



Canadian Association of Palynologists  
Association Canadienne des Palynologues  
**NEWSLETTER**

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**CAP EXECUTIVE 2025**

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*Advancing all aspects of palynology in Canada since 1978*

# Table of Contents

Editor's Notes .....	1
Website/Membership .....	1
President's Message .....	2-3
Future Meetings of Interest .....	4
<i>Participation in Meetings:</i> The 51 <sup>st</sup> Atlantic Geoscience Society Colloquium and celebrating Graham Williams' career .....	5-6
<i>Awards:</i> Annual Student Research Award 2025 to <i>Stephen Magohe</i> .....	7-9
<i>Awards:</i> Atlantic Geoscience Society Distinguished Scientist Award 2025, the Gesner Medal, awarded to <i>Graham Williams</i> .....	10-13
<i>Paly gallery:</i> New papers on weird dinoflagellate cysts and other NPP in estuarine seas .....	14-15
<i>Paly gallery:</i> Key dinoflagellate cysts from the Early and Middle Jurassic of the Lusitanian Basin (Portugal) .....	16
Recent Publications .....	17-18

## Editor's Notes

This is my first CAP Newsletter (by myself) and I'm feeling very excited and grateful for being part of this important and friendly association. I'm especially thankful to Rob Fensome, Lynn Dafoe, Carla Skinner, Peta Mudie, Stephen Magohe and Francine McCarthy for their interesting pieces and nice photographs. Please, feel free to send me anytime your contributions to: [vania.correia@nrcan-rncan.gc.ca](mailto:vania.correia@nrcan-rncan.gc.ca)

*Vânia Correia*  
CAP Newsletter Editor

**Deadline for Next  
CAP Newsletter:  
November 30, 2025**

For **Membership Form** and to keep up with all current palynological news and opportunities see:  
[Canadian Association of Palynologists / Association Canadienne des Palynologues \(canadapaly.ca\)](http://canadapaly.ca)

# President's Message

Calgary, May 22, 2025

Chers membres de l'ACP – dear CAP community,

It is my pleasure to write to you all for the first time in capacity of President of the association. I have been a member since 2012 – then a PhD student with past President and current CAP Councilor to IFPS Vera Pospelova – and part of the executive since 2017, and I learned a lot from my peers over the years, from the seemingly casual but ever-so-important minute tasks necessary to hold the association together, to the strong leadership stances that past presidents have taken to position CAP effectively in an ever-changing landscape. It really takes a dedicated team to steer the ship, and I am extremely grateful to our “veteran” executives (Francine McCarthy and Vera Pospelova) who continue to pour their energy and wisdom into the association, as well as the newer members (Diana Tirlea, Vânia Correia and Julia Hattaway) who stepped up to the challenge and bring fresh ideas to the table! We are currently seeking nominations for the position of President-Elect, so don’t hesitate to put your name forward, or nominate a colleague to join our dynamic team.

Our mission (and yes, we accept it) is “*to advance all aspects of palynology in Canada, promoting cooperation between palynologists and those engaged in related fields of study*”. The reality of

palynology as a field of study is quite different now than when CAP was created back in 1978. Largely boosted by the hydrocarbon industry then, palynology remains a pillar of geosciences and one of the main tools in the geologist’s toolbox, now more commonly applied towards mapping efforts, geological storage assessments and mineral exploration. Add the tremendous potential of various palynomorphs to encode environmental signals, to elucidate evolutionary relationships in key groups from the fossil record, and to investigate impacts of human activities on natural systems in terrestrial, freshwater and marine environments, palynology is inherently intertwined with most disciplines in biological and geosciences, and both fundamental and practical applications are limitless. What I want to emphasize here is the collaborative nature of our work – yes, we need to specialize and select a specific area of expertise, and the fundamental pillars of palynology are relevant fields of study in their own right, but I believe it is by showing how palynology is instrumental in answering the larger questions that our discipline will continue to shine.

And this year’s CAP Student Research Award recipient beautifully exemplifies such applications of palynology. Congratulations to Stephen Magohe (PhD student, University of Calgary) whose research is contributing to paleoenvironmental reconstructions in Pleistocene deposits of Tanzania, and furthers our understanding of early Homo habitats in East Africa!

CAP is happy to contribute with funding towards sample shipping and palynological processing after field work this summer – you will find more details in this Newsletter.

I am looking forward to meeting with all of you at the CAP AGM scheduled on the first day of the joint International Society of Testate Amoeba Researchers (ISTA) #11-CAP meeting (*Tiny Microbes -Big Data*), that is, on June 23, 2025 at 4 PM EST. Special thanks are due to Francine McCarthy, co-organizer of the ISTA11/CAP-Niagara in St. Catharines, ON, for spearheading the special recognition of CAP Distinguished Member Anne de Vernal, a long-time member of the association and internationally recognized pillar of palynology! A true leader in the field, Anne made such an important and positive impact on my – and so many others' – early career, and as a fierce advocate for the field, she has pioneered methods that have greatly advanced Quaternary research on a global scale. Sadly, I will not be able to join Anne and Francine in person in St. Catharines, but I would like to extend to Anne our most heartfelt thanks and congratulations.

Priorities looking ahead are to continue efforts to boost membership, and preparing for the 2028 IOP/IOPC. In terms of membership, CAP is increasing its social media presence thanks to the efforts led by Outreach Officer Diana Tirlea. I have finally acted on my promise to join Instagram (despite being reluctant for the longest time), specifically to fol-

low CAP (<https://www.instagram.com/canadianpaly/>), and I thoroughly enjoyed reading our posts showcasing people, palynomorphs and relevant events. I encourage the membership to join and help promote palynology on this platform where we can effectively reach the next generations of palynologists. CAP's website also remains a mine of relevant information and I encourage everyone to have a look at their leisure (<https://canadapaly.ca/>).

