

Alberta

Palaeontological Society Bulletin

VOLUME 30 • NUMBER 2

www.albertapaleo.org

JUNE 2015



ALBERTA PALAEOLOGICAL SOCIETY

OFFICERS

President

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

Vice-President

Open: To volunteer contact the President

Treasurer

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

Secretary

Vaclav Marsovsky (403) 547-0182

Past-President

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

THE BULLETIN WILL BE PUBLISHED QUARTERLY: March, June, September and December. Deadline for submissions is the 15th of the month prior to publication. Material for the *Bulletin* should be sent to:

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.

June, July, August, 2015—No meetings. See Field Trips Schedule, Page 6.

Friday, September 18, 2015—Program to be announced.

Friday, October 16, 2015—Program to be announced.

Watch the APS website for updates on upcoming programs.

ON THE COVER: Alberta fossils! (We think). Coniferous tree twigs, leaves and wood in shale, Paleocene? Paskapoo Formation? Width of specimen is 6.5 cm. **See story, Page 9.** Catalogue no. APS.2008.39, APS file photo.

In Memoriam

The Society mourns yet another friend and long-time member. Sadly, we lost **Samuel Richter** on March 5, 2015 at the age of 80.



Katelin Omay 2004

Sam joined the APS in 1994 and faithfully maintained his membership up to the time of his passing, a period of more than twenty years. A generous contributor to the Society, Sam donated several books to the Society library, was a reliable contributor of news clippings for the “Fossils in the News” section of the *Bulletin*, and penned a number of feature-length articles. A man of eclectic interests, his stories covered topics as varied as hantavirus, rattlesnakes, the evolution of feathers and playful daydreaming on the husbandry of sauropod dinosaurs.

For many years he was a regular attendee at our general meetings and special events, where he was not averse to playing the good-natured gadfly, with his pointed questions and jocular remarks. Sam was a fixture on the summer field trips, always with his good friend, APS Life Member **Les Adler** in tow.

Sam’s memory will always bring a smile to those of us who knew him and he will be missed. We send our sympathy to his relatives and many friends.

List of *Bulletin* articles by Sam Richter

[All of these articles may be downloaded from the APS Bulletin archive: www.albertapaleo.org/bulletinarchive.htm]

- 1997a. A most deadly virus. March 1997, pp. 7–8.
- 1997b. Rattlesnake bites. June 1997, pp. 8, 10.
- 1997c. Frayed scales become feathers. December 1997, pp. 11–14. [This article provoked a discussion in a subsequent issue: Allen, H. 1998. Frayed scales become feathers: discussion. March 1998, pp. 9–10.]
- 1998. The care and feeding of sauropods for fun and profit. June 1998, pp. 7–9.
- 1999a. Raising sauropods for fun and profit, part 2. March 1999, pp. 7–9.
- 1999b. Strange prairie rattlesnake behaviours, part I. September 1999, pp. 9–10.
- 1999c. Strange prairie rattlesnake behaviours, part II. December 1999, pp. 12–13.
- 2000a. Giant sauropod physiology. March 2000, pp. 11–13.
- 2000b. Giant footprints in stone. December 2000, pp. 6–8.
- 2003. Ruminations on apatosaur physiology. March 2003, pp. 8–9.

□

Paleo 2015 Wrap Up

By Mona Marsovsky

Paleo 2015, the 19th annual APS Symposium, was held at Mount Royal University on Saturday, March 21, 2015. More than ninety attendees enjoyed the nine excellent speakers which **Harold Whittaker** arranged. **Dr. Paul Johnston** of Mount Royal University kicked off the symposium by welcoming the participants. APS President **Cory Gross** gave some opening remarks.

Darren Tanke of the Royal Tyrrell Museum described Hope Johnson’s life and accomplishments.

Jason Pardo, Ph.D. student at the University of Calgary, discussed burrowing in early tetrapods.

Gondwanan amber from within the Antarctic circle was illustrated by **Dr. Annie Quinney** from her studies at Monash University in Australia.



Audience enjoys a symposium talk in Jenkins Theatre. Photo by Mona Marsovsky.

Dr. Garnet Fraser proposed interesting ideas on the use of frills and horns as a way to protect dinosaurs (e.g. ceratopsians and hadrosaurs) from attack from small theropods jumping on their backs. He also proposed that the development of feathers may have been to help the attackers quickly dismount their prey.

Robin Sissons described the new Philip J. Currie Dinosaur Museum, soon to be completed in northern Alberta.

