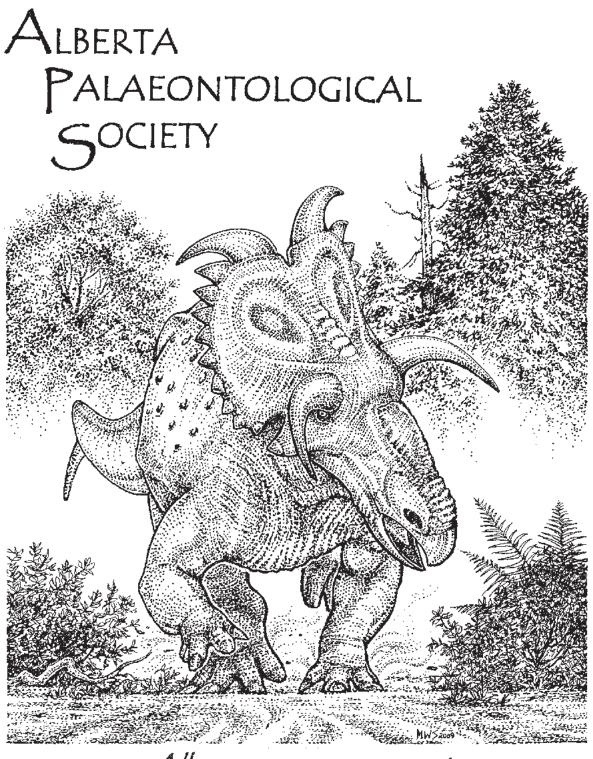
Palæontological Society Bulletin

VOLUME 24 • NUMBER 1

www.albertapaleo.org

MARCH 2009



Albertaceratops nesmoi

ALBERTA PALÆONTOLOGICAL SOCIETY

OFFICERS		
President	Dan Quinsey	247-3022
Vice-President	(Position vacant)	
Treasurer	Mona Marsovsky	547-0182
Secretary	Garren Dugan	934-9599
Past-President	Vaclav Marsovsky	547-0182
DIRECTORS		
Editor	Howard Allen	274-1858
Membership	Vaclav Marsovsky	547-0182
Program Coordinator	Philip Benham	280-6283
Field Trip Coordinator	Wayne Braunberger	278-5154
COMMITTEES		
APAC†	Howard Allen	274-1858
Fossil Collection	Howard Allen	274-1858
Library	Garren Dugan	934-9599
Public Outreach	Dan Quinsey	247-3022
Social	Paul Dugan '	934-9599
Symposium	Vaclav Marsovsky	547-0182
Website	Vaclav Marsovsky	547-0182

† Alberta Palaeontological Advisory Committee

The Society was incorporated in 1986, as a non-profit organization formed to:

- a. Promote the science of palaeontology through study and education.
- b. 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
- c. Provide information and expertise to other collectors.

d. 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

THE BULLETIN WILL BE PUBLISHED QUARTERLY:

March, June, September and December. Deadline for submitting material for publication is the 15th of the month prior to publication.

Society Mailing Address:

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

Material for the Bulletin:

Howard Allen, Editor, APS 7828 Hunterslea Crescent, N.W. Calgary, Alberta, Canada T2K 4M2 (E-mail: editor@albertapaleo.org)

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

UPCOMING APS MEETINGS

Meetings take place at 7:30 р.м. in Room **B108**, **Mount Royal College:** 4825 Mount Royal Gate SW, Calgary, Alberta.

Friday, April 17, 2009—Robin Cuthbertson and Jordan Mallon, University of Calgary: Reconstructing the jaw mechanics of extinct vertebrates, with a focus on the cranial joints of hadrosaurine dinosaurs (See Page 4).

Friday, May 8, 2009—Kevin Aulenback: What's really out there?
The conifers (Gymnosperms) of the Horseshoe Canyon Formation (See Page 5).

June, July, August, 2009—No meetings: See Field Trips Schedule, Page 8.

ON THE COVER: Our newest T-shirt design, by renowned palaeoartist **Michael Skrepnick!** Shirts are now on sale at the Society's monthly meetings, or contact **Mona Marsovsky** to order: **giftshop@albertapaleo.org**, (403) 547-0182. Shirts are \$20 for members, \$25 for non-members, postage and handling extra. Sizes available are S, M, L and XL. Artwork copyright © 2009 by Michael Skrepnick.

