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Winnicentrics

The Journal of the Winnipeg Centre of the Royal Astronomical Society of Canada

The Most Magical Galileo Moment that I have had this year was on Astronomy Day. In the evening we were too tired to go out to Bird's Hill Park, so I dragged my 10" Dob out onto our roof deck in the North End of Winnipeg. My 8yr old grandson Ethan and I set up and looked at the Moon and Saturn. The moment came when my little 14 month old grandson Graham came up. He has never been on the deck before and never looked through a telescope so the experience was new for him, you could call it his first light. He comes out and looks up and sees the Moon.

"Oon" he says, pointing up into the sky. That's a good start I think, wonder if he can correlate this through the eyepiece.

We lift him up so that he can look. We know that he is seeing something because the Moon's image is projected on his eye. Then after about 20 seconds we lift him away. At that moment he says "WOW!" points back up at the Moon and says "WOW!" again. Another look through the eyepiece and this time he says "Oon" so we know he has related the object in the sky to the object he has just seen.

Another astronomer is born. He goes back downstairs to go to bed and his Grandma asks him if he saw the Moon. He runs to the window, pulls the curtain back, points up into the sky and says "Oon".

Guy Westcott

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MEETINGS

Robert B. Schultz Theatre. St.John's College,
University of Manitoba Fort Garry Campus

Friday July 10

7:00-7:30 Beginner's session: Topic TBA
7:30-7:40 Welcome and Announcements: Peter Toth
7:40 – 7:50 Constellation of the Month – Bootes: Gail Wise
7:50-8:00 Explore the Universe with Stan Runge
8:00-8:10 What's up: Jay Anderson
8:10-8:30 What's New: Jennifer West
8:30-9:00 Refreshment Break
9:00-9:50 Guest Speaker: TBA

Friday August 14

7:00-7:30 Beginner's session: Topic TBA
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News in a minute . . .

Marni Dangerfield received an award from Fort Whyte Alive for setting up the "Dinner and a Show" IYA event on February 28.
Way to go, Marni!

Scott and Jocelyn Young are expecting another baby in January!

The Saturday after our Spruce Woods Star Party will be our annual Public Event at the campground. If you can bring a telescope or just your enthusiasm, talk to Sandy, Tim, Marni or Gail.

July 16 - Oak Hammock Marsh Astronomy Night - "The Sun". Contact Ron Berard or Jacques Bourgeois for more info or to volunteer .

Also coming up -- the 40th anniversary of the launch of the Apollo 11 mission to the Moon!

It's so easy being green – how can the Winnipeg Centre do better? Tell Gail your ideas. Let's start with bringing your own coffee cup (with a lid if possible) to the meetings.

We have 7 new members!

Patrick Morrow, Winnipeg

Patricia Jaworski, Winnipeg

D. V. Norberg, Sanford

Benson Guest, Winnipeg

Emmanuel Abril, Winnipeg

Glenn Howell, Winnipeg

Welcome to our Club!

The Winnipeg Centre Executive Council

President
Peter Toth 757-9300
peter_toth@pcs.mb.ca
1st Vice-President
Kris Keller 667-5540
keller1@mts.net
Past-President
Ron Berard 668-6551
rcberard@gmail.com
Secretary
Jay Anderson 474-1485
jander@cc.umanitoba.ca
Treasurer
Mike Stephens 832-0485
mikestephens@shaw.ca
Councilors
Marlene Wallace 999-7423
mtlwallace@hotmail.com
Kevin Black 224-0182
cblack@shaw.ca
Ralph Croning 885-4326
rcroning@mts.net
Roger Todd 275-2059
rogertodd@shaw.ca
Gail Wise 253-8297
wgail@mts.net
Appointed Positions
Librarian
Fred Wood 774-3238
fred_wood@shaw.ca
Observatory Director
Ray Andrejowich 667-6896
saturn3@shaw.ca
Observatory Bookings
Kevin Black 224-0182
cblack@shaw.ca
Webmaster
Paul Trudel 866-4394
ptrudel@trudel-networks.com
National Rep
Mike Stephens 832-0485
mikestephens@shaw.ca
Winnicentrics Editor
Gail Wise 253-8297
wgail@mts.net

