Canadian Association of Palynologists
Association Canadienne des Palynologues

NEWSLETTER

Volume 30 Number 1 May 2007

President's Message

Greetings to everyone from cyberspace! This is the inaugural issue of the revamped *CAP Newsletter*. After a poll was sent out over email soliciting your views on whether or not to adopt a digital format, I heard from approximately half of the membership. The responses were universally positive, and showed a lot of excitement around new possibilities for CAP as we take this step. In addition to saving costs on printing, packaging and postage, we will be able to significantly improve our content through colour and higher-resolution photos and graphics, fewer constraints on length, and the use of hyperlinks. Some responders cited the AASP newsletter and PALYNOS as examples of newsletters gone digital that are now vastly improved. Many members also pointed out that by reducing both paper use and energy for transportation, we are making a small contribution to sustainability.

We will continue to distribute paper copies to members unable to access email, and to the libraries accessioning the *CAP Newsletter*, which include the National Library of Canada, the University of Toronto Library, the US Geological Survey Library, and the Natural History Museum (UK). Thank you to those who replied to our email poll, and we look forward to more of your feedback on ways to improve content and delivery using electronic means.

With a fresher look, and more technological savvy, we hope to be able to raise our profile, recruit new members, and engage students more effectively. Palynology can seem very obscure and prohibitively difficult to undergraduate students. With a good introduction however, some undergraduates can get quickly hooked. I have been really impressed with the capacity for undergraduate research trainees to gain skills in palynology over the course of a year-long project that I ran in my lab. With new technology now available, it is possible to use cameras and computers in conjunction with microscopes to facilitate teaching of pollen taxonomy. Using this type of system, students asking the often heard microfossil lab refrain "Would you mind please taking a look at this…", find it much easier to get the help they need. While it is not every undergrad who will want to devote long hours to the microscope, there are those out there who do – and I'd encourage everyone to welcome undergraduates into their labs and introduce

ISSN 1188-3596

them to palynology. The initial investment of training time will pay off in terms of skill building in research groups, and in terms of training the next generation of palynologists. With the adoption of a digital newsletter, we have some limited funds available in the CAP budget that could be allocated to a new initiative. The members of the Executive would like to consider the possibility of instituting a small annual student award for excellence in palynology. This award would be another way to support the training of new palynologists and to encourage students to present their work to wider audiences. This will be one of the items for discussion at the AGM in Ottawa this June.

I'd like to thank the CAP Executive, who continue to bring a great deal of energy to CAP despite very busy schedules. We are always looking for new members to join the Executive – please see the notice to this effect in this issue.

I hope to see many of you in Ottawa in June, and wish you all a great beginning to summer,

Sarah Finkelstein
CAP President
Finkelstein@geog.utoronto.ca

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More information about the Canadian Association of Palynologists and other material relevant to Canadian palynology can be found on the CAP website:

www.scirpus.ca/cap/cap.shtml

Welcome to the Digital CAP Newsletter

With support from CAP members, the Executive Committee decided it was time to update the *CAP Newsletter*. This is the first edition of the *Newsletter* in its new digital format. The style of the *Newsletter* is unchanged, but the content now includes colour photographs and diagrams, and many hyperlinks to email addresses and websites. Also, the membership form can be filled out with Adobe Reader®, which can be downloaded from www.adobe.com. When you want to renew your membership, just fill out the form in Adobe®, print it, and send it (along with your cheque!) to the CAP Treasurer. For your convenience, the attached AASP order form is also form-fillable. The CAP Executive sincerely hopes that you enjoy the new digital format of the *CAP Newsletter*. We welcome feedback about the new digital *Newsletter* and all other CAP matters. Please send us your suggestions for how to continue to improve your *Newsletter*.

Terri Lacourse
CAP Newsletter Editor
lacourse@interchange.ubc.ca

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2007 CAP Annual General Meeting

The Annual General Meeting of the Canadian Association of Palynologists will be held in conjunction with the CANQUA meeting in Ottawa, on June 4, 2007, at Carleton University. (Exact time and location TBA). CAP is sponsoring a special session at the CANQUA meeting on "*Quaternary Climate and Environmental Change*" that will be chaired by Mike Pisaric (Carleton University) and Mike Sawada (University of Ottawa). All CAP members are invited to attend the AGM. Those in the Ottawa area, but not attending the CANQUA meeting, may also attend.

If you have items you'd like to add to the agenda, please send them to CAP President, Sarah Finkelstein (Finkelstein@geog.utoronto.ca).

Call for CAP Officers

CAP members who would like to get involved in the Executive are encouraged to get in touch with the current President, Sarah Finkelstein (Finkelstein@geog.utoronto.ca), and/or come to the AGM in Ottawa on June 4, 2007.

