

THE PRAIRIE ASTRONOMER

THE OFFICIAL NEWSLETTER OF THE PRAIRIE ASTRONOMY CLUB, INC.

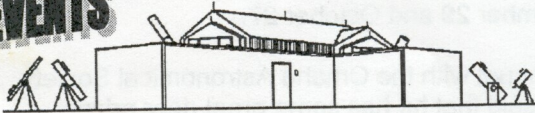
OCTOBER 2000

VOLUME 41 ISSUE #10

INTERNET ADDRESSES:

PAC Web Page: www.4w.com/pac/
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Astronomy in NE: www.blackstarpress.com/ar/n/
Hyde Observatory: www.blackstarpress.com/ar/n/hyde/

CLUB EVENTS



PAC MEETING

TUESDAY, OCTOBER 24, 2000, 7:30 PM
ELECTION OF PAC OFFICERS
at Hyde Memorial Observatory

PAC YOUTH GROUP/HYDE VOLUNTEER MEETING
FRIDAY, NOVEMBER 3, 2000, BEGINNING @ SUNSET
At Hyde Memorial Observatory

CLUB STAR PARTY
FRIDAY, NOVEMBER 24, 2000
Wagon Train Lake
(see map on back page)

PAC MEETING
TUESDAY, NOVEMBER 28, 2000, 7:30 PM
at Hyde Memorial Observatory

OCTOBER'S PROGRAM:

Be sure to check the PAC website for the latest on the October Program

PAC-LIST INSTRUCTIONS REPEATED: Mark Dahmke maintains an e-mail list server for PAC. For instructions on how to use it, please see the article Mark has written inside this issue.

2001 RASC OBSERVERS HANDBOOK: Erik Hubl will be taking orders at the November meeting for the 2001 RASC Observers Handbook as well as the Ottwell Calendar. They will be \$15 each, with the extra monies going into the club treasury. They must be paid for at the time of the order.

OLD SKY AND TELESCOPE MAGAZINES: If any member is interested, Harlan Franey has hundreds of old S & T mags from 1958 thru 1990 to give away. You can reach him at 489-5234, or email HLFraney@cs.com.

ITEMS FOR SALE:

For Sale-Celestron 14" optical tube assembly with Lumicon Giant variable focal reducer/camera adaptor/guider and Tuthill 14" solar filter plus 5.5" unobstructed off axis adaptor, f-28(for planetary, double star or h-alpha).

For Sale-Byers 812 German Equatorial mount on 5 foot portable pier.

For Sale-Fork mount for up to 16" diameter tube. Swings 30", could hold maybe 1000 pound package, driven by 12" Mathis gear. Observatory jewel. I had a 14 1/4" f-6 Newtonian plus several accessories in it. Would hold a C14 like a ROCK.

Contact George Allen, Council Bluffs, Iowa, geonjod@earthlink.net

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The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc. Membership expiration date is listed on the mailing label. Membership dues are: Regular \$20/yr, Family \$22/yr. Address all new memberships and renewals to: The Prairie Astronomy Club, Inc., PO Box 5585, Lincoln, NE 68505-0585. For other club information, please contact one of the club officers listed on the last page of this newsletter. Newsletter comments and articles should be submitted to: Jeff King, 4018 South 83rd Street, Lincoln, NE 68506-5973 or jeffrey892@aol.com, no less than ten days prior to the club meeting. The Prairie Astronomy Club meets the last Tuesday of each month at Hyde Memorial Observatory in Lincoln, NE.

10 - 00

SECRETARY'S REPORT

By: Willa Penney

Prairie Astronomy Club
September 26, 2000

President Dave Knisely opened the meeting; there were no guests. Dave reported that there is a huge sunspot right now; he also said that Saturn is "nice". Dave is quoted in the current issue of Sky and Telescope about Saturn's rings.

The next NSP Planning meeting will be Thursday, October 12, at Mahoney State Park. Dave Hamilton asked for a volunteer to be next year's registration chairman.

The next (and last for the year) Mahoney Star Party will be October 6; the Behlen observatory at Mead will also be open that evening. The next PAC Star Parties will be this Friday, September 29 and October 27.

Larry Hancock handed out flyers/registration forms for the Fall Banquet with the Omaha Astronomical Society. It will be October 20 at the Riverview Lodge in Mahoney State Park. Larry said that he has some great door prizes.

