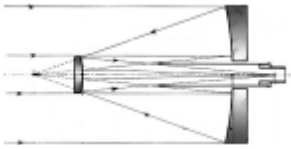
PETERBOROUGH ASTRONOMICAL ASSOCIATION

THE REFLECTOR



Volume 2, Issue 6 April 2003

Editorial

This past month has been a relatively quiet month for the club. March certainly came in like a lion and went out like a lamb. As a result, there has been some nice clear skies in the past few weeks. I hope that you had some opportunities to view the night sky-I did!.

This month, we will be only having one meeting (on April 4th), due to the fact that the next meeting would fall on Good Friday. The April 4th meeting will feature Graham Wilson of *Turnstone Geological Services*. He is sure to entertain and enlighten us with a presentation on Meteorites. Graham is an expert in this field and he has lots of tips for identifying and classifying meteorites. He has written extensively on the subject. If you also are interested in rock collecting, this will be a presentation you will not want to miss.

We are planning a trip to the Holleford crater on **May 3rd**, with Leo Enright as our guide. Stay tuned for details.

Just a reminder that on May 7, a **transit of Mercury** will occur. It will reach maximum at 3:52 AM EDT. For us, the last part of the transit will be visible after sunrise and will end at 6:27 AM EDT.

This year, Astronomy Day will be on **May 10th**. This is a Saturday and should be a good time for the club to do a Astronomy Day event. Last year we held an observing session at Armour Hill, which was a great success. If you would like to help with this year's event, please let me or Dave Duffus know.

Clear Skies

Charles W. Baetsen
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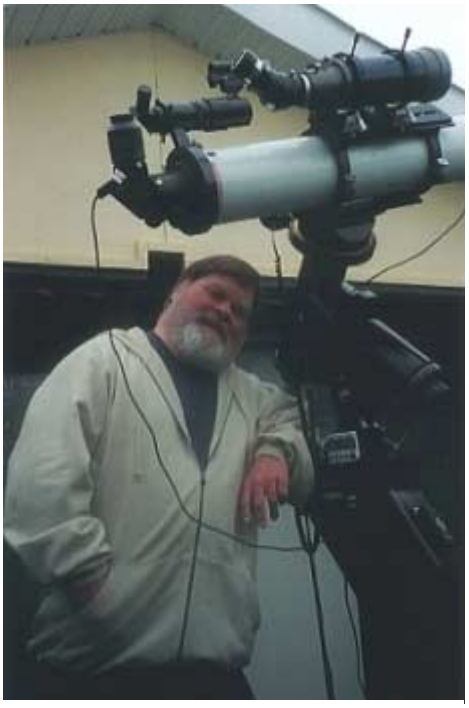
Meet PAA Member: John Crossen*

John first became interested in astronomy in sixth grade when his Dad purchased a 30X spotting scope. Shortly thereafter a copy of the Golden Book of the stars, and another book arrived. John still has the books today. Armed with his books, a planisphere and the relatively dark skies of a small town in central Michigan, John could find the Orion Nebula and the rings of Saturn through his little spotting scope. The Orion Nebula was quite exciting. And even at 30-power, you could just make out Saturn's rings. John was also fortunate enough to be taken to a number of Audubon Society films, a couple of which were about astronomy.

On John's tenth birthday, one of the local amateur astronomers came to the party. The treat for the night was to have a look at Mars through a "really big" (90 mm) telescope. Just as the sun was setting and the last crumb of birthday cake had been diligently scraped from the plate – it clouded over. Some things never change.

Once into his teens, John became more interested in cars, music, and girls. And so astronomy was put aside, but not too far. John's interest in science fiction movies took hold and he now has a substantial collection of 50's & early 60's sci-fi films on videotape. John still fondly remembers watching the sci-fi double bills on "Creature Features", "Midnight Monsters" and "Shock Theatre"." It was all in glorious black & white on Saturday night TV.

About 15 years ago John's interest in



PAA Member John Crossen

Inside This Issue

astronomy came to the forefront again. And, after a year of putting up with a 60 mm peashooter from Blacks Cameras, a proper 8-inch SCT was purchased. Shortly thereafter John and his wife Debbi also began taking photographs of the night sky. It wasn't long before Deb had an 8-inch SCT's, too and they both won awards at Starfest in the Novice Category.

