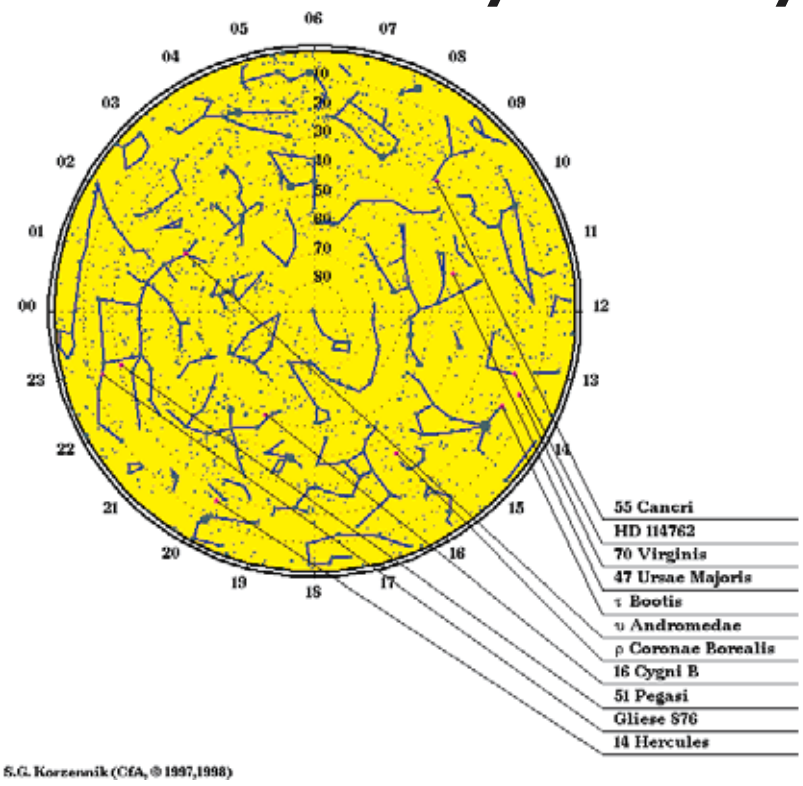
Saskatoon Skies

The Newsletter of the Saskatoon Centre of the Royal Astronomical Society of Canada

Vol. 35, No. 1 **January 2004**

They are everywhere!



S.G. Korzennik (CfA, © 1997,1998)

In 1998, astronomers had detected only about a dozen extra-solar planets; now over 100 are known. As this map from Sylvain Korzennik of the Centre for Astrophysics at Harvard University illustrates, planets are everywhere! Les Dickson will be giving a presentation at the January meeting on the techniques used to discover these planets, and how we are now trying to discover Earth-like planets that may be oases of life around other stars.

IMAGE USED WITH PERMISSION

In this issue...

Saskatoon Centre
The Royal Astronomical Society of Canada
P.O. Box 317, RPO University
Saskatoon, SK S7N 4J8
URL: http://prana.usask.ca/~rasc/
E-mail: Huziak@SEDSystems.ca
Telephone: (306) 665-3392

Membership?

It's never too late to join!

Regular: $52.00/year
Youth: $27.50/year

The Saskatoon Centre operates on a one-year revolving membership. You will be a member for the next 12 months no matter when in the year you join. If you do not want to join at this time, ask to get onto our FREE 3-month Temporary Membership list. You will receive regular mailings of our *Saskatoon Skies* newsletter and will be invited to participate in Centre activities. Members are encouraged to renew early to avoid disruption in publications. Renew through the membership coordinator, Mike Clancy, or renew through the National Office and let Mike know that you did!

Benefits of Membership in the Saskatoon Centre

- knowledgeable & friendly amateur astronomers
- use of the Sleaford Observatory
- use of the U of S Observatory (after training)
- *Saskatoon Skies* Newsletter
- **Observer's Handbook 2004**
- **The Journal of the RASC** (bimonthly)
- **SkyNews Magazine** (bimonthly)
- use of the Centre library
- discounts to **Sky & Telescope Magazine**
- discounts of Sky Publishing merchandise
- free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!

U of S Observatory

The U of S Observatory is open to the general public every Saturday of the year. Admission is free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear nights, visitors may look through the vintage 6-inch and tour several displays. Current events are recorded on the Astronomy Information Line at 966-6429.

Observatory Hours:

January-February	7:30-9:30 pm
March	8:30-10:30 pm
April	9:30-11:30 pm
May-July	10:00-11:30 pm
August	9:30-11:30 pm
September	8:30-10:30 pm
October-December	7:30-9:30 pm

About this Newsletter...

Newsletter Editor – *Tenho Tuomi*
Production & Layout – *Linda Janzen*
Copy – *Brian Friesen & WBM*
Collate – *Brian Friesen, Walter Essar, Jim Young, Les & Ellen Dickson, Yannis Pahatouroglou*
Labels & Temps – *Mike Clancy*
Web Posting – *Gord Sarty*

Printing of this Newsletter is courtesy of

WBM OFFICE SYSTEMS
601 2nd Avenue North
Saskatoon, SK S7K 2C7

Copying is provided on a Risograph copier for a nominal fee.

Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 100 copies per issue. Saskatoon Skies welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science articles. Articles can be sent by mail in any format to the Centre's mailbox. Submitted materials can be returned upon request. Submissions may also be sent by e-mail – preferred as **plain unformatted ASCII text files without line breaks**. Images sent by e-mail should be attached .JPGs (.GIFs also accepted). Send e-mail submissions to the editor at <tuomi@sasktel.net>. Please send articles in "generic" formats with simple formatting – one tab at the beginning of paragraphs, one space after commas and periods. A separate by-mail subscription to ***Saskatoon Skies*** is available for **$15.00** per year. ***Saskatoon Skies*** is also posted on our Saskatoon Centre homepage as a .pdf file and can be downloaded free-of-charge. Members may choose to receive the newsletter by regular mail or via the Internet. Articles may be reprinted from ***Saskatoon Skies*** without expressed permission (unless otherwise stated), but source credit is requested. **DEADLINE for submissions is the 26th of each month.** ***Saskatoon Skies*** accepts commercial advertising. Please call the editor for rates. Members can advertise non-commercial items free of charge.

Bottle Drive & Canadian Tire $

by Darrell Chatfield

Canadian Tire Money collected to date is $34.25. Thank you to all who contributed to our fundraising for the Centre. Please bring your bottles and Canadian Tire Money to the General meetings. I will collect them after the meeting concludes. If you cannot make it to the meeting but would like to contribute, please call me at 374-9278.

2004 RASC Calendar of Events

DATE	EVENT	CONTACT	TELEPHONE
Jan. 11	**SSSP Committee Meeting** – 2:00 p.m., location tbd	Les Dickson	249-1091
Jan. 19	**Executive Meeting** – Rm 8313, City Hospital, 6:30 p.m.	Rick Huziak	665-3392
Jan. 19	**General Meeting** – Rm 8313, City Hospital, 7:30 p.m. – **Detecting Earth-like Planets Around Other Stars** – Les Dickson	Rick Huziak	665-3392
Jan. 26	**Sleaford Joint Committee annual meeting** – Rm 175 Physics, 5:00 p.m.	Rick Huziak	665-3392
Jan. 30	**Light Pollution Committee meeting** with Cypress Hills in Swift Current – Topic: **Dark Sky Preserve**	Rick Huziak	665-3392
Feb. 9-23	**Zodiacal Lights** visible in west after sunset		
Feb. 16	**General Meeting** – Rm 8313, City Hospital, 7:30 p.m. – **What to Observe** – Darrell Chatfield	Rick Huziak	665-3392
Mar. 4/5	**Two shadows visible on Jupiter** (also on 11/12, 18/19, 22, 29)		
Mar. 14-27	**Messier Marathon dark period**	Brent Burlingham	244-9872
Mar. 15	**Executive Meeting** – Rm 175, Physics Bldg, U of S, 6:30 p.m.	Rick Huziak	665-3392
Mar. 15	**General Meeting** – Rm 175, Physics Bldg, U of S, 6:30 p.m.	Rick Huziak	665-3392
Mar. 29	**Venus & Mercury at greatest eastern** elongation (visible in west after sunset) – best view of Mercury in 2004		
Apr. 19	**General Meeting** – program & location tbd, 7:30 p.m.	Rick Huziak	665-3392
Apr. 21/22	**Lyrid Meteor Shower Peak**		
Apr. 24	**International Astronomy Day** – mall display tbd	Brent Burlingham	244-9872
Apr. 24	**International Astronomy Day Starnight** – location tbd	Brent Burlingham	244-9872
May 17	**General Meeting** – program & location tbd, 7:30 p.m.	Rick Huziak	665-3392
May 22	**Noctilucent Cloud Season begins**	Rick Huziak	665-3392
June 21	**General Meeting** – program & location tbd, 7:30 p.m.	Rick Huziak	665-3392
Aug. 12	**Noctilucent Cloud Season ends**	Rick Huziak	665-3392
Aug. 12-15	**Saskatchewan Summer Star Party (SSSP '04)** – Cypress Hills Interprovincial Park	Les Dickson	249-1091
Aug. 14-22	**Mt. Kobau Star Party** – Osoyoos, BC	Jim Failes (250)	763-6962

Monday, Jan. 19, 2004, 7:30 pm – Room 8313, City Hospital

Presenting:

Detecting Earth-like Planets Around Other Stars

by Les Dickson

To date, only Jupiter-sized planets have been "observed" around other stars, but the technology to detect earth-like planets is not far away!

REMEMBER… YOU CAN SIGN UP TO GET THIS NEWSLETTER ON THE INTERNET instead of waiting for snail-mail. Current electronic subscribers *save us over $320/year* in mailing costs.

