

# Saskatoon Skies

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

Vol. 41, No. 9

September 2010

## Saskatchewan Summer Star Party



An enthusiastic group of astronomy fans braved wet conditions at the 2010 SSSP in August, making for another successful star party. (See page 5 for more.)

Photo by George Charpentier



Saskatoon Centre

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To view *Saskatoon Skies* in colour, see our Website:  
<http://homepage.usask.ca/~ges125/rasc/newsletters.html>

# MEMBERSHIP? IT'S NEVER TOO LATE TO JOIN!

**Regular: \$77.00 /year**

**Youth: \$41.00 /year**

**Associate: \$33 /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, Mark de Jong, or renew through the National Office and let Mark 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 (electronic format)
- SkyNews Magazine (bimonthly)
- use of the Centre library
- rent the Centre's Telescopes  
<http://homepage.usask.ca/ges125/rasc/telescopes.html>
- discounts to Sky & Telescope Magazine\*
- free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!

\*New subscription or renewal of Sky & Telescope? Send new info or renewal notice, plus credit card # to Norma Jensen, 128 – 4th Street East, Saskatoon, SK S7H 1H8, or email her at [norj@sasktel.net](mailto:norj@sasktel.net).

## 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

## SASKATOON CENTRE'S MAIN OFFICERS:

**President** – Barb Wright, 249-1990

**Secretary** – Ron Waldron, 382-9428

**Vice-President** – Jeff Swick, 373-3902

**Treasurer** – Norma Jensen, 244-7360

## Bottle Drive & Canadian Tire \$

By Colin Chatfield

If you cannot make it to a meeting but would like to contribute your Canadian Tire money please call me at 934-7046.

**Newsletter Editors** – Christine Kulyk & Tenho Tuomi

**Copy & Collate** – Les & Ellen Dickson

**Labels & Temps** – Mark de Jong

**Web Posting** – Gord Sarty

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 material. **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 to the editor at [clkulyk@sasktel.net](mailto:clkulyk@sasktel.net) – preferred as plain unformatted ASCII text files without line breaks. Images sent by e-mail should be attached files.

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 indicated), provided that proper source credit is given. DEADLINE for submissions for each month's issue is the 20th of the preceding month. Saskatoon Skies accepts Commercial advertising. Please call the editor 306-858-2453 for rates. Members can advertise non-commercial items free of charge.

**LIGHT POLLUTION ABATEMENT**  
WEBSITE AT:  
[www.ras.sk.ca/lpc/lpc.htm](http://www.ras.sk.ca/lpc/lpc.htm)

## RASC CALENDAR OF EVENTS

<b>Sep 20</b>	<b>RASC Executive Meeting</b> - 6:30 pm, 175 Physics, U of S	Barb Wright	249-1990
<b>Sep 20</b>	<b>RASC General Meeting</b> - 7:30 pm, 175 Physics, U of S	Barb Wright	249-1990
<b>Oct 2</b>	<b>Observers Group</b> – Dusk, Sleaford Observatory	Larry Scott	934-5801
<b>Oct 18</b>	<b>RASC Executive Meeting</b> - 6:30 pm, 175 Physics, U of S	Barb Wright	249-1990
<b>Oct 18</b>	<b>RASC Annual General Meeting &amp; Elections</b> - 7:30 pm, 175 Physics, U of S	Barb Wright	249-1990
<b>Nov 6</b>	<b>Observers Group</b> – Dusk, Sleaford Observatory	Larry Scott	934-5801

## RASC SASKATOON CENTRE GENERAL MEETING



**MONDAY, September 20, 7:30 PM**  
*Room 175, Physics Bldg., U of S*

**'Star Hopping & Other Tricks to Navigate the Night Sky'**  
 by Ron Waldron

Are you sometimes lost when attempting to point your telescope or find your way to M13 and other celestial wonders? Here are some tried and tested techniques and tricks that will help you learn the basics of navigating the night sky.