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"Galileo Live" IYA Event

Saturday, June 27 was pouring rain outside but things were jumping inside the Science Gallery at the Manitoba Museum. It was opening day for "Galileo Live" which features a real, live actor playing the big man himself. Roger Todd and I went to the first show, then Marni Dangerfield and Fred Wood attended the second. We were not able to set up our solar scopes outside but we did point a small reflector at the moon on the other side of the gallery. We talked to 108 people and handed out as many Galileo moon cards as well as Sidewalk Astronomer booklets, Mary Lou story books and even a few Winnipeg Centre brochures.

Gail Wise

Galileo checked out our display and observed the moon

Marni Roger Big G lITTLE g Fred

We have 3 more DVD's in our library! Here are the outlines from **Fred Wood**, our librarian. If you would like to borrow one, email him at fred_wood@shaw.ca or talk to Fred at a meeting.

National Geographic's Journey to the Edge of the Universe
National Geographic presents the first accurate non-stop voyage from Earth to the edge of the Universe using a single, unbroken shot through the use of spectacular CGI technology. Building on images taken from the Hubble telescope, Journey to the Edge of the Universe explores the science and history behind the distant celestial bodies in the solar system.

Seeing in the Dark
Seeing in the Dark aims to redefine the standards of quality in nonfiction science programming for television, and is meant to introduce viewers to the wonders of the night sky, making casual stargazing or serious amateur astronomy a part of their lives. This program follows in the footsteps of Timothy Ferris' two prior PBS specials The Creation of the Universe and Life Beyond Earth.

Death of a Star
They are so bright they are a billion times more luminous than the sun. They are so distant their light takes billions of years just to reach Earth. These amazingly violent explosions, or death stars, may even have the power to eradicate life in an entire galaxy. See how these celestial phenomena can teach us about the dawn of the universe. And hear a controversial theory of how a gamma ray burst in our own galaxy could destroy life on Earth.

Fred Wood

Join the members of the RASC Winnipeg Centre
for the annual
Spruce Woods Star Party
Astronomy Weekend, August 21-23 2009.

This fun-filled event includes workshops,
a swap table, cool giveaways, a fabulous banquet supper
and a pancake breakfast sure to get you out of your warm bed
Also plenty of camaraderie and some great observing
under dark skies!
Check out the Winnipeg Centre website for details
(http://winnipeg.rasc.ca/)

If you would like to volunteer to help in any way during the weekend – setting up the tent, traffic flow, etc,
please talk to Sandy Shewchuk, ashew@mts.net

Meteorites 101
Meteorite Hunting Tools And Tips

By Ralph A. Croning

In the last 5 articles in this series we've learnt about the different classes, groups and sub-groups of meteorites. All that may have seemed dry reading for some but is essential basic knowledge for the hunter and collector. In this article the fun begins as we learn about meteorite hunting tools, where to hunt for meteorites and field tests for suspect rocks. Also included will be hunting tips from my own personal experience and success in the field.

Before we go any further I would like to stress at this point that meteorites are extremely rare and therefore hard to find, even if hunting a known strewn field. But find them you can if armed with the right knowledge, tools and persistence. Most important is the mindset; even if one is not immediately successful, meteorite hunting gets one outdoors, provides good exercise and is a great group activity for like-minded people. So the bottom line is, if one thinks of it as a way of having fun then it will not be disappointing. That way, actually finding a meteorite is a bonus.

