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THE SOCIETY WAS INCORPORATED IN 1986

as a non-profit organization formed to:

1. Promote the science of palaeontology through study and education.
2. Make contributions to the science by: discovery; responsible collection; curation and display; education of the general public; preservation of palaeontological material for study and future generations.
3. Work with the professional and academic communities to aid in the preservation and understanding of 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

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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 19, 2018— Dr. Eva Koppelhus, University of Alberta.
Palaeontological expeditions to western Greenland in 2014 and 2017. See Page 3.

Friday, February 9, 2018—Dr. Jon Noad, DigitCore Institute for Learning.
After the extinction: Macrofossils of the Triassic
Sulphur Mountain Formation in Kananaskis. See Page 4.

Saturday and Sunday, March 17 & 18, 2018—Annual Symposium, *Paleo 2018.* See Page 12.

Watch the APS website for updates!

ON THE COVER: Alberta fossils! Ankylosaur osteoderms (scutes), Dinosaur Park Formation, Upper Cretaceous (Campanian), southeastern Alberta. APS collection, donated by **Don Sabo.** Catalogue number APS.1992.13. Length of lower specimen (this view, left to right) is 44 mm. APS file photo.

Upcoming Events

January

Clinton and Allan Turner

Alberta Palaeontological Society

The Ankylo Question

Friday, January 19, 2018, 7:30 P.M.
Mount Royal University, Room B108

[*This 15-minute presentation will precede the main speaker, Dr. Eva Koppelhus.*]

On July 16, 2017, Clinton and Allan Turner were on the Alberta Palaeontological Society field trip to the Red Deer River badlands. They were exploring the bottom of Horsethief Canyon, with **Catherine and Lyndsay Turner** and the rest of the field trip attendees. What they found was both rare and astounding. Hidden amongst the Quaternary Guardians of the Cretaceous Fossils—also known as *cacti*—was a scute from an ankylosaurid.

From the beginnings of the trek to the bottom of the canyon, to the hike through the oyster beds on the way back to the parking lot, Clinton and Allan will describe their journey of discovery, not just of fossils, but of the survival of humans in a decidedly hostile environment. They will discuss the terrain, the heat, whom to travel with (spoiler alert—it is the APS!), the other fossils they found, the geology associated with the area, and the pros and cons of fossil hunting in the Badlands.

Biographies

Clinton Turner is nine years old and attends Hillhurst Elementary School. He has been interested in palaeontology for as long as he can remember. Clinton has had the great pleasure of meeting several renowned scientists, such as **Dr. Nazir Ibrahim**, **Dr. Eva Koppelhus** and **Dr. Phil Currie**, to name a few. A highlight of Clinton's fossil hunting was this summer when he, along with his dad, Allan Turner, discovered a scute from an ankylosaurid during the APS Field Trip into Horsethief Canyon. Clinton also enjoys swimming, fencing, climbing, travelling, and

camping and exploring Alberta with his family.

Allan Turner is a geologist by trade, but an explorer at heart. He first became interested in palaeontology when he was in elementary school and discovered a partial tibia from a hadrosaur near the Morrin Bridge area. His interest was rekindled when his children, Catherine and Clinton, became interested in fossil hunting and collecting. Allan enjoys coffee, outdoor activities and field trips, and spending time with his family.

Dr. Eva Koppelhus

University of Alberta

Palaeontological Expeditions to western Greenland in 2014 and 2017

Friday, January 19, 2018, 7:45 P.M.
Mount Royal University, Room B108

In 2014 an expedition to western Greenland was made possible by a donation from a private donor in Cleveland, Ohio. The crew included **Michael Ryan**, **Matthew Lamanna**, **Philip J. Currie**, **Eva Koppelhus** and **Wendy Sloboda**. The aim was to find dinosaur fossils in the Upper Cretaceous Atana Formation. This formation consists of deltaic deposits and there are good reasons to believe it should be possible to find dinosaur remains there. We spent two weeks prospecting in the region during the 2014 field season and one week in 2017. On the last day of the first expedition, one of the expedition members found something that looked like a dinosaur footprint. However, there was no time to confirm the find as the helicopter was picking us up shortly after. It was therefore decided that we would go back in 2017 to either confirm or dismiss the find.

Early during the second expedition, the possible footprint from 2014 was examined and identified as a nodule rather than a footprint. However, we found another more convincing possible footprint on the same day. Although it was incomplete and deemed to be of too poor quality for research, thin sections are being prepared for detailed sedimentological examination to determine whether it may be a footprint.

