

Saskatoon Skies

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

Volume 31, Number 07 & 08

July - August 2000



Andrew Krochko reviews eyepieces in this issue, comparing the inexpensive Omcon Plossls with top-of-the-line TeleVue Plossls. The Omcon set is a step up in quality for many observers and their telescopes, but if you have the money, the Televues may be the ones you want. See inside.

Shown here are the editor's 32 mm, 20 mm, 12 mm and 7.5 mm Omcons.

RASC Calendar Happenings

Date (2000)	Event	Contact	Telephone
Jul 29 - Aug 6	Mt. Kobau Star Party, Osoyoos, BC	Rick Huziak	665-3392
Aug. 4	Friends of Sleaford Open House	Les Dickson	249-1091
Aug. 5	Plaque Dedication at Sleaford	Rick Huziak	665-3392
Aug 25 - 27	Sask. Summer Star Party 2000, Cypress	Les Dickson	249-1091
Aug 31 -Sep 3	Alberta Star Party, Caroline, AB	Rick Huziak	665-3392
Sep. 18	General Meeting - Room 8313	Les Dickson	249-1091

Sky Buys and Mirror Sells

The Saskatoon Centre's Swap and Sale Page!

STILL KIND OF LOST - I misplaced or loaned out my Lumicon OIII filter to someone and I'd like it back. Please own up. This means YOU! - Darrell Chatfield 374-9278.

For Sale: Bushnell/Jason Model 519, Deep Space Series 675x telescope with tripod. Retail value \$179.99. Brand new and unused. If anyone would like to look at it they are welcome to call me at home 373-4914 or at work 975-5336 and make arrangements. \$150 obo. Call Linda Cunningham <CUNNINGHAML@EM.AGR.CA>

For Sale: Brass-finished Carrying Trunk for C-8 or C11, Antares 10 mm Plossl eyepiece \$100.00. Call Darrell Chatfield for pricing and trials. tel. 374-9278.

For Sale: Meade ETX 90 f/13.8 (1250 mm) telescope with tripod. Accessories include battery-operated drive, erecting prism. Two years old. Upgraded to a larger scope. Call Richard Allen at 652-1616.

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GA2K, The Millennium Assembly - Winnipeg

by Ken Noesgaard

The RASC General Assembly was hosted this year by the Winnipeg Centre at the University of Manitoba campus. The dates of the total event were Thursday June 29 (for the early arrivals) to Monday July 3 (for the late departures). For those who have never attended a GA, the real astronomy is done on the Saturday and Sunday during the paper sessions and presentations, with the rest of the weekend devoted to touring, partying, and other miscellaneous and sundry socializing (yeah!).

In consideration of those who have never gone to a GA, I will tell my "tale of GA2K" in a chronological retrospective.

My morning of Thursday, June 29 started at 07:00 with getting myself and my van ready for the 10 hour trip to Winnipeg. I had to remove the back seat in order to make room for the 2 displays I was bringing to the GA for the display room. Everything else was packed into the front and middle seats. I'm glad I was alone in the van because there wasn't room for anyone else! I finally got out of town around 09:00 on a beautiful sunny day heading for Yorkton. One side trip to Brandon for a little business (which let me write off my mileage and gas) and on to Winnipeg.

I arrived in Winnipeg at 19:30 and headed for the U of M St. John's College to the GA registration table. There I was met by several of the Winnipeg Centre members who checked me into my dorm room in the college and gave me my registration package and familiarized me with the locations of the various events. Most meals and social events were kept close to the dorms. The paper sessions and banquet were farther away, but within walking distance and certainly nice venues. If you've never stayed in a dorm, it can only be described as "Spartan". It consists of a room the size of the average walk-in closet with a bed, a chair and a desk. They are the same at virtually every college and they are cheap. I paid \$32 per night and that included a breakfast buffet. I never spend more than 5 hours in my room in a 24 hour period anyway.

Thursday night we went for a tour of the Glenlea Observatory. After spending so much time there and helping rebuild it after the '97 flood, I wanted to see it again. We toured and did some observing until 01:00. Upon returning to the dorms, we started a party in

the commons room (right below my room - the organizers knew me) which closed down around 03:00 - astronomers do know how to stay up late!

07:30 Friday morning found me showering and prying my eyes open, looking for food. There was a nice buffet in the attached restaurant "*The Daily Bread*" (it's a theological college) which did me just fine.

As I was designated as the alternate Centre representative (Sandy Ferguson being unable to attend) I then was scheduled to attend the National Council meeting all day. Other (non-council) delegates spent the day touring Lower Fort Garry or the Red River Exhibition. National council meetings being the rousing, raucous events they are, I find a judicious use of caffeine and toothpicks to be necessary... particularly following the previous evening's social sessions. But I did take notes, and I will make my report to the executive. Following the council meeting and tours we all met outside *The Daily Bread* for a bar-b-que and more conversation prior to the famous and always well attended "wine and cheese welcome", this time held at the local private country club.

