

Alberta

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ALBERTA PALAEOLOGICAL SOCIETY

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Cory Gross president1@albertapaleo.org (403) 617-2079

Vice-President

Open: To volunteer contact the President

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Mona Marsovsky giftshop@albertapaleo.org (403) 547-0182

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Vaclav Marsovsky (403) 547-0182

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Wayne Braunberger pastpres@albertapaleo.org (403) 278-5154

DIRECTORS

Editor

Howard Allen editor2@albertapaleo.org (403) 274-1858

Membership

Howard Allen membership@albertapaleo.org (403) 274-1858

Programs

Harold Whittaker programs1@albertapaleo.org (403) 286-0349

Field Trips

Wayne Braunberger fieldtrips@albertapaleo.org (403) 278-5154

COMMITTEES

Fossil Collection

Howard Allen editor2@albertapaleo.org (403) 274-1858

Library

Reg Spratley spratleyreg@gmail.com (403) 263-0556

Public Outreach

Cory Gross president1@albertapaleo.org (403) 617-2079

Social

Dan Quinsey dinodan@shaw.ca (403) 247-3022

Symposium

Mona Marsovsky giftshop@albertapaleo.org (403) 547-0182

Website

Vaclav Marsovsky (403) 547-0182

THE SOCIETY WAS INCORPORATED IN 1986 as a non-profit organization formed to:

- Promote the science of palaeontology through study and education.
- Make contributions to the science by: 1) Discovery. 2) Collection. 3) Description. 4) Education of the general public. 5) Preservation of material for study and the future.
- Provide information and expertise to other collectors.
- Work with professionals at museums and universities to add to the palaeontological collections of the province (preserve Alberta's heritage).

MEMBERSHIP: Any person with a sincere interest in palaeontology is eligible to present their application for membership in the Society. Please enclose membership dues with your request for application.

Single membership \$20.00 annually

Family or Institution \$25.00 annually

SOCIETY MAILING ADDRESS:

Alberta Palaeontological Society
P.O. Box 35111, Sarcee Postal Outlet
Calgary, AB, Canada T3E 7C7
www.albertapaleo.org

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Howard Allen, Editor, APS
7828 Hunterslea Crescent, NW
Calgary, AB, Canada T2K 4M2
editor2@albertapaleo.org

Requests for missing *Bulletin* issues should be directed to the Editor. Send changes of contact information to the Membership Director.

NOTICE: Readers are advised that opinions expressed in the articles are those of the authors and do not necessarily reflect the viewpoint of the Society. Except for articles marked "Copyright ©," reprinting of articles by exchange newsletters is permitted, as long as credit is given.

Upcoming APS Meetings

Meetings take place at 7:30 P.M. in **Room B108,**
Mount Royal University, 4825 Mount Royal Gate SW, Calgary, Alberta.

Friday, January 15, 2016—Mona Marsovsky, P.Eng., Alberta Palaeontological Society.
Sue (the Tyrannosaurus rex) and the Chicago Field Museum.

Friday, February 19, 2016—Michela M. Johnson, University of Southampton.
A previously unknown partial crocodylomorph skull from the Isle of Wight, England.

Saturday and Sunday, March 19–20, 2016—Paleo 2016.
Alberta Palaeontological Society's 20th annual Symposium (see Pages 12–14).

Watch the APS website for updates on upcoming programs.

ON THE COVER: Alberta fossils! "A nematoceran (long antenna) fly, likely belonging to the family Chironomidae (i.e., non-biting midges)." Found by APS member **Daegan Kovacs**. Photo by **Dr. Ryan McKellar**, Royal Saskatchewan Museum. No scale given, but width of view would be about 5 mm. **See story on Page 4.**

Upcoming Events

February

January

Mona Marsovsky

Alberta Palaeontological Society and Professional Engineer

Sue (the T. rex) and the Chicago Field Museum

Friday, January 15, 2016 7:30 P.M.

Mount Royal University, Room B108

In the 1990s controversy erupted around the *Tyrannosaurus rex* dinosaur named "Sue." This included seizure of Sue's skeleton by the FBI (Federal Bureau of Investigation), court hearings which resulted in a jail sentence for the person who excavated Sue's skeleton, and an auction in which Sue sold for more than 8 million dollars to the Field Museum in Chicago, with the bill footed by Ronald McDonald House and Disney. After years of preparation by staff and volunteers at the Field Museum in Chicago, Sue is now proudly displayed at the Museum.

