

THE PRAIRIE ASTRONOMER

The Official Newsletter Of The Prairie Astronomy Club, Inc.

August 2006

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 Hyde Observatory www.hydeobservatory.info
 NEB-STAR www.neb-star.org

Club Events

Club Star Party

Friday, August 25, 2006

PAC Club Meeting

Tuesday, August 29, 2006 7:30pm
Hyde Observatory

Mahoney Star Party

Friday, September 15, 2006
Mahoney State Park

Club Star Party

Friday, September 22, 2006

PAC Club Meeting

Tuesday, September 26, 2006 7:30pm
Hyde Observatory

Program

“Astronomy Down Under” – Jack Dunn

PAC-LIST: You may subscribe to the PAC listserv by sending an e-mail message to: imailsrv@prairieastronomyclub.org. In the body of the message, write “Subscribe PAC-List your-email-address@your-domain.com”

For example:
Subscribe pac-list_stargazer@myISP.com

To post messages to the list, send to the address pac-list@prairieastronomyclub.org

Mahoney Star Party

September 15.

PAC/OAS Banquet

Sunday October 15, 2006
at the Strategic Air and Space Museum

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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 \$30/yr, Family \$35/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: **Mark Dahmke, PO Box 80266, Lincoln, NE 68501 or mdahmke@4w.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

President Ron Veys called the meeting to order. There were 4 visitors. Ron discussed current and upcoming club events:

- The UNL Student Observatory will be open August 4.
- The next Mahoney Star Party will be August 18. Telescopes are set up near the golf driving range at Mahoney State Park. The last MSP of the year is scheduled for September 15.
- The next club star party will be held Friday, August 25 at the farm.
- The next club meeting will be Tuesday, August 29.
- The PAC/OAS Annual Banquet is scheduled for October 15 at the SAC Museum. We are looking for a banquet chairman to help coordinate banquet preparations. If you are interested please contact a club officer.

Treasurer's report: Lee Thomas reported that the club accounts are in good order and we have sufficient operating funds.

Hyde Observatory is open Saturdays from sundown to 11:00 pm (summer hours). If you'd like to help at Hyde, contact volunteer coordinator Dave Churilla.

The PAC Board met recently and decided to form a nominating committee for club officer positions. The nominating committee will talk to club members who would be interested in serving on the PAC Board in the upcoming year, and prepare a list of nominees for each position. Other members are also free to submit nominations. Nominations are taken at the September and October meetings. The election is held at the October meeting after the close of nominations. Contact Ron Veys if you are interested in serving on the nominating committee.

The bulk of our membership renewals come due in the next few months. Accordingly, the PAC Board has decided to offer a 10% discount to members who renew before their membership renewal date. The incentive program will begin on September 1. Details will appear in the next newsletter. The Board also plans to create a CD containing astronomy programs and related files to use as a renewal incentive.

Ron reviewed upcoming observing highlights for the month of August.

The meeting was adjourned to the program. David Pares presented "Portable Astronomical Equipment for the Classroom Environment".

Submitted by,
Bob Leavitt

Club Telescopes – Checkout Policy

To check out one of the club telescopes, contact Mark Dahmke (475-3150) or mdahmke@4w.com. If you keep a scope for more than a week, please check in with Mark once a week, to verify the location of the telescope and how long you plan to use it. The checkout time limit will be two weeks, but can be extended if no one else has requested use of a club scope.

Hyde Observatory Volunteer Schedule

Date	Team Leader	Operators		Supervisor	Events
9/2/2006	Steve Lloyd	Jim Kvasnicka	Josh Machacek		
9/9/2006	Dave Churilla	Joey Churilla	Bob Kavcinsky		
9/16/2006	Jeff King	Mitch Paine	Josh Machacek	Steve Lloyd	
9/23/2006	Bill Wells	Bob Leavitt	David Brokofsky	Dan Delzell	
9/30/2006	Dave Churilla	Joey Churilla	Dan Delzell		
October					
10/7/2006	Dave Hamilton	Mitch Paine	Bob Kacvinsky		
Summer Hours: April through September (Sundown to 11:00 PM)					
Winter Hours: October through March (7:00 PM to 10:00 PM)					

Early Renewal Discount

The bulk of our membership renewals come due in the next few months. Accordingly, the PAC Board has decided to offer a 10% discount to members who renew before their membership renewal date. The incentive program will begin on September 1. When the newsletter announcements are emailed, if you are within 60 days of your renewal date, you'll get a reminder as part of the announcement message. For members who receive only the printed copy, your renewal date is printed next to your address. You'll also receive a printed renewal notice about 30 days prior to your renewal date. In order to receive the discount, either hand-deliver your check to the club treasurer (Lee Thomas) or make sure it is postmarked before your renewal date. If you have any questions, please contact our club secretary, Bob Leavitt. The Board also plans to create a CD containing astronomy programs and related files to use as a renewal incentive.