Detecting Earth-like Planets Around Other Stars *by Les Dickson*

At the January meeting I will be giving a presentation outlining the current efforts by NASA, the European Space Agency and others, in looking for Earth-like planets around other stars. I looked at a number of books and websites in doing the research for this talk, and I thought that you might find it useful to have a list of sources that you could explore for yourself.

Books

Rare Earth by Peter Ward and David Brownlee (2000)

Lonely Planets: The Natural Philosophy of Alien Life by David Grinspoon (2003)

Websites

Lonely Planets: David Grinspoon:
http://www.funkyscience.net/lonelyplanets/index.html

Extrasolar Planetary Systems:
http://www.seds.org/~rme/exoplanets/exobiology.html

The Extrasolar Planets Encyclopaedia:
http://www.obspm.fr/encycl/encycl.html

The Search for the Extrasolar Planets: A Brief History of the Search, the Findings and the Future Implications:
http://www.public.asu.edu/~sciref/exoplnt.htm

NASA Origins Program:
http://origins.jpl.nasa.gov/index1.html

NASA Origins Program Documents and Tutorials:
http://origins.jpl.nasa.gov/library/index.html

NASA Terrestrial Planet Finder Mission:
http://planetquest.jpl.nasa.gov/TPF/tpf_index.html

How to Find an Extrasolar Planet (European Space Agency [ESA]):
www.esa.int/export/esaSC/SEMYZF9YFDD_index_0.html

The ESA Darwin Mission Page:
http://www.esa.int/export/esaSC/120382_index_0_m.html

The Exploratorium (San Francisco Museum of Science, Art and Human Perception) Astrobiology Page:
http://www.exploratorium.edu/origins/arecibo/index.html

My talk will include some introduction to the new research field of "Astrobiology" (aka "Exobiology"). The *Lonely Planets* website give a good basic introduction to this field (from David Grinspoon's point of view) and a set of links to some very good debates on the issues with leading members of the field, including Frank Drake ("The Drake Equation"), David Grinspoon, Peter Ward, David Brownlee, Philip Morrison and Christopher McKay. The *Exploratorium* website is unique in that there are links to archived webcasts of discussions and demonstrations related to Astrobiology.

Sky Buys & Mirror Cells

The Saskatoon Centre's Swap and Sale Page!

For Sale: *Astronomy 2002,* by Robert Burnham – colour sky charts, planet information, etc. – $15.00.
35mm Bausch & Lomb Plossl eyepiece, fully coated. Excellent shape, in original box with dust caps – $80.00. Call Darrell at 374-9278.

For Sale: RASC Royal Centenary coffee mugs. Pick yours up at the next General Meeting – $9 each

For Sale: *Millennium Star Atlas,* 3-volume set – $200; **REALSKY CD's** – $200. Call Dale Jeffrey at (306) 223-4447 or dalejeffrey@sk.sympatico.ca

BOOKS FOR SALE

by Bruce Brandell, Sales Coordinator

We have a number of books, calendars and pins left over from SSSP Sales. Call 249-1119 or email ***bruce_brandell@yahoo.com***

Title	Author	No. Avail.	Price CDN$
RASC 2004 Calendar	Rajiv Gupta, Editor	19	$ 5.00
Skywatcher's Calendar	Stan Shadick	2	$ 5.00
Messier Marathon	Howard Tennington	1	$42.00
Nightwatch	Terrance Dickenson	1	$28.00
Astrophotography	G.N. Patterson	oodles	$ 5.00
SSSP 2003 Lapel Pin		5	$ 5.00
SSSP 2002 Lapel Pin		34	$ 4.00
SSSP 2001 Lapel Pin		24	$ 4.00
RASC Centenary Mugs		14	$ 9.00

CLEARANCE SALE!
RASC & Skywatcher Calendars

Rick's Ramblings...

by Rick Huziak, President <Huziak@SEDSystems.ca>

The business part of the December General Meeting was going to be only 10 minutes long, where I was intending to inform members that we had decided in the Executive Meeting that we were going to begin looking into the purchase of a video projector. However, Yannis Pahatouroglou then spoke on this topic and gave us an offer that becomes difficult to refuse, or at least to consider.

Yannis proposed that the RASC meetings move back to the campus of the University of Saskatchewan. This would solve several of the issues we have on the table – including looking for a bigger meeting room and use of a standard video projector that we would no longer have to buy or maintain.

Meeting History We had previously met on campus in the Health Sciences Building for as long as I can remember – since at least 1979. The relationship with the University was good, being sponsored by Gordon Patterson, and later by Professor Ed Kennedy. However, about 6 years ago, the University made all of their parking lots in the area into paid or permitted parking, and this became a problem with our members. We also wanted a facility where we could roll telescopes in for display easier than it was in the 2nd floor Health Sciences meeting room. So we decided to move to a ground-floor room at the National Hydrology Building in Innovation Place, sponsored by Bob Christie. The move also relieved the parking problem since the lot was reserved for Hydrology use 24 hours a day. Two years later, we were evicted when Hydrology changed their room use policy. Luckily, Debbie Anderson found us the seminar room at the City Hospital but Debbie is no longer a member, so our relationship with the hospital is tenuous at best. The 8th floor and limited meeting space makes it hard to transport equipment for display.