Dave reminded everyone of the "Stars on the Prairie" night at Homestead National Monument in Beatrice this Friday, September 29. If it is a clear night, he asked that members please come and bring their scopes. If it is cloudy, he will present an inside program.

The October PAC meeting will be held on the 4th Tuesday, October 24, because our regular meeting night is Halloween.

Next month will be the election of officers for 2000-2001. The slate as of now is:

President – Dave Knisely

Vice President – Open

Secretary – Open

Treasurer – Liz Bergstrom

2nd Vice President – Mark Fairchild

Mark Dahmke maintains the PAC e-mail list; instructions for subscribing were in the September issue of the club newsletter. It was suggested that, if you respond to a submitted question, you send your answer to everyone so they would know that the question has been answered.

The next PAC Youth and Volunteer meeting night is October 6. Dave reported that Mark Fairchild is in the hospital.

The Star Wars PodRacer replica is currently on display at the SAC Museum. The Hubble Space Telescope exhibit will be there early next year.

Larry has club shirts, polos, and hats for sale.

Liz Bergstrom reported that we have about \$200 in the treasury; however, the International Dark Sky Association dues are due at \$50.

Erik Hubl will be taking orders at the November meeting for the 2001 RASC Observers Handbook as well as the Ottwell Calendar. They will be \$15 each, with the extra monies going into the club treasury. They must be paid for at the time of the order.

We adjourned to our program: Jack Dunn showed a short presentation on light pollution and then a video "Cosmic Journey".

Deep Sky Observations



DS092600

DEEP-SKY OBSERVATIONS

by David Knisely

DATE: September 26th, 2000, 0530 to 0910 hrs UTC.

LOCATION: Rockford Lake, Nebraska, 40.227N, 96.581W, 1400 ft. elevation.

INSTRUMENTS: 10 inch f/5.6 Newtonian, 47x, 59x, 101x, 141x, 220x, 352x, Celestron 80mm f/5 Wide Field Spotting Scope, 13x, 17x, 20x, 29x, 40x, 63x

CONDITIONS: Clear, Temp. 42 deg. F., Wind calm.

UNAIDED EYE LIMITING MAGNITUDE: 6.7 averted vision, 5.1 direct vision

SEEING: 0.7 to 1.5 arc seconds (Antoniadi II.)

OBSERVATIONS: Beautifully clear skies after I got off of my late night shift prompted me to get out under the stars. Last week, I had constructed a mounting bracket with a built-in altitude bearing for my 80mm f/5 short tube refractor which allowed it to be placed on the old tripod for my 32-year old Sears "Discoverer" 2.4 inch refractor I had used so many years ago. I put it to the test that night, using the 80mm even more than I did my ten inch. The new mount worked flawlessly, except for when I put on my heaviest eyepiece, a Meade 14mm Ultrawide (a.k.a. "the Glass Hand Grenade"). The altitude locking mechanism simply wasn't quite enough to handle the extra load at all angles, so I guess I will have to work up a counter weight scheme to balance things. However, it turned out that the 80mm Wide Field got more of a workout than even my ten inch which was set up next to it. My first task was doing a little playing with the 80mm at high power. I soon discovered that the best high power viewing was done without the amici prism in place, so those of you who are considering such a scope would be advised to get a quality right-angle star diagonal instead of the upright amici diagonal which often comes with these scopes.

Once some additional dark adaptation, I decided to see what my limiting magnitude was with both direct and averted vision. Using some stars around Polaris I use for judging limiting magnitudes, I could go down to about magnitude 5.1 staring directly at a star a couple of degrees above Polaris, although it was right near the limit of vision. Averted vision allowed me to go to about 6.7 without much trouble, and looking high in the sky towards Triangulum revealed M33 as a small but very noticeable fuzzy spot with slightly averted vision. Unlike John Bortle's claim, in all honesty, I was unable to see it with dead-on direct viewing. It was similar in size to the middle portion of M31 which is visible with direct vision. M31 itself was quite long with averted vision, so I decided to train the 80mm on it. The best views were at 17x with the 24mm Koenig (3.5 degree field), and the 14mm Meade Ultrawide "Glass Hand Grenade" (29x, 2.9 degree field). In both cases, the faint diffuse curving arcs of the spiral arms were visible with averted vision,

with the 14mm eyepiece showing hints of the first dark lane just west of the brighter core region. The southwestern arm in particular looked just a bit lumpy. Both M32 and NGC 205 were fairly easy, although M32 looked nearly stellar below 20x. In the ten inch with the Glass Hand Grenade (101x), the galaxy was glorious, with the main dark lane and the passing spiral arm very obvious. This arm showed irregular dark edges as if small dark spots were intruding into the arm as it passed the core region. The faint diffuse star clouds in the southwestern arm were fairly easy to see with averted vision at 59x, as was the narrower curve of the outer northeastern arm.