From the Desk of the President

By Dan Quinsey



he Annual General Meeting is upon us and it is time think about elections. It's time to think about what you have done and what you can do for our Society.

I have served on the Board of Directors as Secretary, Vice President, and President for almost ten years now, most

of which has been as President of the Society. Aside from chairing the APAC, Education, Fund Raising, Paleo Rangers, Public Outreach, and Symposium committees, I have also been (or am) involved with the APS Anniversary, APS Book Project, and Social committees.

During the past years, I have written numerous articles for the *Bulletin*; prepared and guided children's field trips, presented workshops; written and presented a biography on Mary Anning to the Society and the Calgary Rock and Lapidary Club (CRLC); represented the Society at schools, libraries, Cubs, Scouts, Girl Guides, Pebble Pups, the CRLC Annual Show, the Geological Survey, the Royal Tyrrell Museum of Palaeontology, and other palaeontological societies in Alberta and the USA. I have participated in APS field trips, presentations, social events, microfossil sorting, the symposium, and the fossil collection and library through numerous donations.

Now, it is time for me to retire. I have kept my plate full with the above duties as well as many other items not listed and would like to step back for a while to let others enrich themselves with service to the Society while I represent you as Past President. I know my replacement will not represent the Society exactly as I did and I do not expect that person to do so. I do know they will feel their way into the position and successfully represent the Society their way, just as I did it my way.

The APS has evolved in numbers, spirit, enthusiasm, dollars, inventory, equipment, and especially camaraderie during the past decade. We are well

known as an elite palaeontological society in many eyes. We have made much progress and have greatly matured along the way. You should be proud of this accomplishment!

I would like to call upon our members to think seriously about what you can do for the Society. Big or small, your contribution is valued. I would like to see members share their expertise by volunteering to present, write, and facilitate. I encourage all members to leap forward and share this experience. It is certainly worthwhile and gratifying.

Service to community is the best work of life!

Thank you,

Dan Odminey

Notice of Annual General Meeting of Members

To the Members of the Alberta Palaeontological Society

Take notice that the Annual General Meeting of the Members of the Alberta Palaeontological Society (hereinafter called the "Society") will be held at Mount Royal College, room B108, on Friday, the 8th day of May, 2009, at the hour of 7:30 P.M. local time to deal with the following business to be brought before the Meeting:

Election of the following Board positions:

- 1. President
- 2. Vice President
- 3. Secretary
- 4. Treasurer
- 5. Program Coordinator

Officers, which include the President, Vice President, Secretary and Treasurer are elected for a term of one year, whereas Directors (Program Coordinator) are elected for a term of two years.

Also on the agenda

- Treasurer's presentation of the Audited Statement of the financial position of the Society.
- Secretary's presentation of the Audited Statement of the books of the Society.

Special resolution—Motion: To accept the proposed amendments to the Bylaws of the Alberta Palaeontological Society, formerly approved by Special Resolution on May 9, 2008 as attached (see "Bylaws Amendment," following).

If you don't have a copy of the Alberta Palaeontological Society Members Information Handbook, you can download it from the APS website: www.albertapaleo.org or call Dan Quinsey at (403) 247-3022 for a copy.

Dated this 26th day of March, 2009, by order of the Board of Directors of the Society, Dan Quinsey, President. □

Bylaws Amendment

This issue of the *Bulletin* includes three attachments regarding the Society Bylaws:

- 1) A copy of the "old" bylaws, as approved by the Membership in May, 2008.
- 2) A copy of the "new" bylaws, with proposed amendments including changes required to satisfy the Alberta Corporate Registry.
 - 3) A document explaining the changes in detail.

The Annual General Meeting is the time to present amendments to the Bylaws. Your attendance is crucial at this meeting and we ask all members to attend if possible.

The first 25 Voting Members who register at this meeting will receive a gift courtesy of Natural Resources Canada.

Greater demands on the Society call for accountability and governance, which has resulted in greater challenges for the Board of Directors. The Board is always looking for ways to improve the Society both externally and internally. To achieve this, we must periodically review our model and improve on it where we can.

Most importantly, we need your support. Our proposed Bylaws, accepted by the Membership at our last Annual General Meeting (May, 2008) had a couple of issues that the Corporate Registry felt we should address. These have been addressed and have been sent to Corporate Registry for prior approval.

The Board will continue to cultivate and develop the Society. We will strive to lead by example.

Thank you for your cooperation.