Mona will present an overview of Sue's background and some of the things that Sue has taught us (scientific and otherwise). Mona will also illustrate some of the other treasures in the Chicago Field Museum.

Biography

Mona Marsovsky is a life member of the APS who has served as the APS treasurer since 2002. She is also a member of the Society of Vertebrate Paleontology. She is an amateur whose palaeo habit has been supported by her work as a professional engineer (Mona Trick, P.Eng.) programming gas and oil field optimization software for the oil industry. As part of her work, she has taught training courses and given luncheon talks all over the world.

Bulletin back issues are available on the Web

A complete archive of *Bulletin* back issues from 1986 to 2014 is available to download as PDF files.

www.albertapaleo.org/bulletinarchive.htm

Michela M. Johnson

University of Southampton, Great Britain

A previously unknown partial crocodylomorph skull from the Isle of Wight, England

Friday, February 19, 2016 7:30 P.M.

Mount Royal University, Room B108

The Isle of Wight, a well-known island within the UK, yields an abundance of unique fossilized remains, including dinosaurs, mammals, and reptiles. Crocodylomorpha (modern crocodylians and their past relatives) fossils are abundant on the Isle of Wight and many taxa have been discovered. Here a previously unknown specimen of a crocodylomorph skull, from the Sandown Bay Academy, is examined.

The exact location and collector of the specimen is unknown, but we agree that it must have been collected during the 1800s. We created a computed tomography (CT) model of the specimen, compared it with specimens from multiple museums and used phylogenetic analyses to place it within Crocodylomorpha. At first we believed it to belong with goniopholidids (a common group of fossil crocs), but we currently believe it to be a pholidosaurid (a group of long-snouted crocs), either *Terminonaris*, *Teleorhinus*, or a possible new taxon.

Biography

After earning a BSc. with specialization in palaeontology at the University of Alberta, Michela set sights on the United Kingdom. There her previous fascination with fossil crocodiles flourished, and she worked on multiple croc-related projects. She completed her Masters of Research in Vertebrate Palaeontology with Distinction at the University of Southampton under her supervisor, Dr. Gareth Dyke, in 2014. Michela plans on a 2016 PhD. in Southampton, focussing on a specific group of crocodylomorphs called teleosaurids, and is currently working on her research. □

March

Paleo 2016! See Pages 12 to 14.

Results of the Amber Workshop

Photos and captions by Dr. Ryan McKellar

Our March 2015 Symposium workshop involved two sessions of participants learning about amber examination techniques with Royal Saskatchewan Museum palaeontologist **Dr. Ryan McKellar**. We sorted through a large quantity of material generously provided by **Max Whittaker**, who collected the material from an exposure of the Upper Cretaceous Foremost Formation, on his farm property in southern Alberta. See the June 2015 *Bulletin* for a summary. These photos show a few of the finds; all are provided without scale. □



Figure 1. Two nematoceran (long antenna) flies, likely belonging to the family Chironomidae (i.e., non-biting midges). These inclusions were spotted by **Daegan Kovacs**. (Note, the darker inclusion midway between the two flies is not an insect).



Figure 2. Partially preserved insect, with wing venation and foot characteristics that suggest a winged aphid. This inclusion was spotted by **Harvey Negrich**.



Figure 3. A wingless aphid with elongate mouthparts (the thin tube trailing off to the upper right of the image is a piercing tube). This inclusion was spotted by **Graham Major**.

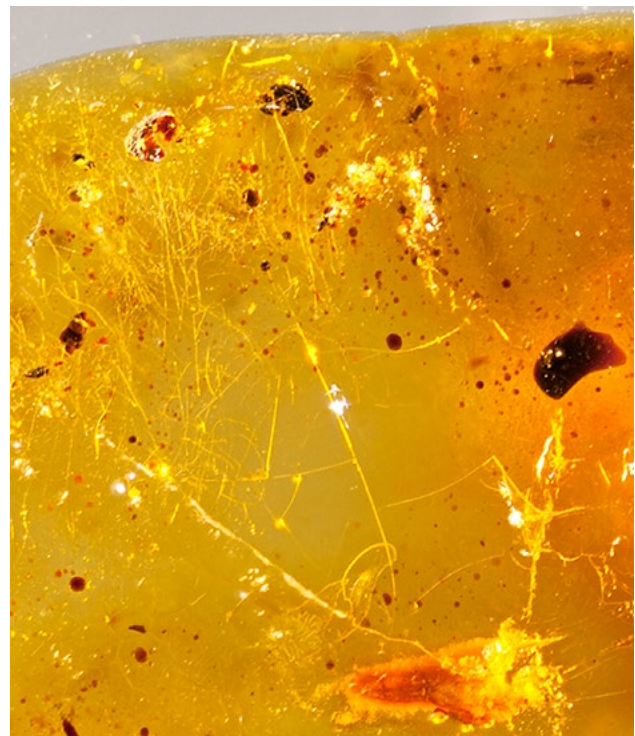


Figure 4. Amber specimen containing spider web and a mat of fungal hyphae or hairs (white lines in the photograph), as well as fungal spores (brown circles in the photograph). This inclusion was spotted by **Keith Mychaluk**.

