

Saskatoon Skies

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

Vol. 34, No. 5

May 2003

Tenho Tuomi's New "Little Barn" Observatory

Tenho — "Since putting it together, there has not been enough clear sky to even polar align the telescope."

This has been pretty typical of the past winter and spring. Let's hope for a better summer! We'll show more pictures of its construction next issue.



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Saskatoon Centre

The Royal Astronomical
Society of Canada

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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, Bob Christie, or renew through the National Office and let Bob 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 2003**
- **The Journal of the RASC** (bimonthly)
- **SkyNews Magazine** (bimonthly)
- use of the Centre library
- discounts to **Sky & Telescope Magazine**
- discounts of Sky Publishing merchandise
- discounts to Firefly Books
- free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!

About this Newsletter...

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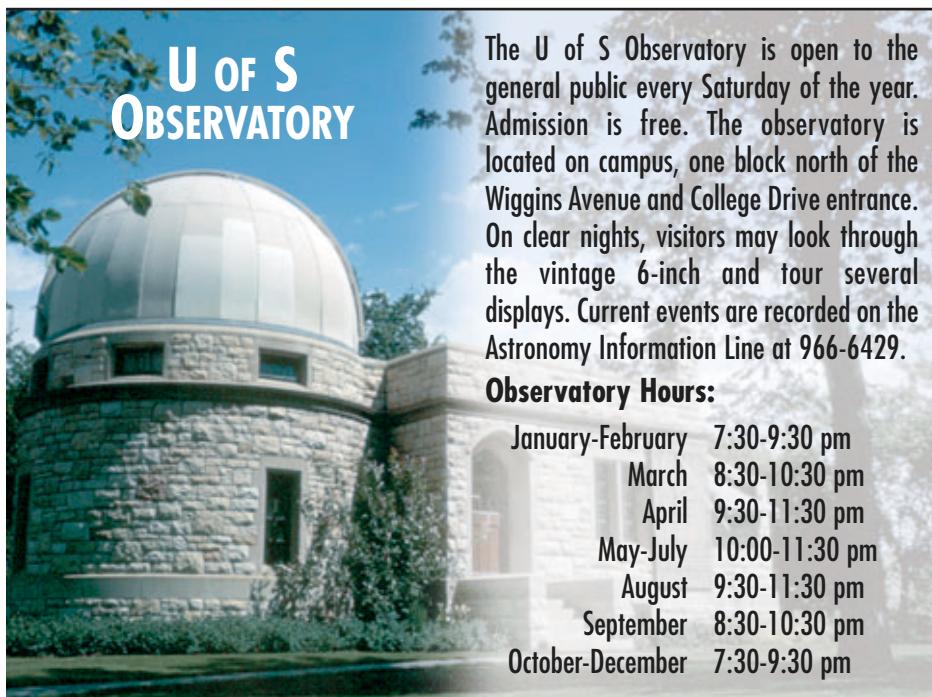
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Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 100 copies per issue. *Saskatoon Skies* welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science articles. 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 .EPS, .TIFs or .JPGs (.GIFs also accepted). Send e-mail submissions to the editor at <huziak@SEDSystems.ca>. 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.



**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

Bottle Drive & Canadian Tire \$

by Darrell Chatfield

Please remember our on-going bottle and now Canadian Tire money drive to fundraise for the Centre. Bring them to 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.

DATE (2003)	EVENT	RASC Calendar of Events	CONTACT	TELEPHONE
May 10	International Astronomy Day – Mall at Circle & 8th (West side of mall near Smitty's)		Les Dickson	249-1091
May 10	Astronomy Day Star night – Beaver Creek Conservation Area, dusk		Sandy Ferguson	931-3184
May 12	Executive Meeting – Room 8313, City Hospital, 6:30 p.m.		Les Dickson	249-1091
May 12	General Meeting – A Trip to Arizona's Observatories & the AAVSO Meeting – Rick Huziak; Saskatchewan's Regional Parks: Alternative Dark Sky Sites – Mike Clancy <i>NOTE: EARLY DATE due to Victoria Day weekend</i> – Room 8313, City Hospital, 7:30 p.m.		Les Dickson	249-1091
May 15	Total Eclipse of the Moon – 8:30 p.m. to 12:15 a.m.		Rick Huziak	665-3392
May 22	Noctilucent Cloud Season begins		Rick Huziak	665-3392
June 16	General Meeting – "tbd" – Room 8313, City Hospital, 7:30 p.m.		Les Dickson	249-1091
June 26	Possible June Bootids/Draconids Meteors		Rick Huziak	665-3392
Jul. 26-Aug. 3	Mt. Kobau Star Party		<i>contact tbd</i>	
July 29	South delta Aquarid Meteor Peak		Rick Huziak	665-3392
Aug. 12	Noctilucent Cloud Season ends		Rick Huziak	665-3392
Aug. 12-13	Perseid Meteor Peak (full moon)		Rick Huziak	665-3392
Aug. 22-24	Sask. Summer Star Party 2003 – Cypress Hills Provincial Park		Les Dickson	249-1091
Sept. 15	General Meeting – "What I Did This Summer" – SSSP & More – Room 8313, City Hospital, 7:30 p.m.		Les Dickson	249-1091
Oct. 20	General Meeting – Annual Elections – Room 8313, City Hospital, 7:30 p.m.		Les Dickson	249-1091
Nov. 8	Total Eclipse of the Moon – 5:00 p.m. to 10:22 p.m.		Rick Huziak	665-3392