A Move Back to Campus? If we were to move back to campus, some of our current problems would be solved and some new one would be created. The room Yannis is offering is 175 Physics, which we could book for the entire year. This room is right at the junction between the old and the new Physics buildings. It comfortably holds 40 people, though we could squeeze 50 if we had to. It is set up as a lecture theater, with raised C-shaped seating, so everyone can see easier. The room comes equipped with its own AV suite – a slide projector, overhead projector, video projector, screen and Internet connection that can be hooked through the video projector. With other storage space available in the Physics building, we could also keep a small amount of supplies we use monthly nearby, negating having to bring coffee pots, brochures and a display board to every meeting. With a room, AV equipment and storage, the position of General Meeting Coordinator now becomes unnecessary. Should we have a meeting that we would promote to the general public (such as Alan Dyer's talk last November), we could arrange for a larger lecture theatre. (I'd like to do public meetings like this now and then – it would help boost our membership. I've been reluctant to advertise the RASC meeting in the papers since we could not have handled an influx of more than 15 people over our normal meeting numbers). We would also no longer have to consider purchase of a $2500 video projector and worry about its on-going maintenance costs. On-campus meeting will also boost our student membership – a group that has been lacking in representation since we moved away from the University. We would also be closer to our terribly underutilized library in the campus Observatory.

A New Meeting Day? As good as the room, the issue of parking on campus is still there, especially for the September, October, November, January, February and March meetings. (Other months would not be an issue since students are much rarer then). Six of our ten monthly meetings would have parking concerns. Campus parking has never been easy on Monday nights since this is the heaviest evening for night classes. The University is trying to address this issue by building a new multi-level parkade next to Griffiths Stadium, and revising the use of a few other lots on the main grounds. We have looked into parking and have found that even with night classes, underground parking beneath the Agriculture Building (accessible from Science Road) often has spaces available (unless it is very cold). All parking on campus costs something, but that cost is low – only $2 from 6 p.m. to 10 p.m. (and free after 10). To alleviate the parking pressure, we could also move to a new night. The lightest parking nights are Thursday through Sunday. However, moving nights presents its own problems – likely with reduced membership at the meetings. In reverse order, Saturday and Sunday can have members out of town, though out-of-town members could easier attend. Friday and Saturday are usually "family nights" at home and for observers, nights that you can do all-nighters at Sleaford. Thursday and Friday are late-shopping nights. We could also change to a Tuesday, Wednesday or Thursday night, but this presents a more serious issue. In mid-week, getting speakers from out-of-town will become next to impossible, since no one will be willing to take extra days off of work to come and talk to our group. Bottom line is, though, that we will not be able to satisfy all members' inconveniences. Please call or email with any concerns or opinions.

The March Meeting. With all this in mind, we have decide to hold a meeting on campus while the students are attending so that we can all get the feel of these issues – what the meeting room is like and what it is like to find adequate parking. Details of this meeting will be announced in upcoming Saskatoon Skies newsletters.

On to other things. I'd like to thank Councilor Graham Hartridge for volunteering to take over the meeting coffee job. Graham will now be in charge of getting the pot to each meeting and maintaining the coffee supply level.

Timothy Ferris's *Seeing in the Dark: How Backyard Stargazers Are Probing Deep Space, and Guarding Earth from Interplanetary Peril*

A Book Review by Ron Waldron

It is not often that I read a book and feel compelled to write about it but Timothy Ferris's latest book ***Seeing in the Dark: How Backyard Stargazers Are Probing Deep Space, and Guarding Earth from Interplanetary Peril*** is one that I simply must. I picked it up at McNally Robinson Bookstores as a holiday book to read, a role it fulfilled admirably.

A wonderful blend of astronomical fact and passionate description, this book describes how amateur astronomers working independently or with professional astronomers have and are contributed to our understanding of the universe. Starting in the Solar System and working outwards to the depths of space this information is presented clearly and factually in a way that any amateur observer can relate. Interwoven throughout the book are chapters containing interviews and personal anecdotes of amateur astronomers that Ferris has met or worked with over the years. These chapters are wonderful vignettes into the world of amateur astronomy and they allow the reader the opportunity to get a glimpse of how other amateur astronomers have or are making their mark in astronomy.

In the preface, Ferris explains that *Seeing in the Dark* "is about stargazing, which is … one of the oldest and most ennobling, and one of the newest and most challenging, of human activities." At the heart of the book are Ferris's accounts of his visits with amateur astronomers. Included among others are, Stephen James O'Meara (who saw radial spokelike features on the rings of Saturn years before they showed up in Voyager 1 images, and who was the first to spy Halley's comet on its recent return), Barbara Wilson ("one of the world's most skilled observers"), Patrick Moore (England's great popularizer of astronomy, who has written more than 60 books and has a television show about to enter its 47th year), and (full disclosure) me. He also describes encounters with a couple of ghosts—Percival Lowell and John Henry (the steel driver)—and a virtual visit to a robotic telescope.