The wine and cheese is popular as it is the place for the Murphy's slide contest, where delegates bring in their worst and most interesting slides to share with us - always interesting, often funny. Also popular is the song contest, where centres and delegates sing songs they have written with an astronomy theme. Winners are chosen by audience applause. Michael Watson won the Murphy's slide contest and Orla Aaquist won the song contest. During the evening we were treated to a display by mother nature who started the festivities with a hailstorm and finished with a downpour and electrical storm which Guy Westcott tells us set off all the pyrotechnics at the Guess Who concert. Of course the festivities continued at the dorm commons room until 03:00 with 50 to 60 delegates in attendance. The evening ended with a bean bag war between the remaining 10 (there's always something different at each GA).

Saturday morning started at 07:00 for me as I had to get my breakfast and then finish setting up my displays before the delegates headed over to the paper sessions at 09:00. The paper sessions are presentations given by delegates who wish to share what they have been working on (2 GA's ago Erich Keser did a presentation on the move of the observatory to Sleaford). The first presentation was by guest speaker Steve Edberg of Jet Propulsion Laboratory, titled "Comets and Asteroids: Advances Since Halley's Comet". It was very well attended and quite interesting. David Turner of Halifax Centre then spoke on observing variable stars with naked eye and provided charts and data which admirably supported his talk. Randy Attwood, our outgoing National President, gave a presentation using Microsoft PowerPoint on stamps produced all over the world with an astronomical theme. David Orenstein (some of you may have met him during his visit here in July) of Toronto Centre presented on "High Level High School Mathematical

Astronomy". Richard Schmude of Gordon College showed us his work into "Full-Disc Wide-band Photoelectric Photometry of the Moon". The last speaker before lunch was Phil McCausland of the U of Western Ontario on the "Tagish Lake Meteorite". He had tracked a fireball to an explosion over the Yukon/BC border. Fragments were found in the ice of Tagish Lake and recovered by the team in a sterile manner for analysis. A photograph from his expedition will be included in the 2001 RASC calendar. Lunch was taken back at *The Daily Bread* as was our group photo. Then back to the Drake Centre for the afternoon sessions.

After lunch sessions began with guest speaker Don Parker, a respected planetary observer and author whose photos and CCD images have been seen in *Astronomy* and *Sky and Telescope*. He gave a very humorous and enjoyable presentation on his observations of Mars including his own excellent images. Following Don, Mary Lou Whitehorne of Halifax Centre gave a talk on the work being done in Atlantic Canada using the Starlab mobile planetarium. Jay Anderson of Winnipeg Centre - a very active global eclipse chaser - showed his analysis of the last 5000 years of solar eclipses. Certain patterns were evident, but no one is quite sure what they mean. Rajiv Gupta (who does the Calendar, and as of now also the Journal) shared his "*Techniques in Digital Photography*". NOT CCD imaging, but digital techniques using film images. The talks rounded off with Vesna Zdjelar of the U of M, who presented her research into the search for dark matter and it's effect on major cosmological parameters... heady stuff.

Between the paper sessions, coffee was served in the foyer where the displays could be found. I watched with interest as people milled around our displays and seemed to enjoy them... even going off and bringing others back to see them. Quite a few people took SSSP pamphlets with them. It'll be interesting to see how many of them show up.

Saturday evening had the delegates at *The Forks* (a local Winnipeg attraction) for dinner followed by Canada Day fireworks after dark with the Winnipeg Symphony playing behind us - very nice! Then back to the dorms ... can you guess?... *right!*... party in the commons room until 03:00!

Sunday morning was CCD sessions - paper sessions specifically by and for those involved in CCD imaging. Started off by Don Parker - eminently qualified and sharing the secrets behind his excellent planetary images. Chris Brown of Winnipeg, Doug George of Ottawa (Past-president who has visited us), and Gary Billings of Calgary also shared their techniques and fielded questions of all the interested CCDers in attendance. Unfortunately, I do not CCD at the present, so I passed on the CCD sessions. I was however, on hand to man my displays. Judging of the displays was held right after the CCD sessions and before lunch. After lunch the annual general meeting was held where elections of officers were held and positions were appointed. A final hour of National

Council meeting and the business was done for this GA! Off to remove my displays and prepare for the Banquet.

The formal banquet was held in the Beausejour Room on campus and gave us all a chance to clean up and look respectable in suits and dresses (I was in a suit). The food was good, the wine was nice and the company was excellent. Then they got down to presentation of awards. The award for best Poster Display was first and had me biting my nails... I almost whooped when the presenter *said "The Joint RASC / U of S Observatory Project by the Saskatoon Centre"*! I walked up and shook her hand and she presented me with an observing chair! About 2 minutes later they called me up again to accept my Messier Certificate! It was truly a good day... Then the door prizes were handed out, first went a 4" f/4 telescope on an equatorial tripod (I wanted that), then another observing chair, then about thirty books, most of them worth \$30 to \$50! Winner's choice - Barb Young got one... ask her which.

