



The Prairie Astronomer

The Official Newsletter Of The Prairie Astronomy Club, Inc.

August 2000

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AUGUST'S PROGRAM:

Mark Dahmke will give a multimedia presentation on the 2000 Nebraska Star arty ,held earlier in the month.

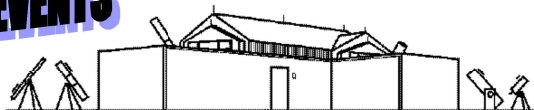
PAC-LIST: Mark Dahmke maintains an e-mail list server for PAC. If you have an e-mail address and are not on the PAC List, you may subscribe by submitting an e-mail to list@4w.com. Write "Subscribe PAC-List" in the body of the e-mail.

HUBBLE DISCOVERS MISSING PIECES OF COMET LINEAR S4:

To the surprise and delight of astronomers, the Hubble telescope discovered a small armada of "mini-comets" left behind from what some scientists had prematurely thought was a total disintegration of the explosive Comet LINEAR. In one observation, Hubble's powerful vision has settled the fate of the mysteriously vanished solid nucleus of Comet LINEAR, which was reported "missing in action" following its passage around the Sun on July 26. Though comets have been known to break apart and vanish before, for the first time astronomers are getting a close-up view of the dismantling of a comet's nucleus due to warming by the Sun. The results support the popular theory that comet nuclei are really made up of a cluster of smaller icy bodies called "cometesimals."

See the following website for more information:
<http://opposite.stsci.edu/pubinfo/PR/2000/27/index.html>

CLUB EVENTS



CLUB STAR PARTY
FRIDAY, AUGUST 25, 2000
Wagon Train Lake
(See back page for directions)

PAC MEETING
TUESDAY, AUGUST 29, 2000, 7:30 PM
at Hyde Memorial Observatory

PAC YOUTH GROUP/HYDE VOLUNTEER MEETING
FRIDAY, SEPTEMBER 1, 2000, BEGINNING @ SUNSET
At Hyde Memorial Observatory

MAHONEY STAR PARTY
FRIDAY, SEPTEMBER 8, 2000
Mahoney State Park

PAC MEETING
TUESDAY, SEPTEMBER 26, 2000, 7:30 PM
at Hyde Memorial Observatory

FALL BANQUET
FRIDAY, OCTOBER 20, 2000
Mahoney State Park

CONTENTS:

| | | |
|--|------|-----|
| Secretary's Report - By Willa Penney | Page | 2 |
| NSP Observations - By Dave Knisely | Page | 3/4 |
| The Romantic Astronomer - By Dave Churilla | Page | 5/6 |
| Product Review - By Dave Knisely | Page | 7/8 |
| PAC Calendar | Page | 9 |
| Club Viewing Site Directions and List of Club Officers | Page | 10 |

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.

Secretary's Report

By: Willa Penney

Prairie Astronomy Club
July 25, 2000

President Dave Knisely called the meeting to order. We had 2 guests: Mary Schutte from Lincoln and her nephew Tyler from Hickman.

Dave reported that the club Star Party on 6/30 was well attended, with over 20 people and 11 scopes.

A star in Scorpius, Delta Sco, has been brightening an average of .3 magnitude per day. It has gone from 2.3 to 1.9 magnitude in only a few days.

Doug Bell gave an NSP7 update: 350-400 people are expected. There is tent camping available; registration is \$35 for singles, \$45 for families. NSP 8 is scheduled for July 14-21, 2001.

The next PAC Star Parties are July 28 and August 25 at Wagon Train.

Mark Fairchild, Hyde Volunteer Coordinator, said that the next volunteer meeting will be August 4. The volunteer meetings are held on the 1st Friday of each month. The Youth Group meets at the same time.

This month's issue of Sky and Telescope has an article on Young Astronomers. Dave recommends that we read it and consider its importance in keeping our club alive.

On Saturday evening, August 19, Hyde will be closed to the public because of the Boy Scout Jamboree at Holmes Park. If it is a clear night, PAC members are urged to meet at Hyde and bring their scopes to have available for the Scouts.