Tetsuto Miyashita, Ph.D. student at the University



Sorting amber specimens (containers in foreground) for fossil inclusions. Photo by Mona Marsovsky.

of Alberta, described his adventures in New Brunswick, searching for early Devonian fish.

After the poster session, **Aaron van der Reest**, undergraduate student at the University of Alberta, shared his research into a new feathered ornithomimid specimen from Dinosaur Provincial Park.

Dr. Eva Koppelhus of the University of Alberta described palynomorphs from the dinosaur footprint site in Bugiin Tsav, Mongolia.

Dr. Philip Currie of the University of Alberta presented a fascinating story of discovery of the Mongolian dinosaur, *Deinocheirus*, previously one of the least understood dinosaurs in the world.

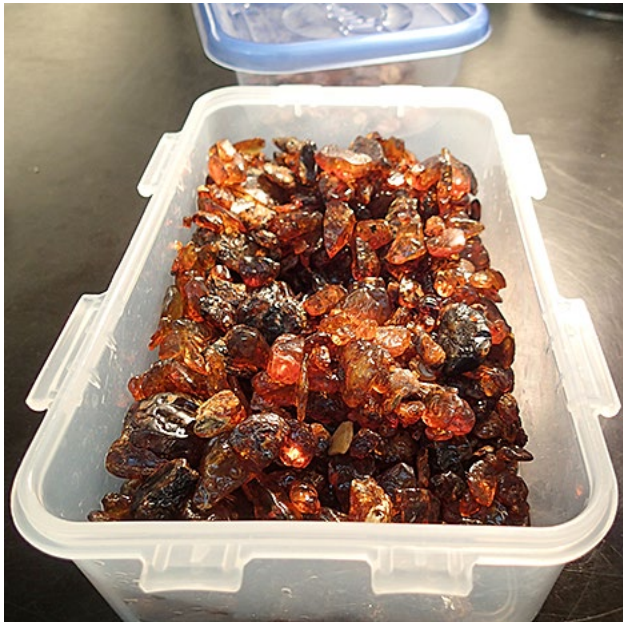
Five posters were provided by presenters from all over Alberta on a variety of topics. Last minute cancellations meant we missed seeing two other posters; however, the abstracts for these posters can be viewed in the published abstract volume.

Interesting displays were provided by the Archaeological Society of Alberta—Calgary Centre; Dinosaur Research Institute; the Calgary Rock and Lapidary

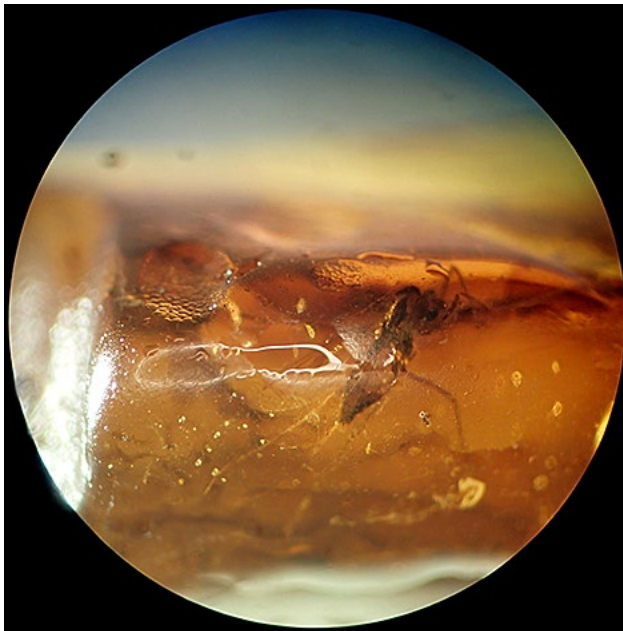
Club and APS member **Les Adler**. There were fossil displays from the APS collection (brought by **Howard Allen**) and APS Public Outreach (teeth from ice age animals of Alberta provided by **Cory Gross**). An artistic touch was added by **Arnold Ingelson** (oil paintings), **Reg Spratley** (conceptual skin texture in mixed media on paper) and our new APS T-shirt, designed by **Cory Gross**. At a bargain price of \$10 for members and \$15 for non-members, the new APS T-shirt was a hot seller.

On Sunday, March 22, **Dr. Ryan McKellar** of the Royal Saskatchewan Museum, presented a morning and afternoon session of his workshop, “Exploring Canadian Cretaceous Amber and the Amber Research Process”. Over the two sessions, the twenty-six participants used microscopes provided by Mount Royal University to search for inclusions in the amber generously provided by **Max Whittaker**.