Following the door prizes, we were treated to the biennial Helen Sawyer Hogg Memorial Lecture. The lecturer this year was Dr. Wendy Freedman of Carnegie Observatories of Pasadena California. Dr. Freedman is a native of Toronto who now is one of the top astronomers who uses the most time on the Hubble Space Telescope. Her team is measuring the Hubble Constant to accurately determine the age and size of the universe. She spoke about her life being influenced by Helen Sawyer Hogg and the challenges Dr. Hogg faced as a woman astronomer as a preface to her main talk on *the "Age and Size of the Universe"*. Dr. Freedman is an impressive scientist.

The evening wound up with one last commons room fling, with our new 2nd VP serenading us in the hallway with past favourites of the song contest like " *The Stars Go Nova One by One* " and " *Oh, Neutron Star* ", and others chatting into the wee hours. Everyone was in fine form and had a great time. I think I headed to bed early that night around 02:30. I had to drive 10 hours back to Saskatoon that morning, after all...

All in all, another enjoyable GA.

I will offer to you: if you like star parties and the camaraderie that goes with them, you'll enjoy a GA. Normally, GA's have 150 to 250 attendees at them. They are, as a group, intelligent, sociable and on vacation. The paper sessions appeal to the left brain and the social activities appeal to the right. For those who aren't interested in the paper sessions (especially families) there are tours and activities going on each day.

The next GA is called "***2gal: a space r.a.s.c.***" and will be hosted by the London, Ontario Centre - June 29 - July 1, 2001. Watch for the announcements in the *Journal* or check their website: <www.rasc.ca/ga2001>.

Saskatoon's General Assembly - (kind of...)

by Rick Huziak

Judging by the drive-through traffic we had here in Saskatoon in later June and early July, we almost could have held the GA here! Saskatoon seemed to be a popular stopping-off ground for many who were on their way to and from Winnipeg. Let the gossip begin!

Rolf and Linda Meier and their son, Matthew, of the Ottawa Centre arrived first - heading for the GA the long way around! They came though after a western Canadian tour and dropped in specifically to visit Sandy Ferguson. Rolf is an avid observer, and the discoverer of 4 comets. Sandy, Linda and Rolf go back a long a way to when Sandy was an Ottawa Centre member. Sandy threw a supper and coffee session at her house in the Meier's honour, which as attended by a half-dozen Saskatoon members, and also included the seldom-seen Chris Martin - another ex-Ottawa member. Chris and Rolf spent much time reminiscing about "old Ottawa days" and talk of trips to Stellafane and the meteor coffins!

Arriving only a day later were **Alister Ling and Murray Paulson** of the Edmonton Centre. Alister and Murray stayed overnight with me - and since their visit was to be short, I wined and dined them, and then kept them up for most of the night, knowing that they had a 10-hour drive ahead of them on their GA trip. (Maybe this is why they ended up going the wrong direction out of Brandon!). On their way out of Saskatoon, I toured them to the Sleaford Observatory, which neither had seen before - at least no with telescopes installed. They we quite impressed, and wished that their Blackfoot observing site was as well equipped. Alister and Murray also stopped by for lunch on their way back from the GA, and I was told "*The Mistaken Room*" story by Murray - ask me sometime!

A week after the GA had concluded, we were treated to another visit by the National Public Education Committee Chair, **David Orenstein**, of the Toronto Centre (see Ken's article). David, like the Meier's, was taking the opportunity to do a western tour while he was in the area. I met with David on two evenings and discussed the direction of the Public Education Committee - which I am keenly interested in, then I toured him through the Radarsat facility at SED Systems. We were also going to tour to the Sleaford Observatory, but this trip was cut short by a horrific lightening and rain storm. On his third evening with our Centre, we arranged a supper with him at the *Great Buffet of China*. This was attended by a dozen or so Saskatoon members. David was on his way to

the Regina Centre next.

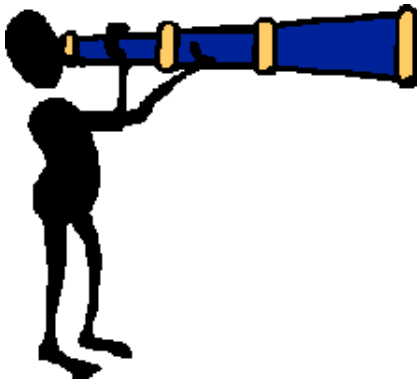
With the RASC as a national organization, many long-term friendships can be made as people move around. I guess that's part of why the RASC exists!

Note to Submitters

When submitting articles for publication, please use standard formatting. For example, in *tables* or *lists*, please do not space columns using multiple *spaces*. Tables are most easily formatted if the column entries are separated with a single *tab* character, or *comma*. Otherwise, each set of spaces must be manually stripped out during editing - a process that consumes much time! Remember - what formats correctly on your computer doesn't on mine! Further instructions are given in the box at the bottom of page 3. [Ed.]