After this little diversion, I once again went over to Cygnus to look at the North America Nebula with the 80mm Wide Field scope. Using the UHC filter at 13x, the object showed its usual textbook form very well, but with the OIII filter, Florida seemed to almost vanish. The Pelican Nebula could also be seen next to it, although it didn't have nearly the detail of the North America. I looked at the large diffuse nebulosity around Gamma Cygni, (IC 1318), and found that on these particular nebulae, the H-beta filter produced more contrast than the UHC, although the UHC showed a bit larger area of nebulosity with slightly greater brightness. The OIII filter really dimmed things, and thus came in a distant third.

Moving to a more difficult target, I tried for the diffuse nebula Sh2-101 in central Cygnus. With the 80mm and the UHC filter, it appeared as a small faint diffuse spot of light with one or two closely-spaced stars inside. In the ten inch Newtonian at 47x, it appeared as a moderate-sized very faint diffuse hazy area, roughly elongated N.E. to S.W., with two 7th and one 9th magnitude stars inside. It has some vague irregularity to it, with weak arc-like structure in its southern half, and a darker region next to it intruding from the east. Without filters, the nebulosity was only hinted at.

My next target was due south in the southern sky; the great Sculptor Spiral Galaxy NGC 253. Even in the 80mm's 30mm finder, the galaxy was seen as a very faint short streak, but in the 80mm, it was very obvious,

appearing as a longer almost cigar-shaped hazy patch with a noticeably brighter core. At 20x, the object's core really stood out, and it almost looked like there was a darker area just northeast of the core. I used powers up to 63x on the galaxy with the 80mm, and it stood up fairly well. However, the real treat came with the 10 inch at 141x, where the galaxy was littered with faint glimmering patches and small dark spots over almost the entire object. This galaxy doesn't exactly show well-defined spiral arms visually, although you can trace segments of its rather broken spiral structure fairly easily.

Moving east, I decided to take a quick look at Jupiter and Saturn now that they were high up in the eastern sky. Saturn showed the rings and Cassini's division even in the 80mm, although the ten inch revealed vastly more detail. The very narrow belt on the equator could be glimpsed at times at 352x, but the seeing variations made it clear that the Encke Division/gap would not make its appearance tonight. Jupiter was a little better, in that the Great Red Spot was sitting exactly on the planet's meridian. It is somewhat redder than in past years, although it is still the spot hollow dug into the south equatorial belt that makes the spot easy to notice.

Going back into some more deep-sky work with the 80mm, I hit both the Pleiades and the Double Cluster before going back to trying for nebulae. M1 was visible with ease, although it took a bit of power to make it more than just a tiny nearly stellar puff. I put in the UHC and went after NGC 1499, the California Nebula. Tonight, it was quite easy in the 80mm, but was not all that bright, looking like a faint elongated area of light. The H-beta filter made it fainter, but it stood out somewhat better than in the UHC, with somewhat filament-like formations along the north and south edges.

I moved eastward into Auriga and had a ball viewing the open clusters M36, M37, and M38, along with tiny NGC 1907 (next to M38) and the nebulous group NGC 1893. I think I like M37 the best, as to me it seems like a winterized version of M11. It appeared rich even in the 80mm, and in the ten inch it was simply spectacular. M38 is almost as rich, and its companion NGC 1907 reminds me of the faint companion to M35 (NGC 2158). Both objects were fine targets with the ten and the Glass Hand Grenade. In the 80mm, NGC 1893 did show some faint nebulosity with the UHC filter, and the nearby more diffuse nebulosity of IC 417 was also hinted at. The ten inch and the OIII filter really brought out the detail in the nebulosity around NGC 1893, with some interesting dark detail. While in the area, I decided to move the 80mm to M35, but ended up running into a small spot of hazy light around a faint star in northern Orion. The UHC really changed the hazyness into a well-defined round patch, which was NGC 2174. Even in the 80mm, I could see hints of irregular detail around its edges, and in the ten inch,

these details were very obvious. With the UHC or OIII filters, it almost looked like a whirlpool, with a brighter diffuse core around the central star and arc or spiral like detail along the outer edges.