Thanks go to the APS organizing committee: **Mona Marsovsky** (symposium organizing committee chair and sales table), **Cory Gross** (advertising),



Amber specimens generously provided by Max Whittaker, who we thank for making the workshop possible. Photo by Dr. Ryan McKellar.



Long-legged fly fossil mired in Late Cretaceous amber, one of several good specimens we found during the workshop. Photo by Dr. Ryan McKellar.

Harold Whittaker (who arranged the speakers and workshop), **Howard Allen** (editor of the abstracts volume and coordinator of the posters and displays) and **Vaclav Marsovsky**. I would also like to thank the sales table volunteers: **Howard Allen, Lisa Bohach, Wayne Braunberger, Cory Gross, Georgia Hoffman, Arnold Ingelson, Vaclav Marsovsky, Keith Mychaluk, Doug Shaw, and Pete Truch.**

Without the amazing support of the Depart-

ment of Earth Sciences of Mount Royal University (especially **Mike Clark** and **Dr. John Cox**) and **Dr. Jon Noad** and the Canadian Society of Petroleum Geologists, Paleontological Division, we would not have been able to hold this event without cost to the participants.

We want to thank all of the speakers, poster presenters and display staff for their contributions which made this symposium so interesting.

If you missed getting a copy of the abstracts volume, which summarizes the talks and posters, there are a few left at the bargain price of \$7 each. Contact **Mona Marsovsky**, giftshop@albertapaleo.org or (403) 547-0182 to get a copy.

If you are interested in giving a talk or presenting a workshop at next year's symposium on March 12, 2016, contact **Harold Whittaker**, programs1@albertapaleo.org. Speakers and workshops are usually finalized by September, so be sure to talk to Harold now. □

An offer to examine Grassy Lake amber

By Keith Mychaluk

Dr. Ryan McKellar, who instructed our March symposium workshop, has offered to prepare and examine specimens of Grassy Lake amber that APS members may have collected during the 2010 field trip to southern Alberta (*Bulletin*, September 2010). Members who may have stashed away specimens because they lack the knowledge or means to properly examine them can have them prepared and checked by Dr. McKellar. Specimens will be prepared and examined, then returned to each collector/custodian. If anything interesting is found, you might be in a position to contribute to the understanding of the Grassy Lake fossil insect fauna. If you are interested, please contact **Keith Mychaluk**, kmychaluk@shaw.ca, (403) 228-3211. □

Bulletin back issues are available on the Web

A complete archive of *Bulletin* back issues from 1986 to 2013 is available to download as PDF files. www.albertapaleo.org/bulletinarchive.htm

2015 Field Trips

By Wayne Braunberger

For more information on any of the field trips please contact **Wayne Braunberger** at (403) 278-5154 or by email at fieldtrips@albertapaleo.org. A field trip registration form was included with the March issue of the *Bulletin* and is available on the APS website, www.albertapaleo.org/fieldtrips.html.

Please note that all fees are due at the time of registration. Fees for trips are \$10.00. This is to cover increased costs as guides will be featuring more colour photographs and diagrams. Unfortunately guides are only produced in small numbers and volume discounts are not available.

Non-members and unaccompanied minors will not be allowed to attend field trips. All participants are required to have their membership in good standing. Any membership applications received after April 29, 2015 will not be reviewed and voted on by the Board of Directors until September, 2015. Therefore, if you are a non-member and would like to join be sure your application is received prior to April 29, 2015. All participants will be required to read and sign a release form (waiver). Detailed information will be provided to all those registered shortly after the registration deadline. **After the registration deadline no refunds will be given; however, you will receive the guide for the trip. No late registrations will be accepted.** Registrations are accepted on a first-come-first-served basis. Sign up early to avoid disappointment.

I will be send you the waiver and medical forms along with the trip information. This information will be sent to you via e-mail or Canada Post. Please ensure that your address is correct and legible when sending in registration forms. When you arrive at the meeting place please have the forms completed. **All participants are required to have fully completed all waiver and medical forms in order to attend the trip. There will be no exceptions.** Personal information is held in confidence and ultimately destroyed.

Field Trip Participant Responsibilities

It is understood that risk is inherent to some de-

gree in outdoor activities. Before registering for a trip please ensure you understand the risks involved and are prepared to accept them.

