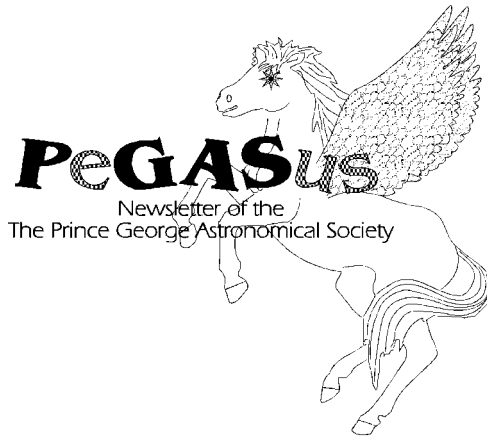


PeGASus
Newsletter of the
Royal Astronomical Society of Canada
Prince George Centre

March 2007



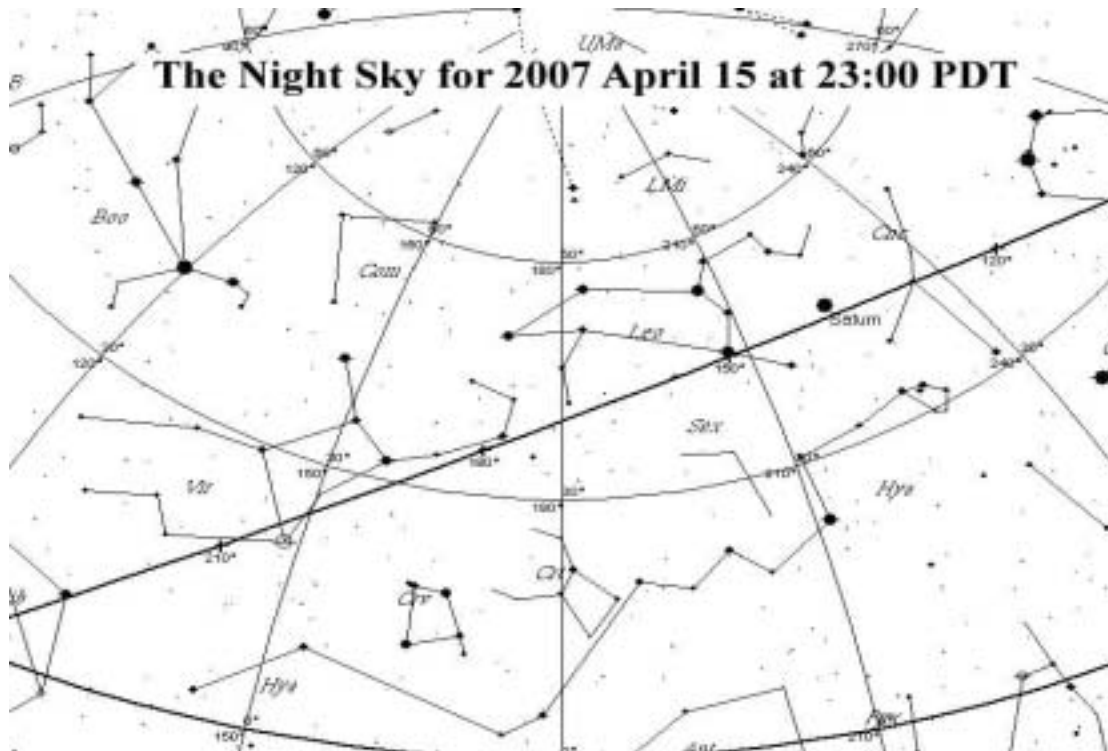
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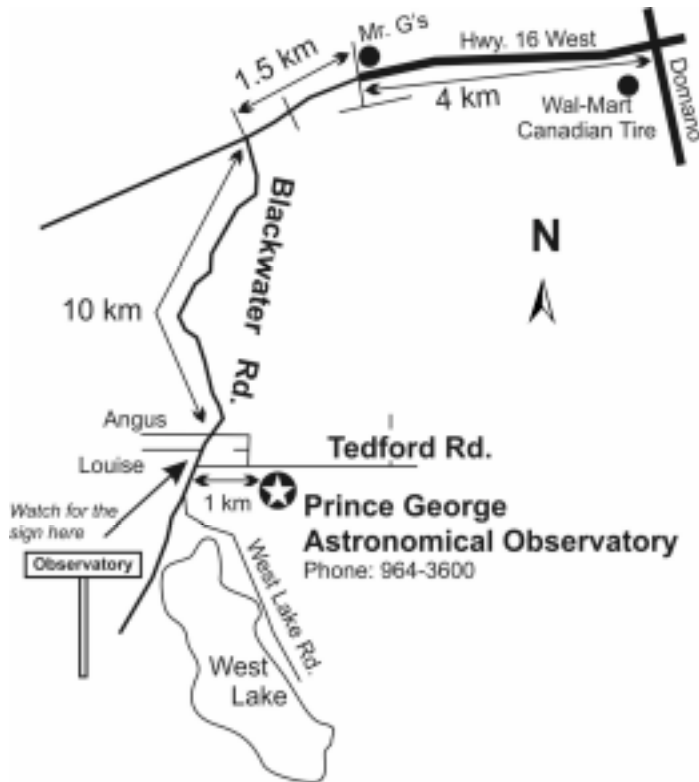
Our pursuits are out of this world.
Our activities are astronomical.
Our aim is the sky.

