Canadian Association of Palynologists
Association Canadienne des Palynologues

NEWSLETTER

Volume 25 Number 1 May 2002

President's Message

Many years ago I used to listen to a CBC Radio comedy program that included a character who was supposed to be a newspaper reporter. She was always described as "small, but vital". And that's very much the way I always think of CAP, as a small but vital component in the spectrum of geoscience and bioscience organizations in Canada. CAP remains a very active organization, as the following summary of recent activities very well demonstrates.

This spring, I expect to see the publication of a CAP-sponsored special issue of *Palaeogeography, Palaeoclimatology, Palaeoecology* entitled *New Frontiers and Applications in Palynology and Micropalaeontology: A Canadian Perspective*. Indeed, by the time you read this, it may already be available. Co-edited by Martin Head and me, it includes ten papers illustrating a broad range of approaches to palynology and micropalaeontology, featuring many microfossil groups, and spanning geologic time from Silurian to present. This issue sprang from the successful and well-attended session we organized at the GeoCanada 2000 meeting in Calgary and many of the papers developed from presentations in that session. The issue also features other contributed articles that help to broaden its scope and exemplify the diversity of research in these fields.

Emboldened by the response to the session and the resulting journal issue, Martin and I have ventured on another similar initiative. The recent GAC/MAC meeting in Saskatoon included a CAP-sponsored Special Session called "The Palynology and Micropaleontology of Boundaries". Held on May 29, it comprised seven papers and a poster. This was an extremely interesting session, illustrating many approaches to the study of boundaries. The full list of presentations is given on page 10 in this issue. We were very pleased that Dr Norman MacLeod (Keeper of Palaeontology, Natural History Museum, London, England) gave the keynote presentation for this session. The session was well attended, and the audience was treated to an exposition of some thought-provoking and cutting-edge research. All the speakers gave exemplary presentations, with fine illustrations. As a follow-up to this Special Session, Martin and I are planning another thematic journal issue, this time focussed on the topic of boundaries. The plans for this are not yet finalized. I expect to be able to give more details in the December Newsletter issue. Please monitor the CAP website (http://www.scirpus.ca/cap/cap.shtml) for more details.

And now for a look a bit further into the future. Our sister organization, AASP, is planning to hold its annual meeting for 2003 in the Niagara region, Ontario. Francine McCarthy (Brock University) is part of the organizing committee for this meeting and has extended an invitation for CAP to participate, thus making this a joint AASP/CAP meeting. This is an extremely exciting prospect. The last AASP/CAP joint meeting, in Ottawa in 1995, was very successful and I expect that this upcoming meeting will be also. Southern Ontario is within reach of many CAP members and the venue should draw great attendance. A joint meeting provides many opportunities for talking to colleagues and exchanging ideas. Planning for the meeting is still in the preliminary stage and ideas for sessions, fieldtrips, and other events are being discussed. I welcome input from the CAP membership about this. Even more, I would welcome volunteers to participate in the meeting, perhaps by organizing a session or leading a fieldtrip.

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Finally, it is my pleasure to thank all those who make CAP work. I would especially like to thank previous CAP President, Martin Head, for his outstanding service to the association over the term of his incumbency. Martin has served CAP in several capacities over the years, having been our Secretary/Treasurer from 1987 to 1996. Now based in the UK, Martin's talents have not been lost to the association, because he remains a driving force behind many of CAP's activities.

I also thank the other members of the CAP Executive, Rolf Mathewes (CAP's Representative to IFPS), Mary Vetter (Newsletter Editor), and Marlow Pellatt (Secretary/Treasurer), for their service to the association. Marlow took over his duties at the beginning of the year from Francine McCarthy, who had looked after CAP's finances so ably for the last five years. Volunteering for CAP is not a high-profile task. But without the sustained support of a committed Executive, the association cannot function. Certainly, the efforts of the Executive serve to keep CAP the vital and vibrant organization that it is.

I look forward to serving the association as President for the next two years. There are many exciting events in the offing. I hope that together we can keep CAP at the forefront of Canadian geo- and bioscience.

Alwynne B. Beaudoin
CAP President
abeaudoi@gpu.srv.ualberta.ca

From the Editor

Once again, thank you so much to everyone who contributed items to this newsletter, especially Alwynne Beaudoin, Matthew Boyd, Gail Chmura, Owen Davis, Allan Hall, Douglas Hallett, Jonathan Hughes, Francine McCarthy, Andre Rochon, John Smol, and Catherine Yansa. It is your contributions that make the newsletter possible! Special thanks go once again to Rob Fensome and Nelly Koziel for printing and mailing the newsletter—thank you! This edition include the Minutes and Reports from our AGM in Saskatoon in late May.

Please consider writing a meeting report for the December issue, if you will be attending meetings this summer! As always, I am very happy to receive contributions throughout the year! Have an enjoyable and productive summer, everyone!

Mary Vetter
CAP Newsletter Editor
mary.vetter@uregina.ca

Special Announcement CAP Annual General Meeting - - 2003

CAP's next Annual General Meeting will be held at the joint AASP/CAP meeting in St. Catherine's, Ontario, October, 2003.

See AASP/CAP meeting announcement on p 3.

FROM THE BUREAUCRAT'S DESK

CAP's new President-Elect

Our new President-Elect is Catherine Yansa. Catherine recently completed her Ph.D. at the University of Wisconsin (see Thesis Abstracts, p. 16 of this newsletter), following her M.Sc. at the University of Saskatchewan in the Department of Geological Sciences under the direction of Dr. J.F. Basinger. She is moving this summer to take up a tenure-track position, and her new address is as follows:

Dept. of Geography
Michigan State University
314 Natural Science Building
East Lansing, MI
48824-1115
ph: 517-355-4649
fax: 517-432-1671

Thank you, Catherine, for serving CAP in this way!

Dues Due

If your name appears below, here is an **urgent reminder** that **your membership subscription expired at the end of 2000 and your membership renewal is now more than one year past due**—see the last page of the newsletter for the renewal form: **Chmura, dos Santos, Fernandes, Hopkins, Morgan, Tiffin, Yazvenko, University of Toronto serials**

If your name appears below, **your membership expired at the end of 2001 and is now due: Boyd, Cumming, Ford, Gostlin, Hall, Hallett, Helby, Lentin, McAndrews, Sarjeant, van Helden, Vardy, Whittmire, and Yu**.

The following CAP members have **paid through 2002**, but memberships **will be due for 2003**: Asnong, Beaudoin, Bonnel, Bryant, Chinnappa, Demchuk, Gajewski, Garneau, Haas, Kalgutkar, Larouche, McCarthy, Morasse, Parsons, Richardson, Smol, Stancliffe, Vetter, Yansa, and Zutter.

Dues Payment

Please note that CAP membership dues are CDN $10 per year, payable annually or up to three years in advance. Membership is open to all. Please make cheques or money orders payable to "CAP". Following a reminder notice, lapsed members are removed from the CAP mailing list after one year.

The membership form is on the last page of the newsletter. Funds and address changes should be sent to:

Marlow Pellatt
Parks Canada
Western Canada Service Centre
300 – 300 West Georgia Street
Vancouver, BC V6B 6B4
Canada

Joint AASP/CAP Meeting Niagara, October 5-8, 2003

The Annual Meeting of the American Association of Stratigraphic Palynologists will be held in Canada for the first time since 1995--a perfect opportunity for CAP to co-host. The Niagara Peninsula is a beautiful place to visit in the early fall and we are working to keep registration costs low (around $200 for professionals/ $75 for students--and they're Canadian dollars!) and accommodations are relatively inexpensive. The technical sessions will be held at the Four Points Sheraton Hotel in St. Catharines, across the street from Brock University. The Opening Mixer and Workshops will be held at Brock University whose campus is on the Bruce Trail. Evening excursions are planned into Wine Country and to Niagara Falls. Pre-conference field trip suggestions include *Crawford Lake- Archeology & Paleoecology*, *Niagara Falls-Geology/History*, *Botany, Biogeography & Birding in St. John's Conservation Area*, and *Geology and Wine*. So far, Alwynne Beaudoin and Martin Head have tentatively offered to host a CAP session (tentatively titled: *Land-Sea Correlation in the Quaternary/ Cenozoic)*, and I suggest that no CAP meeting can be held in Niagara without a special session on the Great Lakes (volunteers?). Any CAP members interested in chairing a special session or leading a field trip or workshop (or even suggesting a *topic* for a special session, field trip or workshop) should contact me (francine@graton.geol.brocku.ca) or Kevin Gostlin (gostlin@geology.utoronto.ca).

Join us in making this a truly memorable meeting!

Francine McCarthy
Department of Earth Sciences
Brock University

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CANADIAN ASSOCIATION OF PALYNOLOGISTS ANNUAL GENERAL MEETING MINUTES

4:00 p.m., May 29, 2002
Room A106, Arts Building
University of Saskatchewan
Saskatoon, Saskatchewan, Canada

Present: Alwynne Beaudoin, Elliott Burden, Mary Vetter, and Catherine Yansa

1. **Welcome and opening of meeting:** The meeting was called to order by CAP President, Alwynne Beaudoin, and those present warmly welcomed.

2. **Minutes of the 2001 AGM:** The Minutes of the meeting were accepted as presented. M/S A. Beaudoin/C. Yansa

3. **President's Report:** Alwynne Beaudoin and Martin Head were commended for their role in the production of the CAP-sponsored Special Issue of *Palaeogeography, Palaeoclimatology, Palaeoecology* entitled *New Frontiers and Applications in Palynology and Micropalaeontology: A Canadian Perspective.*

4. **Secretary/Treasurer's Report:** Catherine Yansa raised the possibility of publishing the newsletter electronically, thus saving CAP the potential costs of printing and mailing. It was pointed out that CAP has not paid these costs for the past two years as Rob Fensome has covered this from his office. Alwynne suggested that people do not tend to read electronic newsletters, and receiving a paper copy is a tangible reminder of the benefits of CAP membership. Elliott Burden reported that the GAC is going to be distributing its newsletter solely electronically, but access will be password protected. Alwynne pointed out that distributing the newsletter electronically would require a by-law change, and any further discussion should be deferred to the 2003 meeting which is likely to have a larger number of CAP members attending. It was agreed by consensus to table discussion of an electronic newsletter to the next AGM.

5. **Newsletter Editor's Report:** Mary indicated that she would be happy to continue as Newsletter Editor until the next AGM, at which time perhaps someone might volunteer to take over this role.

6. **Website Editor's Report:** Alwynne indicated that the move of the CAP website to its present location occurred without any cost to CAP, and has produced an increased access rate to the site.

