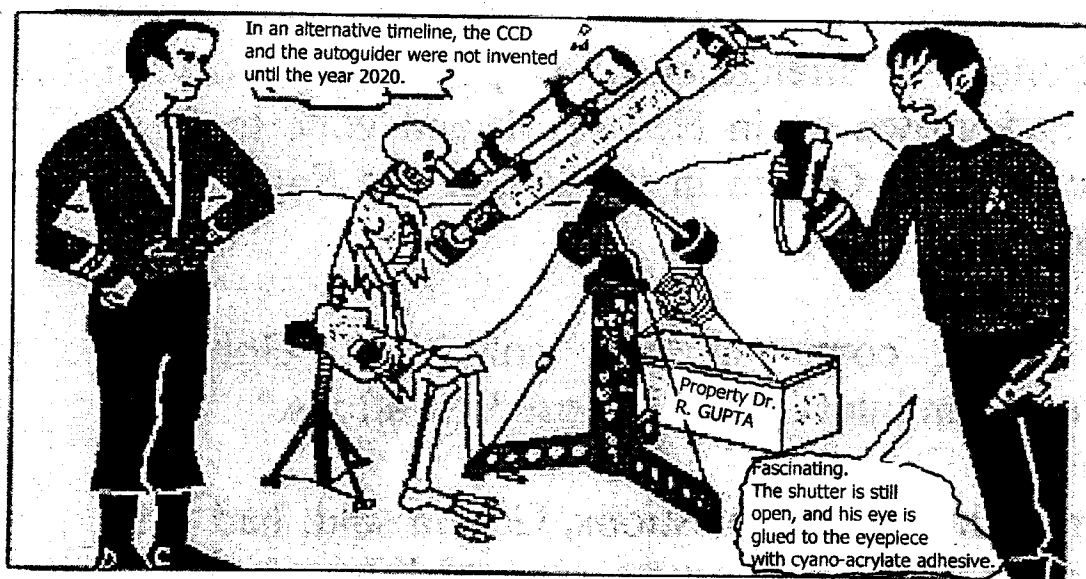


Saskatoon Skies

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

Volume 30, Number 02

February 1999



Humour is something every amateur astronomer needs as a regular part of his/her observing kit! Be it an eyepiece dropped on the concrete, a misidentification of M42 to a friend, aurora coming up *after* you get to the darksite, or just watching a struggling astrophotographer! This cartoon (reproduced from the May/June 1998 edition of the RASC newsletter "Nova") demonstrates this humour very well. Erich, however, thinks we should have changed the name on the box to "Dr. Al Hartridge!" Another of Dan Collier's cartoon appears on p. 5.

RASC Calendar Happenings

Date (1999)	Event	Contact	Telephone
Feb 12	Junior Astronomers Meeting - 7:30 pm	Sandy Ferguson	931-3184
Feb 15	RASC General Meeting - 7:30 pm	Erich Keser	374-4262
Feb 19 or 20	Observers Group at Sleaford Obs	Darrell Chatfield	374-9278
Mar 4	Mini-starnite at Shekinah Camp - 8 pm	Rick Huziak	665-3392
Mar 12	Junior Astronomers Meeting - 7:30 pm	Sandy Ferguson	931-3184
Mar 15	RASC General Meeting - 7:30 pm	Erich Keser	374-4262
Mar 19 or 20	Observers Group at Sleaford Obs	Darrell Chatfield	374-9278
Mar 19	Youth Group Meeting - 7:30 pm	Sandy Ferguson	931-3184
Apr 16 or 17	Observers Group at Sleaford Obs	Darrell Chatfield	374-9278
Apr 16	Junior Astronomers Meeting - 7:30 pm	Sandy Ferguson	931-3184
Apr 19	RASC General Meeting - 7:30 pm	Erich Keser	374-4262
Apr 23	Youth Group Meeting - 7:30 pm	Sandy Ferguson	931-3184
May 7	Junior Astronomers Meeting - 7:30 pm	Sandy Ferguson	931-3184
May 14	Youth Group Meeting - 7:30 pm	Sandy Ferguson	931-3184
May 17	RASC General Meeting - 7:30 pm	Erich Keser	374-4262
May 22	International Astronomy Day	Sandy Ferguson	931-3184
Aug 13-15	Sask. Summer Star Party at Cypress	Erich Keser	374-4262

U of S Observatory Hours - the U of S Observatory will be open to the general public on Saturday evenings from 7:30 pm to 9:30 pm in February. On clear evenings visitors may view Jupiter and its moons, the colourful Alberio binary star system, the Hercules star cluster and Saturn and its rings through the 6" refractor. Free admission. More info -call 966-6429.

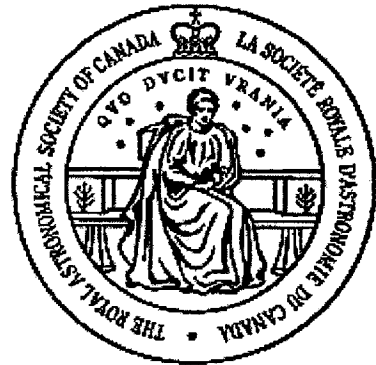
Please renew now - it's not too late!

Membership runs from Oct. 1 to Sep. 30. Please send payment to the Centre mailbox.