As an amateur astronomer himself, Ferris is able to describe the importance of amateur astronomy. It might have seemed that with the big telescopes on mountaintops used by the professionals, and then with the Hubble, there would be little for amateurs to do except gaze to their hearts' content. Indeed, Ferris says that when he was starting out as a boy, amateurs had telescopes that were severely limited by their small power to gather light. Looking at the moon or planets was almost all that enthusiasts with such little scopes could do, and just for their own satisfaction. The discoveries were being made by the pros with their big scopes housed in observatories, and some of them looked down their noses at the backyard gazers; the wiser ones invited amateur collaborations. They realized that big scopes have limitations, too. They get a narrow, rather than a wide, view. They concentrate on such deep, dark formations that they have to stare in the same place for a long time, to let the image make an exposure; this eats up time, and produces a limited number of images every night. And there aren't very many big scopes, especially compared to the number of home-based ones. Technology has boosted the power of such home scopes. The "charge-coupled device" or CCD is a light sensitive electronic chip that registers faint starlight faster than any photographic emulsion. CCDs attached to a good home scope can gather light in a degree comparable to the Palomar telescope. There are now thousands of very acute eyes out there.

In fact, there is plenty to be said just for looking around the universe for no other reason than to appreciate the appearance of our cosmic home, but it is surprising just how much amateurs can do that is useful. So, what can amateurs do? Useful things, like monitoring variable stars which help measure distances to remote star systems, or checking the weather on other planets, or finding (or re-finding) asteroids and comets. Hunting for exploding stars in other galaxies can produce the first viewing of a supernova, and monitoring its rise and fall can give basic information about its distance, information which goes into our overall understanding of the expansion rate of the universe and of the consequences of the Big Bang billions of years ago.

The book begins at "The Shore" with early events that shaped the author's life, including a Christmas gift of a first telescope, "suitably wretched" but sufficient to see the features of Mars. It also introduces a recurring theme, the shared goals and natural antagonisms of amateur and professional astronomers.

Then, heading into "Blue Water," the book takes readers on a tour of the Solar System, outbound from the realm of the Sun, with stops at each planet through Neptune, the Moon, the asteroid belt, Pluto and the icy Kuiper belt objects, and Oort cloud of comets.

Continuing into "The Depths," the reader discovers the Milky Way and other galaxies, galactic clusters, and nebulas with revealing structures. Looking deeper into space and further back in time, stargazers see the intensely bright light of long-vanished galactic predecessors, known as quasars—and then darkness at the limit of the observable universe.

There Ferris finds revelation, life and death: "When darkness is falling for good, it is well to have in mind, in addition to memories of human love and loss and of the

natural splendours of this world … a few memories of other worlds as well … plasma arches rising off the edge of the Sun, yellow dust storms raging on Mars, angry red Io emerging from the shadow of Jupiter, the rings of Saturn, the green dot of Uranus and the blue dot of Neptune, the glittering star fields of Sagittarius and the delicate tendrils connecting interacting galaxies … ."

That would be a suitable ending, but for readers newly turned on to stargazing, Ferris adds six useful appendixes to start them along the path that has provided him a lifetime of riches.

Whether sitting in the chilly darkness of a backyard observatory or in the warmth of a well-lit room, with this book and its author as guide, you will experience the passionate quest to discover your time and place in the Universe. In every chapter, Ferris' eloquent writing style keeps you coming back for more. I can't think of a better book to help the avid amateur astronomer polish up his "spiel" in preparation for describing objects on a public star night. I found the book to be reminiscent of Peltier's *Starlight Nights* in its style and enthusiasm for the hobby. I think every amateur astronomer should have this book in his or her library.

Inconstant Moon – An Amateur's Perspective *by Mike Clancy*

"O Inconstant moon, the friend of lovers and smugglers"

So, you're all set up and the night is just right for all that viewing you've planned in these many weary weeks, but the moon has risen full and the extra light has washed the stars away. You've two choices: pack everything back up and grumble about the wasted effort, relegating yourself to the television and reruns of "Hee-Haw", or resigning yourself to the night and enjoying the spectacle that is the moon. Why is it that novices and children forever delight in the moon's face while older astronomers have become jaded and blasé, having become enamored with other celestial pursuits?

