

Alberta

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ALBERTA PALAEOLOGICAL SOCIETY

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

Vice-President

Position unfilled: To volunteer, contact the President

Treasurer

Mona Trick giftshop@albertapaleo.org (587) 578-4579

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

Keith Mychaluk fieldtrips@albertapaleo.org (403) 809-3211

COMMITTEES

Fossil Collection

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

Library

Georgia Hoffman (403) 228-7729

Public Outreach

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

Social

Virginia Goodman (403) 252-3122

Symposium

Mona Trick giftshop@albertapaleo.org (587) 578-4579

Website

Vaclav Marsovsky (403) 547-0182

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

SOCIETY MAILING ADDRESS:

Alberta Palaeontological Society

PO Box 68024, Crowfoot PO

Calgary, AB, Canada T3G 3N8

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

July and August 2020—No meetings. Field trips, see Page 7.

September, 2020—TENTATIVE—Dr. Susanne Cote, University of Calgary:

The REACHE Project: Fossil apes and environments in Eastern Africa.

Date and venue to be announced.

COVID-19 has affected our operations.

**See important message on Page 5
and watch the APS website for updates!**

ON THE COVER: Alberta fossils! A large ammonite, *Placenticerias meeki*, Upper Cretaceous, Bearpaw Formation, Lethbridge area, Alberta. Accession no. APS.2020.001. Length of specimen is 48 cm. Recently donated to the APS collection by **Holly Crawford**. See story on Page 9.

Dan Quinsey First Winner of Hope Johnson Award

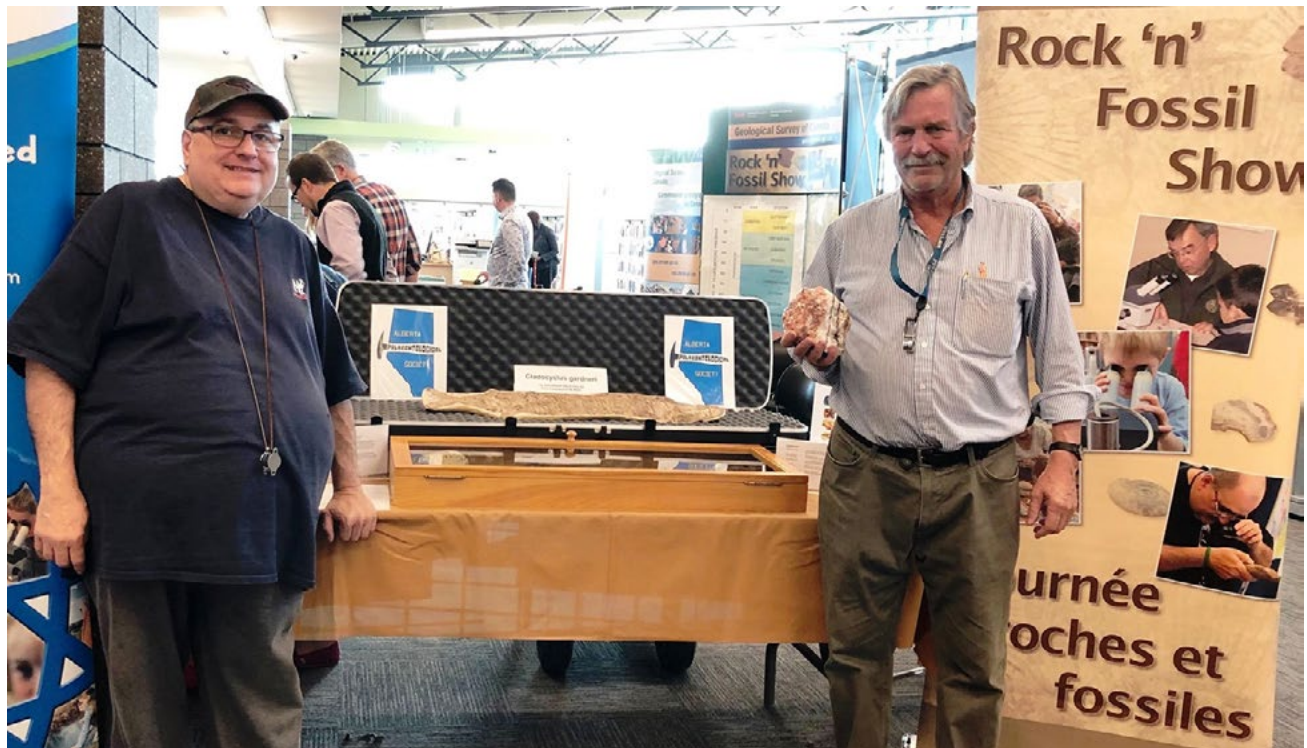
By Mona Trick

We are pleased to report that APS Life Member **Dan Quinsey** has been chosen as the first winner of the Hope Johnson Award. This award recognizes Dan's significant contributions to Western Canadian Palaeontology for his many public outreach activities which bring palaeontology to the public. Dan is not professionally employed in palaeontology and has donated his free time to these activities, including the following:

- Organizing and staffing the APS table at the Rock-n-Fossil Show for the past thirteen years (from 2006 to date). Each year Dan set up the display and staffed the table by himself for this four-hour show which was usually located at one of the Calgary Public Libraries. He talked to over 400 visitors at each event. He coordinated his exhibit with the organizers from Alberta Science Network, Nature Calgary, Natural Resources

Canada and the Calgary office of the Geological Survey of Canada.

- Staffed the APS table at the Calgary Rock and Lapidary Club Annual Show for fourteen years (from 2001 to 2014). Dan also organized the give-away items for this event.
- Staffed the APS table at the Calgary Gem and Mineral Show for several years from 2011 to the present date. He talked to many individuals and families during this event.
- Provided numerous school classroom presentations about fossils. For example, on October 14, 2004, Dan presented a three-hour, hands-on session for the Grade 3 Holy Family School class of twenty-five children (seven to nine years old). Dan answered letters from the students and organized the donation of a rock and fossil kit to the school. On another occasion, for a French immersion class, Dan had to do the presentation in French!
- On December 5, 2018, Dan taught how to find and identify microfossils to nineteen fourth year geol-



Dan Quinsey (left) with APS Member Tako Koning at the 2019 Rock 'n' Fossil Show. Photo courtesy of Dan Quinsey.

ogy students in the class “Geological History of Western Canada” for **Dr. Paul Johnston** of Mount Royal University.

- Led the APS Paleo Rangers for children members of APS for four years (2005 to 2008), including organizing and leading four special field trips for the Paleo Rangers (July 23, 2005: Canyon Creek, July 15, 2006: Drumheller, July 7, 2007: Horseshoe Canyon and May 25, 2008: Canyon Creek). He also organized and taught two Paleo Ranger workshops on April 7, 2006 (PRW2006-1: A Simplified Introduction to Geology and Palaeontology and PRW2006-2: Collecting Fossils from Planning to Curation).



Dan giving a fossil presentation to Grade 3 students at Rosemont School in 2009. Photo courtesy of Dan Quinsey.

- Presented several talks at APS general meetings and at the APS Symposium.
- Wrote the book, *Moose Mountain, Alberta: Exploring the Natural History of Canyon Creek and Area*, which describes the fossils, geology, plants and animals of the Canyon Creek area. This book has sold more than 300 copies. It is available by contacting Dan directly (dinodan@shaw.ca).
- Volunteered at microfossil sorting sessions for several years, starting from 2004 to the present. In addition to volunteering at multiple sessions each year, Dan also sorted multiple pounds of matrix for **Dr. Don Brinkman** of the Royal Tyrrell Museum of Palaeontology.
- Served in many of the director and committee positions of the APS, including Secretary (Sept. 2000 to Aug. 2002); Vice President (Sept. 2001 to Sept. 2002); President (Sept. 2002 to Aug. 2009);

Past President (Sept. 2009 to Aug. 2013); Social Committee (Sept. 2011 to Aug. 2016); APAC Representative (Dec. 2002 to June 2005); APS 20th Anniversary Committee (Sept. 2005 to May 2006); Education Director (Sept. 2005 to Dec. 2008); Fund Raising Committee (Sept. 2002 to Aug. 2006); Symposium Chair (Jan. 2008 to Sept. 2008); and Public Outreach Committee (co-chair from June 2006 to May 2011 and continues as a member of this committee to this day). During his term, he initiated and finalized the APS Code of Ethics and *Information Handbook for Members*. Dan was instrumental in updating the APS bylaws four times (2005, 2008, 2013 and 2015). He orga-

nized the APS membership survey in 2002. Dan audited the APS Treasurer Books and Minutes for the years 2014 and 2015.

- Participated in the creation of the APS book *Guide to Common Vertebrate Fossils from the Cretaceous of Alberta* from June 2006 to 2009. Dan created the cover design. Dan was co-chair of the APS Book Committee, starting in June 2006.
- Wrote articles for the UK magazine *Discovering Fossils*.

