

Saskatoon Skies

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

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September 2004



The 2004 Saskatchewan Summer Star Party at the Cypress Hills Provincial Park was another huge success with 212 registered. Even the weather cooperated!

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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: \$58.00/year Youth: \$31.25/year Lifetime: \$1000

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**
- **The Journal of the RASC** (bimonthly)
- **SkyNews Magazine** (bimonthly)
- use of the Centre library
- discounts to **Sky & Telescope Magazine**
- free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!

Saskatoon Centre's main officers:

President – Rick Huziak
Vice-President – Ron Waldron
Secretary – Al Hartridge
Treasurer – Barb Young

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...

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Bottle Drive & Canadian Tire \$

by Darrell Chatfield

Canadian Tire Money collected to date is \$50. 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
Sept. 9-12	Alberta Star Party , Eccles Ranch, Caroline, AB	Rick Huziak	665-3392
Sept. 14	SSSP Potluck Volunteer Wrap-up	Les Dickson	249-1091
Sept. 16-19	Northern Prairie Starfest , Black Nugget Lake, near Tofield, AB, <i>http://edmontonrasc.com/nps.html</i>	Rick Huziak	665-3392
Sept. 20	RASC Executive Meeting – 6:30 p.m., 175 Physics, U of S	Rick Huziak	665-3392
Sept. 20	RASC General Meeting – SSSP'04, AAVSO Berkeley, Science West – 7:30 p.m., 175 Physics, U of S	Rick Huziak	665-3392
Sept. 21	4179 Toutatis makes close approach (10.5 mag)	Rick Huziak	665-3392
Sept. 22	Fall Equinox – fall already?		
Sept. 28	Canadian Parks Council Conference at Cypress Hills – Petriew & Huziak will attend	Rick Huziak	665-3392
Oct. 4-29	Geosync Satellite Flare Month	Rick Huziak	665-3392
Oct. 16	Sleaford Observatory Open House	Rick Huziak	665-3392
Oct. 18	RASC Executive Meeting – 6:30 p.m., 175 Physics, U of S	Rick Huziak	665-3392
Oct. 18	RASC General Meeting – Alberta Star Party, Northern Prairie Starfest, Observing Meteors, The CHIPP DSR & Annual Elections – 7:30 p.m., 175 Physics, U of S	Rick Huziak	665-3392
Oct. 20	Orionid Meteor Peak – 10:00 p.m.	Brent Burlingham	244-9872
Oct. 27	Total Lunar Eclipse	Brent Burlingham	244-9872
Nov. 5-6	Saskatoon Hobby Show	Rick Huziak	665-3392
Nov. 11	North Taurid Meteor Peak	Brent Burlingham	244-9872
Nov. 15	RASC Executive Meeting – 6:30 p.m., 175 Physics, U of S	tbd	
Nov. 15	RASC General Meeting – 7:30 p.m., 175 Physics, U of S	tbd	
Nov. 16-17	Leonid Meteor Shower Peak	Brent Burlingham	244-9872
Dec. 13	Geminid Meteor Shower Peak	Brent Burlingham	244-9872
Dec. ??	RASC General Meeting – 7:30 p.m., 175 Physics, U of S	tbd	
Dec. 21-22	Ursid Meteor Shower Peak	Brent Burlingham	244-9872



Monday, Sept 20, 7:30PM — Room 175 Physics, U of S

Presenting:

The 2004 Cypress Hills Saskatchewan Summer Star Party
by Les Dickson and others

The AAVSO, ALPO, ASP & AL Annual Meeting in Oakland, CA
by Rick Huziak

Introducing "Science West"
A New Initiative in Science Education in Western Canada — by Dr. Bill Brooks

Note: There will be an Executive meeting at 6:30 p.m.