Living in Toronto, it was necessary to camp out in order to find some decent sky. But even that became fun after a week or so of Toronto's rat race. So even if it clouded over, the weekend wasn't a total loss. At least they had managed to get a little peace and quiet.

During that time John joined the South Simcoe Amateur Astronomers and eventually became editor of the club's "Focus Magazine." Both John and Deb became involved in promoting the club and the annual Huronia Star Party. Together they took charge of organizing promotional materials as well as keynote speakers for the event. It was a great way to meet people like Terry Dickinson, Leo Enright, Roy Bishop, Tom Dey and more.

Today John and Deb are semi-retired from their careers - John as an advertising Creative Director/copywriter, and Deb as a public relations consultant. They live on a 16-acre country property about 7 kilometers north of Buckhorn, Ontario. John's astronomical interests now include the Buckhorn Observatory, which is open to the public with the proceeds going to the local libraries. He also teaches a two-night course at Class Connections in Peterborough called "Getting Started In Backyard Astronomy."

Since moving north, Deb has redirected her interests into volunteer work and a once-a-year acting stint with the local dinner theatre each spring. Still, all it takes is a good meteor shower or an aurora to get her back out and under the night sky.

**OK, I confess. I ran out of time this month and didn't have anybody else lined up to interview. That narrowed the choices down to one - me. Sorry folks, I'll try to do better next time.*

John Crossen
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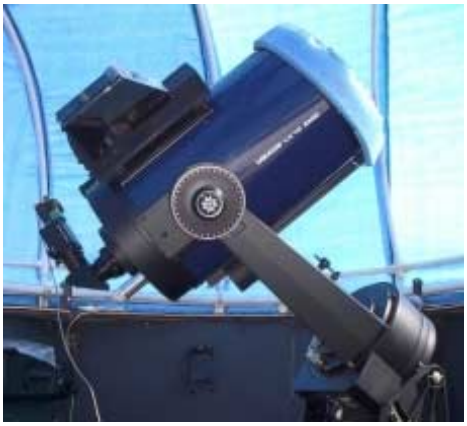
Adventures in Video Astronomy

About a year ago, I had an opportunity to go to the "Dayton Hamvention" in Ohio with an old friend. If you ask anyone in the club, who is also into amateur radio (i.e., one of those folks with the VE3 or VA3 license plates), they will tell you that this is the equivalent of Stellafane in the "ham world". The major difference here is that instead of a few dozen people trying to sell/buy equipment at a swap table, the entire convention is one giant swap table covering several football fields. Here you can find almost any electronic toy you can think of. Many of them having applications in astronomy.

It was at this convention that I picked up a small Pulnix-Waxman VS-79 security camera for $25. The camera came with a C-mounted lens, and ran off of a 9-volt battery. It's size made it ideal for trying to image stuff in astronomy as it weighs not much more than an average eyepiece. It had a small CCD chip that will produce nice B&W images on a video monitor.

The first thing I had to do was get rid of the lens and find a way to couple it to my telescope. This job was relatively simple as I only had to remove the lens and replace it with a 1.25" tube to slide into the focuser. After about 8 months of this thing sitting in my basement, I finally decided to try it out last month.

One of the first things that I tried to image was the sun. I hooked the camera up to an old Commodore 64 monitor and a VCR so I could record the results and select good shots later. The results looked promising.



The VS-79 in use to view the Sun

Next, I tried was the moon. It was the night of the full-moon in March, and the resulting images blew my socks off. Because I was at prime focus and the CCD is relatively small (less than a 1 cm^2) I could only see small portions of the moon at one time—but what views!

Later that night, I tried some more challenging objects—Jupiter and Saturn. Both of these showed up rather well on the video monitor, but when I reviewed the tape later in the house, they were much fainter. Despite this, some of the Galilean moons were visible and the bands were very distinct. Saturn's rings also were nice and obvious on the screen.

All the images that night were recorded

Peterborough Astronomical Association

The Reflector is a publication of the Peterborough Astronomical Association (PAA). Founded in 1970, the PAA is your local group for astronomy in Peterborough and the Kawarthas.