7. **IFPS Report:** In response to the call for material submitted to *PALYNOS* by member societies, Alwynne will be sending a report from CAP. An updated International Directory of Palynologists is being compiled. CAP cannot send our membership list without consulting with our members first, because Canadian privacy regulations prohibit the use of contact information for any purpose other than that for which it was originally collected. A line will be added to the CAP membership form asking whether the member agrees to have her/his contact information forwarded to the database for inclusion in the International Directory.

8. **Appointment of a Nominating Committee:** Alwynne Beaudoin and Mary Vetter agreed to serve on this committee to seek a nominee for the position of President-Elect.

9. **Call for Nominations for President-Elect:** Catherine Yansa expressed interest in serving in this capacity. She was thanked by the nominating committee, and declared chosen by acclamation.

10. **Appointment of Auditor for 2002-2003:** It was agreed that Marlow should ask the Finance and Contracts Officer for Parks Canada to audit the 2002/2003 financial statement and records, as he did for 2001/2002. Rolf Mathewes also agreed to look over the financial statements for 2001/2002, and Alwynne will ask him to do the same for 2002/2003.

11. **Modifications to Membership Form:** An updated International Directory of Palynologists is being compiled. CAP cannot send our membership list without consulting with our members first, because Canadian privacy regulations prohibit the use of contact information for any purpose other than that for which it was originally collected. Alwynne proposed adding a line to the CAP membership form asking whether the member agrees to have her/his contact information forwarded to the database compiler for inclusion in the International Directory. M/S A.

Beaudoin/M. Vetter to amend the CAP membership form as suggested. [The new version is included as the last page of this newsletter.]

12. **Announcement of Joint AASP/CAP meeting in 2003 in St. Catharines:** Francine McCarthy proposed that CAP co-host the meeting with AASP in 2003. The last AASP/CAP joint meeting was in Ottawa in 1995, and was a great success. Alwynne and Martin Head have again agreed to organize a special session at that meeting, very tentatively entitled *Land-Sea Correlation in the Quaternary/ Cenozoic.* Francine also asked for volunteers to organize a session on the Great Lakes, and Catherine Yansa expressed an interest in volunteering for that. Elliott Burden raised some concerns in that the GAC/MAC meeting will be held at Brock University in May, 2004, and suggested that holding two meetings in the same location less than one year apart would split the potential registrants, compromising attendance at both meetings. Alwynne will raise this with Francine, but it was suggested that since both meetings have already been planned, little can be done at this time. M/S A. Beaudoin/M. Vetter that the next CAP AGM be held at the Joint AASP/CAP meeting in October 2003 in St. Catharines, Ontario.

13. **Update on Special Issue of Palaeo^3 and proposed new special issue:** Lynne reported that the CAP-sponsored Special Issue of *Palaeogeography, Palaeoclimatology, Palaeoecology* entitled *New Frontiers and Applications in Palynology and Micropalaeontology: A Canadian Perspective* will be out very soon, within a few weeks. Alwynne and Martin have had tremendous interest expressed in a second special issue on the topic *The Palynology and Micropaleontology of Boundaries* arising from the CAP-sponsored special session at the Saskatoon GAC/MAC. Publication plans cannot be announced yet as they are not quite finalized, but will be announced soon. In response to these announcements, Elliott Burden pointed out that the GAC has the first right of refusal for publication of any papers presented at its meeting and that CAP should have checked with the GAC first before making any other publication arrangements. However, he also pointed out that most likely the GAC would not have been interested in publishing papers on palynology. Alwynne indicated that CAP was not aware of this right, and that this will be considered in any plans for publications of any future CAP-sponsored special sessions. Since plans for publication of the second special issue are well advanced, they will not be changed at this point in time. In addition, the publication of the first CAP-sponsored session as a special issue of Palaeo^3, a very highly regarded international journal, has considerably raised CAP's profile. Catherine asked if there are any plans for a volume on the history of palynology in Canada in the 20th century. Alwynne responded that no such plans have been voiced, and that such an effort would require a great deal of work as well as financial backing, based on AASP's experiences.

14. **Other Business:** Catherine raised the possibility of a CAP-sponsored student scholarship or award, which could be based on theses or papers presented at a conference. She suggested that donations towards the establishment of such an award could be requested from CAP members. Alwynne responded that CAP would need to have registered charity status to accept donations, but that membership fees could be raised to support such an award. Further discussion raised the possibility of making an award at a conference, the problem of not having an annual conference venue, and the work involved in finding readers and judges. It was agreed that this item would be raised at the next AGM, and voted upon if a motion was presented.

15. **Adjournment:** The meeting was adjourned at 5:08 p.m.

Reports presented at the AGM:

President's Report: a slightly expanded version of the report given at the AGM is found on pages 1-2 of this newsletter

Secretary/Treasurer's Report:

i) Membership Report

As of May, 2002, CAP had a total of 44 members in good standing. This has decreased by one member since 2001. Due to the length of time to transfer the finances between treasurers 4 additional members' cheques had passed the 6-month limit to be accepted by the bank. There were 2 new members to CAP in 2001/2002. Ways to attract new members as well as regain the support of past members should be examined.

ii) Financial Report

The balance of the account as of May 24, 2002, is $3249.50. The balance remains good. Costs of future newsletter mail outs and other fees (IFPS and Association fees) will be occurring soon. A balance

of $2802.52 was transferred from past treasurer, Francine McCarthy, to present treasurer, Marlow Pellatt. A new account for CAP was established March 8, 2002. Since this time $350.23 in membership dues have been received and $118.52 in costs (postage, JSC fees, envelopes, receipt book) have been incurred.

iii) Auditor's Report

The audited financial report is reproduced on page 8 of the newsletter.

Respectfully submitted,
Marlow Pellatt
CAP Secretary/Treasurer

Newsletter Editor's Report:

The newsletter continues to be published twice a year, in May/June and December. Special thanks go to Rob Fensome and Nellie Koziel, Geological Survey of Canada - Atlantic, for continuing to reproduce and mail the CAP newsletter and to maintain the newsletter mailing list. The GSC continues to bear the cost of copying and mailing the newsletter, saving CAP this expense. I would like to also express my deepest gratitude to Alwynne Beaudoin--without her support and suggestions of contacts and articles the newsletter could not be published. Luther College at the University of Regina continues to offer its institutional support in the publication of the newsletter. And finally, I would like to thank all of the newsletter contributors; it is only because of your willingness to share your time that the newsletter can continue.

Respectfully submitted,
Mary Vetter
CAP Newsletter Editor

Website Editor's Report:

I have continued to act as Editor for the CAP Website since the last AGM. The main item to report is a complete reworking of the appearance of the CAP webpage concomitant with its transfer to a new location. Since 1995, the website had been located on a server at the University of Alberta. However, it became clear in 1999-2000 that this would not remain a viable option. The University only allocated a small amount of server space for files and, with the increase in material in CAP's web presentation, that space allocation was rapidly becoming "maxed out". Moreover, because scripting was not allowed, it reduced my flexibility in presenting material.

The transfer of the presentation took place in the fall of 2002. At the same time, I took the opportunity to redesign the layout and appearance of the pages. I believe this new appearance is more in keeping with present trends in web presentation. The presentation is now located under my own domain (www.scirpus.ca), which I maintain. There are no costs to CAP associated with this hosting.

The website provides a broad array of useful resources and information about CAP to the palynological community. However, the new location means that the site could potentially include a much wider array of material, including images and pdf files. I draw the attention of CAP members to this resource, and ask for suggestions for enhancements. I welcome contributions to the website and suggestions for new components.

Over 1999 - 2000, CAP's web presentation received a steady "hit rate" of around 300 - 350 accesses each month. Over the last five months, as the new URL becomes established in search engines, indexes, and reciprocal links, the new site is receiving between 400 - 500 accesses each month (see page 7 of this newsletter).

The new CAP website can be found at http://www.scirpus.ca/cap/cap.shtml I would be grateful if CAP members would update their links and bookmarks to point to this location.

I will be happy to continue as CAP's Website Editor for another year.

Respectfully submitted,
Alwynne B. Beaudoin
CAP Website Editor

IFPS Councillor's Report:

Besides mailing out two issues of *PALYNOS* to the paid-up membership of CAP, I have a few other items that might be of interest:

Noteworthy developments during the past year have centered on discussions regarding the desirability of producing only electronic versions of *PALYNOS* in future - a growing trend with a number of organizations to save both time and money on mailing costs. There seems to be general agreement, as long as members who cannot access the Web for whatever reason can be mailed a printout copy.

PALYNOS has generated considerable email traffic between the Secretariat and IFPS councilors on two issues. Firstly, a distinct dearth of submitted material from member societies has been noted, and calls for "HELP" have been sent out to councilors by Madeline Harley and Anne-Marie Lezine. They are looking for any material of palynological interest for possible publication, including discussions, database information, summaries of recent doctoral theses, book reviews, reports on congresses and symposia, and also