A Busy Summer for Astronomy – Now Into the Fall by Rick Huziak, President

Even though the RASC doesn't have meetings over the summer, I managed to participate in a lot of astronomical happenings. In mid-July, I attended the ALPO, AAVSO, AL, ASP Astrocon meeting in Berkeley, California with Vance Petriew (Regina), Pat Abbott (Edmonton) and John Percy (Toronto). The excellent conference was supplemented by tours to the Lick Observatory (with all-night observing on the 36-inch refractor) and the Chabot Space & Science Centre. Come to the September meeting for my slide presentation.

After I got back, we began working on the final preparations for the SSSP and the CHIPP Dark Sky Preserve. Five clear nights at the SSSP was a wonderful treat, but I think the highlight of the party was the signing of the Cypress Hills Park into Dark Sky Preserve status.

This fall we have two more star parties, both will be over by the time this newsletter is out – the wonderful Alberta Star Party in Caroline, AB and the first time Northern Prairie Starfest, near Tofield, AB. With the poor weather we are currently experiencing, my hope is that we get a break, or we might end up quite cold! On September 28th, the Canadian Parks Council Conference should produce more great news on the Light Pollution front.

Back in Saskatoon, we will have a busy fall, with the Annual Sleaford Observatory Open House on October 16th, followed by the October 18th annual elections. Just a week later, on October 27th, a total eclipse of the moon occurs, and we will do something public. We have also signed up to participate in the reincarnation of the Saskatoon Hobby Show on November 5 & 6. We will need lots of volunteers for these events, so please write these dates on your calendar.

BOOKS FOR SALE

by Bruce Brandell, Sales Coordinator

The following items are left from the Star Party and will be available at our first meeting on Sept. 20, '04 (the prices are the same as at the Star Party). Call 249-1119 or email <bruce_brandell@yahoo.com>

Title	Author	No. Avail.	Price Cdn\$
Calendar, RASC 2005	Rajiv Gupta, Editor	23	\$14.00
Calendar, Skywatcher 2005	Stan Shadick	10	\$15.00
Beginners Observer's Guide	Leo Enright	7	\$18.00
Skyways – Astronomy Handbook for Teachers	Mary L. Whitehorne	3	\$18.00
RASC Centennial Mug		9	\$ 8.00
Messier Cards, laminated	Sky Publishing	5	\$ 6.00
Messier Poster, colored	Sky Publishing	2	\$27.00
Milkyway Poster	Sky Publishing	2	\$32.00
Touring the Universe through Binoculars	Philip S. Harrington	1	\$58.00
The Moon Map	Sky Publishing	1	\$20.00
Pins SSSP 2004			\$ 5.00
Pins SSSP, other years			\$ 4.00

SKY BUYS & MIRROR CELLS

The Saskatoon Centre's Swap and Sale Page!

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

For Sale: 28mm - 2" Kellner eyepiece for telescopes of F6 or higher – 56 degree FOV. \$50 with a "try before you buy" guarantee! **Upgrade your 6x30 finder to this 9x50** made by Synta of China – \$50. Contact Ron Waldron at 382-9428.



Photo by Donna-Lee May

More on the Venus Transit **My First Ever Astrophoto**

Despite a broken telescope on the roof of a hotel in Crete, and the hot blazing sun beating down mercilessly, Donna-Lee May, Saskatoon member from Edmonton, managed to snap her very first astrophoto by holding her digital camera up to the eyepiece. The outcome was a really cool photo of Venus on the sun! Not bad for the first try.

Errata in Last Issue

In **Going from Messier & FNGC to Herschel 400 Club, under Messier:**

650 M76 should be 651 M76

3558 ... M108 should be 3556 ... M108

Similarly under **Note 1**, NGC 650 should be NGC 651.

Synergy at SSSP 2004 *by Ron Waldron*

I have just returned from the Saskatchewan Summer Star Party at Cypress Hills. I feel compelled to write this article not because I won one of the major door prizes (is anyone in the club still talking to me?) but rather because of the people that I met and the experiences I had during the three days.