GENERAL MEETING

Monday, May 12, 2003, 7:30 pm – Room 8313, City Hospital

Presenting: Richard Huziak

The 92nd AAVSO Spring Conference in Tucson, Arizona

The Great Adventures of Vance and Rick

Driving 6200 kilometers to Tucson and back allowed us to take our telescopes for great southern sky observing. Before the AAVSO meeting, we also were invited to tour the US Naval Observatory, Mars Hill and the LONEOS Telescope at the Lowell Observatory, Kitt Peak, the Stewart Mirror Lab, and the VLA. We also saw the Grand Canyon, and star partied at David Levy's house. The AAVSO meeting was awesome and produced a few surprises! See it all in pictures!

Also presenting: Mike Clancy

Saskatchewan's Regional Parks: Alternative Dark Sky Sites

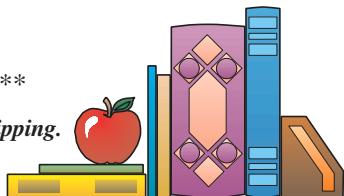
Regional parks are somewhat protected from the spread of city light pollution, and thus make excellent observing sites.

Saskatoon Centre Books 4 Sale

The Saskatoon Centre has purchased a number of Sky Publishing & Firefly Books for SSSP sales, and these are available to general members to purchase at discount rates! Contact Rick Huziak at huziak@SEDSystems.ca or 665-3392. *Note: If you would like to be the new Book Sales Coordinator, call Les Dickson at 249-1091.*

- Build Your Own Telescope (1) - \$42.00
- Astrophotography by GN Patterson (lots) - \$5.00 **
- 2003 RASC Calendar - \$5.00
- RASC Stickers - \$0.50**
- Other Worlds (1) - \$7.00**
- Extraterrestrials (1) - \$6.50**

*All prices include GST, but NOT shipping.
Prices marked ** are at COST and reduced to clear.*



**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.**

Minutes to the GENERAL MEETING

Room 8313, City Hospital, April 21, 2003

Recorded by Al Hartridge, Secretary

1. Presentations: Dr. Rajiv Gupta, National President, "High Resolution Astrophotography with Film."
2. Astronomy Day will be held at Circle Park Mall May 10th. Setup for the display will begin at 8:30 a.m. A public star night will follow at Beaver Creek.
3. Speaker for next meeting will be Rick Huziak on his trip to Arizona.
4. List of observable objects from light polluted areas will be drawn up.
5. Executive positions: several positions will soon be opening up with the departure of Bob Christie, Sandy Ferguson and the resignations of Les Dickson and Scott Alexander.
6. Treasurer's Report: Present balance is \$15,751.31.
7. Membership Report: There are 72 members at present, 4 of which are youth members.
8. Library Report: another bee will held soon.
9. SSSP Report: brochures are out. As many of our own members that can are encouraged to attend the star party.
10. Meeting adjourned at 9:50 p.m.

Saskatoon's Telescope Rental Program



The Centre has a few loaner scopes that we can rent to members for a nominal monthly (fund-raising) fee, negotiable with Gord Sarty, the scopes' curator. If you do not have a scope, you may want to use one of these for a while. Currently, there are three scopes available, each with their own set of eyepieces. These are:

3.1" f/12 Tasco refractor on Equatorial mount – excellent on planets since the long focal length lends itself to the use of very high powers. 3" refractors show planet detail wonderfully and have very sharp images!

6" f/5 Rich-field scope – on a home-made rickety but passable equatorial mount. Excellent for wide-field viewing of the Milky Way and large star clusters.

4.5" f/3.3 Astroscan reflector – a very nice wide-field scope that can be cradled in the lap or used on its table-top mount. Excellent for wide-field Milky Way views, but not so hot for planetary detail. It is, however, extremely portable.

If you are interested, visit our Centre website for more details, or call Gord Sarty at 665-6448.