Nominating Committee

The PAC Board met recently and decided to form a nominating committee for club officer positions. The nominating committee will talk to club members who would be interested in serving on the PAC Board in the upcoming year, and prepare a list of nominees for each position. Other members are also free to submit nominations. Nominations are taken at the September and October meetings. The election is held at the October meeting after the close of nominations. Contact Ron Veys if you are interested in serving on the nominating committee.

Viewing Down Under – Rick Johnson

My 6" f/4, freed from the Paramount ME made the trip to Australia and New Zealand with me as carry on baggage. I had to argue with New Zealand Air that it wasn't a terrorist weapon. They felt the collimation screws could be used as a weapon so I removed them and put them in my pocket which satisfied them. That I could have reinstalled them in seconds seems to have been lost to their logic system. Once in the plane the crew had no problem with it and I did reinstall the screws with their blessing. It was not a problem after that.

First stop was central Australia which hadn't seen rain in winter (no 100 degree temps there!) for three years. That ended upon my arrival of course. It was cloudy all 4 days I was there. I did glimpse Alpha Centauri (Beta too) as well as the Southern Cross through a sucker hole. Scorpio was directly overhead in another short lived hole. By the time I got the scope out, all holes had closed of course and a drizzle started in. They were giddy with the rain, I had a problem sharing their glee however.

Next stop was the rain forest where it rains all winter. So I had made no arrangements for a car to drive to a dark location. One of the 4 nights there it was clear and I was in the center of Cairns, a very large city with lots of light pollution on the northwest coast. I did use binoculars (10x50) to find a few major objects like the Eta Carina nebula, Omega Centauri, Jewel Box, etc. All were easy to find. I expected to be somewhat disoriented under unfamiliar and sometimes upside down skies. Turned out to be no problem at all finding objects, even with the

mag three skies I had to deal with. Farther north than central Australia, Vega and Deneb were well above the northern horizon making for a very odd looking (and placed) "winter triangle." Since it is winter there I suppose the name changes as well. Vega was due north, making for a bright "north star". High in the southwest sky was a group of stars that looked exactly like Corvus. This was the only time I was confused -- it was Corvus. Upside down and high in the sky at a time it has set here, it really confused me to no end. I had to hunt down M104 to prove to myself I wasn't dreaming. It was just visible in the binoculars. There were several objects I wanted to photograph with the 14" in Corvus but it was too low even in early June from here. Down there it is well up in the sky even at 11 at night. Skies were too bright to see any hint of the Milky Way so seeing the Coal Sack was out of the question, even binoculars failed to pick up a hint of it.