In many scientific and educational circles there is a concept known as "synergy". Basically it states that the total is equal to more than the sum of its parts. This adequately expresses what I feel happened to many of the participants this year. After a year of planning by chairman Les Dickson and



Ron Waldron looking pleased about winning five Antares W-70 eyepieces with carrying case

his committee of members from the Saskatoon and Regina Centres, SSSP 2004 came together synergistically. The background work of all of the contributing members combined to create an experience that was above and beyond my expectations.

First of all there was the weather – three days of clear skies (yes, even Saturday night ended up clear for those who stayed up past midnight). Secondly, there were the speakers – Joshua Roth, the keynote speaker was outstanding in both his lectures – Astronomy 101 and Dark Energy and the Accelerating Universe.

The wiener roast on Thursday night was attended by a record number of participants and provided a wonderful icebreaker for many of the early participants. Thanks, Les, for making not one but two more trips to buy more hot dogs.

From registration to the purchase of 2004 pins, everything seemed to go almost flawlessly. Thanks to Bill and Marianne Hydomako, Barb Young, and Ellen Dickson for their efforts.

Darryl Chatfield came up with a set of prizes that far surpassed those of previous years thanks to his own personal efforts and

contributions as well as the contributions of the Science Shop store out of Edmonton and Heavens and Earth Science and Nature Ltd. out of Lethbridge.

New this year was the changing of the keynote speaker to the afternoon sessions instead of at the banquet. This, I feel, had a very positive result – as most members likely found the banquet shorter, more relaxing, freeing up time for participants to tour the wide variety of telescopes set up in the Meadows campground.

And Murphy stayed away until after the Star Party when smoke from fires in British Columbia began to blanket Saskatchewan skies.

My most memorable experience from SSSP 2004 will be the people I met and the clear skies that we had. I cannot get out of my mind the view on Sunday morning around 3:00 a.m. of the Andromeda galaxy and its two satellite galaxies at 48X with all three objects visible in the 70 degree panoramic field of view. The dark lanes of material in the foreground of Andromeda's spiral arms were clearly visible and the view was stunning.

I look forward as your incoming president to working with this committee in making SSSP 2005 equally successful and memorable.



New members and first time SSSP participants Clayton and Bev Rolfe (left) and guests, with his 11" NexStar

New Membership Fees *by Rick Huziak, Prez*

The membership survey conducted in the spring indicated that there would likely be fee increases due to rising costs and the cost of printing of our periodicals. At the General Assembly this year, fee increases were indeed carried through. The new fee rates were simply added onto existing rates. Since this is a new policy, the Saskatoon Centre has not had a chance to discuss the impact of the change in fees. This will be done at the September Executive meeting, and if necessary, the General meeting as well. For now, the fees break down as follows.

Ordinary	\$50.00 – SK surcharge \$8.00	Total \$58.00
Youth	\$31.25 – no SK surcharge	Total \$31.25
Life	\$1000.00	

Note that we have a surcharge on Ordinary memberships intended to cover the cost of newsletter copying and mailing. If there is any change in the rate Saskatoon will charge, a change in the surcharge is the only adjustment we could make. The new fee takes effect September 1. Renewal notices for September and October expires went out in July and August respectively. So, anyone whose membership expires in September onward, will receive the renewal notice at the new rate. The National Office has started to email the first renewal notice, to those who have email, and then the subsequent three notices go by hardcopy.

Notes from the Meadows: SSSP 2004 *by Mike Clancy*

Another summer star party has come and gone, and some fine sights were seen – we even got in some astronomy! Of particular note is the new telescope I bought for Anna from The Science Shop, Celestron's new 90 mm Maksutov-Cassegrain. We plan to use it on a sturdy VCR camera tripod, originally designed to hold one of those Soviet-era "micro-miniature" cameras that weigh as much as a donkey! Although we couldn't do much by way of side-by-side comparison with my 114EQ Shorty Newtonian, we did get some comparison viewing in which will make for an article in a future edition.