- As a participant you are responsible for your own safety and equipment at all times.
- Inform the trip leader of any medical conditions they should be aware of in an emergency.
- Ensure that your previous experience, ability and fitness level are adequate for the trip.

Trip 2015-3, July 18 – 19, 2015 Grassi Lakes Alberta

One of the classic geological/palaeontological field trips in the Rocky Mountains, a trip to Grassi Lakes above the town of Canmore is not to be missed. This trip will introduce participants to the fascinating world of Devonian reefs and the organisms that built and inhabited them.

We will visit Grassi Lakes on Saturday and if there is interest we will visit Jura Creek on Sunday (if accessible). Jura Creek is another of the classic field trips in the Rockies. At this site the type section of the Exshaw Formation is exposed as well as the contact with the underlying Devonian Palliser Formation. This trip will also allow participants to explore the overlying Carboniferous formations.

Registration deadline is July 3, 2015.

Trip 2015-4, August 15 – 16, 2015 Waterton Dam Alberta

On this trip we will return to the Cretaceous and examine the St. Mary River and Blood Reserve formations and their fossils. If access can be arranged, Sunday will include a trip to the Hillspring oyster quarry. If the oyster quarry is not accessible, other sites in the area will be visited.

Registration deadline is July 31, 2015. □

Fossils in the News

130 m.y.o. bird found in China: *Archaeornithura*
www.bbc.com/news/science-environment-32596726

Did feathers originate as dinosaur whiskers?
www.cbc.ca/news/canada/edmonton/feathers-originated-as-dinosaur-whiskers-u-of-a-experts-speculate-1.3018428

Featherless flying dinosaur found in China: *Yi qi*
www.nytimes.com/2015/04/30/science/small-jurassic-dinosaur-may-have-flown-without-feathers.html?_r=0 [More on Page 8]

Fall and Winter Microfossil Sorting Summary

By Mona Marsofsky

Using microscopes provided by Mount Royal University, APS members extracted fossils from matrix on seven Saturday afternoons from November 2014 to the end of February 2015. More than twenty APS members volunteered their time.

On November 8 and 22 and December 6, **Dr. Jessica Theodor** and her student, **Chelsey Zurowski** from the University of Calgary, brought late Eocene matrix from Swift Current Creek in Saskatchewan. A variety of mammal teeth were found.

During the four 2.5 hour sessions on January 17, January 31, February 14 and February 28, **Dr. Donald Brinkman** of the Royal Tyrrell Museum brought



Coriops fish tooth plate, Scollard Formation. Specimen is less than 10 mm in length. Photo by Beverley Ulmer.

matrix from Hand Hills, Alberta from the Scollard Formation (Late Cretaceous). APS members found a variety of fish bones (fins, scales, teeth, vertebrae and skull parts). Extra special finds included a lizard jaw and a multituberculate mammal tooth.

We thank **Beverley Ulmer** for organizing and running these fossil sorting sessions. Thanks go to **Mike Clark** and **Dr. John Cox** for allowing us to use Mount Royal University's lab and microscopes. Without this support from Mount Royal University, these microfossil sorting sessions would not be possible. We also thank Dr. Brinkman and Dr. Theodor for supplying the fossil matrix and allowing us to assist in their research. □

Recent donation by APS members

By Howard Allen, APS Collection Curator

The Society thanks long-time members **Geoff Barrett** and **Don Sabo** for their generous donation of fossils from the Hay River area of the Northwest Territories.



The donation comprised a large number of specimens collected by them over several trips to the area in previous years. The fossils include a great variety of well-preserved Late Devonian corals and brachiopods as well as some nautiloid cephalopod remains.

Spinatrypa sp. Scale bar = 1 cm. APS file photo.

A number of the better specimens were retained for accession into the APS fossil collection. The balance of the donated material will be available as giveaways to APS members and for educational and public outreach functions.

The material was made available at the May general meeting where members were given the opportunity to select specimens for their own study. At that time the author promised to provide locality information in an upcoming *Bulletin* issue, so here it is:

Locality: Hay River canyon near Enterprise, Northwest Territories.

Stratigraphic unit: Escarpment Formation (Hadley and Jones, 1990).

Age: Late Devonian (Frasnian).

Environment of deposition: Shallow marine, carbonate bank and stromatoporoid/coral reef.

Identification of these fossils to genus or species level will require some library research, as there are no single (or even a few) comprehensive references on the faunas, and many of the scattered—and old—references are paywalled or unavailable online. □

Reference

Hadley, M.G. and Jones, B. 1990. Lithostratigraphy and nomenclature of Devonian strata in the Hay River area, Northwest Territories. *Bulletin of Canadian Petroleum Geology*, Vol. 38, No. 3, pp. 332–356.