That was my only clear night of 8 in Australia. The six inch scope was looking like a nasty inconvenience carrying it around everywhere, explaining to security what it was etc. Next stop was New Zealand and Rotorua (its Yellowstone geyser/mud pot equivalent). At security in Brisbane the scope came up on the X ray machine. The technician wanted me to explain what he was seeing but wouldn't let me touch it or take it out to show him so I got to see the screen you normally can't see. The scope appeared like a perfect artist's drawing of a reflector. I'd love to have a copy as it was more detailed than any drawing in a book. It even showed the mirrors as reflective objects (shiny with reflections visible in them, the one in the primary was distorted just as it would be in real life!! You could see the threads on those terrorist screws, the collimation springs and the slots in the head of the screws as well as the rough surface of the inner side of the fiberglass tube. Each type of substance showed in a different color so the brass thread insert for the diagonal shaft showed yellow compared to a dark brown for the aluminum spider and black shaft of the threaded rod of the diagonal. My camera was also in the X ray machine so I couldn't get a picture of the screen. Doubt he'd have let me but I must say I was impressed at the accuracy of the computer reconstruction. No I don't know if it used "T rays" besides X rays. Once I explained it they did a complete exam and handed it to me for repacking in the carrier Holly made for it. None of the carrier showed on the computer screen. It was made of various manmade fibers with no hard parts, metal or nonmetal but did have two nylon ropes perfect for strangling pilots yet those weren't a problem. Apparently, if they don't show on the X ray screen they don't exist. The second night in Rotorua was clear and we had a car. Winter in this area is usually cloudy so we got lucky. Driving (very carefully since they drive on the left) we were told to drive to the top of a 200 meter "mountain". Actually a lava dome pushed up by ancient volcanic activity. It overlooks the city of 70,000 so I wasn't very optimistic. Turned out to be a great site. Looking south (away from Rotorua) skies were mag 6.5 with the city less than 2 km distant and 200 meters down. Electricity is scarce there (they are limited to hydroelectric and thermal power with hardly anything else allowed and both are used to their current (no pun intended) capacity) they don't waste light sending it skyward! Looking over the city I still had mag 5.5 to 6 skies. Far better than you'd see here! I dug out the 6" and star charts. Soon we had company -- likely teens looking for a "parking" spot. One look at me and they went back down the mountain real quick. I had that terrorist scope in my hands and they knew it I suppose.

My first look at the the Eta Carina complex blew me away. In the 6" it was far larger and more interesting than the Orion Nebula. It has many large parts. The main nebula (containing Eta) was the brightest and is divided into very unequal parts by a dark lane. Beside it separated by a wider dark lane is another nebula complex of equal size but fainter. Surrounding these are disconnected wisps of other nebulosity. I imagine a long exposure would show them as connected but I didn't see it in the scope. Since it is in the heart of the Milky Way the entire field is covered with stars, many quite bright. M8 is very unimpressive after seeing this nebula. I never saw the nebula tight around Eta that is so famous in the Hubble shot. It is too small and so overshadowed by Eta at 25x that I couldn't see it at all but the area is one not to miss if you ever get a chance to go down there. It made hauling the 6" well worth it after all. Nearby is a huge star cluster of hundreds of bright stars, NGC 3532. While the main stars of M45 are brighter imagine say M35 several times larger with all its stars mag 8 or brighter then add in a zillion stars fainter than 8th magnitude and you are about there. I'd not seen it mentioned but it is spectacular. We have nothing to compare. Photos I've seen just don't compare to seeing it first hand.

On the other hand I was very unimpressed with the Jewel Box. A small tight cluster much like a very tiny M45 though some bright stars were blue and some red. It wasn't at all impressive in the 6" at 25x but next stop was a place with a 14" f/8 for my use all night and maybe it would look better there. Another disappointment was the coal sack. It is a bit darker than the hole in our northern Milky Way just north of Cygnus but not by much. I can

say I've seen it but I'm not astounded by it. The 6" showed plenty of stars throughout as did binoculars. Somehow I'd expected it to be much "inkier". The 6" showed many small clusters and nebula along the Milky Way between Eta Carina and the Southern Cross (Holly calls it a kite or maybe a diamond but no way it is a cross to her.) much like you see in our Milky Way. Unfortunately, we had to catch a 6:30 flight (be at the airport at 5:30) yet that night so I didn't get anywhere near enough time to look. We had that slow, careful, drive on the left back to the hotel to negotiate then the much longer drive to the airport still in the dark. By morning it was cloudy. I'd hoped to see the Magellanic clouds that morning but again the weather nailed me.

Next stop was Dargaville, or more correctly, Baylys Beach. Now why would I go to the beach in winter when the temp runs about 10 degrees (C)? Because there I had access to that 14" scope I mentioned in a domed observatory. It was a rental house with a 14" reflector, 8" LX90 and several small scopes as well as a pair of 80x11 binoculars and a Williams 4" APO with 90mm Coronado solar filter on it. Hotels were running well over \$100 a night, here we got 4 nights for the cost of one with the scope. Unfortunately, 3 of the 4 nights were cloudy. But there was the one clear night. As I was traveling to rain forests and other sites by day I never had a chance to try the Coronado out to see how it compared to my Daystar. I'd hoped to the one day we got back before sunset but it was cloudy (rare in winter there but I'd obviously greatly angered the cloud gods by bringing that terrorist weapon with me.)