In Issue # 158

PGAS Executive	2
Coming Events	2
Editorial	3
The Night Sky	4
Lost And Found	6
Arts' Musings	7
Waxing Crescent Moon	
Observations	8
Volunteer Schedule	9

**The RASC-PG meets next,
With a Special social evening Saturday March 31
7:00pm, at The Observatory**





Contributions to the newsletter are welcome.

Deadline for the next issue is

April 13 2007

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Coming Events

Open House: 7:30 pm, Fri. March 23rd @ Observatory

NOVA Class (last one!): 7:30 pm, Sat. March 24th @ Observatory

Open House: 7:30 pm, Fri. March 30th @ Observatory **Volunteers Needed**

General "Social" Meeting: 7:30 pm, Sat. March 31st @ Observatory

Open House: 7:30 pm, Fri. April 6th @ Observatory **Volunteers Needed**

Executive Meeting: 7:30 pm, Wed. April 11th @ Arctic Manufacturing (Hart Hwy.)

Open House: 7:30 pm, Fri. April 13th @ Observatory **Volunteers Needed**

Open House: 7:30 pm, Fri. April 20th @ Observatory **Volunteers Needed**

Open House: 7:30 pm, Fri. April 27th @ Observatory **Volunteers Needed**

Telescope Workshop: 7:30 pm, Sat. May 5th @ Observatory **Volunteers Needed**

To Volunteer to help run an event please contact Brian Battersby.

brianbattersby73@yahoo.ca

Phone: 561-8138 (day) 614-3316 (msg.)

Editorial

Much has been said about needing more volunteers but it has occurred to me that you don't know how you can help. Perhaps you feel like you don't know enough about astronomy or have not been a member of the Society long enough. Let me assure you that neither is true!

The average person knows nothing about astronomy. If you have read one astronomy book you know more than the average person on the street. Your knowledge level of astronomy is unimportant to help run a public event.

So what is important?

ENTHUSIASM and a willingness to share what you **DO** know. You can trust me on two things:

- 1) you do know something (not everything but something)
- 2) Nothing will **INCREASE** your astronomical knowledge faster than answering questions and getting engaged in conversations with the public (especially the kids!)

When you volunteer at an event all that is expected of you is that you be there and do what you can. Usually, that simply means being available to talk to. Once you get comfortable and start volunteering you will naturally progress in confidence and will start doing more. No one expects you to run an Open House all by yourself the first time you volunteer.

Here is a list of where we need volunteers in the next while.

Open Houses: Friday nights until the end of May. We always need two people to run these for safety. The more the merrier! Not much satisfies more than showing a member of the public their first view of Saturn or the Orion nebula.

Telescope Workshop: May 5 at the Observatory. Time: TBA. Again we simply need some people to be there.

Anything you can do to help out is appreciated. By volunteering you will become more engaged in the Society and help it from being perceived as an "old boys club".

As you can see the Key Holders list is fairly short. Key holders become "key holders" by volunteering their time to help run the club. Running the Society is becoming a bigger and bigger job all the time. I would sure like to see the list grow.