Dan Quinsey

Upcoming Events

April

Robin Cuthbertson & Jordan Mallon

University of Calgary

Reconstructing the jaw mechanics of extinct vertebrates, with a focus on the cranial joints of hadrosaurine dinosaurs.

Friday, April 17, 2009, 7:30 P.M. Mount Royal College, Room B108

The jaw mechanics of extinct vertebrates, includ-to various parameters associated with the masticatory cycle (e.g., muscle insertions, kinetic limitations of cranial joints, dental microwear, etc.). While we can never be certain of the precise motions exacted by the jaws of any extinct vertebrates during feeding, a holistic approach that combines the above parameters can shed some light on the limitations of motion. Pleurokinesis is a chewing model that has previously been proposed for all ornithopod dinosaurs. In hadrosaurids, for example, this hypothesized mechanism includes vertical adduction of the mandible, lateral displacement of the maxilla, and posterolateral movement of the quadrate. In addition, these primary actions drive a series of linked secondary motions.

In this presentation, the kinetic limitations of hadrosaurine cranial joints are identified and evaluated with respect to accommodation of the primary and secondary motions required by the pleurokinetic model. Based on these observations, pleurokinesis cannot be recreated in the hadrosaurine dinosaurs *Brachylophosaurus canadensis* or *Edmontosaurus regalis*. In contrast, a simplified model, based on a rigid maxilla and a lower jaw exhibiting limited freedom at its mandibular glenoid cannot be rejected.

A preliminary investigation of dental microwear in hadrosaurids is also presented. The microscopic pits and scratches left on teeth as a result of food processing suggest that, in addition to vertical adduction, there was a significant retractive motion of the mandible during feeding. Together, these independent lines of evidence suggest a feeding mechanism adapted to high-fibre herbivory.

Biography

Robin Cuthbertson received his MSc in 2006 from Carleton University (Ottawa) and is currently pursuing his PhD at the University of Calgary. Robin has studied aspects of cranial kinesis in hadrosaurs and is currently investigating the interrelationships of basal ichthyosaurs.

Jordan Mallon is a PhD student at the University of Calgary. He is studying the evolutionary palaeoecology of the herbivorous dinosaurs from Dinosaur Provincial Park in Alberta.

May

Kevin Aulenback

What's really out there? The conifers (Gymnosperms) of the Horseshoe Canyon Formation

Friday, May 8, 2009, 7:30 P.M. Mount Royal College, Room B108

Do we really know the conifers of the Horseshoe Canyon Formation? Based on past records there appears to be nothing new on the horizon, just a repeat of other findings in other formations—or is there? What do these new plants and their morphology tell us about evolution? Is there anything to be learned from collecting plants stuck in rocks?

Come on down to an evening at the APS. Whether



you're just a novice or experienced collector, or just a botany buff, there will be something of interest for all. Grow with botany, make it everlasting with palaeobotany!

Program Summary

Dr. Nick Longrich

University of Calgary

North America's smallest dinosaur: Albertonykus borealis

Friday, February 20, 2009

The Alvarezsauridae are among the most bizarre and puzzling of all dinosaurs. They are small, birdlike dinosaurs with short, stubby forelimbs, gracile hindlimbs, and long jaws filled with needle-like teeth; little is known about the biology of these enigmatic animals.

In 2006, while examining fossils from Dr. Philip Currie's Dry Island *Albertosaurus* bonebed, housed at the Royal Tyrrell Museum of Paleontology, the thumb claw of an alvarezsaurid was discovered. Further examination of the collections eventually resulted in the identification of a dozen bones, from at least two dinosaurs. This animal, *Albertonykus borealis*, is the oldest and most complete alvarezsaur known from North America.

Weighing an estimated 3.6 kg, *Albertonykus* is the smallest dinosaur yet discovered in North America. Although the skeleton is very incomplete, Alberto*nykus* had the same striking proportions found in other alvarezsaurs. The hindlimbs were probably well suited to running, but the short, stubby forelimbs show large muscle attachments for digging. The single, hooklike thumb claw is similar to the claw seen in anteaters, suggesting a similar function. Albertonykus may have ripped open insect nests in search of food. Given that the temperate climate of Late Cretaceous Alberta would not have supported mound-building termites, and given that moundbuilding termites may not have existed in the Cretaceous, it seems likely that Albertonykus preyed on wood-nesting termites. Examination of fossil wood from the Late Cretaceous Horseshoe Canyon Forma-



Albertonykus borealis searches for food. Figure copyright © Nick Longrich.

tion (where *Albertonykus* is found) shows that the wood is often filled with burrows, which may represent termite galleries. It therefore appears that the rise of social insects in the Cretaceous was followed by the evolution of dinosaurs that could exploit these new resources.