*Note: There will be an Executive Meeting at 6:30 pm.*

## PUBLIC STAR NIGHT

**Wednesday,  
September 29,  
7:00 pm**  
**at Lakewood Civic  
Centre**  
**(Cliff Wright Branch  
Library)**  
 1635 McKercher Drive

**Everyone is invited to  
take a peek at the night  
sky through telescopes set  
up outside the Cliff  
Wright Branch Library,  
courtesy of members of  
the Saskatoon Centre.**

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## President's Message

by Barb Wright

A year after our 2009 GA/SSSP IYA extravaganza (even if it did rain on our parade), this year's SSSP weekend was a little more low-key. We celebrated our local talent: Stan Shadick was our Father Kemble lecturer, with opportunity to have your *Skywatchers 2011* calendar autographed. Kathleen Houston was our inaugural speaker for the newly named Under Living Skies public lecture. Because of the wet weather conditions, this event was moved from the amphitheatre to the rec hall, which was filled for the BBQ followed by the public lecture. Kathleen involved her audience, engaged the children, and recognized some experts! The rec hall worked out fine as a place to visit and stay dry.

The Friends of Cypress Hills were truly our friends as well; their tent at the Meadows kept the hot coffee going and had a heater and a cozy place to visit. Thank you everyone for supporting them. This year, we also took up a collection for the Maple Creek disaster relief fund, as a reminder to us that a rained-out star party, disappointing though that may be, was not the worst thing the rains inflicted on people.

The hardy souls who stayed and braved the Meadows campground were rewarded for their stamina and perseverance with glorious skies on Saturday night. This was a demonstration of why people return to

Cypress Hills year after year: our amazing Saskatchewan Living Skies.

As my two-year term as President comes to an end, Vice-President Jeff Swick is all set to take over the gavel. I'm sure you will all give him your support and ensure Saskatoon Centre is a club to be proud of.

Consider stepping in and taking up one of the positions available in our October elections. For example, with Jeff Swick moving up to President, the Centre Vice-Presidency is up for grabs. We're also looking for a new newsletter Co-Editor, as Christine Kulyk has decided to step down from the job, so Tenho will need a hand. Rick Huziak will be continuing in his term as National Council Rep. The rest of the executive have agreed to let their names stand for re-election; but as you know, all positions are open for new or additional nominations! The SSSP Committee, particularly, is in great need of your help.

I'd like to take this opportunity to thank you all for your participation over the past two years. It has been a busy time: IYA, GA, public events, art show, planning for Sleaford. Let's keep the momentum going. Activities for new members are being initiated; some of the public events instituted during IYA may continue on; development at Sleaford has begun; and there is much to do. Come be a part of it all!

## Remembering Bruce Brandell

It is with great sadness that we note the recent loss of one of our Centre's long-time dedicated members, Bruce Brandell, who passed away in early August at age 83. Bruce's smiling, warm-hearted presence was a great asset at Centre events, where he helped raise funds for our ongoing activities in his position as Book Sales Coordinator over the past several years. A great lover of books, Bruce was always eager to engage in a lively conversation about the latest astronomical discoveries and theories.



Born in Detroit, Michigan, Bruce earned his PhD in Zoology at the University of Michigan. Upon moving to Canada, he took up a professorship at the University of Saskatchewan, teaching for 29 years in the Department of Anatomy. In addition to his love of astronomy, Bruce was an avid mountain climber and skier, for many years serving as a guide for blind skiers. A memorial service for Bruce was held on August 16 at the Redeemer Lutheran Church in Saskatoon.

Photo by Tenho Tuomi

# The 2010 Saskatchewan Summer Storm Party

by Rick Huziak

We had lousy weather at the Saskatchewan Summer Star Party — what's new this year on the prairies? I arrived Wednesday evening at dusk. We had a few sucker holes filled with cirrus, but a few folks took their scopes out and looked at what they could. Then by about midnight, the rain set in — then thunder and lightning — and then hail.