Nominees for positions:
President: Elisabeth Levac
President Elect: Vacant
Secretary-Treasurer: Mary Vetter
CAP Newsletter Editor: Terri Lacourse
Website Editor: Alwynne Beaudoin
Councillor to IFPS: Jean Nicolas Haas

Minutes of the 2006 CAP Annual General Meeting

Venue: GAC/MAC 2006, Université de Québec à Montréal, 15th May 2006

Present: Sarah Finkelstein (chair), Rob Fensome (recording secretary), Konrad Gajewski, Michelle Garneau, Pierre Richard and Graham Williams. Quorum achieved.

1. Welcome, approval of agenda.
Michelle moved to approve the agenda, Rob seconded the motion, all were in favour.

2. Review and acceptance of 2005 AGM minutes. (See below for motion.)

3. President's Report (C. Yansa)
It was noted that when the report was written it was assumed that Sarah (because of settling into a new job) would not be taking over until mid-year 2006. However, for all intents and purposes, Sarah took over at the beginning of 2006. The 2006 President's Report was amended to incorporate this detail. Pending this small proviso, Rob moved that the President's report be accepted, Graham seconded the motion, and all were in favour.

4. Secretary-Treasurer's Report (M. Vetter)
There was a discussion about the declining membership. As seen from Mary's report, numbers of members in good standing have fallen from 55 in 2004 to 20 in 2006. It was agreed that it would help to tactfully indicate members coming up for renewal in the Newsletter. Also, we need to encourage students to become members. Rob noted that a requirement of our registration as a society with the Nova Scotia Joint Stocks Registry is that we submit an annual financial report. Graham asked how much we pay as fees to the International Federation of Palynological Societies. No one present knew the answer to this. (See below for motion.)

5. Auditor's Report (R. Mathewes)
It was noted that it might be helpful if the auditor were geographically close to the Secretary-Treasurer (at present thus in the Regina area) for the convenience of directly examining the "books", etc. Treasurer Mary Vetter however has confirmed that she will continue taking responsibility for the yearly audit, and if necessary, completing it by mail or fax is fine. (See below for motion.)

6. Newsletter Editor's Report (F. McCarthy)
The December Newsletter was delayed to mid-April because of heavy work loads. There was a consideration of reducing the Newsletter to one per year, but, as was pointed out, this would require a change in by-laws ... not to mention the fact that this would be a pity since CAP is essentially a Newsletter organization. Given the challenge of one individual producing two newsletters per year, the Executive has decided to appoint Newsletter co-editors, with Terri Lacourse (UBC) sharing the honours with Francine McCarthy for 2006. In a later discussion, it was considered whether the Newsletter should be put on the web: perhaps we could give members the option. This idea was tabled for future discussion. (See below for motion.)

7. Website Editor's Report (A. Beaudoin)
Alwynne, who is willing to do the job for another year, wishes it to be known that she is looking for new content. (See below for motion.)

8. IFPS Councillor's Report (J. N. Haas)
There is no report from Jean since there has been no activity this year.

Michelle moved that all the above reports be accepted, Pierre seconded and all were in favour.

9. Nominating Committee
Sarah and Konrad agreed to act as the nominating committee (with Rob providing ex-officio help if needed).

10. Location for 2007 AGM
It was agreed that Sarah will discuss this with the Executive. The best candidate would appear to be CANQUA, in Ottawa, though this might rule out "paleopalynologists". In 2007, the GAC meeting will be held in Yellowknife and the AASP meeting in Panama, both of which present logistical challenges to attendance for CAP members. Ottawa is an important centre for palynological research of all types in Canada so it was decided that CANQUA would provide the best forum to attract CAP members for the AGM in 2007.

11. Priorities and Goals for 2006-2007
Graham had two suggestions: a palynology-focussed session at GAC/MAC 2008 in Quebec City, and the development of a Geoscape-style poster for palynology (Canada-oriented of course). Rob noted that Art Sweet had the idea of a "pollen [palynomorph] of the month" mini-poster. This could be put on the web if enough people would contribute.

12. Other Business
There was no other business that could not be accommodated under the above topics.

13. Rob moved that the meeting be adjourned, seconded by Michelle, and all approved.

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CAP President's Report, 2006

I welcome Sarah Finkelstein as our new President as of early 2006. CAP has maintained a presence in the palynological com-

munity over the last few years. Our declining membership is a serious challenge facing our group, however. To address this issue, Francine McCarthy and Mary Vetter sent the December 2005 newsletter issue to all lapsed members. I have followed up by sending letters to these former members to encourage them to rejoin CAP. I anticipate that under Sarah's leadership this organization will grow in membership and build upon its scholarly reputation at both the national and international levels.

In 2005, CAP members participated in two conferences. Francine McCarthy and a few other CAP members gave presentations at the "Geological Problem Solving with Microfossils" meeting, which was held last spring at Rice University in Houston, Texas. Vaughn Bryant and I organized a CAP/AASP-sponsored session that was held at the AASP's 38th Annual Meeting in St Louis, Missouri this past September. This session, entitled "What happens to pollen: The trip from anther to microscope slide", was well attended. We thank Jock McAndrews and others for their participation in our session.