Regular - \$40.00 Youth - \$22.50 Life - \$720.00

Saskatoon Centre

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Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 140 copies per issue. *Saskatoon Skies* welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science articles. Articles can be sent by mail in any format to the Centre's mailbox. Submissions may also be sent by e-mail - preferred as **plain unformatted ASCII text files without line breaks**. Images sent by e-mail should be UUEncoded or as attached .GIFs. Send e-mail submissions to the editor at huziak@SEDSsystems.ca. Submitted materials can be returned upon request. A separate subscription to *Saskatoon Skies* is available for \$12.50 per year. Articles may be reprinted from *Saskatoon Skies* without expressed permission (except where otherwise stated), but source credit is requested. **DEADLINE for submissions is the 26th of each month.** *Saskatoon Skies* accepts commercial advertising. Please call the editor for rates. Members can advertise non-commercial items free of charge.

President's Report

by Erich Keser

One of my jobs as President is to pick up Saskatoon Centre mail. This includes the newsletters of other Centres, which I do my best to at least skim. Toronto's *Scope* reports that their dynamic, two term woman President was retiring, and I couldn't help noticing that she will remain the only woman on a Council of over two dozen. This provokes me to finally raise an issue which has troubled me since I first became active in amateur astronomy. Time after time, as I attend events, read articles and note bylines and look at mastheads and lists of officers, I am struck by the extent to which the RASC is an organization dominated by men.

This situation is well documented in the official history of the RASC, *Looking Up* (pages 40-50). In the course of seeking an explanation, it is noted that in the previous century and the early years of this one, such a composition was the rule rather than the exception for "learned societies" such as ours. But it is now 1999. It has been many years since women have won the vote, and female representation in virtually every formerly-forbidden area has grown steadily.

There is every reason to expect the same of the RASC, especially since, as *Looking Up* again documents, "...women have always been active in the Society in every way". RASC National Presidents Allie Vibert Douglas, Helen Sawyer Hogg, Ruth Northcott, and Mary Grey are just a few of the women who made tremendous contributions to the national growth of the RASC. They, and many other dynamic women, also played a tremendous role in build and maintaining individual RASC Centres. (This very much includes our own Saskatoon Centre, which has had at least two woman Presidents).

Unfortunately, the reverse is true. Far from reflecting all this energy and sacrifice by any growth in the RASC's proportion of woman members, *Looking Up* traces a "disappointingly clear trend" of this situation getting worse rather than better (p. 45):

Year	1893-1914	1931	1936	1958	1968	1990
Women % Total	9% - 19%	16%	16%	10%	9%	8%

This raises some serious questions indeed for a society chartered, first and foremost (1968 Charter of Incorporation) "to stimulate interest and to promote and increase knowledge in astronomy and related sciences".

Are women somehow constitutionally less interested in such areas than men? This was certainly not my experience with the monthly viewing sessions I conducted for **Science North** and the **Sudbury Astronomy Club** over three years in Ontario. Neither is this the experience of our Junior Astronomers and Young Astronomers. And while there do seem to be considerably fewer professional woman astronomers than men, the women certainly are making major contributions. Much the same is true of our meetings and active membership. We have a minority of women involved, but they, almost to a person, have made a well-above-average contribution.

Our public presentations benefit enormously and our youth program depends almost wholly on the tremendous energy of our Service Award Winner, Sandy Ferguson. We suddenly have a whole new fundraising area and educational service through the efforts of Jean Dudley. Even more, SSSP could hardly have grown into the event it has become without the leadership and energy of Deborah Mysyk,

Sandy Ferguson, Ellen Dickson, Leanne Carpenter and Whendi Jeffrey, and the help of Sharon Hartridge, Barbara Young, Lorraine Cornish and many other energetic woman volunteers.

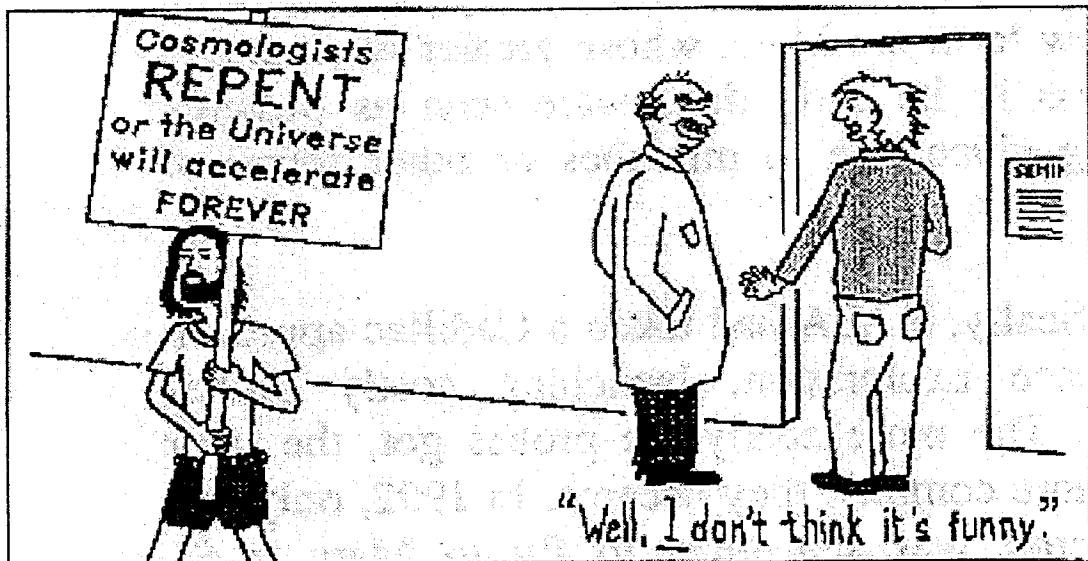
A closer look at some of these names does indeed illustrate one reason for the low national proportion of woman members. Several of these people perform important Council and committee functions and are also active observers and Centre volunteers. However, their membership appears on no RASC National membership list because their membership is "through" their spouses.