FYI: I have added the Key Holders names to the "contacts" heading of the website. www.rasc.ca/princegeorge so if you lose the list you can find it there.

Brian Battersby
Past President,
RASC P.G. Centre

The Night Sky for April 2002

by Bob Nelson, PhD

Hi Folks,

As I write this, it is in the wee hours, the copy is late, and I am struggling to get this to Gil (sorry Gil!). I really don't know where the time goes – a retired person is supposed to have lots of it, but I seem to have even less than when I was teaching! Go figure!!

Anyway, lots of things are happening and it is an exciting time for our little club. The worm gear is on, the telescope is operational again, and the technical committee is hard at work thinking about the next steps -- and also vast list of other improvements that we have identified. (It's amazing what committees can do, eh?) We need, of course, to set priorities and we are doing that. The next step is to actually do some of the most pressing and/or easily done tasks. Stay tuned!

Anyway, here is what is happening in our sky next month:

MERCURY is lost in the glare of the Sun this month for us northern observers.

VENUS, is still a glorious evening object this month. At sunset on the 15th, it lies some 32° above the western horizon at sunset. It's still in the gibbous phase, some 74% illuminated, but that will continue to decrease as the planet starts to catch up to the Earth in its orbit. It's now a 14.9" disk at about magnitude -4.1.

MARS, in Aquarius, is a morning object this month, rising at mid-month only about an hour before sunrise. At sunrise, it is only a paltry 8° above the SE horizon – definitely a challenge. It's a 5.1" disk at about magnitude 1.1.

JUPITER, in Ophiuchus until late 2007, is a morning object this month, rising at mid-month at about 01:00 (PDT). At sunrise, owing to the inclination of the ecliptic, it lies only some 13.5° above the SSW horizon – not too great, folks! It's a 42" disk at about magnitude -2.4.

SATURN, in Leo until 2009, is a beautiful evening object this month. At sunset, it lies 51° above the southern horizon and is high up in the sky most of the night, setting at about 04:30 (PDT). This is a prime time to look at the mighty planet and its moons. It's a 19" disk of magnitude 0.3.

URANUS, in Aquarius until 2009, is a morning object all month. At mid-month, it rises about an hour before sunrise when it is even closer to the horizon than Jupiter – a mere 7° 19' above the ESE horizon. Hmmmm. As usual, it's a 3.6" disk at about magnitude 5.8.

NEPTUNE, in Capricornus until 2010, is an early morning object this month, rising at mid-month about 1.5 hours before sunrise. At sunrise, it lies some 11° above the SE hori-

zon. As usual, it's a 2.3" disk at about magnitude 8.0.

CONSTELLATIONS to look for in April (at 10 PM, PDT) are Central Hydra, Crater (Crt), Sextans, Leo and Leo Minor.

Central Hydra ("The Sea Serpent", not to be confused with Hydrus, "The Water Snake") is out of the Milky Way and contains two galaxies: NGC 3585 and 3621. The former is a 5.6' ellipse of magnitude 10.8; the latter, a 12' ellipse of magnitude 10.0. It's easy pickings for our 24" telescope.

Crater ("The Cup") contains no star clusters or nebulae. (My cup is empty. Ha, ha!). Seriously, though, it does contain (according to Burnham) 11 variable stars, 14 NGC galaxies and one other galaxy. It's the constellation immediately to the south of familiar Leo.

Sextans ("The Sextant") - but shaped like a scalene triangle - contains numerous galaxies, but only the following are brighter than magnitude 11: NGC 2974, 3115, 3166, and 3169. The brightest is NGC 3115, which is a very bright galaxy (total magnitude 8.9) located some 20 degrees almost due south of Regulus and just south of the scalene triangle. Burnham's tells me that it is likely not a member of the great Virgo cluster of galaxies and is somewhat closer at around 25 million light years. The diameter is around 22,000 light years and its mass is some 24 billion solar masses. No supernovae have yet been observed in this galaxy.

Leo ("The Lion") is familiar to most of us. It's a constellation that actually resembles what it's supposed to be. The head of the beast, otherwise known as "The Sickle" contains at its base the first magnitude star Regulus (spectral type B8, main sequence). It also contains numerous galaxies (almost too many to mention) M65, 66, 95, 96, 105, plus NGC 3628, 3384, 2903.