Then on to the 2028 horizon, past CAP President Jennifer Galloway successfully presented our bid to host the next XVI International Organization of Palynology / XII International Organization of Palaeobotany meeting in Calgary, AB, immediately prior to the International Geological Congress, mid- August 2028. This represents a major opportunity to showcase the great work palynologists do in Canada to the international community.

Profitez bien du printemps (et de tout le pollen qui l'accompagne), et au plaisir de vous voir tous lors de notre assemblée générale le 23 juin!

Bien à vous,

*Manuel Bringué*

Geological Survey of Canada - Calgary

## Next AGM: late June in Niagara

CAP will hold its AGM during the joint meeting with *The International Society of Testate Amoeba Researchers* (ISTAR) - a meeting that had been planned for the infamous COVID lockdown year of 2020. This will be a rare opportunity for CAP to take a leading role in a conference, with several well-known CAP members on the organizing committee—Florin Pendea and Martin Head. My co-organizer Tim Patterson and I are looking forward to an opportunity to explore synergies between these two groups of researchers where considerable overlap already exists, particularly here in Canada. We will also celebrate the achievements and contributions to CAP of longtime member Anne de Vernal.

The meeting will be held **June 22-27, 2025** at Brock University (St. Catharines, Ontario) and planned excursions include *Niagara Falls, Geology and Wine*, and (of course!) *Crawford Lake*.

Information is available (and will periodically be updated) at:

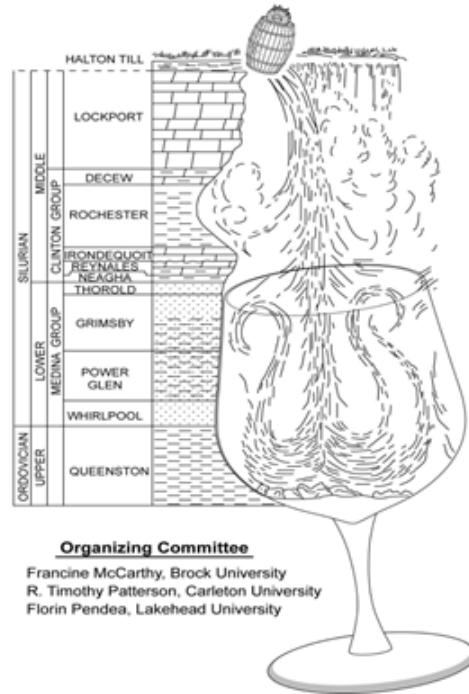
[ISTA11/CAP-Niagara | Department of Earth Sciences](#)

We hope to see you there—  
at least online at the  
**CAP AGM 4PM Eastern June 23**

*Francine McCarthy*

## ISTA - CAP 2025

June 22-27, 2025



### Organizing Committee

Francine McCarthy, Brock University  
R. Timothy Patterson, Carleton University  
Florin Pendea, Lakehead University

## Other Upcoming Meetings of Interest

The theme for the **International Geological Congress**, to be held immediately following the **XVI International Palynological Congress / XII International Organization of Palaeobotany** meeting in Calgary, Alberta in August 2028 is *Geoscience for Humanity*. This theme holds plenty of scope for palynology, so stay tuned.

We plan to hold the CAP AGM in conjunction with the IPC/IOP meeting, so put both in your calendar! It is not too early to start planning, and it will be a great opportunity for young and mid-career palynologists to host the world, so consider becoming members of the CAP Executive and of the Calgary 2028 IPC Local Organizing Committee.

# Participation in Meetings

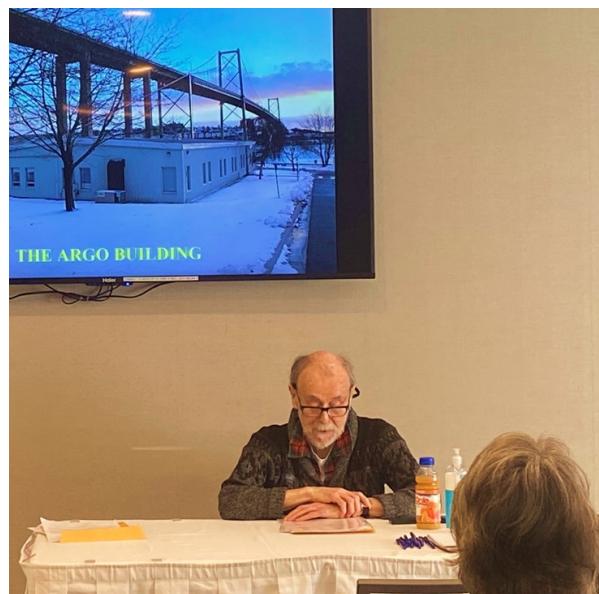
## The 51<sup>st</sup> Atlantic Geoscience Society Colloquium and celebrating Graham Williams' career

By Rob Fensome, Vânia Correia, Lynn Dafoe and Carla Skinner (NRCan, GSC Atlantic)

The 51<sup>st</sup> Atlantic Geoscience Society Colloquium and Annual Meeting was held in Dartmouth, Nova Scotia on February 7-8, 2025. Carla Skinner (GSC-Atlantic) and Maureen Matthews (Dalhousie University) successfully masterminded the entire event and were assisted by Deanne van Rooyen (Acadia University), Jared Butler, Vânia Correia, Lynn Dafoe and Rob Fensome (all from GSC-A). The registration was the largest on record, with 237 delegates, with 12 attendees from the GSC-Atlantic and Central offices. In total, there were 12 sessions comprising 103 presentations (80 oral papers, 23 posters), and the participants were also involved in chairing sessions, participating in meetings, and judging student presentations.