The award will be presented to Dan at our next opportunity for a general meeting, given the COVID-19 restrictions. Thank you, Dan for your many years of service to western Canadian palaeontology and to the APS! □

Mike Clark Retires

By Georgia Hoffman

Mike Clark, long-time friend of the APS, has announced his retirement from Mount Royal University. Mike has helped the society in innumerable ways over the years, working to set up the annual Paleo Symposium, arranging access for our meetings and microfossil sorting sessions, and all sorts of things like that. We will miss his able assistance, and we are looking forward to working with **Candace Toner**, who will be taking over Mike’s role at MRU. Mike will continue to be an official “Friend of the Society.” Thanks for everything, Mike! Keep in touch, and enjoy your retirement! □

NOTICE TO MEMBERS

The ongoing COVID-19 pandemic has necessitated cancellation of a number of APS events and continues to present challenges. The use of our customary venue, Mount Royal University (MRU), will not be possible for an indefinite period of time. The APS Board has been informed by the University that the MRU campus will remain under restricted access into the fall season; thus we will not be able to sign a facility use agreement with the University until conditions improve, at some unknown point in the future. We will try to keep you informed of developments.

Faced with these circumstances, the APS Board met for a special meeting on July 9 and decided that our **Annual General Meeting** (AGM), originally scheduled for May, then tentatively rescheduled to September, will be cancelled for this year. The next AGM will—we hope—be held in May, 2021. Since the only urgent item of business on the agenda for the 2020 AGM was election of Officers and Directors, it was agreed that the current Officers and Directors (listed on Page 2 of this *Bulletin*) would continue in their positions until the next AGM can be held.

The APS Board is exploring the use of online media (Zoom meetings, “YouTube-style” recorded videos, “webinars,” etc.) for presentations by guest speakers, in lieu of our regular monthly meetings. Please keep an eye on the APS website, **www.albertapaleo.org** and watch for email announcements of upcoming programs, which we hope can begin by September. Meanwhile, the *Bulletin* will continue to be published as usual and can be a resource for you, the members, to communicate news, discoveries, personal travel accounts, etc. to other members. The Editor welcomes your submissions!

The APS Board wish our membership and their families the best during these uncertain and distressing circumstances. Please keep safe and we hope to see everyone in good health when we are able to resume normal operations.



Small shark teeth collected by the late Hope Johnson, Red Rock Coulee, AB. Dinosaur Park Fm., Upper Cretaceous. APS .2006.40. Scale bar = 1 cm. APS file photo.

Upcoming Events

September

Dr. Susanne Cote

University of Calgary

The REACHE Project: Fossil Apes and Environments in Eastern Africa

**Scheduling and venue to be announced.
See Notice to Members on Page 5.**

The early Miocene (23 – 16 Ma) of eastern Africa has a rich fossil record that documents the evolution of the earliest monkeys and apes. Beginning in 2012, a consortium of researchers came together to form the REACHE Project (Researching East African Catarrhine and Hominoid Origins). With funding from the US National Science Foundation, we embarked on an ambitious program of field, museum, and laboratory research at five major Miocene fossil sites across Kenya and Uganda. To date, we have recovered thousands of new fossils, including several important new ape fossils that better document the diversity and adaptations of the early ape radiation. Another major focus has been on reconstructing environments using multi-proxy approaches led by palaeontologists, palaeobotanists and geologists.

In this talk, I'll briefly review our progress to date, highlighting important new fossil specimens and key environmental findings. Our results demonstrate

that the earliest apes did not inhabit dense tropical forests, but instead were able to thrive in many habitat types. In some ways, the broad environmental tolerances of our early ape ancestors foreshadow the extreme adaptability of the human lineage.

Biography

Dr. Susanne Cote is an Associate Professor in the Department of Anthropology and Archaeology at the University of Calgary. Susanne conducts research in the field and at museums in Kenya and Uganda, where she has worked since 2001. The fundamental questions that drive her research are understanding how apes have evolved and how broader environmental and community-level changes have impacted ape evolution. To address these questions, Susanne conducts fieldwork in the Turkana Basin and northeastern Uganda and studies existing fossil collections of apes and other mammals from across eastern Africa. She received her PhD from Harvard University and her undergraduate degree from McGill University. Susanne is originally from Winnipeg. □

Paleo 2020 Cancelled

The shortest Symposium summary ever!

By Mona Trick

Paleo 2020, which was to be held on March 21 – 22 at Mount Royal University, was cancelled based on guidelines provided on March 12 by Alberta's Chief Medical Officer of Health. The Alberta government recommended cancellation of gatherings between 50 and 250 people which involved international participants or groups at risk (such as senior citizens), to prevent the spread of the COVID-19 virus. The symposium talks, posters and displays on March 21 were cancelled, as was the Curation of Fossil Collections workshop scheduled for the following day (March 22). All of the workshop participants have been refunded their \$10 registration fee. At the same time that the cancellation of Paleo 2020 was announced, numerous speakers and poster presenters informed us that they were not allowed to attend Paleo 2020 due to new travel restrictions placed by their employers.

A lot of work went into organizing Paleo 2020. We must thank **Harold Whittaker** for organizing the speakers and the workshop. **Howard Allen** created the abstracts volume and organized the posters and displays. **Mona Trick** recruited posters, displays, sales table volunteers and advertised the event. **Wayne Braunberger** and Howard Allen prepared the workshop, which we hope to offer at a later date. We must thank **Mike Clark** and **Dr. Paul Johnston** of Mount Royal University for making the arrangements to host this event. CTV advertised Paleo 2020 on CTV *Our Community* which aired during the 6 P.M. news over the week of March 2, 2020. We also must thank all of the speakers, poster and display presenters for their preparations. We hope to see their work at next year's symposium, Paleo 2021, scheduled for March 20, 2021.

Please send any suggestions for speakers and workshops for Paleo 2021 (March 20, 2021), to **Harold Whittaker, programs1@albertapaleo.org** or (403) 286-0349 before the end of October, 2020. □

2020 Field Trips

By Keith Mychaluk

We regret that due to the pandemic, the first two field trips of 2020 (**Kemmerer, WY** and **Devil's Coulee, AB**) have been **CANCELLED**. The August field trip to southeastern BC is tentatively going ahead, and a new, "urban field trip" to examine fossiliferous building stone in Calgary, has been planned for September. For more information please contact **Keith Mychaluk** at (403) 809-3211 or by email at **fieldtrips@albertapaleo.org**. A field trip registration form is included with this issue of the *Bulletin* and is available on the APS website (**www.albertapaleo.org/fieldtrips.html**). All fees are due at the time of registration. Fees for trips are \$10.00.

You can now pay field trip fees by Interac E-transfer (Canada only). Follow directions on your bank's online banking site or mobile app. Bank fees may apply. Payee is **giftshop@albertapaleo.org**. Please state in the message field: "Field Trip Fees for 2020". Email a scan or photo of your completed registration form to **fieldtrips@albertapaleo.org**.

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 27, 2020 will not be reviewed and voted

on by the Board of Directors until September, 2020. Therefore, if you are a non-member and would like to join be sure your application is received prior to April 27, 2020. 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.

For the 2020 field trips I will be sending you the waiver and medical forms along with the trip information via email or Canada Post. Please ensure that your addresses are 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. All personal information is held in confidence and ultimately destroyed.

Trip Participant Responsibilities

It is understood that risk is inherent to some degree 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 2020-3, August 15 & 16, 2020 Bull River and Fernie area, southeastern BC

Our friend **Chris Jenkins** has once again been incredibly gracious and has agreed to guide us to yet another one (or two) of his newly discovered trilobite localities in the Bull River valley near Fort Steele, BC. Chris has been also been allowing access to **Dr. Brian Chatterton** of the University of Alberta who has been at the forefront of describing the incredible finds coming from the Upper Cambrian McKay Group. There will be opportunities to collect on private claims but we are guests and must be respectful of scientifically-valuable specimens we may encounter. On the second day of our trip we will make the pilgrimage to the largest known ammonite in North America (140 cm diameter! See cover

photo of the December 2019 *Bulletin*) which lies on a mountainside just outside of Fernie, BC. We have its exact coordinates and plan a rugged hike through the forest to see this incredible giant. Note most of this trip is in rough terrain and in bear country, where 4×4 or high clearance vehicles are a must (pray for dry road conditions!). Fort Steele is approximately a 4 hour drive from Calgary and has an excellent campground. Nearby Cranbrook has many hotels and services. Fernie will be visited on the return trip and is about 3 hours from Calgary. **Registration deadline is August 1, 2020.**

**Trip 2020-4, September 12, 2020
Tyndall Stone fossils in Calgary’s buildings**

APS Member and Professional Geologist **Tako Koning** will lead a half day, urban field trip to view Ordovician Tyndall Stone fossils on the afternoon of Saturday, September 12. The trip will commence in downtown Calgary, where we will visit three buildings clad in Tyndall Stone. Then we will go on to the Safeway store in Kensington (10 St. & 4 Ave. NW) to view some fossiliferous blocks of Tyndall stone, where you can see the fossils in three dimensions. A final stop will be the SAIT campus (16 Ave. & 10 St. NW), which—in Tako’s view—has the most interesting variety of Tyndall fossils anywhere in Calgary. Participants would drive themselves to these sites, or car pool, depending on pandemic safety guidelines in effect at that time. Attendance will be limited to facilitate “social distancing.” □

JVP for Sale

Once again we are able to offer for sale copies of the *Journal of Vertebrate Paleontology*, thanks to a very generous donation made to the Society by long-time APS Member **Vaclav Marsovsky**, to whom we extend our gratitude. The donation includes two runs of journals, 1984 – 1989 and 1995 – 2019. As the collection is too large for storage in the APS library, the Board has decided that the collection should be sold with all proceeds going to the Society.