Similarly, Thursday and Friday alternated between rain and more rain, occasionally letting off and tempting us with a hint that it might stop and even might clear for a bit. But the weather just stayed pretty sorry. Eventually, hope came: a huge high pressure began working its way southeastward from the Yukon, and early Saturday afternoon, the rain stopped. By sundown, the last of the clouds disappeared, and we ended up with a really nice night of observing right until sunup. It was a bit humid, so we had some dew, but not as much as I thought we would — it was certainly tolerable. And the sky was very clear and very steady. I had Jupiter in my 10" at 540x, and it was rock-steady — not a hint of swimming around. The Red Spot was prominent and steady as it crossed the meridian, and there was a lot of detail in the NEB and the faint SEB, and a few brown and white spots here and there.

Despite the poor weather, we did have great talks (indoors). On Thursday evening, Kathleen Houston gave the public Under the Living Skies lecture to a crowd of ~200 after our (moved-indoors) wiener roast. Friday evening, Vance Petriew gave a great 100 years Regina Astronomy Society/RASC retrospective, Chris Beckett talked about RASC observing programs and certificates, and I filled everyone in on last October's signing of the Grasslands DSP.

SASKATOON SKIES



Donuts and coffee helped keep SSSP Chair Barb Wright and other star party campers smilin' in the rain

Photo by Kathleen Houston

On Saturday, Alan Dyer gave an excellent talk about his year of astronomy journeys to the southern hemisphere and elsewhere and filled us in on the events to come over the next two years. Celestron factory reps Kevin Kawai and Derik DeVecchio gave talks on Celestron operations, public outreach, and telescope tune-up tips. (It is their 50th anniversary.) Stan Shadick gave the Father Kemble Keynote lecture about how amateurs can participate in doing photometry

to study exoplanets. Chris Beckett gave a well-attended binocular starwalk. Saturday talks concluded with awarding of astrophoto and sketching awards, FNGC pins, 10-year pins, and over 45 door prizes very generously donated by our vendors and sponsors. The Regina Centre had an excellent public star night in the Tennis Courts, with 75 to 100 attending.



Jeff Swick and faithful companion Scooby the astro-dog check the soggy territory

Photo by Kathleen Houston

So, in spite of the rain, the party ended on a good note, with great talks and a great night of observing. Thanks to the ~45 volunteers who made this party happen, and to the 245 (down from 285 usual attendance) strong and wet souls who braved the conditions, ~200 being rewarded with an excellent Saturday night by not bailing out early (but bailing constantly to de-wet the tents). We thought the rain this year might have trumped the soggy GA/SSSP'09, but with the clear Saturday night, we're going to have to call

it a tie.

[Ed's note: The Group Photo from SSSP 2010 is available online at:  
<http://homepage.usask.ca/~ges125/rasc/SSSPGroupPhotos.html>]

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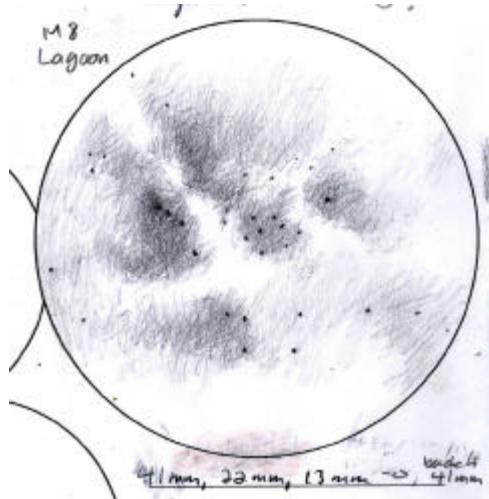
# Drawing at the Eyepiece!

by Kathleen Houston

With three nights and two and a half days of sustained rain, thunderstorms, hail, and fog at SSSP, we truly earned our last, but not least, *clear* Saturday night on August 14-15. I decided to do something different for my precious star time, and draw\*.