Upper Cretaceous dinosaur remains have been found in Arctic Canadian sediments of similar age. Furthermore, dinosaur remains were found more than twenty years ago in the Triassic/Jurassic formations of Jameson Land in eastern Greenland. These finds suggest that dinosaurs will eventually be found in western Greenland.

Bulletin back issues available online
www.albertapaleo.org/bulletinarchive.html

Biography

Eva B. Koppelhus is an Assistant Professor and Curator of Palaeobotany and Palynology of the Palaeobotanical Collections at the Department of Biological Sciences of the University of Alberta.

From October 2005 until June 30, 2015 she was a research assistant for **Dr. Philip Currie** in the Vertebrate Palaeontology research group. Before October 2005, she spent eight years as a research assistant for Dr. Currie at the Royal Tyrrell Museum of Palaeontology. She had a postdoctoral position in the same museum in 1996 and 1997, following a two-year postdoctoral fellowship at the Greenland Geological Survey in Copenhagen, Denmark. As a palynologist educated at the University of Aarhus in Denmark, she worked for more than ten years at the Geological Surveys of Denmark and Greenland. Her research focused on floras of the Triassic, Jurassic and Cretaceous geological periods.

During her postdoctoral position at the Tyrrell Museum, she worked with material from the *Centrosaurus* bonebeds in Dinosaur Provincial Park to determine more about the plants associated with this dinosaur. Her research interest is now concentrating on floras of the Upper Cretaceous of northwestern North America. She primarily works with material from dinosaur bearing formations such as the *Pachyrhinosaurus* bonebed in Pipestone Creek, the *Albertosaurus* bonebed in Dry Island Park and the Danek bonebed in Edmonton. Her work has taken her to all corners of the world, including Antarctica, Argentina, Australia, Brazil, China, Europe, Indonesia, Japan, Madagascar, Mongolia, New Zealand, South Korea, South Africa and the United States.

In June of 2011 she was awarded the Stefansson Medal of the Explorers Club (Canadian branch) for outstanding contributions to palaeontological field research in Canada and internationally. In March 2012 she received the Antarctica Service Medal of the United States of America in recognition of valuable contributions to exploration and scientific achievement under the U.S. Antarctic Program. Furthermore, in 2012, a dinosaur was named for her: *Unescoceratops koppelhusea**.

She has been a member of the Explorers Club since 2002 and a Fellow of the Royal Canadian Geographical Society since 2013.

* Ryan, M.J., Evans, D.C., Currie, P.J., Brown, C.M., and Brinkman, D. 2012. New leptoceratopsids from the Upper Cretaceous of Alberta, Canada. *Cretaceous Research*, 35: 69–80.

Cory Gross

President, Alberta Palaeontological Society

Sea monsters on the prairies: A visit to the Canadian Fossil Discovery Centre

Friday, February 9, 2018, 7:30 P.M.
Mount Royal University, Room B108

[This 15-minute presentation will precede the main speaker, **Dr. Jon Noad**.]

In the small town of Morden, Manitoba, in the basement of the recreation centre, lies the largest collection of marine vertebrates in Canada. The Canadian Fossil Discovery Centre displays 80-million-year-old finds from the eastern side of the Western Interior Seaway, including “Bruce” the Mosasaur. At 13 m long, this *Tylosaurus peminensis* is the largest mosasaur on public display in the world.

Biography

Cory Gross started his undergraduate studies in geology at Mount Royal University, switching to the Museum and Heritage Studies program at the University of Calgary, in which he earned his BA. He went on to earn a Masters of Theological Studies from the Lutheran Theological Seminary, Saskatoon. Currently he works full time as an educator at the Glenbow Museum, part time as an interpreter at the Calgary Zoo, and in between acts as President and Public Outreach Coordinator of the APS.

Dr. Jon Noad

DigitCore Institute for Learning

After the extinction: Macrofossils of the Triassic Sulphur Mountain Formation in Kananaskis

Friday, February 9, 2018, 7:45 P.M.
Mount Royal University, Room B108

Outcrops in and around Kananaskis expose portions of the Sulphur Mountain Formation, dating back to the earliest Triassic, just after the Permian extinction event that led to the eradication

of 92% of life on Earth. The lowermost beds overlying the Permian extinction appear devoid of fossils, in contrast to the highly bioturbated limestone beds of the uppermost Permian Ranger Canyon Formation. However, the younger strata in the Sulphur Mountain Formation yield a diverse fauna that includes ammonites, bivalve beds and a variety of burrows and algal mats.