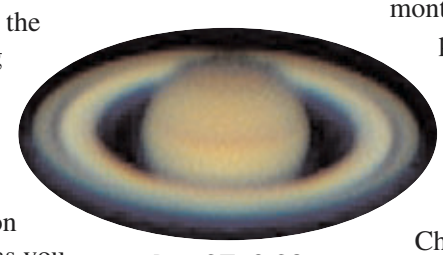
From time unknown the moon has guided our every human endeavor and yet as soon as we get beyond a certain telescope aperture we curse it's every appearance! Let us examine a small (if somewhat eclectic) sample of the moon's tidal pull on puny human history. Our calendar is divided into months and this was based initially on the passage of the moon through its various phases. The use of a month as a standard of temporal measure is universal as all cultures have some sort of calendar and all were based on the lunar cycle. The ancient Greeks coined the term "honeymoon", as it was custom back then to give the newlyweds a supply of mead (fermented honey, a type of wine if you will) sufficient to last for one month (a moon, back then) during which time one would assume that nature would take its course and progeny would soon appear. The moon is the cause of our tides as it pulls on the softer, watery parts of our planet in its circumnavigation of our globe. The pale, silvery light of a full moon is a reflection of the golden glory of our sun but softened enough that one can safely gaze upon it with telescopic interest. The first time you looked at the moon through decent instruments you saw the shadows fall from canyon wall to crater floor below, and you understood (dimly, perhaps) that this was another, more exotic world. Now you can watch those very same canyon crests and mountainous peaks wink a distant star or planet out of sight as the moon sweeps between you and your target. Not only that, but observing the moon generally requires little expensive machinery; the Human Eyeball (Mark I) or a pair of binoculars is all that's really needed!

Several good websites exist to discuss lunar events and geographic features: www.inconstantmoon.com is a good start, as is the site for Lunar and Planetary observations at http://www.lpl.arizona.edu/~rhill/alpo/lunar.html. You might also try the Hitchhikers Guide to the Moon at: http://www.shallowsky.com/moon/hitchhiker.html. The RASC Observer's Handbook has a useful moon map as well as an abundance of information about our satellite, including monthly lunar cycle charts. Check out these references as we've a couple of excellent lunar treats in store for us, and I want you prepared for the next full lunar eclipse of 27/28Oct04. In another article leading up to that happy event I'll discuss ways of measuring the eclipse's fullness, and timing it's passage across the prominent features of the lunar face. Weather permitting, we may even see the moon turn red as it did this past November, bathed as it was in the glow of sunsets and sunrises from around the world. So who says the moon's cold pale light is to be scorned?

The Planets this Month, January 2004

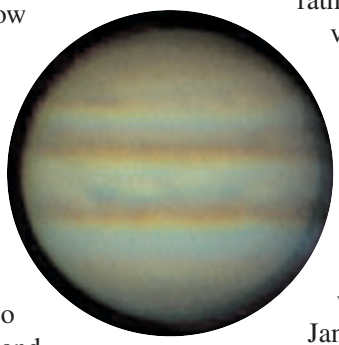
by Murray D. Paulson, Edmonton Centre

Last month I encouraged readers to hunt for Mercury at December's evening elongation, and a few people managed to catch it. I made 4 attempts to hunt it down, but the ice crystal haze along the horizon defeated me and then came the clouds. Drat! Did you manage to catch it on the other end of the pendulum swing in the second week of January? It is almost a mirror image of the evening apparition but in the morning hours. The ecliptic is at the same angle to the horizon as early December, but the eccentricity of Mercury carries it well above the ecliptic, the very opposite of the evening apparition. This apparition should be easy to see, so do watch for it as you head to work in the morning over the second week of January. On the 11th it will sit at Dichotomy and greatest western elongation, 23 degrees from the sun. At this time it rises at 7:04 am, 1 3/4 hours before the sun and shines at magnitude 0.0. Over the next month it will descend back into the morning twilight glare.



Dec 27, 9:23

Venus at the start of January shows a 13.4" gibbous disk and shines at magnitude -4.0 in the evening sky. Last month we watched as Venus passed just below Neptune, and this month we get an instant repeat with Venus passing just below Uranus. This should be a little easier to see with Uranus at magnitude 5.9. You should be able to get both planets in a medium power eyepiece field, which should show both of their disks on the night of January 14 when they are 54 minutes of arc apart. Uranus will show a blue disk 3.4" in diameter. The two planets will be close for several days before and after this date. Over the next month Venus continues to climb up into the evening sky and increases in size to 15.5" by early February.



Dec 27, 9:33

Mars has ceased to be the well studied planet that we knew and loved, and has settled into being our evening companion. As it heads up the ecliptic, it actually rises much higher in the evening sky than at any time during the apparition earlier in 2003. This month Mars shines at magnitude 0.4 from the "V" of Pisces, and will show the viewer a 7.7" gibbous disk in the eyepiece. It sits so high in the early evening sky, 43 degrees, that on a night of good seeing that you should be able to see the major features quite easily. Over the next month Mars will continue to rise up the ecliptic and shrink in size to 6.3" by early February. It is really amazing how the changing geometry of the ecliptic allows Mars to sit so high for so long on it's curtain call. Mars and Venus will be our early evening companions right through into May.

In early January, we see Saturn just fresh from opposition, near maximum size and height in the evening sky. Over the month we will be able to see the shadow of the planet on the rings emerge as we gather some distance to opposition. It has swapped sides since our views in December. Saturn shines at magnitude 0.4 and shows a 20.6" disk in the eyepiece. I had a good view just after Christmas, subtle belts, the dark polar hood and the rings peering above the south pole of the planet. B ring showed obvious structure, like the grooves in a phonograph record. Over the next month Saturn moves westward in retrograde and moves closer to Mu Gemini, a copper colored M type star in one heel of the twins. On the night of February 2nd, the 12 day old moon passes directly above Saturn.