Basic Hunting Tools

At the very least, an aspiring meteorite hunter should have the following equipment:

Meteorite cane – This is what every meteorite hunter I know uses the most. It can be as simple or as elaborate as you want it to be and is a great DIY project. Basically it is a magnet on the end of a stick. Because most "common" meteorites contain at least some metal, it is a helpful tool to find rocks that will be attracted to it. In the beginning there may be some jumping-for-joy but not all rocks that are attracted to a magnet are meteorites. Lots of terrestrial rocks are "magnetic". Logically then, its primary purpose is to protect your back from the strain of bending down to pick up every rock you feel may be a candidate. After some field experience you will learn which ones not to get excited about.

A meteorite cane in use. This one is made with an old golf club shaft.

Very important is the choice of magnet for your cane. Rare earth magnets are a must as they are very powerful and will be able to attract rocks that have a weak attraction. These can be purchased from several sources in Winnipeg; two of which are Lee Valley Tools and Princess Auto. The cane itself can be any number of things but should be a light as possible. I use old golf club shafts. Steel is fine, graphite is better.

GPS and Camera – For the serious hunter and collector, a portable GPS unit and a small pocket digital camera are a must. The GPS unit can be inexpensive as all you are going to be recording are the coordinates of your find. This is information is handy if you wish to have your find classified and officially named. The camera is important to take pictures of your find in-situ. Have something in the picture, such as the GPS unit for scale. Magellan and Garmin both make very nice, portable GPS units. Cameras? Well, the market is flooded and your choices are limitless. However, any camera is useless if you run out of battery power so carry extra batteries. The same applies to your GPS.

A specimen of buzzard coulee with a pen next to it for scale. Found by Naomi Davis on May 1, 2009.

If you are hunting in an area that is fairly remote then a good idea would be to set a waypoint in your GPS for where you parked your vehicle. This will ensure that you do not get lost. Having a GPS unit is of no use if you don't know where you statred from. For this purpose, learn how your GPS operates and practice using it often. It has helped me find my way back to my car on several occasions.

Metal Detectors – Some serious hunters will not go on a hunt without a metal detector. This is a useful tool for finding meteorites that may be buried just below the surface. But the usefulness of an MD depends on many factors such as: 1) Hunting a known strewn field, 2) The metal content of the specimens there, 3) A minimum of objects that may give many false readings such as nails, cans, bottle caps, pull tabs etc. All these can make for a frustrating hunt.

In my experience I have found the meteorite cane to be the most useful search tool second only to my eyes and the knowledge of what to look for. So if you are a recreational hunter then I would suggest not buying a metal detector unless you will be using it for hunting coins, jewellery etc. It is an expensive toy to have if not fully utilized.

Metal detector in use in a promising area. Farmers fields are prime hunting grounds. Get permission!!

Mason's hammer – A digging tool is a "must have" if you are using a metal detector. I use a mason's hammer. If you need something lighter but of the same design, a geologist's hammer is just the ticket. Geologist's hammers are not as easily available in Winnipeg and can be expensive. A flat head screw driver is just as handy if you're budget minded.

A mason's hammer in use. They can be had for about $25 at any hardware store.

Meteorite rake – This is quite simply a sturdy bow rake that has about 12 tines. Each tine has a couple of rare earth magnets epoxied on. It is a very handy tools for hunting beaches or other sandy areas but can be quite heavy however and over long periods can become quite a pain. But it has its uses especially for raking away dried brush, grass etc.

Meteorite rake in action at grand beach. It can be used to cover large areas of pebbly beach.

Backpack – Needless to say, a backpack is invaluable on a field trip. It can be used to carry snacks, water and other miscellaneous items that don't fit in your pockets. I find a backpack on extended trips can cause back pain. As an alternative I use an angler's vest. It has many pockets and helps distribute the weight evenly so there is no strain on the back. This also eliminates having to remove the backpack each time you need something from it.

An angler's vest is a handy alternative to a backpack. I've worn one for hours at a stretch without experiencing fatigue or back pain. Highly recommended for long hunts.

When and where to hunt.