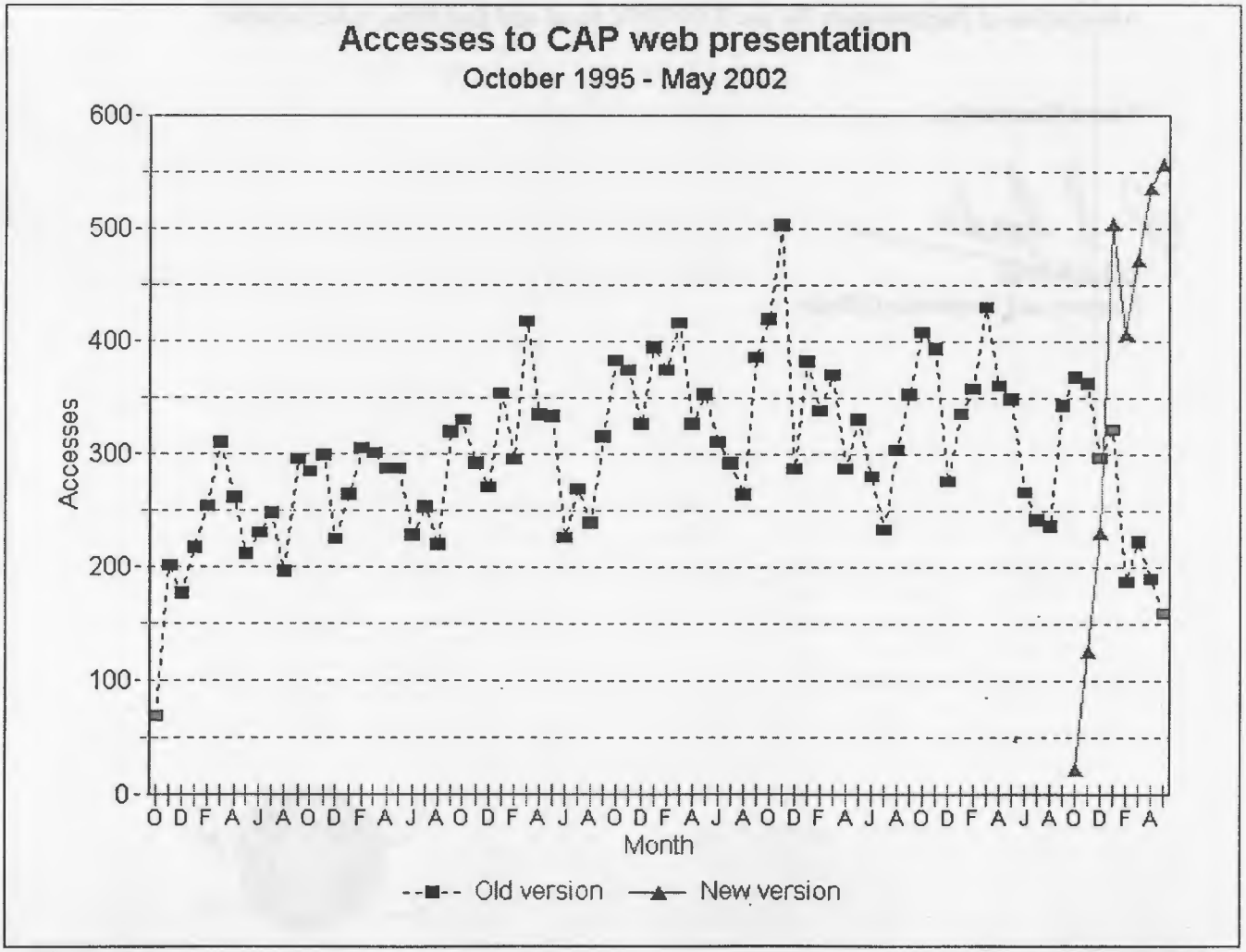
photographs, cartoons, and so on. Like newsletters, *PALYNOS* can only provide interesting and current information if members and member societies support it by submitting information regularly. Submit material directly to lezine@ccr.jussieu.fr

The second item currently in progress is compilation of the database for a new International Directory of Palynologists. This is proceeding slowly, and because of Canadian privacy regulations, there is concern about CAP participating without first polling the members about their willingness to be listed. This is an issue that our President might be able to discuss further at the meeting.

I wish I could attend, but I am leaving shortly for a 6-week academic exchange program in Sweden, dealing with late Quaternary climate change, which naturally includes a lot of palynology. Hopefully I will see you next year, and definitely in 2004 at the next IPC in Granada, Spain.

Respectfully submitted,
Rolf Mathewes
CAP Councillor to IFPS

CAP Executive members at the AGM (from right to left): Alwynne Beaudoin, President; Catherine Yansa, President-Elect; Mary Vetter, Newsletter Editor.



Parks Canada Agency, Western Canada Service Centre
300-300 West Georgia Street
Vancouver, British Columbia
V6B 6B4

May 24, 2002

Canadian Association of Palynologists
C/O
Marlow Pellatt, Treasurer

To whom it may concern,

I, Zahir Bardai, have looked at the financial statement and records for the Canadian Association of Palynologists for the 2001/2002 fiscal and find them to be in order.

Yours Sincererly,

Zahir Bardai
Finance and Contracts Officer

FAR AND WIDE

Workshop on Middle Latitude Dinoflagellates and Their Cysts April 29 - May 3, 2002 Geological Survey of Canada (Atlantic), Bedford Institute of Oceanography

Twenty-five palynologists from seven countries met at the Bedford Institute of Oceanography for a week-long *Workshop on Middle Latitude Dinoflagellates and Their Cysts*. Many thanks to organisers André Rochon (GSC-Atlantic) and Fabienne Marret (U. of Wales). Although the weather in Nova Scotia in late April/ early May can most charitably be referred to as unpredictable, the event (which was in part a tribute to the scientific contributions of Peta Mudie) was very successful. The workshop began with comments from Peta's colleagues and a former student (me!) and ended with a group dinner at McKelvies ("delishes fishes dishes") Restaurant. Canadian participants included Rob Fensome and Graham Williams from the GSC-Atlantic, Gail Chmura and Vera Pospelova from McGill, Anne de Vernal, Maryse Henry, Sandrine Soulignac, and Taoufik Radi from GEOTOP/UQAM, and Elisabeth Levac from Dalhousie. Now at Cambridge, long-time CAP member and former President, Martin Head, also attended. Other delegates from Europe were Rex Harland (UK), Barrie Dale and Kari Grøsfjeld (Norway), Jens Matthiessen (Germany), and Laurent Londeix and Jean-Louis Turon from France. Fortunately, after having been delayed over 40 hours due to mechanical problems on their original carrier, the two Dutch participants (Merlijn Sprangers and Jobien Laurijssen) were finally able to reach Halifax on an Air Canada flight out of Newark by Tuesday afternoon.

As the workshop title suggests, oral presentation topics ranged from experimental studies of encystment and excystment of dinoflagellates to cyst taxonomy to paleoenvironmental, paleoclimatic, paleoenvironmental and geological applications of dinocyst records. Lively discussion accompanied each presentation, but the most heated discussion surrounded the issues of sieve size and transfer function analysis. Microscopic examination of slides brought by researchers answered such important questions as: "Are the cysts which Vera Pospelova found in her shallow estuaries in New England *Nematosphaeopsis labyrinthus*, another species of *Nematosphaeropsis*, or a *Spiniferites* cyst with trabeculae?"

All-in-all, it was an enjoyable and informative workshop, and a fitting way to recognise the achievements of one of the true pioneers of dinocyst research.

Francine McCarthy
Department of Earth Sciences
Brock University

The

Palynology and Micropalaeontology of Boundaries CAP-Sponsored SS22 at the GAC/MAC Annual Meeting Saskatoon, Saskatchewan, Canada May 29, 2002

Papers presented:

MacLeod, Norman "Identifying long-term controls on Phancrozoic extinction and diversification patterns"

Henderson, Charles M., Mei, Shilong, Jin, Yugan, and Cao, Changqun "Conodont definition for the basal boundary of the Lopingian Series, Permian"

White, James M. "The Jurassic - Cretaceous boundary: an experiment in modeling the palynological transition"

Sikora, P. J., Howe, R.W., and Stein, J.A. "High-resolution Chronostratigraphic Analysis and Cyclostratigraphy of a Proposed Turonian/Coniacian Boundary Stratotype, Fort Hays Member of the Niobrara Formation, Wagon Mound, New Mexico, USA"

Yansa, Catherine H. " The Spatial and Temporal Boundaries of White Spruce Occupation of the Northern Great Plains During the Terminal Pleistocene Based on Pollen and Plant Macrofossil Studies"

Parsons, M.G., and Norris, G. "Response of coastal vegetation and marine dinoflagellates to changes in sea level and climate during the late Paleocene and Eocene in the Mackenzie Delta region, N.W.T."

Hughes, J.F., and Mathewes, R.W. "Pollen records vegetation change with elevation over short distances in a salt marsh near Tofino, British Columbia"

Poster presented:

Mei, Shilong, Henderson, Charles M., and Cao, Changqun "Conodont definition for the basal boundary of the Changhsingian Stage, Lopingian Series, Permian"

British Mycological Society 'Mycology and Archaeology' London, U.K. 16th April 2002

This short symposium arose out of a two-day 'PALpeat' meeting on the use of fungal spores by palynologists, organised by Jeff Blackford at Queen Mary, London, in January 2001, at which Roy Watling, a stalwart of the BMS, realised the importance of bringing together two otherwise rather disparate groups - mycologists and 'archaeologists' - for exchange of ideas and knowledge. In the event, the topic of fungi in archaeology drew a rather disappointing response from the BMS membership, but a number of the contributors, at least, were grateful for an opportunity to meet together and expose their work to the scrutiny of those whose background is mycology rather than palaeoecology or archaeology.

The keynote lecture, to open the first session, was given by someone who was certainly most appropriate to introduce the topic of the day – Bas van Geel (Amsterdam), who has pioneered the use of fungal spores (and other microfossil remains) in tandem with traditional pollen analysis in the unraveling of past environmental change. His contribution showed how studies had progressed from the simple recording of 'types' to the identification of taxa and their use as palaeoenvironmental indicators, and he illustrated this with a wide variety of examples from natural lacustrine and peat deposits (even as far back as the Eemian interglacial), through to occupation deposits associated with settlements. Fungi indicative of dung were discussed in some detail – *Cercophora*, *Podospora*, and *Spormormiella*, all being indicators of herbivore dung (and indeed all being identified from mammoth dung from Siberia). Bas identified one of several challenges for the future as the identification of these spores to species in order to attempt to identify the producer of the dung, itself. The identification of remains of fungi related to disease was another area he felt should be pursued.

Roy Watling and the writer of this review then gave two presentations which focused on macrofossil remains of fungi: polypore brackets, puff-balls, sclerotia and various other fruiting bodies. Such remains are thinly distributed through the fossil record of the past 10ka (with the exception of sclerotia of *Cenococcum*, which are one of the most frequent fungi and, indeed, rather a common macrofossil generally) and a rather restricted range of taxa (naturally those

forming structures resistant to decay) is recorded. Nevertheless we now have records of puff-balls of various kinds, for example, from deposits of neolithic to medieval date in the British Isles, and there are good numbers of specimens of various polypores, especially from an early medieval site in N. Germany (where their use as tinder fungi' seems clear from the cut marks on the brackets). The question of how and whether these kinds of remains were used remains a vexing one: for the most part, the remains of those forms with a known ethnomycological pedigree might also have found their way into archaeological deposits purely by accident. They are, nevertheless, part of the archive in the ground and deserve consideration along with all other remains of past organisms.

Closing the morning session, Tony Whalley (Liverpool, John Moores) pondered the longevity of fungal spores and, indeed, their DNA. It seems some spores may retain viability for several decades, whilst a study he cited had asserted that a body of sediment closed off from further contamination would become mycologically sterile in about a millennium.

The afternoon session was devoted to three contributions in which fungal spores were used in the interpretation of past environments and environmental change. In the first, Ciara Clarke (Edinburgh) presented results from three studies: material from a Bronze Age cist burial in the Scottish Borders where the spores recorded were probably largely associated with an otherwise invisible plant covering; samples from a settlement on an island in a loch in the Isle of Lewis where there was evidence of dung and also of fungi associated with the heather which formed a major litter component of some layers; and a peatland site near Fort William in the Highlands where the spore signature could be related to changes in forest cover around the mire or local changes of bog hydrology. Ciara's work had benefited greatly from the involvement of Roy Watling in identifying fungal remains.