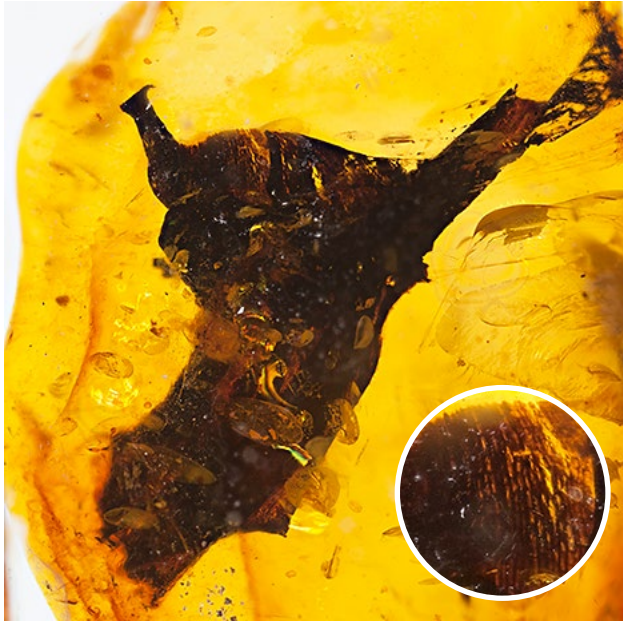


Figure 5. Large sheet of leaf or lichen (structure more suggestive of lichen) spotted by **Mona Marsovsky**. Near the middle of the specimen's upper margin, individual cells are visible (inset).



Figure 6. Cluster of moss foliage (thin dark lines), spotted by **David Mazzucchi**.

2016 Field Trips

By Wayne Braunberger

Planning is underway for the 2016 field trip season. If you have suggestions for field trips, have a field trip you would like to lead or would be able to assist in leading a field trip please contact me (contact info on Page 2), or any member of the Board. **New field trip ideas would be appreciated!** Further details about the 2016 field trips will be in the March 2016 *Bulletin* and on the APS website. □

2015 Rock 'n' Fossil Road Show

By Dr. Robert MacNaughton

The 2015 Rock 'n' Fossil Road Show was a success. The Geological Survey of Canada had two staff, one visiting fellow, one graduate student, and three volunteers on deck. And, as he has for several years now, “**Dino Dan**” **Quinsey** was on hand to show the flag for the Alberta Palaeontological Society with a display on how every rock and fossil tells a story.

The public turnout at Alexander Calhoun Library was steady, with roughly 200 people visiting us over the course of the four-hour show. The visitors I spoke with were enthusiastic and a goodly number had

brought in rocks and fossils for identification. The library staff were very supportive. They gave us a very good location with plenty of public visibility—and they even put on a pot of coffee for us!

I want to say thank-you to everybody who volunteered (on the day, or for packing/unpacking samples), and especially to **Dr. Sandy McCracken** for his continuing guidance. Thanks also to Alberta Science Network for help with publicity, to NRCan Communications for their assistance, and to the staff at Alexander Calhoun Public Library for being such gracious hosts. See you next year! □

Fossils in the News

Burgess Shale fossil *Waptia* may be oldest mom ever found caring for eggs.

www.cbc.ca/news/technology/waptia-eggs-1.3372336

Feathers found on ostrich-like dinosaur in Alberta. www.thestar.com/news/canada/2015/10/29/feathers-found-on-ostrich-like-dinosaur-in-alberta.html

Canada's first *Dimetrodon* solves PEI fossil mystery. www.cbc.ca/news/technology/pei-dimetrodon-1.3337072

[Thanks to *Phil Benham* and *Vaclav Marsovsky*.] □

Sort Microfossils in January and February, 2016

By Mona Marsovsky

Tired of winter? Hungry to find fossils? Search for fossils and aid scientific research by joining us at our microfossil sorting sessions this January and February. We will be using microscopes to find tiny fossils in the matrix (soil) provided by **Dr. Donald Brinkman** of the Royal Tyrrell Museum of Palaeontology (RTMP) on the following **Saturdays**:

January 16, 2016

January 30, 2016

February 20, 2016

February 27, 2016

We meet in **Room B213** at Mount Royal University from **1:00 until 3:30 P.M.** All of the fossils we find will be kept by the RTMP and used in their research.