I want to thank the CAP Executive for their support over these past years. In particular, I acknowledge the advice and support of Alwynne Beaudoin and Mary Vetter. I appreciate the efforts of Rolf Mathewes and Francine McCarthy, especially for running the 2004 AGM in my absence. I thank Thomas Demchuk for hosting the 2005 AGM in his hotel suite. I enjoyed working with you all and plan to continue my involvement in CAP as a regular member. CAP provides the palynological community with a venue for communication and interactions, and hence is of much value to us all.

Respectfully submitted,
Catherine H. Yansa
CAP President 2004-2005

CAP Secretary-Treasurer's Report, 2006

1. Membership Report
As of May 8, 2006, CAP has 20 members who have paid dues for 2006. It should be noted that previous to 2004, CAP generally retained about 55 members in good standing. That number has been declining since 2004, and this is most likely because membership renewal reminders have not been regularly sent out or included in the newsletter since 2004. All members with dues owing have been sent a reminder letter, and it is hoped that the membership numbers will recover as a result.

2. Financial Report
For the period ending May 8, 2006, the balance in the CAP account is $3,825.92. IFPS dues for 2006 have yet to be paid. [NOTE: For 2003, IFPS dues were $1.50 US per member in good standing.] The balance has remained healthy over the past several years in large part because newsletter production and mailing costs have been borne by the institutions of those producing, photocopying, and mailing the newsletter.

CAP Annual Financial Statement
8 September 2005—8 May 2006

Opening Balance		**$3,723.67**
Revenue	membership dues	$130.00
	interest earned	$1.25
Expenses	bank fees	-$4.00
	corporation renewal	-$25.00
Closing Balance		**$3,825.92**

The closing balance includes 20 prepaid annual memberships in the amount of $200.00 for the years 2007-2009. This will affect the income from this source for the years indicated. IFPS dues for 2006 have not yet been paid.

Respectfully submitted,

Mary A. Vetter
CAP Secretary-Treasurer

Statement by Appointed Auditor:

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

Rolf Mathewes
Auditor for CAP

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CAP Newsletter Editor's Report, 2006

The December newsletter finally went out in mid-April this year to 82 members and 8 associations/ institutions with whom we exchange newsletters. The extraordinarily late delivery was the result of largely unforeseen delays and abnormally high workloads borne by the CAP Executive. The December issue is particularly difficult for those of us in Academia to produce, with exams to mark and grades to submit and new courses to prepare for, all around the holiday season. The Executive deliberated whether to reduce our output to 1 issue per year, but decided against this for a number of reasons. Instead, we will have co-editors who will share the burden of producing and mailing the newsletter twice a year. The Executive welcomes Terri Lacourse, currently at UBC, as CAP Newsletter Co-Editor for 2006. She and I are currently accepting material for the newsletter which we plan to mail at the end of May.

Respectfully,

Francine McCarthy
CAP Newsletter Editor

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CAP Website Editor's Report, 2006

I have continued to act as Editor for the CAP website since the last AGM. The presentation is located at: http://www.scirpus.ca/cap/cap.shtml, under my own domain (www.scirpus.ca). There are no costs to CAP associated with this hosting. Accesses to the presentation have continued to increase steadily and in March 2006 topped 1200 for the month. The presentation provides various resources and information about CAP to the palynological community. It now comprises 190 pages of information, totalling 4.34 MB. I trust that CAP members find the material in the presentation useful. I welcome contributions to the website and suggestions for new components to broaden its appeal.