Biography

Nick Longrich received his BSc from Princeton in 1998 and his MSc in 2000, from the University of Chicago. He recently earned his PhD in Biological Sciences at the University of Calgary. His studies focus on dinosaurs and fossil birds and he combines art interests to create lively illustrations of these creatures. □

The Spring Rock 'n' Fossil Road Show

Saturday, April 4, 10 A.M. to 5 P.M.

Fish Creek Branch, Calgary Public Library
11161 Bonaventure Drive, SE
(Southeast corner of South Centre Mall)

Eighth British Columbia Paleontological Symposium

May 15-18, 2009

The Vancouver Paleontological Society invites you to submit a poster or abstract for the Eighth British Columbia Paleontological Symposium, to be held at the University of British Columbia, May 15–18, 2009.

This year's keynote speaker will be Dr. Gregory Wilson, a specialist on the evolution and ecology of



early mammals, University of California, Berkeley, Department of Integrative Biology. Continuing the format of past symposia, the meeting will bring together both the professional and vocational

palaeontological community. As well as an engaging line-up of speakers, there will also be field trips, workshops, retail booth and the return of the popular palaeontological art show with juried prizes. While the symposium will highlight fossil mammals, we invite talks, posters and displays showcasing all aspects of palaeontology, with non-academics especially encouraged to contribute.

Deadline for submission of posters and abstracts for publication is **April 30, 2009**. Submission of an abstract is mandatory for speakers and poster displays.

For information, including registration forms (registration fees are charged), see **www.bcfossils.ca**, or contact Heidi Henderson, VanPS President, (604) 615-6903, **fossilhuntress@gmail.com** □

Turtle symposium set for Tyrrell October 17–19



The Gaffney turtle symposium will recognize the contributions of Gene Gaffney to the study of fossil

turtles by bringing together palaeontologists, geologists, and palaeontological enthusiasts to share the results of recent research on fossil turtles. All aspects of turtle evolution, palaeobiology, and palaeoecology will be treated. Technical sessions will be followed by a field trip to Dinosaur Provincial Park. There will be a published abstract volume in conjunction with the symposium. A separate Festchrift volume in honour of Gene Gaffney presenting the results of the symposium, is also planned. The symposium will be held at the Royal Tyrrell Museum, Drumheller, Alberta, Canada, on October 17–18, 2009, with the field trip to Dinosaur Provincial Park on October 19. For more information, visit http://www.tyrrellmuseum.com/events/turtlesympog.php

Manitoba Paleontology Symposium

October 3-4, 2009

The Canadian Fossil Discovery Centre will be hosting the second bi-annual Manitoba Paleontology Symposium (MPS). The MPS will promote the exchange of research between palaeontologists and geologists internationally. Presentations from researchers will be in platform or poster format focusing on related studies to the palaeontology and geology within Manitoba.

The Canadian Fossil Discovery Centre (CFDC) of Morden, Manitoba has the largest collection of marine reptile fossils in Canada. The entire collection has been recovered from the Morden–Miami

area within the province of Manitoba. The collection is a valuable resource in the field of palaeontology. More specifically it is one of the resource centres for research conducted on the Western Interior Seaway of North America.

The symposium will take place at the Recreation Centre in Morden, Manitoba, consisting of lectures with modern technology requirements, catering services, a field trip to the Devonian rocks of Manitoba and a printed abstract volume and promotional material. Researchers are welcome to view the collection before hand. Please contact Anita Janzic or Joseph Hatcher for a scheduled time.

