



ALBERTA

PALAEOONTOLOGICAL

SOCIETY

BULLETIN

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ALBERTA PALAEOLOGICAL SOCIETY

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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) Preserve 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

Single membership	\$10.00 annually
Family or institution	\$15.00 annually

THE BULLETIN WILL BE PUBLISHED QUARTERLY: March 1, June 1, September 1, and December 1, annually

DEADLINE FOR SUBMITTING MATERIAL FOR PUBLICATION IS THE 15th OF THE MONTH PRIOR TO PUBLICATION

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BULLETIN BACK ISSUES: Back issues of the Bulletin are available at \$2.00 per copy. A limited number are available.

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.

PRESIDENT'S MESSAGE

Percy Strong

What are we doing this year? Good question at this point in time! What we do depends entirely in what you, the membership are interested in and more importantly, what are you willing to contribute to organize the programs.

As in past years our guest speakers will form the backbone of our meetings. This year Mount Royal College has given us several opportunities to enhance these talks. Mount Royal College has made available a larger room (B108) for our monthly meetings. The College has also offered financial support, to enable us to bring in out-of-town speakers, advertising to promote these talks, and a lecture amphitheater to put them in. This will be a great help to us in presenting a varied, quality program and increasing our exposure to the general public.

The contributions of Mount Royal College to our Society are greatly appreciated. You can augment them by making suggestions as to the types of talks you would like to hear as well as suggesting speakers that you may know of.

Something new, this year, that I feel will be of interest is our educational program. We are working to organize a series of courses dealing with everything from basic palaeontology to organizing a collection. Here your input is crucial as we need to know if you want this sort of thing, how much time would you devote to it, and can you contribute by teaching a special interest you have.

The Society needs contributions in many areas. They range from taking care of coffee to being Vice-president. As I have said before, we cannot rely on the same people to do everything. The Society needs "new-blood" and your feedback to maintain its health. Please keep this in mind as we start our new slate of meetings.

MEETINGS

Meetings will be held at Mount Royal College at 7:30pm on the third Friday of the month. The room will be **B108**. This is a new room. The meeting dates are:

September 21, 1990	January 18, 1991
October 19	February 15
November 23	March 15
December 14	April 19
	May 24

FIELD TRIPS

During the past summer the Society held three field trips. Reports follow on the June and July trips.

Southern Alberta; June 16 and 17, 1990

Wayne Braunberger

We assembled at the Milk River campground on Saturday morning and proceeded (about 40 miles east) to the Pinhorn Grazing Preserve. On the way the group stopped at Black Butte, an igneous rock body associated with the Sweetgrass Hills.

The group explored one of the coulees that is connected to the Milk River. This area is classic shortgrass prairie, home to antelope, jack rabbits, gophers, and rattlesnakes. Both prickly pear and ball cactus were numerous. The day was hot and dry with few clouds. In the late afternoon a number of small thunder showers moved through the area, cooling everything down.

Most of the material found was small: garpike scales, pieces of scutes, fragments of teeth, and numerous gastropods and bivalves. Some of the bivalves were quite large. Later that evening a show and tell was held at the campground.

On Sunday we met at the campground again. We then made a short tour of the new visitors center, pausing to take some group photographs with the Albertosaurus. From here we travelled to Lawrence and Marge Halmrast's farm. Lawrence and Marge gave us a tour which included numerous fossil specimens that Lawrence has collected over the years. Ammonites, dinosaur bones, and other fossils were seen. Lawrence also has an outstanding U.S. civil war gun collection. After the tour we then proceeded to Devils Coulee for a tour of the egg site. A field crew from the Tyrrell Museum was working at the time.

From the egg site the group went a short distance north to the edge of the Milk River Ridge Reservoir. Along the south shore numerous dinosaur bones are washing out of the bank. Lawrence collected most of his bones here in past years. This was the last stop of the trip and from here we all drove back to Calgary. Thanks to Harvey Negrich and Lawrence and Marge Halmrast for organizing the trip.

Canyon Creek; July 21, 1990

Wayne Braunberger

This trip was led by Dr. Dave Mundy. The main purpose of the trip was to show how some knowledge of the geology can aid in fossil collecting. At the various stops on the trip Dave showed how a knowledge of the geology can prevent a frustrating search for non-existent fossils. He also showed how to tell if fossils had been transported or were in place, giving a means of predicting the quality of material that could be found.

The Canyon Creek area is ideally suited to illustrate these relations between fossils and deposition as a complete section of Mississippian rocks (Banff to Mount Head) can be seen. At each stop the environment and type of fossils present were pointed out. By walking through the sequence of rocks it could be clearly seen which environments were fossiliferous and which were not.

The relationship between fossils, rock type, and depositional environment is one that is perhaps neglected to some extent by both palaeontologists and geologists. This trip showed how they are related and that some information about the depositional environment can help to predict whether there will be any fossils present and vice-versa, how the fossils present can help to determine depositional environment.

This trip was well attended, probably due to the nearness to Calgary and it being a one day trip. A sunny warm day didn't hurt either. A good learning experience was presented by Dave. Thanks to Dave for taking the time to put together the trip and lead it.

ARTICLE REVIEW

Les Adler

"Archaeopteryx" by Peter Wellnhofer in Scientific American, May 1990, pp 70-77

Dr. Wellnhofer specializes in the study of fossil birds and fossil flying reptiles. This article consists of a long technical description accompanied by many photos and illustrations. You can understand the content better by first studying all illustrations.

Six fossil skeletons and one lone feather have been found, all from the Later Jurassic Solnhofen Limestone in S.E. West Germany and have been stored in Germany, U.K. and the U.S.A. Most of the specimens were originally wrongly identified and reidentified from 1860 to 1970. These specimens have caused heated arguments, ruined careers, and led to furores over the problems of identification and the wrath of anti-evolutionists. Each specimen is here illustrated so that you can see what the problems are.

Drawings of skeletons of Compsognathus, (a dinosaur), Archaeopteryx - a reptile like bird, and Gallus, (a chicken) are presented to show which avian features evolved from reptilian ones so that flight became possible. Because of the grain and hardness of this limestone the structures of the features can be seen to be virtually identical to the feathers of modern birds. The problems of flight are discussed and also that the reptilian features indicate that all specimens are of the one species. The claws indicate that Archaeopteryx could have ascended trees in preparation for flight or to find food, mates, or shelter.

A skeleton of an early Cretaceous bird at Las Hoyas, Spain, age 125 million years, like that of Archaeopteryx, illustrates that the early evolution of birds was strongly influenced by the physical requirements of flight. Chatterjee of Texas has yet to present evidence of why Protavis (Triassic) is a bird.

As Adolf Portmann, a Swiss zoologist states, regarding these fossils: "They are documents without which the idea of evolution would not be as powerful".

In addition, references for further reading are provided.