A highlight of the conference was a special session dedicated to Graham Williams (still very active at GSC-Atlantic!) entitled *“Celebrating the more than 50 year-long career of Graham Williams: stratigraphy, paleoenvironments, and outreach”*, co-chaired by Rob Fensome, Lynn Dafoe and Vânia Correia: the session included various topics more or less related to Graham's research and interests (Figs 1-4).

Long-overdue, Graham Williams was also the recipient of the AGS Distinguished Scientist Award 2025, the *Gesner Medal*, the highest award from Atlantic Geoscience Society (Fig. 5). In the “Awards” section of this newsletter (pages 10-13) you can read the dedication letter that Rob Fensome brilliantly presented for Graham's award nomination.



**Figure 1.** Graham Williams, always with his characteristic sense of humor, presenting his notable memories of “The early days and years of the Atlantic Geoscience Society”.



**Figure 2.** Rob Fensome presenting the general aspects of “Dinoflagellate evolution: from fossils to molecules” and why it is an ongoing hot topic.



**Figure 3.** Lynn Dafoe presented “The onshore is the key to the offshore: Cretaceous-Paleocene strata of Bylot Island, Nunavut as an analogue for the Labrador-Baffin Seaway rift system”, in which Graham William’s palynological analysis played a key role in new age interpretations.



**Figure 4.** Andrew MacRae explaining the importance of the “Lentin & Williams Index” to keep the order in dinoflagellate cysts during his talk entitled “The Dinoflagellate Index: 50 Years of Taxonomic Order”. A very useful tool until present days!



**Figure 5.** Graham Williams receiving the Gesner Medal from AGS President Catrina Russel-Dolan and Past-President Donnelly Archibald, where he made a touching acceptance speech (photograph by Howard Donohoe).

# Awards

## Annual Student Research Award 2025



### Investigation of Pleistocene palynomorphs in the eastern Oldupai Gorge Basin (Beds III- IV), Tanzania: Implication for early *Homo* habitat.

By *Stephen Magohe*  
 PhD Student in Geoscience (University of Calgary, Canada)  
 Assistant Lecturer (UDSM, Tanzania)

Since the early discoveries of hominin fossil material in East Africa, archeologists and paleoanthropologists have relied on transdisciplinary approaches to establish the spatial and temporal context of fossil-bearing horizons. The sedimentary story of archeological discoveries is the primary source of crucial information about early hominin life, including, but not limited to age, habitat, and environment. The integration of archeology and other methods, including palynology, has led to foundational discoveries such as the age of early hominin remains in East Africa's archaeological sites. My study revisits a renowned setting, the archaeologically significant Oldupai Gorge on the western margin of the East African Rift System in Northern Tanzania, to investigate paleoenvironmental change and what role this played in hominin evolution, as revealed through multifaceted approaches. By integrating palynology, sedimentology, paleohydraulics, geochronology, and geochemistry, I aim to uncover new insight into early hominin life, particularly regarding their habitat, environmental conditions, and adaptations to them. The goal is to further improve the scientific narrative of early human origins.

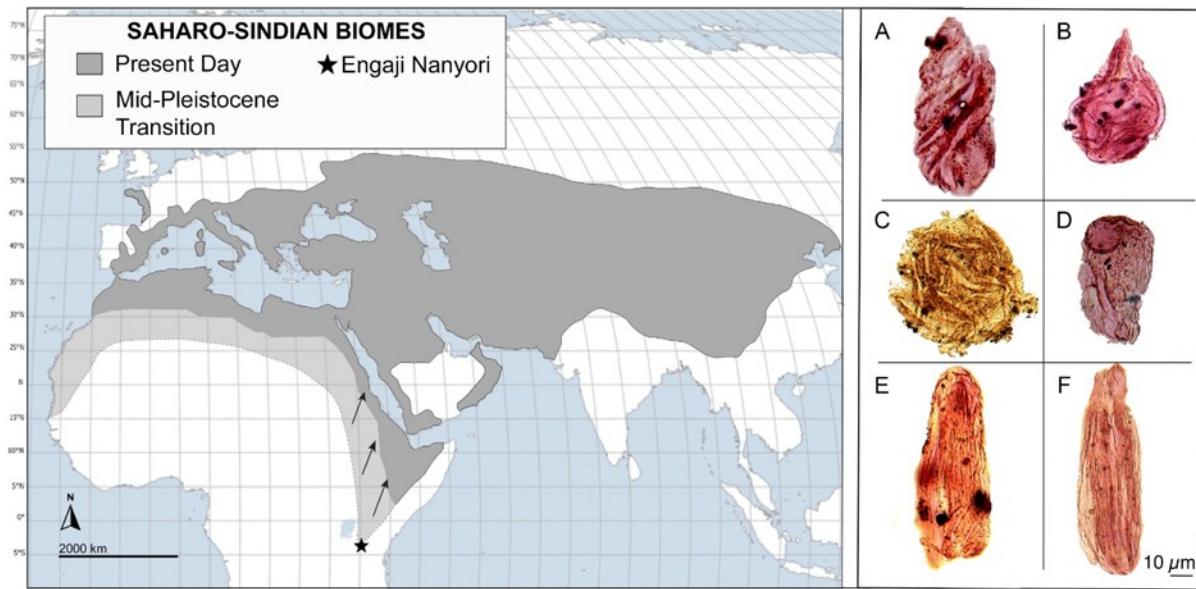


*My working space at the Department of Earth, Energy and Environment, University of Calgary, Canada, 2025.*

*Recently, I visited the Department of Earth Sciences, University of Manitoba for lab training on the Electron Probe Microanalyzer (EPMA).*