The CFDC is now accepting abstracts and papers

for platform and poster presentations. Platform presentation paper submission deadline is July 29. Poster abstract submission deadline is July 31. Registration and



information is available at www.discoverfossils.com □

RTMP Speaker Series marks Darwin's 200th birthday

Talks (at the Museum, in Drumheller) are about one hour in length and admission is free. See www.tyrrellmuseum.com/events for information. □

Saturday, April 4	2:00 p.m.	Paul Brinkman, North Carolina Museum	Darwin's Use of Vertebrate Fossil Evidence to Develop Natural Selection Model
Wednesday, April 8	11:00 a.m.	Gerald Smith, University of Michigan, Ann Arbor	Tectonic Causes of Fish Species Diversity Patterns
Saturday, April 18	2:00 p.m.	David Weishampel, Johns Hopkins University-School of Medicine, Maryland	What About the Dinosaurs, Charles Darwin?
Saturday, April 25	2:00 p.m.	Ted Daeschler, Academy of Natural Sciences, Penn- sylvania	Great Steps in the History of Life: New Research on the Origin of Limbed Animals
Saturday, May 16	2:00 p.m.	Judith Scotchmoor, University College of Berkeley	Supporting the Teaching of Evolution: a Multi-faceted Approach
Friday, August 7	n/a	Simon Conway Morris, University of Cambridge, United Kingdom	Burgess Shale and the Origin of Multicellular Organisms

2009 Field Trips

By Wayne Braunberger

lanning is well underway for this year's trips. For more information please contact Wayne Braunberger at (403) 278-5154 or by email at **events@albertapaleo.org**. The field trip registration form is included with this issue of the *Bulletin* and is also available on the APS website, **www.albertapaleo.org**. Information will also be available at the monthly meetings.

Please note that all fees are due at the time of registration. Non-members and unaccompanied minors will not be allowed to attend field trips. 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.

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 2009-1, June 27 & 28, 2009 Alberta Badlands

This will be a two day trip to a badlands area. At this time sites to be visited are not confirmed. Areas under consideration include southern Alberta, Drumheller and area, and localities near Dinosaur Park. Further information will be placed on the website and available at the April and May general meetings. If you are interested please contact me and you will receive trip information directly. **The registration deadline is June 5, 2009.**

Trip 2009-2, July 18 & 19, 2009 East-central Alberta

A two day trip to examine sites in the Coronation-Hanna area is planned. There are a number of Bearpaw Formation exposures in the area that will be visited. Further details will be on the website and in the June *Bulletin*. **Registration deadline is July 3, 2009.**

Trip 2009-3, August 15 & 16, 2009 Flathead Valley, British Columbia

This will be a continuation of the trip that was made to the Flathead last year. Further information will be available on the website and in the June *Bulletin*. **The registration deadline is July 31, 2009.**

For the 2009 field trips I will be sending 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 addresses are correct and legible when sending in registration forms. When you arrive at the meeting place please have the forms completed, so less time will be spent on paperwork prior to the trip. All participants are required to have fully completed all waiver and medical forms in order to attend the trip. All personal information is held in confidence and is ultimately destroyed. \square



President Dan Quinsey gave a talk on palaeontology to Grade 3 students of Rosemont Elementary School, February 27. Photo courtesy of Dan Quinsey.

Fossils in the News

Edited by Chris Marion

WiredScience (online) January 27, 2009 ScienceDaily (online) January 28, 2009 National Geographic (online) January 28, 2009

Triceratops battle scars

USA—Injuries to the squamosal bone were found to be 10 times more frequent in *Triceratops* than *Centrosaurus*, suggesting that the *Triceratops*' horns may have been used not only for defense and display but also in battle against individuals of its own species. Andrew Farke of the Raymond M. Alf Museum of Paleontology, along with Ewan Wolff at the University of Wisconsin and Darren Tanke at the Royal Tyrrell Museum, searched museum collections in North America for evidence of injuries to the frills of both genera; their results are based on over 400 observations. The combat injuries appear as small ridges in the bone, and their position is consistent with models of combat in *Triceratops*. The study was published in the journal *PLoS ONE*.

See also: Scars reveal how Triceratops fought http://blog.wired.com/wiredscience/2009/01/ dinofight.html#more; Ancient wounds reveal Triceratops battles http://www.sciencedaily.com/releases/2009/01/090127202044.htm; Triceratops battle scars found on skull http://news.nationalgeographic. com/news/2009/01/photogalleries/triceratops-fossilpictures-show-signs-of-fighting/

ScienceDaily (online) December 3, 2008 BBC News (online) December 3, 2008

New pterosaur species found

ENGLAND—The partial skull of a pterosaur unearthed in Brazil several years ago has been identified as a new toothless pterosaur genus. The largest pterosaur of its kind, with a wingspan estimated at 5 m and an unusually wide skull, it lived 115 million years ago and dwarfed any of the other Chaoyangopterids discoved before. It's the only specimen of this group of toothless pterosaurs discovered outside of China. Mark Witton of the University of Portsmouth, who described the pterosaur and named the new genus Lacusovagus, published his findings in the November 2008 edition of Palaeontology.