Larry Hancock reported that the club T-shirts, polo shirts, hats, etc. are here. Liz Bergstrom will have them at her home and will be taking them to NSP. Extras were ordered and are available for sale.

Larry also reported that the Fall Banquet will be held on Friday, October 20, at Mahoney State Park. It will be in the same location and will be held jointly with OAS. Cost will be \$7.00 and Larry will take registrations at the August and September meetings. Jack Dunn will present the program.

Liz Bergstrom, Treasurer, reported that after the T-shirt order, our club treasury is pretty well wiped out. The club liability insurance is due in September. This insurance covers club activities at Hyde as well as the star parties. NSP has its own liability insurance.

The meeting was adjourned to our program, "The Coolest Brown Dwarfs" by Dr. Tom Geballe, Gemini Observatory staff astronomer.



NSP Observations



by David Knisely

The Nebraska Star Party this year once again offered an interesting mix of good skies and entertaining activities for astronomical vacationers and their families. Located high in the Nebraska Sandhills (3100 ft. elevation) near the south shore of 11-mile long Merritt Reservoir, the site boasts of some of the darkest skies in North America. Sponsored jointly by the Omaha Astronomical Society and the Prairie Astronomy Club of Lincoln, around 400 people from all over North America attended this year's event. More than a few early birds came in Friday July 28th, with Friday evening showing about 20 scopes and even more people on the nearly 40 acres of observing fields of the Snake Campground. After midnight, observers were treated with a pleasant auroral display low in the north, while many people continued to work the limits of deep-sky with their telescopes.

Saturday dawned bright and clear, as registration began in the Dillon Lounge downstairs from the "Water's Edge" restaurant at Merritt Resort. Many families took advantage of the blue waters of the lake by taking a dip or just sunning themselves on the white sand beaches. Saturday evening was nice and clear, allowing many first timers to get their first taste of what real dark skies can offer. The number of telescopes on the observing fields increased to around 40, with many familiar deep-sky targets falling to the onslaught of the many big truss-tube giants of Dob Row. Things like the "Pipe" nebula were easy to the unaided eye. Several of the driven Starmaster truss-tube Dobsonians made a great impression on those attending, with their quiet almost musical slewing motions, in contrast to the more mechanical sounds of the numerous LX-200 SCT's on the upper fields. M102 revealed its fine elusive dark lane to those using one 18 inch Starmaster, with other scopes going after fainter globular clusters in the Milky Way. Even some of the lesser-observed nebulae such as the "Cygnus Crescent", NGC 6888 were getting a lot of scrutiny.

Sunday was even better than Saturday, with clear blue skies and warm but not terribly hot temperatures. Astrosystems and Eagle Optics did a brisk business at the vendor area, while other attendees mingled or renewed old friendships. A public star party was held next to Merritt Resort for the local residents, with Lorri May of South Dakota doing the star talk. Most other attendees began their evening by eagerly setting up on the grass covered dunes of Snake Campground. Those on the observing fields were treated to very dark and

crystal clear skies, with several individuals reporting unaided-eye limiting magnitudes of 7.6 or better. The Celestron 80mm Widefield scope was a big hit with those who wanted to cruise the vast starfields of the Milky Way. That little refractor equipped with a 30mm Ultrascopic eyepiece and the Lumicon UHC filter let viewers gaze at both M20 and M8 in the same field, set in a dark star-studded sky background. It also showed both segments of the Veil Nebula, as well as the full form of the North America Nebula. The newly-noticed variable star Delta Scorpii also made an impression on many observers as it shone nearly half a magnitude brighter than usual. Dave Hamilton of Lincoln, Nebraska used his Rainbow Optics Star Spectroscope on his MAG-1 PortaBall 12.5 inch Newtonian to show people the faint H-alpha emission line of Delta, as well as spectral lines and bands in stars like Altair and Antares. Several CCD imaging systems were also active on the observing fields, with objects like M5 and M27 showing up on dimly-lit computer screens. Many observers made this observing session an all-nighter, with the faint glow of dawn coming all too soon.