Over the years, you as a hunter will accumulate quite an arsenal of hunting tools and equipment, each suited to the area you will be hunting. Choosing the right ones comes through experience. What works for me may not for you. It all boils down to personal choice. The bottom line in all of this is if you are a serious hunter, you have to get out there and use what you have at your disposal. Your setup need not be elaborate for you to be successful.

Time of year – This is quite important for us here in Manitoba. Although any die hard hunter will be out there at any time of the year, I personally like spring and fall for the following reasons:

-The weather is cool enough to be comfortable for those long hunts.
-Mosquitoes and other bugs are almost non-existent.
-Grass and other low brush is dry, making ground visibility better.

Where to hunt – Meteorites don't have any preferred places to fall. Some areas however lend themselves to easier hunting and recovery. Dense bush/forests and boggy areas will have their share of meteorites but are very difficult to navigate let alone look for meteorites. I stay away from them.

In Manitoba there are several areas that may be prime for hunts such as Spirit Sand in Spruce Woods, Portage Sandhills, beaches and farms. Hunting for meteorites on Crown land is legal and anything you find is yours to keep. Private property requires the owner's permission and anything found in such areas is the property of the owner. Before hunting private property, work out a deal with the owner as to who gets what. Usually a 50/50 split is a good compromise and this was practiced in the Buzzard Coulee strewn field by some hunters/collectors.

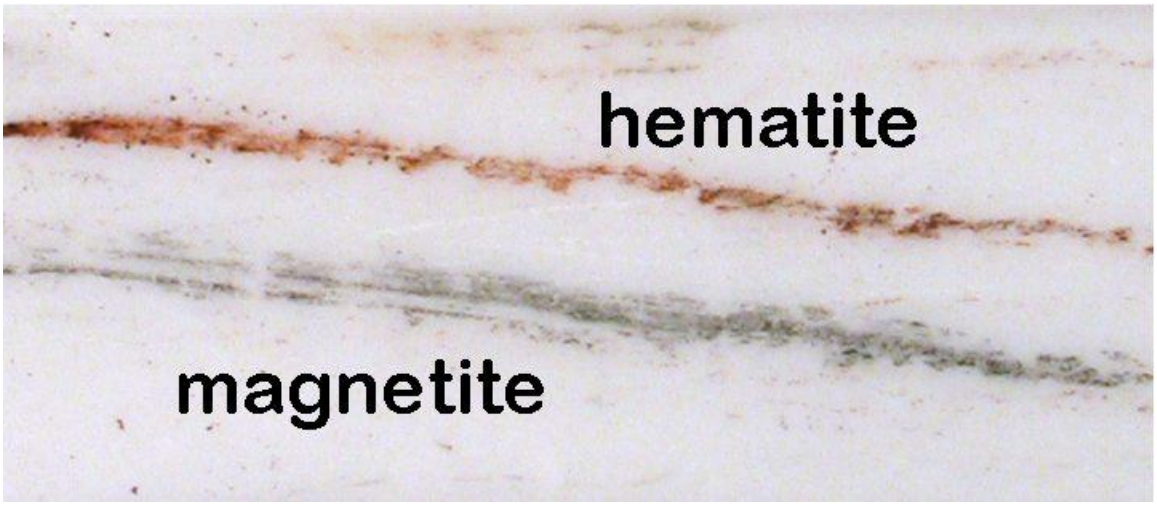
Research old fall sites and hunt there. Areas where meteorites have been found before may be more fruitful than others. All this requires considerable effort and time, but in the end if one is successful it would be worthwhile.

Field testing of suspect specimens – There are many tests one can conduct in the field to help determine if a specimen is worth keeping for further testing or can be thrown away.

Magnetic attraction is one test but many terrestrial rocks have this property. How does one know what to keep? Simple, if in doubt, keep it.

Weight is an important indicator. Stony meteorites are a lot denser than terrestrial rocks so that is a second test one can use. Iron meteorites are about 2.5 times denser so that helps too. There are some iron ores that are fairly heavy so it can be confusing. That's where streak testing comes into play.