See also: New giant toothless pterosaur species discovered http://www.sciencedaily.com/releases

/2008/12/081203084524.htm; *New flying reptile species* found http://news.bbc.co.uk/2/hi/uk_news/england/ hampshire/7763797.stm

ScienceDaily (online) February 4, 2009 CBC News (online) February 4, 2009

Giant prehistoric snake found in **South America**

COLOMBIA—The discovery in northern Colombia of what would have been a 1,100 kg, 13 m long snake points to a much warmer climate for that area 60 million years ago. Vertebrae and ribs of 28 individuals of Titanoboa cerrejonensis were found in an openpit coal mine alongside skeletons of giant turtles and extinct primitive crocodile relatives. The maximum size of living snakes is proportional to the average temperature of their environment, leading the authors of the study published in *Nature* to estimate the mean annual temperature of the area during the Paleocene to be six degrees Celsius warmer than now.

See also: At 2,500 pounds and 43 feet, prehistoric snake is largest on record http://www.sciencedaily. com/releases/2009/02/090204112217.htm; Ancient snake's massive size points to extra hot jungle: study http://www.cbc.ca/technology/story/2009/02/04/ tech-giant-snake.html

University of Rochester February 1, 2009

New turtle fossil sheds light on warm pole

AXEL HEIBERG ISLAND—The discovery in 2006 of the fossil of a tropical, freshwater, Asian turtle in the Canadian arctic suggests that animals could have migrated to North America directly across unusually fresh surface waters floating atop the Arctic ocean during extremely warm, ice-free conditions around the pole. The turtle is very similar to a freshwater species from Mongolia, but was not brought to those polar latitudes by tectonic activity; rather it was native to the area, and was found on top of basalts from giant volcanic eruptions that may have contributed to the polar heat. The 90-million-year-old turtle was named Aurorachelys by collaborators John Tarduno of the University of Rochester and **Don Brinkman** of the Royal Tyrrell Museum, who published their find in the journal *Geology*.

See: Ancient turtle migrated from Asia to America over a tropical arctic http://www.rochester.edu/ news/show.php?id=3311

CBC News (online) February 18, 2009 Page Museum February 18, 2009

More Ice Age fossils from the tar pits

LOS ANGELES—Sixteen new fossil deposits discovered in 2006 under a parking lot near the La Brea Tar Pits have yielded a collection of Ice Age mammals that could double the Page Museum's Ice Age collection. Dubbed "Project 23" for the twenty-three blocks weighing between 3 and 56 t removed from the site and now being prepared at the Page Museum, it is the largest excavation ever undertaken at Rancho La Brea, and is expected to contribute to research on many topics including global warming and biodiversity. The 10,000 to 40,000-year-old sticky asphalt preserved the skull of an American lion, bones of sabre-tooth cats, dire wolves, lions, horses, bison, coyotes, lynx, and ground sloths, as well as turtles, snails, molluscs, insects, tree trunks and leaf mats, providing a wealth of biodiversity and environmental data.

Zed, an 80-percent complete Colombian mammoth with arthritic joints, broken and re-healed ribs and 3 m tusks was also unearthed from an ancient riverbed nearby.

Find out more and view pictures of the fossils at http://www.tarpits.org/project23/

See also: Major find of Ice Age fossils unearthed in Los Angeles http://www.cbc.ca/technology/story/2009/02/18/fossil-mammoth.html

National Geographic News (online) November 26, 2009 BBC News (online) November 26, 2009 ScienceDaily (online) November 27, 2009

Evolution of the turtle's shell

CHINA—Fossils of a 220-million-year-old turtle are helping solve the mystery of the evolution of the turtle's shell. *Odontochelys semitestacea*, discovered in China and described in the journal *Nature*, did not have a full shell nor osteoderms on its back but did have a fully developed plastron covering its belly. It is also the first turtle known to have teeth instead of a beak.

Modern turtle embryos develop a plastron before the shell covering their back grows; similarly this turtle seems to show that breast plates developed earlier than the rest of the shell, growing from bony extensions of the ribs and backbone that eventually joined to form a carapace.