Our Centre has, for well over a year now, been putting forward a proposal that would facilitate finally conferring full membership rights and recognition to such individuals. We propose a new category of "Family Membership" in which a second person living at the same address could receive full membership rights and simply share the mailed publications for about half the regular membership fee.

There was considerable, and somewhat hidebound opposition when our former National Representative, Dr. Gord Sarty, first put forward this general idea. However, there were assurances that it would be further considered when I raised it again at the Victoria GA National Council Meeting, and when I agreed to serve on the National Membership and Promotions Committee. After much e-mail discussion, Don Hladiuk, that Committee's Chair, and its other members have agreed to support this proposal. Let us hope that it will finally be adopted at the February National Council Meeting.

Looking Up notes that "little has been done to understand the reasons for this small proportion, and no recent programs have been set up specifically to attract women to the RASC". The adoption of this proposal would be a small, but significant step in this direction. It could mark the beginning of a "program" to facilitate recruiting many (usually, but not always) woman spouses who help in various Centres to full membership rights and recognition.

This will at least be a start...as will our new toilet at Sleaford.



Reproduced from "Nova" May/June 1998

Cartoons by Dan Collier

Big New Star Party Undergoes a Facelift for 1999

by Erich Keser, Saskatchewan Summer Star Party Organizing Committee

The August 13th-15th Saskatchewan Summer Star Party 1999 at Cypress Hills Inter-provincial Park (Centre Unit-near the Alberta and Montana borders) will be undergoing some major improvements this year. The beautiful, elevated natural setting, superb skies, innovative program of astronomical activities, and the availability of a wide range of nature and recreational alternatives have produced spectacular growth: 23 attendees in 1996, 197 in 1997, and 270 last year. This year's new August date will provide more hours of darkness and allow the spacious Meadows observing area to be more exclusively reserved for astronomical use. Presentations will be in a modern, air-conditioned hall and formerly scarce hotel, cabin and condo units are available for pre-booking (park campsites are easily available). BUT PLEASE SEE NOTE BELOW ABOUT BOOKING EARLY.

Veteran observer Fr. Lucian Kemble OFM (Canada's Herschel Award coordinator) testifies:

"Ah, the delights of the SSSP skies!...I have rarely seen such clarity and depth in the summer skies, certainly comparing favourably with the best I'd seen. The summer Milky Way was truly spectacular and its wonders so abundant and clear--naked eye, binocular or telescopic. With no nearby light pollution... the sky was very dark."

These wonderfully dark skies were proven to allow the naked-eye detection of magnitude 8.4 stars in Lyra by the Winnipeg RASC's eagle-eyed Judy Anderson on one of SSSP 1998's many clear nights. Her spouse, meteorologist Jay Anderson attributes SSSP's great seeing and outstanding record of clear nights to its location in what meteorological records show to be the best area in all of Canada for clear July and August nights. (See his map on page 46 of the RASC *1999 Observer's Handbook*). In addition, the Cypress Hills plateau juts up so high above the surrounding prairies that it managed to preserve its own ecology of cool Lodgepole pine forests and alpine meadows through the last ice age. The resulting microclimate and 1300 meter altitude helps to produce cool, bug-free nights while the area's low population density keeps the skies black and transparent.

Cypress Hills Inter-provincial Park is also a full family resort which features a wide range of activities including water sports, golf and mini-golf and much else. There are a variety of reasonably priced in-park camping and non-camping accommodations. These facilities and amenities are well tucked-away from an extensive system of hiking and riding trails which provide access to the park's abundant birds, wildlife, orchids and unique geology. There are also good trout streams and two excellent B&B establishments a short drive away.

Observers will be welcome to set up for the duration in a spacious, light-protected area of the Meadows Campground reserved for SSSP use. This area will be cooperatively supervised by participants, who can also camp near their telescopes if they wish. Officially, this is a weekend Star Party for which observing will begin on the night of Thursday August 12th and end on the night of Sunday, August 15th. However, the skies are so good and location is so pleasant that many will come early and stay late (one group reported a ten day run of good observing nights in 1998!)

SSSP'99 will feature a wide variety of daytime activities, including astronomy and observing presentations and panel discussions, and an excellent dinner. This year, these events will take place in the

Four Seasons Resort's spacious, air-conditioned convention facilities. Though the skies are fine enough for the most discerning experts, SSSP will also continue to especially welcome new and young astronomers, and the partners, friends and families of astronomers. There will be introductory talks, programs of children's activities and such mainstay events such as binocular tours of the night sky. The search for MORP-recorded meteorites may also be continued on Sunday August 15th. The Regina Centre will once again be conducting a Public Star Night for campers at Lookout Point and sell this year's edition beautiful T-shirts. Pre-ordering is advisable--they always sell out!

Registration costs will be slightly higher to cover some of these changes, and to allow us to produce an even better Star Party. We will likely be charging \$20 for individual registrations and \$30 for family registrations. There will likely be a \$10 surcharge for registrations postmarked after July 15th.

Please note: campsites are plentiful, and we have reserved about 30 assorted hotel rooms (\$65/night), one (\$56) and two (\$65) bedroom cabins, and two and three bedroom condos (\$85 to \$140).