We are entertaining offers to purchase all or parts of the collection. The copies are mostly in excellent used condition, with some minor shelf wear and small dog-ears. Many are “as new.” An inventory is listed in the following table. Digits indicate the number of copies available, grey cells indicate no copies

available. Preference will be given to those wishing to purchase larger sets, but all offers will be considered. There is a reserve price of \$2.00 per copy. **Deadline for offers is midnight, August 31, 2020.** Unsold material will be disposed of by other means (silent auctions at General Meetings, etc.). Contact **Vaclav Marsovsky** at vaclav@telusplanet.net. □

| <i>Journal of Vertebrate Paleontology</i> | | | | | | | |
|---|------|--------|---|------|---|---|-----|
| Year | Vol. | Number | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| 1984 | 4 | 1 | 1 | 1 | 1 | | |
| 1985 | 5 | 1 | 1 | 1 | 1 | | |
| 1986 | 6 | 1 | 1 | 1 | | | |
| 1987 | 7 | 1 | 1 | 1+s | 1 | | |
| 1988 | 8 | 1 | | 1+s | 1 | | |
| 1989 | 9 | 1 | 1 | 1+s | 1 | | |
| ... | | | | | | | |
| 1995 | 15 | | | | 1 | | |
| 1996 | 16 | 1 | 1 | 1+s | 1 | | |
| 1997 | 17 | 1 | 1 | 1+s | 1 | | |
| 1998 | 18 | 1 | 1 | 1+3s | 1 | | |
| 1999 | 19 | 1 | 1 | 1+2s | 1 | | |
| 2000 | 20 | 1 | 1 | 1+s | 1 | | |
| 2001 | 21 | 1 | 1 | 1+s | 1 | | |
| 2002 | 22 | 1 | 1 | 1+3s | 1 | | |
| 2003 | 23 | 1 | 1 | 1+s | 1 | | |
| 2004 | 24 | 1 | 1 | 1+s | 1 | | |
| 2005 | 25 | 1 | 1 | 1+s | 1 | | |
| 2006 | 26 | 1 | 1 | 1+s | 1 | | |
| 2007 | 27 | 1 | 1 | 1+s | 1 | | |
| 2008 | 28 | 1 | 1 | 1+s | 1 | | |
| 2009 | 29 | 1 | 1 | 1 | 1 | | |
| 2010 | 30 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2011 | 31 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2012 | 32 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2013 | 33 | 1 | 1 | 1 | 1 | 1 | 1+s |
| 2014 | 34 | 1 | 1 | 1 | 1 | 1 | 1+s |
| 2015 | 35 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2016 | 36 | 1 | 1 | 1 | 1 | 1 | 1+s |
| 2017 | 37 | 1 | 1 | 1 | 1 | 1 | 1+s |
| 2018 | 38 | 1 | 1 | 1 | 1 | 1 | 1+s |
| 2019 | 39 | | 1 | 1 | 1 | | |

Note: “s” = supplement

www.albertapaleo.org

Big Ammonite Donated to APS

By Howard Allen, interim Curator

Our Society is fortunate to be the recipient of a very nice specimen (see cover photo) of the large Upper Cretaceous ammonite, *Placenticerias meeki*, thanks to a generous donation by Calgary geologist **Holly Crawford**. Holly and her father (the late **Ian Crawford**, a long-time senior geologist with Shell Oil) collected the specimen decades ago on the property of a family friend, south of Lethbridge.

Having kept the specimen in her garage for years where it gathered a generous layer of dust, Holly decided it was time to downsize and wanted the ammonite to go to a good home. She got in touch with APS member **Clint Tippett** who suggested contact-



Holly Crawford with the ammonite. Photo by Howard Allen.

ing the APS. This culminated in your curator picking up the specimen with his truck, in early June.

The ammonite, nearly half a metre in diameter, cleaned up nicely after a quick wash and will make an excellent (albeit heavy!) display specimen at future APS events. The APS thanks Holly for her donation and Clint Tippett for putting her in touch with us. Holly has joined the Society, so hopefully you'll be able to thank her in person for her generosity. □

Fossils in the News

World's oldest fossil trees uncovered in New York.
www.bbc.com/ (search "oldest fossil trees").

Skull of smallest known dinosaur found in amber.
www.ctvnews.ca/ (search "smallest known dinosaur").

Fish finger fossils show the beginnings of hands.
www.cnn.com/ (search "fish finger fossils").

New dinosaur species found only in B.C.
www.ctvnews.ca/ (search "Ferrisaurus").

Ancient "coal dragon" is oldest parareptile.
www.cbc.ca/ (search "Carbonodraco").

"Reaper of death" tyrannosaur is Canada's oldest.
www.cbc.ca/ (search "Thanatotheristes").

First dragonfly fossils from BC.
www.cbc.ca/ (search "dragonfly fossils").

Cape Breton fossil shows earliest parental behaviour.
www.sci-news.com/ (search "Dendromaia").

Ancient rainforests evidence found in Antarctica.
www.cnn.com/ (search "rainforests Antarctica").

"Great-grandfather" of wolverines found.
www.cbc.ca/ (search "Corumictis").

Sabre-tooth cat fossil found in Medicine Hat.
www.cbc.ca/ (search "Smilodon").

Car-sized turtle fossil found.
www.bbc.com/ (search "Stupendemys").

[Thanks to Phil Benham, Vaclav Marsofsky, Chris Sowden and Evelyn Wotherspoon.] □

TriloBase

Fossil catalogue database application for Windows

Software review by Dan Quinsey

For years I have been collecting and manually documenting my fossil acquisitions on a form I had developed using Microsoft Word. As an amateur collector, this was sufficient for my needs. But, as my collection and knowledge of proper documentation grew, I realized the need for a more sophisticated method of keeping records.

So began the quest for a software solution. Most of the products out there are designed for the mineral collector but I did find one for fossil collectors.

TriloBase v. 8.3.0 is a database for both the amateur and professional fossil, mineral and artifact collector. TriloBase is not a commercial product. It was developed and is maintained by Danny Alexandre, an amateur fossil collector who is also a professional IT application leader based in Belgium.

On first inspection, TriloBase met my initial criteria. It looked sleek and seemed easy to use. The software is inexpensive, at CDN \$22.00 via PayPal. Danny is not out to make any serious profits, he is simply interested in covering his costs. In fact, he would prefer to exchange his software for a fossil, mineral or artifact which is an option you have to obtain TriloBase.

TriloBase can be installed on any Windows PC (all OS versions up to Windows 10; there is no Macintosh version, but Mac OSX users could run it on Windows using virtual machine software, such as Parallels or VMware). A minimum of 4 GB of memory and 50 GB of free disc space is required. Danny has informed me he has over 1700 entries with multiple images on his computer and has barely used 2 GB of space so there should be plenty of room for all your needs.

On the main screen, you will find seven sections: Fossils, Minerals, Artifacts, Collecting Sites, Groups, Bibliography and Storage. By clicking on any of the sections, those database lists will be displayed. Lists can be sorted and grouped in different ways. From this menu you may: Open a selected fossil record, Add a new fossil, Delete the selected fossil record, import or export from or to Microsoft Excel XLSX

format or send fossil records to the print queue.

When you add or view a fossil, a screen appears displaying Geology and Taxonomy fields. You can add the information manually or select a button to autofill the fields. There is a Details section showing acquisition method and date and whether the item is available for sale or trade. Other fields include: Description of the fossil, Collecting Site, Comments, Storage and Groups. You can also add up to 99 images along with scale bars (imperial and metric), weight and dimensions for each entry. Images may be manipulated in several ways with a built-in photo editor. Finally, you can give your fossil a rating between 0 and 5 stars. From this second page you can again Add, Delete, Rename a fossil or send it to the print queue. You can also display the geological time scale, taxonomic table and bibliography. The same basic procedures are used to enter and maintain Minerals and Artifacts records.

The Collecting Sites screen has fields for Location including country, department, town, nearby towns, GPS coordinates and Other coordinates. If GPS coordinates are given in decimal format, you can use Bing™ Maps to show the exact location. There is also a folder for documents such as field trip guides and photos. Other fields include: Site type, Contact information, Description, and Comments. To add collection site information to your Fossil, Mineral or Artifact screen, you can select a command or use the “drag and drop” method.