See also: oldest turtle found; may crack shell-

evolution mystery http://news.nationalgeographic.com/news/2008/11/081126-oldest-turtle.html; How the turtle's shell evolved http://news.bbc.co.uk/2/hi/science/nature/7748280.stm; How did turtles get their shells? Oldest known turtle fossil, 220 million years old, gives clues http://www.sciencedaily.com/releas-es/2008/11/081126133307.htm

CBC News (online) January 7, 2009

More jewels in DPP's crown

ALBERTA—Dinosaur Provincial Park (DPP) has been named Canada's official entry in the contest for the New Seven Wonders of Nature. Votes for the 77 semifinalists can be cast until July 7, 2009. The contest, ran by the non-profit, Swiss-based foundation New 7 Wonders, will choose the top natural wonders by 2011 and follows a similar contest in 2007 to name seven new man-made wonders.

DPP is a UNESCO World Heritage Site, and contains some of the world's richest fossil beds. The other Canadian nominees were Newfoundland's Gros Morne National Park, the Bay of Fundy, Quebec's Rocher Percé and Ontario's Long Point Sand Spit. Canada also has two other entrants that cross national borders with the United States—Niagara Falls and Lake Superior—that are moving onto the next phase of the contest.

See: Alberta's Dinosaur Provincial Park advances in 7 Wonders contest http://www.cbc.ca/technology/story/2009/01/07/wonders-natural.html

[Thanks to Georgia Hoffman, Phil Benham, and Keith Mychaluk for providing links.]

More Fossils in the News!

Check the internet for these stories:

"Bizarre" new dinosaur: Giant raptor found in Argentina http://news.nationalgeographic.com/news/2008/12/081217-new-raptor-missions.html

Chinese scientists claim discovery of Earth's largest dinosaur fossil site http://www.cbc.ca/technology/story/2008/12/30/china-fossils.html

China finds major dinosaur site http://news.bbc.co.uk/go/em/fr/-/2/hi/asia-pacific/7806062.stm

New species of prehistoric creatures discovered in Isle of Wight mud http://www.sciencedaily.com/releases/2009/02/090209075822.htm

New species of prehistoric giants discovered in the Sahara http://www.sciencedaily.com/releases/2008/12/081216114750.htm

Early whales gave birth on land, fossil find reveals http://www.sciencedaily.com/releases/2009/02/090204085133.htm

Ancient turtle discovered on Skye http://news.bbc.co.uk/2/hi/science/nature/7736786.stm

Brainy birds out-thought doomed dinosaurs? http://news.nationalgeographic.com/news/2009/02/090202-big-bird-brains.html

Birds survived mass extinction that wiped out dinosaurs because of their larger brains http://www.sciencedaily.com/releases/2009/01/090127165505.htm

Dinosaurs were airheads, CT scans reveal http://www.sciencedaily.com/releases/2008/12/081208114300.htm

Fossil shows polar bears may have lived through warmer times: study http://www.cbc.ca/technology/story/2009/02/04/pbear-fossil.html

Mammoth genome decoded—clones on the way? http://news.nationalgeographic.com/news/2008/11/081119-mammoth-DNA.html

Extinct mammoth DNA decoded http://news.bbc.co.uk/go/em/fr/-/2/hi/science/nature/4535190.stm

Big cat fossil found in North Sea http://news.bbc.co.uk/2/hi/science/nature/7735544.stm

Origin of jawed vertebrates: Prehistoric fish provides new piece in evolution's jigsaw puzzle http://www.sciencedaily.com/releases/2009/01/090115103808.htm

"Alien" atmosphere helped unfreeze early
Earth http://news.nationalgeographic.com/
news/2009/01/090113-alien-earth-frozen.html

"Nanodiamond" find supports comet extinction theory http://news.nationalgeographic.com/news/2009/01/090105-nanodiamonds.html

Mammoth-killing comet questioned http://news.bbc.co.uk/2/hi/science/nature/7854348.stm

Study: Diamonds link comet to mammal extinction http://www.cnn.com/2009/TECH/science/01/02/comet.diamonds/index.html

Ancient cheetah fossil points to old world roots? http://news.nationalgeographic.com/news/2008/12/081229-cheetah-skull.html

Dinosaur dads played "Mr. Mom"? http://news.nationalgeographic.com/news/2008/12/081218-dinosaur-dads.html

Oldest spider web found in amber http://news. nationalgeographic.com/news/2008/12/081216oldest-web-photo.html; and http://www.ctv.ca/ servlet/ArticleNews/story/CTVNews/20081215/spider_web_081215/20081215?hub=SciTech

