# THE MINERAL VEIN

*Official Newsletter of*

**THE MINERAL SOCIETY OF MANITOBA**

**June 2018**


## Devonian stratigraphy of the Winnipegossis formation

By Kathryn Lapenskie

Our guest speaker in May was Kathryn Lapenskie, Industrial and Specialty Minerals Geologist, in the Mineral Resources department, for the Manitoba Geological Survey. She talked about Devonian Stratigraphy and the well preserved fossils, found in the Winnipegosis area.

*Devonian rocks in Manitoba* outcrop Throughout the Interlake region, most notably in quarries and along lake shores. These rocks were deposited some 380 million years in a shallow, tropical marine sea that covered the interior of North America during this time. Devonian rocks contain a rich and diverse assemblage of fossils and provide a record of massive reef development during this time period.

*In southwestern Manitoba*, most of the surficial geology is composed of a thick package of sedimentary rocks, often covered by quaternary sediments. These rocks are composed of carbonates (limestone, dolostone), sandstones, shales, and evaporites (i.e. gypsum, anhydrite).

*The Devonian Pe*riod lasted from 420 to 360 million years ago, and was characterized as a period of warm, arid climatic conditions and high global sea levels. Continents were mostly spread out around the equator and southern hemisphere. During the Devonian, marine environments contained a rich and diverse assemblage of life – prolific reef development was occurring in tropical regions and the earliest, primitive fishes were evolving and dominating the seas (Figure 1).

Kathryn Lapenskie holding a Devonian fossil

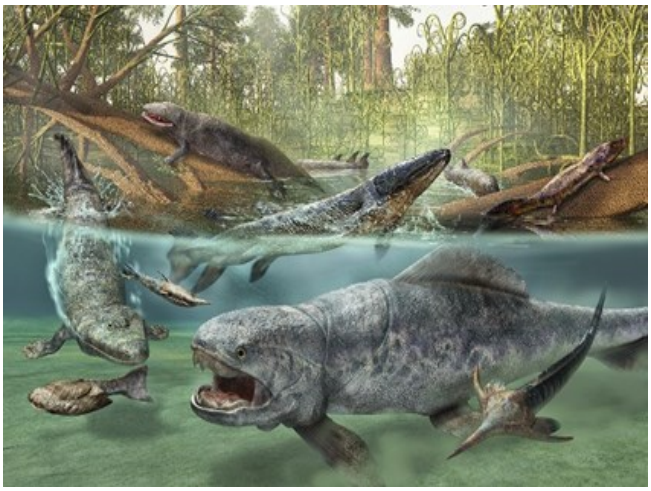

*Figure 1: Artists rendition of life during the Devonian Period*

**(Continued on page 3)**

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***The Mineral Vein*** is published monthly from September to June.

**Meetings** are held on the first Wednesday of each month from September to May inclusive at the Manitoba Museum in room P47 on the Planetarium level. They begin at 7:30 PM and feature announcements, an invited speaker and a raffle. Members are encouraged to bring along any new, interesting specimens, or specimens appropriate to the speaker's topic.

**Field Trips** take place from May to September to interesting sites in Manitoba or neighbouring provinces and states.

**Membership:** A single membership is $15 while a family membership is $20. Memberships run from October to October.

## Table of Contents



## UPCOMING EVENTS

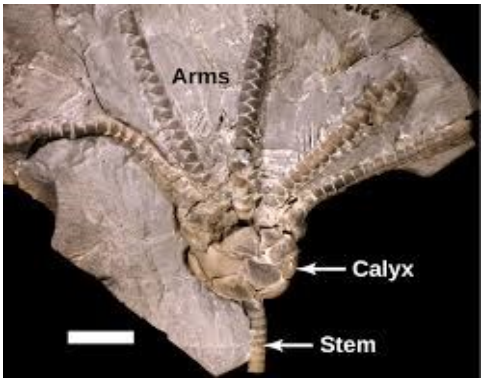
# Steep Rock Field Trip

Please confirm with Jack Bauer that you are attending, camping and hotel rooms are filling up quickly, we wouldn't want any one to miss out.

Steep Rock has various types of fossils that we can find. We will be exploring the Elm point Formation which is very fossiliferous and exposed in the area. Crinoid stems are a common fossil that are found in the lower Devonian, but occasionally you will find Brachiopods, Bryozoan pieces, Barite and marcasite crystals.

# Gillis Quarry

Is a field trip we will do again, sometime in the summer/fall when our schedules free up. If you are interested in participating in this trip, Please contact:
*Danial McKay @204-510-2443*
*Jack Bauer @ 204-632-6934.*




*Crinoid stem on matrix*

Founded in 1971, the Mineral Society of Manitoba is dedicated to promoting the study of minerals, rocks and fossils for their scientific and recreational value.
The Mineral Society of Manitoba hosts monthly meetings covering a variety of mineral related topics.
In addition, the Mineral Society organizes summer field trips to collecting localities, and hosts educational exhibits about minerals and fossils.