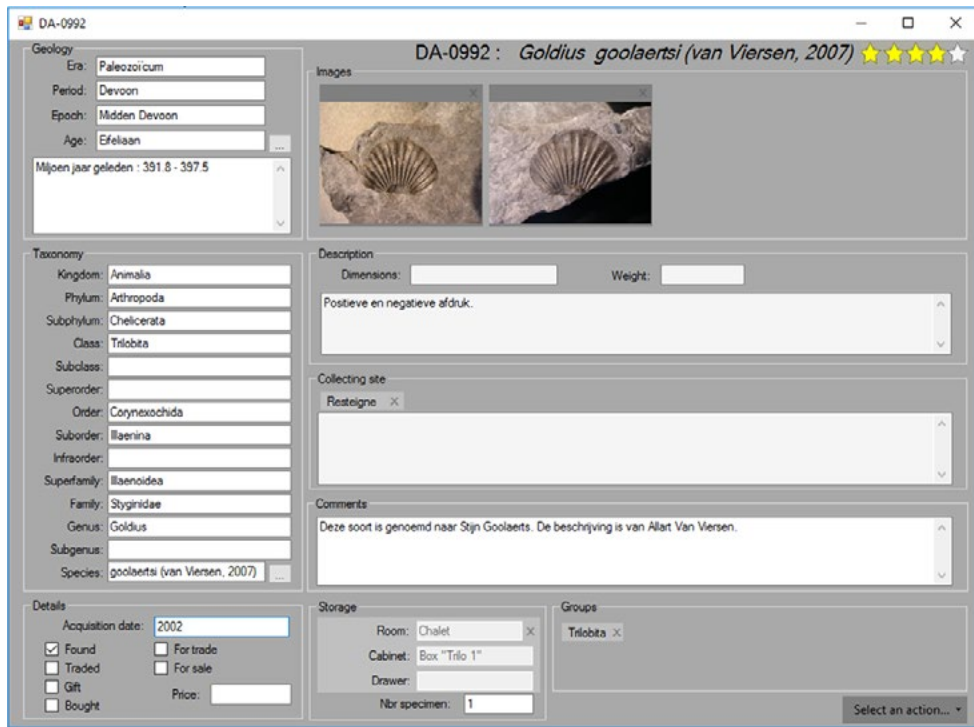
The Groups screen allows you to attach keywords to your files to help you search and group entries.

A Bibliography can also be entered in TriloBase. For each book, paper or PDF, you can enter the author, title, abstract and keywords. A bibliography can be linked to each Fossil, Mineral or Artifact.

The Storage screen allows you to track where each item of your collection is stored. You can create Rooms with Cabinets and Drawers. As with Collecting Sites, you can add information to your Fossil, Mineral or Artifact screen by selecting the command or using the “drag and drop” method.

You have the option to print in different formats including small, medium and large labels with or without images. Full and half page information sheets and listings with or without images may also be printed.

I downloaded the trial version of TriloBase which is the same as the complete version, but you can only enter up to 100 specimens. You must then purchase a “Key” to unlock the software to have full access.



Screenshot of the TriloBase fossil record screen, showing the various data entry fields. Image from the TriloBase User Manual.

Prior to downloading, I communicated with Danny Alexandre on three occasions. He was very quick to respond, usually within a couple of hours; however, this being the “sale” stage of the game, I cannot comment on the speed or quality of support after the sale.

I found TriloBase easy to use but a bit overwhelming. I am sure once you have used it for a period of time, navigating through the screens will become easier. I was curious to know if the geologic and taxonomic tables reflected European or American standards, as the software was developed in Belgium. I was relieved to find they use the American standards.

I immediately noticed there was no specific field to enter formation, matrix or accompanying lithology data, or for a common name or preparation notes (e.g. was the specimen repaired? coated with a stabilizing agent?). You would have to enter this information into the Description field. There is no option to customize screens or rename fields. Taxonomic data can be modified, but you should be familiar with databases to avoid messing things up.

The section on Storage seemed to be an afterthought. Locations are limited to a Room, Cabinet and Drawer. For example, you would have to be creative in your entries to identify if an item is on display somewhere, or on loan.

I am not a fan of Bing Maps and would like to

have seen Google Maps available on the Collecting Sites screen. Apparently it had been available at one time but I did not ask why that option was removed.

One big disappointment was the print size on the documents and labels. The printing was so small that I had to use a magnifying glass to read the information clearly. You would not be able to use any of the labels for display items.

One last observation may reflect on the quality of the product. There were many formatting and spelling errors on both the website and the User Manual. With

so many obvious errors, I wonder just how much attention to detail was put into the software and documentation. I am therefore not confident in the geological or taxonomic tables and the ability to properly navigate or troubleshoot using the User Manual.

To sum it all up, TriloBase looks impressive but upon closer examination, it does not suit my particular needs. I have chosen to build my own database using Microsoft Excel, and will consult our APS Fossil Collection Chairperson, **Howard Allen**, for guidance to help me build it right the first time.

As for an official recommendation, I will not sway you one way or the other because I am not aware of your particular needs. I do recommend you download TriloBase (www.trilobase.com) for a test drive and take the time to go through the User Manual to see the software’s full potential. Only then can you decide if this is the software solution that will meet your needs. The software can easily be uninstalled if you are not satisfied, and its ability to export your data to Excel XLSX format means you could always transfer your records to a different database program if you were to decide after a few years that TriloBase no longer meets your needs.

Good Luck! ☐

A Magical Newfoundland Tour

Featuring Palaeontology, Geology, Geography, Archaeology and More
Part 1: Western Newfoundland and a Small Piece of Labrador

Article and photos (unless otherwise noted)
by Pete Truch

“Ok, Dear, so I’ll be about an hour and a half. You should also be able to see me on the top of the rocks lining the beach from the motor home.”

“Make sure you’re visible, ’cause you know you can slip and fall in, or a rogue wave can come along anytime” was my wife Doreen’s reply. You all know how the hunt is—spot a great cephalopod and keep on the trail for more, forgetting about the clock, and the rising tide, and not being fully aware of how foggy it’s actually getting, because the discovery of each new fossil brings more and more excitement and an accompanying adrenalin rush . . .

For the second time, we were in Port au Choix, Newfoundland, a province we were just starting to explore. It was 2008, the same year I had decided to retire from any full-time work. Specifically, I had chosen February 29 as the date and called it the Big Leap (officially I get to celebrate retirement every 4 years!—3 times now). We first had a celebratory time in Phoenix at a Coyotes v. Flames game and then had explored parts of South America including the Falkland Islands and Terra del Fuego prior to setting off across Canada at the end of the “merry month of May,” well—actually June 9 to be exact—I just always wanted to use that phrase. We planned on spending two full months in Newfoundland, a province we had never been to. (The entire trip ran from June 9 to October 2, 2008).

As I made my way around in the fog, my mind wandered back to events earlier in the month on our journey to Newfoundland. In particular, I thought of the 1.5 to 2.5 billion-year-old rock around Lake Superior at Agawa Bay, where we first met *Misshepezhieu* (also spelled *Michepezhoo*) (Figures 1a, 1b) at a site rediscovered by Selwyn Dewdney in 1958. (Ontario Parks, c. 2005). An incident occurred there as related in my journal:

Sunday June 15 (2008) Day #7.

Rain in Wawa.

Sunny @ Agawa Park.

Sunny in Sault Ste. Marie +18°C.

“Damn! I just lost my camera!” was all I could hear over the noise of metal clattering over rock and a splash in the water. I am at a dangerous spot (as



Figure 1a. *Misshepezhieu* figure in red ochre (usually a mixture of hematite and animal fats). Note the canoe effigy to the left and the serpents below. In a fight with the Iroquois who were encroaching on Ojibwa territory the leader of the Ojibwa, Myeengun, called on the copper beast of Gitchee Gummee to raise a storm and drown the enemies, which duly followed—hence the red ochre effigy battle tribute.