Jeff Blackford's contribution concentrated on a study of modern spores and spore assemblages, analogous to the work familiar to all palynologists – using surface samples from a variety of habitats (within woodland and heathland in this particular project) to establish whether a characteristic suite of spores could be detected which would provide a model for interpreting past vegetation and habitat types. Naturally, there was no simple relationship, but some patterns emerged from which it appeared there were certainly types which were indicators of fire, whilst others (essentially dung-fungi) were related to the levels of grazing recorded at the sites studied and others essentially associated with rotting wood. Jeff echoed Bas van Geel's comments that there was a need to be able to name those spores currently only known as numbered 'types' and to establish more firmly the ecology of the taxa which have been named.

The final presentation of the day was made by Jim Innes (Queen Mary, London) who has been working with Jeff Blackford on the mesolithic-neolithic transition and the evidence for mesolithic 'clearance' as recorded in sequences of pollen and fungal spores at various sites in the British Isles, with a view to resolving the question of how far the changes seen in pollen diagrams can be interpreted as resulting from climatic effects or human activity. His work has identified phases of reduced tree pollen and concomitant rises in *Melampyrum* and grasses well before the traditional arrival of neolithic farming at the 'Elm decline', and studies of fungal spores from some sites, at least (where the deposits are close enough to the point of spore production), have shown a close association of taxa thought to indicate burning with phases of clearance and the records for micro-charcoal, followed by rises in spores of dung-fungi as cleared areas were exploited by large herbivores. Jim's work is notable for the meticulous level of detail he employs, using multiple cores to provide a good resolution spatially, and close-sampling intervals as small as 0.5 mm for improved chronological detail.

In all, then, a useful day as an introduction to the uses of the study of fungi within archaeology (for which, read also palaeoecology). Though fungal remains are clearly never going to attain the importance of other groups of organisms as proxies for past environmental change and human activity, they are certainly of more than ephemeral interest. If nothing else emerges as a result, it is to be hoped that the stimulus of this and its progenitor meeting in 2001 will lead to some wider accessibility for palynologists of identification guides to fungal spores and other fungal microfossils and some increased engagement in the work by mycologists who are familiar with the organisms whose fossil remains the palaeoecologist encounters.

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PalynoProjects

The West Hawk Lake Project: Initial Results Following September (2001) Coring

West Hawk Lake (WHL) is a small, 111-m-deep, lake in the Precambrian Shield of southeastern Manitoba which lies within the glacial Lake Agassiz basin and contains 70+ m of unconsolidated sediment. Jim Teller (Geological Sciences, Univ. of Manitoba), Matt Boyd, and a crew from the Limnological Research Center (Univ. of Minnesota) cored in Sept. 2001 the upper ca. 11 m of the WHL sedimentary sequence using a barge-mounted Kullenberg piston gravity corer. Four cores were recovered, described, and archived at the LRC facility. Twelve researchers from the U.S. and Canada are collaborating through analysis of sediment, mineralogy, algae, pollen, plant macrofossils, cladocera, and isotopes. Radiocarbon and paleomagnetic dating of the longest core are also in progress. Our preliminary analyses suggest that the high-resolution (annual-scale) record preserved in West Hawk Lake offers rare insight into Holocene climate change, and the responses of earth-surface processes to climate change in central Canada.

The upper ca. 2 m of the sequence is a silty clay with considerable organic matter in the upper half. The lower ca. 9 m is dominantly a clay with roughly 900 light-dark couplets that we interpret as varves. Preliminary work shows little change in the grain size and mineralogy, but pollen and diatom data show distinct breaks through the sequence. Pollen in the upper 2 m document the expansion into the region of white pine (*Pinus strobus*) which, in NW Minnesota, dates to roughly 4000-3000 BP. Periods of lower relative humidity in the basal 9 m (varved) are indicated by abrupt, short-term, increases in prairie herbs and forbs.

We suggest that the stratigraphic change at about 2 m records the isolation of West Hawk Lake from either glacial Lake Agassiz, or more likely, a large *post*-Agassiz lake which previously integrated the WHL basin. The 900 couplets (varves) below a depth of 2 m therefore represent about 900 years when WHL was part of a much larger drainage system than exists today (perhaps an expanded Lake of the Woods).

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Palynology Course at St. Mary's University Halifax, Nova Scotia

Since 1999, a Quaternary palynology course is offered at St. Mary's University, Halifax, Nova Scotia, through the Biology Department. It is the only palynology course offered in Atlantic Canada. Since 2001, the course is now available for biology and geology students. It is a 4th year course, and students must have the required academic background (prerequisites) before registering, or get permission from the lecturer and possess relevant experience. Pollen grains and dinoflagellate cysts and acritarchs are microscopic organisms; therefore, most of the laboratory work is done using a microscope.

Palynology (BIO 429.2) is an introductory course that provides insights into the many aspects of Quaternary palynology and palynomorphs, such as continental (pollen & spores) and marine (dinoflagellate cysts and acritarchs) palynology, quantitative palynology, red tides, oil exploration, archeology, forensic palynology, acropalynology and melissopalynology. It is an evening class taught from January until April, and it consists of 3 hours of theory (Tuesday, 18:00-21:00), and 3 hours of laboratory work (Thursday, 18:00-21:00).
The first 3 weeks of the course are devoted to the biology, morphology and transport/deposition of pollen grains and spores. This is followed by microscopic observations of reference slides of the most common pollen grains in Nova Scotia/Atlantic Canada. The 4th and 5th weeks are devoted to the study of the life cycle, morphology and cyst production of dinoflagellates. This is followed by microscopic observations of the most common dinoflagellate cyst species in the North Atlantic. The remainder of the class is spent on the various applications of palynology, using pollen and/or spores.

Since the summer of 2000, an aeropalynology research project supervised by Dr. David Richardson (Dean of Science) has been established at St. Mary's. The project aims at providing real time pollen forecasts for the allergy sufferers of the Halifax metropolitan area during the summer season. The program provides an opportunity for a student to take advantage of the expertise acquired in class, and to acquire research experience by analyzing the content of pollen traps in downtown Halifax and in the suburbs.

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Lab Scenes

The Estuarine Paleoenvironments Lab at McGill University

In 1993 the CAP newsletter published a report on the palynological research at McGill. A major focus of the lab was pollen taphonomy in coastal environments. That work provided a base for more applied studies. Here I highlight some of the research at the McGill lab with a brief discussion of our focus and a presentation of some of our recent research projects.

Research Focus

The lab's paleoenvironmental research is focused on estuaries and the saltmarshes that line their shores. A major objective of our research is to improve our understanding of the dynamics of estuarine ecosystems over different time scales and their response to human disturbance (e.g., land clearance, agriculture, urbanization, shoreline modification, and wetland loss). In pursuit of this objective we also are researching paleo-indicators of estuarine water quality.

As saltmarshes are efficient sinks for carbon and pollutants our studies of saltmarsh dynamics also answer key questions in biogeochemistry: 1) what is the magnitude of the saltmarsh carbon sink? (This is of concern in light of increased atmospheric concentration of CO_2 and greenhouse warming); 2) what are the major controls on its variability?; 3) how has human activity impacted the carbon sink?; and 4) what is the history of pollutant (particularly, mercury and lead) loading in a region? Much of this research is based in study areas in the Bay of Fundy and the Atlantic coast of Canada.

Paleoenvironmental Techniques

We apply both micropaleontological analyses (pollen, spores, macrofossils, diatoms, and dinoflagellate cysts) and chemical analyses (biogenic silica, stable carbon isotopes, and the radionuclides, ^{137}Cs and ^{210}Pb) in our research program. Through collaborative projects with the US Environmental Protection Agency, Dalhousie University, and the University of Rhode Island we integrate our results with sedimentological, sediment chemistry (pigments, trace metals, and organic chemicals) and foram studies.

Research Projects

Saltmarsh Dynamics

We have calculated historical rates of sediment accretion in Bay of Fundy saltmarshes using pollen stratigraphies to identify European settlement horizons (Chmura et al., 2001). Palynological research was conducted by honours students, Beth Beecher and Laurie Helmer, who identified increased proportions of *Ambrosia,* other weed species, and pollen from European introductions corresponding to 18th century forest clearance and European settlement in coastal New Brunswick. Their findings also indicated *Ambrosia* declines between two periods of clearance identified by Crown Land Grant records.

These unique records of sediment accretion were combined with research on carbon budgets by M.Sc. student Richard Connor to calculate the rate of carbon sequestration in Bay of Fundy saltmarshes (Connor et al., 2001). Our calculations show that 1.4 to 2.1 $x10^{11}$ g C yr^{-1} is stored in Fundy marshes, and that dyking of marshes to produce agricultural land caused a significant loss of the regional potential for carbon storage.

Pollen-vegetation relationships of Fundy saltmarshes was the topic of Beth Beecher's M.Sc. research (Beecher, 2001). Her calibration of the pollen signal will serve as a basis for future studies evaluating the impacts of climate and human disturbance on marsh ecology.

We have just begun a study to examine the process by which abandoned Fundy dykelands revert to saltmarsh. In her masters research Marie Graf is developing analogues of dykeland agricultural horizons through palynological and $\delta^{13}C$ analyses. She will search for the same signals in buried sediments of John Lusby Marsh, an agricultural area "lost to the sea" when dykes were breached in the 1940s. Calculation of rates of sediment accumulation above the old agricultural soil will give us insight into potential for marsh restoration and its value for increasing CO_2 sequestration.

Impacts of Land Clearance and Pollution in the World's Largest Whaling Port

In collaboration with U.S. Environmental Protection Agency scientists from the National Health and Environmental Effects Research Lab and Dr. David Scott at Dalhousie University we have been examining historical environmental change in New Bedford Harbor. The City of New Bedford, Massachusetts was settled by Europeans in the mid 17th century and soon after its harbor became the world's largest whaling port. Sewage from the burgeoning population resulted in high nutrient inputs to the small estuary that holds the harbor. After the decline of the whaling industry industrial development was encouraged, but resulted in loss of wetlands on the harbor's shoreline and release of heavy metals and organic contaminants into harbor waters. Before remediation measures, the concentrations of PCBs in harbour sediments were some of the highest reported in marine environments.

At McGill, we have produced pollen stratigraphies to date sediments retrieved from the harbour and to produce a proxy for rates of early watershed clearance. Vera Pospelova, a Ph.D. student in our lab, has examined dinoflagellate cysts in the harbor's sediments and identified taxa that serve as negative and positive indicators of environmental degradation in the Harbor (Pospelova et al., in press). The dinoflagellate cyst records show decreasing diversity in response to excessive nutrient loading and pollutant input – paralleling patterns reported for other taxonomic groups studied in polluted estuarine environments. A study of the diatom response has just been completed by M.Sc. student, Zorana Spasojevic, whose results indicate that the magnitude of estuarine primary production increased with early settlement and that the system shifted from benthic to pelagic-dominated production with later changes in water quality.