Submitting Photos or Images with Articles – by Rick Huziak (Editor)

Authors who are sending pictures or images for articles may send gif, jpgs, tifs, eps, and other formats; almost any formats are OK. However, whatever is sent typically should not be embedded in the (Word) document. I am uncertain what recent versions of Word do with photos, but once they are embedded, Word seems to compress the picture, maybe to reduce file size or to handle other manipulating issues within the routine. Once the image is extracted or removed from the document, it seems not to be quite the same, and cannot be fully edited without resolution loss. This might be due to how you have set your save/compression routines, or what the Word default save is, if you haven't changed it. The rtf version of Word docs is even worse at handling embedded figures, and file sizes go through the roof when figures are embedded there!

I don't know exactly what is going on just yet, but for the meantime, please send photos as separate attachments. You may certainly write the captions for these within or at the end of the document.

SKY BUYS & MIRROR CELLS

The Saskatoon Centre's Swap and Sale Page!

For Sale: Sky Catalog 2000 - Vol.2, by Sinnott – \$30.00. **Astronomy**, 2002, by Robert Burnham – Color sky charts, planet information, etc., – \$15.00. **Guide to Stars and Planets**, by Patrick Moore, 256pp, softbound, 1995. Color photos and star charts – \$12.50. **35mm Bausch and Lomb Plossl eyepiece**, fully coated. Excellent shape; in original box with dust caps – \$80.00. Call Darrell at 374-9278.

For Sale: Meade 4400 4.5" Newtonian upgraded with **Celestron 6x30 finder, Meade MA25 and MA9 1.25" eyepieces, RA motor drive** – \$300 or best offer. Call Brent at 224-9872 or e-mail brent.burlingham@usask.ca

Last Call for Astronomy Day!

Astronomy Day runs on Saturday, May 10th, at the Mall at Circle and 8th, but the location has been changed to the west side of mall near Smitty's (the "not-Walmart" side). See the full announcement in the April issue of *Saskatoon Skies* (p. 4). If coming to set up, please do so before the stores open at 9:30 a.m. After we pack up (by 5:30 p.m.) we will have a local Gastronomy (come even if you couldn't attend the display – just show up by 5ish at the display). We will then get out to Beaver Creek and set up around 7:30 p.m. to begin the starnight. **ALL MEMBERS ARE ENCOURAGED** to help out at anytime during the display or starnight. It is lots of fun!

An Invitation to the Saskatchewan Summer Star Party 2003

by Les Dickson,
Chairman SSSP 2003

I want to invite all of our members to attend the Saskatchewan Summer Star Party this coming **August 22nd to 24th** at the **Cypress Hills Interprovincial Park**, 32 km S of Maple Creek, Saskatchewan. Come out and share your love of astronomy with 200 of your closest friends!

The Cypress Hills provide some of the clearest nights anywhere in Canada. The late Father Lucian Kemble is quoted as saying that he had "rarely seen such clarity and depth in the summer skies." The top of the Hills is 1460 metres above sea level, the highest point east of the Rocky Mountains, and well above the prairie haze of summer. Historical weather maps published by Jay Anderson in the *RASC Observer's Handbook* indicate that the area around Cypress Hills has the best chance for clear skies (less than 30 percent mean nighttime cloud cover) in July and August compared to any other site in Canada. Each evening we set up in the Meadows Campground, a large open area well away from any lights. While there, if you get tired of looking through your own telescope, you can wander around to look at and through other people's telescopes, discuss eyepieces and filters, or just lay back and enjoy the view. It is worth coming out just to see just how dark the night sky can be!

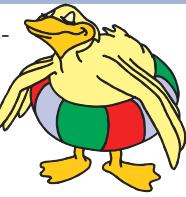


The evening observing sessions Friday and Saturday night are complemented by the daytime activities. On Thursday we have an evening Early-bird Wienie Roast planned for the early arrivers for supper on August 21st.

Organized activities begin on Friday night with the Bring-Your-Own Short Presentations Session (please participate – we'll have a video projector, slide and overhead projector available), followed by all-night observing. A Swap Table will be set up Saturday morning in the Meadows for those who would like to buy or sell equipment or accessories. Saturday afternoon features talks and workshops. Saturday evening is the Banquet followed by the keynote Lucian Kemble Memorial Lecture to be given by our special guest, Dr. Doug Hube, who will be speaking on "Stellar Evolution in the Night Sky." The evening will be capped off with more great observing and a binocular starwalk. We also have door prizes, astronomy books for sale, an astrophotography contest, t-shirts, hatpins and more! All daytime talks take place in the air-conditioned conference room at the resort.

There are plenty of activities for the non-observer family members and tired astronomers; the park features a lake, hiking trails, trail rides, rental boats, mini golf, regular golf, a general

store, a full resort, two restaurants, an ice-cream and snack shop, a souvenir shop, moose and other varmints (no snakes or big cats), ball diamonds, picnic grounds, tennis courts, an outdoor heated pool, hot tub and a museum.