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

Respectfully submitted,

Alwynne B. Beaudoin
CAP Website Editor

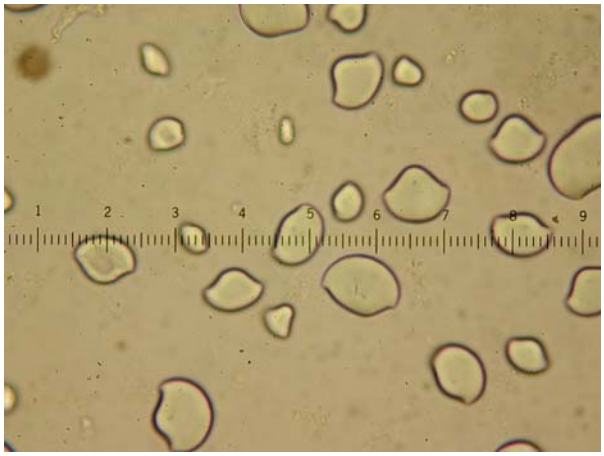
Essay

STARCH AND THE PALYNOLOGIST

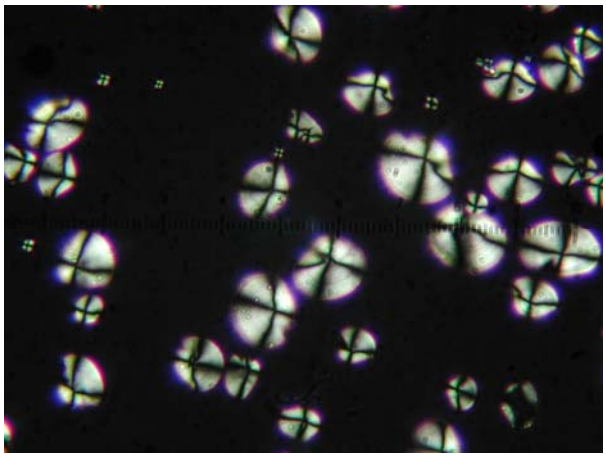
No, I am not going to discuss the starch you eat at meals or the starch that converts to storage cells that begin to settle around our waist as we grow older! What I am talking about is starch that can be found on artefacts or in soils at archaeological sites along with pollen and phytoliths. Right away I see some of you rolling your eyes and saying that you are a "paleopalynologist" and don't work in that geologic zone known as the "overburden!" However, if you are the least bit curious, if you want to broaden your horizons, or if you are one of those palynologists who really do work with archaeologists, then you might want to read on a bit further.

During the mid 1990s, Bonnie Williamson of The University of Witwatersrand in South Africa was a graduate student working at the nearby Rose Cottage Cave site where she was asked to examine the surfaces of hundreds of stone tools for attached residues. The archaeologist hoped that some of those Middle and Late Stone Age (60,000-25,000 years ago) tools might still have residues stuck to their cutting edges; residues that could be tested for traces of animal blood, amino acids, DNA, and even pollen. Because of the age of the site and prevailing assumptions about our ancient ancestors, most believed the stone tools would reveal that these early cultures primarily hunted and butchered a variety of large game animals, but, when the tests were completed, the researchers were shocked. Williamson found that just over 50% of all the residues on the stone tools came from plant, not animal, origins. There were no pollen grains in the residues, but some of the residue consisted of plant fibers. Nevertheless, the strongest cases for plant usage came from preserved starch grains in the residues along the cutting and grinding edges. Her study confirmed that some cutting tools were multi-purposed (another shock for the archaeologist) because they had both starch and blood residues on them.

There is no question about the importance of starch research or about the startling new insights that starch grains are bringing to the field of archaeology. Earlier this year botanist Linda Perry and her co-authors (2007, *Science* 315: 986-988) made international headlines when they reported their discovery of starch grains from chilli peppers in a number of archaeological sites in the Caribbean, and Central and South America. For decades, scientists had wondered about the antiquity of this New World plant and how early it had been domesticated and then distributed into Central America and the Caribbean islands. For years archaeological sites throughout the semi-tropical and tropical regions of the New World revealed evidence of early farming activities and occasionally provided hints about which plants were being grown. However, clear fossil evidence for chilli peppers was lacking. Frequent cycles of wetting and drying, warm temperatures, high levels of microbial activity, and rapid organic reduction in the upper layers of tropical soils ensured the destruction of most forms of organic remains in archaeological soils. However, starch grains *are preserved* in many tropical soils and this team of researchers, lead by Linda Perry, used starch evidence to confirm that chilli peppers originated in Bolivia, were domesticated before 6,000 BP, and were then spread rapidly as a cultigen first to Central America and then throughout the Caribbean.



Starch grains from Nothoscordum bivalve *(Liliaceae).— Photo: V.M. Bryant*



Nothoscordum bivalve *starch grains under polarized light. — Photo: V.M. Bryant*

Before her chilli starch discoveries, Perry and others (2006, *Nature* 440: 76-79) used records of starch grains and phytoliths in archaeological soils to show that the spread and use of maize in the southern highlands of Peru occurred before 4,000 BP; nearly a millennium earlier than previously suspected. Why couldn't they do this with fossil pollen evidence? They looked, but because soil conditions were so destructive there were no usable pollen records.

In other regions of the world, starch researchers are also rewriting the history books about how and when various cultigens and plants were being used or grown. Two recent studies reported in the *Journal of Archaeological Science* by Mark Horrocks focus on the discovery of starch grains in archaeological soils in the South Pacific. Horrocks' discovery of 3,000 year-old taro and yam starch grains in archaeological soils on the Fiji Islands proved that early Lipita cultures living on those islands practiced a horticultural economy based on plants that they had brought with them to those islands. Earlier reports claimed that early Fiji Islanders had been strictly foragers. At Pitcairn Island, Horrocks and Weisler recovered starch grains of both taro and sweet potatoes in archaeological deposits and believe that their starch discovery confirms that early Polynesians brought cultigens with them when they first occupied Pitcairn Island around AD 1400. As palynologists you might again wonder why these and other researchers didn't rely on fossil pollen records. The answer is that for decades archaeologists have searched in vain for good pollen records from numerous island sites throughout Oceania. With rare exceptions, those efforts have proven futile. I know first hand about such problems because I have processed and examined archaeological soils from half a dozen sites on various islands in Oceania searching in vain for preserved pollen. The few pollen records that do exist for that region of the world come mostly from lake sediments in extinct volcanic craters.