BUT PRE-BOOKING BY FEBRUARY 15th IS NECESSARY TO GUARANTEE UNITS. (These are in such demand that we block-booked with a deposit by the Saskatoon Centre. Thus, we must individually allocate units and pay deposits for them by late February. YOU CAN CALL THE CYPRESS FOUR SEASONS RESORT DIRECTLY AT (306) 662-4477 TO BOOK ONE OF THESE UNITS BY PAYING THE FIRST NIGHT'S DEPOSIT BY CREDIT CARD. (The only units left are those reserved for SSSP, so make sure that you tell them that you are with the Star Party). Please inform Les and Ellen when you have done so. If you have already paid \$10 to help us to reserve the block of units, then this can either be refunded to you when you have paid your deposit, or it can be applied toward your SSSP registration.

The Saskatoon and Regina Centres of the Royal Astronomical Society welcome everyone to our third annual Saskatchewan Summer Star Party 1999. Please come and find out why this star party has grown so fast!

To register or to obtain more registration and cabin, condominium or hotel room accommodation information, please contact SSSP Registrars Ellen and Les Dickson by e-mail at <dickson@sk.sympatico.ca>, by phone at: (306) 249-1091 or write them at Apt #11-103 Powe St., Saskatoon, SK, S7N 1W5.

For other star party information please contact Rick Huziak at (306) 665-3392 or Erich Keser at (306) 374-4262 (e-mail: keser@duke.usask.ca) or write to: SSSP'98, RASC Saskatoon Centre, P.O. Box 317, RPO University Saskatoon, SK, S7N 4J8.

Editorial Oops

The editor would like to apologize for a recent couple of fine boops which are entirely his own. First off, sorry about having the Gastonomy Dinner on FRIDAY, January 23. It was, of course, Saturday! And then there's Tom Dean, whom I accused of being from Hamilton. Tom is not Hamiltonian at all, but is a member of the Kingston Centre. I suppose I should also apologize to Mark Kaye at the same time, since he had to endure Tom as a Hamilton member for a month! Oh well....I guess I better read this issue over a few thymes.

The Deep Sky Observer - Part 1

Northern Polar Galaxies and other Winter Delights

by Scott Alexander

Hi Folks. How has the winter been? Hopefully, it has been clear with lots of snow (for the people who like snow, that is!) and clear for the astro crowd.

This month, we will go nebula hunting in the land of small bears! Nebulae, as in 'galaxies', as the old astronomers called them many years ago, are my personal favorites. We will try a bunch of NGC galaxies, a planetary nebulae and a double star (for people in the back row screaming for something to look at with binoculars). Almost all of this will be in Ursa Minor, the little bear, with a few things in winter's Orion.

The first object to go for is NGC188, which is in the open cluster section of the Observer's Handbook, at the top of the list. This 8.1 magnitude object is a challenging object for a 6- or 8-inch telescope. I first saw this one back on March 30, 1994 from my home, with my 14.5-inch scope. (I wrote about it back in 1995 in *Saskatoon Skies*. I described it as "not much more than a faint glow, chains of stars all across the field of the cluster". I was only using a 24 mm eyepiece at about 85 or 90 power (low power) at the time. If I would have used more magnification, I would have seen more, and it would have appeared brighter. Give this one a try, and don't take my description to mean that the cluster is tough in a big scope! It could have been poor eyes on my part or a slightly poor night that's 'normal' for Saskatchewan!

The next objects are some of my favorite galaxies. The first one is called NGC2276. At magnitude 11.4, this is a galaxy for at least an 8-inch telescope. There is a small problem with seeing this galaxy. It has an 8th magnitude star almost right on top of it, so you will have to use high power to get the star out of the way. Once the

star is out of the field, try to look sideways a bit toward the side of the eyepiece tube. The galaxy might just get a bit brighter than it was before. This is called *averted vision*, and helps to see fainter objects sometimes.

The next object to look for is not too far away. It is called NGC2300. This is a round, fuzzy-looking galaxy. What you should see is a round ball of light that look's out of focus and slightly blurry. This 11th magnitude galaxy is made for scopes 8-inches and up. Both galaxies, NGC2300 and NGC2276 can be found on chart #1 of *Uranometria 2000* or on chart #5 of *Peterson's Field Guide to the Stars and Planets* (an excellent book that I use all of the time).

Continuing on, the next objects to try for are called Flamsteed 40 and 40 Draconis. (The Flamsteed part of the name is the name of the man who cataloged these stars in 1725. His name is John Flamsteed). This is a pair of yellow stars of magnitude 5.7 and 6.0, so they are within easy reach of binoculars. They appear on chart #7 of the *Peterson's Field Guide to the Stars and Planets*. Remember to hold the binoculars very steady and use a tripod if you have one. Even a fence post will do for steadying in a pinch.