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The Crater Plato (center) as Imaged on March 18 with the VS-79

directly to video tape and then select images were captured later with ATI TV card in my old Pentium-200. The moon images captured quite well, but the captured images of Saturn and Jupiter were dim. Still the results were not bad considering the exposure time was 1/30 sec.

One of the things I still have to look into is image processing. Single captured frames often have artifacts (dust bunnies, dead pixels etc.) that can be cleaned up with software. In addition, if several images are stacked, the resultant image has a higher signal to noise ratio, resulting in a better looking image.

This sort of setup seems to lend itself well to public viewing of the planets and the moon, particularity for small children who cannot always reach the eyepiece. I plan on using it on my daughter's Brownie troop later this week. Also it is nice to see your results live, as opposed to waiting till you develop the film.

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Astronomy in Philately

This month is yet another follow-up to Charles Baetsen's article "A brief History of Space Flight, Part II: Manned Flight" from last months *Reflector*. Through stamps of the past I will illustrate a few space flight achievements. Stamps from Russia, Romania and the United States will used.

Russian Stamp Commemorating Lunik 3

On April 4,1960, Russia issued a 60 kopek stamp to celebrate their accomplishment of photographing the far side of the moon (Oct.7, 1959). The stamp depicted here shows the view that the Lunik 3 satellite would have recorded on the "dark side of the moon" (as Pink Floyd would put it).

On January 15, 1964, Romania released a set of 10 stamps that showed both famous cosmonauts and astronauts in their flight helmets and countries flags in the background. Also included in each design, is the date they flew into space, the name of the craft they flew in and the number of orbits they made. This set really shows the space race was on. This set is rather unique in that the design of the stamps was diamond shaped, which is not a common stamp design even today.

The stamps depicted here show Yuri A. Gagarin, the first man in space on April 12, 1961, in Vostok 1, making one orbit. There is also John H. Glenn Jr.,

Yuri A. Gagarin and John Glenn Jr. on a stamps issued by Romania

the first American astronaut to orbit the planet on February 20, 1962, in Friendship 7, for 3 orbits.

The last item illustrated here is the 10-cent airmail stamp that the United States issued to commemorate the Apollo 11 lunar landing of July 20, 1969. "The first man on the moon" stamp shows Neil Armstrong stepping off the leg of the lunar excursion module (LEM), "Eagle", on to the lunar surface. The planet earth in the background adds a dramatic three-dimensional effect. This stamp is shown on a First Day Cover. This is the first day the stamp is officially released to the public. You can always tell this date by that which is shown on the cancellation (Sept. 9, 1969). In this case, the post office added an unusual second cancellation, to show the actual date of the moon landing. On the right hand side of the envelope is an illustration of the LEM descending to the lunar surface and the crew of Apollo 11 (Neil Armstrong, Buzz Aldrin and Michael Collins).

A US First Day Cover commemorating the First Landing on the Moon

There have been many other historic events of the "space race" that have been captured on the face of many countries postage stamps, but we will save those for another day. I would venture to say that any event of any significance involving space exploration has been depicted on a stamp. This is just one more reason to consider collecting stamps…a hobby to last a lifetime.

Your Astronomical Philatelist
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The Sky This Month

MERCURY:

Mercury is well placed for viewing in the evening during this month. It reaches it's greatest elongation on April 16th.

VENUS:

Venus is now low in the morning sky. Try and catch it if you wake up before the sun.

MARS:

Mars will be visible this month in the early morning hours. It will brighten significantly this month as it is getting closer to us. By the end of this month it will be a zero magnitude object.

JUPITER:

Jupiter will be in Cancer and appears as the brightest object visible in the evening sky. It starts it's forward motion again on April 3rd.

SATURN:

Saturn will be visible near the Taurus-Gemini boundary, not far away from the Crab Nebula (M1). The rings are well oriented for viewing the Cassini Division

URANUS & NEPTUNE:

Uranus and Neptune are not visible this month

PLUTO:

Pluto will be visible in the early morning hours this month. It is located in Ophiuchus and is best seen in the summer months. You will need to a finder chart like those published in *Sky & Telescope* or the *RASC Observer's Handbook* to find Pluto.