Indicators of Estuarine Water Quality

As part of her Ph.D. research Vera Pospelova is also examining dinoflagellate cysts in surface sediments from estuaries in southern New England where multi-year water chemistry data are available (temperature, nutrients and salinity). As far as we are aware, this is the first attempt to calibrate water chemistry parameters to dinoflagellate cyst taxa in estuarine environments. The research also has revealed unique coastal taxa (Pospelova and Head, 2002). We plan to expand this data set to include other indicators, and greater variability in water chemistry and temperature regime, using sediment samples collected from waters of the mid-Atlantic States.

Opportunities for Students

There are opportunities for Ph.D., M.Sc., and undergraduate research for students interested in coastal environments and/or paleoenvironmental research. Funding assistance may be available through the Centre for Climate and Global Change Research (C^2GCR). This is a multi-disciplinary, multi-university group of faculty, postdocs, and graduate students concerned with the interactive physical, biological, chemical and socio-economic processes that regulate our global environment. The Centre, through faculty sponsors, provides support for graduate student and post-doctoral stipends, as well as for travel by students making presentations at professional conferences. Since we are based in Montreal students also benefit from interaction with two other local palynological laboratories: the Laboratoire Jacques-Rousseau at the Université de Montréal, directed by Dr. Pierre Richard and Dr. Anne de Vernal's micropaleontology lab within GÉOTOP at the Université du Quebec à Montréal. Additional information can be found on my web page and its links to the Geography Department and C^2GCR
www.geog.mcgill.ca/faculty/CHMURA.html

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Thesis Abstracts

Hughes, Jonathan F. 2002. Pollen records of tidal-marsh subsidence from the 1700 Cascadia earthquake at Tofino, British Columbia. Unpublished Ph.D. dissertation. Department of Biological Sciences, Simon Fraser University, Burnaby, British Columbia. xii + 158 pages. Supervisor: R.W. Mathewes.

Abstract: Pollen aid in quantifying change in sea level and vegetation associated with the 1700 Cascadia earthquake at tidal mashes near Tofino, British Columbia. Deposits beneath marshes include a buried peat capped by tsunami-deposited sand. A broad platform of sand at Jensen's Bay includes six vegetation zones determined with two-way indicator-species analysis (TWINSPAN): muddy low (2.7-3.3 m), sandy low (3.0-3.5 m), middle (2.9-3.6 m), high (3.4-4.0 m), forest-edge transition (3.9-4.1 m), and alder-sedge carr (3.9-4.3 m). Marshes at English Cove lack abundant sand, fringe the forest edge in narrow strips, and include low (2.0-2.9 m), middle (2.8-3.5 m), high (3.2-3.9 m), and forest-edge transition (3.7-4.2 m). Pollen assemblages collected from surface sediments at English Cove reflect vegetation variation along transects from mudflats to forest edge. Surface pollen define five marsh zones: mudflat and low (1.7-2.7 m), low (2.6-3.0 m), middle (3.3-3.6 m), high (3.6-3.9 m), and forest-edge transition (4.0-4.1 m). Euclidean distance is low (</= 0.2) for pollen samples collected from the same zone and high (>0.2) for samples from different zones. High marsh pollen such as *Achillea*-type, Poaceae, and *Potentilla*-type have narrow elevation tolerances (<0.5 m) and high association indices (>0.5), which shows they are good proxy indicators of relative sea level and vegetation. Paleoelevations of fossil pollen assemblages at English Cove determined with weighted averaging (inference error = 0.3, r^2 = 0.85) accommodate estimates of coseismic subsidence of 0.65 +/- 0.3, 0.69 +/- 0.3, and 0.50 +/- 0.3 m (average = 0.6 +/- 0.3 m). Euclidean distance between surface and subsurface pollen samples shows that fossil pollen assemblages of the buried peat have good analogues in surface pollen but those that overlie the tsunami sand do not, which suggests that coseismic subsidence and tsunami deposition allow atypical plant communities to establish.

Sandy low and middle marshes at Jensen's Bay provide a modern analogue for vegetation colonization of tsunami sand. TWINSPAN and detrended correspondence analysis (DCA) distinguish sandy low and muddy low marsh communities, which indicates that sand influences species composition. TWINSPAN and DCA show that pollen from the sandy marsh surface is similar to fossil spectra from sediments that immediately overlie the buried tsunami deposits. The average elevation of plants tends to be higher (<0.1 to 0.2 m) when the plants are growing in sand compared with mud, but overlapping standard deviations suggest that elevations are not significantly different. *Carex lyngbyei* (0.4 m) is exceptional because it colonizes low marsh on mud and is restricted to middle marsh or higher elevations on sand.

Elevation and inundation explain more variance in species cover-abundance at English Cove (19%) than at Jensen's Bay (16%). Large axis-1 eigenvalues determined with DCA for both sites suggest that there is a dominant environmental gradient, interpreted here to be the complex of environmental factors correlated with elevation and inundation. Low marsh and middle marsh are more responsive to elevation and inundation at both sites. The nonlinear distribution of inundation results in more prediction error than elevation.

Close agreement between estimates of coseismic subsidence determined with pollen in this study and foraminifera in other studies supports their use as proxy indicators of relative sea level. Combined analysis of vegetation and surface pollen distributions provides ecological support for sea-level reconstruction using palynological techniques.

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Yansa, Catherine H. 2002. Late-glacial and early postglacial vegetation and climate change in the northeastern Great Plains: evidence from pollen and plant macrofossil studies. Unpublished Ph.D. dissertation. Department of Geography, University of Wisconsin, Madison, Wisconsin. Supervisor: Dr. Vance T. Holliday.

Abstract: Today the northern Great Plains is susceptible to drought, which causes economic as well as personal hardships to the inhabitants of this agriculture-based region. There is public interest in obtaining long-term drought records older than the *ca.* 100-year meteorological record. Paleoenvironmental studies using proxy indicators such as pollen provide these paleoclimate data on centurial- and millennial-timescales. However, little of such information is available for the northeastern part of the region, especially for the late-glacial and early postglacial. This pollen and plant macrofossil study reconstructs the vegetation and climate history of the northeastern Great Plains from the earliest plant colonization after deglaciation (about 11,500 ^{14}C yr B.P.), until the onset of maximum aridity in the early and mid-Holocene. There is significant local environmental noise" in the paleovegetation dataset, because of site-specific variations in the timing of deglaciation, melting of stagnant ice, soil development, and plant migration. The climate signal was discerned from this paleobotanical dataset by identifying commonalities in the spatial and temporal paleovegetation patterns reconstructed between the four study sites.

Four sites were selected to represent the four major geographic regions in the northeastern Great Plains. These sites also represent the diversity of wetland types available in this region, ranging from perennial lake to ephemeral wetland. Sediments were collected from cores and an exposed section at these four sites in southeastern North Dakota and adjacent parts of South Dakota and Minnesota, where paleoclimate data are most limited.

This paleoenvironmental study is based upon the analysis of 126 pollen and 371 macrofossil samples, which are interpreted in relation to site lithostratigraphies and in association with 25 radiocarbon ages. An open white spruce woodland or savanna colonized the Glaciated Till Plain first, at 11,500 ^{14}C yr B.P., when a small lake formed at the Wendel Site in southeastern North Dakota. Around 11,000 ^{14}C yr B.P., lake level lowered and a grassland was established. The wetland became dry or ephemeral shortly after 9800 ^{14}C yr B.P., indicating that the onset of greater aridity had occurred by this time.

An open white spruce woodland or savanna colonized the Missouri Coteau upland of southeastern North Dakota by 10,800 ^{14}C yr B.P., as indicated by the data collected for Coldwater Lake. This vegetation was subsequently replaced by a deciduous parkland at about 10,600 ^{14}C yr B.P., and this vegetation persisted until at least 10,200 ^{14}C yr B.P., when drought-tolerant grassland first became widespread. In response to greater regional aridity, lake-levels gradually lowered and ragweed and other grassland plants colonized the subaerial soils, both reaching a peak at about 8100 ^{14}C yr B.P. on the Missouri Coteau.

In the southern Agassiz basin, along the border between the Dakotas and Minnesota, plant colonization was delayed until the retreat of glacial Lake Agassiz exposed the lake bed. A deciduous parkland vegetation occupied this basin from 10,230 to 9900 ^{14}C yr B.P., as indicated by the data from the Trollwood Park Site. There is a gap in the fossil record between 9900 to 9400 ^{14}C yr B.P. when glacial Lake Agassiz reoccupied its southern basin. By 9400 ^{14}C yr B.P., a grassland with scattered lakeshore and riverine trees was established in the area, as indicated by the Big Stone Lake fossil record. In this eastern limit of the northern Great Plains, expansion of grassland and the demise of local trees occurred by about 8500 ^{14}C yr B.P., and are attributed to greater aridity at this time. The early postglacial vegetation of the southern Agassiz basin differed from that reconstructed for the uplands 50 to 80 km to the east, indicating that this basin was situated at or near the prairie-forest ecotone in the past, as it is today.

The postglacial climate signal for the northeastern Great Plains, interpreted from plant fossil, lithostratigraphic, and ^{14}C data, appears to be time- and space-transgressive. In the western part of the northeastern Great Plains, the Missouri Coteau and the Glaciated Till Plain, greater warmth is evident as early as 11,500 ^{14}C yr B.P. This warming trend became more pronounced between 11,000 and 10,600 ^{14}C yr BP., and the onset of greater-than-modern aridity occurred between 9800 and 8100 ^{14}C yr B.P. Further east, in the southern Agassiz basin, warm summer temperatures were present at 10,230 ^{14}C yr B.P. By 9400 ^{14}C yr B.P., aridity had increased, and reached a peak after 8500 ^{14}C yr B.P. at the eastern limit of the northern Great Plains.