Registration is not required, but if you contact **Mona Marsovsky**, (403) 547-0182 or **giftshop@albertapaleo.org** and let me know that you are planning to attend, then I can inform you if we need to cancel a session. No experience is required. Bring tweezers to pick the tiny fossils from the matrix and a pen to label your finds.

These sessions are made possible thanks to Mount Royal University (especially **Mike Clark**) who allow us to use their microscopes and lab.

Early results of the November microfossil sorting sessions

By Harold Whittaker

We have been working with University of Calgary Professor **Dr. Jessica Theodore** on Eocene material from the Swift Current Creek site in Saskatchewan. Dr. Theodore has been assisted by graduate students **Tasha Commidge** and **Chelsey Zurowski**. **Dr. Alexander Dutchak**, University of Calgary instructor, has also provided his expertise. Our November sorting sessions have produced 78 identifiable mammal teeth. Many other incisors, reptile and fish teeth have also been found. At this point,

36 of the 78 mammal teeth have been identified. The rodents that have been identified include: *Microparamys solidus*, *Metanoimys fugitivus*, *Protadjidaumtilophus* and *Janimus mirus*. Two multituberculates have been identified, *Peratherium innominatum* and *Peradectes* sp. □

2015 Field Trip Reviews

**Field Trip 2015-3, September 19 and 20.
Grassi Lakes and Jura Creek, Alberta**

Review and photos by Howard Allen

Our third field trip of the season was originally scheduled for June, but questionable weather



Stromatoporoid bioherm/bank beds are thoroughly riddled with holes left by dissolved fossils. Spongy rocks just like this have produced prodigious amounts of oil and gas at Leduc and other fields beneath central Alberta. Jamie and Barry for scale.



Devonian reef fossils are abundant at Grassi Lakes. Top: nodular, tabular and sheet-like stromatoporoid fragments and small tabulate corals make up most of the rock in some exposures. Middle: a fine specimen of *Euryamphipora*, a thin, sheet-like stromatoporoid. Bottom: back-reef lagoon dweller *Amphipora* was a delicate, branching stromatoporoid.

forecasts resulted in a postponement to September. Weatherwise, this worked out well. Unfortunately, our organizer, **Wayne Braunberger**, was forced to bow out at the last minute due to an injury, so the trip leadership was delegated—to me! Gulp. Insofar as no fatalities or lawsuits resulted, my first experience leading a trip was relatively successful.

Saturday morning our small group met at the trailhead parking lot for Grassi Lakes, just outside of Canmore. Only a few other vehicles were in evidence when we started our hike up the hill; it looked like we would have the area to ourselves. Soon, this expectation of solitude would prove to be a naïve



Rock climbing made easy, thanks to fossils! Cliffs above upper Grassi Lake are pock-marked with vugs left by weathered-out Devonian reef stromatoporoids.

fantasy. Within an hour the trails, woods and cliff faces surrounding the tiny Grassi Lakes (little more than spring-fed ponds) were populated by a teeming throng reminiscent of a shopping mall two days before Christmas.

Despite the distraction of hikers elbowing past and rock climbers dangling from the cliffs like so many gigantic spiders, we were able to get a good look at one of the classic exposures in the Rockies of a Late Devonian reef environment.

Unlike modern coral reefs, Devonian reefs in this part of the world were dominated by sponge-like stromatoporoids (affectionately shortened to “stroms”) that took on a wide range of forms reflecting their ecological niches. Fist sized to beachball sized, bulbous and massive stroms constructed the main backbone of the reef. Slabby, nodular and encrusting stroms bound these together and formed an armour on the seaward, pounding surf side of the reef. On the quieter, leeward side of the reef, lagoons were colonized by delicate, spaghetti-thin branching stroms like *Amphipora*. Periodic storms would knock



Boulder hopping in the lower Jura Creek slot canyon. The creek has eroded through massive limestone and dolostone of the Late Devonian Palliser Formation.



Burrow mottled carbonate rock takes on this characteristic weathering pattern in the Morro Member of the Palliser Formation, Upper Devonian, seen in the Jura Creek slot canyon.

bits and chunks of all these into the back-reef area and onto the forereef slope that descended offshore into the depths of the sea.