Leo Minor ("The Little Lion") contains galaxies NGC 2859, 3245, 3344, and 3486. The brightest is NGC 3344 at magnitude 9.9. Burnham's has no other information, except that it is a fine face-on spiral.

**Clear skies,
-Bob**

"There are only 10 kinds of people.
Those who understand binary and those who don't"



What's Lost, Found, Lost Again and Then Found?

By Blair Stundar

Sounds like an Egyptian riddle.

Last fall I came across an article on the "Antikythera Mechanism". A small rectangular device measuring approximately 13" (33 cm) high x 6.7" (17 cm) wide x 3.5" (9 cm) thick made of bronze with a wooden frame. This device is filled with bronze gears in a gear train consisting of over 30 gears. Could this be a one of the devices mentioned by Cicero or perhaps a device that Archimedes was to have built and taken to Rome in 212 BC. Working on a presentation on this device I have spent more time learning about the Egyptian calendar, Babylonian calendar as well as parapegma. My readings have also included some writings by Geminus, a Greek scientific writer of the first century BC, translated of course. A great read by Geminus is "Eisagoge eis ta phainomena - Introduction to the Phenomena"

The device consists of one dial on the front and two dials on the back. The front dial has markings for the Egyptian calendar. Inside are corresponding Greek markings with signs of the Zodiac. This second dial can be moved to compensate for leap years. The front dial is assumed to have had three hands, one showing the date, the others to show position of the sun and moon. This device is also believed to follow the five known planets of its time. Settings on the device correspond to 82 BC.

There are inscriptions and reference to Mars and Venus. In 1951 after decades of cleaning the remnants of the artifact, a British historian Derek J. de Solla Price began thorough investigation of the device. In 1971 both Gamma and X-rays were taken of the unit. A few years later Price undertook a reconstruction of the device. At that time only about 1000 characters on the device had been deciphered. In 1974 Price presented his "Gears from the Greeks", the first theoretical attempt at reconstructing the machine.

Latter in 1993 more accurate X-ray images were taken by a Australian's Allan George Bromley along with Frank Percival and Michael Wright, Curator of Mechanical Engineering at the London Science Museum. More accurate tooth counts of the gears as well as increasing accuracy of the gear count of the mechanism. Further functions and operations of the machine are still being discovered through ongoing studies and detailed analysis. On the 6th of March, Wright presented his modified model of the mechanism to the National Hellenic Research Foundation in Athens, Greece.

Current investigators included HP and X-Tek Systems. HP built a 3D surface imaging device, called a PTM Dome. It surrounds the device under investigation and allows for enhancing surface details for digital photographic work. X-Tek has built a mobile (12 ton) X-Ray Tomographer. This device is normally used to produce 3D X-Rays. This has allowed the number of characters previously translated around 1000 characters now to reach almost 2000, comprising about 95% of the non-lost text.

On the 21st of October in Athens it was announced that additional pieces of the mechanism had been found. Most of the pieces have finished being stabilized and now await conservation.

Oh by the way, this device was originally found by sponge divers in the spring of 1902.

Blair

Short Shots

By Arthur Beaumont

1. A past suggestion of mine was that Kepler would have eventually come up with a fourth law (had he lived long enough) and suggested that planet density was related to the planets inclination to the solar equator. Now I wonder if he might have come up with a fifth law stating planetary and solar spin is proportional to parallax cubed divided by the area of the orbit covered.. There are different coefficients between the inner and outer planets in the logarithmic transformations. (Parallax is the radius of the body divided by the distance to the orbit center) The asteroids fit very closely with the outer planets and sun.

2. The New Madrid earthquake of 1811 mentioned in the news letter last fall reportedly rang church bells in New York New Madrid, Missouri is 36.6 N, 89.5 W and New York State is 42.7 N , 76.7 W. which scales on a globe to be about 1600 km. .

3. An ex-NASA scientist friend in Mexico and I came to the conclusion that our only hope of eternal presence is the infra red that escapes from our bodies and is radiated into space where it leaves some energy of our own making there forever.