Micropaleontology has been rarely utilized in archaeological investigations in East Africa, particularly at Oldupai Gorge. However, a few exceptions are present, and their results have enhanced the understanding of the environmental context of Oldupai's early hominins, including their behavioral flexibility, adaptability, and land use. Preliminary pollen analysis of Oldupai's Bed III samples (1.1-0.9 Ma), which is part of my study, has revealed the promising potential of Oldupai Gorge beds for pollen-based reconstructions (see paper at <https://www.nature.com/articles/s43247-024-01919-1>). Palynological and other data presented in the study show that,

around 1 Ma, the Oldupai Gorge experienced semi-desert conditions during the first half of the Middle Pleistocene Transition (MPT). The existence of brick red sediments (Bed III) bearing *Ephedriites* pollen amongst other gymnosperm pollen, signs of desiccation, saline-alkaline soil, and increased wildfire activity directly reflects the steppe deserts or semi-desert environments that persisted at this time. The pollen composition indicates that the Oldupai Gorge was part of the Saharo-Sindian vegetation zone during the MPT, extending through Oldupai Gorge to parts of Lake Victoria (Fig. 1), and this has implications for early hominin evolution, migration, and land-use.



**Figure 1.** Geographical extent of the Ephedraceae and Saharo-Sindian biomes during recent times and their hypothesized extent during the Middle Pleistocene Transition in Africa. Key pollen types. The star symbol shows the location of the study area. **A.** *Gnetaceaepollenites clathratus* **B.** *Elateroplicites* spp. **C.** *Gnetaceaepollenites diversus* **D.** *Steevesipollenites multilineatus* **E.** *Ephedra* spp. **F.** *Ephedra* spp.

The current challenge in applying palynology in Oldupai Gorge is the poor preservation of pollen in the arid paleoclimatic conditions of the site. Moreover, because of rare palynological literature in the area, it remains unclear which beds are most likely to yield palynomorphs. However, even in areas with poor preservation of palynomorphs, the abundance of phytoclasts has proven the potential of the Oldupai beds for conducting a palynofacies study. My plan for the summer of 2025 is to conduct follow-up palynological sampling in Beds III–IV of the eastern Oldupai

Gorge, where several active archaeological excavations will occur. This campaign will enhance the understanding of paleoenvironmental conditions during key periods of early hominin occupation in the eastern Oldupai Gorge.

Under the supervision of Dr. Julio Mercader and Dr. Stephen Hubbard, my PhD at the University of Calgary contributes to broader efforts to decolonize western science practices in East Africa by fostering meaningful collaboration with local communities, agencies and researchers.



*Fieldwork campaign in the eastern Oldupai Gorge, Tanzania, 2023.*

## Awards



### Atlantic Geoscience Society Distinguished Scientist Award 2025, the *Gesner Medal*, awarded to Graham Williams<sup>1</sup>

Slightly modified version of the dedication letter read during the 51<sup>st</sup> AGS Colloquium, Dartmouth, 7 February 2025, by *Rob Fensome*

It has been my great pleasure to nominate Graham Williams for the Atlantic Geoscience Society's Gesner Medal, the society's highest scientific honour. This is for two reasons aside from the fact that the honour is thoroughly deserving and long overdue. First, that Graham and I have been working together for over 40 years ... would you believe ... and I owe him an incredible great debt of gratitude for his inspiration, mentorship and collegiality in many projects. And secondly, if it wasn't for Graham we perhaps would not be gathered here at the AGS Colloquium today, as Graham related in his talk on the early days of the Society this morning.

In the late 1960s Graham completed one of the earliest theses on Paleogene dinoflagellate cysts (or dinocysts), and his work and others under the direction of Charles Downie at Sheffield University in England did much to establish dinocysts as valuable biostratigraphic tools in Mesozoic and Cenozoic sedimentary rocks. And that value was rapidly becoming recognized in industry. So after graduation from Sheffield, Graham, with his wife Val and ... at the time two children ... headed to the bright lights of Tulsa, Oklahoma, to work for PanAmerican Petroleum, later Amoco.



*Graham Williams, photographed in the early 2000s by Henrik Nøhr-Hansen.*

There, he worked on the biostratigraphy of offshore eastern Canada. So, when, in 1971, the Geological Survey of Canada opened an eastern office, the Atlantic Geoscience Centre (now Geological Survey of Canada – Atlantic) in Dartmouth, Graham was a natural to become its first Mesozoic–Cenozoic palynologist.

During his early years at GSCA, Graham examined many offshore wells, culminating in a milestone multi-authored GSC Paper reporting on the palynological zonation of 67 wells in offshore eastern Canada, of which Graham had analyzed 44.

Graham has continued to be prolific in analyzing many more offshore sections and wells, developing paleoenvironment and evolutionary aspects as well as biostratigraphic. However, the importance of the latter to the geology of offshore eastern Canada cannot be overemphasized: we have vanishingly few radiometric dates from Mesozoic–Cenozoic strata in the region, so the age control that we have through up to 20 km thickness of strata is primarily due to biostratigraphy — and that in turn is disproportionately attributable to Graham's work and influence.



*GSC Atlantic palynologists during the 1970s: from left to right, Graham Williams, Jonathan Bujak and Sedley Barss. These three co-authored the classic 67 wells GSC Paper in which they outlined the palynostratigraphy of 67 offshore eastern Canadian wells. Photographer unknown.*

Throughout his career Graham has recognized the importance of taxonomy as the principal means of consistent communication between experts. In this vein, he began a collaboration with Judith Lentin in producing what has become the "Lentin and Williams" Index of fossil dinoflagellates, which is now in preparation for its ninth edition.