Most striking of the fossil assemblages is a bone bed, preserved in lower shoreface marine sediments. It yields bone fragments, shark teeth and possible coprolites, preserved in a siltstone matrix. Some of the smaller bones are thought to belong to plesiosaurs. The fossil material is densely concentrated, forming a clast-supported conglomerate. At least three species of shark teeth have been identified and work is ongoing as to the best way to study the palaeontology of this unique discovery without destroying it. The Aust Bone Bed in the UK is slightly younger, but provides a suitable analogue, with a comparable fauna with similar preservation.

The bone bed occurs as pockets of fossiliferous sediment between concretionary ribs that are around 10 cm in diameter, oriented along three distinct axes. These are interpreted as *Thalassinoides* burrows, created by glass shrimps, and later overgrown by concretionary phosphatic material. The concretions occur within a laterally extensive bed that dips subvertically and is overlain by a thick, black mudstone interval. The depositional setting is interpreted as a storm deposit that was covered by sediment, allowing cementation to take place. A subsequent transgression removed the covering sediment, exposing the concretionary layer and depositing a transgressive lag or omission surface. A further transgression led to deposition of the thick mudstone interval.

The excellent exposures along creeks and road cuts in the Kananaskis region have allowed the bone bed horizon to be tied into the stratigraphy of the lower Sulphur Mountain Formation and incorporated into a sequence stratigraphic framework that can be directly correlated to the Lower Montney Formation. The Montney Formation is a major shale gas and shale oil resource, one of the largest known gas resources in the world.

Biography

Jon Noad is an experienced geologist, currently Director of the DigitCore Institute for Learning, where he trains geologists through classroom and field based courses.

Jon graduated from Imperial College, London in

1985 with a geology degree. He worked in mining in South Africa for five years and then as a marine geologist responsible for all subsea cable route planning for British Telecom. He completed a Masters in Sedimentology at evening classes, which led to a Ph.D. examining the sedimentary evolution of eastern Borneo. After graduating from the University of London in 1998 he joined Shell International in Holland, working mainly on Middle Eastern exploration. He moved to Calgary in 2006 with Shell Canada, working as Team Lead, Frontier and on the Orphan and Deep Basins. He joined Murphy Oil in 2010 as Exploration Manager, then Husky Energy in 2012 as Geological Specialist. Roles there included managing peer reviews and the new graduate program. He left them in 2016 and set up his own consultancy, Sedimental Services, taking on a variety of Canadian and international projects, before joining DigitCore in 2017.

In addition to his technical experience, Jon has taught at several universities and is currently Adjunct Professor at the University of Alberta. He is former President of British Sedimentology Research Group and the Netherlands Geology Circle. He has published numerous scientific papers as well as popular articles on the industry. He loves running, wildlife photography and hot chilis. □

Winter 2018 Microfossil Sorting

By Risa Kawchuk

Come and join us at our microfossil sorting sessions this January, February and March. We will be using microscopes to find tiny fossils in the matrix (sediment) provided by **Dr. Donald Brinkman** of the Royal Tyrrell Museum of Palaeontology (RTMP) on the following Saturdays:

January 13, 2018

January 27

February 10

February 24

March 10

Join us on these dates 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 Dr. Brinkman's research.

Registration is not required, but if you let me, **Risa**

Kawchuk know that you are planning to attend (call/text (587) 969-1440 or email rkawchuk@yahoo.com), then I can inform you if we need to cancel a session. Bring tweezers to pick the tiny fossils from the matrix and a pen to label your finds. No experience is required; everyone is welcome.

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

Successful SVP 2017 Paleo Conference in Calgary

By Mona Marsovsky

Calgary hosted more than 1,050 vertebrate palaeontologists from around the world, August 23–26, 2017 for the 77th annual Society of Vertebrate Paleontology (SVP) conference. Participants enjoyed four days of talks and viewed more than 100 posters each day of the conference (totaling more than 400 different posters). The three rooms of talks, twenty-four exhibitors, palaeo art exhibit, and posters completely filled the basement floor of the Telus Convention Centre.

The night before the conference, **Dr. Mary Schweitzer**, of North Carolina State University and North Carolina Museum of Natural Sciences, presented a free public lecture at the Ekhardt-Gramatte Hall on the University of Calgary campus. Her talk, *Dinosaur molecules: The amazing potential of molecular palaeontology*, discussed how proteins, which have been found in dinosaur fossils, have provided further insight into dinosaur biology.