There are a great variety of accommodations. Campsites are freely available at low cost, and reasonably-priced hotel, cabin,

and condo units are available by pre-booking with the park. (Make sure you tell them you are with the Star Party when booking accommodations!) As of May 1, there were 16 hotel rooms,

4 one-bedroom cabins, 3 two-bedroom condos and 2 three-bedroom condos available. Normally, the Resort releases rooms in a booked block like ours 4 months ahead of the event. We will be paying the Resort to hold the block open into August by paying for the first night on each of the open rooms, cabins and condos. This money is released back to us when attendees book a room. We take a great financial risk each year to ensure you have accommodations for the Star Party, so please, if you are coming, book your room as soon as possible. For accommodation information, call the Resort at (306) 662-4477 or the Park at (306) 662-5484.

Many of the members of the Saskatoon and Regina Centres devote many hours and days of their time working to put together an enjoyable and informative weekend in one of the most beautiful areas of the province. We are always looking for more volunteers to help us at the party. Even if you don't want to bring equipment or spend much time observing, we encourage you to come, make it a vacation, and help out for just a few hours with registration, book sales, coffee and pop sales, or security. If you want to help, contact Les Dickson (249-1091 or dicksonl@sasktel.net), Bill Hydomako (384-4781 or wm.hydomako@sasktel.net) or Rick Huziak (665-3392 or huziak@sedsystems.ca).

For more information on the event, contact Les, Bill or Rick, or see our website at <http://prana.usask.ca/~rasc/sssp03.htm>

We look forward to seeing you all there!

Errata in the SSSP Brochure

Those of you that received an SSSP brochure with your mailed newsletter last month should note two pretty blatant errors contained within! Go figure we'd mess up on the two most important items – the registrar's address and the SSSP website! Geez! At any rate, that kind of stuff is fixable.

Bill Hydomako's mailing address on the tear-off portion of the brochure should read **135 Manning Crescent** (not 735!). Our website URL is <http://prana.usask.ca/~rasc/sssp03.htm> (not .../sssp03.html).

Time to fire the proofreader!



The Planets this Month – May 2003

by Murray D. Paulson, Edmonton Centre <mpaulson@ecn.ab.ca>

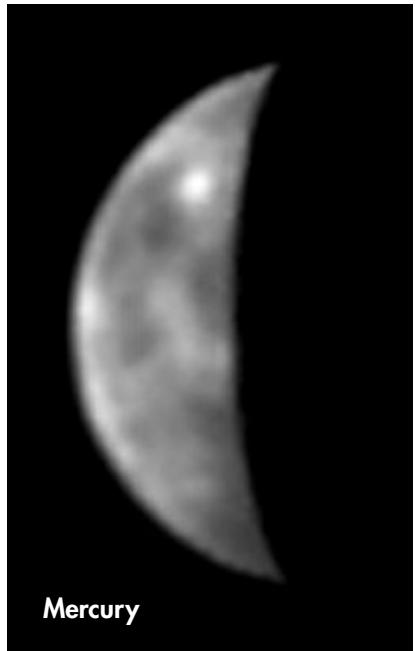


This month starts off with Mercury hiding in the sun's glare and another missed chance at a Mercury transit. Dang! I will get it one of these days. Mercury rises into the morning sky, and by May 25th catches up to Venus. At 2 degrees apart, the two planets will be visible in a low power eyepiece field. The pair is 23 degrees west of the sun at this time. Mercury will show a 9.7" crescent below Venus's 10.8"

almost full disk. Venus shines at magnitude -3.9 while diminutive Mercury is only at magnitude 1.3. This is a daytime target for a scope with goto capability or setting circles and an ephemeris. It will take some effort to find Mercury in the eyepiece with this magnitude difference. It is quite the spectacle to see two planets together in the same telescopic field! The planets will be together for a couple of days, but then they separate and Mercury will lag behind Venus on their plunge back toward the sun. They will rejoin around the time of the summer solstice, June 20th & 21st, for a very close encounter! Mercury passes its greatest western elongation on June 2nd-3rd when it sits a little more than 24 degrees from the sun. It will be a fat crescent at this time, and a week later, June 8th, it is at dichotomy, 1/2 phase.

Both Venus and Mercury will be lost in the morning glare of the sun. Twilight is soooo long and the ecliptic is soooo flat in the morning spring sky that they don't stand a chance. It is a daytime pursuit or nothing at all!