With this success, I thought that I might at least see if the 80mm and my UHC filter could work another miracle in the form of IC 443, a supernova remnant just east of Eta Geminorum. After getting repeatedly distracted by an interesting arc of faint stars just northeast of Eta, I moved the scope back and forth, and began to get the impressions of a very faint diffuse arc just under halfway from Eta to Mu and slightly north of a line joining the two stars. This became a little more obvious the more I studied the area and boosted the power to 17x. The arc was narrower and more crescent shaped than I had recalled from photographs and was about as bright as some of the fainter portions of the Veil. I studied the star field, and then went over to the ten inch. In the past, I had repeatedly failed to confirm this nebulosity in the ten inch, but now with the correct field located in the scope via a quick reference to the 80mm view, the faint arc was now visible, although again, it looked narrower than in pictures. Chock up another one for small scopes!

Going back south, I pointed the 80mm in the general direction of Fornax to try for the large planetary NGC 1360. As luck would have it, when I looked in, it was smack dab in the center of the field! Although just visible without a filter, it stood out much better with one as an ovalfootball-shapedfuzzy patch around a faint central star. Moving eastward, I tried for the "Witch Head" Nebula, IC 2118 in Eridanus. With the 80mm at 13x and using the UHC filter, the nebula was a large very faint diffuse elongated glow roughly in the middle of the triangle of stars Beta, Psi, and Lambda Eridani. When I tried the OIII filter, the object dimmed almost to extinction, but I could see some slight irregularity in its outer edges that I had not noted in the UHC.

With Orion high in the east, I decided that it was time to have a little fun with M42. All I can say is Wow, does that 80mm really cook on this area! You get an entirely different perspective at 13x and 17x than you do on Orion's Sword with 50x or 60x. The 80mm even showed the 4 Trapezium stars at only 29x, and with the UHC, hinted at the dim southern loop of nebulosity. I moved the scope over to Zeta Orionis, and good old NGC 2024 was there as a very dim irregular puff next to the star at 13x. I could also just see the very faint glow of IC 434 running south from Zeta, although at no time could I see the Horsehead. I went back over to the ten inch and put in the 20mm with the H-beta filter to try for the famous Horse, and saw it immediately. After going for so many really faint diffuse nebulae, this one almost looked easy. The nebulosity was noticeably brighter along the band's eastern edge, with the dark "gap" of the Horsehead easy to notice. With a little study, the "snout" came out, but for a really decent view, this object really needs a lot more aperture.

After picking up Barnard's loop with the H-beta held over one eye, I went into Monoceros to try for one last object: The Rosette Nebula. The faint glow of the nebula was visible even in the finder of the 80mm, but with the 80mm and the UHC filter, the nebulosity was a large and very obvious lumpy ring around the elongated star cluster. The Area on the northwestern side seemed somewhat brighter than the rest of the nebulosity, with some dark detail visible in the haze. The OIII filter dimmed the nebula, but really made that brighter area on the northwest side stand out, "breaking" the nebulous ring into discreet patchy pieces with very irregular outer edges.

All in all, it was a very fine night, with my little 80mm scope showing its true usefulness, even when compared with my ten inch Newtonian. Clear skies to you.

David Knisely

New Minor Planet Discovery

Date: Fri, 13 Oct 2000 12:17:06 -0500
From: lindh@swnebr.net
To: martin gaskell <gaskell@unlinfo.unl.edu>
Subject: Willa Cather

Hi Martin!

This morning I had the pleasure of announcing the following information to the Willa Cather Foundation at Red Cloud Nebraska. This discovery and subsequent naming follows the naming of planets NEBRASKA and BRACE from Lime Creek Observatory 721.

Steven P. Ryan, Executive Director
Willa Cather Pioneer Memorial
Red Cloud

Dear Steve,

Inquiry dated Oct 13, 2000 provides the following information: Commission 20 of the International Astronomical Union, Minor Planet Center, Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A. (14969) Willacather = 1997 QC1

The name of Willa Cather is forever assigned as the name of planet 14969 orbiting in our solar system. This planet was discovered Aug 28, 1997 at Lime Creek Observatory 721, by Robert Linderholm, Cambridge Nebraska. I will send you a copy of the publication by the Smithsonian in a few weeks but you may, if you wish, distribute this information immediately. Publication of assignments are made on the date of each full moon. (Current publication Oct 13, 2000)

It was my great pleasure to share this discovery with the Cather family, the Cather Foundation, and the many people who have those who have enjoyed the work of Willa Cather.