Once again The Meadows hosted our annual enclave although park managers are building a new, electrified campgrounds in the woods behind our erstwhile dark-sky home. This shouldn't cause us any concern as the managers assure us they want the star party here for the foreseeable future, and every effort will be made to retain our business. It did, however, modify our stay on top of the hill as we camped in M24 on Friday and viewed that cluster later that night! Tenho had his Newtonian set up for daylight views of a crescent Venus, which was very interesting indeed! Anna and I are also involved in a project to write about every provincial park in the system so we were also 'working' during our visit to the Cypress Hills. In fact, we explored pretty much the entire park during our visit and saw some neat stuff. This, of course, cut into the time available to attend seminars and lectures, but I still managed to hear the speakers on Saturday afternoon. Once again, we refrained from Saturday's banquet, preferring the solitude of M24 and a hearty South American dish called "Matambre" featuring spicy chorizo sausages sautéed in red wine with new potatoes and mixed vegetables. ¡Ole!

As for viewing, Friday night made for an interesting session as I was using Anna's new Mak tied onto my equatorial mount, a somewhat unsatisfactory arrangement to be sure! Anna went on Darryl Chatfield's Binocular Walk (and thoroughly enjoyed it, by the way – good job there, Darryl!) while I did some observing with Tenho, Garry and Brent. The skies co-operated with some excellent views although I thought last year's skies were clearer and brighter. This is probably related to the smoke from BC's horrendous forest fires, more than anything else. On the upside, when observing with Garry and Tenho one has

closer access to Myrna's most excellent cookies! I was to borrow a new mount purchased by Ellen Dickson on Saturday night so I packed it in earlier than usual on Friday night.

One of Saturday's highlights was the telescope 'walk-around' prior to observing. With all those very clever people in attendance, it was wonderful to speak with them about their projects while the light was still good. Odd, isn't it, how all we really know of our fellow astronomers is from their voices? Mind you, with someone flashing bright lights on Friday and another lost soul driving around with their lights on Saturday night, it almost sounded like a sailor's convention for the 'salt' in the air! In any case, Saturday's viewing was delayed by the clouds until after 2300 hrs, and even when we did start we were restricted when viewing to the south and west. I did manage to pick up a couple more Messier objects for my list (the Owl Nebula and M108), with the loan of Tenho's Newtonian and his help verifying that the faint wisps seen were not some caffeine-induced hallucination! Another observer (name unknown for which I apologize) was working with me through the Sagitta area when we found a reference to the "Blue Flash Nebula" on one of his star charts. In short order he picked it up with his 10" Dobsonian and sure enough, a blue flash was seen! He spotted it twice and I saw the flash once – it doesn't last long and it wasn't terribly bright but there it was! I also spent a happy couple of hours getting reacquainted with some old friends off the Messier list – things that I'd long ago logged but still enjoy seeing. Each time I gaze at the Andromeda Galaxy I find more beauty and detail in that magnificence. Another oddity is just how long you'll spend finding an object the first time after which you'll think "How did I miss that in the first place?" Such it is for me and the North American Nebula, for instance.

In any case, I spent several hours looking up and chatting with wandering observers, simply enjoying a fine, soft night. When I finally toddled off to bed it was with the goal of returning next year. I want to personally thank all those whose hard work and dedication culminates in this annual gathering of friends; your work is definitely appreciated. To those whom I promised a rendition of "The Cremation of Sam McGee" (if the skies didn't clear Saturday night), come back to The Meadows in 2005 and find out if "Those Northern Lights have seen strange sights"!



The Meadows, by George Charpentier.

The Chatfield Binocular Challenge – Part 2 *by Rick Huziak*

This is Part II of a 4-part series. You may have noticed that this Challenge contains a large number of Messier objects. Indeed, you can earn 27 of your 110 Messiers by completing this binocular list. Depending on which binoculars you use, you may be able to do 70 or even all Messiers without ever using a telescope. This should be encouragement to members who have not yet purchased a scope. As you can tell by the descriptions, binoculars can see a lot of the sky, and they also help you learn the sky. Some astronomers consider their binoculars as their most important telescope, since they always get you reoriented in the sky when you can't figure out the star hop in your scope. Binoculars are simply the best instrument for certain categories of objects, such as bright comets, dark nebulae and wide-field Milky Way views.