This apparent west-to-east transgression of the appearance of Holocene warmth and aridity in the northern Great Plains is due to the paleoclimate signal being dampened by site-specific environmental noise, which is shown in this study to be a function of site proximity to the Laurentide Ice Sheet. Bodies of cold, fresh meltwater and remnant ice delayed the vegetation response to warm and arid climate change for several centuries. The true regional climate signal is best reflected in the study site farthest from the ice front and having the least amount of stagnant ice. The age for the onset of a warm and arid climate in this region, as predicted by General Circulation Models (GCMs), agrees best with the 11,500 ^{14}C yr B.P. data from the Wendel Site. The combined dataset indicates that the warming trend on the northeastern Great Plains had further developed between 11,000 and 10,600 ^{14}C yr B.P., and the onset of a climate characterized by greater aridity than modern occurred by 9800 ^{14}C yr B.P. There does not appear to be a climate signal for the Younger Dryas event at any of these sites.
(see "Address Changes" on p. 3 for current address)

Hallett, Douglas J. 2001. Holocene Fire History and Climate Change in Southern British Columbia, Based on High-Resolution Analyses of Sedimentary Charcoal. Unpublished Ph.D. dissertation. Department of Biological Sciences, Simon Fraser University, Burnaby, British Columbia. Supervisor: R.W. Mathewes.

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Douglas is now a postdoctoral fellow at Northern Arizona University working in the paleoecology lab of Dr. R. Scott Anderson. Douglas and Scott are working along with Dr. Cathy Whitlock and Dr. Pat Bartlein on a larger project investigating long-term fire (charcoal) and climate records of North and South America.
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Doner, L.A. 2001. Late Holocene paleolimnology and paleoclimatology from sub-arctic lakes in Nunavut, Canada and Iceland. Unpublished Ph.D. dissertation. University of Colorado at Boulder. 333 p. Supervisor: John T. Andrews.

Sediment cores from five lakes in the western North Atlantic region were studied to establish a detailed record of regional climate change during the past two millennia, against a backdrop of more localized limnological changes. To accomplish this, proxy-climate records from three varved-sediment lakes on Baffin Island, Ogac Lake, Upper Soper Lake and Winton Bay Lake, were compared to similar records from two lakes in northwest Iceland, Vatnsdalsvatn and Thiðriksvallavatn. These records include results from environmental magnetism, ICP-OES geochemistry, carbon content, C/N, and pollen analyses. AMS ^{14}C and ^{210}Pb analyses provide chronologies for each site. The longest records, from Baffin Island, cover the interval from the mid-20th Century to 1900 BP. The records from Iceland extend from the mid-20th Century to 950 BP, at Vatnsdalsvatn, and to about 500 BP, at Thiethriksvallavatn. On Baffin Island, sediment, diatom and pollen analyses reveal gradual changes associated with lake uplift and marine isolation, and relatively rapid changes associated with climate changes at the beginning and end of the Medieval Warm Period (MWP), from about 1250-650 BP, and the Little Ice Age (LIA), from about 550-100 BP. High resolution (20-40 year/sample) pollen records from each of the Baffin Island sites reveal these climate changes in both local (low-Arctic) and exotic (Boreal Forest) pollen assemblages, aided by multivariate clustering and detrended correspondence analyses (DCA). Enhanced algal productivity and higher levels of sedimentary carbon occur during the LIA at Ogac and Upper Soper lakes on Baffin Island, and at Vatnsdalsvatn, on Iceland. Human disturbance is not a distinguishable factor in the Iceland records, except for abrupt changes in lake chemistry and sediment influx after a dam was constructed at Thiethriksvallavatn. Geochemistry changes in the Iceland lake, associated with erosion, show a 100-130 yr. periodicity, lasting over nine centuries at Vatnsdalsvatn and over four centuries at Thiethriksvallavatn. These erosion cycles may be associated with long-term stability in the positive mode of the North Atlantic Oscillation.

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ON THE SHELF

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(CAP Members are denoted by *)

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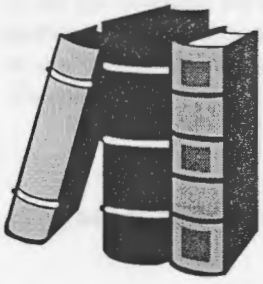

NEW BOOKS

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Series Editors: John P. Smol & William M. Last

Aims & Scope of DPER Series

Paleoenvironmental research continues to enjoy tremendous interest and progress in the scientific community. The overall aims and scope of the *Developments in Paleoenvironmental Research* book series is to capture this excitement and document these developments. Volumes related to any aspect of paleoenvironmental research, encompassing any time period, are within the scope of the series. For example, relevant topics include studies focused on terrestrial, peatland, lacustrine, riverine, estuarine, and marine systems, ice cores, cave deposits, palynology, isotopes, geochemistry, sedimentology, paleontology, etc. Methodological and taxonomic volumes relevant to paleoenvironmental research are also encouraged. The series will include edited volumes on a particular subject, geographic region, or time period, conference and workshop proceedings, as well as monographs. Prospective authors and/or editors should consult the series editors for more details. The series editors also welcome any comments or suggestions for future volumes.

The first 4 volumes of this new series, all dealing with methodology/techniques in paleolimnological and related research, have been completed and are as follows:

Last, W.M. and Smol, J.P. [Editors]. 2001. Tracking Environmental Change Using Lake Sediments. Volume 1: Basin Analysis, Coring, and Chronological Techniques. Kluwer Academic Publishers, Dordrecht.548 pp.

Last, W.M. and Smol, J.P. [Editors]. 2001. Tracking Environmental Change Using Lake Sediments. Volume 2: Physical and Geochemical Methods. Kluwer Academic Publishers, Dordrecht. 504 pp.

Smol, J.P. Birks, H.J.B., and Last, W.M. [Editors]. 2001. Tracking Environmental Change Using Lake Sediments. Volume 3: Terrestrial, Algal, and Siliceous Indicators. Kluwer Academic Publishers, Dordrecht.371 pp.

Smol, J.P. Birks, H.J.B., and Last, W.M. [Editors]. 2001. Tracking Environmental Change Using Lake Sediments. Volume 4: Zoological Indicators. Kluwer Academic Publishers, Dordrecht.

The DPER web page can be found at http://home.cc.umanitoba.ca/~mlast/paleolim/dper.html It provides detailed table of contents for each volume (as well as other information about the DPER series).

Proceedings of the 9th International Palynological Congress.

David K. Goodman and Robert T. Clarke (Eds.). 2001, 618 p. AASP Foundation, Dallas, TX.

The Ninth International Palynological Congress was held in Houston, Texas, June 23-28, 1996, and was attended by 415 palynologists from around the world. The proceedings volume includes 65 articles divided among five sections:

- Paleozoic Palynology, 10 articles, 130 pages
- Mesozoic Palynology, 10 articles, 100 pages
- Tertiary Palynology, 9 articles 85 pages
- Quaternary/Pleistocene Palynology, 13 articles 130 pages
- Recent Palynology, 23 articles 167 pages

Copies may be obtained from vbryant@tamu.edu for $90 per copy, includes shipping.

Diatom Monographs

A. Witkowski (ed.).

Volume 1: Thomas B. KELLOGG and Davida E. KELLOGG: Non - Marine Diatoms from Antarctic and Subantarctic Regions. Distribution and Updated Taxonomy. 2002. 795 pages. Hardcover. (ISBN 3-904144-73-1) EUR 150/ US$ 150

Published by Gantner Verlag, Ruggell (Liechtenstein)
Distributed by Koeltz Scientific Books
https://www.koeltz.com

Current Topics on Taphonomy and Fossilization

Proceedings volume of the 3rd "International Conference on Taphonomy and Fossilization". This international meeting took place 14-16 Feb 02 in the city of Valencia (E. Spain) sponsored by the International University: "Menéndez Pelayo". The 544 page volume, titled: "Current Topics on Taphonomy and Fossilization" has been edited with the economic support of the City Hall of Valencia as the Nr. 5 of the cultural series: "Encontres". It contains the full text of

the 50 poster presentations plus the extended Summaries of the 8 invited lectures.

The conferences and Key-notes cover the following topics:
1. Theory of Taphonomy (5 presentations)
2. Taphonomy and Palaeobiology
(2.1) Evolutionary Paleobiology (3 presentations)
(2.2) Palaeoecology and Palaeobiogeography (6 presentations)
3. Taphonomy of shell concentrations (8 presentations)
4. Special Preservation Cases (7 presentations)
5. Taphonomy of Vertebrates and other Chordates (9 presentations)
6. Taphonomy and Palaeobotany (2 pesentations)
7. Taphonomy, Sedimentology and Biostratigraphy (4 presentations)
8. Taphonomy and Archaeology (10 presentations)
9. Taphonomy in Didactics and Museums (1 presentation)
Main Invited Lectures are presented by the following specialists:
- A. Seilacher (Taphonomy of coprolites and cololites)
- R.E. Martin (Biogeochemical cycles)
- R. Fariña (South American giant Mammals)
- S.M. Kidwell (Time-averaged fossil assemblages)
- S.M. Kidwell (Skelethal concentrations)
- N. Butterfield (Exceptional preservation in Burgess Shales)
- A.K. Behrensmeyer (Biotic vs. Abiotic processes in the Vertebrate Fossil Record)
- D.K. Ferguson (Plant taphonomic processes)

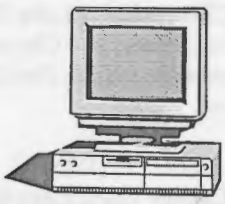
The volume is available and may be ordered at:
"Exclusivas GRAON S. L."
Price: 14.42 Euro (V.A.T. excluded)
e-mail: distribuciones@graons.com
The delivery will be borne by the customer. Sending charge will depend on the destination. Total cost will be confirmed by e-mail. Payment may be made by Bank transfer.

The Freshwater Algal Flora of the British Isles. An Identification Guide to Freshwater and Terrestrial Algae.

John, D. M., B.A. Whitton and A. J. Brook. .2002. illus. 714 p. Hardcover. EUR 128
(approx. 110 US$)
KOELTZ SCIENTIFIC BOOKS
Internet : http://www.koeltz.com

Principles of Lake Sedimentology

The first comprehensive textbook on the subject, has been brought back into print by The Blackburn Press. Authored by Lars Hakanson and Mats Jansson, the book defines and discusses fundamental physical, chemical and biological sediment parameters from a multi-disciplinary perspective. It covers the sedimentological mechanisms in the lake water, on the lake bottom and within sediments. It also stresses the role of sedimentology in lake management and control, with a special focus on nutrients and metals. When it was originally published in 1983, it was called "a major contribution to this relatively new field."
http://www.blackburnpress.com/prinoflaksed.html
The Blackburn Press is a relatively new publishing company, founded with the mission of keeping in print and available for purchase at reasonable prices book titles that larger publishers have lost interest in and have declared to be "out of print." We specialize in scientific and technical books and textbooks; most are classics in their field. We are interested in hearing about other out-of-print titles we might consider returning to print. Your suggestions are welcome.