The rocks at Grassi Lakes preserve evidence of many of these reef communities. While no main reef structure is exposed here, smaller reef-like bioherms, many peripheral reef deposits and all sorts of stroms were in evidence, as well as some of the extinct tabulate corals that shared the environment. The thousands of convenient hand-and-foot holds that our rock-climbing neighbours were putting to recreational use are thanks to bulbous stroms that weathered out of the cliff faces, leaving holes—vugs—also a joy to petroleum geologists, as subsurface equivalents across central Alberta store and produce much of the province’s petroleum wealth.

Our return to the parking lot had more in common with a downtown sidewalk at rush hour than any tranquil stroll through the forest. The large parking lot was jammed solid with vehicles, as was the equally large overflow lot and both sides of the access road all the way back to the main Spray Lakes road, a distance of nearly half a kilometre.

Sunday’s itinerary was an exploration of Jura Creek valley, a relatively little-travelled area east of Exshaw and north of Highway 1A. Our group was reduced to five members. This is another of the classic localities in the Rocky Mountain Front Ranges for examining Palaeozoic rocks; it has hosted many oil industry and academic field trips in the past, and several old field guides may be found in the literature. Jura Creek has cut through a section of Upper Devonian and Lower Carboniferous rocks, and it includes the type-section of the Exshaw Formation, which was a goal of our trip.

Our exploration began at an informal parking



Boulder strewn bed of Jura Creek on a beautiful fall day, perfect weather for exploration. Buff coloured beds of the upper siltstone member of the Exshaw Formation are exposed at upper right.

area off the highway. A maze of dirt tracks ascends a gravelly alluvial fan through aspen trees, gradually coalescing into a single trail that abruptly enters the lower canyon—a narrow, winding slot carved through carbonate rock of the Upper Devonian Palliser Formation. This part of the trail requires a lot of scrambling to avoid getting your feet wet. Some people might find it claustrophobic and it would definitely be a place to avoid during bad weather (there’s an alternate trail that avoids the slot canyon). Evidence of violent flooding is everywhere and one can’t help feeling like a very small rat in a very big drain.

Emerging from the lower canyon, the route continues into an open, v-shaped valley, the floor choked with boulders and cobbles. Progress is made by hopping and weaving around obstacles. Exposures of the Palliser and lower Banff formations occur intermittently and we examined these for their sparse fossil content. Our travel was slow, as attention was diverted by interesting geology in the creek bed, displaying trace fossils, sedimentary structures and occasional fossils accumulated from the surrounding mountains. I was particularly

impressed by several car-sized, *stream-rounded* (!) boulders of Lower Cambrian Gog Formation quartzite. The nearest source of this material is in the Lake Louise area, so these monsters attest to the thickness of the glaciers that must have completely buried the high mountain ridges during the Pleistocene Ice Age.

As we proceeded up the valley, I attempted to follow an old field guide that Wayne had provided, but I was only partly successful, due to at least two factors: the guide

(and others published in years past) was written in pre-GPS times so distances to points of interest were unhelpfully given in straight-line kilometres from the highway or even—laughably (see the photo at the top of this page)—“paces” from the highway! Thus, it was difficult to estimate our position in the valley with respect to the site descriptions in the guidebook. A second source of uncertainty was the very evident change in the valley bottom wrought by the catastrophic flood of June 2013. Some of the outcrops



Exshaw Formation type section at Jura Creek. The west-dipping, uppermost surface of the Devonian Palliser Formation (Costigan Member) in the left foreground is overlain by the Exshaw’s fossiliferous basal black shale member (centre right), and buff-coloured upper siltstone member (top). APS members examine the shale member for fossils.

documented in the old field guides may be buried under metres of gravel (see *Bulletin*, September 2013).

Despite this minor inconvenience, the weather was perfect and we were all happily engaged in doing what we love best: being outdoors, looking at rocks.

We eventually arrived at the type-section of the Exshaw Formation, which instantly removed all doubt about our location: the entire formation is spectacularly exposed at a point where the valley again narrows to a slot. We ended our exploration here and spent the next hour or more eating lunch



Fossils of the Exshaw Formation at Jura Creek. Top: coiled goniatitic ammonoids. The slab at the upper left corner is covered with typical Exshaw trace fossils. Bottom: fragments of orthocone (straight-shelled) nautiloid cephalopods.

and examining the rocks. Slabs of black Exshaw shale spalling off the outcrop contained several types of mollusc fossils: coiled, smooth-sided goniatite ammonoids, ribby straight-shelled nautiloids and a few small clams. The exposed surface of the underlying Palliser Formation (the upper Costigan Member) also bore large straight-shelled nautiloids.