During the past decade there has been a number of published articles and submitted manuscripts discussing the search for, and recovery, of starch grains in archaeological sites all over the world. Starch grains are now being searched for in soils, in the residue stuck to ancient pot sherds, and stone and bone tools, inside amphorae, on stone

artefacts, in bedrock mortars, on grinding stone surfaces, in coprolites left behind by ancient cultures, in the dental calculus found on the teeth of ancient burials, and from acetate peels taken from the surfaces of items suspected of containing starch grain residues. When soil and environmental conditions are favourable, many of those same sources also provide fossil pollen evidence. Together, fossil pollen and starch grains form convincing records about plant usage by early cultures.

I am primarily a palynologist so why should I be so excited about trying to search for starch grains? When you work with archaeologists and when you want to know as much as possible about our earliest ancestors, then you don't want to miss any opportunity to gain more information. When I first entered the field of pollen studies during the early 1960s, few archaeologists were searching for fossil pollen in archaeological soils. Sites were being excavated, burials were removed, coprolites were discarded, amphorae from underwater shipwrecks were emptied on the sea floor to lighten them for transport to the surface, and pueblo sites were excavated without ever searching for pollen remains. Fortunately, most of that has changed during the last half-century. Today, sampling for pollen at archaeological sites is common practice in most regions of the world. In temperate and Arctic regions, fossil pollen records are now providing archaeological insights about ancient diets, origins of agriculture, functional use of various types of artefacts, the cargo contents of sunken shipwrecks, how paleoenvironmental changes affected early cultures, the medicinal use of plants, burial practices, room usage in pueblos and other early structures, and the use of pollen as paints and dyes. Nevertheless, hundreds of studies from semi-tropical and tropical regions describe how pollen studies were dutifully attempted, but yielded either no pollen or such meagre amounts that the data were unreliable. However, in many of those same regions where pollen and other forms of plant preservation are absent, starch grains are well preserved.

I would be the last person to suggest that archaeologists should abandon the search for fossil pollen and instead focus only on fossil starch grains! Instead, I propose that archaeologists and palynologists should both be thinking about the potential of finding starch grains in the sediments they examine. Pollen and starch samples should be collected from storage pits, burial features, floor surfaces, hearths, and from the cultural levels exposed during excavations. Soil samples used for starch studies must be collected using sterile tools that have been washed and cleaned with de-ionized water, then dried. When collecting dirt for starch studies one should wear a clean pair of sterile, latex gloves (be certain they are not powdered in starch!) during each sampling to prevent possible contamination. Individual soil samples do not need to be larger than about 20 grams and each should be placed in a sterile, plastic or glass bag or container that can be tightly sealed. Sampling using metal tools or contact of samples with metal should be avoided because metallic residues may be transferred to the sample and this can complicate later starch interpretations. If these careful precautions are taken, and if one were to collect twice as much soil as needed for each sample, then the same samples could serve dual purposes for both pollen and starch studies. Like pollen, starch grains can be identified to family, genus, and sometimes species. And, like pollen, the most essential need is for a good, modern, starch reference collection!

Vaughn M. Bryant
Texas A&M University

Recent Publications —29

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Zazula, G.D., Telka, A.M., Harington, C.R., Schweger, C.E., and *Mathewes, R.W. 2006. New spruce (*Picea* spp.) macrofossils from Yukon Territory: implications for late Pleistocene refugia in Eastern Beringia. *Arctic* 59: 391-400.

* denotes a CAP Member

Editor's Notes

Special thanks to Francine McCarthy (Brock University) for serving as *CAP Newsletter* Editor over the last few years. Thanks also to all who contributed material for this edition of the *Newsletter*: A. Beaudoin, V. Bryant, M. Dalzell, S. Finkelstein, K. Gajewski, M.-A. Love Malinconico, P. Mudie, R. Wicander, and C. Yansa.

Deadline for Next CAP Newsletter

Please submit items for the next issue of the *CAP Newsletter* (Volume 30, Number 2, December 2007) by November 15, 2007. Conference reports, announcements, field trip reports, notices of new books, book reviews, news, and essays on topics relevant to Canadian palynology are all welcome. Please send contributions to:

Terri Lacourse
CAP Newsletter Editor
lacourse@interchange.ubc.ca

Announcement

Pollen-Climate-Vegetation Atlas of North America

CAP members may be interested in the new publication: Williams, J.W., Shuman, B., Bartlein, P.J., Whitmore, J., Gajewski, K., Sawada, M., Minckley, T., Shafer, S., Viau, A.E., Webb, T., III, Anderson, P.M., Brubaker, L.B., Whitlock, C., Davis, O.K., 2006. *An Atlas of Pollen-Vegetation-Climate Relationships for the United States and Canada.* American Association of Stratigraphic Palynologists Foundation, Dallas, TX 293pp.