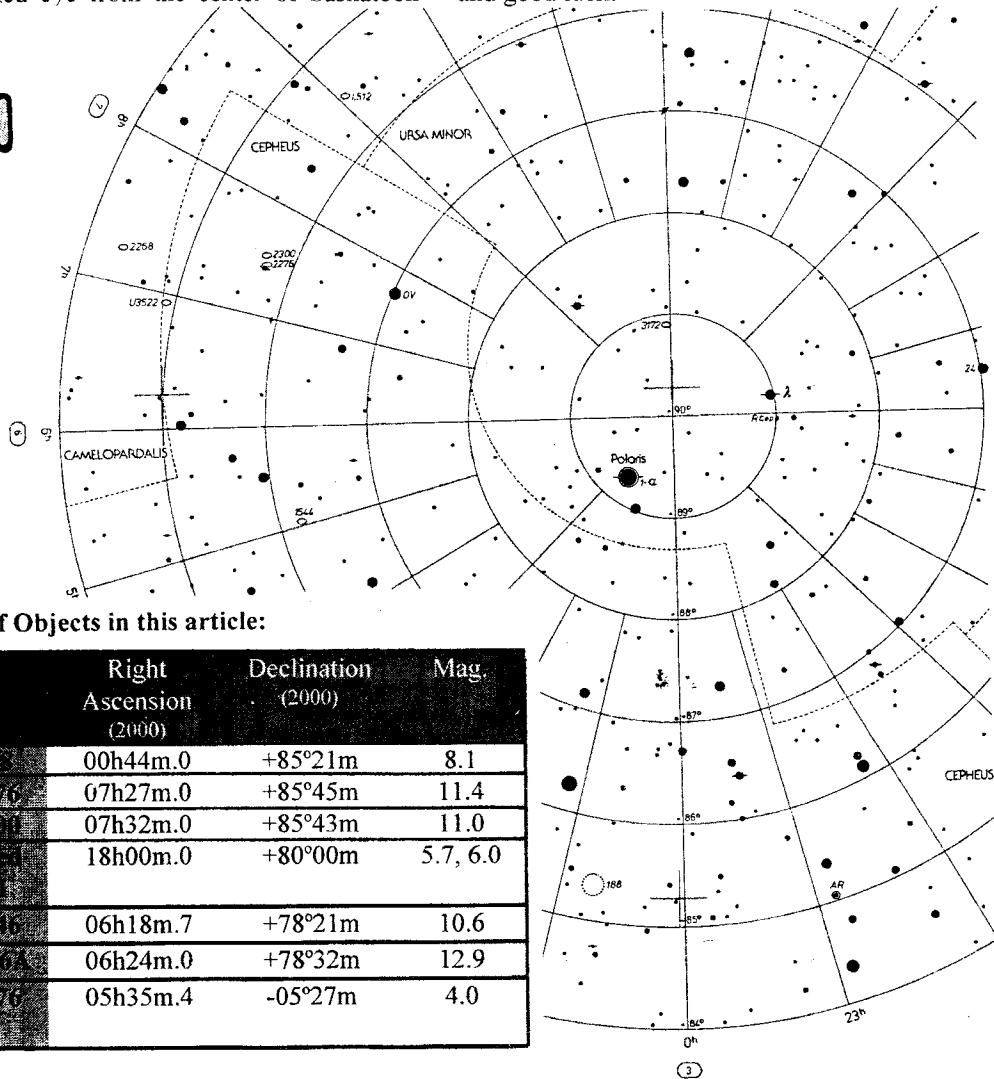
All right, just 3 more objects to look at. The first is a pair of galaxies called NGC 2146 and NGC2146A. These two galaxies are not bound together. They are just close together (from our point of view on earth). Magnitude 10.6 NGC2146 will look like a small, long smudge of light, and NGC2146A at magnitude 12.9 will look like a thinner, but fainter version of NGC2146.

One more object; this is the famous Messier, and one of the most beautiful objects visible from the northern sky. It is to be found in the *Observer's*

Handbook on page 225. (no. 4 from the top), and also on page 226 in the Messier catalog winter sky part (6th from the top of the list). This object is called by many names; the Orion Nebula, NGC1976, M42, and more than likely, a number that I've never heard of!). This nebula can be seen with the naked eye from the center of Saskatoon

with just my eyes. In a telescope, this object becomes a wonderful sight; all the nebula and stars glowing beautifully! So, get those binoculars or telescopes out and look at this wonderful object.

So now have fun with all of these objects and we will see you back here next month. Clear skies and good luck.



Locations of Objects in this article:

Object	Right Ascension (2000)	Declination (2000)	Mag.
NGC 1976	00h44m.0	+85°21m	8.1
NGC 1976	07h27m.0	+85°45m	11.4
NGC 5230	07h32m.0	+85°43m	11.0
M42	18h00m.0	+80°00m	5.7, 6.0
NGC 2146	06h18m.7	+78°21m	10.6
NGC 2116A	06h24m.0	+78°32m	12.9
NGC 1976 (M42)	05h35m.4	-05°27m	4.0

The Deep Sky Observer - Part 2

Ursa Minor Galaxies and a Planetary in Camelopardalis

by Scott Alexander

Hi fellow astronomers! How is winter going for you? Here, at home, as I write this column, it is 0 degrees Celsius in JANUARY! (Huh!) OK - on to some galaxies in Ursa Minor.

You will remember that I was looking at some objects in Ursa Minor last month. To continue on, here are some more galaxies, known as NGC2336, NGC2655 and NGC2715. The first one, NGC2336, in long exposure photographs reveals itself as a multi-arm spiral galaxy, but in 8-inch scopes, the galaxy looks like a small elongated smudge of light with a brighter center and fainter arms around it. This galaxy has a magnitude of 10.4, which is easy in almost any scope of 8-inches and up. But for a challenge, try it in a scope of 4- or 6-inches in size. You should be able to see it fairly easily given dark skies. (I have been able to see 13th magnitude galaxies in my 4-inch under good, dark skies). There are a pair of bright (8th or 9th magnitude stars right next to the galaxy which frame it neatly between them.

On to the next object, NGC2655. This galaxy is also a spiral. The galaxy is only at magnitude 10.1 so it is easy in a scope of 6-inches in size. Also, this galaxy is fairly large with a very bright center to it and also fainter spiral arms around it. At it's high declination of +78 degrees, this galaxy should be high enough up in the sky not to be dimmed by haze or poor seeing near the horizon (since Ursa Minor is a constellation that never goes below the horizon - thus called a *circumpolar* constellation).