After we'd had our fill of the Exshaw, we returned by the same route and made it back to our vehicles by about 3:30. Jura Creek is an interesting area that

invites further exploration. Many fossiliferous formations are exposed in the valley and it's relatively close to Calgary. It would be worthwhile to revisit with the aim of taking GPS readings on all the points of interest, and reassessing their exposure, which would make the old field guides much more useful. □

Member Donations

We are grateful to two more of our members who have made recent donations. Past President **Dan Quinsey** has very generously donated a Dell Inspiron laptop computer with software and accessories. This will be a real boon to our Programs Director, as we will have no more worries about being able to procure equipment for presentations. Thanks a million, Dan!

Cranbrook, BC member **Guy Santucci** has donated a box of fossil specimens, via **Keith Mychaluk**. The Curator will go through these specimens for additions to our collection. Thanks, Guy! □

Journals for Sale

A big thanks to APS founding member **Wayne Braunberger**, who has generously donated a portion of his library to the APS. We are offering these scientific journals for sale. All proceeds will go to fund Society activities.

We invite offers to purchase all or parts of the collection. An inventory is listed in the following tables. Digits indicate the number of copies available, greyed-out cells indicate that no copies are available. Tables of contents for each issue are available on the websites of the respective journals. There is a reserve price of \$1.00 per copy. **Deadline for offers is midnight, January 31, 2016.** Contact **Howard Allen** at editor2@albertapaleo.org. □

<i>Geological Society of America, Bulletin</i>													
Year	Vol.	Number											
		1	2	3	4	5	6	7	8	9	10	11	12
1984	95		1										
...													
1987	99					1							
1988	100						1	1				1	1
1989	101	1				1	1			1		1	

Palaeontology (British, PALASS)						
Year	Vol.	Number				
		1	2	3	4	5
1960-61	3	1	1	1	1	
1961-62	4	1	1	1	1	
1962-63	5	1	1	1	1	
1963	6	1	1	1	1	
1964-65	7	1	1	1	1	
1965	8	1	1	1	1	
1966	9	1	1	1	1	
1967	10	1	1	1	1	
1968	11	1	1	1	1	1
1969	12	1	1	1	1	
1970	13		1	1	1	
1971	14	1	1	1	1	
1972	15	1	1	1	1	
1973	16	1	1	1	1	
1974	17	1	1	1	1	
1975	18	1	1	1	1	
1976	19	1	1	1	1	
1977	20	1	1	1	1	
1978	21	1	1	1	1	
1979	22	1	1	1	1	
1980	23	1	1	1	1	
1981	24	1	1	1	1	
1982	25	1	1	1	1	
1983	26	1	1	1		
1984	27	1	1	1	1	
1985	28	1	1			

Note: a number 5 was issued in 1968 only

Bulletin of Canadian Petroleum Geology					
Year	Vol.	Number			
		1	2	3	4
1983	31	1	1	1	1
1984	32	1	1	1	1
1985	33	1	1	1	1
1986	34	1	1		1
1987	35	1	1	1	1
1988	36	1	1	1	
...					
1992	40		1	1	
1993	41	1		1	1
...					
2000	48		1		
...					
2007	55		1		

Palaios							
Year	Vol.	Number					
		1	2	3	4	5	6
1988	3	1	1	1	1	1	1
1989	4	1	1	1	1	1	1
1990	5	1	1	1	1	1	1
1991	6	1	1	1	1	1	1
1992	7	1	1	1	1	1	1
1993	8	1	1	1	1	1	1
...							
1998	13					1	1
1999	14	1	1	1	1	1	
2000	15	1	1	1	1	1	1
2001	16	1	1	1	1	1	
2002	17	1	1	1	1	1	1
2003	18	1			1	1	1
2004	19	1	1	1	1	1	1
2005	20	1	1	1	1	1	1

Journal of Sedimentary Research							
Year	Vol.	Number					
		1	2	3	4	5	6
1988	58	1	1	1	1	1	1
1989	59	1	1	1	1	1	1
1990	60	1	1	1	1	1	1
1991	61	1	1	1	1	1	1
1992	62	1	1	1	1	1	1
1993	63	1	1	1	1	1	1
...							
1998	68					1	1
1999	69	1	1	1	1	1	1
2000	70	1	1	1	1	1	1
2001	71	1	1	1	1	1	
2002	72	1	1	1	1	1	
2003	73	1			1	1	1
2004	74	1	1	1	1	1	1
2005	75	1	1	1	1	1	1