AN OBSERVING SESSION - MAY 30, 2000

by Darrell Chatfield



I "twisted" Rick's arm into coming out observing on this night, just to log a few more of those Herschel objects. We decided to go out to Beaver Creek, by the South gate. This made it convenient for Rick to meet me, seeing as he was just across the road giving a talk at Brightwater Camp. I arrived at our site around 10:30 p.m., while Rick arrived about an hour later. This gave me time to collimate my 10" Meade. The telescope probably didn't like it when I bumped it on the way out the door of my house.

As the sky darkened, we started our deep space challenges. My tour of the galaxies took me to places in Bootes, Canes Venatici, Ursa Major, and Virgo. These 'little' gems were between 10.9 and 11.6 mag., so some of them proved to be quite difficult. Take the case

of the following Herschel objects: NGC 4051, at 10.3 mag., and 32 million light years away. My notes for this one were: *hard, quite dim, quite large gal.: diffuse arms; core was brighter*. Compare NGC 5689, at 11.9 mag., and 102 million light years away. *Even though it appeared a bit dim, I could see it was an elongated spiral, with fairly even brightness in the arms and core*. NGC 5689 is 3 times the distance away that H4051, but I could see some detail. This must be a very large galaxy!

Another interesting object was NGC 5371, at mag. 10.8. This was a round, dim galaxy, with a small core. However, NGC 5350, NGC 5353 and NGC 5354 were all in the same field. They were all of the same description, namely *dim, round gal., with small cores*. This proved to be a very interesting cluster for Rick, who looked at them in my telescope. This was the first time he had seen them! (If I can show Rick something he hasn't seen before, he has to buy me coffee. I am free tomorrow night, Rick!) Rick did his usual DIM galaxies. I lasted until 2:00 a.m. Rick followed a bit later.

Even though I saw only 11 galaxies, it was a good evening. We had to fight some aurora though, for about 40 minutes. Even this was interesting to watch. I encourage you to get out and observe, even if it is for a short period of time.

Star Party 2000 Registration Update

by Ellen Dickson, SSSP Registrar

Hi again people. Your friendly (albeit hot) registrar is here to report that registrations are only trickling in so far. I'd like to once again remind you that the deadline for early (i.e. cheaper) registrations is coming up fast. It is -- JULY 31! Any registrations up to that date and including that date will receive the lower price. After that please be prepared to pay the higher registration fees. I would really appreciate it if you wish to register by mail, to send your registration and payment to me in time for it to arrive by August 18. Any later, and I would prefer that you just call or e-mail me that you are coming, and register and pay when you arrive at the star party. We are sorry if this inconveniences anyone.

The new T-shirt design is now available on the website. Take a look - it's a nice difference to our usual T's and the shirt colour is now khaki - not our usual blue. Remember to purchase your T's with your mailed in registration - If you don't, you may not be able to get one.

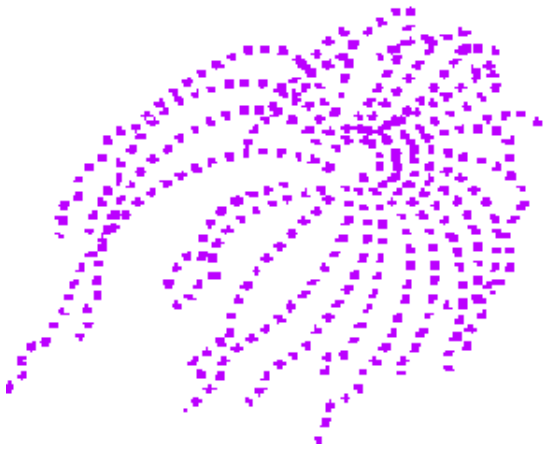
The dinner buffet this year is going to be . . . turkey. This is a change from last year when

we had both turkey and beef. Sorry to disappoint you beef-eaters. For those of you who wish to indulge, remember to purchase your dinners with your mailed in registration -- If you don't, you may not be able to come and gobble up the goodies.

Clear skies always.

Rambling About The Sky

by Andrew Krochko



No real observing article this month, just some miscellaneous ramblings about the sky. The big event over the next month is going to be Comet LINEAR. Only the morning of July 8th I picked it up in Perseus from my backyard with my 6" f/5 reflector. The nucleus was quite bright and it had a faint tail about 10 arc-minutes long, a third the size of the full moon. This comet will be passing through the feet of Ursa Major between July 21st and July 27th. It should be about magnitude 5.6 and just visible to the unaided eye from a dark site such as Sleaford. However, the latest Internet news states that this comet is breaking up into many pieces and may simply disappear from the sky!