CASSIOPEIA – NGC 663 – This is a most obvious open star cluster and is the brightest star cluster found between eta and delta Cassiopeiae. The cluster is about 10' in diameter, and only about 5 stars in the 9th to 10th magnitude range can be resolved within the fuzz. North of the cluster, just against an 8th magnitude star is the barely distinguishable 5' fuzzball of NGC 654. Between NGC 663 and delta Cas is M52 (NGC 7654), 7' in diameter. M52 has a bright star overlying it.

COMA BERENICES – MELOTTE 111 (Mel 111) – Mel 111 is a coarse open star cluster of about 80 bluish-white stars from magnitude 5 to 10 as seen in binoculars. The cluster is so large, that it fills more than one binocular view. This is one of the closest star clusters, being closer than the Pleiades. It is roughly triangular in shape.

CYGNUS – NGC 7000 – This is the famous North America Nebula (not American!). It is easily visible with the naked eye as a large, 3-degree patch of bright Milky Way to the NE of alpha Cygni, Deneb. Many people do not see it at first, not sure what to expect. Binoculars help the view and show more detail. This object is too large for a single binocular field, so starting at Deneb, scan E approximately 1 binocular field through black sky until the field turns milky. This is Mexico. To the right of the field is the ink-black Gulf of Mexico, and scanning off to the left, and the Baja side, a bright red star is just outside the nebula. Careful scanning all around will distinguish the east and west coastlines of North America, with the N coast of Canada being hardest to distinguish. Remember – scan back and forth to find where the dark sky between the stars turns from black to milky. The milky part is the nebula. The whole area is overlaid by hundreds of stars from magnitude 7 to 10. This is a beautiful binocular field.

CYGNUS – M39 (NGC 7092) – The M39 field is easy to find by scanning W of Deneb. It is an open cluster of about 20 binocular stars of 9th and 10th magnitude. The stars form a distinct triangular shape about 1/2 degree in diameter. In smaller binoculars, the stars may be indistinguishable. The surrounding field is beautiful, with mottled faint star clouds cut by dark dust lanes. A rough line of 4 or 5 stars of 7th and 8th magnitude run WNW away from M39 for 2-degrees.

GEMINI – M35 (NGC 2168) – This is a very bright, 7.5 magnitude open star cluster about 1/2-degree in diameter and slightly triangular. With averted vision, the whole cluster breaks up into tiny stars of magnitude 9 through 11 – at least 50 stars can be seen. 1 and 7 (eta) Geminorum are dominant on the S edge of the binocular field. Though tiny and dim, another open cluster, far more distant, NGC 2158, is just detectable to the SW of M35. It is about 5' in diameter, and 11th magnitude. The whole area is a beautiful Milky Way field full of dark dust lanes.

HERCULES – M13 (NGC 6205) – M13 appears as a fuzzy ball, approximately 5' in diameter and brighter to the center. It is round, 5th magnitude, and can be glimpsed naked eye. It is flanked by a shallow triangle with two 7th magnitude stars. There are several other 7th and 8th magnitude stars in the 5-degree field.

HYDRA – M48 (NGC 2548) – This is an easy open cluster, obvious, and about 15' to 20' in diameter. Its total magnitude is 7 and it contains about 15 stars around 9th magnitude. The cluster is distinctly oval, oriented SE to NW. This field is at the very edge of the Milky Way. Move the binoculars one field to the left, and the sky darkens considerably. Find M48 using the line through the 3 stars 1, c and 2 Hydrae.