Monday was bright and sunny, with people again taking advantage of the lake for swimming, fishing, or attending the first day of the NSP BEGINNER'S FIELD SCHOOL. Indeed, local fishing reports had nearly everything biting. Nearly 50 people in the 3-day NSP Beginner's Field School got their start on their way into the fascinating hobby of Amateur Astronomy. Long-time NSP regulars Lorri May and Dave Hamilton got the field school off and running, providing the beginners some of the basics for understanding and getting around the night sky. In the early evening, the NSP Ice Cream Social was held at the pavilion just north of the main observing fields, providing a real "ice breaker" for those attending for the first time. Free ice cream and soda was provided to attendees, along with drawings for the first of many door prizes, but the skies began to cloud over as the night progressed. However, this only meant that it was time for the NSP "Mystery Kite" to go aloft. Its tiny green glowbar became the target for many laser and "photon torpedo" blasts from the ground-based dobs equipped with flashguns or Maglites (rumor has it that the kite suffered severe fading from overexposure to photons!). Even without the clear skies of the previous evening, many attendees remained on the observing fields to chat in large groups well into the night.

Tuesday was partly cloudy with some high cirrus clouds. The second day of the Beginner's Field school featured NSP-mentor Dave Knisely, with an extended presentation on telescopes and binoculars. The Hamburger BBQ was held back at Merritt Resort in the early evening, followed by the migration back to the

observing fields. NSP Clear Skies Coordinator Clark Cheney of Omaha huffed and puffed and blew away the clouds for several hours of clear observing after sunset, but eventually ran out of breath after midnight when some distant thunderstorms blew in high and mid-level clouds from the west. Tectron's Tom Clark showed off his fine 20 inch truss-tube Dobsonian, while Pete Smitka of MAG-1 Instruments brought out one of his new 8 inch PortaBall Newtonians.

Wednesday again was mostly clear, with the featured activities being the third Day of the Beginner's Field School and the NSP Beach Party. Pete Smitka once again lent a hand to the beginner with his "How to get the most out of Your Telescope" mini-workshop at the Field School. He provided many tips on things like telescope construction, collimation, and common telescope problems. Around 3 p.m., the Great NSP Beach Party began on the white sandy shore of Merritt Resort, with swimming, kite flying, and games. A sand wedge pitching contest allowed everyone a chance to see how they would fare in a really BIG sand trap! Of course, some people were waiting for their chance to get even with Clear Skies Coordinator Clark Cheney via the water balloon launch. Needless to say, Clark got VERY wet when all the kids on the beach rushed and pummeled him in a point-blank barrage of balloons! The three-legged races and volleyball topped off the games, after which, the big gas grille was fired up to begin the barbecue. Attendees brought their own food to be cooked on the grille by the now soggy Clark Cheney, Bill O'Donnel, and Dave Hamilton. The sky was variably cloudy with only a few sucker holes, so most attendees either talked in large lawn-chair groups on the observing fields or went to bed to rest up for the canoe and tubing trip down the Niobrara river the next morning.

Thursday brought on the great Canoe/Tubing trip in the Niobrara Canyon, where well over 100 attendees spent a relaxing 3 or 4 hours floating or canoing down the peaceful Niobrara River. However, as usual, the flotilla of tubes had the usual water cannon battles between rival groups, which made nearly everyone wet, but kept everyone cool under a hot sun. All the groups stopped at the Smith Falls recreation area for lunch and a look at the highest waterfalls in Nebraska before continuing down to the finish. In the late afternoon, the Chicken BBQ was held back at Merritt Resort, and more door prizes were given out. At around 7:30 p.m., the Amateur Telescope Making Contest entries were judged on the observing fields. Mike Nebelsick of Naperville, Illinois won both the Technical Innovation and Useful Accessory classes with his unique 2.4 inch altazimuth refractor which had an eyepiece storage box at the front

for a counterweight and an old vinyl LP record as the azimuth bearing surface. Paul Rothove of Hartsburg, Missouri won in the Workmanship class with his fine 10 inch f/8 "Art-Deco" Dobsonian. The skies became mostly cloudy so again, many people just sat and talked. Late night and early morning thunderstorms prevented any observing, although little rain actually fell.