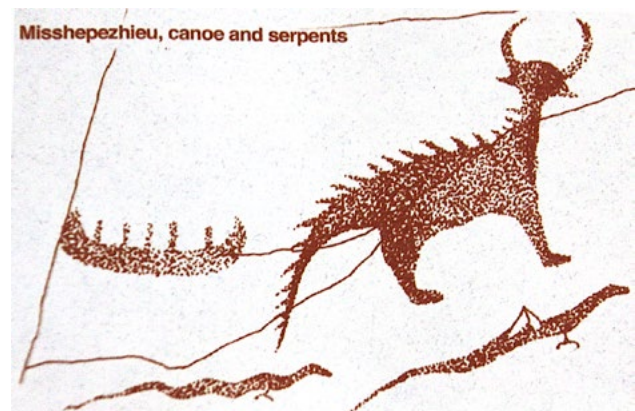
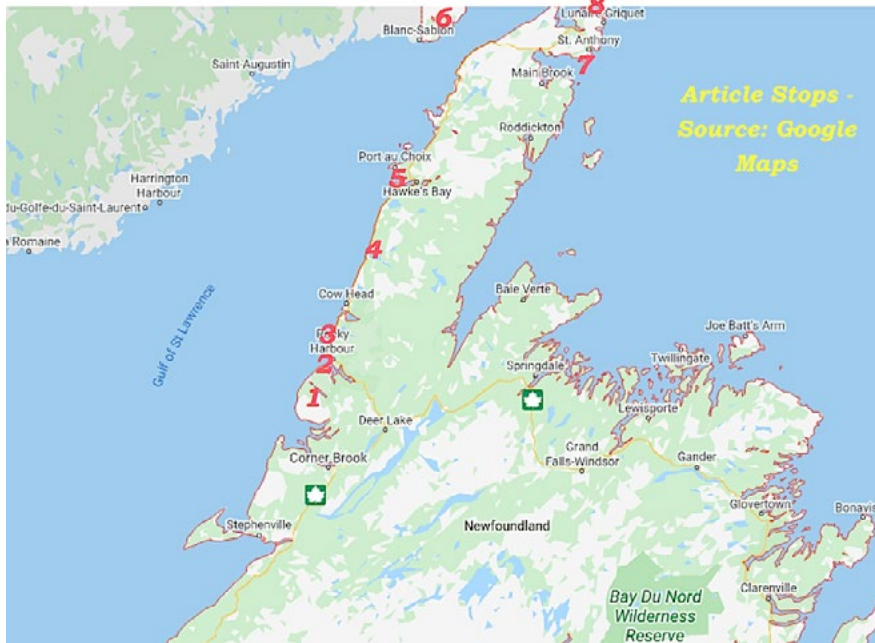


Fig. 1b. Drawing of the effigies in Figure 1a. (Ontario Parks brochure, c. 2005).



Map 1. Northwestern Newfoundland with stops numbered 1 through 8. Modified from Google Maps, ©2020. Reproduced under terms of use.

indicated by the danger sign warning of people having died here) viewing a pictograph of Misshepezhieu [Figures 1a, 1b], an Ojibwa water spirit who constantly laps at the 1.5 to 2.5 billion year old granite rocks lining the innards of Gitchee Gummee (Lake Superior). The pictographs, in red ochre, are thought to be 150 – 400 years old and depict a battle scene where the Ojibwa war chief Myeengun invoked Misshepezhieu to create a storm in which the invading Iroquois were all drowned. Unfortunately the battle memorial pictographs are probably best viewed from a canoe, as trying to take pictures while pressed up against the billion year old rock exposed on a fault plane that forms the ancient artistic canvas is very difficult. I managed a couple of shots without falling in.

The Biking Lady and I could both see her camera in about 5–8 feet of water. Misshepezhieu, ironically enough, in the pictograph area, claimed a picture taken for itself! The lake takes what the lake wants . . .

Meanwhile, back at Port au Choix, I checked: my camera (slide film at the time) was still in the backpack. As the Newfoundland fog got thicker, I was hoping no storms would arise, to repeat the legend of Misshepezhieu.

I remembered entering the Province and seeing its flag (Figure 2). The thought processes in the hunt for fossils took over, since this was the second and final visit to the area, together with thoughts of other sites recently seen. Before Port au Choix, we had encountered many stops of interest (see Map 1).

Stop One—Tablelands, Gros Morne National Park, a World Heritage Site designated in 1987

Gros Morne, on the west coast of Newfoundland, contains the Long Range Mountains, a remnant of the Appalachian Mountains that extended through to what are now parts of Europe and Africa. (I had discussed the Appalachians briefly in my article on the Gaspé in the previous *Bulletin*). Consequently, the area provides evidence of plate tectonics. The Tablelands, the first point of interest in Gros Morne, are a rare example of where a piece of Earth's mantle (normally as

much as 70 km deep) is exposed at the surface. These barren, desert-like formations consist of peridotite,



Figure 2. Newfoundland and Labrador flag, designed by Christopher Pratt and adopted on May 28, 1980, flying over a ship on Trout River Pond with Tableland Mountain in the background. This flag can also be seen proudly waving at men's curling competitions but rarely at a spelling bee contest win (ever try to spell like a Newfoundlander talks?)



Figure 3. Tablelands viewed from Highway 431.

an ultramafic rock (low in silica and potassium content) from Earth’s mantle that was forced upward during plate collisions when the massive supercontinent started to split apart. High in iron, this rock lacks not only silica and potassium but many other common nutrients that can sustain plant growth—hence the barrenness. The areas that are green in the



Figure 4. Purple pitcher plant, *Sarracenia purpurea*. Public Domain photo by “Shipguy,” from Wikipedia.

photos are areas that have accumulated wind-blown natural soils where plants can take root.

Driving the roads and hiking the trails are great ways to see the Tableland features. For example, a metamorphic process acting on the olivines and pyroxenes turn peridotite into an alligator-like surface of serpentinite (Figure 5), many examples of which can be found along the trails. I also spotted an unusual plant in the sparse foliage and determined that it was of the carnivorous variety (much like the commonly known Venus flytrap).

The purple pitcher plant, *Sarracenia purpurea*, (Figure 4) is also known by other common names such as northern

pitcher plant, turtle socks and side-saddle flower. It is also the Provincial Flower of Newfoundland and Labrador. This carnivore traps and devours flying insects such as mosquitoes and flies, and unwary crawling ants or spiders. Fortunately, I proved to be too big a target.

I also spotted some darker areas where calcium hydroxide-rich spring water + serpentinite interacted to form travertine (calcium carbonate). There were also other erosion forces at work in the form of running creeks from the great snow accumulations that develop over the winter. Even though it was July, we could still see some snow packs at the higher elevations.

Best view of the deep Moho rocks (Figure 6) is from the 2-hour excursion ship on Trout River Pond. From my journal:

... the seabed of 500,000,000 years ago in the



Figure 5. Serpentinite, a metamorphosed peridotite.



Figure 6. Moho rock from the upper mantle with the lapping waters of Trout River Pond in the foreground.

Iapetus Ocean was squeezed up and pushed about 1,000 km from the east to form the Tablelands. There is some Moho (layered) rock from the push that is found normally only deep underground . . . The fjord was heavily glaciated and a fault line runs along the 15 km long Pond.

Evidence of this glaciation is documented in the beautiful reference journals that APS Member **Harvey Negrich** provided me (I only wish we had them on the trip). “. . . an island ice sheet, flowing westward to the Gulf of St. Lawrence, was responsible for the glaciation of southwestern Newfoundland” (Brookes, 1972).

Further: “A large Pleistocene delta occurs at the lower end of Trout River gorge. Near Trout River the



Figure 7. Forested landscape within Gros Morne. Compare this to the barren landscape of the Tablelands within the same Park (Figures 0 6 and 1).

delta surface is just over 30 m above sea level” (Neale, 1972).

Stop Two—Bonne Bay/Rocky Harbour

Next stop in Gros Morne was a boat ride in Bonne Bay, which is technically outside of the Park. My journal records the tickets being \$35 per adult for the “I’se D’a Bye Tour.” (told you it’s hard to spell like a Newfoundlander talks!). As per my journal entry:

Cldy—the blue (sky) streak ends! 2 more days would have done it! +18 °C – 22 °C Overcast.

Wednesday July 9 (2008) Day #31.

The Minke whale [Figure 8] surfaced near the catamaran but quickly disappeared. Wayne, the boat guide,



Figure 8. Minke Whale.

said he saw the long 30-foot back arch high, so he was going down deep. What he meant was we weren’t going to see him for a while, as Bonne Bay is about 300 feet deep at that point.

The Bay was originally sounded by Captain James Cook in the 1760s or so using weights, graduated ropes and sand mud or rock but using a cloth on the weight. [What this journal jibberish means, besides me drinking and writing at the same time, is by using a cloth on the weight, the sand or rock or mud bottom would reveal its composition on the cloth]. Despite sonar, etc. charts today are still using his soundings! We see 4 more whales in the



Figure 9. Sardine Trawler hauling in net in Bonne Bay.

2.5 hour cruise of the Bay and also see a fishing boat bringing in a trawler full of sardines [Figure 9].

The Bay is not part of the marine park, but maybe should be.

We also saw, from the boat, a cliff face with strange looking formations. (Figure 10). Editor/Geologist Howard came to the rescue, as my notes on this were very scant:

“From what I can tell by the photos, this is a tilted sequence of sedimentary rocks . . . with mineralized fractures. I would guess that most of the mineralization is calcite and/or quartz; some of the yellowish colour could be from iron minerals, perhaps oxidized pyrite, and/or jarosite (iron sulphate).

The ‘shredded’ appearance of the veins is an excellent example of ‘en echelon’ tension gashes, which are

a favourite thing with structural geologists, as they indicate shearing of the rock. Basically, the rock is being torn in opposite directions, causing gashes to open up along the line of shear; it’s sort of an incipient fault, halted just before the rock breaks completely.”

After the whale watching afternoon, we had developed a good



Figure 10. Sedimentary rock with “en echelon” tension gashes filled with quartz or calcite, seen from the tour boat, hand rail for scale.