MONOCERES – M50 (NGC 2323) – This open cluster shows as a faintish smudge about 8th magnitude 10' in diameter. Three or four stars are involved within. The field can be confirmed by the presence of a T-shape of 7th magnitude stars about 2-degrees wide, where M50 forms the left branch of the top of the T. This is a fine Milky Way field, crowded with faint stars everywhere. Across the left half of the field, there is a series of intertwining dark dust lanes running north and south, beginning 1-degree E of M50.

MONOCERES – NGC 2264 – In contrast to M50, this is a rather unimpressive 1/2-degree open cluster in binoculars with maybe 20 stars barely distinguishable from a very rich Milky Way background. This object is also known as the Christmas Tree Cluster. Find this field by scanning S from xi Geminorum. The bright star 15 Monocerotis dominates the field by far, and with averted vision, the brightest part of the associated diffuse nebula can be brought out. A saving grace for this field is that it is a fine Milky Way field with bright star clouds and dark nebulae all over the place. Although this open star cluster is a "challenge", it is certainly not a good binocular object.

ORION – M42 (NGC 1976) – This famous diffuse nebula is a faint gray colour in binoculars. The nebula forms a rough ball of light about the size of the moon. Barely separated from M42, and difficult to distinguish at this power, is M43 (NGC 1982). M43 is a part of M42 separated by a dark lane of dust. One degree above M42 is the coarse open cluster NGC 1981 with a half dozen bright stars visible. The faint diffuse nebula, NGC 1977, can be distinguished around 42 & 45 Orionis. To the S about 1/2-degree from M42, is another faint nebula, NGC 1980, surrounding 44, iota Orionis. This is a very interesting 5-degree field!

4179 Toutatis – The Doomsday Rock – Comes Near *by Rick Huziak*

Almost unnoticed at the end of September, earth-crossing 4179 Toutatis will make a close approach to the earth, and although low in Capricornus, will be bright enough to be glimpsed in a 3" telescope. Research groups are calling for photometry to determine the asteroid's rotational period, currently believed to be a complex 2-axis rotation of 5 and 7 days, and astrometry to more closely determine the exact orbit. As the asteroid passes the earth, it will also be pulsed with powerful radars at Goldstone, CA and Arecibo, Puerto Rico to image its surface. Past radar has provided extremely good images, and has determined that the rock is dumbbell



Adventures d'Asterix might remember that Asterix the Gaul and his traveling companions called on their god Toutatis for comfort, since their constant fear was that the sky would fall on their heads. The Asterix comics were written many decades ago, so the "falling on the head" worry was a strange prophecy of an earth-crossing asteroid only found in 1989.

Since your demise by this asteroid is at least several years away, you can pass the time by spotting this rock as it flies by for its closest approach so far this century. It would be best to plot the path on a good atlas. During

the next month, it is moving across the sky from north to south across Capricornus, moving about 15' per day (1/2 the moon's diameter). It conveniently passes near some bright stars, so should be quite easy to find, despite its lowness in Saskatoon.

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DATE (OH UT)	RA	DECL.	MAG	NOTES
Sep. 7	21 55.22	-14 50.2	12.4	
Sep. 12	21 50.85	-16 06.5	12.0	
Sep. 13	-	-	11.9	1 deg E of delta Cap
Sep. 17	21 44.66	-18 10.5	11.4	
Sep. 18	-	-	11.2	5' E of kappa Cap
Sep. 19	-	-	11.0	50' E of eta Cap
Sep. 20	-	-	10.9	1 deg SE of 37 Cap
Sep. 22	21 33.13	-22 31.9	10.5	1.4 deg E of zeta Cap

The name Toutatis is an interesting one. Toutatis is the Celtic god of war, fertility and wealth. Those who in their youth explored *Les*

On the Track of 4143 Huziak *by Rick Huziak*

Having an asteroid named after you is pretty cool, but getting a photograph of it is not that easy. The asteroid's orbit carries it from 2.49 AU to 3.68 AU from the sun over 5.42 years, and the magnitude is typically 17 - 18 magnitude. There are, however, some upcoming "special times" over the next year that will provide photographic opportunities. Imaging the asteroid with a CCD camera should be possible.