The palaeo art exhibition, on display at the conference and afterward at the gallery at the University of Calgary's Taylor Institute for Teaching and Learning (Sept. 13–24, 2017), featured the art of numerous artists including former APS members **David Murchison** and **Sydney Mohr**. The display at the University also featured the artwork of students of a three-week Palaeo Art course taught by **Jan Sovak**.

The 34th Annual Benefit Auction and Society on Friday, August 25, raised CDN\$27,000 through its silent and live auctions. APS members **Harold Whittaker**, **Wayne Braunberger** and **Mona**

Marsovsky volunteered to receive the credit card payments for the silent auction. The funds raised went to the "Legacy League of Funds," which funds palaeo awards and grants.

The awards banquet, held on the final evening, recognized the contributions of the Calgary organizing committee (**Dr. Jessica Theodor**, **Dr. Jason Anderson**, **Dr. Susanne Cote**, **Mona Marsovsky**, **Dr. Craig Scott**, **Dr. Philip Currie**, **Dr. Eva Koppelhus**, **Dr. François Therrien**, **Dr. Alex Dutchak** and **Dr. Darla Zelenitsky**). Numerous awards were presented to students, professionals and palaeo artists. The Romer-Simpson Medal for lifetime achievement in the field of vertebrate palaeontology was awarded to APS member **Dr. Philip J. Currie**, of the University of Alberta.



Dr. Emily Bamforth exposes the K-Pg boundary (near Eastend, Saskatchewan) on the Southern Alberta and Saskatchewan field trip. Photo by Vaclav Marsovsky.

Seven field trips were held in conjunction with the conference, three before the conference and four after the conference. The field trips to the Burgess Shale (one very long day), Dinosaur Provincial Park (two days), Paleocene Calgary (one day) and Paleocene Red Deer (one day) quickly sold out. However, late registering participants were still able to join the field trips to Korite's mine near Lethbridge (one day), southern Alberta and Saskatchewan (three days) and the Royal Tyrrell Museum of Palaeontology (one day).

SVP 2017 went very smoothly and was very well received by participants. Next year's 78th annual meeting is scheduled for October 17–20, 2018 in Albuquerque, New Mexico. □

Canadian Paleontology Conference 2017—Summary

By Mona Marsovsky

Fifty people (including thirteen APS members) attended the 26th Canadian Paleontology Conference, held September 29 to October 2, 2017 at the Aloft Hotel in Calgary. This event celebrated the 175th anniversary of the Geological Survey of Canada (GSC—25 years older than Canada itself!) and the 50th anniversary of the Calgary office of the GSC. Attendees came from across Canada, from the east coast to the west coast. This event was sponsored by the Geological Association of Canada (GAC), Paleontology Division; the GSC (Calgary office), APS, Mount Royal University and the University of Calgary.

Saturday, September 30, featured eleven talks on a variety of topics ranging from the Cambrian to the Triassic. The one-hour poster session featured nine posters and excellent refreshments. On Sunday, October 1, eight talks covered topics from the Carboniferous to the Holocene.

During the conference banquet on Saturday September 30, the 2017 Billings Medal was awarded

to **Dr. S. George Pemberton** of the University of Alberta, in recognition of his outstanding, long-term contribution to Canadian palaeontology as a researcher, educator and mentor in ichnological research (tracks and trace fossils).

The award for best student presentation went to **Brittany Cheung**, an undergraduate student at the University of Toronto for her talk, “Redescription of the Middle Cambrian *Amiskwia sagittiformis* as a stem lophotrochozoan.”

Two field trips were held in conjunction with the conference. On Friday, September 29, eighteen participants (including the leaders) hiked up to Stanley Glacier to search for Middle Cambrian fossils as part the field trip entitled “Fossils of the Middle Cambrian Stephen Formation at Stanley Glacier, Kootenay National Park, B.C.” We were graced with lovely warm weather, golden larch needles, and—amazingly—a dry trail. **Dr. Jean-Bernard Caron** of the Royal Ontario Museum and **Chad Morgan**, Ph.D. candidate at the University of Calgary, did a



CPC field trip participants searching for fossils on the hike to Stanley Glacier. Photo by Dr. Sofie Gouwy, GSC.

fantastic job of leading the field trip and explaining the geology. Although collecting fossils was not allowed (due to the restrictions of the National Park), participants found and photographed numerous trilobites, cone-shaped *Haplophrentis carinatus*, agnostids (dumbbell-shaped extinct arthropods), and even parts of *Sidneyia*.

