



Regulus



The Newsletter of the Kingston Centre of the Royal Astronomical Society of Canada – April 2006

Coming up...

RASC Regular Meetings

Queen's University Stirling Hall
Theatre D

Friday, April 14 7:30 pm

Peter McMahon: "Marshmallows on Venus: A backpacker's guide to stargazing"

Friday, May 12 7:30 pm

Harold Kenny (RMC) "Symbiotic Stars and the Nature of Radio Astronomy"

Meetings are cosponsored by Queen's Physics and include astronomy lectures open to the public.

KAON Public Observing

Queen's Observatory
Ellis Hall

Saturday, April 8 9:00 – 11:00

Saturday May 13 9:00 – 11:00

!!!Note time change!!!

AstroYak

Friday, April 28 7:00 pm

Friday, May 26 7:00 pm

Members Observing

1st clear night:

April 20-29 7:00 Lemoine Point

May 20-28 7:00 Lemoine Point

Contact Ken Kingdon for notification.

Another Successful OAftN Course



Doug Angle hands out course completion certificates at the last session of the Observational Astronomy for the Novice course March 29. For more on the course, see Kevin's article on page 4

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Presidents Tidbits

Kim Hay

You never know when the opportunity may come to share the night sky with a family member, friend or stranger, and help create a memory and pass on the knowledge you have to inspire another.

In February, my brother Gary was down due to a family members death, and as we grieved together, I told him lets go out and see the night sky and find peace.

This particular week, was sunny, clear and cold through the days (with no sun spots I might add) and the nights were crystal clear and colder, with a wind.

Though my brother and I have always talked astronomy and have emailed stories and url links, he had never looked through a telescope at the wonders of the night sky. He uses his binoculars to view from his home town of Cranbrook BC., but tonight we had an opportunity to share in something wonderful, and share the night sky with its many jewels.

We observed Saturn the ringed planet in the East with Castor and Pollux. the moon with our neutral density filter. The craters on the moon were in such clarity and depth you felt you were standing inside one of them.

The view along the terminator line showing the tops of mountain peaks and in the valleys. He had never understood what beauty lie along the terminator line, but tonight he did. We observed M45 the

Pleiades, the Seven Sisters, which was right beside the moon to its right, and to the left, Mars which was fading in its reddish hue, but to my brother, he had observed planets that he had never seen before. We talked of the ecliptic and how the sky moves, and how what he sees here may be slightly altered due to his latitude.

I swung the telescope over to M42, in Orion, and as he compared the Nebula between the scope and the binoculars he was wowed beyond words, and we watched as meteors had shot across the sky. We observed a few more Messier objects in Auriga, so he is well on his way for his Messier Certificate. He got 5 in one night, and this was just observing at a casual pace.

We went in for the night, as we were cold but he was so excited that after I retired for the evening, he went back outside and watched as more meteors crossed the sky. He told me later, how he kept looking at the planets and Orion and memorized the locations in the sky so he could share with others.

On the morning of his departure, I arose early and he also came out. I was trying to find Comet Pojanski, with no luck, but I pushed open the observatory, and we observed Jupiter and Venus. As the morning sky broke with the kiss of the sun over the horizon, we had observed and shared a moment in time that we could expand upon later.

After my brother got home, he had

contacted his friend up the street, who owns a telescope, and he showed and told him what he had seen. He took with him a love of the night sky and a memory that will last a life time.

We all can share this love of sky with family, friends and strangers, when we have our Public Observing sessions and on Astronomy Day on May 6. Why not help share the view? You don't need fancy equipment, binoculars work just fine and it might just kindle the flame of astronomy in a person which may flourish into a passion.

Be a part of the gift, observe and share the day and night time skies with others, there is no other feeling like it.



Annoucement of Special Meeting

**April 14, 2006 regarding the new
Kingston Centre by-laws.**

Kim Hay

In the March issue of *Regulus*, it was published that the RASC-Kingston Centre was updating its by-laws and once viewed and approved in principal by the Constitution Committee of the RASC, the members would be voting on the updates of the Kingston Centre By-laws.

These updates are needed to bring us in line with the National By-law Number One, and to give us the next step in

achieving our Federal Non-profit status and Charitable tax number.

Once these are adopted and approved by our members, with final adoption and approval by council at the May 19, 2006 meeting in Ottawa, we will be able to move on. This is a necessary step to give us the freedom and flexibility of striving for our goal, to acheive land and ultimately have our own observatory and observing site.

As the President of the RASC-Kingston Centre I am officially notifying all members of the Centre that there will be a Special Meeting on April 14, 2006 to adopt and approve our new by-laws.