Basin Research							
Year	Vol.	Number					
		1	2	3	4	5	6
2011	23	1	1	1	1	1	1
2012	24	1	1	1	1	1	1
2013	25	1	1	1	1	1	

Paleo 2016

Alberta Palaeontological Society's
20th Annual Symposium

The Symposium

Paleo 2016 is a two day event with talks, posters and displays on Saturday, March 19 and a workshop on Sunday, March 20. Saturday programs are free and open to the public. Sunday workshop participants must register and pay a fee for manuals and materials. Main events will be centred in the lower level corridor at Mount Royal University. Lectures will be held in the Jenkins Theatre.

Call for posters and abstracts

You are invited to present a poster at Paleo 2016. The symposium will feature presentations from avocational, student and professional palaeontologists from all over western Canada. We welcome posters or displays associated with palaeontology. Invitations have been sent to staff and students of universities, natural history clubs, the Geological Survey of Canada, museums, the resource industry and the artists' community. Our aim is to showcase palaeontology to the public and foster closer relations between the APS and the above groups. There is no fee to submit a poster and abstract.

A table and stand with a 4 x 8-foot poster board will be supplied to each presenter. You should bring push pins or tape for attaching posters, but we will try to have some on hand for those who forget. Special requirements such as electricity to operate a display or a larger display area should be identified when you request a space. Presenters are requested to provide an abstract (see below). We request that poster presenters be set up by 8:30 A.M. Saturday, March 19. During the day a poster session period will be specified; please be available at least during this time for discussion of your exhibit. The deadline for submitting requests for poster space is February 15, 2016.

Paleo 2016 abstracts volume

A symposium abstracts volume will be published and sold at a price to cover costs. We request all speakers and poster presenters to submit abstracts or short papers for publication. **Submissions may be any length:** less than a full page is fine, multi-page abstracts or short papers will be accepted. **Contributors are encouraged to include photos and/or diagrams**, but note that colour images will be converted to black and white. Documents are not edited for content but will be formatted for publication. The author's mailing and email addresses should be included. **Submission deadline is February 15, 2016.** Download guidelines for authors (PDF) from our website, www.albertapaleo.org or contact the Editor (see contact information, next page).

Sunday Workshop

A workshop will be offered at Mount Royal University, Room B213. Registration is limited to 20 participants, so register early! To register, contact **Harold Whittaker** (see next page). **Registration deadline is March 10, 2016.** Make cheques payable to Alberta Palaeontological Society. Payment may be handed to Harold or mailed to the Society's mailing address at P.O. Box 35111 Sarcee Postal Outlet, Calgary, AB T3E 7C7.

***Palaeoclimate Reconstruction Using Fossil Leaves*, with Dr. Emily Bamforth of the Royal Saskatchewan Museum. Sunday, March 20, 2016. A morning session from 9:00 A.M. to 12:00 P.M. and an afternoon session from 1:00 P.M. to 4:00 P.M. will be offered. Cost: \$10.00 per person.**

Our workshop will begin with examining fossils leaves from a variety of geologic periods. We will explore the different types of information they give us about the palaeoenvironment in which they grew. The basics of leaf-climate analysis will be discussed, including the pros and cons of using these types of analyses. We will go through a step-by-step CLAMP analysis together, with participants being invited to score characters from a leaf assemblage provided, and inputting these characters into a CLAMP spreadsheet and running the analysis. Participants are welcome to bring their own laptops/mobile devices to try running an analysis on their own computer, but this is not necessary. More information about the CLAMP analysis, including required platforms to run the program, can be found at <http://clamp.ibcas.ac.cn>

Contact Information

Paleo 2016 Committee Chairperson: Mona Marsovsky, (403) 547-0182, giftshop@albertapaleo.org

Posters & displays: Howard Allen (403) 862-3330, posters@albertapaleo.org

Presentations & Workshops: Harold Whittaker (403) 286-0349, programs1@albertapaleo.org

Abstract submissions: Howard Allen (403) 862-3330, editor2@albertapaleo.org

Advertising: Mona Marsovsky, (403) 547-0182, giftshop@albertapaleo.org

Visit the APS website for confirmation of lecture and workshop times and speakers: www.albertapaleo.org

Helpful Hints for Poster Presenters

What is a poster?