For the start of May, Mars sits square and center in Capricorn. The bad news is this is in the morning sky. Its 10.25" disk shines at magnitude -0.2 and you would have to be up at 4 a.m. to find it in the morning twilight. In mid May, Mars passes 2 degrees below Neptune. Neptune sits right on the ecliptic, and so you can see how much Mars's orbit is inclined to the plane of the ecliptic. As the season progresses, it will continue to diverge below the ecliptic until opposition in August. At that time it will sit 6.75 degrees below the ecliptic. By early June, Mars will show a 13.2" disk and a wealth of details for any



Mercury

insomniac or early bird who cares to observe it. At this time it will culminate just over 20 degrees above our horizon. This is twice as high as it made it during the last opposition.

Jupiter continues to put on a good show. We managed to see a good shadow transit during the Astronomy Day event in St. Albert. And as a special bonus, it was a blast to see the moon bud off from the side of Jupiter as it transited off into space. As I surf the web on some of the user's groups, I keep seeing extraordinary images of Jupiter taken by rather small instruments. There is a lot happening on the planet over the last while. I keep getting reports from observers seeing Jupiter's mutual events, and there are a number of good ones over the next month. If you haven't seen some of these events, you better see some soon; by July it will be too late. I have also included a list of interesting regular satellite events. There are quite a few good ones involving Ganymede and Callisto. Now if the sky will just cooperate!

Saturn sits low in the evening sky at the beginning of the month and is swallowed by the swelling twilight by month's end. In the eyepiece it shows a 17" disk and shines at magnitude 0.1. Catch it quick before it slips away.

Jupiter Satellite Events – All times in UT

M	D	H	M	sat	event
May	8	3	35	II	Sha start
May	8	3	56	II	Tra end
May	8	6	29	II	Sha end
May	11	3	48	I	Tra start
May	11	5	3	I	Sha start
May	11	6	5	I	Tra end
May	11	7	21	I	Sha end
May	15	3	41	II	Tra start
May	15	3	57	IV	Sha end
May	15	6	11	II	Sha start
May	15	6	35	II	Tra end
May	15	9	5	II	Sha end
May	18	4	49	III	Sha end
May	18	5	44	I	Tra start
May	18	6	59	I	Sha start
May	18	8	2	I	Tra end
May	18	9	16	I	Sha end
May	25	3	59	III	Tra end
May	25	5	10	III	Sha start
May	25	7	42	I	Tra start
May	25	8	49	III	Sha end
May	25	8	54	I	Sha start
May	31	6	24	IV	Tra start
Jun	1	4	33	III	Tra start
Jun	1	8	12	III	Tra end
Jun	1	9	9	III	Sha start
Jun	1	9	40	I	Tra start

continued next page

The Planets this Month continued

Mutual Events of Jupiter's Satellites – All times in UT

(i.e. the event on May 15 at 4:16 UT occurs at 4:16 minus 6 hours = 22:16 or 10:16 pm CST on the evening of May 14)

Date of maximum (TT)					Moon	Event	Moon	Magn. Drop	Durat. sec
M	D	hr	m	s					
5	7	2	41	2	2	OCC	4	A	0.406
5	8	10	17	3	2	ECL	1	A	0.544
5	10	10	11	6	3	ECL	2	P	0.66
5	13	4	15	9	1	OCC	2	P	0.409
5	14	2	47	39	4	OCC	1	P	0.058
5	15	4	16	59	4	OCC	1	P	0.017
5	20	6	33	24	1	OCC	2	T	0.425
5	22	7	27	43	1	OCC	4	P	0.317
5	23	8	44	59	1	OCC	4	P	0.014
5	26	3	52	30	2	ECL	1	P	0.157
5	27	8	53	14	1	OCC	2	P	0.384
5	31	6	16	59	4	OCC	2	P	0.118
6	2	4	27	3	2	OCC	1	P	0
6	2	6	6	9	2	ECL	1		0.054
6	5	5	48	44	2	OCC	3	P	0.072
6	8	4	1	28	3	ECL	1	P	0.643
6	9	6	46	35	2	OCC	1	P	0.042
6	9	8	19	32	2	ECL	1		0.009

Data used in my column courtesy of Guide 7.0 and Mutual events COPYRIGHT on the server of the *Institut de mecanique celeste et de calcul des ephemeredes (Bureau des longitudes - Observatoire de Paris - CNRS)* Web site: http://www.bdl.fr/ephem/ephesat/en/phenomena_eng.html

Astronomy – A Personal Journey... by Ron Waldron

When I was eight years old, my father purchased a set of soft cover science books called the Science Service series. Each book covered a different topic and there were colored stickers that you would lick and place in the correct squares within the pages of each book. The first book was the free gift in the series and was titled *The Universe*.

I never really got very far past that first book – I was enthralled and hooked almost immediately. I credit this book with my entry into the world of astronomy. I read it cover to cover many times over. This was followed by trips to the J.S. Wood Library in Saskatoon where I would borrow the maximum number of books possible on the topic of Astronomy. One memorable book was titled *The Constellations*, by H.A. Rey. I renewed it many times as I began to teach myself the northern constellations one by one.