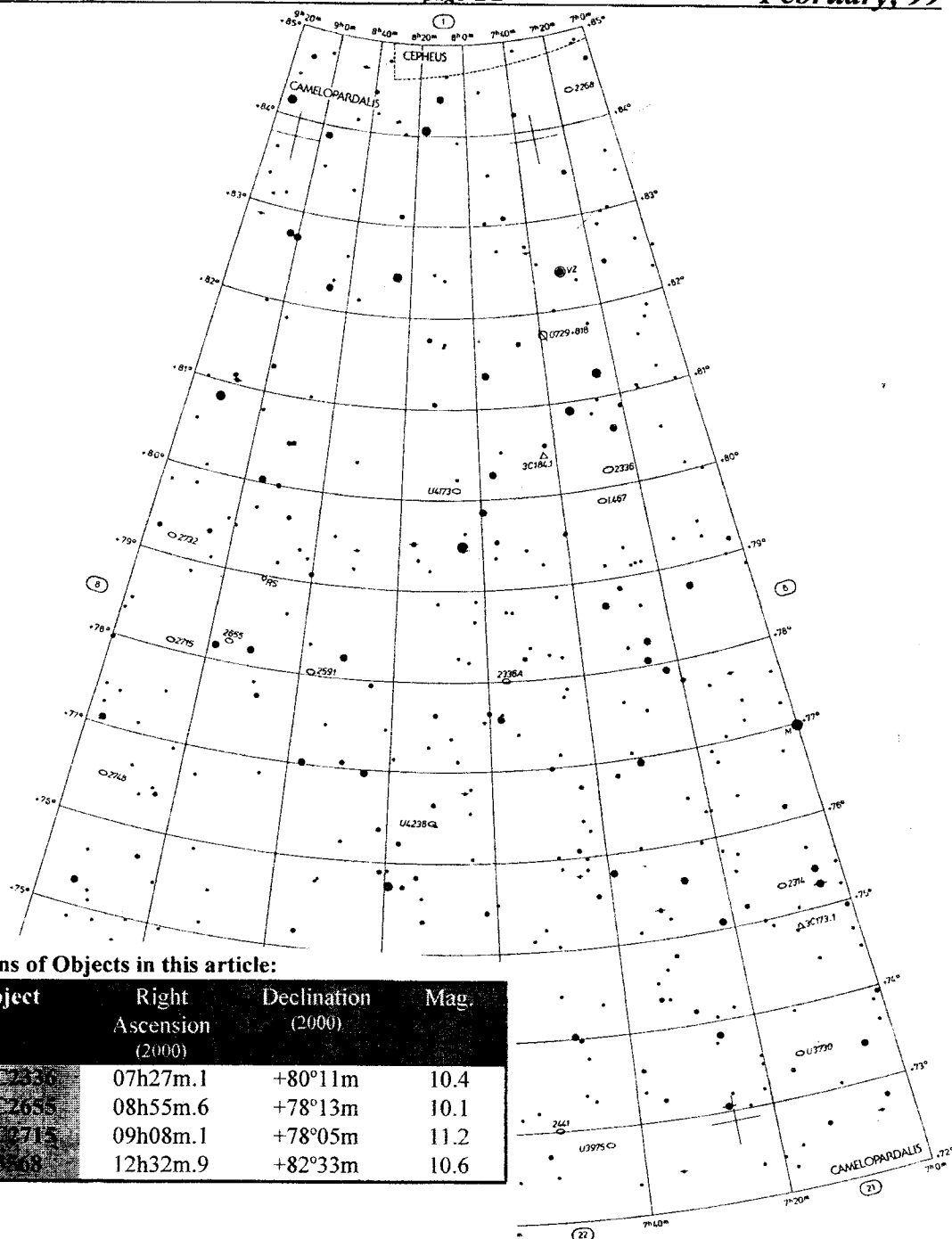
So you can look into this constellation at any time of the year to find the objects in this article.

All right - on to the next galaxy, called NGC2715. This galaxy is not too far away from NGC2655, being only about one degree east of it. However, it is smaller and dimmer by about 1.1 magnitudes. At magnitude 11.2, this galaxy is visible in 4-inch or bigger scopes from a dark sky. The nice thing about this galaxy are the knots in the arms. You should be able to see at least 2 knots or more. The knots will stand out from the rest of the galaxy, looking like small clumps inside the arms.

All the objects so far can be found in *Uranometria 2000* on chart 7, or if you *have The Field Guide to the Stars and Planets*, then chart 3 (top left-hand side of the chart).

The last object to go for is the planetary nebula IC3568 in Camelopardalis. This planetary is magnitude 10.6. It is also known by the name of PK123+34.1. (The PK means *Perek-Kohoutek*, who are the two men L. Perek and Lobos Kohoutek who made a catalog called *The Catalog of Galactic Planetary Nebulae* in 1967). What you will see at low power is a fuzzy star. But switch to high power and you will see the disk of this planetary. The central star is a lot fainter than the nebular magnitude of 11.4. The disk will look smooth, with no variations in it.

Well, give these objects a try and have fun with them. See you next month. Good luck and clear skies!



This chart is reproduced from Uranometria 2000, chart #7, copyright Willmann Bell, Inc. 1988.