METEOR SHOWERS:

There is one major shower this month:

Lyrids: Apr. 16-25

There are also several minor meteor showers this month. For details on these see *http://comets.amsmeteors.org/meteors/april_radiants.html*

Off the Beaten Path

This month we will travel the skies to seek out some decent looking galaxies that are often over looked.

NGC2841—This very bright elongated spiral is located about halfway between θ-UMa and 15-UMa.

NGC2841 in Ursa Major

NGC3115—Sometimes called the Spindle Galaxy, it is located in Sextans, were there isn't much else. This galaxy appears as a bright and elongated. It is located halfway between γ and ε-Sex.

NGC3115 in Sextans

NGC2903—Located in Leo. This galaxy is bright and elongated.

NGC 4656 and NGC 4631

NGC4631—this is a large edge-on galaxy with a companion. Located in CVn. This bizarre thing looks like something out of the original Star Trek series.

NGC4656– Located in near NGC4631 above. One of the arms curves suddenly away from the galaxy making it look 'J' shaped. These two galaxies are located about halfway between α-CVn and γ-Com.

So on the next clear night, be adventuresome and go off the beaten track. Enjoy the new scenery.

Charles W. Baetsen
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Constellation of the Month: Canes Venatici

Perhaps one reason people don't say much about Canes Venatici is the fact that it's a real jawbreaker to pronounce. So let's put that one to bed straight away. It's KAY-neeze ve-NAT-eh-see. OK, now use it three times to sparkle up your next cocktail conversation and it's yours - along with some peculiar looks.

Also known as the hunting dogs, Canes Venatici is one of the less inspiring of the 88 constellations. However, it does have a story to tell and a few impressive Messier objects within it's geographical confines.

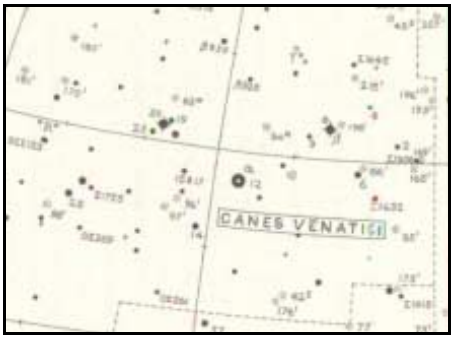
Canes Venatici was named in 1687 by the German-Polish astronomer Johnannes Hevelius. That makes it a relatively modern constellation by astronomical standards. Helevius had a habit of making up and then naming modern constellations. Seven of his "creations" survive to this day.

The constellation lies between Boőtes and Ursa Major and is marked by two stars of 3rd and 4th magnitude. The brighter of the two is known today as Cor Coroli or Charles's Heart. Hevelius had originally called it Asterion, "the starry one." However an English physician, Sir Charles Scarborough suggested Cor Coroli as a tribute to King Charles. (Odd that Sir Charles and the good king shared the same name. Perhaps Sir Chucky's suggestion had a more personal side to it.)

Nonetheless, Edmund Halley (the comet guy) accepted it, and the name sticks today.

Canes Venatici (that's three times I've used it) is home to the famous galaxy M51, or the Whirlpool. Galaxies M63 and M106 also call Canes Venatici home as does the globular star cluster M3.

Overlook just slightly less often than it's name is mispronounced, Canes Venatici definitely deserves a better fate. Give it a look next time you're out under the stars.



Canes Venatici

John Crossen
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Jupiter at the Heart of Cancer!

For the last month, Jupiter has been in the constellation of Cancer. Refer to John Crossen's article from the last Reflector (pg. 7), to find out more about this constellation. What you should not miss right now though is the opportunity to see Jupiter right next to M44 (The Beehive Cluster). This is right in the heart of the constellation and is a beautiful sight in binoculars! For weeks they have been only a few degrees apart and on April 4th, they will be the closest that they get this season. Don't worry if you miss seeing them on the 4th, as they will be a striking pair for a little while yet. They have been paired up all through March.