A poster is a visual medium to express results or an overview of one's research work on a topic they have chosen to study. It is something that you pin up on a board. The dimensions of a poster can vary. It can be anywhere from 2' x 3' to 4' x 8'. It contains text and images relevant to your work.

Who should do a poster?

Anyone who has an interest in sharing their work and who likes feedback from the audience (symposium attendees) should consider doing a poster.

What should be considered for a poster?

Any topic that ties in with palaeontology can be considered for a poster.

Why posters?

Written and illustrated presentations convey developments in a field of study that interests the investigator. Posters are an effective form of presentation.

A typical poster format:

- Title, Author(s), Affiliation
- Summary—sum up the study in one paragraph
- Introduction—reasons behind the work
- General information, location (study area)
- Description and interpretation
- Conclusions
- References

Dedicate a box to each one of the sections listed above. Within the box, include the text and figures

relevant to that section. Number the boxes in such a way that the reader can follow from one box to the next in your intended sequence. The structure of the framework will vary from topic to topic.

How does one make a poster?

Today, with powerful graphics and word processing software, a poster can be made entirely using a computer. The final poster image can be printed on a large-format colour printer. But you don't need a computer to do a poster! Carefully hand-lettered or typewritten text can be combined with drawings, photos or enlarged photocopies to make an effective presentation. These days it should be easy to find someone with a computer who could print out some titles or captions to add to your text.

What about the visual presentation?

Whatever the size of the poster, when one views it from one or two metres away, the type (or font) size must be large enough that the text can be easily read. Also, figures should be reasonably large. Think about when the eye doctor wants you to read off her chart of alphabets and numbers from a distance. Don't be tempted to crowd too much information onto a poster—you can overwhelm your audience. Adding colours makes a difference to the poster, and can lure viewers to your poster or even drive them away!

What's an abstract?

An abstract is just a summary of your work, from introduction to conclusion, boiled down to one or a few paragraphs. We'd like to have an abstract from each of our poster presenters and speakers, to include in the Symposium Abstracts Volume. Illustrations are encouraged (they will be converted to black-and-white).

Most of all, have fun!

APS Paleo 2016

Mount Royal University

4825 Mount Royal Gate SW, Calgary, Alberta

Presented in conjunction with the CSPG Palaeontological Division
and Mount Royal University Earth Sciences Department

Lectures and poster displays—Saturday, March 19, 2016, 9:00 AM to 5:00 PM

Workshop—Sunday, March 20, 2016, 9:00 AM to 4:00 PM

Saturday events are free to the public

There will be fossil displays and activities of interest to a wide audience including families.

The Sunday workshop requires pre-registration and a fee.

Saturday, March 19 speaker schedule

All talks will be held in Jenkins Theatre, lower level of Mount Royal University

- 9:00 AM** *Opening statement by APS President Cory Gross and symposium instructions by APS Programs Director Harold Whittaker.*
- 9:15 AM** *Forty years of palaeoenvironmental research in Alberta: Pollen records, plant macrofossils and other indicators focusing on the postglacial interval (last 12,000 years).*
Alwynne Beaudoin, Royal Alberta Museum.
- 10:15 AM** Coffee Break.
- 10:30 AM** *(Topic to be announced: see our website for updates).*
Darla Zelenitsky, University of Calgary.
- 11:00 AM** *Family fossil hunting day trips from Calgary.*
Jon Noad, University of Alberta.
- 11:30 AM** *(Topic to be announced: see our website for updates).*
Jessica Theodore, University of Calgary.
- 12:00 PM** Lunch Break and Poster Displays.
- 1:00 PM** *Palaeontological flood mitigation project: Effects of flooding of Alberta rivers on palaeontology.* **Ben Borkovic and Joe Sanchez, Royal Tyrrell Museum.**
- 1:30 PM** *Collection of an *Albrrrrrtonectes* (cf. *Albertonectes*) plesiosaur skeleton from an ammonite mine in early winter conditions in southern Alberta.*
Darren Tanke, Royal Tyrrell Museum.
- 2:00 PM** Poster session, coffee break. Poster presenters are requested to be with their posters.
- 3:00 PM** *Fragments and footprints: The record of mammoths and mastodons in Alberta.*
Chris Jass, Royal Alberta Museum.
- 3:30 PM** *Summer work at Carrot River on the Manitoba Escarpment.*
Emily Bamforth, Royal Saskatchewan Museum.
- 4:00 PM** *The Burgess Shale redux: New discoveries and the early evolution of animals revisited.*
Jean-Bernard Caron, Royal Ontario Museum.