Jupiter has finally returned to the evening sky, though rather low until the morning hours. To get a good view of the giant planet be prepared to stay up late. I scanned through the Jovian moon events, and came up with a few interesting nights to mark down on your calendar. On Jan 12 our time, or Jan 13 UT, 3 moons experience an occultation event, and one, Ganymede comes out of an eclipse just prior to its occultation. January 18, 19 UT, we have two inner moon shadow events. On January 20, 21 UT, we have a relatively rare Callisto shadow transit and on the 30th, 31 UT, a Ganymede shadow transit. The Ganymede event is preceded by Ganymede transit. Ganymede is fairly dark and usually is visible against the planet's surface. On February 6, 7 UT, we have another great night with Ganymede and Callisto transits and shadow transits. The next time we get to see a Callisto event is in late March! This event will have both Moons transiting with Ganymede's shadow still on the planet. Nice event! The key is to watch the moons slide on to the disk of Jupiter, and get used to their subtle contrast with the planet itself. In my many years of watching the planets, I have seen only a few Callisto events. The weather or other circumstance seems to steal the event away from me. Maybe this month I will be lucky! Till next month, Clear skies!

Continued on next page

The Planets This Month continued

Note UT is 6 hours later than time here in the Central Time zone. For example Jan 13 at 5:37 UT occurs on January 12th at 11:37 pm (23:37) local time.

MONTH	DAY	H	MM	MOON	EVENT
Jan	13	5	37	I	Occ end
Jan	13	5	52	IV	Occ start
Jan	13	5	54	III	Ecl end
Jan	13	6	38	III	Occ start
Jan	13	8	39	IV	Occ end
Jan	13	9	57	III	Occ end
Jan	19	3	4	II	Sha end
Jan	19	4	58	II	Tra end
Jan	19	7	4	I	Sha start
Jan	19	8	1	I	Tra start
Jan	19	9	20	I	Sha end
Jan	21	3	48	I	Sha end
Jan	21	4	42	I	Tra end
Jan	21	4	57	IV	Sha start
Jan	21	8	48	IV	Sha end
Jan	31	3	19	III	Tra start
Jan	31	3	42	III	Sha end
Jan	31	6	36	III	Tra end
Feb	7	2	40	IV	Sha end
Feb	7	4	11	III	Sha start
Feb	7	5	4	IV	Tra start
Feb	7	6	42	III	Tra start
Feb	7	7	39	III	Sha end
Feb	7	7	45	IV	Tra end
Feb	7	9	58	III	Tra end

Minutes of the EXECUTIVE MEETING

Dec. 15, 2003, 6:30pm – Room 8313, City Hospital

Recorded by Al Hartridge, Secretary

1. Meeting called to order at 6:30pm.
2. Adoption of the agenda. Moved by Jim Young and seconded by Les Dickson and carried.
3. Adoption of the minutes of the previous meeting. Moved by Ellen Dickson and seconded by Les Dickson and carried.
4. Treasurer's report: present balance is $17070.63. Barb Young suggests the use of dual signatures for amounts over a certain limit.
5. Annual reports need to be submitted by the end of January 2004.
6. SSSP committee report: Les Dickson plans to schedule a meeting in January to begin to plan for the next star party. January 11, 2004 suggested.
7. General Meeting coordinator: Rick Huziak would create this position to handle monthly bookings, internal and external booking. We need a volunteer. Graham Hartridge has volunteered to bring the coffee pot, etc. to the monthly meetings.
8. National constitution: Jim Young centre rep.will look at the constitution to help clarify the length of terms of positions and repetition of positions and to define duties of individual positions.
9. Newsletter: congratulations to Tenho Tuomi on turning out an excellent first edition as the new editor.
10. Web page updates: Tenho Tuomi and Gord Sarty have been working to modernize the centre's web page.
11. Video projector: it has been suggested that we look at purchasing a digital projector. Brian Friesen may be able to get a good deal through WBM. We will also ask Brent Burlingham's advice. Jeff Swick will also join the committee to look at projectors.
12. Light Pollution: Rick attended a meeting in Regina with the Regina Centre and SaskPower. SaskPower is going to declare Cypress Hills as a dark sky preserve.
13. Fundraising: Darrell Chatfield has $40.00 from bottles and $27.00 Canadian Tire money.
14. Meeting Adjourned at 7:30pm.

Minutes of the GENERAL MEETING

Dec. 15, 2003, 7:30pm – Room 8313, City Hospital

Recorded by Al Hartridge, Secretary

1. Meeting called to order at 7:43pm.
2. Presentations:

   Les Dickson described an old rare book "The Biography of Arthur Stanley Edington".

   Chris Martin, the Ottawa Centre and global star map produced by one of its members.