I had a new birthday present to explore with, a 2" 41mm Panoptic by Tele View. I think Rick was just as excited as I was about the new addition. With this "holy hand grenade" outweighing last year's GA swap table birthday gift, a 13mm Nagler old gem, I had to find more counterweight. I used a 2-pound ankle weight that I brought for the 13mm, added my O'Meara book, and strapped them both on with two bungee cords. Not very pretty, but very effective. I am sure Steve would be honoured!

Stephen James O'Meara was the guest speaker at the 2009 George Moore workshop, near Edmonton. His book *Deep-Sky Companions: The Messier Objects* has been my main resource on "how to get there" and the highlights of any given object. Steve includes a photo of the field, a goto map as viewed through the eyepiece, and his sketches for each Messier. He advocates spending more time observing each one: "Each drawing was based on several hours of observing each object over several extremely transparent nights" (p. xi). Steve explained to me how he works: he begins in wide field, draws his guide stars and main details, and gradually works up to more magnification. At each stage, he told me, he "exhausts all the details" that he can see. So, Saturday night I was motivated to try out "the O'Meara method." I wondered, what could I see, and how far can I go?

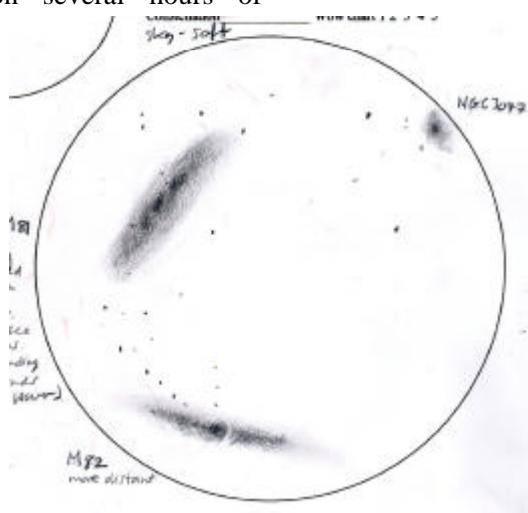


My 10" truss-tube Lightbridge and 41mm eyepiece staged for me a wider field of view that is more grounding, with more guide stars. I felt well oriented before entering inside the field with my 22mm and 13mm. I started with the Lagoon Nebula to the south

because I like the variety of details, in spite of lingering light in the northwest. I quickly realized how time-consuming this is, but loved the connection to the stars, diffuse light texture, wisps, and layering in my field. I minimized exposure to my red flashlight by flattening the head on my paper, to maximize my dark-adapted eyes when I was at the eyepiece. I was so deeply focused on my task that people walking around with relatively bright red flashlights were distracting, and they soon learned,

Be careful, Kathleen is drawing!

I went into the brightest nebulosity of the Lagoon, then followed the dark dust lane that Rick pointed out, and then across to the star cluster and its fainter nebulosity. Was that a smaller dust lane entering the star cluster? Rick suggested to jiggle the eyepiece to allow the nebulosity to "jump out." I wanted my eyes and instincts to take me "out there," to explore and discover this object before me.



I changed magnification from my 41mm to 22mm, and finished with the 13mm. I went back to the 41mm to zoom out and see how it all "reads" together. I suspect I took about an hour drawing the Lagoon Nebula. Then I moved on to the galaxy trio of M81, M82, and NGC 3077, a fainter fuzzy easily seen with averted vision. I tried to make sure I moved around from time to time, because being perched on Rick's terrific wooden observing chair meant that I was getting cold. So, instead of storing

my other eyepieces in the Lightbridge base holster, I put them back on the table in my case so I would have

to get up and walk around. By 1:50 am, it was time for a more sustained break. Waves of light cloud were trickling in, and contrast was poor. So I packed it in. My third drawing would have to wait until next time. Rick borrowed my new 41mm gift and went off exploring for himself.