Aurora Aubade

a poem by Bruce McCurdy, Edmonton Centre, RASC

(You can hum along to the "tune" of every rap song you've ever heard)

When we need sights for our sore eyes
and we're looking for dark skies
to nobody's surprise
here comes Aurora, Aurora

Queen Aurora Borealis
rules her celestial palace
trying to enthrall us
dancing Aurora, Aurora

Spray from coronal holes
shoots down magnetic poles
towards unsuspecting souls
lovely Aurora, Aurora

She dances through the night
her electrons casting light
unmentionably bright
Lady Aurora, Aurora

Tresses purple, white and green
cast an iridescent sheen
over stars that might have been
without Aurora, Aurora

Oh, we're so glad we came
when we see that pulsing flame
white light we cannot tame
goddess Aurora, Aurora

No need for us to set up
there won't be a let up
and everyone is fed up
with this Aurora, Aurora

Forget the Horsehead Nebula
we can barely spot Denebola
and there's no way to rebel a-
gainst Aurora, Aurora

Who needs a telescope?
or accessories to grope?
we haven't got a hope
too much Aurora, Aurora

Those lovely ripples, whorls and sheets
our patience utterly defeats
and knocks us on our seats
flaming Aurora, Aurora

On new Moon nights that we hold dear
she'll be with us, never fear
might as well break out the beer
and toast Aurora, Aurora

Near observers tried and true
the surrounding air turns blue
from all the cry and hue
colourful Aurora, Aurora

Oh, it makes us want to quit
All that flaming, rippling \$#!+
Can't we please just have a bit
less Aurora, Aurora?

She'll disappear quite soon
around the next full Moon
and for all the month of June
clever Aurora, Aurora

For some it is a highlight
when we hit perpetual twilight
and we always have a sky bright
who needs Aurora, Aurora?

There isn't a solution
from higher forms of evolution
for stratospheric light pollution
we call Aurora, Aurora

She stimulates the tourists
but to us deep sky purists
there is nothing very humorous
about Aurora, Aurora

Now here's a better plan
let's deport her to Japan
(That will surely suit Pakan)
It's *Sayonara*, Aurora

You are invited to the
General Meeting of the Saskatoon Centre

Monday, February 15, 1999 at 7:30 p.m.

**Conference Room, National Hydrology Research Institute building
Innovation Boulevard**



**Presenting:
Toby Determand**

Toby will be giving a pleasant lecture on a topic closely resembling a quickly put together presentation that we're sure everyone will especially like, despite no one being really sure who this speaker really is. We are, however, very confident that we will survive in spite of ourselves, and find someone suitable soon.

This event is open to the general public. There is no admission charge.

**Sky & Telescope Discounts for
Centre Members**

Saskatoon Centre members are reminded that if they subscribe to or renew their *Sky & Telescope* magazine through the Centre, that they will receive a yearly discount on the subscription and a 10% discount on the books and products from Sky Publishing Corporation. Contact treasurer Jim Young for details.



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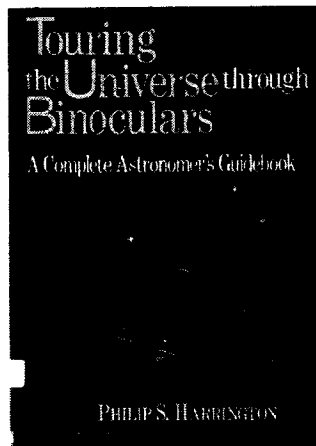
Book Review

Touring the Universe through Binoculars

A Complete Astronomer's Guidebook

by Philip S. Harrington
published by John Wiley & Sons, Inc.
294 pages, paperbound, 1990 ed.
ISBN 0-471-51337-7

reviewed by Rick Huziak



If you don't have this book in your astronomy library, you should! *Touring the Universe through Binoculars* is an indispensable guide for any observer, and especially for those who enjoy the low power, wide angle views of the heavens through binoculars of rich-field telescopes. Harrington is obviously a seasoned observer, and describes the entire low power sky in easy to understand, well-organized chapters.

The first 5 chapters, or about the first 50 pages describe viewing the moon, asteroids, comets, meteors and planets. Here are contained great tips on what can be seen on these objects with binoculars, and it's surprising how much *can* actually be spied with relatively small optics. All you have do is try! Chapter 6 is actually pretty weak, giving a too-quick run through of the basics of observing nebulae, galaxies, star clusters and variable stars. This is really a token chapter.

However, where this books shines is in it's chapter 7, the 180 page long *A Survey of the Night Sky*. This chapter is a constellation by constellation journey of virtually every object that can be hunted down in binoculars. Each constellation begins with a summary list, then a detailed description of each object and what can be expected to be seen. Harrington lists deep sky objects from open clusters to galaxies, double stars, variables and other interesting objects. Within the lists are a great number of 'more obscure' objects; legitimate, but not well known, such as the Collinder (Cr) star clusters. Many of these clusters are not even identified in *Uranometria 2000*, nor *Sky Atlas 2000*, mostly because the are TOO BIG, being binocular, not telescopic objects! But if you are striving to find *every* named object in the sky, you will not want to miss this list! On every other page, black and white photos of some of the objects are reproduced at the wide scale that binoculars see them at - not telescopic (out of context) views!

One criticism of the otherwise fine listings, is the *invention* by Harrington of a few dozen objects which he seems to have cataloged as his own (and named "Hrr"). These objects are numbered and inserted into the list; thus appear as 'legitimate' objects as all the others, despite most being only visual associations, 'nice' areas, etc. , with no true astrophysical significance. It is also clear that Harrington has *stolen* some objects without giving due credit to the true discoverers (for which he has been chastised elsewhere!). For example, Hrr 3 is really '*Kemble's Cascade*', first described in *Sky and Telescope* by Lucian Kemble more than a decade before this book was written! No discoverer's credit is given to Fr. Luke! Despite this lack of tact, these Hrr objects are worth the look!