   Rick Huziak, Honest to Goodness New Variable Stars.

   Stan Shadick, the results of the Astronomy 212 Student Poster Session.
3. Motion for adoption of the agenda by Les Dickson, seconded by Ellen Dickson and carried.
4. Adoption of the minutes of the previous meeting of Nov.17, 2003 moved by Mike Clancy, seconded by Tehno Tuomi and carried.
5. SSSP report: Les Dickson has scheduled a meeting for Jan.11, 2004. Needs ideas for possible guest speakers. Also consider the possibility of a brunch instead of the traditional Saturday evening banquet.
6. Digital Projector: a committee has been struck to study the possibility of purchasing a digital projector for our centre. Yannis has suggested that this would be too expensive to maintain. Bulbs are short lived and very expensive to replace. Also the equipment would become obsolete quickly.
7. New meeting place: Yannis has suggested we meet at the Physics building on campus. Would have access to good audio video equipment etc. Parking later in the week should be no problem

   If the day of our meeting was changed. ? Thursday. The March meeting will be a trial meeting on campus on a Thursday evening.
8. Donations: anyone wishing to donate to our centre this year should do so before January 1st, 2004.
9. Meeting adjourned at 10:00pm.

The Messier, H-400 & H-400-II, FNGC, Binoc & EtU Club

Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or 400 Herschel II, Explore the Universe, or 35 Binocular objects and earn great OBSERVING CERTIFICATES!

MESSIER CLUB

Certified at 110 Objects:
R. Huziak, G. Sarty, S. Alexander, S. Ferguson, D. Jeffrey, D. Chatfield, B. Christie, K. Noesgaard, M. Stephens, B. Hydomako, T. Tuomi

Mike Oosterlaken		93
George Charpentier		90
Lorne Jensen		84
Mike Clancy		81
Wade Selvig		75
Brent Burlingham		58
Brent Gratias		39
Les Dickson		28
Kathleen Houston	Up!	28
Ellen Dickson		17
Brian Friesen		15

FINEST NGC CLUB

Certified at 110 Objects:
R. Huziak, D. Jeffrey, G. Sarty, D. Chatfield

Scott Alexander		97
Tenho Tuomi	Up!	46
Sandy Ferguson		23
Mike Oosterlaken		20
Bill Hydomako		20
Mike Clancy		4

Chatfield BINOCULAR CERTIFICATE

Certified at 35 Objects:
M. Stephens, T. Tuomi, M. Clancy

Mike Oosterlaken	32

EXPLORE the UNIVERSE

Certified for Certificate:
M. Clancy

Tenho Tuomi	Applied Dun

HERSCHEL 400 CLUB

Certified at 400 Objects:
D. Jeffrey, R. Huziak, D. Chatfield

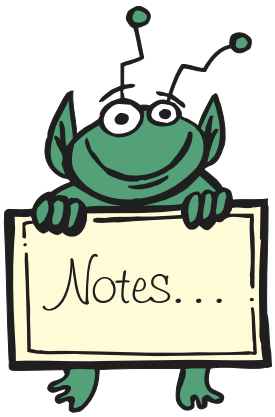
Gord Sarty	251
Scott Alexander	102
Mike Oosterlaken	68
Sandy Ferguson	18

HERSCHEL 400-II CLUB

Certified at 400 Objects:

Richard Huziak	196
Darrell Chatfield	117

The Messier & Finest NGC lists can be found in the *Observer's Handbook*. The Explore the Universe list is available on the National web site. The Binocular list & Herschel 400 lists will be available at each general meeting or can be mailed out on request to distant members. Each month I'll be posting updates.



This is the first update to the observing lists since October, and only Kathleen Houston and Tenho Tuomi have reported new totals. We need to use the Observing Group as a resource to keep each other informed and motivated – drop me a line or phone (brent.burlingham@usask.ca or 244-9872) any time you add to your observing totals, or any time you do any observing you'd like to share with the club.

Tenho Tuomi and Garry Stone have been busy at their observatories near Lucky Lake, south of Saskatoon. They have been observing Mercury in the twilight sky, and Garry managed a daytime observation at 2:30 p.m. Tenho picked up the comet C/2002 T7 (Linear) on December 22nd, and has added 14 new FNGC objects to his list (thanks in part to his new nebula filter). Garry and Tenho also observed the International Space Station and triangulated the difference in observed positions due to their separate locations.

Mild winter weather and earlier observing nights should prompt a rush of observing! If you'd like to go out to the Sleaford Observatory anytime, just give me a call! Our small group of observers knows no bounds when it comes to observing the sky! If it's clear, we observe! With the earlier evenings, you can begin observing by 7:00 p.m. and get home by 11! Give me a call at 244-9872 and tell me you are coming out!

On-line Messier List – For those who'd like an electronic Messier list (with DSS images), check out: http://www.seds.org/billa/dssm/messier.html

On-line Finest NGC List – For those who'd like an electronic FNGC list, check out the Edmonton Centre's version at: http://www.edmontonrasc.com/catalog.html