I took the attached picture from my deck on March 18th using a 135 mm lens with an SLR camera piggybacked on my Meade ETX scope. The film used was an 800 ASA Fuji colour print type. This is the view you can expect to see in binoculars. You will notice Jupiter shines through in this two-minute exposure, but the fainter open cluster of stars shows up nicely as a splash of starlight. The four stars that box in this wonderful sight are γ, η, θ and δ-Cancri.

Don't wait too long to see this beautiful celestial grouping high in the southern sky after nightfall. These events never last forever.

Keep looking up,

Rick Stankiewicz
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Jupiter taken on March 18th near the Beehive

ARTICLES

Submissions for *The Reflector* must be received by the date listed below. E-mail or "sneaker-net" (i.e., floppy disk) submissions are preferred (Microsoft Word, ASCII and most graphics formats are acceptable). Typed or hand-written submissions are acceptable provided they are legible (and not too long). Copyrighted materials will not be published without written permission from the copyright holder. Submissions may be edited for grammar, brevity, or clarity. Submissions will be published at the editor's sole discretion. Depending on the volume of submissions, some articles may be published at a later date. Please submit any articles, thoughts, or ideas to this address:

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or via e-mail at:
va3ngc@rac.ca

NEXT ISSUE'S DEADLINE IS

April 28th, 2003

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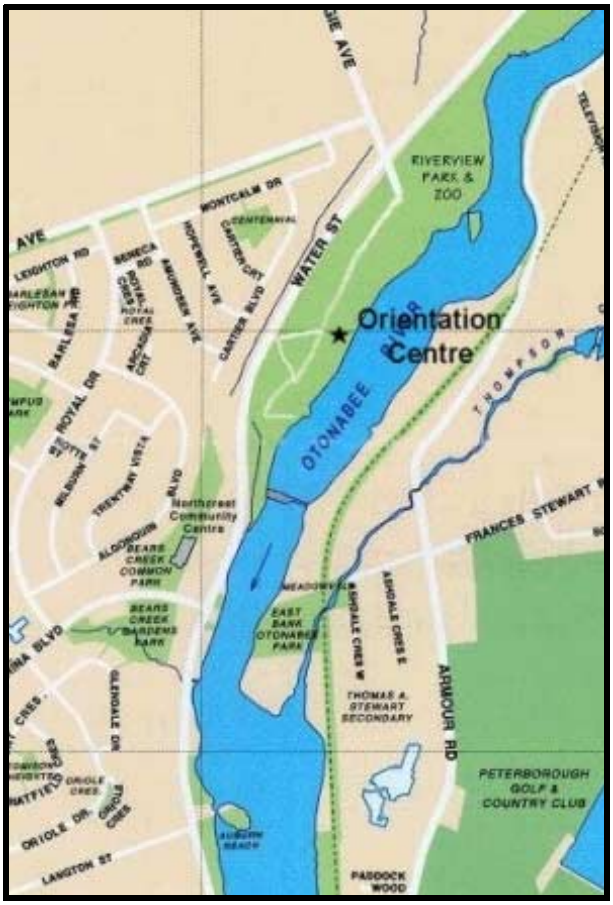
MEETINGS