Form the small booklet published in 1973, the 2019 edition has more than 1000 pages and includes 10,233 entries for genera and species. This remarkable work is a primary reason why dinocysts are so valuable in applied studies; it is almost universally cited in works on dinocysts, either in its original format or as the database DINOFLAJ, which Graham helped develop in collaboration with Andrew MacRae and myself.



*"Lentin and Williams": Judi Lentin and Graham Williams at a gathering of Sheffield alumni around 1980. Photographer unknown.*

Beyond dinocysts and palynology, Graham has also significantly contributed to major publications in eastern Canadian geology. He co-edited a major volume on offshore eastern Canada in the Decade of North American Geology (DNAG) series and was senior editor of the "Lexicon of Canadian Stratigraphy" volume for the Atlantic Region. He has also been deputy-editor of the Canadian Journal of Earth Sciences and a co-editor of Atlantic Geology. Graham has also shared his expertise, for example, in multi-authored textbooks and international courses on dinocysts.

Graham was integral in the founding of the Atlantic Geoscience Society<sup>2</sup>, to which he has made many significant contributions, such as promoting the development first "geological highway map" of Nova Scotia, playing an integral role in the production of educational geoscience videos, as well as the EdGeo workshops for teachers in Nova Scotia and literally hundreds of classroom visits.

Perhaps a crowning achievement in outreach activities has been the production of two books on Maritimes and Canadian geology. Graham mooted the idea of a "popular" book on Maritimes geology at the 1996 AGS Colloquium in Antigonish, and thanks to his drive and leadership skills in gathering many contributors, the book *The Last Billion Years* became a reality in 2001, becoming a Canadian bestseller.

This success led to the larger undertaking to produce “Four Billion Years and Counting”, a book on the geology of Canada in 2014 and a second edition of The Last Billion Years in 2022.

Graham has always considered himself to be a member of the larger paleontological and geological community. Throughout his career he has contributed enormously to nurturing what was an emerging discipline, helping to shepherd it to maturity as an essential component of sedimentary basin studies. With prodigious energy and phenomenal power of concentration, he will work long days to finish his commitments, while always keeping a positive attitude and cheerful

disposition. He has achieved excellence in every sense of the word, and his nomination for the *Gesner Medal* is surprising only in that it has been so long in coming.

1. *The award was proposed by Rob Fensome, seconded by Andrew MacRae and supported by Lynn Dafoe, Raquel Guerstein and Henk Brinkhuis.*

2. *Graham Williams was also one of the founding members of the Canadian Association of Palynologists and in 1979 was a member of its first executive.*



*The team behind DINOFLAJ, the online database version of the Lentini and Williams Index: left to right, Graham, Andrew MacRae, Rob Fensome. Photo by Stephanie Longworth.*

## Paly Gallery

### New papers on weird dinoflagellate cysts and other NPP in estuarine seas

By Peta Mudie (NRCan, GSC Atlantic)

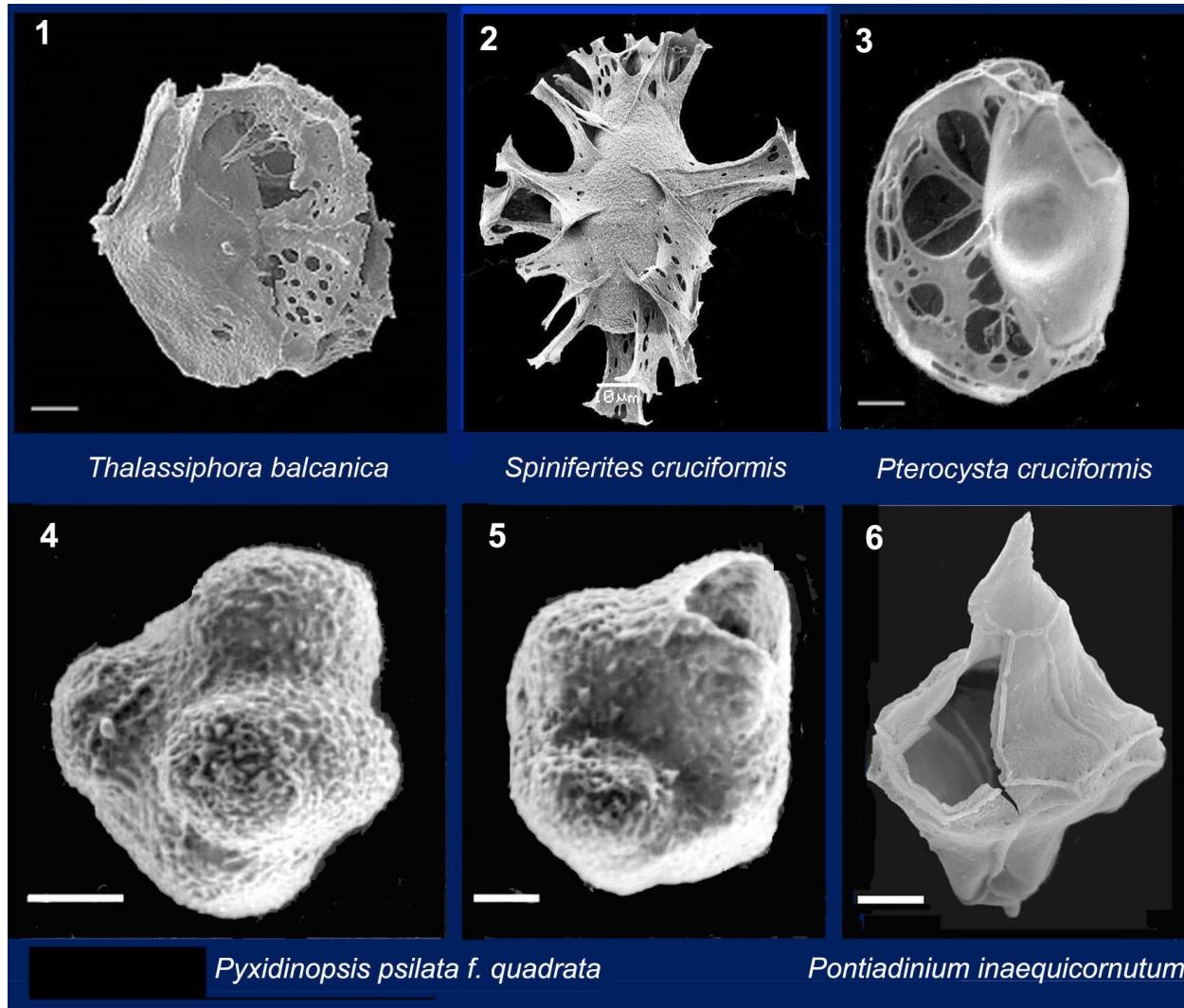
With apologies for the non-Canadian location of my studies, I would like to draw attention to two new papers on the late Quaternary palynology of the Sea of Marmara, Türkiye. This estuarine marine basin is the world's smallest sea. However, as the gateway to the Black Sea, it controls the exchange of water between the hypersaline Mediterranean Sea, the Azov and Black Seas, and the brackish Caspian Sea — the world's largest inland lake.