PALYNOBYTES

New Bibliographic Resource for Western Interior Canada and Northern US

I would like to draw your attention to a new bibliographic resource that I have added to my web page at http://www.scirpus.ca/index.shtml. This listing consists of Late Quaternary palaeoenvironmental sites within the SCAPE study area (western interior Canada and northern US) and adjacent areas. Not all sites are lakes; some are peatlands, wetlands, fens, or bogs. Many sites have yielded pollen data, but the listing also includes sites where plant macroremains, diatoms, and algal pigments have been investigated. The references included for each site are the main ones with primary data or detailed discussions. So far, the listing consists

of 337 sites and 324 citations. I'd be glad to receive any comments or feedback on this on-line resource, or to have my attention drawn to errors, or significant sites or references I have missed.
Alwynne B. Beaudoin
Provincial Museum of Alberta
12845-102nd Avenue, Edmonton, Alberta
T5N 0M6, Canada
abeaudoi@gpu.srv.ualberta.ca
http://www.pma.edmonton.ab.ca
http://www.scirpus.ca

Catalogue of diatoms from the Swedish west coast

New on the Web, the page
http://www.marbot.gu.se/files/melissa/checklist/diatoms.html contains a list of species observed from cleaned and cultured sediment, and almost half of the list is linked to micrographs. This is intended to be an ongoing project so any comments are welcome.
Diatoms from the Swedish west coast
http://www.marbot.gu.se/files/melissa/checklist/diatoms.html
Melissa McQuoid
Department of Marine Ecology, Marine Botany
Göteborg University
GÖTEBORG, Sweden
E-mail: melissa.mcquoid@marbot.gu.se

Searching past issues from AASP

AASP is pleased to announce that it is now possible to search past issues of PALYNOLOGY and the AASP issues of Geoscience and Man by Author, Title, and Keywords at the following website:
http://www.palynology.org/content/Palynology/
PALYNOLOGY accepts manuscripts on all aspects of palynology.
http://www.palynology.org/content/Palynology/astyle.html
Owen Davis.
editor@palynology.org
http://www.palynology.org/

European Diatom Database On the web at Newcastle University

The European Diatom Database has moved to
http://craticula.ncl.ac.uk:8000
When it is completed an announcement will be made.
Richard Telford
Geography Department
Newcastle University
Newcastle-upon-Tyne
NE1 7RU, UK
Email: R.J.Telford@ncl.ac.uk
http://www.campus.ncl.ac.uk/staff/r.j.telford

ANNOUNCEMENTS

New Paleoclimatology Slide Sets from NOAA/NGDC

NOAA's National Geophysical Data Center (NGDC) is pleased to announce two new educational slide sets in the field of Paleoclimatology. One set discusses the Collapse of the Classic Maya Civilization in the context of Paleoenvironmental change, and the second examines the causes of the Pleistocene Ice Ages.

For details on these new products go to:
http://www.ngdc.noaa.gov/products/mkt003.html

You may order these products on-line using any major credit card. When ordering please reference MARKETING CODE: 003.

Geochron Lab Competition

Each year Geochron Laboratories awards research grants to graduate students enrolled in academic institutions around the world. The awards consist of analytical services performed free of charge for the winner of each category. The deadline for applications is May 1st. Early application is suggested to assist us with prompt evaluation and notification of winners. The four separate awards are offered by Geochron Labs in an effort to encourage the application of isotopic analysis techniques to solve original and significant problems. The awards consist specifically of the following services:

K-Ar age determinations:
Up to five (5) age determinations using the K-Ar method.

^{14}C age determinations:

Up to eight (8) conventional ^{14}C age determinations or three (3) AMS age determinations or some combination of the two.

Stable Isotope Ratio Analyses:
Up to $1,500.00 in stable isotope analyses, of any variety or combination (except hydrogen and oxygen on silicates), based on our published prices.

Stable Pb or Sr isotopic analyses:
Up to five (5) isotopic analyses of either stable Pb or Sr.

There will be at least one award in each category receiving applications.
We may select more than one winner in any category, at our option. The various categories cannot be combined in the same proposal, although separate proposals by the same applicant are welcome and will be judged independently in their respective categories. Contact us for further information about the exact nature of the services available.

Competition Rules

1. All applicants must be graduate students in good standing at U.S. or foreign accredited academic institutions.
2. Applicants must submit their name, address, telephone number, institutional affiliation, field of specialization, as well as their graduate supervisor's name, address, and telephone number.
3. The category of analysis should be specified and the problem to which the analyses will be applied should be accurately described in less than 500 words, including evidence that the application of the analyses to be awarded is likely to solve the problem.
4. Additional documentation, references, reprints, maps, etc., may be included separately. Supplementary material will not be returned, so please send copies.
5. All entries must be written in English.
6. Applications must be received at Geochron no later than May 1st.
7. All entries will be judged on the basis of originality, actual availability of appropriate materials for analysis, significance to the field of study, and probability of a solution by the analytical method chosen and the amount of work to be awarded.
8. Winners of each award will be notified by June 30th. Please give a summer address if you expect to be away from your school address in June.
9. Samples for analyses must be submitted before the end of the calendar year and the analyses will be completed within approximately 90 days of receipt. Analytical results will be reported on our standard forms.
10. It is expected that the award will be appropriately acknowledged in any thesis or subsequent publications that utilize data provided under the award, and that copies or reprints of such publications will be sent to Geochron for our records.

Send Applications To:
Research Awards
Geochron Laboratories
711 Concord Avenue
Cambridge, MA 02138-1002 U.S.A.

Paleontology Division of GAC announces the new Pikaia Award

Pikaia Award Guidelines

The Pikaia Award is awarded in recognition of a recent contribution to research on any aspect of Canadian paleontology, or by a Canadian to paleontology, that is judged to constitute an outstanding accomplishment in the field. The award will typically go to an individual, but more than one individual may be considered for the award in the case of multi-authored works. The outstanding accomplishment may be a single paper or monograph or a series of closely related papers. The award will normally go to an individual who is no more than 15 years past their last degree.

The Pikaia award is named after Pikaia, an early cephalochordate known from the Burgess Shale. It is awarded biennially in even-numbered years. The winner shall be
recognized at the Geological Association of Canada Annual Awards Luncheon and the award presented at the annual Canadian Paleontology Conference.

The Paleontology Division Awards Committee shall be responsible for selecting a candidate(s) from sponsored nominations and recommending their selection to the Paleontology Division Executive who shall inform the Council of the Geological Association of Canada of the award. Each Awards Committee is given complete independence in decisions about how it defines "outstanding accomplishment."

Anyone may submit nominations to the Awards Committee for consideration, but nominations must be signed by at least three members of the Paleontology Division. Nominations should include a citation of no more than 300 words, suitable for publication and for

reading at the time of the award. The nomination should be supported by a Curriculum Vitae and biography which describe the candidate's achievements. An original and four copies of each nomination should be submitted to the Chair of the Awards Committee. Unsuccessful nominations remain in the pool for one additional selection process and may be updated by the nominators as required.

Please send nominations to:
John Storer, Yukon Paleontologist,
Chocolate Claim Building L-2A,
303 A Strickland Street,
Whitehorse, Yukon Y1A 2J9,
Fax: 867-667-5377; 867-667-8007.
John.Storer@gov.yk.ca

The other awards committee members are
Dennis Braman, Royal Tyrrell Museum
Guy Narbonne, Queen's University

MEETING ANNOUNCEMENTS, SPECIAL SESSIONS and CALLS FOR PAPERS

Challenging Thirst

As part of the upcoming Chacmool 2002 Conference: "Apocalypse Then and Now: A Conference about Archaeology and Worlds' Ends", to be held at the University of Calgary, Alberta, November 13-17 2002, I am organizing a session called "Challenging Thirst: Drought as a Factor in Human and Landscape History". Further details about the conference, registration, etc., can be found on the conference website at http://www.ucalgary.ca/UofC/faculties/SS/ARKY/Dept_Files/chacmool.htm

Alwynne B. Beaudoin
Provincial Museum of Alberta
12845-102nd Avenue, Edmonton, Alberta
T5N 0M6, Canada
abeaudoi@gpu.srv.ualberta.ca
http://www.pma.edmonton.ab.ca
http://www.scirpus.ca

Ancient Lake Sediments

We are co-convening a session at the next annual meeting of the Geological Society of America in Denver, Colorado, October 27-30, 2002: "Geochemical and Mineralogical Records from Ancient Lake Sediments". Co-sponsors: GSA Sedimentary Geology Division, GSA Limnogeology Division.

This session will focus on the use of geochemical and mineralogical proxies in lacustrine sediments as tools for understanding ancient environments and climates. Papers will concern modern process, core, or outcrop studies from a diversity of tectonic, climatic, and geochemical regimes around the world.

The abstract submission deadline is July 16, 2002, and the submission website can be accessed at http://www.geosociety.org/meetings/2002.

Please spread the word, and feel free to contact us with questions!

Daniel Deocampo
USGS Water Resources Division
kerolite@earthlink.net
703-648-5951

Robin Renaut
University of Saskatchewan
robin.renaut@usask.ca
306-966-5705

CANQUA 2003

The organisation for the 2003 CANQUA meeting in Halifax is well underway. Check out the new and improved conference web site, bookmark it, and check regularly for updates!
http://www.gov.ns.ca/natr/meb/canqua/Canqua.htm

Paleoecology Symposium at the Ecological Society of America Annual Meeting Tucson, AZ August 2002

"Gasping for CO2: Ecological Effects of Past Variations in Atmospheric CO2

The symposium will be held August 8, 9:00-11:30 am. The current list of speakers and titles:

1. EHLERINGER, J. Title TBA
2. WARD, J. University of Utah. Physiological and evolutionary responses of plants to low CO2 of the late Pleistocene.
3. SMITH, W. K. and JACKSON, S. T. Quaternary carbon dioxide concentrations: a comeback for conifers?
4. LEVIS, S. National Center for Atmospheric Research. CO2, climate, and vegetation interactions at the Last Glacial Maximum as simulated by a synchronously coupled climate-vegetation model.
5. YONGSONG, H. and SHUMAN, B. N. Title TBA
6. VAN DE WATER, P. Eco-physiological and morphological changes in plant macro-fossils from the arid interior west as atmospheric CO2 shifted during the terminal Pleistocene.
7. JACKSON, R. B., GILL, R. A., POLLEY, H. W., JOHNSON, H. B., AHERALI, H., ANDERSON, L. J. Grassland responses to past and future atmospheric CO2.

3rd International Mammoth Conference

We announce the 3rd International Mammoth Conference, to be held in Dawson City, Yukon Territory, Canada, from May 24 to 29, 2003. The International Mammoth Conference covers research on mammoths, their environment and associated fauna.

The Klondike goldfields near Dawson City represent one of the richest Pleistocene fossil localities in North America, possibly the world, and have been a focus of mammoth research for more than 100 years.