Friday had the formal presentations in the Auditorium and lobby of the Valentine Nebraska High School. Vendors set up in the lobby, along with registration and the entries for the NSP Astrophotography Contest. Formal programs began with Dave Knisely's presentation on a Nebula Survey Project for the comparison of filter performance. This was followed by Tectron's Tom Clark on Telescope Making, and high school student Matt Harriger's presentation on Nova Hunting in the Andromeda Galaxy. Lunch was served in the lobby by Pizza Hut as a fund raiser for a local school group, while many attendees looked over and voted for their choices in the Astrophotography Contest. In the Solar System Category, Paul Anderson of Bella Vista, Arkansas won with his shot of Mercury's Solar Transit with an Airplane also on the sun. The Deep-Sky Category was won by Randall Heckman of Kearney, Nebraska for his image of the barred spiral galaxy NGC 1300. Randall Wehler of Willmar, Minnesota, won the NSP Category with his "Boardman Creek Star Gaze" picture of the Milky Way. Omaha native Tom Gehringer was first in the wide-field category with a shot of lightning over the McMath solar telescope on Kitt Peak. The afternoon brought more programs. Dr. Erica Ellingson of the University of Colorado presented, "Weighing the Universe with Galaxy Clusters", followed by another Omaha Burke High School student, Ryan Westerlin, who gave a presentation on Active Galactic Nuclei. Dr. Nick Schneider finished things off with a program on Jupiter's volcanic moon IO and its escaping atmosphere. The final doorprizes were then awarded, including a 6 inch Dobsonian for the kids and a computerized Meade ETX-90 Autostar, along with an 8 inch f/6 Bushnell Dobsonian for the adults. With the formal programs concluded, most attendees either went back out to the observing fields, or had dinner with some of their new-found friends. The skies were partly cloudy Friday night with a fat crescent moon, so not a great deal of observing was done. Still, more than a few people sat out under the cool skies to talk and dream about the next Nebraska Star Party.

The Romantic Astronomer

A TRIP TO NSP

By Dave Churilla

So you want to go to the NSP (Nebraska Star Party). But you know your family is thinking about that week long vacation in the Colorado Rockies, or the beaches of Florida. They just don't realize the opportunity to be experienced at the Star Party. Now how do you convince your spouse that this can be the greatest vacation since your honeymoon?

You get the brochures, the maps, the travel guides. Let's see, how do I make the hard sand beach of Merritt Reservoir sound like the white sands of the Bahamas? What about the rolling terrain of the Sand hills? Not exactly like the Rockies are they? Ah, there are cabins there! Let's see, rustic accommodations. Hmmmm no, we'll go camping...the lure of quality time with the family. That's it!

But honey, it's the chance of a lifetime, not only for stargazing, but also for a great family vacation. Yes, there are mountains near there (I felt my nose grow a little longer). And we can climb them too. And the lake, it's beautiful. You can lie out on the white sand beaches....tubing, what about tubing? You'll love gently meandering down the Niobrara River. So relaxing! And there's a resort there. A cabin? Well, yes we can get a luxury cabin (now I'm considering plastic surgery on my very long nose). But you'll love the sightseeing...there's so much to look at (miles and miles of rolling nothing), the wildlife is everywhere (yeah, turkey vultures eating the ground squirrel road kill), and the weather, you won't believe it (roast in the day, freeze at night. But the mosquitoes will keep you moving, so you'll stay warm).

Well, you pack stuff up, and away you go. Somehow you've convinced the family the trip will be the vacation to top all vacations. A shiver runs up your spine as you head toward the NSP.

I'm joking, of course. The NSP is a great way to spend a vacation. But I can remember going through the above with my wife in hopes of convincing her to go. I'd gone for a few days last year, and felt guilty going by myself again this year. Unfortunately, she couldn't go anyway and Joey and I made the trip with a friend. The truth is that a vacation to the NSP is not only fun, but also very, very educational. Besides tubing or canoeing down the Niobrara River, there's fishing and lots of sights to see. The country is awesome and if you take a day or two to go a few hundred miles farther west it's fantastic. We took in Mt. Rushmore and Toadstool National Park, not to mention a very interesting and educational Mammoth Dig sight.