On Monday, October 2, fifteen participants of the field trip “Upper Cretaceous (Campanian to Maastrichtian) ammonites and semi-precious gemstones of the Bearpaw Formation, along St. Mary River, southern Alberta” endured blizzard-like conditions with driving snow and slippery roads. The field trip was led by **John Issa** and **Rene Trudel**, both of Korite Limited and **Dr. Barry Richards** and **Leanne Tingley** of the Geological Survey of Canada. After Barry Richards presented a detailed description of ammolite (the gem stone harvested from ammonite shell), the group visited the Korite manufacturing facility in Calgary. Unfortunately, the bad weather forced the cancellation of the trip to Magrath to see the Korite mine in action.

About seventy people attended the two free public lectures, sponsored by APS, which wrapped up the talks at the conference from 3:00 P.M. to 4:15 P.M. on Sunday. **Dr. Jean-Bernard Caron** of the Royal Ontario Museum talked about “The latest discoveries from the Middle Cambrian Burgess Shale site in Marble Canyon.” **Dr. Donald Henderson** of the Royal Tyrrell Museum delivered his talk, “Sauropod dinosaurs were the colossal corks of the Mesozoic.”

We need to thank **Cory Gross**, APS President, for his work as part of the organizing committee for this conference. It was Cory’s initiative and idea to provide financial support (\$250) for the public lecture for this conference and to subsidize current APS members \$60 towards conference registration. This supports the APS goal “to work with the professional and academic communities to aid in the preservation and understanding of Alberta’s heritage”. In addition Cory presented an excellent talk, “Do not touch the dinosaurs: Public outreach without a museum” during the conference, which described the public outreach work done by APS. APS contributions were also highlighted in a poster, “The Alberta Palaeontological Society: Bridging the gap between the public and the science of palaeontology for over 31 years,” presented by **Mona Marsovsky** and **Georgia Hoffman**. □

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APS Supports a Successful CPC 2017

By Cory Gross, APS President

This past summer was an exciting time for those of us with an interest in prehistoric life. Calgary hosted two major palaeontological conferences: the 77th annual meeting of the Society of Vertebrate Paleontology and the 26th Canadian Paleontology Conference. The Canadian Paleontology Conference (CPC) is an annual event sponsored by the Paleontology Division of the Geological Association of Canada (GAC), which takes place in a different host city each year. This 26th edition was organized by the Calgary office of the **Geological Survey of Canada** (GSC) in partnership with the Alberta Palaeontological Society, **Mount Royal University**, and **University of Calgary**.

GSC Calgary took this daunting task upon themselves because it is an auspicious year for them. 2017 marks the 50th anniversary of GSC Calgary and the 175th anniversary of the Geological Survey of Canada itself. Yes, the GSC is actually OLDER than Canada by 25 years!

The gracious invitation by **Dr. Rob MacNaughton** and GSC Calgary, to partner in the CPC 2017 is not only a validation of the work of the APS, but also a profound recognition of the role that avocational palaeontologists, the fossil hunting community and passionate amateurs play in forwarding and promoting the science of palaeontology.

The APS is proud of the role we play in breaking down what might otherwise seem like an intimidating, even insurmountable wall between professionals, academics, and the public. Our diverse membership represents all three, and our Society—by which I mean all of us, the field of palaeontology and the province of Alberta—provides many opportunities for members and the general public to become informed and active in this science we love. This includes participation in the CPC 2017.

We were pleased to offer funding for the conference and to subsidize the registration of our members to attend this rare event in our city. We were also thrilled to host a free public lecture with **Dr. Jean-**

Bernard Caron of the Royal Ontario Museum and **Dr. Don Henderson** of the Royal Tyrrell Museum.

Dr. Caron spoke on recent discoveries in and around the Marble Canyon area of Kootenay National Park, which has rocks equivalent to the famed Burgess Shale. Dr. Henderson discussed his work on dinosaur buoyancy, in a talk titled “Sauropod dinosaurs were the colossal corks of the Mesozoic.” We extend our thanks for their generosity in presenting their talks for a packed house.

It is our hope that partnering with the Geological Survey of Canada, the University of Calgary and Mount Royal University in this conference will deepen and further cement an already growing relationship between our organizations. We also hope that the success of the Canadian Paleontology Conference 2017 will inspire palaeontologists and institutions from across Canada to build or continue building relationships with the avocational community in their own cities and provinces.