For SSSP 2011, I want to propose a drawing workshop led by Jack Milliken (Calgary Centre) and myself. At the GA last year, there were two fabulous sunspot drawing entries, and this year, I was delighted with teenager Jennilea Coppola's naked-eye full Moon entry. I want to promote this form of seeing and experiencing the night sky, and invite youth and adults to enter and share their experiences. I foresee three SSSP drawing competition categories: naked eye, binoculars (on a tripod), and at the eyepiece. Clear skies, and happy drawing!

### Suggested Resources:

- "Become a Better Observer: Sketch!" by Mark Bratton, in *SkyNews* July/August 2009.
- *Deep-Sky Companions: The Messier Objects* by Stephen James O'Meara, Cambridge University Press 1998, ISBN 0521553326.

\*What is the difference between drawing and sketching? Steve O'Meara uses the term "drawing" in his book, while Mark Bratton says "sketching" in his *SkyNews* article. I use "draw" instead of "sketch," and here is why: A drawing is intended to produce a substantial standalone work, whereas a sketch is a "quick unrefined drawing" (Wiki), usually as a preparation for something more substantial. And gesture drawing is somewhere in between!

## RASC General Assembly 2010 Report

by Rick Huziak, Saskatoon Centre National Council Rep

### Summary of National Council Meeting, July 1, at the 2010 GA in Fredericton:

Mary Lou Whitehorne, Publications Committee Chair, reported that *Observer's Handbook* Editor Pat Kelly is ending his term and the search for a new editor (or co-editors) has begun. Finding a good new editor is very important, because the Handbook is a very important part of the Society. She also introduced the new professionally designed RASC and publications brochures; 30,000 copies will be printed and will be available to Centres.

James Edgar, National Secretary, reported that Public Speaker Program money is available. Three Centres have applied and been accepted. James moved that accommodations be added to the speaker fund to make the fund more useful for Centres, and the motion was carried. This fund is for speakers provided the talk is available to the public; \$10,000 per year is available, issued at approximately \$700 per application.

Peter Jedicke, Awards Committee Chair, suggested the creation of a national award for education and public outreach, driven out of the success of the IYA. The RASC recognized that much work was done by many members and the RASC did not have a mechanism for their recognition. (There have also been discussions of joint awards from the RASC, CASCA, & FAAQ.) The suggested purpose of the award is to motivate SASKATOON SKIES

members to do more.

Chris Weadick reported for the National Light Pollution Abatement Committee on behalf of Rob Dick. Kejimkujik National Park, Nova Scotia, was accepted as Canada's 12th Dark-Sky Preserve by the RASC on July 1. The park is very dark and encompasses about 300 square kilometres. The actual declaration at the Park would occur on August 7.

Dave Lane, outgoing National President, reported on the Walter Helm Fund. This fund has been removed from the RASC books and will be administered as a completely separate fund, though still by the RASC. The fund was in place to support the David Dunlap Observatory, but since the observatory was sold by the University of Toronto and is now being run by the Toronto Centre, exactly how this fund is to be used is unknown and is being discussed with lawyers. (The costs are covered by the Fund itself, and not by the RASC.)

Jennifer West of the Winnipeg Centre gave a report on GA2011. The GA is to be held at the University of Manitoba on the Canada Day weekend.

Chris Gainer indicated that the Victoria Centre is interested in being the 2014 GA host, since 2014 is their 100th anniversary.

## **Summary of Annual General Meeting, July 4, at the 2010 GA in Fredericton:**

Twenty-two of twenty-nine Centres were represented at this meeting! Approximately 82 of the 150 GA registrants attended the Annual Meeting.

The first order of business was acclamation of the new executive. Mary Lou Whitehorne became the new President of the RASC, and David Lane became Past-President.

The year-in-review was given by Mary Lou. She read out the list of achievements for 2009-10, driven mostly by IYA planning and activities. Nationally, the RASC, FAAQ, and CASCA programs produced 1.9 million Canadian Galileo Moments, double the original goal. In addition, the RASC sponsored four new Dark-Sky Preserves, bringing the total to eleven in Canada. The RASC National Office HQ property was sold and moved to a new leased location, and Executive Director Deborah Thompson was hired. The Public Speaker Program was also revised.