But the best thing is the Star Party.

We got there on Friday night, the day before the party was to officially begin. I couldn't believe it. I knew John Lawlor would be there and thought it would be just him

and us, but was astounded by all the campsites set up already. We arrived at 8:00 PM and already counted over 60 tents set up. I believe on Saturday night we estimated that there were nearly 100 tents (of course, I also think my 10" dob performs like John's 18", so take the estimate for what it's worth). But I do know that as far as I could see there were people camped out with telescopes set up all over. Dob row (a parking lot through the middle of the camp area) was packed with scopes that made me drool with envy.

For the first few days, besides the people I already knew from Lincoln and Omaha, I didn't meet anyone from Nebraska! We met people from: Kansas, Nebraska, Iowa, Missouri, Colorado, Texas, California, Oregon, Wisconsin, Michigan, Minnesota, Illinois, Indiana, New Jersey, and Manitoba, Canada. Joey said that he met someone from Mars, but I suspect he might have been exaggerating a bit.

As for the observing, you can't beat it around here, or very many other places for that matter. The first night wasn't as good as the glow from an aurora washed out the sky a little. But even so we enjoyed viewing some of our favorite objects just to see them under dark skies. Most could take high power easier and revealed wonderful detail. The second night was much better, and we took advantage of it fully. Walking around talking to the different hobbyists yielded information about objects we hadn't seen before. One such object was dubbed the blue snowball. It's a planetary nebula in Andromeda (NGC 7662). In low power it looks like a small blue star that isn't twinkling or a small blue planet and is easy to miss. But when viewed under high power (110x or higher) it looks just like a blue snowball. It was a wonderfully strange sight.

A little work rewarded us with the Helical Nebula (NGC 7293), another planetary in Aquarius. It was pretty faint and didn't take high power too well, but at 88x it showed more detail, at least with my O-III filter. I think the most amazing sight was the Veil Nebula. It could be seen without a filter, although was brought into stunning clarity and detail in our O-III filter. A bit of work and we could find all of it's separate segments (all have different NGC numbers). Then we moved to the North American and Pelican Nebulae (NGC 7000 and IC 5067 respectively). I've viewed them at Wagon Train, but not to the detail I could see this night. Of course the inverted view in my telescope confused me a bit as to which was which, but I'm used to being confused.

At one point we just sat and used our binoculars to scan the beautiful sky, especially the Milky Way. It was as rich as I've ever seen it and you could even discern some of the dust lanes and color. Of course Joey, my 11-year-old son, was Mr. Social Butterfly, roaming around to various campsites and talking to people and looking through their scopes. He even introduced me to

an elderly couple from California who were new to Astronomy and had just bought an 8" Meade LX10. They had spent the prior evening searching for M11... and it took them 1½ hours to find it. They had no clue what wonders were lurking in Sagittarius or Scorpius, let alone the rest of the sky. So Joey volunteered me to help them and another gentleman learn a little more about finding things. I didn't mind, and actually was happy to teach them a bit.

What's always been the lure of star parties to me has been the social aspect, the camaraderie and exchange of information. The organizers are to be commended for their efforts at promoting this at the NSP as well. The various social events serve as vehicles for everyone to meet each other and encourages all to visit

each other during the night's observing. I sometimes think that is the high point of the whole affair. And I guess I'll forgive them for not awarding me any of the prizes drawn for the second year in a row.

We reluctantly left Wednesday morning to continue on to a more conventional vacation. And although I know I can't make it every year to the NSP, I'll be looking forward to my next visit. Somehow it always makes me feel a little closer to the beautiful objects I enjoy observing so much. If you haven't been there, go. It's worth the trip....and the ire of your spouse.