On Oct. 5th, 2004 4143 passes only 1.6' S of Saturn at 5:14 a.m. At the time 4143 is 18.5 magnitude with Saturn at +0.2 magnitude. This occurs in Gemini. An 18 magnitude difference within the same CCD frame may be challenging!

On Oct. 27th 4143 is magnitude 18.4 in Cancer and is in a cluster with 3 other asteroids: 5014 Gorchakov (18.9m), 5446 Heyler (17.3m), 1998 RW65 (20.0m). The farthest of these asteroids is only 5' away. This is the tightest clustering of asteroids around 4143 this year.

On Nov. 21st 4143 is stationary in Cancer at magnitude 18.0, moving only 1" per hour straight N. From this point until March 9th, 4143 moves retrograde, and is closest to the earth. At the stationary points, the asteroid is moving the slowest relative to the earth, so it is easiest to photograph; you do not have to worry about rapid motion smearing the faint light over a line.

On Jan. 12th, 2005 4143 is back in Gemini and is passed by bright asteroid 8 Flora. Flora passes only 1" NE of Huziak at 6:32:09 a.m. Flora is magnitude 8.4, while Huziak is 17.1. Huziak is at opposition on Jan. 14th at 2.37 AU and is at its brightest for this year (17.0m), moving at 31.4" per hour westward. The 9-magnitude difference should make for an interesting photograph. Flora is moving at 43.1" per hour.

On Mar. 9th, 4143 is stationary in Gemini and at magnitude 18.3. 4143 is moving at a speed of only 0.3" northward, so again, may be easy to photograph.

Planets at SSSP *by Tenho Tuomi*

If Mars was the planet for SSSP 2003 then Venus was the planet for SSSP 2004. Those who stayed up to 3 a.m. were greeted by its bright rise in the Northeast. However with it approaching greatest western elongation on Aug 25, and at almost its greatest brilliancy at magnitude -4.3, it was an easy target to find during the day, and with its 50% crescent, quarter moon shape, it provided a very pleasing view. I dragged as many people as I could get to my telescope to see it during the day. Several lined up their binoculars behind my scope and found it for themselves.

Venus does not provide this kind of view at every SSSP. Venus has an eight-year cycle in the sense that every eight years it comes back to almost the same spot in the sky on almost the same date, such as coming back for a transit of the sun eight years from now in 1212. Twice in eight years it will provide a spectacular view at SSSP in August like we saw this year, once at its eastern elongation, and once at its western elongation. The last time was in 2002. The next time will not be until 2010. Last year Venus was at superior conjunction behind the sun and all but invisible from SSSP. Next year it will be at half its size with an 80% crescent.

I hope you looked at Mars during last year's SSSP for it won't be close to opposition again during SSSP until 2018.

Jupiter will make its debut next year as the planet to watch as it stays up past 11 p.m., and it will get better as it approaches opposition by SSSP 2009.



Viewing Venus during the day at SSSP 2002.

For you Saturn watchers you will have to be satisfied observing it in the morning hours for its slow motion will not make it an evening 'star' at SSSP until a decade from now.

Uranus actually is the reliable planet for SSSP these years. Its 84-year orbit has kept it in opposition in August for the last eight years. Even slower moving Neptune just reached opposition in August a couple years ago. Has anybody seen Pluto at SSSP?

How Much Magnification *by Scott Alexander*

I just recently saw in a catalog an advertisement for a refractor telescope that claimed the scope could go up to 525 power. Fine I thought. When I looked at the price of 399 dollars I thought great deal for a 15 inch scope only to see in the fine print of what comes with it that they were talking about a 2 inch scope. Hold on a moment, who changed the laws of physics on me while I was not looking? Did I not get the memo that explained that 50x or 60x per inch of aperture was all that you could use and see anything. Apparently the memo did not get to these people.