Please go online to visit and read the draft by-laws at
<http://130.15.144.99/rasc/secure/kingstonbylaws20060219draft.pdf>

If anyone has any questions, or needs clarification please contact anyone on the Executive at kingston@rasc.ca

I would like to thank Susan Gagnon, Wayne Harris, Steve Hart and Kevin Kell in preparing the new by-laws and submitting them to the National Constitution Committee.

Hope to see you at the Special and Regular meeting on Friday, April 14, 2006 at 7:30 p.m. If you cannot make it, please have a safe and Happy Easter Holiday.

Agenda April 14, 2006
Special and Regular Meeting

WELCOME

Announcements

Special Meeting: Adoption and Approval of the Updated RASC-Kingston Centre Bylaws

Motion: Move to rescind the RASC-KC Bylaw #1 and adopt the proposed Bylaw #1 as posted on the RASC-KC members-only website (<http://130.15.144.99/rasc/secure/kingstonbylaws20060219draft.pdf>) and also distributed at this Special Meeting with the proviso that the new By-law not take effect until approved by the RASC National Council.

This needs to have a special resolution to pass (2/3 of voting members present), so there will be an explanatory intro about who can vote before the motion is introduced.

Guest Speaker: Peter McMahon
Topic" Marshmallows on Venus:
Adventures in wilderness stargazing"

Break 50/50 & Fun time

What's up in the Sky this Month?

Observing Reports - Slides, Photo's and other Interesting Stuff

Reports

Wrapup & Adjourn to Wendy's on Princess St. for food and talk!



OaftN 2006 Class
Observing Session

Kevin Kell

Wednesday March 29th marked the last class of our 2nd Observational Astronomy for the Novice Course. The January 2006 Class was instructed by Doug Angle and Peggy Hurley and had 19 students. The images shown below are of the students being presented with their Course Certificates.





The Observational Astronomy for the Novice Course Series has been a huge success for the centre, resulting in no less than 35 new members since 2005 September, when we ran the first course with instructors Doug Angle and Kevin Kell.

Our hopes are to continue with the Course once each year in the fall and maybe even supplement it with shorter advanced courses and workshops. Much of these advanced plans however depend on finding appropriate room space and volunteer instructor time of course!

Thanks to all who assisted and especially to Brian Battersby of the Prince George Centre who really got the program kicked started back in early 2005.



Target for Tonight

Susan Gagnon

The first installment of this column came to you in the February issue of *Regulus*, along with a lengthy preamble. I will be brief here and just say that these lists have 2 purposes:

- to help provide some structure to a beginning observer's session planning.
- to provide a method of tracking objects observed in the context of some of the lists that have been compiled by experienced observers.

I will continue to submit these short lists as time and space permit, or until someone tells me that they are not helpful. For more of an explanation or just to see how I really can ramble on, see the February issue.

Target for Tonight: Ursa Major

Explore The Universe certificate program

Constellation

Bright Stars: Pointers, Dubhe and Merak.

Multiple stars: U Ma Zeta 79/80 (Alcor and Mizar).

Messier List

M81, M82, M109, M40, M101

Finest NCG list

2841, 3079, 3184, 3877, 3941, 4026, 4088, 4157, 4605.

Levy List

27 (NGC 5377), 96 (NGC 2681), 28 (NGC 5473), 29 (5474), 130 (NGC 3198), 136 (NGC 3738), 137 (NGC 3718), 138 (NGC 3953), 167 (NGC 3310), 331 (NGC 3319), 337 (NGC 0957+561A/B).



Book review

Joe Benderavage

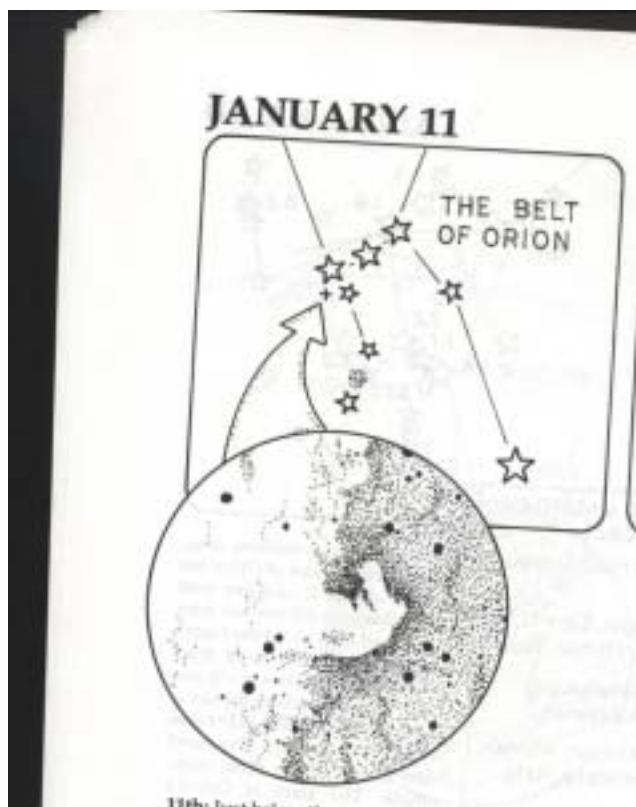
365 Starry Nights by Chet Raymo, 1982, Simon & Schuster, New York, is chockablock with drawings “meant to be suggestive only” but, as it turns out, that is enough to sharpen interest in the subject.