The surface water salinity of the Marmara Sea changes with the opening or closing of shallow straits at its south and north ends. During glacial stages of sea-level low-stands, the straits close and the isolated sea becomes a brackish to freshwater lake dominated by dinoflagellate cysts with cruciform endocysts or parachute-like "wings" (Figures 1–3), and by NPP (non-pollen palynomorphs) dominated by parasitic Chytrids and Turbellarians. The cruciform dinocysts are endemic relics of the Paratethys sea in Eurasia, along with weird "S"-shaped and spindle-shaped cysts (Figures 4–6) that to my knowledge, have never been found in North American lakes or sea.

The two new publications (Mudie *et al.* 2024a,b) provide the first high resolution (50–100 yr-scale) record of pollen,

dinocysts and other planktonic or benthic NPP that mark the Late Pleistocene lacustrine (Lake Propontis) glacial phase and the Holocene Marmara Sea estuarine phases. Previously, the Marmara Sea palynomorphs, planktonic and benthic microfossils have been described in different papers. With my co-authors Ali Aksu and Rick Hiscott at MUN where the cores are archived, the two new papers bring together the full suite of micropaleontological proxy-data to provide a food-web, trait-based approach to the major glacial/interglacial changes in palynomorph assemblages.

Responses of dinoflagellate cyst populations notably lag those of the terrestrial pollen-spores and the other NPP assemblages that comprise the planktonic microalgae, the zooplankton and zoobenthos. The data highlight the potential importance of parasitic chytrids in structuring phytoplankton communities. The magnitude of anthropogenic impacts can be traced back to the Stone Age. The paleoclimatic and paleoceanographic signals of the high-resolution cores appear to have a large overprint that may be related successively to anthropogenic impacts of deforestation, soil erosion, shipping transport and eutrophication.



SEM images of A. Rochon, UQAR, reproduced from Mudie *et al.*, 2019, TPS-AASP 52<sup>nd</sup> Annual Meeting at Ghent, Belgium, June 30<sup>th</sup> - July 5<sup>th</sup> 2019 [10.13140/RG.2.2.28726.93766](https://doi.org/10.13140/RG.2.2.28726.93766); Rochon *et al.*, 2002. *Palynology*, 26: 95–105 (Figs. 4, 5); SEM of Baranyi *et al.*, 2022, *Palynology* 46: 1-29.

#### New Publications:

Mudie, P.J., Hiscott, R.N., Aksu, A.E., 2024a. Palynological and paleontological records of changes from glacial-stage (MIS2) oxygenated brackish to postglacial hypoxic and periodically dysoxic conditions in the Marmara Sea, Turkey. Invited paper, Chapter 2 in *Ecological Changes in the Sea of Marmara*, M. İşinbilir, A. E. Kideyş, A. Malej, eds, Istanbul University Press, Ankara, pp. 113–262. DOI:10.26650/B/LSB21LSB37.2024.023.002