The biggest and best deep sky object, the Milky Way, is now in its full glory. You can probably see far more detail in the Milky Way with the unaided eye than you can in other object through any telescope. My favorite parts are the great rift, a dark lane running from Cygnus down through Sagittarius, the Cygnus and Scutum star clouds and the North American Nebula. All of these can be seen with the unaided eye although the North American Nebula can be a bit difficult under most conditions. The only other galaxy we

can easily see from this far north with the unaided eye is now coming up. The Great Andromeda Galaxy is now visible low in the northeast at starting at about 2 a.m.; even from my Saskatoon backyard I can see one of its dark lanes and both companions with my 6" f/5 telescope. The galaxy itself is quite easy to find with binoculars because it has such a bright core.

From now until about the beginning of November is my favorite time to observe. The Summer and Autumn Milky Ways are up, the nights are getting longer and it is not very cold. Keep looking up!!!

Televue Plössl Review

by Andrew Krochko

I recently bought a set of Televue Plössl eyepieces. I paid about twice as much for these as I would have for "generic" Plössl eyepieces so I decided to do a comparison to see if the extra money I spent was worth it. The eyepieces I have are a 32 mm, a 20 mm and a 11 mm. I tested them against Omcon 32 mm, 20 mm and 12.5 mm Plössl eyepieces. I used my 6" f/5 Newtonian to test them and I observed double and multiple stars in the Cygnus star cloud as test objects.

I started with the 32 mm eyepieces. When observing close double stars the Televue looked much sharper than the Omcon, however the differences weren't obvious when a double star was not being viewed. The edge of field was also sharper in the Televue. If I had to guess I would say the Televue was twice as sharp as the Omcon. I found the same to be true when I compared the two 20 mm's and the 11 mm and 12.5 mm eyepieces.

I then started sweeping around the sky. Both 32 mm eyepieces showed significant distortion. Distortion is a curved appearance the sky takes on but it is only obvious when sweeping or viewing straight objects like telephone poles. Distortion can make some people *seasick* although I am not really bothered by it. The Televue 32 mm showed about a third to a half less distortion than Omcon. I found the same with the 20 mm eyepieces although both 20 mm eyepieces showed less distortion than either 32 mm eyepiece. The distortion in the 11 mm and 12.5 mm eyepieces was barely detectable.

The eyepieces had other differences too. I also noticed that when looking at Arcturus there were virtually no ghosts visible in the Televue eyepieces while the Omcon

eyepieces showed several ghosts and flares around the star. The 32 mm's and the 20 mm's were all equally comfortable to view through. The Televue 11 mm had a much shorter eye relief than the Omcon 12.5 mm and was less comfortable to view with and it fogged up more easily. The Televue's also seemed to be better made than the Omcon's, the 32 mm and 20 mm included rubber grips and all three Televue's had rubber eyecups that can fold down. (Omcon has optional rubber eyecups available). All the eyepieces within a set were parfocal (focused at the same point) but the two sets didn't focus close to the same point.

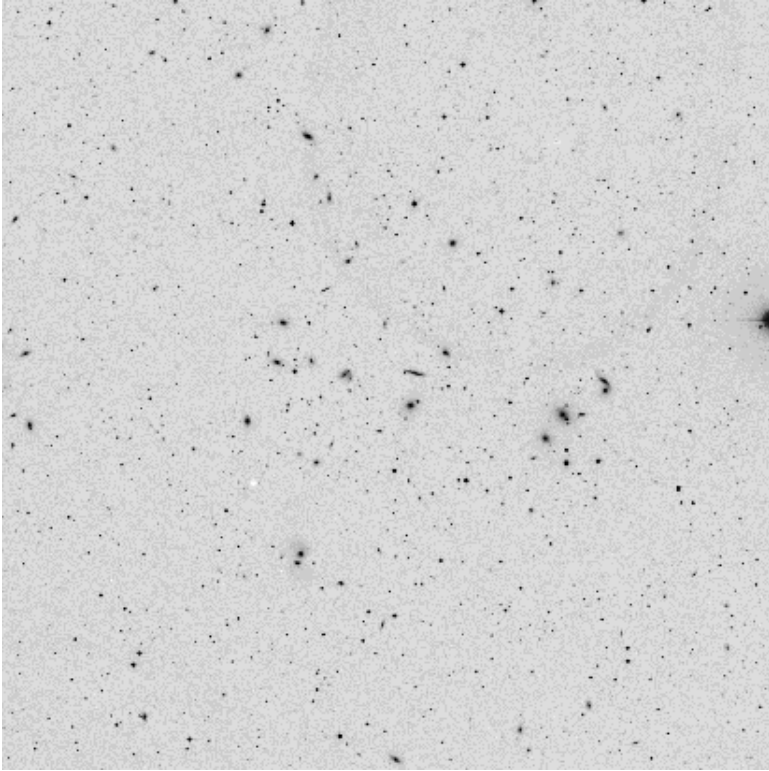
Based on my tests above the Televue's are better than Omcon's. In my opinion better enough to be worth the extra money. Both types of eyepieces are a big improvement over the types of eyepieces that were used just a generation ago. Although the Televue's were sharper, both sets are fine eyepieces and I would be happy with either. If you want to buy a set of eyepieces it is best not to mix and match types because they will probably not be parfocal. If you are on a budget, a set of eyepieces like the Omcon's would be the minimum I would recommend, if you have more money to spend then the Televue's are worth the extra money.