Hematite and magnetite, the two main ores of iron, will leave distinctive streaks on the unglazed side of a ceramic tile. Hematite will streak a reddish brown and magnetite will streak grey. Most meteorites, unless highly weathered, will not leave a streak. A 4"x4" tile costs about $0.50 Keep one in your backpack.



The exterior surface of a meteorite can be a good indicator too. If relatively fresh, one may see a black fusion crust. If broken, the inside will almost always be lighter in colour.

The outer surface may have regmaglypts or thumbprints. The surfaces will be smooth but not rounded like river rocks. Some fragments may be jagged but have black secondary fusion crust.

Weathered specimens may not look at all like what's described above. Such suspect specimens should be kept for further testing.

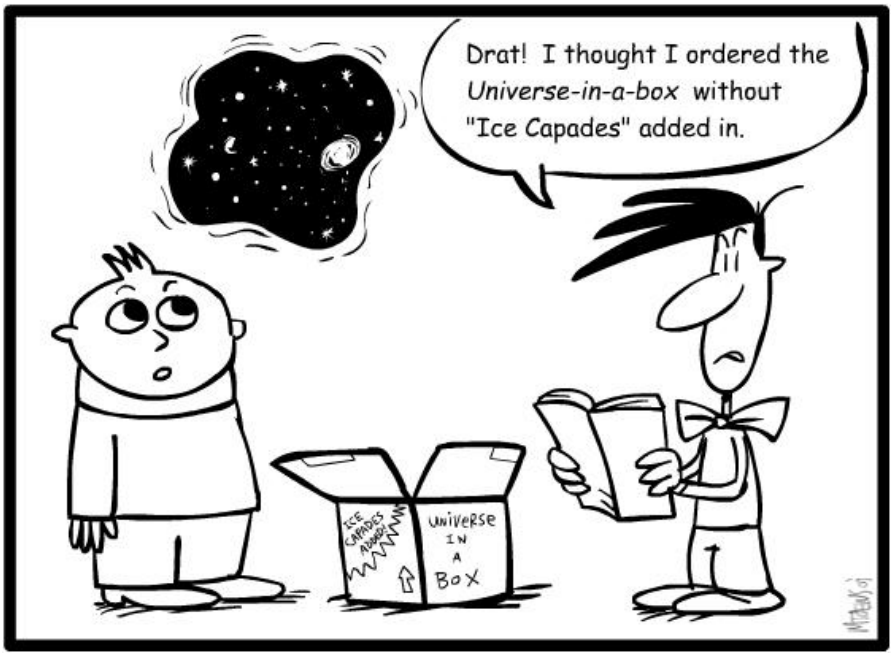
Leaverites – This coined term is for specimens that are obviously not meteoritic. It means "*leave 'er right" where you found it*. Some examples are industrial slag (bubbly and porous), shiny quartz crystals visible, visible pyrite inclusions and the list goes on. Studying some basic geology really helps here. One of the keys to success is learning what NOT to pick up and take home.

Look at pictures of meteorites but the most important ones are in-situ photographs. The ones you find in the field will not look anything like what you see after they have been cleaned; unless of course they are fresh falls. Look at people's collections. Handle as many as you can. Buy some for yourself. All this helps with recognizing meteorites.

This article has now come to an end. But before I close I would like to add a disclaimer or two.

The first one is for rare earth magnets. These are extremely powerful and should be handled very carefully. Keep them away from sensitive items such as credit cards. If you have a pace maker, please DO NOT play around with these magnets.

Secondly, all of the tips offered here are tried and tested by me. However, hunting for meteorites in the wild can have its share of risks. Please exercise caution and common sense when out there. Always let someone know where you are going, for what and when you are expected to return. Keep your cell phone fully charged and have emergency numbers on hand for the areas you will be hunting in. Always hunt with a partner.

Have fun and happy hunting. Any questions? Contact me at rcroning@mts.net

Mr. Bud . . . does Astronomy *by Murray Toews*