The book was written for “a hypothetical observer at a latitude of about 40 degrees North”, for both visual and telescopic perusal.

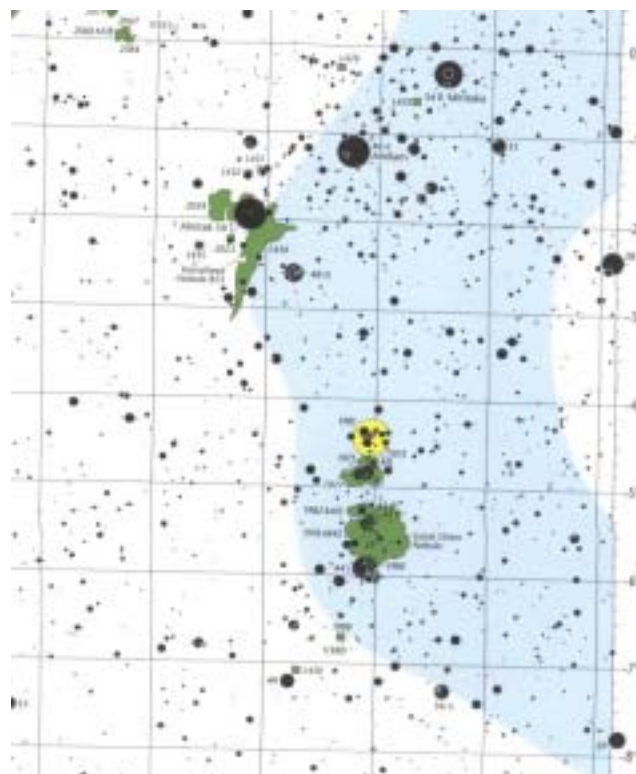
For January 11, a drawing of Horsehead Nebula, small compared to its matrix cloud, bears the startling description “A billion solar systems would fit neatly inside.”

Cross-references abound: from the Trapezium in Orion on the January 14th entry we see its young stars still surrounded by its nebula and we are advised to “see Mar 19-20” which includes H-R diagrams that show stellar evolution from contracting gas cloud to Main Sequence star to Red Giant to Nova to Dwarf star.

For comparison I look to Sky Atlas 2000.0, and on chart eleven I can see Orion and am vaguely disappointed that large entities like the Horsehead Nebula and the three stars of Orion’s belt are rudely crammed together and seem small and mean; but where does that put the aforementioned “billion solar systems”?



A billion solar systems would fit inside the Horsehead Nebula



The Horsehead Nebula shows as just a small bump in IC4343 in the Sky Atlas 2000 chart

The Sky Atlas 2000.0 (second edition) by Wil Tirion and Roger W. Sinnott, 1998, Sky Publishing, Cambridge University Press, Cambridge, Mass., is a set of 26 star charts in large fold-out format (22" by 16"). It includes both celestial hemispheres as well as detailed charts of seven areas: both celestial poles; Virgo galaxy cluster; Central Orion; Barnard's Star; Pleiades; and Proxima Centauri.

This is the second edition of a similar work published in 1981, but with an important difference. The stars are taken from the Hipparcos and Tycho Catalogues, the result of four years worth of all-sky scans by the European Space Agency's Hipparcos satellite. Published in 1997, it replaced "all previous surveys as a reliable census of the positions and brightnesses of the one million brightest stars."

The stars in this edition have a visual magnitude of 8.5 or brighter. The total number of single, double, or variable stars equals 81,312 in this atlas. Each chart has a legend containing symbols for deep-sky objects; galaxies are displayed in the same perspective as they are seen in the sky. Open clusters must have a total magnitude of at least 8.5; "Globular clusters, typically more condensed, are plotted to magnitude 11. Galaxies are shown to a cutoff of about magnitude 13 (in blue light) and planetary nebulae to 14 (in blue light)."

