: +44 1223 33 34 21, FAX: +44 1223 33 34 50.

September 11-13: 1st European Symposium on Aerobiology (CA 96). Santiago de Compostela, Spain. Session 1: Basic Aerobiology, Session 2: Aerobiology and agriculture, Session 3: Bio-deterioration and cultural heritage. Details: Maria-Jesus Aira, Departamento de Biología Vegetal, Facultad de Farmacia, Campus Sur 15706-Santiago de Compostela, Spain. Tel: 34 (9) 81-563100 Ext. 4973/4974, FAX: 34 (9) 81-594912, E-mail: bvaira@usc.es

September 21-23: Sixth Canadian Paleontology Conference. Corner Brook, Newfoundland. Theme: "Economic and Applied Paleontology". See announcement, p. 28. Details: Elliott Burden, Department of Earth Sciences, Memorial University of Newfoundland, St. John's, Newfoundland, A1B 3X5. Tel: (709) 737-8395, FAX: (709) 737-8142, E-mail: etburden@morgan.ucs.mun.ca

October 28-31: Geological Society of America, Annual Meeting. Denver, Colorado, U.S.A. Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020.

CAP MEMBERSHIP FORM

Canadian Association of Palynologists (CAP) membership is open to all members of the palynological community in Canada. The Association is devoted to promoting the exchange of information among palynologists in Canada. Palynologists from outside Canada may become corresponding members for the same dues, with no voting rights. Membership dues include two issues a year of the *CAP Newsletter*, to which all members are invited to contribute. CAP is also affiliated with the International Federation of Palynological Societies (IFPS) and CAP members receive two issues of the IFPS newsletter (*PALYNOS*) each year.

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CAP membership dues are \$10 per year in Canadian funds payable at the beginning of the year. Lapsed members are removed from the mailing list after one year, following a reminder notice. Members may, if they wish, pay for up to three years in advance. Please send a cheque or money order payable to CAP to:

Martin J. Head, CAP Secretary/Treasurer, Department of Geology, Earth Sciences Centre, University of Toronto, 22 Russell Street, Toronto, Ontario, M5S 3B1, Canada.

Name and title: _____

Affiliation: _____

Address: _____

Tel: _____ FAX: _____ E-mail: _____

Research interests: _____

Indicate: Renewal: _____ New membership: _____ Amount enclosed: _____

May we include your name/address/research interests in the on-line "Directory of Palynologists" in the CAP World Wide Web page? Yes: _____ No: _____