## MAY PRESENTATION SUMMARY (CONT.)

Life on land was just beginning to take hold, with terrestrial environments composed of insects and possibly the first amphibians. A major extinction event occurred in the Late Devonian, which had a drastic impact on marine environments.

Devonian rocks in Manitoba record part of this amazing period of time. All these rocks were deposited exclusively in marine environments, and common fossils found in these rocks include brachiopods, bryozoans, trilobites, ammonites, crinoids, and placoderms.

### Brachiopods

These invertebrate animals are characterized by having two shells enclosing a small, soft body. Each valve is bilaterally symmetrical, and the valves themselves can be ornamented in a variety of ways (Figure 2). They superficially resemble

*Figure 2: Example of Devonian brachiopod.*

### Bryozoans

These colonial animals look similar to a coral, but are not related to them. They are commonly referred to as "moss animals", and are important reef builders. The entire colony, referred to as the zoarium, are covered in very small holes or tubes where individual polyps called zooids resided.

### Corals

These can be either colonial or solitary animals, and are actually related to jellyfish. These can be easily differentiated from bryozoans by the size of the corallites, which are the small tubules that comprise an entire colony (Figure 3).

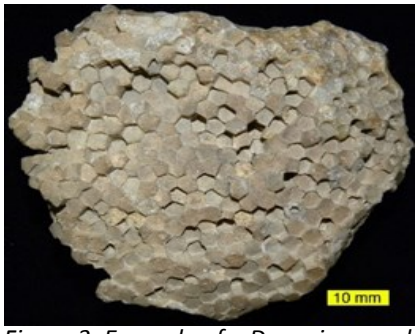



*Figure 3: Example of a Devonian coral.*

### Trilobites

These extinct bug-like animals used to be prolific during the Paleozoic Era. They are related to other arthropods, such as crustaceans and insects. Most trilobites lived on the bottom of the ocean, and occupied a variety of environments from near shore to deep, offshore.

### Ammonites

These are type of mollusk that are related to cephalopods and squids. They first evolved in the Devonian and are characterized as having a coiled shell that is subdivided into smaller chambers by septa.

### Crinoids

These "sea lilies" may look like a flower, but they are actually an invertebrate animal. They typically lived at the bottom of the ocean, and had a stem composed of fossils capped with a crown with feathery arms extending into the water column. Most crinoids disarticulate or fall apart when they die and are often only observed as individual fossils or calcite plates (Figure 4).

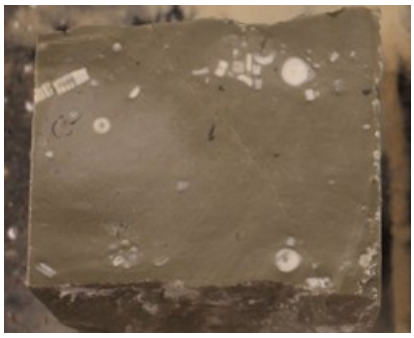


*Figure 4: Example of disarticulated crinoid plates in Manitoba Devonian rock.*

## MAY PRESENTATION SUMMARY (CONT.)

**Placoderms**

These extinct, jawed fish were one of the first apex predators to exist on Earth. These massive fishes could attain sizes of up to 10 meters long, and had large, sharp bony plates lining their jaws that they used to crush and tear up prey. Look for dark-brown to black bony plates embedded in limestone or dolostone (Figure 5).

*Figure 5: Example of placoderm from Manitoba Devonian rocks.*

**The MSM BBQ** on June 3 was a successful event with 30 members out to enjoy the nice day. The Stone wall Quarry facility had plenty of room and a nice BBQ to cook on.

A big Thank you to all the members who brought such a beautiful variety of specimens to trade. It was nice to see all the different minerals that were collected by our members. Everyone who came out brought some really tasty desserts to go with the burgers and hotdogs., thank you for helping to organize such a popular fun event.

Members admiring minerals at the BBQ

## FIELD TRIPS INFORMATION

By Jack Bauer

### Steep Rock Quarry, Field trip

*Friday July 20 to Sunday July 22nd, 2018*

We hope to visit the old Steep Rock Quarry, which is part the Elm Point Formation and also visit the Faulkner Quarry and others out crops in the area.

**Option#1**

**Camping is available**, at the Steep Rock Beach campground, which is said to be one of the nicest campgrounds in Manitoba. Campsites have electricity with washrooms, showers and a store within the campground.

**Option #2**

**The new Moosehorn Hotel**, on HWY # 6, Approximately 23 km from the Steep Rock camp ground.
*Single rooms* w/2 queen beds for $100 plus tax for $113 total
*Kitchenette suite* W/2 queen beds for; $150+tax.
*Contact:* Call Maleny @ 1-204-768-6843

**Steep Rock Beach Camp ground** will be considered home base, we will get together on Friday July 20th in the evening to discuss plans for the field trip on Saturday morning.
For travel arrangements and to confirm your attendance to Steep Rock coordinate with:

**Jack Bauer @ 204-632-6934**

*Crinoid specimen on matrix*