The four indices are for constellations, Messier objects, named stars, and "miscellaneous". There is also a plastic

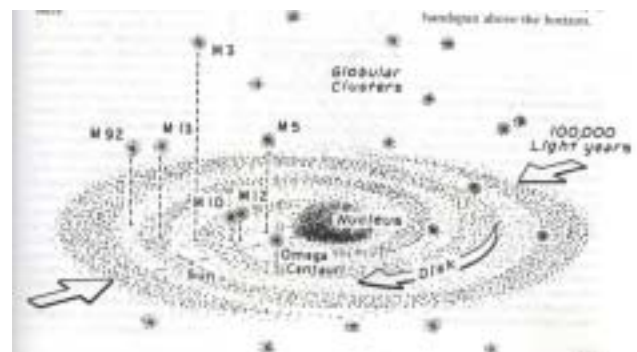
overlay and a chart key.

Some of the star charts bear an eerie resemblance to sea charts that show gradations in differing shades of blue that approximate ocean depths, with darkest blue reserved for the deepest parts. "The Milky Way is portrayed with four shades of blue that represent approximate brightness levels. The deepest blues are the brightest features of our galaxy, best appreciated under country skies far away from city lights."

Galaxies stand out; they are delineated in red. The Virgo cluster of galaxies spills over into Coma Berenices and is very evident.

The book contains information on birthdays, mythology, star names and pronunciations. Spectroscopy, spectral types, stellar wavelength, intensity and temperature are correlatively explained and illustrated. The book is written in anecdotal form.

It is an aid to learning the stars: "In their names and in their fanciful arrangements are a history of the imagination of humankind".



Line drawings make the book more

understandable and enjoyable. In the entry for July 6, which illustrates how globular clusters are distributed "like a great spherical halo" around our galaxy.

The feature star for February is Sirius ("scorching"). It is the brightest star in our sky. Using it as a starting point, you can find Orion. Above Sirius is Procyon in Canis Minor. Above Canis Minor is Gemini. Below Orion is Lepus.

The history of Sirius during the time of the classical Roman empire finds it described by Roman writers as reddish, but to us it is a hot blue-white A-type star. However, it has a companion white dwarf star, Sirius B. The author Raymo postulates that Sirius B was a red giant star two thousand years ago, and outshone Sirius A. It must have since become an earth-sized white dwarf, orbiting Sirius A every fifty years.

In winter we see the Milky Way looking outward, but in summer we look inward towards the galactic centre. When we look at the Milky Way without a telescope, we see that it is always in the sky, yet it has different dimension according to the season. In summer we see the galactic central bulge, through the mask of the Sagittarius and Centaurus spiral arms of the galaxy, seen edge on, whereas in winter we look outwards through Cygnus and Perseus spiral arms.

Since the arms spiral all around us, the Milky Way is present in spring and autumn, but ever changing.

I have mistakenly assumed that since the Milky Way was a constant presence

in the sky, it was unchanging, but now I know better, and for that alone it was worth my reading the book.

There is not enough room in this newsletter to do justice to this stimulating work. Instead of obfuscation, bafflegab, and arcane formulae, we have here hand drawn pictures, reduced to simple forms, and explained by clear description.

When I started reading this book I expected it to be a simple almanac-type series of nightly portraits of the sky. Instead, I have found a coherence, depth, and narrative that have addressed several mysteries dormant in my mind, submerged by the relentless allure and glitter of discovery, especially in our present era of space telescopes and interplanetary travel.

This book is best read not cover to cover, but now and then, as the celestial spirit moves you.



The Kingston Centre of the RASC

Newsletter Submission Info:

I can take most common formats, although I prefer plain text. Pictures should be sent as image files in attachments separate from the articles.

E-mail: angle@personainternet.com

Subscriptions: Members of the Kingston Centre receive *Regulus* as a benefit of membership. Advertisements are free to members of the Centre. Commercial advertising is \$20/quarter, \$40/half page, \$100/ full page and should be in electronic format.

Contributions are more than welcome. submitted material may be edited for brevity or

clarity.

2006 Publication Deadlines

November

December

January 2007

October 21

November 25

December 16

For the month

May

June

July

August

September

October

Deadline

April 22

May 27

June 24

July 29

August 19

September 30

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When you hear...