For more information please see our website at http://www.yukonmuseums.ca/mammoth/index.htm This site will be updated frequently as the conference approaches. On the website there is a form to send if you wish to receive a second circular, planned for September, 2002.

John Storer, Yukon Palaeontologist
Heritage Branch
Yukon Department of Tourism
PO Box 2703
Whitehorse, YT Y1A 2C6
Phone: (867) 667-8089
Fax: (867) 667-8007
Email: John.Storer@gov.yk.ca

MEETING CALENDAR

2002

June 24 - 28 2002. **10th International Conference on Luminescence and Electron Spin Resonance Dating (LED2002)**
University of Nevada-Reno, Reno, Nevada, U.S.A. Details: Conference Secretary, Ms. M. Jones, Division of Hydrological Sciences, Desert Research Institute, 2215 Raggio Parkway, Reno, NV 89512-1095, USA. Email: LED2002@dri.edu
Website: http://www.dri.edu/DEES/LED2002/led2002-home.html

August 8 - 11 2002. **AMQUA (American Quaternary Association) 17th Biennial Meeting**
Anchorage, Alaska. Theme: Environmental Change and Human Migration in the North Pacific Basin Details: Margaret J. Guccione, Geosciences Department, OZAR-113, University of Arkansas, Fayetteville, Arkansas, AR 72701, USA, Tel: (501) 575-3354, Fax: (501) 575-3177, E-mail: guccione@comp.uark.edu

August 14 - 21 2002. **17th World Congress of Soil Science (WCSS)**
Thailand. Details: The Secretariat, 17th WCSS, 17th WCSS Office, Kasetsart University, PO Box 1048, Bangkok 10903, Thailand. Tel: (662) 9405787, 9405707-8, Fax: (662) 9405788, Email: o.sfst@nontri.ku.ac.th
Website: http://www.17wcss.ku.ac.th

August 28 - 31 2002. **4th International Meeting On Phytolith Research**
McDonald Institute for Archaeological Research, University of Cambridge, England, UK

August 29 - September 2 2002. **6th European Palaeobotany - Palynology Conference**
Athens, Greece. Details: Prof. D. Evangelos Velitzelos, Organizing Committee, 6th European Palaeobotany-Palynology Conference, Department of Historical Geology-Palaeontology, Faculty of Geology, University of Athens, Panepistimioupolis, Zografou, 157 84 Athens, Greece. Tel./Fax: +30-1-7274162, E-mail: velitzel@geol.uoa.gr

August 31 - September 4 2002. **"Emerging Concepts in Organic Petrology and Organic Geochemistry". Canadian Society for Coal Science and Organic Petrology (CSCOP) - The Society for Organic Petrology (TSOP), Joint Annual Meeting**
Banff, Alberta, Canada. Information: Dr. Martin Fowler, Geological Survey of Canada, 3303-33rd Street NW, Calgary, Alberta T2L 2A7 Canada; Phone: (403) 292-7038; Fax: (403) 292-7159; E-mail: Mfowler@nrcan.gc.ca
Website for further details: http://www.cscop-tsop2002.com
Abstract deadline: January 31, 2002

September 1 - 6 2002. **The Third International Congress "Environmental Micropaleontology, Microbiology and Meiobenthology", EMMM'2002**
Vienna, Austria. Conference objectives: The main objectives of the Congress are: (1) to present innovative multidisciplinary research on recent and fossil micro- and meioorganisms, addressing environmental/ paleoenvironmental problems in the biological, geological, and environmental sciences, as well as in agriculture and industry; (2) to bring together specialists with biological and geological backgrounds for the enhancement of professional and public educational programs and research benefiting the environment, human health and welfare; (3) to increase public awareness of the importance and value of recent and fossil micro- and meioorganisms in the environmental sciences, in order to bridge the gap between science, industry, and regulatory environmental agencies. Details: Dr Irena Motnenko, Technical Director of the EMMM'2002 Congress, P.O. Box 60013, 110-2025 Corydon, Winnipeg, Manitoba, R3P 2G9, Canada. Tel: (204) 489-4569, Fax: (204) 489-5782 (Winnipeg), congress@isemmm.org
Website: http://www.isemmm.org

September 5 - 7 2002. **CIMP Symposium and Workshops**
Lille, France. Details: Thomas Servais (thomas.servais@univ-lille1.fr) or Ludovic Stricanne (ludovic.stricanne@univ-lille1.fr), University of Lille

September 11 - 13 2002. **Joint Meeting of AASP, BMS and NAMS (American Association of Stratigraphic Palynologists, British Micropalaeontological Society, North American Micropaleontology Section of SEPM)**
University College London, England, UK. Details: James Powell, Dinosystems, 105 Albert Road, Richmond, Surrey TW10 6DJ,England, UK, Tel: +44 20 8948 6443; Fax: +44 20 8940 5917, E-mail: ajp@dinosystems.co.uk.

October 14 - 18 2002. **X Russian Palynological Conference**
Theme: Methodical Aspects of Palynology. Under the auspices of the Russian Palynological Commission. Institute of Geology and Development of Fossil Fuels, Moscow Russia. The working language of the conference is Russian, however, the Organizing Committee will accept presentations in English. Details: Prof. Lydia V. Rovnina, Fersmana, 50, Institute of Geology and Development of Fossil Fuels, Fax (095) 129-41-07, Phone (095) 124-95-77 or Natalia E. Zavialova, E-mail: 10vpk@rambler.ru

October 27 - 30 2002. **Geological Society of America, Annual Meeting.**
Denver, Colorado, U.S.A. Theme: "Science at the Highest Level". Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020, X133, E-mail: meetings@geosociety.org

2003

Date: TBA. **9th International Paleolimnology Symposium**
Helsinki, Finland.

March 29 - April 2 2003. **3rd International Limnogeology Congress**
Tucson, Arizona, U.S.A. Theme session proposals to Andrew Cohen, General Chair of the Congress (acohen@geo.arizona.edu). Field trip proposals to David Dettman, field trip coordinator for the Congress (dettman@geo.arizona.edu).

May 25-29 2003 **GAC/MAC Meeting**
Vancouver, British Columbia, Canada

June 8 - 11 2003. **CANQUA Meeting**
Halifax, Nova Scotia, Canada. Details: Ralph Stea, E-mail: rrstea@gov.ns.ca

July 23 - 31 2003. **INQUA XVI Congress**
Reno, Nevada, USA. Theme: "Shaping the Earth: A Quaternary Perspective"
Website:
http://www.dri.edu/DEES/INQUA2003/inqua_home.htm

September 1 - 5 2003. **18th International Radiocarbon Conference**
Wellington, New Zealand. Details: 14Conf-info@gns.cri.nz
Website: http://www.14Conference2003.co.nz

October 5 - 8 2003. **Annual Meeting of the American Association of Stratigraphic Palynologists cohosted by the Canadian Association of Palynologists**
Brock University, St. Catharines, Ontario, Canada.
Details: Francine McCarthy, Department of Earth Sciences, Brock University
francine@craton.geol.brocku.ca

November 2 - 5 2003. **Geological Society of America, Annual Meeting**.
Seattle, Washington, U.S.A. Details: GSA HQ, Box 9140, 3300 Penrose Place, Boulder, Colorado 80301, U.S.A. Tel: (303) 447-2020, X133, E-mail: meetings@geosociety.org

2004

Date: TBA. **GAC/MAC Meeting**
St Catharines, Ontario, Canada
http://www.esd.mun.ca/~gac/ANNMEET/annmeet.html

July 4 - 9 2004. **XI IPC (International Palynological Congress)**
Granada, Spain
Website: http://www.ugr.es/~bioveg/ingles.htm

August 20 - 28 2004. **32nd International Geological Congress** Florence, Italy. Theme: "From the Mediterranean Toward a Global Renaissance - Geology, Natural Hazards and Cultural Heritage".
Details: Ms Chiara Manetti, Università degli Studi di Firenze, Dipartimento di Scienze della Terra, Via La Pira, 4, 50121 Firenze, Italy, Tel:/Fax: 055-2382146
E-mail: cmanetti@geo.unifi.it
Website: http://www.32igc.org

2005

Date: TBA. **GAC/MAC Meeting**
Halifax, Nova Scotia, Canada

HAVE YOU CHECKED THE DUES LIST? SEE PAGE 3!

Palynolit

David Campbell is a biologist who spent three field seasons, the austral summers, in the South Shetland Islands. This remote archipelago lies north of the Antarctic peninsula and south of Tierra del Fuego. In the passage below, Campbell has found a piece of petrified wood as he climbs down Flagstaff Mountain on King George Island. He reflects on what this tells us about environmental changes in this region:

> On the eastern shore of Admiralty Bay, at Cape Hennequin, there is a fossil forest: 16-million-year-old fossil impressions of plants embedded in ripple-marked and aqueous tuffs. These include leaves of several species of *Nothofagus* (tinged brownish as if they had just fallen in the autumn wind), of the gymnosperm genus *Araucaria*, of ferns, and of several unnamed flowering trees that drifted into a fast-flowing stream and were rapidly smothered by sediments. My fossil, which so eloquently depicts seasonality in its stone rings, is from this epoch, when Admiralty Bay had a climate and flora nearly identical to those of Patagonia today. Imagine: flowing rivers and warm, halcyon summers. Did the leaves of this tree flutter in a wind that blew off a temperate sea? Did birds forage in its boughs by day; did marsupials snuffle in its leaf litter by night? Was its pollen dispersed by wind, or was it pollinated by long-vanished insects?

From *The Crystal Desert: Summers in Antarctica*, by David G. Campbell, 1992, p. 51.

CAP Membership Form

Canadian Association of Palynologists/Association Canadienne des Palynologues (**CAP**) membership is open to all members of the palynological community in Canada and others with an interest in Canadian palynology. The Association is dedicated to the advancement and encouragement of all aspects of palynology in Canada and the promotion of co-operation between palynologists and those engaged in related fields of study. 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.

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.

To join, please fill out the following information form and send it with a cheque or money order payable to CAP to:

Dr Marlow G. Pellatt
Parks Canada, Western Canada Service Centre
300 - 300 West Georgia Street
Vancouver, British Columbia V6B 6B4
Canada

----------cut here----------

Name and Title:_____

Affiliation:_____

Address:_____

_____

Tel:_____FAX:_____Email:_____

Research interests:_____

_____

Indicate: Renewal:_____New membership:_____Amount enclosed:_____

May we include your name/address/e-mail address in the on-line Directory in the CAP WWW page? Yes:_____ No:_____

Do you permit your name/address/e-mail address to be included in the printed "World Directory of Palynologists" being compiled by IFPS?

Yes:_____ No:_____