Figure 11. Rocky Harbour townsite.

appetite for cod, and had the incredible luck to dine on it fresh as fresh can be—caught right there, that day. Cod will never taste the same again! Of course Wayne the boat guide’s cousin owned the restaurant, the brown building on the right side of Figure 11. We also shared a table with someone who spared for our curling team back in Calgary! Small world, as Ron and his wife Iris just happened to visit Rocky Harbour that day in their two-week tour of the island.



Figure 12. Wild *Iris* or “blue flag.”

We made an executive decision to leave the incredible Western Brook Pond (a fjord; probably the most advertised part of Gros Morne) till after our sojourn to Labrador for two reasons: we needed to book/buy the boat tour in advance, which was sold out for the next couple of days, and we also wanted better weather.



Figure 13. Spectacular sedimentary structures (interference ripples here) are exposed on bedding surfaces at Green Point.

Stop Three—Green Point (still in Gros Morne)

From my journal:

We had left the KOA (actually a nice spot) and drove through Rocky Harbour—found a shop with old Newfie stamps, a Xmas ornament & a CD of Newfie music; also saw/heard a unique sound from a thick



Figure 14. Green Point overview showing near-vertical beds exposed at low tide.

walking stick with a string of metal beer and pop bottle caps attached. This was the Newfoundland answer to the mussel shell-on-shell music from the Peruvian bands we’ve heard. We stopped at Green Point at a spot by ourselves before the campground. We could see wild irises [Figure 12] in bloom as purple/blue/yellow bobbings in the tall blooming green grasses.

The formations of rock were wonderful and the tide was out so I could walk the whole area [Figures 13, 14]. Fossils were not as prevalent as reported & the only nice ones seemed deeply embedded in big rocks. The formations made up for them.

The International Union of Geological Sciences, in 2000, designated Green Point as a Global Stratotype Section and Point (GSSP) representing the boundary between Cambrian and Ordovician times:

The boundary is a section 60 m thick composed of layers of shale and limestone with overturned beds dipping 60 – 70 degrees to the southeast [Figure 14]. It is marked by the first appearance of *Iapetognathus fluctivagus*, a conodont fossil, 4.8 m below the earliest known planktic graptolite fossil, *Rhabdinopora praeparabola*.

The shales represent a 30 million year record of deep-ocean sediments laid in a base-of-slope environment in the Iapetus Ocean. The limestone layers indicate periodic avalanches from the shallower waters. Portions of the same limestone avalanches that came to rest further up the coastal slopes are featured at Cow Head. There, the individual rocks in the limestone conglomerate are much larger.

(Wikipedia, 2020c)

Stop Four—Mixed Interests

From Green Point we were making our way up the Viking Trail, Highway 430 N, past Parson’s Pond; spotted a wild caribou and saw an unusual vegetation site—dead spruce with a variety of plants growing among them, including a yellow sunflower which is *Arnica angustifolia* (Figure 15). This species is classified as an arctic or alpine form, attesting to its living conditions at this locale. One suggested



Figure 15. Tuckamore of now dead spruce with yellow sunflowers (*Arnica angustifolia*) and cow parsnip (*Heracleum maximum*). Doreen Truch for scale.



Figure 16. Orthocone nautiloid shell. Left: full length; right: detail.



Figure 17. Doreen Truch at the Arches.

reason for the spruce death was that this was a tuckamore stand that was over-salted during a severe winter storm. Tuckamore is the Newfoundland word for krummholz islands (wind desiccated trees), on which I wrote an article many years ago for *Canadian Geographic* (Truch, 1982). This was right across from the access to the Arches (Figure 17), so the salting theory seems credible.

According to my journal:

We find an off road north of Bellburns where Middle Ordovician (470 mya) fossils [e.g. Rohr et al., 2003] are supposed to be. I have only a few minutes before the pouring rain starts and spot some in big rocks . . .

This was the first encounter with orthocone nautiloids, those extinct squid-like cephalopods that had an external cone-shaped shell as seen in Figure 16. We top off the day with seeing the iconic symbols of any Maritime community—the ubiquitous lighthouse. (Figure 18).

Stop Five—Port au Choix

Again, from my journal:

Foggy A.M.—sunny by 10 A.M. very windy.

Port au Choix to St. Barbe.

Friday July 11 (2008) Day #33.

It's an amazing small world—here at the Port au Choix National Historic Site is [Dr.] Brian Kooyman's book on lithics, Understanding Stone Tools and Archaeological Sites, one that I had proofread a chapter for . . . and the summer Arky students know of [Dr.] Peter Dawson! [I know both U of C profs very well, the former an expert in Plains Indians and the latter on the Arctic Inuit]. We are at the site after a very windy A.M. start. The salt spray was so heavy on the front windshield that I needed a full 2 squeegees to clean it off. [This leads me to believe the theory of the



Figure 19. Gastropod fossil at Port au Choix.

dead tuckamore in Figure 15].

The site represents 5 different occupations of the Port au Choix area—what the signs didn't mention was the fantastic fossils just outside of the Park boundaries & hidden in the town itself in plain sight on the beach. I'll bet 98% of the people who camp there don't realize what's there: gastropods, brachs, nautiloids, etc. [Figure 19].

Back to the human side of things, the first evidence of occupation is called Maritime Archaic from 4400 to 3200 BP [Before Present]. Floral evidence indicates summer temperatures averaged 4°C higher than today with overall annual estimated at 2°C warmer. Next occupants were Groswater Palaeoeskimos in a cooler time lasting from 2800 to 1900 BP. Five lithics mark their presence.

Dorset Palaeoeskimo [more on this in the next instalment] were in a Medieval Warm Period roughly from 2000 to 1900 BP (as per a plaque on display). This seems out of whack to me—should only have been 1000 – 700 BP. In fact, it was 950 to 1250 AD [Wikipedia, 2020b] as we count dates today. The Beothuk were followed by the Euros (French, English, Basque) who wiped out the majority of them by the 1800s. The Cowhead chert was used (in tool/weapon making) and several other sources including a chert from Labrador (Ramah). Archaeologically speaking, Ramah chert is a banner chert in Newfoundland, as indicative as Knife River Flint from the Lynch Quarry near Dunn Center, North Dakota is in Plains technologies. Dorset sites featured large structures of poles & whale ribs. Leister, or barbed spear points were used for hunting marine mammals.

We have lunch back at the beach, and I go fossil hunting for another hour [Note, this was the first time



Figure 18. Point Riche Lighthouse is an active “pepper-pot” (salt and pepper shaker shaped) structure standing tall at 19 metres (62 feet) since it was first built in 1892. This rare shot of it was taken while its exterior was under renovation.

I hunted for fossils at Port au Choix. It was the second time, on the return trip, that I got into a problem fog]. *It is very frustrating, as the specimens that come out tend to break . . . it is very difficult to get them out any other way—a couple of good ones about 70% intact are all I can do before we hit the road for St. Barbe and the ferry to Labrador.*

More on Ramah chert:

Ramah Bay is the site of an uncommon semi-translucent light-grey stone with dark banding called “Ramah chert.” The Ramah chert outcrops in a narrow geological bed stretching from Saglek Fiord to Nachvak. At Ramah Bay the highest quality stone, for flaking chipped stone tools (mostly bifaces and projectile points), is most readily accessible. Discovered by pioneering Native American groups, which archaeologists identify as the Maritime Archaic Culture, around 7000 years ago, the stone was highly valued for its functional as well as spiritual qualities. Ramah chert was the preferred raw material for the Maritime Archaic Indians (ca. 7000 to 3500 years ago) and for succeeding populations of Dorset paleoeskimos (ca. 2200 to 800 years ago) and by the immediate ancestors of the Innu (from about 2000 years ago to contact with the Europeans in the 18th century). Ramah chert was traded as far south as New England and even Chesapeake Bay and west to the Great Lakes which is documented in a report by Stephen Loring. (Wikipedia, 2020d)

To further supplement my journal notes, a bit more on the Beothuk:

Before the arrival of the first European, North American Indians occupied the mainland part of the Appalachian region. Newfoundland, on the other hand, was the home of the strange Beothuk Indians, a people with language and customs differing in some ways from both the Indians to the south and the Eskimos to the north. The last Beothuk died in 1829; these people



Figure 21. Apollo ferry (front opening) used to cross the Strait of Belle Isle.

were the victims of the white man and the Mic Mac Indians who had moved to the south coast from Nova Scotia—apparently a local case of genocide.

(Poole and Rodgers, 1972)

And so, on to the modern town of Port au Choix. In the 1960s it was chosen as a Growth Centre under Premier Smallwood’s Resettlement Program. It brought three towns together, namely Gargamelle, Old Port au Choix and Port au Choix. Yeah, you read it right: Old Port au Choix was a real separate town/name. Throughout Newfoundland we found this frequently—for example, Portuguese Cove and Portuguese Cove South are two distinct towns. Makes me wonder if the writers for the *Newhart* television sitcom ever visited Newfoundland—readers old enough to have seen the show will remember the characters Larry, his brother Darryl and his other brother Darryl.