Climate change wiped out cave bears 13 millennia earlier than thought http://www.sciencedaily.com/releases/2008/11/081125203143.htm

Mistaken identity leads researchers to two new extinct species of coral http://www.sciencedaily.com/releas-es/2008/12/081208114304.htm

Humans 80,000 years older than previously thought? http://news.nationalgeographic.com/news/2008/12/081203-homo-sapien-missions.html

Oldest human hair found in hyena poop fossil? http://news.nationalgeographic.com/news/2009/02/ 090206-oldest-hair-hyenas.html

Early human had "nutcracker" jaws http://news. nationalgeographic.com/news/2009/02/090202nutcracker-jaws.html

Fossil linked to claw evolution http://news.nationalgeographic.com/news/2009/02/090205-great-appendage-picture.html

Researchers find earliest evidence of animal life http://www.cbc.ca/technology/story/2009/02/05/spongesold.html

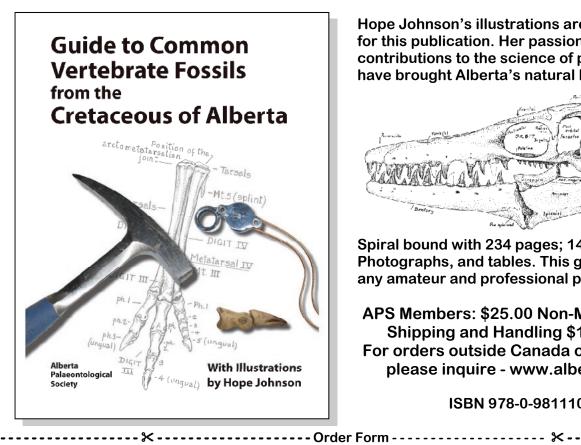
Earliest animals were sea sponges, fossils hint http://news.nationalgeographic.com/news/2009/02/090204-oldest-animals.html

www.albertapaleo.org

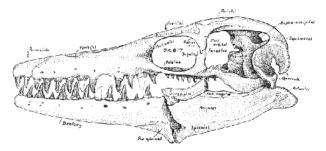
The Alberta Palaeontological Society **Proudly Presents**

A Guide to Common Vertebrate Fossils from the Cretaceous of Alberta. Assembled by the Alberta Palaeontological Society (APS) with illustrations by naturalist Hope Johnson; Foreword by Dr. Donald Brinkman, Director of Preservation and Research, Royal Tyrrell Museum of Palaeontology.

Contents include: Geology of the Vertebrate Fossil Bearing Formations in Alberta; Collecting Regulations; Curation; Skeleton Terminology; Fishes; Amphibians; Turtles; Champsosaurs; Crocodiles; Lizards; Mosasaurs; Plesiosaurs; Tyrannosaurids; Ornithomimids; Hadrosaurs; Ceratopsians; Ankylosaurs; Pachycephalosaurs; Mammals; Index; and much more.



Hope Johnson's illustrations are the inspiration for this publication. Her passion for nature and contributions to the science of palaeontology have brought Alberta's natural history to life.



Spiral bound with 234 pages; 144 illustrations, Photographs, and tables. This guide is a must for any amateur and professional palaeontologist.

APS Members: \$25.00 Non-Members: \$30.00 Shipping and Handling \$15.00 Canada For orders outside Canada or quantity rates, please inquire - www.albertapaleo.org

ISBN 978-0-9811101-0-3

	Gι	ıide	to	Common	Vertebrate	e Fossils	from the	Cretaceous	of Alberta
--	----	------	----	--------	-------------------	-----------	----------	------------	------------

Send your prepaid order to:

Alberta Palaeontological Society PO Box 35111 Sarcee Postal Outlet Calgary, Alberta, Canada T3E 7C7

Please allow 4-6 weeks for delivery.

Name	
Address	
Province / State	
Postal / Zip Code	
E-mail	

- ☐ I would like to inquire about an order outside Canada or quantity purchase.
- ☐ (Canada) I am an APS Member, please send me one copy @ \$25.00
- ☐ (Canada) I am **NOT** an APS Member, please send me one copy @ \$30.00
- ☐ (Canada) Shipping and Handling for one copy (add \$15.00)

Total Enclosed \$

Please make Cheque or Money Order payable in Canadian Funds to the Alberta Palaeontological Society