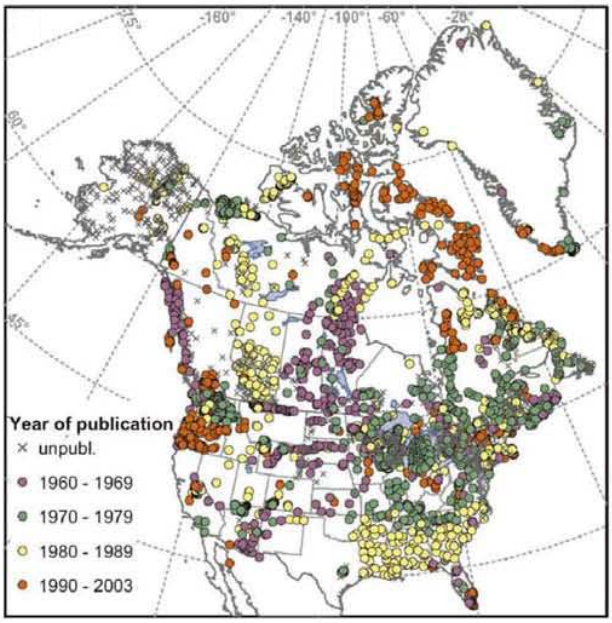
The Atlas contains maps and climate-space graphs of all taxa from the Whitmore et al. (2005, QSR) modern pollen dataset (announced in a previous CAP newsletter). Some taxa are further divided into eastern and western groups to better identify climate relations of the taxa. The entry for each taxon consists of two facing pages with 21 maps and graphs, including maps of the distribution of the pollen taxon in geographic and climate space, graphs illustrating the abundance of pollen as a function of several climate variables and indications of the relative abundance of the pollen taxon in different biomes. Entries are available not only for the major trees and shrubs, but also for many non-arboreal pollen (134 taxa in all).

The Atlas is available from the Association of American Stratigraphic Palynologists and may be purchased at https://payment.palynology.org/ ($48US, scroll to bottom of 'Contribution' list). E-versions of all Atlas pages (Adobe PDF format) may be downloaded at the NOAA Paleoclimatology website (http://www.ncdc.noaa.gov/paleo/pubs/williams2006/williams2006.html)

The modern pollen database is available at the websites of J. Williams or K. Gajewski. This is a continuing project and the database is updated at irregular intervals. We encourage persons with modern data to make them available to other researchers. Presently, data are particularly sparse from British Columbia, the Yukon and northern Ontario, for example. In addition, all palynologists are encouraged to submit their pollen data to the NOAA Paleoclimate Data Centre to ensure their work is given maximum exposure.

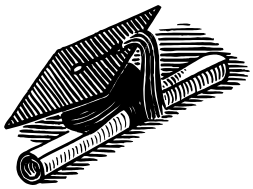
K. Gajewski
Dept. of Geography, University of Ottawa (gajewski@uottawa.ca)

J. Williams
Dept. of Geography, University of Wisconsin (jww@geography.wisc.edu)



Distribution of modern pollen samples.

Editor's Note: An order form for this publication is attached to the end of the *Newsletter* and can be filled out using Adobe Reader®.



Dissertation Abstract

Dalzell, Matthew. 2007. *Correlated Biostratigraphy and Palaeoecology of Microplankton from the Bearpaw Formation (Campanian-Maastrichtian) of Alberta, Canada.* M.Sc. Thesis, Department of Geological Sciences, University of Saskatchewan. 248 p., 15 pl.

Supervised by Dennis Braman, Royal Tyrrell Museum of Palaeontology

Marine palynomorph assemblages from the Campanian-Maastrichtian Bearpaw Formation, consisting of 34 genera and 69 species of dinoflagellate cysts and 8 forms of acritarchs, were recovered from a composite section in the Cypress Hills and the Research Council of Alberta Castor borehole in southern Alberta, Canada. Correlation of the sections with magnetostratigraphy and radiometric dates of bentonites within the Bearpaw Formation provided a chronostratigraphic control that enabled correlation between the two sections and the Campanian-Maastrichtian Boundary Global Stratotype Section and Point at Tercis les Bains, France. Correlation of first and last occurrence data of key taxa in the boundary section at Tercis with the same taxa in the studied sections support the placement of the Campanian-Maastrichtian Boundary at the transition between magnetochrons 32n.1n and 31r within the *Baculites baculus* ammonoid range zone of the Western Interior of North America.

Semi-quantitative analyses of the assemblages record the transgressive-regressive episodes of the Bearpaw cyclothem. Increases in the relative abundances of gonyaulacacean cysts, numbers of dinocysts compared to terrestrial palynomorphs and assemblage diversity correlate with transgressive episodes, with the richest assemblages occurring during periods of open, offshore to neritic conditions correlated with the cyclothem's transgressive peak.

Two new species of dinoflagellate cyst are described. The first, Dinoflagellate sp. 1, is a novel taxon, while the second, *Downiesphaeridium* sp. A, is a chorate cyst similar to Mesozoic forms previously ascribed to *Cleistosphaerdium diversispinosum* Davey et al. emend. Eaton et al.