Stop Six—A Small Piece of Labrador

Ever look at a map and wonder why Labrador is part of Newfoundland? In 1763, in another Treaty of Paris, the French ceded the area represented by Labrador to the British, and all the French fishing rights to the area disappeared. France kept the Islands of St. Pierre and Miquelon. They also got to keep the Caribbean island of Guadalupe, with its sugar cane, so it was of more value to them than all of their Canadian possessions! Talk about rumrunners! The British, in turn,

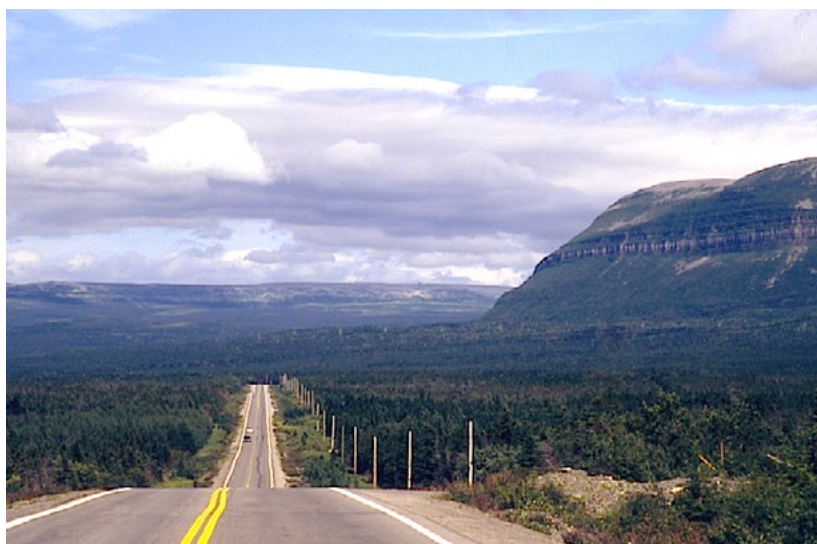


Figure 20. Appalachian Remnants viewed along Highway 430, the only major roadway in the area

in 1809, transferred Labrador to their then-owned Newfoundland Colony and settled a border dispute with Quebec in 1927. It all became part of Canada when Joey Smallwood's second referendum to join Canada was finally successful on March 31, 1949 (by the slimmest of margins: 52.34%).

A portion from my journal:

Blue skies 21°C.

Saturday July 12 (2008) Day #34.



Figure 22. Pinware River, Labrador, demonstrates the raw power that has been harnessed here in older projects such as Churchill River and now Muskrat Falls on the Lower Churchill which is scheduled to deliver power in 2020.

. . . The ferry (Apollo; Figure 21) is a 1½ hour crossing through the Strait of Belle Isle from St. Barbe to Blanc Sablon, which is in Quebec. Yes, we land in Quebec to get to Labrador. The day is beautiful and we hit fog part way across, which cleans up before the landing—quite a sight. The ferry cost us a whopping \$23.25 each way! Talk about subsidies—the Feds and Quebec. I wonder what this is really costing us taxpayers!

We spend an hour at the ferry ensuring that we can get back tomorrow morning. Then an RV spot at L'Anse-au-Clair at the Northern Lite Inn is secured for the night and we head to Red Bay. Along the way are incredible vistas of ocean blue & light sky blue & deep stunted spruce green and lichen light green. Wow!

Then the power of the Pinware River [Figure 22] is realized in granite beds that help confine and define the wild torrents of water. The Basques were a little wild themselves. We can only imagine harpooning and killing a 60 ft. right whale [Figure 23] from the over 400 year old Chalupa [not to be confused with the one promoted by Taco Bell] or whaling boat we see on display. The Bay became notable



Figure 23. Whaling harpoon and right whale skeletal fin. Doreen Truch for scale.



Figure 24. Red Bay townsite.



Figure 25. Point Amour Lighthouse, a Provincial Historic Park.



Figure 26. Part of the beautiful vista yielded by the Point Amour lighthouse, the remains of an old foghorn building. The blocky bedrock exposed at the shore is part of a preserved Early Cambrian archaeocyathid reef.

when in 1978 an item from 1565 was discovered. It is likely the remains of the San Juan, a Basque whale oil ship containing 800 – 1,000 barricas (a Spanish word for barrel or keg, each holding 211 litres) of processed whale oil used to light lamps in Europe. The San Juan, a galleon, was rediscovered through archival work in Spain. We view incredible preserved wood, clothing, ropes, etc. that remained in recognizable pieces, enough to be able to create a scale model of the ship.

The next major site is Point Amour Lighthouse [Figure 25], the tallest lighthouse in the Atlantic Region, a still functioning, 150 year old (completed 1858), 109 ft. giant second to only one other in Canada [the Cap-des-Rosiers Lighthouse, Gaspé, at 34.1 m (112 ft), also built in 1858 and designated a National Historic Site in 1973]. I climb to the top and besides the fantastic view, am treated to two items—the footing of an old foghorn [Figure 26; Marconi also had a site here] and some ancient archaeocyathids. This is a clue to look at rocks along the coast at Amour where I find many interesting but hard to recognize fossils . . . will need further study. I could easily have spent a full day there!

We have supper at the Inn & will call it an early night. Camp at Northern Lite Inn L'Anse-au-Clair Labrador

Addition: There was still snow beside the road near Red Bay. The Parks employee said they get 14 – 17 feet of snow per annum & the snow we saw would probably be there till August & replenished in November.

More on the fossils:

Archaeocyathid: any member of an extinct group of marine organisms of uncertain relationships found as fossils in marine limestones of Late Precambrian and Early Cambrian age . . . Archaeocyathid structures are conical or tubular in shape and superficially resemble horn corals. The archaeocyathid skeleton consists of thin inner and outer walls, supported by vertical partitions. The entire structure is porous . . . Archaeocyathids lived upon the sea bottom in shallow water and formed large, reeflike masses. Archaeocyathid reefs have a worldwide distribution and have been found in Australia . . . Antarctica, Spain, Sardinia, Siberia, Newfoundland, Quebec, Labrador, New York, and California. (Encyclopaedia Britannica, 2020).

Stop Seven—St. Anthony

Leaving Blanc Sablon, we get glimpses of life in the area. At the dock we spot the morning fishing fleet in, ready to load cod. I talked with the inspector who was watching the weighing of each ship's quota that day (Figure 28). He didn't disclose what they were allowed, but judging by the hand loading, it couldn't be very much. Compare that to when the Grand Banks were first noted in the early 1500s when one could simply put a bucket over the side of the ship and haul in fish. The collapse of the cod fisheries occurred in the early 1990s. Apparently this isn't the first time cod harvests failed. According to a plaque at one harbour, the harvest failed in 1680, 1834, 1860 and 1868. The 1990s is the longest running cod failure.



Figure 27. Note the colour of the sand—hence the name, Red Bay. Likely none of these shells will become fossilized. I had promised my wife when we first got married that we would walk the beaches of the world—thus feet in Red Bay is one of many, many beach shots we have in our possession.



Figure 28. Loading cod by hand at Blanc Sablon.

Along Highway 430 in our route to St. Anthony, we spotted two other interesting human features along the roadside, both of which seemed in the middle of nowhere. The first was a roadside garden which was recently sowed with basic beneath-the-soil-type vegetables such as potatoes, carrots, and turnips. A white picket fence around it was a deterrent for moose and caribou; at least that is what a local in St. Anthony told me. A second current cultural feature was seen in the form of a woodpile, which appeared to be set up in chords, so this may have been an effort by more than one family. This region is fairly isolated, so self-sufficiency appears to be in practice.

We were hoping to still be in luck to catch the iceberg season, and were encouraged when I saw a boat coming back towards St. Anthony towing a barge behind it full of growler-sized (think grand piano)



Figure 30. Iceberg grounded in Hare Bay, Newfoundland.

glacial ice (Figure 29) that was harvested to make iceberg water drinks (such as an iceberg wine). Screech, on the other hand, is also a well-known island drink, made by simply adding water to old empty oak rum barrels and turning them every few weeks to get the alcohol soaked wood to return some to the water. The result is a very tasty, but very potent drink—hence some of my journal ramblings. Told you they were resourceful!

As per my journal:

. . . We get lucky and are able to catch the last iceberg/whale watching of the day leaving around 4:30 P.M.

There are 3 bergs still around in Hare Bay—one which is stalled in 65 ft of water and breaking apart



Figure 29. Fishing trawler towing a barge contain iceberg (glacial) ice to be used in making iceberg wine.

[Figure 30]—*the other 2 are still floating, but all 3 are now mere remnants of each original height—over 100 feet tall. They are Greenland ice that has taken likely a couple of years to reach here!*

The melted water is super to drink (ice chunks hauled in by the captain and melted quickly). Being near the berg was like being inside a pop bottle, as one could hear popping sounds of CO₂ released after hundreds of years of confinement, and the occasional rifle crack (a sound we often heard camped near the base of Mendenhall Glacier in Juneau Alaska) as the salt water, in this case, was on the attack of the berg. The cracking sound is a small piece breaking away.