Our thanks go out to the team at the GSC and the organizing committee for CPC 2017, to the conference’s presenters, and to all who attended for an excellent weekend of education and community! □

Report on 2017 Rock ’n’ Fossil Road Show

Oct. 14, Fish Creek Public Library

By Dr. Robert MacNaughton (GSC)

Staff and students from the Geological Survey of Canada (GSC) in Calgary held the 19th edition of the Rock ’n’ Fossil Road Show on October 14, 2017. As in previous years, the event was organized by the Geological Survey of Canada, in association with the Calgary Public Library, Alberta Science Network and the Alberta Palaeontological Society. This year we were joined for the first time by a representative from Nature Calgary. **Rob MacNaughton** and **Karen Fallas** continued as the main organizers for the event.

The Road Show was promoted via online community bulletin boards, in the Calgary Public Library’s event guides (print and online) and via the websites and/or newsletters of Alberta Science Network,

Alberta Palaeontological Society and Nature Calgary. Posters also were circulated to some area schools.

GSC volunteers at the event included **Kimberly Bell**, **Karen Fallas**, **Renee Ferguson**, **Sofie Gouwy**, **Larry Lane**, **Rob MacNaughton**, **Andy Mort**, **Godfrey Nowlan**, **Terry Poulton**, **Rod Smith** and **Leanne Tingley**. **Krista Boyce**, **Marian Hanna** and **Barbara Medioli** helped with packing and unpacking.

Dan Quinsey was on hand to represent the Alberta Palaeontological Society. **Jean-Philippe Gravel** manned a display from Nature Calgary. **Ed Kusmirski** attended to represent Alberta Science Network.

Fish Creek Library was the site of previous Road Shows in 2007 and 2009. Based on the good turnouts for those events, and on Ed Kusmirski’s report that the branch’s recently renovated public area would be ideal, we opted not to scout the branch in the spring. Rob and Karen delivered the promotional display case of specimens to the Library on October 3.

On the day of the event, the library staff members were very helpful and gave us a very visible location in the large public area on the main floor. We were given plenty of floor-space and when we arrived the staff already had set up sufficient tables for us to lay out our materials without feeling crowded. We used the usual Nomad display for a backdrop. **Dan Quinsey** brought an interesting display inspired by “The Clan of the Cave Bear,” as well as a stereoscope and a book of stereo pairs of photos of fossils. **Jean-Philippe Gravel** had a display including a well-preserved Great Horned Owl and “test-your-knowledge” examples of bird and animal tracks.

We had fossil wood as a give-away, as well as some Natural Resources Canada and Canada@150 items.

Crowd size

We had visitors from 10:45 A.M. through 3:00 P.M. Our roadies had finished setting up by about 10:50 and we had a crowd of visitors that kept us steadily busy, with very few lulls, until we started to take down the display. A crowded table area was 20–30 people. Like last year, we made a formal announcement when we were about to close down, which helped us be more efficient while dismantling the displays.

The crowd was very engaged and enthusiastic. Several visitors spent the better part of an hour interacting with us. We estimate that roughly 400 people visited the displays, which is about the same number we had on our previous visit in 2009. The library staff

said that they had a lot of positive feedback on the event from members of the public; one staff member commented that the library parking lot was completely full due to our presence.

For comparison, here are numbers for some recent shows:

| Year | Library Venue | Visitors (est'd) |
|---------------|-------------------|------------------|
| 2017 | Fish Creek | 400 |
| 2016 | Crowfoot | 450–500 |
| 2015 | Alexander Calhoun | 200 |
| 2014 | Thornhill | 250 |
| 2013 | Bowness | 240 |
| 2012 | Saddletown | 250 |
| 2011 | Signal Hill | 300–350 |
| 2010 | Country Hills | 300–350 |
| 2009 (fall) | Nose Hill | 250–300 |
| 2009 (spring) | Fish Creek | 300–400 |
| 2008 (fall) | Crowfoot | 400–500 |
| 2008 (spring) | Forest Lawn | 100–125 |
| 2007 | Fish Creek | 250–300 |

This was the 34th ISPG/GSCC outreach event of this sort to be held over the years, including Pet Rock & Fossil Clinics at the GSC office, as well as involvement at the Olympic Oval with Hullabaloo, Calgary Science Centre, and Calgary Public Library. And, for the record, it was the 19th Rock 'n' Fossil Road Show held at a branch of the Calgary Public Library.