I paid \$130, \$150, \$173 for the 11m, 20 mm, 32 mm Televue eyepieces respectively. The Omcon 12.5 mm and 20 mm are \$65 each, the 32 mm is \$85.

Coming Soon: Televue 5x Powermate Review

The Deep-Sky Observer - Roaming Around Abell 2151

by Scott Alexander



Have you ever noticed that when you are looking up at the night sky that you are really looking back in time? Or have you ever noticed that some faint patch of light that you see tonight is millions or billions of light years away and that even if you traveled at or close to the speed of light you would not get very close in the whole span of human history?. It is a humbling thought is it not, so when you are out looking at the objects that I will describe in this article, just think how lucky that you are to be able to look at or even know what you are looking at! OK enough with the philosophy with the column.

The cluster that we will go after is called Abell 2151 it is in the constellation of Hercules and is a very challenging object to look at. The galaxies in this cluster are a study in types from edge-on ones to face-on ones and every thing in-between. The center of this cluster is a rather crowded place with the galaxies NGC 6050, NGC 6054 and IC 1179 sitting near the center with several rows of galaxies on either side of them and also many fainter galaxies scattered all around the center of this cluster.

Most of the galaxies that you would see are from the NGC (New General Catalog). Some of them are also from the IC (Index Catalog) that was compiled back in the year 1888 by J. L. E Dreyer of Armagh Observatory in Ireland.

A lot of the fainter ones are from catalogs that most people have never heard of (MCG, UGC, CGCG, PGC). Look for the galaxy pair of NGC 6050 and IC 1179 right in the middle of the cluster. They are listed in the *Webb Society Deep Sky Observers Handbook*

as "a close double galaxy at 0.3 degrees separation. NGC 6050 appears pretty faint and diffuse with an irregularity extending from one arm, non-

oval shape, conspicuous nucleus (center) and a very faint knot close to the one edge of the galaxy. IC 1179 appears very faint and round, having a diffuse texture but no clearly distinguishable nucleus. There are 2 much fainter galaxies near IC 1179 just a galaxy width due south of 1179". I was not able to find out the names of either of them or any info on them.

The next galaxies in the center of this cluster are called NGC 6043, 6045, and 6047. The galaxies NGC 6043 and 6047 are almost, or are face-on galaxies with very faint arms around them. The galaxy NGC 6045 is an edge-on one with very long arms and a very distorted shape to it. (The galaxy looks like someone came along and put a hand on either end and gave it a big twist. It looks to me like a mirror that dentists use to check your teeth out). The end of NGC 6045, (the one with the mirror on it) could also be a galaxy that just happens to be sitting right behind that end of the arm. That is what it looks like to me from the pictures that I have seen.

The next galaxies in the center of this cluster are called NGC 6040, 6041, 6042, 6043, 6039, and IC 1170. These galaxies form a very nice chain that looks like a great big C. (That is a musical group from the maritime called that y?know!) At the top is NGC 6040, another distorted edge-on galaxy with a face-on spiral hanging from one end of an arm and a rather bright center. The next pair in the chain is called NGC 6041 and IC 1170. NGC 6041 is a face-on galaxy with faint arms and a pair of stars on either side framing it. IC 1170 is right next to 6041 it is a small, round galaxy with no arms to speak of and not much of a center either. The next galaxy in the chain is NGC 6042, another face-on galaxy, which is a small round and faint galaxy with a stellar nucleus. The next one is NGC 6043 which is a lot fainter than 6042 with faint arms and a brighter center. There is also a faint star on one edge of this galaxy. If you see it, don't think that you have found a supernova! The last one in this C is NGC 6039. This one will look just like a star. I can see there is not much of a pair of arms to this galaxy - just a very bright center, so don't be fooled thinking that this is a star and that you did not see the galaxy.

There are so many galaxies in the center of this cluster that you could be here all of the next month looking for them. Here is the data on the galaxies in Abell 2151:

NAME	R. A.	DEC	MAGNITUDE
NGC 6050	16h05m23.0s	+17d45m27s	15.3
IC 1179	16h05m22.3s	+17d45m10s	16.04
NGC 6043	16h05m01.0s	+17d46m23s	14.3
NGC 6045	16h05m07.8s	+17d45m27s	13.9
NGC 6047	16h05m09.0s	+17d43m49s	13.5
NGC 6040	16h04m26.8s	+17d45m03s	14.2
NGC 6041	16h04m35.0s	+17d42m49s	13.3
IC 1170	16h04m31.8s	+17d43m17s	15.4
NGC 6042	16h04m39.6s	+17d42m02s	13.9
NGC 6043	16h05m01.5s	+17d46m30s	14.3
NGC 6039	16h04m24.0s	+17d45m00s	???