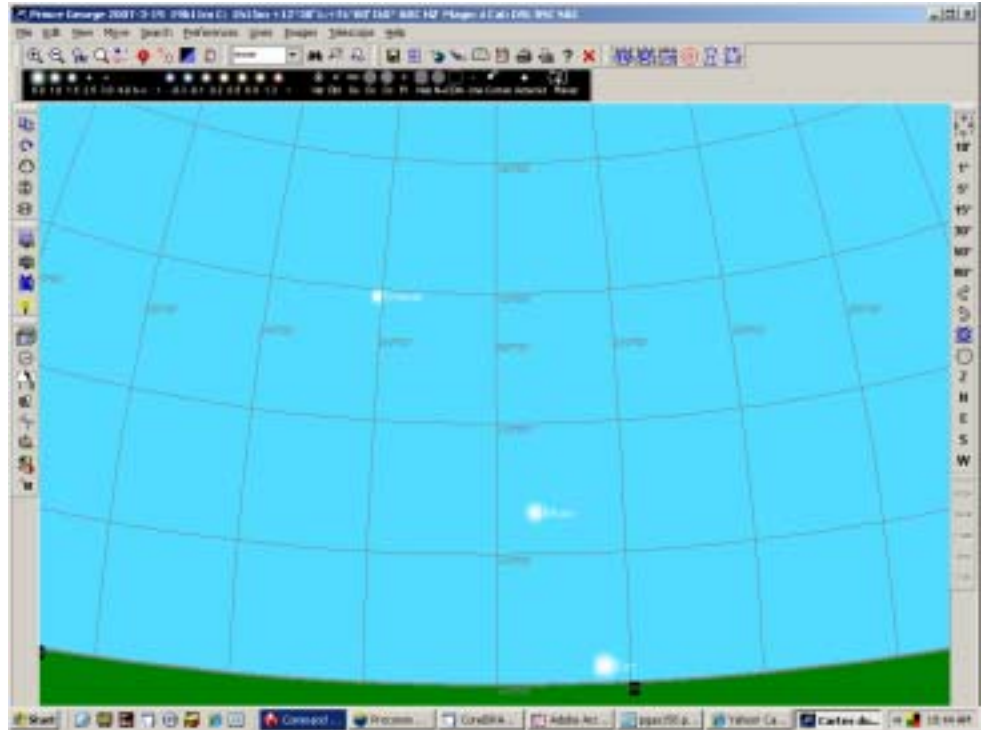
EAB March, 2007

Waxing Crescent Moon Observations

Brian Battersby & Denise Stoltz

(part 1)

Hey gang,
at approximately 19:11 hrs. Today (March 20, 2007) Denise and I (after she pointed it out) spotted an extremely thin waning crescent moon. According to Cartes du Ciel it's "Illuminated Fraction was 0.059" at that time. So... 5.9% of full. I am sure that is the youngest moon I have ever seen! Denise has great eyes as she picked out the Moon and Venus too! Sunset wasn't until 19:29 so she saw them when the sky was still plenty bright. Venus at altitude 29.5 was about 7 degrees south of the moon (altitude 26) I ran (literally) inside and grabbed our 20x80 binoculars and we took a look. The moon was a very thin crescent floating in a field of gray blue. The dark side was a slightly darker shade of gray than the surrounding sky. There were some craters visible on the limb. They looked very shallow and faint compared to what is normally seen. Venus simply looked like a bright dot in the binoculars. Even though it was not full (82% illuminated) we could not see the phase in the binoculars.