If you don't have this book, get it! It will get the observing juices flowing, and it is absolutely wonderful for the beginner with binoculars. You will, however, need a reasonable star atlas to supplement *Touring the Universe*, since it contains no finder charts. If you're too cheap to buy this book, it is available at the Saskatoon Public Library, Main Branch.

Minutes of the General Meeting

Monday, December 14, 1998

held at the National Hydrology Conference Room, Saskatoon, 7:30 p.m.

1. Program: Yannis P. - *A Strange Universe; One of the Latest Cosmological Views*. A great talk in more or less understandable terms.
2. Tom Dean - a member of the Kingston Centre described his functions with the club and some of the present club activities.
3. Sleaford Site: a 200 amp. electrical service has been installed, also a phone has been hooked up to the site. The partnership agreement has gone through some more revisions.
4. Financial Report - will be printed in the next newsletter. It will have to be passed at the next meeting.
5. Fundraising: a proposal to the Colonsay Mine will be submitted, also to the Saskatoon Foundation and the National Office will also be approached for a grant.
6. Youth Astronomers: Sandy stated that there were 30 people out to the observatory tour last Friday. It was a clear night which allowed observing of Saturn, Jupiter and the Andromeda Galaxy.
7. SSSP 1999: plans need to be attended to early in order to assure success. Speakers, brochures etc. need to be attended to.
8. Observing: Nov. 20th was cloudy, Nov. 21st 1-1/2 hrs. of observing before clouds moved in. Darrell will be working on an a binocular observing list.
9. Ken Wiebe has a 17" scope at Aberdeen, come out and observe with it. Call 253-4731.
10. Gastronomy: Les Dickson is organizing an evening in January, possibly Jan. 23 at the Mall at Circle & 8th Tony Tomas Restaurant.
11. Firefly Books: the RASC calendars are not here yet.
12. Memberships: if not paid up by the end of this meeting, no newsletter will be received.
13. Ed Kennedy: a 19th century surveyor's compass has been received and repaired and sent to Kingston.
14. The January speaker will be Mark Kay - re: *Three Decades of Observing*.
15. Meeting adjourned at 10:30 pm.

Minutes of the Executive Meeting

Wednesday, January 13, 1999

held at the Open Door Society Board Room, Saskatoon, 7:30 p.m.

1. Membership: Les Dickson brought the executive up to date regarding the membership. He would like Jim Young to e-mail him regarding any additional new members so he can keep the membership list constantly up to date. Members that have not renewed will be called.
2. Library: Sandy and Ellen have started to sort out and organize other Centre newsletters. They suggest disposing of all the Scientific American magazines. Les will see if there is any room for them at work. A meeting with the university archivist Cheryl Avery, Sandy, Ellen and Ed Kennedy will be held in the near future.
3. SSSP 1999 articles and publicity are needed. We are behind last year. There is a need to advise people of the new format. Sandy will write an article for *Sky News* and will attempt to find a few good photos to submit for advertising. Sandy will also e-mail the date and time of the star party to *Sky and Telescope* and *Astronomy* magazines. Bob Christie will be asked to do the brochure. A meeting is needed for people interested in getting involved.

4. Sleaford Site: The University will pay to put in the phone. We will split the monthly cost with them. The electrician is still behind in his work.
5. Partnership Agreement: This is still not settled. Erich will call Yannis and see if any progress has been made recently.
6. National Council Meeting in Feb: Sandy will not attend. Disappointment with the Journal content and editing has been expressed. Jim and Ed will work on a letter to this affect.
7. Financial Report: Jim and Barb described where we are at and what money is available. National says we still owe on Handbooks but all unsold Handbooks have been sent back and this statement is in error.
8. Mark Kaye will be the speaker at the next meeting. A meal will be organized with him prior to the next meeting at the *Great Buffet of China*.
9. Meeting adjourned at 9:30 p.m.

Minutes of the General Meeting

Monday, January 18, 1999

held at the National Hydrology Conference Room, Saskatoon, 7:30 p.

1. Meeting called to order at 7:45 p.m.
2. Presentation: by Mark Kaye of the Hamilton Centre re: *Three Decades of Observing*
3. Books and Calendars: there are only 2 calendars left. There are still some *Firefly* books and some astrophotography books available.
4. The Centre's thirtieth year: The Saskatoon Centre was founded in 1969. The club had 34 members at that time.
5. Financial Report was given by Jim and Barb Young. This was adopted and carried.
6. SSSP 1999 Report: it's time to move into high gear. Many volunteers are needed. At the present time the convention hall has been reserved and about one half of the units have been reserved. All units must be confirmed by Feb. 28th.
7. Sleaford Site Report: no change has occurred since the last meeting. Rick has designed a log sheet for the telephone, calls must be recorded. The partnership agreement 2000 has been cleared by the lawyers and has been sent to the University.
8. Observing Report: February 19 or 20 will be the next observing dates.
9. Library Report: Ellen and Sandy have spent four hours recently organizing the library. They will need help to catalogue many items. This coming Thursday they have an appointment with the University Archivist.
10. Fundraising: The Kalium (Colonsay) mine, The Saskatoon Foundation, and National Council will be approached.
11. Educational Star Nights given and pending: Rick has had a lot of requests for speakers and for star parties. He would appreciate help, so please volunteer if you are available.
12. Youth Report: Sandy says things are going well. She has just introduced a naked eye observing program which is going over well.
13. Gastronomy Night: will be Jan. 23, 7:00 p.m. at Tony Tomas Restaurant in the *Mall at Circle and 8th*.
14. Meeting adjourned at 10:00 pm.