Celestron 80mm Wide Field Spotting Scope



There are some times when I have just wanted something to give me a quick low-power look at things when it seems too much of a bother to lug around my ten inch. This especially bothered me after a visit to my parent's house in the Arkansas Ozarks, when a little table-top scope would have been ideal for a peek at the wildlife or the fat moon high in a clear starry sky. It was with this nagging feeling that I stood at the Eagle Optics table at the 7th Annual Nebraska Star Party admiring a rather inviting black-tubed wonder; the Celestron 80mm f/5 "Wide Field" Spotting scope on a small table-top tripod. A few quick glances in the eyepiece of the scope made me blurt out, "I want that!". I plopped down my credit card and walked away with my new toy.

DESCRIPTION AND FEATURES

In general characteristics, this is a "short tube" type of simple 80 mm aperture f/5 scope very similar to the Orion Short Tube or the Galileo 80mm versions. In fact, the build and overall layout between these differing telescopes is virtually identical, with only minor cosmetic variations such as paint or parts layout. The objective is a simple 2-element achromat with a 400 mm focal length. The OTA is about 15.5 inches long, with a maximum width of about 4 inches at the dewcap end. The dewcap alone extends about 3.25 inches in front of the objective, providing reasonably good dew protection. The scope weighs in at a modest 4.7 lbs with the mounting rings and finder installed, but for best stability, some sort of tripod should be used. The overall finish is gloss black, except for the rack-and-pinion focuser, which is a crinkle cast finish. The focuser is smooth, with about 2.5 inches of travel (but no draw tube), and has a set screw for locking the

focuser position. The back end of the focuser has a built-in threaded "T" adapter, allowing the T-ring from a camera to go directly on the back of the telescope, transforming it into a 400mm telephoto lens. The tube assembly had two nice quick-opening mounting rings which were bolted onto a photo-tripod adapter for tripod mounting. The front ring also has a threaded camera mount for piggy-back photography.

The unit I purchased came with a 45 degree Amici prism diagonal, providing upright and correct left-to-to right orientation for terrestrial viewing. It also had an additional "extender" T-adapter which also allowed straight-through eyepiece viewing when a diagonal is not in place. A 6x30 Celestron finder and easily-removable bracket were provided, and were of reasonably good quality. Two eyepieces were also provided: 20mm and 10mm Plossls, which both had slightly loose upper barrel assemblies. However, both eyepieces were fairly good performers, with the 20mm providing a 2.6 degree field at 20x.

For terrestrial and some quick astronomical viewing, I purchased a small "table-top" tripod for about \$20, which has altitude and azimuth slow motions. The slightly unbalanced weight of the scope when tilted upward at angles beyond 45 degrees was too much for the little tripod's altitude locking screw to hold well, sometimes making the scope abruptly pivot straight up. It was necessary to counterweight the lower front end of the scope to keep this from happening. However, my regular camera tripod had no trouble holding the scope at any angle.

PERFORMANCE


Overall, I was quite pleased with the 80mm Wide Field Spotting Scope. It isn't an APO or even an ED, but it does give good basic low to moderate power performance in a fairly small package and at a *very* reasonable price. My first test of it came on the picnic table next to our cabin at Merritt Resort, where I watched skiers and boaters out on the lake. I tried my 30mm Ultrascopic eyepiece in it, and like the 20mm, it showed little or no color fringing ("secondary color"). The scope gave me a nice wide field with sharp contrasting images and little in the way of scattered light in the field. At 40x, I did begin to note slight bluish or violet secondary color, on bright objects or edges, but it wasn't very objectionable. I noted a couple with their dog walking on the distant beach of the "Powder Horn" section of Merritt Reservoir over 1 mile from my cabin, so I put in my Televue 2.5x Powermate and my 6.4mm Meade SuperPlossl (156x), to get a close up. At that power, I could now see a weak violet haze-like fringing of secondary color in the view, but this was pushing the telescope past the powers it was designed to use. This level of secondary color is typical of most short

focal length 2-element achromats, so it wasn't exactly unexpected. Still, I had no trouble seeing all the fine details at that range, including counting the number of holes in the metal detector the man was holding! Images were sharp across the field, but looking at distant telephone wires showed slight pin-cushion distortion at the edges, which is common with many eyepieces when used at short f/ratios.