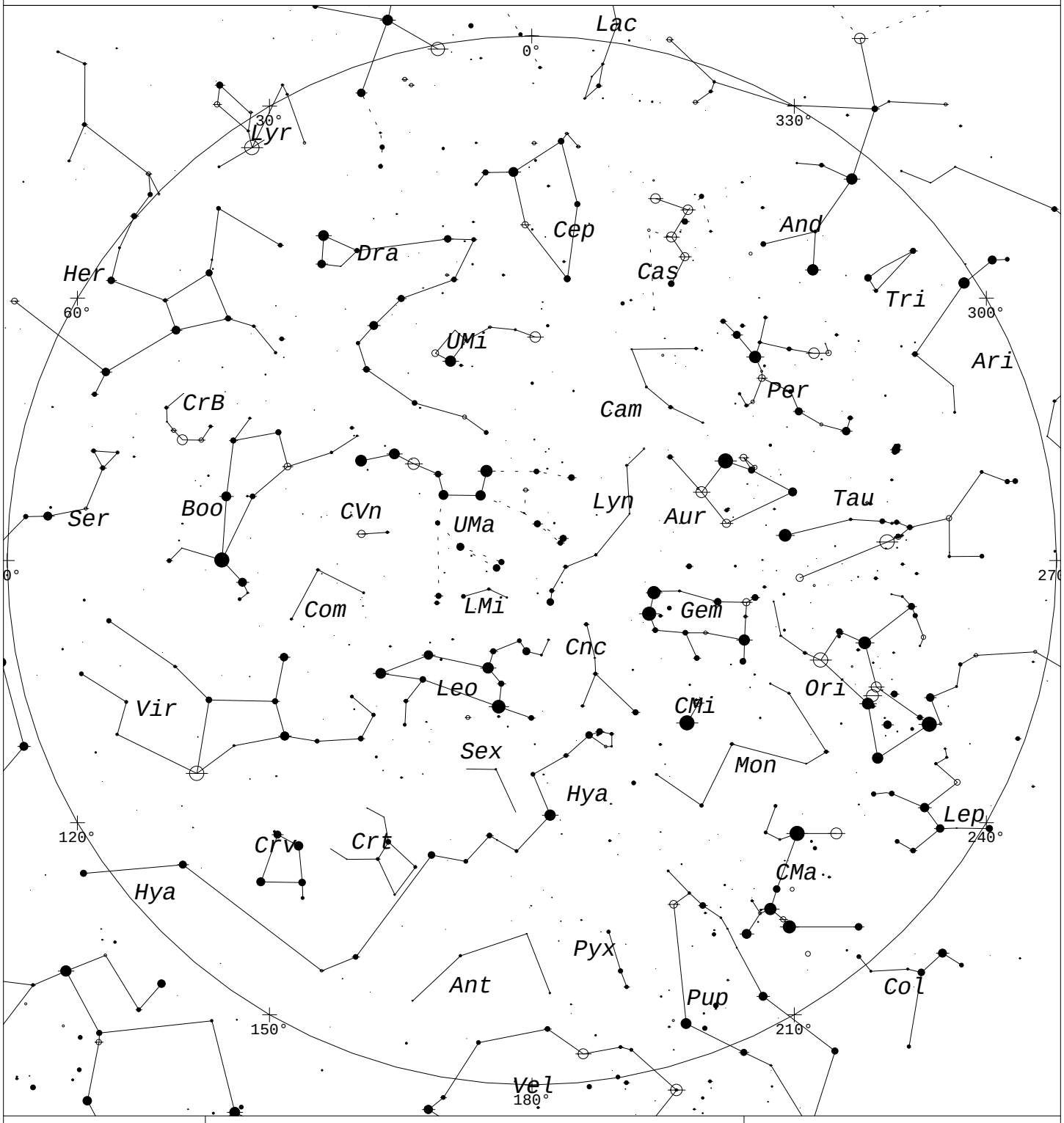
The Peterborough Astronomical Association meets every second Friday at the Peterborough **Zoo Orientation Centre** (Next to the PUC Water Treatment Plant) at **7:30 pm**.



CALENDAR OF EVENTS

April 1, 2003	**New Moon (●)**
April 4, 2003	**General Meeting** — Graham Wilson of Turnstone Geological Services will entertain and enlighten us with a presentation on Meteorites
April 9, 2003	**First Quarter (◑)**
April 16, 2003	**Full Moon (○)**
April 18, 2003	**General Meeting** — CANCELLED (Good Friday).
April 23, 2003	**Last Quarter (◐)**
May 2, 2003	**General Meeting** — Topic to be announced.
May 3, 2003	**Club Trip** to Holleford Crater near Kingston. Contact John Crossen for details.

April Skies



STARS			SYMBOLS				
<1	3.5		Multiple star	Dark nebula	Radio source
1.5	4		Variable star	Globular cluster	X-ray source
2	4.5		Comet	Open cluster	Other object
2.5	>5		Galaxy	Planetary nebula	
3			Bright nebula	Quasar	

Local Time: 21:00:00 1-Apr-2002 | UTC: 02:00:00 2-Apr-2002 | Sidereal Time: 09:40:59

Location: 43° 39' 0" N 75° 0' 0" W | RA: 9h40m59s Dec: +43° 38' Field: 182.0° | Julian Day: 2452366.5833