This was followed by the purchase of my first telescope – a 2.4-inch refractor on an alt-azimuth wooden mounting and an objective lens made of real glass (not like the plastic lenses



The young astronomer...

often found in similar telescopes today). It had one eyepiece to magnify objects 40X. I have fond memories of the moon, Jupiter and Saturn with that telescope. I recall looking at the sun using projection techniques not knowing I was melting the glue that held the lenses in place in the eyepiece.

It wasn't long after the repair of that telescope that I was thirsting for more power and the ability to track the objects I was viewing. I sold that first telescope and purchased my next one, another 2.4-inch refractor on an equatorial mount with setting circles. I recall having eyepieces that would take this telescope to 250X (although I don't ever remember seeing anything distinct at that magnification.) There

were many trips outside the city to view beyond the moon and planets. I remember my first view of the Andromeda Galaxy and the Hercules Star Cluster. Those are memorable events in the life of any budding young astronomer.

As I entered university, the need for extra cash forced me to sell that second telescope. I knew I wanted more light gathering

continued next page

Astronomy – A Personal Journey... continued

power so in my spare time (when I should have been studying) I began to grind an 8" mirror to build my next telescope. Like many telescope mirrors started in the '70s, it was never finished. I still have the ground glass but have yet to find a company that might finish the process for me.

Meanwhile, to keep up my interest in the stars I purchased a good set of 7x50 binoculars. I didn't know it at the time but this set of handheld optics would be my only astronomical companion for the next 30 years as I married and raised three children.

Now after a 30-year drought in instrumentation, I was ready to revitalize my observing by purchasing a decent telescope by today's standards. Having been a self-taught astronomer, I was not interested in gadgetry that would automatically locate the object and track it – rather the fun for me was seeking and finding all the objects I wanted to see. I knew I wanted to see much more than my two refractors were ever able to reveal so I set my eyes upon a Dobsonian design.

The Sky-Watcher Telescope series distributed by Pacific Instruments in Vancouver had just come out with a 10-inch Dobsonian. I first read about it in a review written by Terence Dickinson in the Jan/Feb 2003 issue of *SkyNews* magazine. Here was a telescope that appeared to have everything I was looking for – maximum light gathering power in a simplistic design. Not only that, the weight of the telescope was manageable as the mirror was only one inch thick, not the traditional two inches of most other telescopes. The icing on the cake was the focal length was f/4.7, which resulted in a tube length of only 44 inches. This telescope was completely portable and would fit nicely across the back seat of my Toyota Corolla.

I had to have it – and the means came about with a larger than average income tax return. I shopped online across Canada for the best price and finally settled with Focus Scientific, a company out of Ottawa.

The new telescope arrived on Monday, April 14th, delivered by parcel post. The postman brought it into my house and plunked it solidly on the ground, oblivious of the fact that it was an optical instrument. Within one hour, I had the telescope mounting built and the entire instrument ready for first light.



Ron and his telescope at night.

I have to admit, I could not wait for first light and trained the instrument on the sun that afternoon, clearly observing three clusters of sunspots projected neatly on a piece of white cardboard.

That evening, I invited the neighbour's two boys to come and view Jupiter and Saturn with me. Neither they nor I were disappointed. It is hard to describe or convey the beauty of Jupiter's cloud-belt disk flanked by four stately moons, or the rings of Saturn displayed broadside to the viewer. My reaction as I viewed them can be stated in four words – "It was worth the wait!"

What I like about the Sky-Watcher is the fact that I can easily take it anywhere I want to go. It sets up in five minutes and takes down just as quickly. There is no leveling of the stand, alignment on the north star, or anything else

that might detract from the sheer joy of observing. And the best part – I still have to use all my skills to hunt and find the objects using star charts, just like I did when I was eight years old. An unexpected bonus – when aiming and pointing a Dobsonian telescope – one usually ends up hugging the tube. To my surprise and delight, it often feels like the telescope is hugging you back!

I look forward to future views of deep sky objects with my new telescope as I take it to dark sites outside of the city. Astronomy Day at the Beaver Creek dark site and the Saskatchewan Summer Star Party at Cypress Hills simply can't come soon enough. I look forward to sharing my telescope views with the views of those around me.

For me astronomy has been a journey – a journey that began with the reading of a single astronomy book at the age of eight. For me this journey has never ended and is rewarded every time I or someone else looks through a telescope. As our knowledge of the universe continues to expand, the avid amateur can still contribute and find personal reward in the stars from his or her own backyard.