Bill Hydomako was acknowledged during the reading of the names of deceased members, along with Leo Enright, *Beginner's Observing Guide* editor, and others.

Dennis Grey of the Constitution Committee reported that the constitution was preliminarily revised and modernized.

Kim Hay, Chair of the Education Committee, reported that IYA planning went well (it started in 2008!) and thanked the committee for doing such a good job. It was noted that Starfinders are already available in the e-store and will become a permanent product, but that National Office will still provide free ones for Centre activities.

Mary Lou Whitehorne, Publications Committee Chair, reported that the 6th edition of the *Beginner's Observing Guide* and the 2nd edition of *Skyways* have been completed.

Randall Rosenfeld, of the Green Laser Pointer (GLP) Committee, reported that green laser pointer voluntary guidelines-for-use have been established and are on the Website. The RASC is concerned about misuse reported in the media that might affect long-term use, so a brochure might be produced.

Chris Weadick, reporting for Rob Dick of the Light Pollution Committee, reported that the focus of LPA programs has expanded to protecting fauna and stars to meet broader social expectations.

The only motion of significance at the GA, the motion to change membership fees by increasing Ordinary Membership by \$3, and to maintain current Youth fees, was passed by 110 votes for and 44 votes against. Proxies carried by a few Centre Reps were approximately 50/50 for/against. It was recommended by Denis Grey to begin increased fees on September 30 due to iMIS restrictions.

## **Observers Group Notes**

**by Larry Scott**

Welcome back, everyone. I hope your summer was good and your basements are dry.

We had two Observers Group meetings scheduled over the summer. Two members were out to Sleaford on July 17. Skies were clear with good seeing, poor transparency, and lots of mosquitoes. Conditions on August 7 were nearly identical, including the mosquitoes, with three members present. There was a wee bit of excitement that night as I was getting first light on a new-to-me scope, and it did not disappoint. Also got to see Ron's new legs. Very nice.

As I did get first light that night, I cannot be held

responsible for the weather at SSSP. I suspect it was other cases of new-scope curse that yielded the following quotes from SSSP 2010: "Those two storms that passed earlier were the little ones. There's another one coming at you and it's HUGE!" and "It's worse [the weather] than last year" and "The mosquitoes are the size of grasshoppers." Congratulations to everyone who stuck it out till Saturday night to get some well-deserved views.

Next Observers Group is scheduled for October 2, with moonless evenings from the 1st to the 13th. Dress warm!



## The Planets This Month, September 2010

by Murray D. Paulson, RASC Edmonton Centre



Back from an eventful summer, eclipses, and star parties. Did you get to see **Mercury**? I caught it at the Mt. Kobau Star Party, and it rewarded me with a 8.3" fat crescent. I tried to see details on it, but no luck this time. This month, Mercury is in inferior conjunction with the Sun on the 3rd, and from there, it will swing out with great speed to the September 19 greatest western elongation. It will sit 18 degrees from the Sun, rising almost 2 hours before sunrise. On the 19th, Mercury will shine at magnitude -0.3 and will show a 7.2" half-disc in the eyepiece. This is a fairly good morning apparition, so if you are an early riser and have a good eastern horizon, give it a try. Regulus will be 8 degrees above and slightly south of it. After the morning apparition, Mercury will move back towards the Sun at a more pedestrian rate to arrive in superior conjunction in mid-October.

The fall ecliptic is unkind to us, hiding any planets that linger too near the Sun. The ecliptic runs at a slight angle to the evening horizon, and the planet **Venus** compounds it by lying below the ecliptic! I think the only way you may catch Venus in twilight is to check right at sunset and hunt about 45 degrees south of it and just above the horizon. Binoculars will help. Venus will shine at magnitude -4.5, and it will only be 3 or so degrees above the horizon. Good luck. If viewing it in the daytime, it should be an easy hunt at such a distance from the Sun. In the eyepiece, you will see a 33" fat crescent early in the month, and by the first week of October, it will swell to a 51" thin crescent still maintaining that -4.5 brilliance. Do find it in the daytime; it always is a beauty when it is a thin crescent.

