



# THE MINERAL VEIN

## THE MINERAL SOCIETY OF MANITOBA NEWSLETTER

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The Mineral Society of  
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### Society News

Dues are \$10/year (\$15 for families) and are payable at the October meeting or by mail during October.

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 draw. 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, neighboring provinces and states.

### **Our next meeting is Wednesday, September 6, 2006.**

We will have the pleasure of Chris Lammers giving a presentation on Fluorites. This will be a show and tell featuring her collection of fluorites from around the world.

**October 4 meeting**, elections for the executive, will be held. It is time for all good

mineral and rock hounds to step up and serve

Illness, exhaustion and burnout is taking its toll on the existing executive. Even one of the editors suffered a heart attack and has not been able to participate in events.

Since the editors haven't been able to attend field trips, could people who did give a report? What marvels were found or seen, what was the weather like, how many went? Hey guys share the info.

### The May 3 Meeting

Our last meeting was held on May 3ed. We had the good fortune to have John Biczok give a presentation on "Rockhounding in Tanzania" He has generously provided us with a written version of his presentation. It is reproduced here for all of us to purview and enjoy.

Many thanks John. We wish we could have attended.  
MF & MT

# **A ROCKHOUND'S TRAVELS IN TANZANIA**

by  
**John Biczok**

The world's strangest volcano that spews white lava with the composition of limestone, the crater of an enormous extinct volcano that is now home to one Africa's greatest game preserves, and the "Birth Place of Mankind". These are just a few of the marvels that one can see within a few days of traveling in Tanzania and this East African gem was the subject of my presentation to the May meeting of the Mineral Society.

In late May 2005 I was fortunate to participate in a tour of 3 gold mines in western Tanzania organized by my employer, Place Dome. The Tanzanian mining industry has really blossomed in the last decade as western companies have been allowed in to explore for, and develop, new mines. There is still tremendous potential for more discoveries here and along with tourism, mining provides one of the few bright spots in an otherwise struggling economy. Once our mine tours were finished, a colleague and I took off on a one-week "trip of a lifetime" to explore the wonders of northern Tanzania.

There are few countries in the world where one can see the effects of geological forces, particularly plate tectonics, so vividly as in Tanzania. After departing from the city of Arusha by jeep, our first stop was at Lake Manyara, a wildlife preserve centered on a saline lake within the East African Rift Zone. The eastern edge of the rift is a steep cliff several hundred meters high that stretches for hundreds of kilometers marking the rupture where the forces of plate tectonics are attempting to break Africa apart into two unequal halves. To most tourists, Lake Manyara Park is best known for its tree-dwelling lions (as if they're not scary enough on the ground), but to a geologist or most rockhounds, sitting in the garden of your hotel perched on the edge of the cliff sipping a cold beer and gazing out along the rift zone is a site never to be forgotten.

Next up was a drive to the top of Ngorongoro, an enormous extinct volcano topped by a 20km wide and 600m deep crater (a caldera actually and the 6<sup>th</sup> largest in the world). The sides of the volcano are largely covered in lush jungle but the crater floor is a grassland which is home to thousands of zebras, gazelles and wildebeests, plus small groups of lions, black rhinos, ostriches, elephants, hippos, cheetahs and various monkeys renowned for their ability to scurry inside one's jeep and steal your lunch in the blink of an eye. Several very fine lodges sit on the lip of the very steep-sided crater and provide more spectacular views. Local anthropologists speculate that the enormous eruptions that led to the formation of this crater beginning about 2.5 million years ago disrupted the local water cycle (as well as raining down ash over thousands of square km) and forced our human ancestors to move out of the jungle and onto the savannah, drastically altering the course of human evolution. A short drive to the west of Ngorongoro indeed brought us to "the Birthplace of Mankind" – Olduvai Gorge. The "gorge" is a series of usually dry river and stream beds that in the rainy seasons have cut their way down through several million years of accumulated volcanic ash and sedimentary layers. It was here in 1959 that Mary and Louis Leakey first discovered the fossil remains of *Australopithecus Bosei* and followed this in short order by finding *Homo Erectus* and *Homo Habilis*, the earliest known ancestor of modern humans. Simple small concrete monuments and a brass plaque now mark the discovery sites but one cannot help but feel humbled to stand on the same ground as our ancestors did 1.6 million years ago. The Leakey camp still stands and is used by two groups that are still exploring the site for a few months each year.

Our final stop and something that I personally have wanted to see since learning of it in university too many years ago, was the carbonatite volcano – Oldonyo Lengai. In the local language the name means

“Mountain of God”, a reference to the long white lava flows draped over the sides which the locals imagine to resemble God’s beard. Carbonatites are perhaps nature’s most unusual igneous rocks, composed of various calcium, sodium or magnesium carbonates (therefore similar to limestone or dolomite). They are generated in the upper mantle and tapped by only the deepest faults through the Earth’s crust, typically in rift zones. Oldonyo Lengai is the only known volcano that erupts carbonatite lavas and due to its low viscosity, the lava forms very steep sided spatter cones (known as hornitos) scattered across the crater floor. To escape the stifling daytime heat of Tanzania, we started climbing this 9,300 ft mountain at midnight and reached the top at sunrise 5 hours later. The climb is arduous to say the least, there is no path for most of the way and the last part is over very rough lava surfaces. All of this is forgiven, however, when one comes over the lip of the crater and gazes for the first time on the white floor of the crater filled with recent carbonatite flows and studded with impossibly steep-sided white cones tens of meters high. Sulphurous fumes emanate from some of the spatter cones as well as several vents in the crater floor and the charred remains of a small bush attested to the eruption of a flow less than five days earlier. I could have gladly spent the entire day exploring this marvel but knowing how hot it would be the time we reached the bottom again our guides soon hurried us along and back down the volcano.

Tanzania has many other geological attractions that we did have time to see including the tanzanite mines not too far from the airport at Arusha (aka Kilimanjaro Airport) and Mt. Kilimanjaro itself, the highest peak in Africa and another volcano. There are dozens of extinct volcanoes along the rift valley and fabled lakes such as Lake Tanganyika and Nyassa in the west and the island of Zanzibar in the east still to explore. Hopefully one day our “trip of a lifetime” will have a second chapter.



The crater at the top of the Oldonyo Lengai volcano, filled with white carbonatite lava flows and spatter cones.



Olduvai Gorge, “The Birthplace of Mankind”. The small monument in the centre marks the spot where Mary Leakey discovered the remains of

*Australo*

*pithecus Boisei* in 1959.



Looking over the edge of the Ngorongoro Crater. The crater floor is now home to 25,000 animals and the eruption of this enormous volcano may have had a profound effect on human evolution.