Meeting Reminders

SPECIAL SESSION ON LONG-TERM VEGETATION CHANGE: GREAT LAKES

This is a call for papers to present in a special session on "Long-Term Vegetation Change in the Great Lakes Region" at the 2007 East Lakes Meeting of the Association of American Geographers (AAG). This regional meeting will be held at Michigan State University (MSU) in East Lansing, Michigan, October 19-20, 2007. Registration fees for faculty/professionals ($75US) and students ($25US) are reasonable and include a reception and lunch. Contact Catherine Yansa, Department of Geography at MSU, for further information (yansa@msu.edu).

2007 CSCOP/ ICCP/ TSOP ANNUAL MEETING

The Canadian Society for Coal Science and Organic Petrology (CSCOP), the International Committee for Coal and Organic Petrology (ICCP), and The Society for Organic Petrology (TSOP) will meet in a Joint Annual Meeting, August 19-25, 2007 in Victoria, British Columbia, Canada. Conference oral session themes include unconventional petroleum systems; advances in organic petrology, organic and inorganic geochemistry: coal, oil shale, source rocks, paleo- and recent environments and climates. General organic petrology and geochemistry poster sessions. For more information, contact:

Andrew Beaton, Alberta Geological Survey
Tel: 780-427-0809; Fax: 780-422-1459
E-mail: Andrew.Beaton@gov.ab.ca
http://www.cscop-tsop-iccp-2007.com/

CIMP Lisbon'07
Joint Meeting of Spores/Pollen and Acritarch Subcommissions

We are pleased to invite you to the CIMP (Commission Internationale de Microflore du Paléozoique) Lisbon'07 joint meeting of the Spores/Pollen and Acritarch Subcommissions, organized by INETI-GEOSCIENCES (Portuguese Geological Survey), to be held in Lisbon, Portugal from September 24 to 28, 2007. This meeting will involve three days of scientific sessions followed by a two-day post-meeting field trip to southern Portugal. The venue is at the Portuguese Geological Survey headquarters. CIMP Lisbon'07 will be a forum for specialists interested in current progress, future developments, and application of Palaeozoic palynology.

You are strongly encouraged to participate and submit papers to CIMP Lisbon'07. The official working language is English and you are most welcome to visit the web page at http://e-geo.ineti.pt/CIMPLisbon07 for further information. Please visit the web page and fill out the registration form if you are planning to attend. Note that the deadline for submission of abstracts and late registration is May 31, 2007.

Lisbon, the capital of Portugal, is known throughout the world as the city of sun. It is located near the Atlantic Coast and is a well-known venue for international events. We hope to see you in Lisbon in September 2007.

Conference Location
The headquarters of the Portuguese Geological Survey are in Alfragide, near Lisbon, just in front of the Lisbon Camping Park, on the west side of the Lisboa-Cascais highway. In addition to a 300-seat auditorium, the Portuguese Geological Survey has all of the facilities required for scientific meetings, including a cantina where the conference lunches will be served. About 300 m from the Laboratory are bus stops to the city centre.

Organizing Committee
Z. Pereira and J. Tomas Oliveira (LNEG-LGM, Portuguese Geological Survey)
P. Fernandes (Univ. of Algarve, Portugal)
N. Vaz (Univ. of Trás-os-Montes & Alto Douro, Portugal)

Scientific Committee
G. Clayton (Trinity College, Dublin)
J. Marshall (University of Southampton)
Z. Pereira (LNEG-LGM, Portuguese Geological Survey)
P. Steemans (University of Liege)
R. Wicander (Central Michigan University)

NORTH AMERICAN PALEONTOLOGICAL CONVENTION (NAPC) JUNE 2009

Greetings! As some of you may know, the next North American Paleontological Convention will take place on the campus of the University of Cincinnati (UC), June 21-26, 2009. Given the central location of the Cincinnati area, its regional paleontological richness, and the auspiciousness of the year 2009 for a paleontological meeting (see below), we hope to be able to attract a large, diverse group of people to join us for the meeting. UC's central campus has recently undergone a major renovation, which makes it feasible to: a) conduct a large-scale meeting with several sessions running simultaneously; b) house participants on campus inexpensively, with additional lodging available in nearby hotels; and c) provide additional amenities to participants, such as wireless internet access, temporary health-club membership, and a variety of eating options.

I am writing to you as representatives of organizations, area colleges/universities, and museums with interests in paleontology, to begin a discussion about organizing and preparing for the meeting. For starters, those of us at UC would like to gauge your interest in helping to organize (and co-sponsor) the meeting and, if so, where you might want to direct your interests and talents. Second, we'd like to solicit your thoughts about plenary sessions, symposia, technical sessions, field trips, social activities, outreach, etc. that would most effectively reach your constituencies. As it happens, 2009 marks the bicentennial of the birth of Charles Darwin and the sesquicentennial of the publication of *The Origin of Species*, so we'll almost certainly want to have a special plenary session tied into these celebratory themes. Given that UC is centered in a region of where the very study of evolution comes repeatedly under attack, this may present an opportunity for the meeting to take on an additional, unique dimension.