This month, **Mars** lurks in evening twilight as well, but at magnitude 1.5, it will not be easy to find. If you could find it, you would be rewarded with the tiniest Mars you will have ever

seen. In the first weeks of September, it is 4.3", and by early October, it will shrink marginally to 4.1". It still lies a ways from the Sun, but that wicked fall ecliptic has got it and will not easily relinquish it for viewing.

The big thing for this month is the opposition of **Jupiter**. It happens on September 21, and Jupiter will shine at magnitude -2.9 and show a 49.86" disc. The last time Jupiter was larger than this was in 1951 when it was 49.93" in diameter. By incredible coincidence, we also have Uranus coming to opposition on the exact same day. You will be able to see both of these gas giants in the same eyepiece field around this time. Uranus will lie just around 1 degree above Jupiter over the week on either side of opposition. The closest approach is on September 18 when the two will be only 49' apart. Uranus will shine at magnitude 5.7 and will show you a blue-green 3.7" disk in the eyepiece. Compare it to Jupiter's moons. Ganymede will show a 1.7" disc at opposition. We are also back in the season of moon events. I saw some nice Galilean shadow transits at the summer star party. One was a nice dual shadow event.

This month, **Saturn** comes to conjunction with the Sun on September 30, so we will have to wait till later in the year when it will make it back into the morning sky.



Slim crescent Moon and Venus  
Taken May 15, 2010 with Nikon D90 and 75-300mm lens.

Photo by Colin Chatfield

One last word on moons: **Uranus** and **Neptune** have satellites that are easily found in a moderate-to-large amateur telescope. Neptune's moon Triton shines at magnitude 13.4 and is an easy find in a 10" or larger scope. Uranus has three moons within the reach of amateur scopes, with magnitudes 13.9, 14.1, and 14.3. Use your favourite astro software to generate an ephemeris for the nights you wish to go out, and see if you can chase them down.

# 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 II, 140 Lunar, or 35 Binocular objects, or Explore the Universe 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, L. Scott, G. Charpentier, B. Johnson, M. Clancy, L. Dickson, B. Burlingham

Ken Maher	Done!	110
Norma Jensen		108
Ron Waldron		105
Kathleen Houston		90
Margo Millar		77
Wade Selvig		75
Garry Stone		57
Barb Wright		40
Wayne Schlapkohl		36
Ellen Dickson		32
Jeff Swick		24
Bruce Brandell		5



The Messier & Finest NGC lists can be found in the *Observer's Handbook*.

The Explore the Universe list is available on the National website.

On-line Messier and Finest NGC lists, charts and logbooks – check out:

<http://www.rasc.ca/observing>

On-line Herschel 400 List – check out the official site at:

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

The Binocular List will be available at each general meeting or can be mailed out on request to distant members.

Copies of the Isabel Williamson Lunar Observing Program Guide can be purchased at meetings.

Program details can be found at: <http://www.rasc.ca/williamson/index.shtml>

## SKY BUYS & MIRROR CELLS

### The Saskatoon Centre's Swap and sale Page

**FOR SALE:** Discovery 12.5" f/5 PDHQ Split-Tube Dobsonian. Bought in 2007 and used six times. Made some modifications to stiffen the box. Nice views from an excellent mirror, but too much scope for me. Will ship at buyer's expense, or willing to deliver for gas money. Scope currently lists for \$1,699; I would like \$1,000. Contact Norma: norj@sasktel.net

**FOR SALE:** Celestron 8 with tripod and wedge, AC motor drive, two eyepieces (12.5mm Plössl and 25mm Kellner), original box, and manuals. Owned by me for about 12 years, used very little and not at all in the last 5 or 6 years. Asking \$1,000. Please contact me (Arlow Kraft) by e-mail: adk100@sasktel.net