Garry, Tenho and Mike's Excellent Adventure or, "The Spring 2003 Messier Marathon"

by Mike Clancy

I departed Saskatoon in such fashion as to arrive at the Sleaford site about 1915 hrs, arriving at the same time as Garry Stone and Tenho Tuomi in Garry's pickup. We got set up such that our scopes faced west and the vehicles pointed north in case we had to make a quick getaway, then got settled in to begin observing. My 114 Shorty would have to do, beside Tenho's 6" reflector and Garry's 8" Schmidt-Cassegrain, as well as their 90mm refractors. I had my trusty binoculars, and we found we all had an assortment of printed material to assist, including Garry's Messier poster, Tenho's Star Atlas and the list I had downloaded from Rick's recommended site. This collection would serve us surprisingly well in the hours to come! By the time dusk began, about 1940 hrs or so, several other stalwarts had arrived as well. Distressingly, I can't find their names in my notes; perhaps Bill Hydomako can remember.



A Collection of Hopefuls

Although cloudy to the south and southwest early on, these obstructions would dissipate by about 2100 hrs, leaving us with a fairly calm night, temperature steady near -10°C, although it did seem to warm up near midnight. Mind you, that may have just been our bodies giving up! The big surprise, and one that would cause us the most grief, was an auroral display that extended as far south as Procyon at times! It was brightest between 2300 hrs and 2400 hrs when one could read a star chart by the light. As you can imagine, this caused us no end of grief when trying to track down all those "faint fuzzies!"

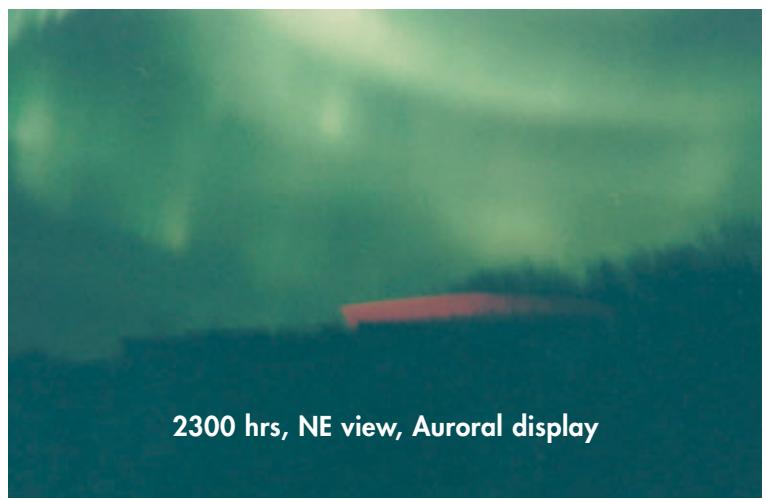
Jupiter was the first celestial object out, and we all used it to calibrate our finder scopes, noting M44 (Praesepe) at the same time. Tenho clocked the next Messier object, the Pleiades (M45), just before 2100 hrs, and we all got down to business. The distinguishing features of the Orion Nebula (M42) and its attendant object, M43, were fixed but no one at all could find M33, the Triangulum Galaxy. Lost in the haze of dusk and caught in the auroral display, even the images of the Andromeda Galaxy were none too clear. We couldn't differentiate among the other Messier

objects there due to the waste light as well. Objects around Cassiopeia were also hard to find, for the same reason. M72 (Cetus) and M74 (Pisces) were so low in the horizon that they were caught in the tree line and glare from the sunset, so they were lost to us as well. The aurora extended as far south as Leo for hours at a time so we had to look elsewhere then dash over for a glimpse, then off again. Yes, a tad frustrating!



Garry Stone and Tenho Tuomi

Mind you, that was the last of the real troubles. The three of us seemed to work well together, searching slightly different areas at the same time as the skies permitted, then sharing any success with the others. In this way we found many objects one after the other, many of which I would have had serious trouble finding on my own simply because the images my instrument gave me were smaller and less clear than the larger 'scopes. Having said that, once I knew where to look, I did find the Crab Nebula, the Sombrero Galaxy, and a host of globular and open clusters whose images seemed to blur together after a time. Having Garry's pictures of the objects (that Messier poster) made identification that much easier, which also sped up the process. Just after 0100 hrs I noticed that my lenses had frozen over, the icicle dangling off my nose was impeding the movement of my head, and I could no longer feel my toes... time to go home! Several other lads also decided to pack it in as well although I don't know what time they departed. I packed up and was home waking up the wife by 0200 hrs, having logged 21 new Messier objects for my list. Garry and Tenho stayed longer than I, and their numbers had to be higher than mine. Overall I would rate the evening a personal success, amateur that I am, and will be back next year, older and hopefully wiser.



2300 hrs, NE view, Auroral display

The Messier, H-400, FNGC, Binoc & EtU Page

This page takes yet another month of vacation due to the rarity of updates of observing numbers. This page will return next month – so pray for clear skies! Please report your numbers (Huziak@SEDSystems.ca, or 665-3392). However, Mike Clancy picked up 21 new Messiers, and Tenho Tuomi has had his Messier Certificate sorted out at National!