So happy hunting for all of these wonderful objects. Clear skies ?til next month.

Messier, FNGC, H-400 & Binoc Club

MESSIER CLUB

Certified at 110 Objects: Rick Huziak, Gord Sarty, Scott Alexander, Sandy Ferguson, Dale Jeffrey, Darrell Chatfield, Bob Christie.

Ken Noesgaard *AWARDED !* 110

Wade Selvig 69

Erich Keser 51

Mike Stephens 39

Stan Noble 28

Andrew Krochko 27

Brent Gratias 26

Lorne Jensen 25

Ellen Kaye-Cheveldayoff 23

Les & Ellen Dickson 20

Brian Friesen 15

Debbie Anderson 8

FINEST NGC CLUB

Certified at 110 Objects: Rick Huziak, Dale Jeffrey , Gordon Sarty

Darrell Chatfield *AWARDED* 110

Scott Alexander 89

Ken Noesgaard 24

Sandy Ferguson 23

Ellen Kaye-Cheveldayoff 17

HERSCHEL 400 CLUB

Certified at 400 Objects:

Dale Jeffrey WOW- COMPLETED 400

Rick Huziak 374

Darrell Chatfield 285

Gord Sarty 147

Scott Alexander 98

Ken Noesgaard 44

Sandy Ferguson 18

Chatfield BINOCULAR CERTIFICATE

Noel Enteries 0

Join the Messier, Finest NGC, H-400 & Binocular Club!

Observe all 110 Messier, 100 FNGC or 400 H-400, or 80 Binocular objects and earn your

CERTIFICATES!

The first 2 lists can be found in *the Observer's Handbook*. The Binocular List & Herschel 400 list will be available at each general meeting for 50 cents (covers photocopying) or **can be mailed out on request to distant members**. Each month I'll be posting updates.

Great News!

Well maybe not so great. I haven't been receiving many updates of observing numbers, so this suggest that not many members are actually observing. This may be due in part to late days and no darkness, so I hope this picks up in the next month, and I hope those numbers increase dramatically at Cypress Hills this year!!

Some Congratulations are necessary. Ken Noesgaard was awarded his Messier Certificate that the GA and was there to pick it up in person. Darrell Chatfield was awarded his FNGC certificate, which Les presented to him at the last Cypress meeting. And Dale Jeffrey has done it. He has completed the Herschel 400 and is now into the next 400 Herschel objects.

Send observing numbers to <huziak@SEDSsystems.ca>

U of S Observatory Hours

The U of S Observatory is open to the general public every Saturday evening in August from 9:30 p.m. to 11:30 pm. Admission is free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear evenings visitors may look through the 6-inch refractor to the moon, star clusters and other exciting astronomical objects. For further information, phone the recorded Astronomy Information Line at 966-6429.

Interested in **Saskatoon**

RASC

Membership?

Regular - \$40.00 per year (increasing)*

Youth - \$22.50 per year (increasing)*

*** Note - at the General Assembly in July a FEE INCREASE was voted in, so membership fees for 2000 - 2001 will increase slightly, from those listed above. Final price for membership will be decided at the September General Meeting.**

It's never too late to join!

When you join the Centre in August and September, we will apply your membership to the 2000 - 2001 membership year, which begins October 1st. 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.

Members Move

**Barry Allen, 2947 Lakeside Court, Westbank, BC, V4T 1T1, tel. (250)768-4856,
<ballen@netcom.ca>**

Terry Nelson, (past member and fund-raiser) has moved to Florida!

Sad News

I have been informed that past-member **John Greer** has passed away. John was a member of the Saskatoon Centre from about 1976 through 1983. John was a leader in the construction of the original Rystrom Observatory and pounded most of the nails in the Warm-up Shelter and cold-storage expansion. Details of John's life will follow in a future issue.

The Sleaford Observatory

Longitude: 105 deg 55' 13" +/- 13" W Latitude: 52 deg 05' 04" +/- 08" N, tel.: (306) 255-2045

by Rick Huziak

A Friday, August 4th Open House & an August 5th Plaque Dedication: Please remember these dates. The Friends of Sleaford will be holding a Millennium Reunion at the Sleaford School and they have asked us to open the observatories for public viewing on August 4th at dusk. We should provide staff for this, rain or shine. Please contact Les Dickson if you plan to help out that evening. On August 5th, the commemorative plaque for the Sleaford Site will be unveiled in a ceremony at 4:00 p.m. The unveiling of the plaque fulfills a commitment made to the community at the time of purchase of the school yard. The plaque features a history of the site as a school, community center and then the observatory. The bronze plaque is mounted to a limestone erratic boulder. The cost of the plaque was a 50 - 50 split between the RASC and the U of S.