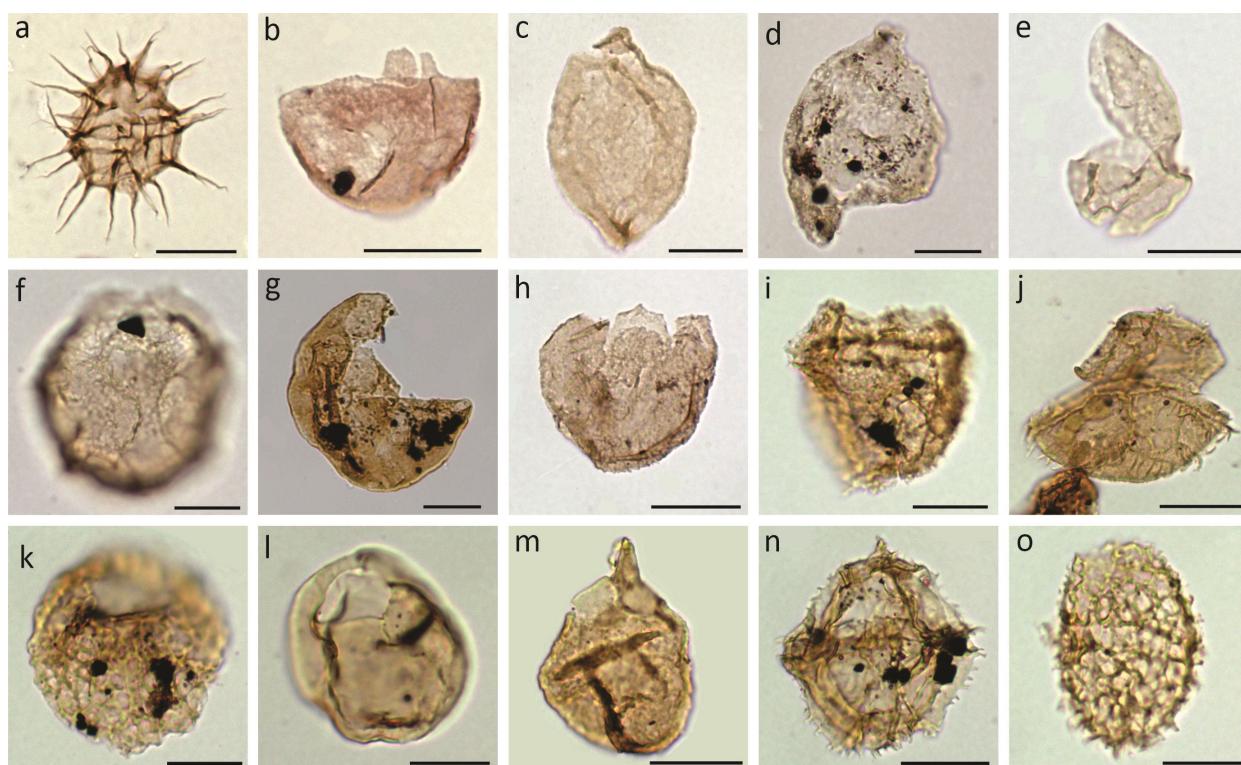
Mudie, P. J. Aksu, A.E. and Hiscott, R.N., 2024b. Late Pleistocene–Holocene palynology and paleoceanography of İmralı Basin, Marmara Sea: pollen-spore, dinoflagellate cyst and other NPP zonation. *Review of Palaeobotany and Palynology*. 331, 105179.

## Paly Gallery

### Key dinoflagellate cysts from the Early and Middle Jurassic of the Lusitanian Basin (Portugal)

By Vânia Correia (NRCan, GSC Atlantic)

As a continuation of my PhD project (Correia, 2018; Correia *et al.* 2025b), we developed a high-resolution biostratigraphical scheme comprising 28 key palynomorph bioevents for the late Pliensbachian to earliest Bathonian interval from the Lusitanian Basin. These bioevents, mainly based on dinocysts (Plate 1), are reliable calibrated markers for this interval throughout Europe, and will be a useful tool to establish transatlantic correlations with the Scotian Margin and Grand Banks, in Atlantic Canada.



**Plate 1.** Key dinoflagellate cysts from the Lower and Middle Jurassic of the Lusitanian Basin. All scale bars represent 20  $\mu\text{m}$ . (a) *Luehndea spinosa* (b) *Mancodinium semitabulatum* (c) *Nannoceratopsis senex* (d) *Nannoceratopsis gracilis* (e) *Mendicodinium microscabratum* (f) *Scriniocassis priscus* (g) *Dissiliodinium* sp. (h) *Sentusidinium* sp. (i) *Meiourogonyaulax* sp. (j) *Ctenidodinium sellwoodii* (k) *Valensiella ovulum* (l) *Chytroeisphaeridium chytroeides* (m) *Pareodinia ceratophora* (n) *Rhynchodiniopsis pectinigera* (o) *Ellipsoidictyum* sp.

Correia, V. F., 2018. *Jurassic dinoflagellate cyst biostratigraphy of the Lusitanian Basin, west-central Portugal, and its relevance to the opening of the North Atlantic and petroleum geology*. PhD Thesis, Faculdade de Ciências e Tecnologia, Universidade do Algarve, Faro, 283 pp. <http://hdl.handle.net/10400.1/10828>



## Recent Publications

\*denotes a CAP member

\*Correia, V. and Gravendyck, J. 2025. AASP-TPS Medal for Scientific Excellence to Dr James B. Riding. *Palynology*, 49(1), 2419769. <https://doi.org/10.1080/01916122.2024.2419769>

\*Correia, V., \*Fensome, R.A., Dafoe, L., MacRae, R.A., \*Williams, G.L., Silva, R., Cooper, M.K.E., Skinner, C. 2025a. Early Cretaceous dinoflagellate cyst bioevents from Panuke B-90, Scotian Margin. *Atlantic Geoscience Society Abstracts: 51st Annual Colloquium and General Meeting*, February 7 and 8, 2025. *Atlantic Geoscience*, 61, p. 119. <https://doi.org/10.4138/atgeo.2025.005>

\*Correia, V., Pereira, Z., Riding, J.B., Duarte, L.V., Henriques, M.H., Fernandes, P. 2025b. The Early and Middle Jurassic palynostratigraphy of the Lusitanian Basin (Portugal) in a proto-Atlantic context. *Comunicações Geológicas*, 112 (Especial I), 71–75. <https://doi.org/10.34637/vy4y-hp71>

Dafoe, L.T., Deptuck, M.E., Eamer, J.B.R., Campbell, D.C., Desiage, P.-A., Broom, L., \*Correia, V. and \*Fensome, R.A., 2025. Characterization of near-surface bedrock occurrences along the Scotian Shelf: a framework for offshore wind development. *GeoConvention 2025*, 4 p.

De Benedetti, F., Zamaloa, M. C., Gandolfo, M. A., Cúneo, N. R., \*Fensome, R. A., and Gravendyck, J. 2025. Nomenclatural and taxonomic notes on the fossil pollen genus *Sparganiaceaepollenites* Thiergart 1937. *Palynology*. <https://doi.org/10.1080/01916122.2025.2463407>

\*Fensome, R.A., \*Williams, G.L., \*Bringué, M., \*Correia, V., MacRae, R.A. 2025. Dinoflagellate evolution: from fossils to molecules. *Atlantic Geoscience Society Abstracts: 51st Annual Colloquium and General Meeting*, February 7 and 8, 2025. *Atlantic Geoscience*, 61, p. 123.