Author unknown

What They Say	What They Really Mean:
It is a difficult double star.	If you see two stars, it is probably wishful thinking.
This is a test for a 4" telescope.	Use a 10" and maybe you'll see it.
An experienced observer can detect the star's variability.	If you haven't been observing for at least ten years, don't try it.
The color contrast is striking.	One star is white, the other is white.
The spectrum is unusual.	I can't understand it.
The ideal book for an amateur.	Brush up on your math.
The cluster has over two hundred stars.	I counted twenty-five.
The slightest haze will obscure it.	You probably won't see it on the clearest night.
The telescope's optics are superb.	They magnify atmospheric disturbances perfectly.
The site offers clear skies year round.	It is two hundred miles from civilization.
A person with average eyesight can split this pair.	Over half the world is blind.
If it is cloudy, other activities are planned.	Let's gobble down some pizza and swill beer.
Observations were terminated at 2 AM because I got cold and sleepy, and of haze.	I ran out of Vanilla Wafers.
"Uh, that's neat." (Spoken by your non-astronomer neighbor after being shown M31).	"How much did you say you paid for this thing?"
I think it is only the wind in the trees or a cow in that field or something.	It will probably eat me and then march on Tokyo.
After moonrise, members ceased deep-sky	Everybody (a) cursed, (b) seared their retinas

activities and enjoyed pleasant views of the moon.

before packing up, and (c) went home.



Kingston Cosmic & Events Calendar

April & May 2005

By Kim Hay

For more detailed information, please refer to the RASC 2005 Calendar, and the RASC 2005 Observers Handbook. Available from Kevin Kell or from National Office, <http://www.rasc.ca/kingston>

April 1 Saturday	Moon occults the Pleiades best in E of N. America 8:00 pm	May 6 Saturday	Astronomy Day at the Isabell Turner Library 1:00 5:00 pm
April 2 Sunday	Daylight saving Time Begins 2:00 am	May 6 Saturday	Astromomy Day Night Observing at Little Cataraqui Conservation Area 8:00 10:00 pm. There will be a talk & observing
April 5 Wednesd ay	First Quarter Moon 8:01 and near Pollux at 9:00 pm 2 shadows on Jupiter visible in all of N. America	May 10 Wednesd ay	Spica 0.4 NW of Moon best in E. of N.America 8:00 pm
April 8 Saturday	Mercury at greatest elongation W 28 degrees	May 12 Friday	Regular Meeting Stirling Hall Theatre D 7:30 p.m. Guest Speaker: Harold Kenny (RMC) Topic is "Symbiotic Stars and the Nature of Radio Astronomy".
April 8 Saturday	KAON Observing Session Ellis Hall Queen's Observatory * 9:00 11:00 p.m.* for more information visit http://members.kingston.net/rasc/pu_bobs.htm	May 13 Sunday	Full Moon 2:51
April 9 Sunday	Regulus 2.3 degrees S of Moon 12:00 am	May 13 Saturday	KAON Observing Session Ellis Hall Queen's Observatory * 9:00 11:00 p.m.* for more information visit http://members.kingston.net/rasc/pu_bobs.htm
April 13 Thursday	Full Moon 12:40	May 19 to 22 Friday	RASC General Assembly in Ottawa see www.rasc.ca/ga2006 for details
April 14 Friday	Regular Meeting Stirling Hall Theatre D 7:30 p.m. Guest Speaker: Peter McMahon Topic: "Marshmallows on Venus: A backpacker's guide to stargazing"	May 20 Sunday	Last Quarter Moon 5:20
April 16 Sunday	Mars 0.8 degrees right of M35 11:00 pm.	May 26 Friday	Astro Yak at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/index_sec.htm for directions
April 20 Thursday	Last Quarter Moon 23:28	May 27 Sunday	New Moon 1:26
April 22 Saturday	Lyrid meteor peak 12:00 pm.	May 30 Tuesday	Cresent moon between Mars and Pollux 11 pm
April 27 Thursday	New Moon 15:44	May 31 Wednesd ay	Cresent moon 2.6 degrees above Saturn and the Beehive cluster (M44) best in NE of N. America at 9:00 pm
April 28 Friday	Astro Yak at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/index_sec.htm for directions	May	Members Observing Session FLOATING PERIOD: first clear night Saturday, May 20 to Sunday, May 28. MEET: 9 pm in the South Parking Lot of Lemoine Point C.A.
April	Members Observing Session FLOATING PERIOD: first clear night Thursday, April 20 to Saturday, April 29. MEET: 9pm in the South Parking Lot of Lemoine Point C.A.		
May 1 to 7	International Astronomy Week		
May 5 Friday	First Quarter Moon 1:13		
May 5 Friday	n-Aquarid meteor peak a:00 am		