We look forward to receiving your initial thoughts about NAPC 2009. Based on your responses, we'll look to put together a set of organizational committees/subcommittees for the meeting. We are considering hosting a meeting on campus sometime this summer, to provide an opportunity for a face-to-face discussion of organizational issues, and to provide an opportunity for all of you to tour the meeting facilities, which should help in visualizing how the meeting should unfold. Please let us know whether you'd be interested in attending such a meeting (if you can attend, your expenses will be reimbursed) and, if so, the dates that you'll be available during June through August. Needless to say, you are encouraged to play an organizational role, regardless of whether you can attend the meeting.

Arnold I. Miller, Professor and Head
Department of Geology
University of Cincinnati
500 Geology/Physics Bldg., P.O. Box 21013
Cincinnati, OH 45221-0013
Phone: 513-556-4022
Email: arnold.miller@uc.edu

President's Note

CAP has been identified as an important potential contributor to this meeting – but we need a point person to join the steering committee, organize a symposium, or provide feedback to Arnie on how the meeting can be best constructed to appeal to the micropaleontological community. Interested CAP members should contact Prof Arnie Miller at the address above. – *Sarah Finkelstein*

Conference Calendar

2007

May 29-June 2: **Canadian Association of Geographers Annual General Meeting**
Saskatoon, Saskatchewan
www.usask.ca/geography/cag2007/

June 4-8: **CANQUA Ottawa 2007**
Carleton University
www.canquaottawa2007.ca

June 18-22: **Alluvial Fans 2007 meeting**
Banff, Alberta
http://husky1.stmarys.ca/~pgiles/AF2007/AlluvialFans2007.htm
(*Editor's Note*: You will have to manually enter the address for this one.)

July 11-14: **4th International Limnogeology Congress**
Barcelona, Spain
www.ilic2007.com

July 28-August 3: **XVII INQUA Congress**
Cairns, Australia
www.aqua.org.au/AQUA/INQUA2007.html

August 19-25: **CSCOP / ICCP / TSOP Annual Meeting**
Victoria, British Columbia
http://www.cscop-tsop-iccp-2007.com/

Sept. 3-7: **9th International Conference on Paleoceanography**
Shanghai, China.
http://icp9.iodp-china.org

Sept. 8-12: **AASP 40th Annual Meeting**
Smithsonian Tropical Research Institute, Panama
http://striweb.si.edu/aasp07/

Sept. 24-28: **CIMP Lisbon '07: Joint Meeting of Spores/Pollen and Acritarch Subcommissions**
Lisbon, Portugal
http://e-geo.ineti.pt/CIMPLisbon07

Oct. 19-20: **2007 East Lakes Meeting of the Association of American Geographers**
East Lansing, Michigan, USA
Contact Catherine Yansa (yansa@msu.edu) for more information.

Oct. 28-31: **GSA 119th Annual Meeting**
Denver, Colorado, USA
www.geosociety.org/meetings/2007/

2008

May 26-28: **GAC/MAC Meeting**
Québec City, Québec
http://quebec2008.net/

August 6-14: **33rd International Geological Congress (IGC)**
Oslo, Norway
www.33igc.org/

August 30-Sept. 6: **XII International Palynological Congress (IPC)**
Bonn, Germany
First announcement:
www.geo.arizona.edu/palynology/IPC12.pdf

August 30-Sept. 6: **AASP 41st Annual Meeting**
Bonn, Germany
(Held in conjunction with XII IPC)
Organizer: Owen Davis
www.palynology.org/meetings.html

Oct. 26-29: **GSA 120th Annual Meeting**
Chicago, Illinois, USA
www.geosociety.org/calendar/

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 affiliated with the International Federation of Palynological Societies (IFPS) and 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 membership form, by hand or in Adobe Reader®, and send it with a cheque or money order payable to CAP to:

Dr. Mary Vetter, CAP Secretary-Treasurer, Luther College, University of Regina, Regina, Saskatchewan, S4S 0A2 CANADA

Name:_____

Affiliation:_____

Address:_____

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Tel:_____ FAX:_____

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Web page URL:_____

Research interests:_____

_____

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New membership ☑ Renewal ☐ Amount enclosed:_____

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

NEW AASP FOUNDATION PUBLICATION

Atlas of Pollen-Vegetation-Climate Relationships for the United States and Canada

by

John W. Williams, Bryan Shuman, Patrick J. Bartlein, Johanne Whitmore, Konrad Gajewski, Michael Sawada, Thomas Minckley, Sarah Shafer, Andre E. Viau, Thompson Webb III, Patricia Anderson, Linda Brubaker, Cathy Whitlock, and Owen K. Davis

293 pages (11 text-figures, 2 in color; 264 pages of vegetational maps and pollen plots)
8 1/2 x 11 format, "Hidden Wire-O" binding
(ISSN 0160-8843)

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