Sincerely and best wishes to you, the Cather Family and the Foundation,

Robert Linderholm
Lime Creek Observatory
Cambridge Nebraska 69022

HOW TO USE THE PAC-LIST

Pac-list is a discussion list that is available to PAC members. Anyone with an email account can access and contribute to the list.

To join:

Send a message to list@4w.com with the following in the body of the message:

Join pac-list me@mydomain.com

where me@mydomain.com is your email address. You will receive a message from the mail server stating that you have been joined to the list.

To contribute to the list:

Send a message to pac-list@4w.com. Your message will be sent to all other members of the list, and you'll also receive a status message confirming your post. Note that the message you send must come from the same email address you used when you joined the list. If not, the server will reject it because it thinks you're not a member. This will also happen if you use an alias... for example, if your mail comes from md12345@alltel.net but you used the alias mdahmke@alltel.net when you subscribed, the system will reject your message.

To leave the list:

Send a message to list@4w.com with the following in the body of the message:

Unsubscribe pac-list

To get help:

Send a message to list@4w.com with **help pac-list** in the body of the message.

List Archive

Pac-list is also archived to a website. To view it, go to: <http://list.4w.com/archive/pac-list/> Messages can be viewed by subject, author or date.

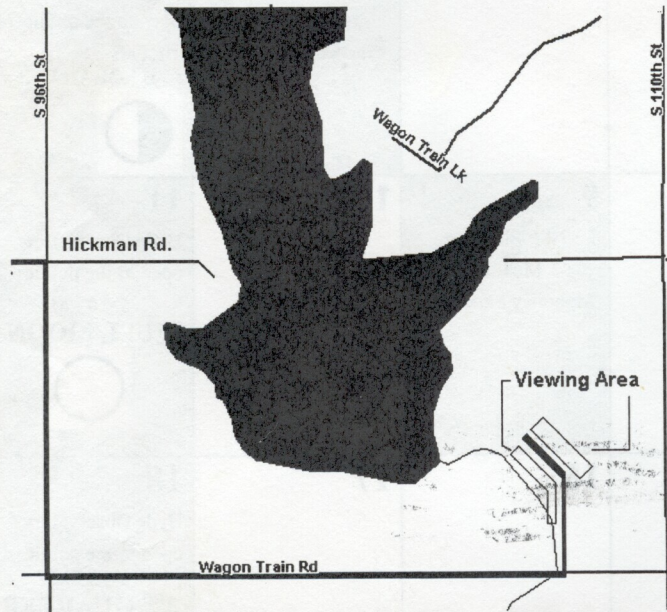
THE PRAIRIE ASTRONOMY CLUB CALENDAR

For November 2000

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
			1	2	3 Volunteer Practice/Youth Group Night	4 Hyde Observatory open to the public 7- 10 PM 1 ST QUARTER 
5	6	7	8	9 NSP Planning Meeting Mahoney State Park	10	11 Hyde Observatory open to the public 7-10 PM FULL MOON 
12	13	14	15	16	17	18 Hyde Observatory open to the public 7-10 PM 3 RD QUARTER 
19	20	21	22	23	24 Club Star Party	25 Hyde Observatory open to the public 7-10 PM NEW MOON 
26	27	28 PAC Meeting 7:30 PM Hyde Observatory	29	30		

**Directions to Wagon Train Lake
Observing Site**

From Hickman, NE, turn East on Hickman Road. Go until you reach 96th Street, then turn RIGHT. Drive until you reach Wagon Train Road, then turn LEFT. Area 6 is about 3/4 of a mile East. Turn LEFT into Area 6.



**OFFICERS
OF THE PRAIRIE ASTRONOMY CLUB**

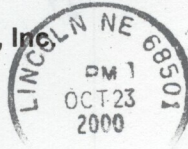
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Please send all submissions for *The Prairie Astronomer* to:
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**Next PAC Meeting
October 24, 2000
7:30 PM
Hyde Observatory**

**The Prairie Astronomer
c/o The Prairie Astronomy Club, Inc.
P.O. Box 5585
Lincoln, NE 68505-0585**



First Class Mail

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