When night fell, I put the scope to some real deep-sky use under the pristine skies of the Nebraska Star Party (unaided-eye mag. 7.6). With the 30mm eyepiece, I got about a 3.7 degree true field on the sky, which was marvelous for scanning the brilliant Milky Way so commonly seen at the Nebraska Star Party. M24 nearly spanned the field and glittered with stars and dark nebulosity, while M6 and M7 were nicely resolved. I did note that the 45 degree prism did impart a weak diffraction spike through bright stars, so those of you who do a lot of deep-sky work might want to get a regular star diagonal. I put in my Lumicon UHC filter and was dazzled by M8 and M20, both well contained in the same field of view. In fact, M8 looked as large as it was shown on some long exposure photographs. Much of the Milky Way's dark nebulae came out strikingly well in the scope. Moving northward, I managed to get both sides of the Veil Nebula in the 3.7 degrees of field using the UHC filter on the little 80mm Wide Field scope. The North America Nebula showed its full form nicely in the scope, with the Pelican showing up faintly next door. I even got hints of the nebulosity around Gamma Cygni. At slightly higher power (63x, no filter), I had little trouble seeing the "Apple Core" form of M27, and the tiny smoke ring of M57. The Coathanger also was nicely contained at the 13.3x field of the 30mm Ultrascope. Bright stars did show hints of color fringing, but it was generally fairly slight. Alberio showed its usual nice color contrast, and Mizar was easily resolved with Alcor in attendance. I even kicked the power up and detected the duplicity of the "double-double" Epsilon Lyrae. The wide field also allowed me a great view of the Perseus OB Association, as well as the Hyades later on that night. M31 was very nicely shown in the scope, with the dim diffuse arms showing as they curved around the ends of the galaxy. The Pleiades were simply wonderful in the 80mm, with pinpoint star images set in a black field. The acid test came when Jupiter and Saturn finally got high enough for a good look. Seeing wasn't terribly good, but Saturn did show the rings at 156x, as well as its moon Titan. Jupiter was a more stringent test, and unfortunately, at 156x, it was surrounded by a faint bluish-purple glow, although I could still see the main equatorial belts with ease. A few days later, I tried the scope on the fat crescent moon, and it gave fairly sharp images up to 156x, although again, the amount of secondary color was quite noticeable much beyond 40x. Clearly, the 80mm Wide Field scope is not one for detailed planetary viewing, although it will work at least to some degree on them.

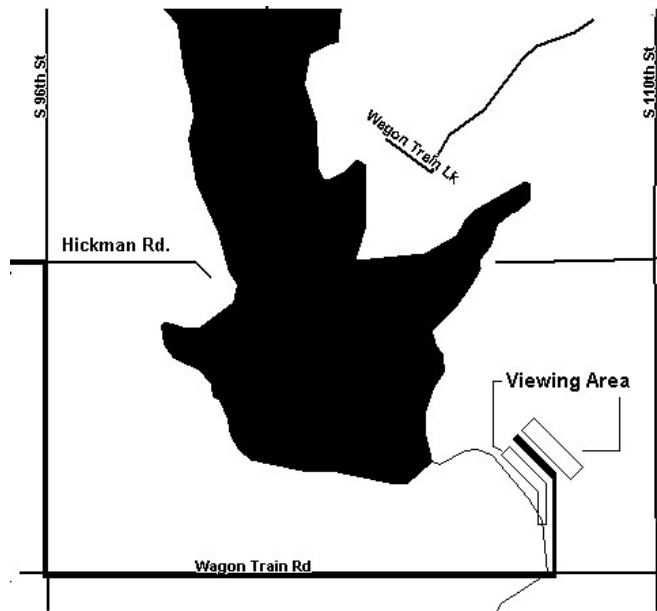
In summary, the Celestron 80mm Wide Field Spotting Scope is a pretty versatile and cost-effective instrument for those who want a fast way to satisfy their need to get out and observe on a moment's notice.

THE PRAIRIE ASTRONOMY CLUB CALENDAR
For September 2000

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

**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.



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First Class Mail

Next PAC Meeting
August 29, 2000
7:30 PM
Hyde Observatory