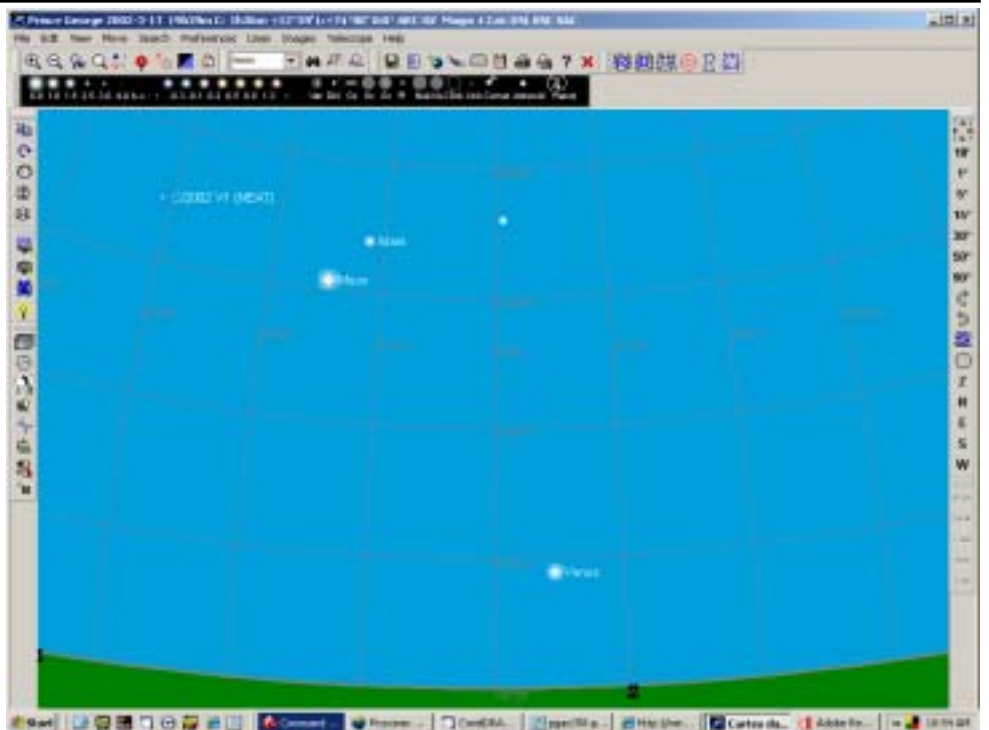
March 19, 2007 @ 7:11 pm PDT

Brian & Denise

(part 2)

Hey, this is cool! Denise and I were looking back in my observing log and discovered that I viewed the crescent moon on March 17, 2002 at 19:39 hrs. It was 14% illuminated so we beat that record by half this time around. When we saw the moon tonight it was about 2 days 1 hr old. When I saw it in 2002 it was 4 days 1.5 hours old. Mars was also very close by the Moon and Venus was in the vicinity too making this observation especially great.

Brian & Denise



March 17, 2002 @ 7:39 pm PDT

Interested in Volunteering?

Our website (www.rasc.ca/princegeorge) now has a Volunteer Schedule posted on it. You can find it in the “Members Area”. Click on the link at the bottom of the blue panel on the left of your screen.

The schedule lists upcoming events with dates, times, places and who is currently signed up to help run the event. If more help is still required the event is marked with *HELP*.

To volunteer for an event contact Brian Battersby at brianbattersby73@yahoo.ca or phone 614-3316 and leave a message.

Please use this resource!

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MISC.

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Sky Chart

MEMBERS AREA

[Volunteer Hours tracking sheet \(excel\)](#)

- [Club Privacy Policy \(html\)](#)
[Club Privacy Policy - formatted on letterhead. \(pdf\)](#)
- [Observatory Users Log \(PDF\)](#)

VOLUNTEER SCHEDULE:
Items make *HELP* require more volunteers. Please contact [Brian](#)

Event	Time	Place	Volunteer
Open House	March 23 @ 19:30	Observatory	Bob N, Bill G
NOVA Class	March 24 @ 19:00	Observatory	Gil, Brian
Open House	March 30 @ 19:30	Observatory	Doug, *HELP*
Club Social Night	March 31 @ 19:30	Observatory	Gil, et al
Open House	April 6 @ 19:30	Observatory	*HELP*
Open House	April 13 @ 19:30	Observatory	*HELP*
Open House	April 20 @ 19:30	Observatory	*HELP*
Open House	April 27 @ 19:30	Observatory	*HELP*
Open House	May 4 @ 19:30	Observatory	*HELP*
Telescope Workshop	May 5 @ 19:00	Observatory	Wayne, *HELP*
Open House	May 11 @ 19:30	Observatory	*HELP*
Open House	May 18 @ 19:30	Observatory	*HELP*
Open House	May 25 @ 19:30	Observatory	*HELP*
Annual Club BBQ	June 2 @ 19:00	Observatory	Gil, et al, *HELP*

Most recent revision March 21, 2007