Ask AstroNut

The **Ask AstroNut** column is an anonymous question and answer advice column, where you can ask any question you want, boneheaded or brilliant, and the editor will find someone who will give you a somewhat educated answer.

Dear AstroNut: In one magazine it said that reflector mirrors should be re-aluminized every 5 to 20 years. My telescopes are in that age range. How do I know if a mirror needs recoating? Where can it be done and how much would it cost, or is it cheaper to buy a new mirror if needed? I see 4.5" mirrors advertised for \$69.99.

AstroNut answers: Whether the mirror appears bright or even darkish and somewhat tarnished is not a good indication of how the aluminum is working. Around Saskatchewan, with a very non-corrosive environment, likely your mirror will NEVER need resilvering in a lifetime. Times quoted refer to corrosive atmospheres, such as salt-air by the ocean, or living next to a Michigan steel mill with sulfur-dioxide emissions. So around here, we don't have many airborne environmental issues. If you have a sealed tube like a Schmidt-Cass, then the problem is even further reduced, since not much new air crosses the mirror. However, if you clean your optics, you MIGHT find that the coating wears thin or gets scratched. Modern mirrors (in the last 35 years), though, have an anti-reflection coating that helps the 'brightness' of the image and a very hard silicon-dioxide coating meant to prevent scratches. So, with cleaning even the most careful opticians end up with a few scratches and stains. Even with this, you never really wear away the coating.

You can, however, test your mirror for 'coating integrity' by removing it from the cell, and if the back-side is clear enough (not all mirrors are), you can check to see what percentage of the coating is there by putting the mirror between you and the

sun. Hold it up and look through it using your eyes alone. Any pinhole or scratch will be clearly visible and will reduce the amount of usable mirror surface (by the area of the defect), and will cause a very small amount of scattered light, which is generally negligible. If you don't like the size of the pinhole, you can always paint it black to eliminate scatter. I wouldn't worry about this until about 5% of the aluminum is gone, and I've never seen a mirror this bad. On the other hand, professional observatories re-aluminize at least once a year, and the new Keck every month! This is because they do not use any overcoatings and just bare aluminum, which tarnishes 'quickly.'

If you decide to recoat anyway, be cautious about 'special enhanced coatings.' They are not worth the money, adding maybe 2% to 5% reflectivity to the mirror, which, quite frankly, works out to only a gain of 0.1 or maybe 0.2 magnitudes in the visual part of the spectrum – a difference that NO ONE can see visually! This is a marketing ploy, and not worth the extra cost. Special enhancements were invented for IR or UV parts of the spectrum you can't see anyway!

If you feel you must recoat, there is a firm in Sudbury (Moonward Vacuum Coatings) that can do up to a 16.25". I'd do a recoat on a small mirror ONLY for the reason that I knew I had a very good figure on the glass. If you buy a new mirror, there is no guarantee it is as good. Coatings will cost \$27 (3") to \$250 (16.25") depending on the size of the glass – but you may get your secondary re-coated 'free.'

If in doubt that the reflectivity is bad, bring the scope into a meeting some night, and we can get a consensus group to 'take a look' and comment. I've only seen one mirror in my entire life that wouldn't 'reflect' properly, and never one that didn't do so due to the aluminum. Likely that mirror had problems with its anti-reflection coatings, and not the aluminizing itself.

The 92nd AAVSO Spring Meeting in Tucson *by Rick Huziak*

For those who cannot attend the May meeting, this list of websites will fill you in on all of the wonderful things that Vance Petriew and I were able to see and do during our tour to the AAVSO Spring Conference. Here's a few links that represent the trip. There may be a more complete article in the June issue of *Saskatoon Skies*.

AAVSO Meeting Schedule: <http://www.aavso.org/meetings/spring03.stm>

Flagstaff Webcam: <http://134.114.127.22/jpg/hugesize.jpg> (Camera is looking north towards San Francisco Mountain with Lowell Observatory off the frame to the left on Mars Hill)

Arizona Sky Clocks: http://cleardarksky.com/csk/prov/Arizona_clocks.html

City of Tucson: <http://www.ci.tucson.az.us/>

City of Flagstaff: <http://www.flagstaff.az.gov/>

Marriott Hotel in Tucson: <http://www.marriott.com/dpp/propertypage.asp?MarshaCode=TUSUP&EPCEC=InProcess&EPNAVCEC=InProcess>

Kitt Peak Observatory: <http://www.noao.edu/kpno/>

Lowell Observatory: <http://www.lowell.edu/>

David Levy's Web page: <http://www.jarnac.org/>

Steward Mirror Lab: <http://medusa.as.arizona.edu/mlab/mlab.html>