Recent Work Done at the Site: There have been several visits to the site to clean up small jobs required to be done before the next major work day, mostly by Bill Hydromako, Darrell Chatfield and myself. The **toilet facility** is very near completion, with the wiring complete, all wall panels installed, floor linoleum and ceiling carpet installed and the vent stack plumbed in. Still required is wall trim and silconing, overflow drain installation and digging of the overflow pit. **We are wondering how we will decide who gets the honour of having the first *dump* in the new facility?** Maybe we'll have a lottery or something!

The **Patterson Dome** has had a facelift, with the installation of a new door, replacement of some of the hardboard panels and skirt, and a sealing paint job. This building is also nearing completion, but still requires metal siding, final wiring, internal painting, pier and wedge alignment, carpet installation, slot repair, roller-race work and a step and deck built. Well...maybe it's not near completion, but it has come a long way! It should be functioning this fall.

The **Warm-up Shelter** is progressing as well. The last major work day saw most of the wall panels constructed and the ceiling carpeted, though only half-installed. Final wiring has been delayed so an effort to finish the toilet could be made. But with toilet near-completion, the Warm-up Shelter again becomes a priority.

The University has also been busy. Perry has installed a wheel-chair accessible ramp on the Roll-off Observatory. However, he is having trouble finding pneumatic cylinders to replace the broken ones on the end doors. Thus opening the doors is a major problem, but this will be solved soon. Yannis has also reconditioned all of the instruments on the telescopes, so they should work better this year. **The Astro 212 Labs will begin on August 17th**, so expect up to 6 second year students at the site every clear night until the beginning of November. Note that these students are more experienced and there should be no problems with white lights. (And it is certainly OK to remind them about the red light rules!) Astro 100 Labs do not begin until mid-September. The lab manual mentions red light, but like all beginning astronomers, they have to be reminded now and then. Since the labs run between 7:00 p.m. and 10:00 p.m., the students generally arrive at 7:45 p.m. and leave by 9:45 p.m.

MINUTES FOR RASC EXECUTIVE MEETING

JUNE 19, 2000, CITY HOSPITAL ROOM 8313

Recorded by DARRELL CHATFIELD

1. Minutes of last meeting approved.
1. Agenda was approved.
1. Centre photocopier was moved to Rick's house by Darrell, with help from Les.
1. Barb Y. gave figures for financial update: general bank balance was \$8648.00 of which \$3854.00 is in the Sleaford account, and \$1308.00 is in the SSSP account. The telescope fund sits at \$2219.00.
1. We received a bill from the U. of S. totaling \$1681.43, which broke down accordingly: Sask Power - \$742.43, SaskTel - \$719.00, and an RM bill of \$220.00.
1. Les has incurred photo costs of \$65 to date, plus anticipated costs of \$25 - \$30. These are related to costs for the GA meeting display boards. Ken N. said it will cost \$100 - \$125 for foam boards for display, and materials for the Sleaford model. Rick motioned that a cap of \$275 be put on these costs. Seconded by Andrew.
1. Darrell talked about a portable tent for club use, with costs of around \$100 for most of them. Rick motioned costs not to exceed \$150. Ellen seconded.
1. Discussion went around re: use of a club slide projector. Ken mentioned we could use one, and suggested he would table a motion in the fall for the club to buy one. All agreed. There was talk about getting a timer for a projector. Rick motioned costs not to exceed \$75 for the timer. Ellen seconded.
1. Les talked about SSSP 2001 could be a major event, and that we should start now and think of fundraising ideas. We could have a raffle, for example.
1. Rick mentioned that Sandy will not be going to the GA, so we need to appoint a Centre Rep., and tell National Council. Les moved that Ken N. be our rep. Seconded by Ellen.
1. Les will check with the City Hospital board re: future room bookings.
1. Rick volunteered to do a list of club inventory, and mentioned those that have items of the club's.
1. Rick also mentioned about doing the club newsletter electronically. This would save printing and mailing time. The software to do this would cost \$398.00. We will discuss this in Sept. Mailing costs are now \$75 per month.
1. Meeting adjourned. Ken moved. Seconded by Ellen.

MINUTES OF RASC GENERAL MEETING

JUNE 19, 2000, CITY HOSPITAL, ROOM 8313

Recorded by DARRELL CHATFIELD

1. Minutes for last meeting approved.
1. Jean D. asked if anyone would take up the book sales at SSSP 2000. Debbie A. volunteered. Mentioned that book sales were good.
1. Les mentioned some items from the executive meeting.
1. The Astronomy Day at Circle Park Mall went fairly well. There was not as much traffic as other years. 20 temporary members were signed up.
1. Les mentioned U. of S. bill to the Centre. Ellen said we now had 44 people signed up for SSSP 2000. Rick met with the Regina club re: T-shirt design.
1. Bill talked about the upcoming work day on June 24/00. Things to be done are carpet on the walls, wiring redone, dome to be worked on, and new panels needed. Rick said that the wheel-chair ramp should be done at the U. of S. roll off.
1. Andrew volunteered to take the youth group over from Sandy.
1. Meeting adjourned. Seconded by everyone.