It was a late trip back and we saw really incredible sites—a Fin whale (2nd largest in the world); a pod of porpoises feeding (one went along side of the boat and looked like a killer whale with its white markings and dark blue color) and finally a humpback that many of us, including Doreen, saw breach. Wow, wow—well worth the \$100 total for both of us . . . (and oh for a digital camera that could take decent action shots in low light).

In addition to being a forest fire-fighting centre, St. Anthony is also home to the Sir Wilfred Thomason Grenfell Museum. Since I am an old surveyor from away back, I also spot a benchmark (Figure 31). Just think of the vertical elevation challenges as climate change progresses and sea levels rise, since all references are made to mean sea level!

I return briefly to my journal:

. . . Touring the Museum, we are in awe of the [Grenfell] character—a doctor/adventurer/preacher/



Figure 31. Survey Control Benchmark just outside the Grenfell Museum.



Figure 32. Doreen Truch beside a re-created dwelling at L'Anse Aux Meadows, one of several at the site. All but one were set up as sod covered buildings, but with incomplete interiors.



Figure 33. Interior of recreated lodge. A Parks employee (right) acted as a Viking story teller. He was not a member of the Airline Stewards and Stewardesses Union as was the case for actors playing the roles of 18th century characters at the Fortress of Louisburg!

humanitarianist/lecturer/writer/artist/ entrepreneur who did so much for the native Labradorites. I liked one of his quotes: “When two courses are open take the most adventuresome.”

He pioneered medicine here and set up an entrepreneurship that still sells arts stuff (quilts, rugs, etc.) today. This was to replace the truck system where the merchants owned the people. He had met his wife, Anne MacClanahan, on the Mauritania in 1909. Nothing like the ship connections we like to hear about.

Stop Eight—L'Anse Aux Meadows World Heritage Site

No trip to Newfoundland's Great Northern Peninsula would be complete without a visit to L'Anse Aux Meadows, a 1978 designated World Heritage Site.

From my journal:

Cldy A.M. till 2 P.M., +18 °C.

Sunny, prtly cldy remainder +22 °C.

Tuesday July 15 (2008) Day #37.

The verb viking (to raid) has been made a noun (nounified, if such a word exists) to represent the Norse, not all of whom were “Vikings”. After all, there were farmers, blacksmiths, etc. to support the Norse raiders who went out in search of trade, and if not, then booty.

They were everywhere from France to Britain to Constantinople, and many became very wealthy.

One Viking, Eric the Red was banished to Greenland as a result of being accused of murder in Iceland. Such is the way of discovery & settlement. A Viking from Eric's group was swept off course and sighted North America. Leif, Eric's son, later (15 years) sailed there in quest of the unknown land.

From Parks Canada:

On a summer's day around the year 1000, a substantial Viking expedition from Greenland landed on the shore of what is now L'Anse Aux Meadows—a community located at the tip of the Great Northern Peninsula in western Newfoundland. Under the leadership of Leif Eriksson, the group of between 70 – 90 people established an encampment that served as a base for exploring south throughout the Gulf of St. Lawrence. Over the next couple of decades, the Vikings would make a number of voyages to this region of the world they called Vinland mainly in search of hardwood lumber. These trips would result in the first contact between Europeans and North American Aboriginal Peoples.”

Back to my journal:

Dr. Helge Ingstad & his wife Anne Stine Ingstad followed the Viking trail for years in search of Vinland. Finally, following many disappointments they meet George Decker, a local fisherman who took them to L'Anse Aux Meadows where he showed them the type of mounds/depressions [Figure 34] they were looking for. Twelve years of excavations finally yielded the “silver bullet”—a Norse cloak pin [Figure 35] found in situ in a fire pit still intact, confirming the mounds were dwellings occupied by Vikings. It still may not be Vinland, as butternuts that grow further south were also found during excavations.

From Parks Canada:

During their work here in the 1960s and 70s archaeologists uncovered remnants of iron production, an important early clue that Vikings had visited. L'Anse Aux Meadows is thought to be the first place in North America where ore was smelted to



Figure 34. House pit at L'Anse Aux Meadows. This has obviously been mowed for visibility; often such pits are more evident by differences in vegetative coverings.



Figure 35. The “Silver Bullet,” a ring-headed Norse cloak pin discovered in a L'Anse Aux Meadows dig in 1968, proof that Vikings had occupied the site. Photo from a museum display.

produce iron.

The making of iron was probably not planned, but a necessity to replace boat nails that had weakened. Not much iron was smelted—just an emergency supply of enough nails and rivets to repair their boats. Evidence indicates that the Norse produced about 3 kg of useable iron, enough to make about 100 nails. Without these, it is possible they would never have been able to return to their homelands of Greenland and Iceland.

To make the iron, the Vikings built a sod furnace hut. They collected bog ore from the banks along the brook and roasted it in a charcoal pit kiln. The furnace was heated to temperatures between 1000 and 1200°C. These temperatures reduced the bog iron ore into a bloom. The bloom was then removed from the furnace and as many impurities as possible were hammered out. The iron was then ready to be forged into objects.”

Before L'Anse Aux Meadows, I had never heard of bog iron (probably I fell asleep during a lecture on it). “Bog iron is a form of impure iron deposit that develops in bogs or swamps by the chemical or biochemical oxidation of iron carried in solution” (Wikipedia, 2020a). I was actually able to find raw bog iron by lifting the peat and groping the ground with my bare hands. This was likely the method used 1000 years prior to find enough of the raw material to smelt. Nothing like the experience of “hands-on” geology/archaeology!

After spending a full day exploring and playing “Viking” we started the process for returning down “Viking Trail Route 430 N” to connect again with the Trans Canada Highway.

On the way there we stopped for a second time at Stop #5, Port au Choix. . .

Stop Five—Port au Choix Return

When I finally looked at my watch I realized the true time—3½ hours since I said I'd only be an hour and a half—which simply meant it was “deep doggy-do-do” time. It also dawned on me that the tide was coming in fast and that it was super foggy. Fortunately I have a built in sense of direction (probably the only sense I





Figure 36. Labradorite pendant. This gemstone is a feldspar mineral of the plagioclase series that is most often found in mafic igneous rocks such as basalt, gabbro, etc. (King, 2020). It is also known as the appeasement stone, at least in my mind!

really possess), so the fog was not as big a problem, even though visibility was just a few feet! I remembered a number of big specimens that were simply too hard to take out, and, like a trail of breadcrumbs, used them to navigate back along the beach boulders to get to the motor home. It took an extra half hour just to get back, so real trouble loomed as I saw the motor home door swing open. For a split second, I thought all was fine as I saw a great sense of relief registered on my wife's face and then the burden of anxiety I had caused erupted . . . in the end, it cost me more Labradorite jewellery (Figure 36)! Since I am like most husbands (who never seem to learn), it wasn't to be the last time on this trip that more jewellery was forthcoming! After all, Dr. Grenfell had stated: "When two courses are open, take the most adventuresome."

Up next—we secured our tickets for passage on the Western Brook Pond fjord, the iconic symbol of Gros Morne. As the sun sets in Newfoundland (Figure 37) please join us in the next instalment as we explore this magical land they call "The Rock."

Postscript

Author Pete Truch has put together a photo essay of images from an overflight of Greenland (birthplace of the Newfoundland icebergs) under exceptional viewing conditions. Download the PDF document *Flyover of Greenland* at <http://www.albertapaleo.org/bulletin.html> □

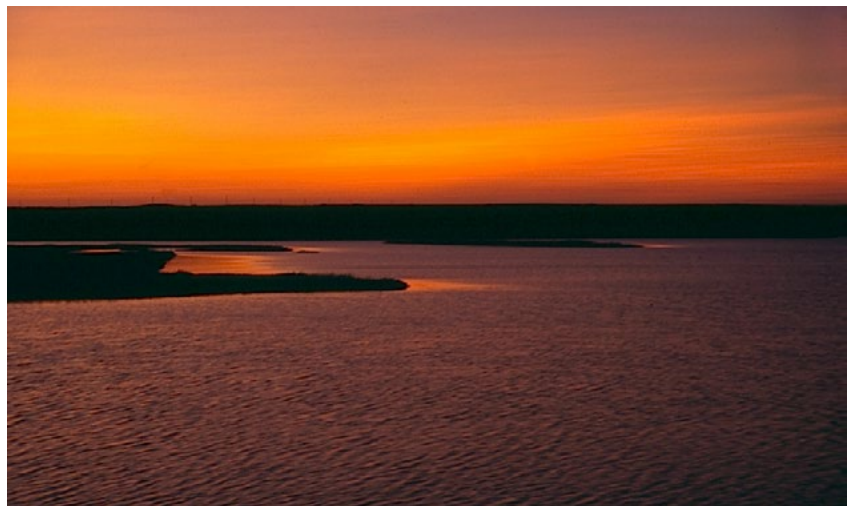


Figure 37. A Newfoundland Western Peninsula sunset something like what a Viking might have seen 1000 years ago.

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