Volunteer opportunity at Cranbrook trilobite dig

By Guy Santucci

Dr. Jean-Bernard Caron of the Royal Ontario Museum and **Dr. Robert Gaines** of Pomona College (California, USA) will be in Cranbrook, BC the two weeks of **July 20 to August 3, 2015**.

Dr. Caron and Dr. Gaines were the discoverers of the Marble Canyon (Kootenay National Park) Middle Cambrian site and its Burgess Shale type fauna along with a number of new species.



Olenellus sp. from the Lower Cambrian Eager Fm. Photo by Howard Allen.

In September of 2014, Dr. Caron and Guy Santucci viewed some specimens from the Fort Steele Rifle Range site, which is Lower Cambrian, Eager Formation, older than the Burgess and Marble Canyon sites. The specimens included a number of well-preserved trilobites, a *Tuzoia*, and an *Anomalocaris* claw. [See the cover photos of past *Bulletin* issues, December 2005; March 2007; September 2007 –ed.]

After a physical inspection of the quarry, Dr. Caron was intrigued enough to want to re-examine the pits in more detail at a future date, hoping to find soft-bodied creatures that may have been overlooked by previous studies and the many amateur diggers who have collected over the years. Heavy machinery will be involved to look at the lower section of rock.

Dr. Caron and his colleagues and volunteers will spend the two weeks excavating and re-evaluating the site. Dr. Caron is hoping to find some experienced volunteers to work with his team. Volunteers will not be paid and will have to cover their own expenses, but would have an opportunity to participate in some important scientific research. For more information or to volunteer, contact **Guy Santucci**, gsantucci@telus.net, (250) 426-6939 □

Two Canadian “Knap ins” to be held in Alberta this summer

Archaeology and history enthusiasts are invited to two Canadian “knap ins” to be held in southern Alberta this summer.

Knapping is the art and skill of making stone tools by chipping (knapping) suitable rock material, in the manner of aboriginal tool makers. APS member **Barry Rogers** is an expert in this technique and demonstrated his skills at the Calgary Rock and Lapidary Club annual show in May. A “knap in” is a gathering of knapping enthusiasts; they are held at many venues in the United States, and now in Canada.

The first knap in (which will be the second-ever Canadian knap in) will be held at the Rocky Mountain House Heritage Site, during the town’s “Legends and Legacy” weekend, **July 9 to 13, 2015**. RV camping and tenting will be available, but requires pre-registration to reserve a site. Contact **Russell Thornberry**, russellthornberry@gmail.com, (403) 872-4866 for information.

The second knap in will go ahead **September 4 to 7, 2015** at the Lethbridge Black Powder Range. This event will be held in conjunction with the “Black Powder Rendezvous,” near the confluence of the Oldman and Belly rivers, close to the original site of historic Fort Whoop-Up. Free camping will be available to registered knappers; a \$10.00 entry fee will be charged to non-registered knappers. To register and to get more information on the location (including a map), accommodation and activities, contact **Barry Rogers**, barryrogers@shaw.ca, (403) 678-5041.

Happy knapping! □

Fossils in the News

Permian extinction happened in 3 stages.

<http://calgaryherald.com/news/local-news/researchers-find-worst-extinction-occurred-in-three-stages-not-one>

[Thanks to Georgia H., David F. and Philip B. –ed.] □

FOUR FOSSILS

By Howard Allen, APS Collection Curator

Again, four specimens randomly drawn from the APS collection. This time my comments have a theme that's common to all of them: location—or lack of it.

APS.2008.39 (scale bar = 1 cm)



Here is another one of our specimens that has a murky provenance. It's a fairly attractive specimen of leafy twigs of a *Metasequoia*-ish conifer. The little white splotch near lower centre is a freshwater gastropod (snail) shell. The catalogue states that it was donated by someone other than the collector, but the collector wasn't named. The age and locality fields are blank, so, keeping an open mind, it could have come from anywhere on Earth.

Alberta palaeontologists, both professional and amateur will find that it has a familiar look about it, which helps to narrow down the likelihood of its origin. There are a couple of well-known collecting localities that produce similar-looking material. One is Genesee, on the North Saskatchewan River (now closed to collecting: see *Bulletin*, September 2007, p. 12). Another is Burbank, the type locality of the Paskapoo Formation, north of Red Deer. Another is Joffre Bridge, east of Red Deer, where some amateur collecting took place in the past, but the site was remediated and is no longer even exposed.