What really floored me next, to the 2 inch scope was an advertisement for a 4 inch scope. It was about the same price but the magnification was over 600x almost 700x. Why would a company claim this for a 2 inch or 4 inch scope when this magnification for this size of mirror is not usable? A 2 inch scope goes to about 100 or 120x. A 4 inch scope is about 200 or 240x. Well they all think that if you put 525x on a telescope box with a small 60 mm (2 inch) or 120 mm (4 inch) scope in it people will think that this must be a very powerful scope.

Have lost track of all of the times that I have been asked when a beginner comes up to my scope at a star party, "How much did you pay for it and how much magnification can you get with it?" When I tell them that magnification is but one part of seeing anything with a scope and it is limited by the type of scope that you have

and the atmosphere on any given night, and rarely do I even go past the 150x or 200x power even with my 14.5 inch scope the silence tells me that they bought into the myth that magnification on a scope means that you will see more which is not true. If you are a beginner in this hobby of astronomy and you see a scope of 2 inch or 4 inch in size with a magnification claim on the box of 500 or 600 power, do what I should of done when I bought my trash scope back in the 1980. Walk on past it and count yourself lucky that you know better than to fall for that claim.

Good luck to you all. I hope that you make a better decision on buying your first scope that I did. By the way that first scope that you should buy will have 2 scopes side by side and have 7x50 or 8x42 of 10x50 on them. Binoculars are the perfect first scope that any beginner astronomer should always start out with and when you learn your way around the sky with the binos. Then and only then should you consider getting a scope. Ask an astronomer at a star night what kind of scope you should buy. Go to a local meeting of a astronomy society and ask there what you should buy. This way you will not spend money that you should have kept in your pocket on something that will only take up space in your closet or basement. Remember binos, good star chart (*Nightwatch* by Terry Dickinson is my favorite beginner star chart) and then scope. Works for me.

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Mike Clancy	Up!	97
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Scott Alexander		117
Tenho Tuomi	New!	105
Mike Oosterlaken		68
Bill Hydomako	New!	19
Sandy Ferguson		18

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Certified at 400 Objects:

Richard Huziak		211
Darrell Chatfield	Up!	172

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.



RASC Observing Group Notes

by Brent Burlingham, Observing Group Coordinator

Great weather at SSSP 2004 in Cypress Hills contributed to 2 observing list completions this month, and some respectable advances in observation totals.

George Charpentier finished his Messier Club list, and Tenho Tuomi completed his FNGC Club list at SSSP this year. Tenho also discovered some common objects from the Messier and FNGC lists (as detailed in the July/August newsletter), enabling a rather spectacular entry into the Herschel 400 list at 105 objects!

Rick Huziak has submitted the application forms for George's Messier Club and Tenho's FNGC Club certificates to RASC, and hopes to have the certificates to present at our October meeting. Congratulations to George and Tenho!

On the "still slugging it out in the middle of the lists" front, I added 19 Messiers to my total at SSSP, and discovered two objects that I had missed in my previous totals, bringing me up to 85 objects. Barb Young entered the Messier List at 6 objects, and Kathleen Houston brought her Messier total up to 57 objects.

Darrell Chatfield added 17 objects to his Herschel 400-II list at SSSP, bringing his total up to 172.

In addition to completing his FNGC list at SSSP, Tenho also had time to observe C/2003 K4(LINEAR) and C/2001 Q4(NEAT),

Uranus, Neptune and the highlight of SSSP for him – a daytime observation of Venus.

My personal highlight for SSSP 2004 was the hour I spent observing Uranus after Tenho so kindly found it for me.

In the words of our fearless President, "way to go observers"!

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 observing you'd like to share with the club.

Clear Skies!

Brent Burlingham, Observing Group Coordinator

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>

On-line Herschel 400 List – For those who'd like an electronic Herschel 400 list, check out the official site at:

<http://www.astroleague.org/al/obsclubs/herschel/hers400.html>