We will scope out a location for the fall 2018 show next spring. □

The Future of APS Field Trips

By Wayne Braunberger

Since its inception the Alberta Palaeontological Society (APS) has endeavored to hold three field trips during the summer months (June, July and August). Occasionally trips have been held in September and trips such as museum tours have been held during the winter. Most field trips are one or two days (over a weekend) but several trips have been up to a week long. Trips have covered a variety of subject matter but have concentrated on vertebrates

(primarily Cretaceous), invertebrates and plants.

Putting together a summer field trip program has become more of a challenge in recent years. Several issues have been identified which have affected trip planning and potentially could affect future trips.

Limited collecting areas

In identifying areas that could be the location of a field trip several issues must be considered:

- **New Parks.** The creation of new parks or expansion of existing parks removes areas where fossils can be legally collected. For just a few examples, see Allen (2007, 2012) and Mychaluk (2001).
- **Land Restrictions.** Access may be restricted by industrial activity, landowners, or environmental concerns.
- **Physical Access.** It may not be possible to physically access an area due to changes in roads (e.g. lack of maintenance, bridge washouts, closure, reclamation), lack of roads or other physical barriers (e.g. rivers). Access would require a very long hike, helicopters, off-road vehicles or other specialized equipment.
- **Disappearance.** Many locations do not exist anymore. Numerous roads and roadside exposures have been reclaimed or naturally overgrown; erosion by rivers and lakes has destroyed many locations (e.g. Quinsey, 2013) and mining and mine reclamation have all contributed to the disappearance of locations.

Other Considerations

Other issues that must be considered when planning a trip are:

- **Site size.** There are many locations that are limited in size and can only accommodate a small group.
- **Access.** How is the site reached? Is a hike required and how long and difficult? Can you drive to the site by standard vehicle or is off-road capability required?
- **Parking.** Is there room to park vehicles at the site? Many roadside stops are not accessible to groups due to parking issues.
- **Safety.** Is the site safe to access for a group that may include children and seniors?

Above are the main issues that must be considered when planning a field trip. They have the potential to change how the Society structures future trips. Some of the changes being considered include:

- **Limiting participants.** The number of people on a

trip may be limited. Very rarely has this been done in the past but depending on site size, access and safety concerns the number of participants may have to be limited on certain trips.

- **Use of vans or buses.** On some trips it may be advantageous if private vehicles and/or carpooling is not an option. This has been done in the past due to access and parking concerns; however it may become standard in the future.
- **Type of trip.** Field trips are generally designed so that there is a collecting component, but in future many trips may be of an educational/tour type with limited or no opportunities to collect.
- **Length of trip.** To access different areas, future trips may be expanded to several days. This would allow travel to more remote sites and out of province areas.
- **Cost.** At the present time the APS field trip fees are minimized and only cover the costs associated with trip guidebooks. Fees for future trips will depend on how trips are structured (transportation type and what is included).

Safety

Safety of field trip attendees is paramount. As noted above conditions of the site(s) to be visited on a trip must be considered. In addition, appropriate clothing and equipment must be used. On most trips it is the attendee's responsibility to be properly equipped; however, on certain trips the APS may provide specialized equipment.

For any member of the Society who attends field trips or spends time out collecting on their own I would encourage you to take outdoor courses to improve your skills. Courses such as map and compass, GPS, trip leader, wilderness first aid, and outdoor survival are very relevant to what we do. These courses are specifically designed for those spending time in the field. There is usually an outdoor component where situations that could happen on a field trip are simulated. Most standard first aid courses do not have a field component so wilderness first aid courses are recommended. Many of these courses are taught by organizations such as the Outdoor Centre at the University of Calgary.

If you have any comments or concerns about these or other issues or ideas about field trips in general, I would like to hear from you. Please email me: fieldtrips@albertapaleo.org.

References:

- Allen, H. 2007. Field trip reviews: Burbank, Alberta/What happened to Genesee? APS Bulletin, vol. 22, no. 3 (September), p. 12. www.albertapaleo.org/bulletin223.pdf
- Allen, H. 2012. McAbee fossil site gets heritage designation. APS Bulletin, vol. 27, no. 1 (March), p. 13. www.albertapaleo.org/bulletin271.pdf
- Mychaluk, K. 2001. New provincial park boundaries. APS Bulletin, vol. 16, no. 4 (December), p. 2. www.albertapaleo.org/bulletin164.pdf
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□

2018 Field Trips

By Wayne Braunberger

A preliminary schedule and potential field trips for the 2018 season are being developed. At this time dates and locations have not been finalized. The final schedule (including registration forms) will be published in the March *Bulletin* and on the APS website.