A good sedimentary petrologist could probably reverse engineer a more likely locality by careful

comparison of the greenish grey shale matrix with material from known sites. But even then there would be uncertainty. The Paskapoo Formation underlies vast areas of western Alberta, and the specimen could have come from a previously unreported site. We can't even be sure it came from the Paskapoo Formation: similar-looking material can be found in some of Alberta's Upper Cretaceous formations, too.

APS.2004.08 (scale bar = 2 cm)

This small leaf fossil may have more educational value in its locality record than for its palaeobotanical goodness. It was collected on an APS field trip to the Crowsnest Pass area in 2002. The catalogue record reports that it is Early Cretaceous in age, from the Kootenay Group, a unit well-known for producing plant fossils—and coal.

The locality is given as “2 mi E of Sparwood BC, south side Hwy 3.” At face value, this seems like a decent description. But I launched Google Earth (GE) to see if I could find the locality and soon ran into the trouble with this sort of description. Where, *precisely*, is “Sparwood, BC”? The town proper (the developed area, as of 2013 GE imagery) stretches along Highway 3 for some 2.4 miles*. The “Welcome to Sparwood” sign (presumably at the city limit?) is 4.5 miles east of the town's main entrance near the big Terex Titan truck, traditional meeting place for field trips. So right away, the “2 miles east of Sparwood” comes with an uncertainty of ± 4.5 miles! There is no road cut or other visible exposure 2 miles east of the “Welcome” sign, nor is there a likely exposure 2 miles east of the Terex Titan truck, nor is there any exposure 2 miles east of the 2013 “town proper” urbanized



* Canada has used the metric system since long before this fossil was found. Why was the locality reported in miles? Could this be another source of error? Did the collector mean kilometres but write “miles” by accident? I stick with miles here for consistency.

edge. How much has the town grown since 2002? Has the town limit moved? Where was the distance measured from? Is it 2 miles by road, or 2 miles as the crow flies? I was able to find one or two likely-looking road cuts along Highway 3 east of Sparwood (GE Streetview is fabulous for this) but none are 2 miles east of anything in particular.

In the end, I have no idea where this specimen came from, other than “somewhere east of Sparwood, BC on the south side of the highway.” Let this be a case study in how *not* to record locality data. Collectors need to pin their directions to something that’s obvious to find and isn’t likely to change in a few years or decades.

This isn’t a fault that’s unique to amateurs. Over the years I’ve read some pretty vague localities in the historical professional palaeo literature: “. . . at the Alaska Highway bridge” (how many bridges are there on the Alaska Highway, for Pete’s sake?) or “. . . Red Deer River, 5 miles below Johnson’s farm.”

This is the 21st Century, folks. We have the technology. We can do better than this.

APS.1995.26 (scale bar = 5 cm)



Last issue’s article highlighted a Moroccan shark tooth purchased for the Society by **Harvey Negrich** at the CRLC’s 1995 annual show. Here’s another part of that same lot of fossils: a whole box full of fragmentary ray fish teeth. A label that came with the specimens says they’re Late Cretaceous, from the “Morocco phosphates” and the formation is given as “Montien,” whatever that means. An internet search for that term turned up a tourist resort in Thailand and some big-city restaurants: not much help.

The teeth are all pretty much similar, having a long, polygonal crown and a comb-like root, typical characteristics of many types of ray teeth. The polygonal crowns would have fit together to form a “pavement” in the fish’s mouth, a practical solution for crushing shelled prey. Having many thin roots



would seem to be a good way to increase the surface area for attachment and therefore a stronger bond.

APS.2004.02 (scale bar = 2 cm)

Our final specimen, a pair of small, fragmentary trilobites, also has locality issues, but of a more troubling sort. It was supposedly collected at “Stanley Glacier,” which is, of course, in Kootenay National Park. Yes. Oh dear.

This one came with a lot of other fossils that were legally collected from elsewhere. So what should we do? Accept the specimen but flag it as a lesson for others not to collect illegally? Turn the specimen down? What becomes of it then? Does it hit the garbage? Is that better than having it in an educational collection? The specimen is gone from the Park, no matter what happens. There’s not much point in returning it to the Park, because we don’t know where exactly it was found, so it might contaminate the local geology; and the Park staff would likely trash it anyway. Do we need a policy? So many questions! Send me an email if you have a strong opinion. □