Garcés-Pastor, S., Heintzman, P.D., Zetter, S., Lammers, Y., Yoccoz, N.G., Theurillat, J-P., Schwörer, C., Tribsch, A., Walsh, K., Vanniére, B., Wangensteen, O.S., Heiri, O., Coissac, E., Lavergne, S., van Vugt, L., Rey, F., Giguet-Covex, C., Ficetola, G.F., Karger, D.N., Pelissier, L., Schabetsberger, R., \*Haas, J.N., Strasser, M., Koinig, K.A., Goslar, T., Szidat, S., PhyloAlps Consortium, Brown, A.G., Tinner, W., Alsos, I.G. 2025. Wild and domesticated animal abundance is associated with greater late-Holocene alpine plant diversity. *Nature Communications*, 16, 3924. <https://doi.org/10.1038/s41467-025-59028-2>

Gravendyck, J. and \*Correia, V. 2025. AASP-TPS Medal for Scientific Excellence to Dr Robert A. Fensome. *Palynology*, 49(1), 2419770. <https://doi.org/10.1080/01916122.2024.2419770>

\*Head, M. J., Gravendyck, J., Herendeen, P. S. and Turland, N. J. 2025. Dual nomenclature to be supported explicitly in the International Code of Nomenclature for algae, fungi, and plants. *Palynology*, 49, 2395280. <https://doi.org/10.1080/01916122.2024.2395280>

Huang, S., Mertens, K.N., Nguyen-Ngoc, L., Do-an-Nhu, H., Bernd, B., Li, Z., Doc Luong, Q., Bilien, G., \*Pospelova, V., Ho Shin, H., Plewe, S., Gu, H. 2025. Cryptic diversity within the *Spiniferites bentorii*, *S. mirabilis* and *S. membranaceus* species complex, with the description of *Gonyaulax carbonell-mooreae* sp. nov. (Gonyaulacales, Dinophyceae). *Journal of Phycology*, 70005, 18 p. <http://doi.org/10.1111/jpy.70005>

\*Li, Z., \*Pospelova, V., Mertens, K.N., Chang, A.S., We, Y. 2025. A 12,000-year dinoflagellate cyst record on the Vancouver Island margin, Canada: tracing past climatic, primary productivity and oceanographic conditions. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 667, 18 p. doi: <https://doi.org/10.1016/j.palaeo.2025.112876>

\*Mudie, P. J. Aksu, A.E. and Hiscott, R.N., 2024a. Late Pleistocene–Holocene palynology and paleoceanography of İmralı Basin, Marmara Sea: pollen-spore, dinoflagellate cyst and other NPP zonation. *Review of Palaeobotany and Palynology*. 331, 105179.

\*Mudie, P.J., Hiscott, R.N., Aksu, A.E., 2024b. Palynological and paleontological records of changes from glacial-stage (MIS2) oxygenated brackish to postglacial hypoxic and periodically dysoxic conditions in the Marmara Sea, Turkey. Invited paper, Chapter 2 in *Ecological Changes in the Sea of Marmara*, M. İşinibilir, A. E. Kideyş, A. Malej, eds, Istanbul University Press, Ankara, pp. 113–262. DOI :10.26650/B/LSB21LSB37.2024.023.002

Patel, N., \*McLachlan, S.M.S., \*Galloway, J.M., Greenwood, D.R., \*Pospelova, V. 2025. A maritime location reduced palynofloral turnover and extirpation across the end Cretaceous

boundary interval on the west coast of Canada. *Cretaceous Research*, 166: 106011, 16 p. <https://doi.org/10.1016/j.cretres.2024.106011>

Pross, J., Bijl, P.K., Brinkhuis, H., Bujak, J., Eldrett, J.S., \*Fensome, R.A., \*Head, M.J., Kotthoff, U., Pearce, M.A., Riding, J.B., Sangiorgi, F., Schiøler, P., Śliwińska, K.K., Sluijs, A. and \*Williams, G.L. 2025. Organic-walled dinoflagellate cysts in biostratigraphy: state of the art and perspectives for future research. *Newsletters on Stratigraphy*, XX, pp. XX–XX. <https://doi.org/10.1127/nos/2025/0871>

Stanford, S., Sugarman, P., \*McCarthy, F.M.G. 2025. River incision, seepage erosion, sea-level change and the development of a coastal plain landscape since 15 Ma in the New Jersey pine barrens, USA. *Geosphere* <https://doi.org/10.1130/GES02844.1>

Wang, J., Liu, Q., Huang, S., Mertens, K.N., \*Pospelova, V., Shen, X., Gu, H. 2025. High-resolution DNA metabarcoding from modern surface sediments uncovers diverse dinoflagellate cysts in the Pacific and Arctic sediments. *Marine Pollution Bulletin*, 117899, 17 p. <https://doi.org/10.1016/j.marpolbul.2025.117899>

\*Williams, G.L. and \*Fensome, R.A. 2025. New taxa of dinoflagellate cysts from the Upper Cretaceous to Paleocene strata of Bylot Island, eastern Nunavut, Canada. *Palynology*, in press.

Williams, M., Zalasiewicz, J., Barnosky, A.D., Leinfelder, R., \*Head, M.J., Waters, C.N., \*McCarthy, F.M.G., et al. 2024. Palaeontological signatures of the Anthropocene are distinct from those of previous epochs. *Earth Science Reviews*, 255, 104844. <https://doi.org/10.1016/j.earscirev.2024.104844>