Tentative dates

June 23 and 24
July 21 and 22
August 18 and 19
September 15 and 16

Potential Trips

- Drumheller Marine Tongue and a lecture/seminar (Cretaceous invertebrates).
- Southeastern Alberta (Cretaceous vertebrates).
- Burbank/Red Deer (Paleocene plants).
- Waterton area (Precambrian stromatolites).

If you have other ideas for field trip localities or if you'd be willing to assist in planning or guiding a trip, please contact me, as your help would be greatly appreciated!

fieldtrips@albertapaleo.org (403) 278-5154. □

Fossils in the News

Pterosaur nest with 215 eggs found in China.

<http://nationalpost.com/> (search "pterosaur eggs")

Chinese dino found with skin and pigments.

www.theguardian.com/ (search "psittacosaurus")

[Thanks to Evelyn Wotherspoon and Chris Sowden.] □

Paleo 2018

Alberta Palaeontological Society's
22nd Annual Symposium

The Symposium

Paleo 2018 is a two day event with talks, posters and displays on Saturday, March 17 and a workshop on Sunday, March 18. 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 2018. 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 18. During the day a poster session period will be specified; please be available at least during this time for discussion of your exhibit. **Deadline for submitting requests for poster space is February 15, 2018.**

Paleo 2018 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, 2018.** Download guidelines for authors (PDF) from our website, www.albertapaleo.org or contact the Editor (see contact information, next page).

Sunday Workshop—March 18, 2018

A workshop will be offered at Mount Royal University, Room B213. Attendance is limited, so register early! To register, contact **Harold Whittaker** (see next page). **Registration deadline is March 10, 2018.** 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.

***Brachiopod Basics*, with Dr. Keith Dewing, Research Scientist at the Geological Survey of Canada. 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 is \$5.00 per person.**

Dr. Keith Dewing earned his Ph.D. from the University of Western Ontario with a study of brachiopods spanning the Ordovician-Silurian extinction event on Anticosti Island, Quebec.

Brachiopods are a diverse group of bivalve shells that are common in Palaeozoic rocks. Brachiopods are different from clams and can be distinguished by their shape and internal structures. This workshop will introduce brachiopod shell shape, mineralogy, and preservation; how the shells opened and closed; their feeding apparatus, as well as the geological history of this fascinating fossil group.

Contact Information

Paleo 2018 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' × 3' to 4' × 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 2018

Mount Royal University

4825 Mount Royal Gate SW, Calgary, Alberta

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

Lectures and poster displays—Saturday, March 17, 2018, 9:00 AM to 4:30 PM

Workshop—Sunday, March 18, 2018, 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 17 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*
- 9:10 AM** *Mount Royal University's Cretaceous Land Exhibit
Wayne Haglund, Mount Royal University*
- 9:15 AM** *On the trail of dinosaurs from western Canada
Richard McCrea, Peace Region Palaeontology Research Centre*
- 10:15 AM** Coffee Break.
- 10:30 AM** *Where the sharks and centrosaurs play: The northeastern-most exposures of the
Dinosaur Park Formation in western Saskatchewan
Emily Bamforth, Royal Saskatchewan Museum*
- 11:00 AM** *British Columbia's first dinosaur skull: from discovery to preparation
Tammy Pigeon, Peace Region Palaeontology Research Centre*
- 11:30 AM** *The Bighill Creek Formation (late Pleistocene) of Alberta and its vertebrate
palaeofauna: endangered resources
Michael Wilson, palaeontological and geoarchaeological consultant*
- 12:00 PM** Lunch Break and Poster Displays.
- 1:00 PM** *Faunal and climate change at the end of the Cretaceous: the Alberta perspective
François Therrien, Royal Tyrrell Museum*
- 1:30 PM** *Birding by foot: Variation in the preservation of modern bird tracks and identifying fossil bird tracks
Lisa Buckley, Peace Region Palaeontology Research Centre*
- 2:00 PM** Poster session, coffee break. Poster presenters are requested to be with their posters.
- 3:00 PM** *Almost like being there: New approaches to deciphering animal behaviour from trace fossils
Jon Noad, DigitCore Institute for Learning*
- 3:30 PM** *Soft tissues in the geological record: The next generation of palaeontology
Aaron van der Reest, University of Alberta*
- 4:00 PM** *Depth charges, dinosaurs and lost love found: Amateur fossil collector Maurice Stefanuk (1924–2016)
Darren Tanke, Royal Tyrrell Museum*