First, moving around a 14" f/7 or (f/8 I still don't know which) on a huge fork mount is a back breaking experience. I could have set up the LX90 but I wanted aperture. First up was Omega Centauri. I'd seen it in a 12.5" from southern Arizona. It was far better high overhead in the 14" however. It is rather evenly bright with little concentration to the center. In the 12.5" I felt I was seeing right through it with dark spaces between the stars even at the core. Same with the view from New Zealand. Even more-so as high in the sky the stars were much tighter giving even more space between them. They were brighter, a lot brighter. Tighter stars are brighter than fuzzy ones, the height in the sky reduces extinction and the added aperture all joined to make it one grand, never to be forgotten sight. It's good from just above the Mexican border but its really spectacular from 35 degrees south! The stars are evenly bright, very different from northern globulars. I've seen speculation it is really a galactic core of a spherical galaxy the Milky Way ate millions of years ago. The view I got certainly would give that appearance. It looks much like many resolved small spherical galaxies I've seen in pictures. Eta Carina didn't show the gain that Omega did. It was better but I preferred the wide angle view of the 6". Also, even at 300x I didn't really see the nebula tight against Eta. NGC 3532 was spectacular however as you saw far more of the faint stars. No way to tell where the cluster left off and Milky Way stars began. Though on one side (north I think) there were far more of them leading me to believe the nebula continues but is not ionized in that direction or else there is another dark dust cloud in the same light of sight. South the Milky Way seemed to form into wide rivers of faint (<14th magnitude) stars. Oh yes, skies here that night were not great, Mag 5.75 I estimate. Mostly due to having to climb a ladder and expose my eyes to window lights around the area. Baylys Beach has only a handful of houses so sky light isn't a problem, dark adaptation was. A cassegrain in the dome would have helped a lot as then I'd not have had bright windows in my field of vision at the eyepiece. But the scope was donated so you can't beat the price!

I scanned many nebula and star clusters in the area. Seemed no matter where you pointed the scope between Eta Carina and Crux there was a lot to see. Nothing spectacular, just not the "same old stuff" we see up here. The same only different would cover it.

Next I had to see if the Jewel Box was an improvement in the 14". Nope. Brighter and the stars farther apart but no new stars to mention and the colors weren't any better at 70x than at 25x with over 5 times the light. Sorry but I just don't see the hoopla over it. It's a good cluster and one I'd put on the Hyde list if it were possible but it begin to live up to my expectations.

I looked at many other things that night including Centarus A but again it did what it did from near the Mexican border, was larger in the 6" f/4 at 25x than at 75x in the 14". Down at the border that night we looked at it in the 6", my 10" and a 12.5". The power went up as did light gathering power but the galaxy stayed the same apparent size in all three. If we'd have seen the same extent in the larger scope it would have grown in apparent size, it didn't. Same with the 14" from Baylys Beach. I don't get it, I just report it. I'd have viewed longer but the dome has a blind spot to the south as it rotates only about 345 degrees due to the rotation mechanism being incapable of

continuous rotation. At 10 that hit directly in the Milky Way taking away my prime viewing area. I did swing over to Corvus and look at a few things there and up to M104 in Virgo to see if they were better high in their sky, they were the same so didn't bother looking at old favorites from here. Ditto M8, M17 etc. I did want to try for the "Bug Nebula in southern Scorpio but it was behind a tree and would rotate with time in such a way it wouldn't come out so had to scratch it. An hour earlier and it would have been well placed. Too bad I didn't know about the tree earlier.

So I went to bed, setting the alarm for 4 a.m. for the Magellanic clouds. The small one and 47 Tucana would be directly south (the blind spot is west of south) and the large one low to the east. Unfortunately they get only two foggy days a year on average. By 4 a.m. that was one of them. The cloud gods struck yet again. I could see the clouds through the fog. In binoculars I could see 47 Tucana. It appeared much more condensed than Omega C. did. As it is a lot of work to open the dome and the fog was increasing rapidly I didn't try the 14". I'd have lost the race as it was fogged in 15 minutes later and it didn't burn off until well after sun-up. I should have set the alarm for 3 it appears. In binoculars the small cloud seemed to have a strong bar structure from the lower right up upper left (southwest to northeast). I could just make out the large cloud through the fog. In binoculars I could see the Tarantula Nebula was there but no detail. Within a minute even that was lost to the fog. Next, and last night saw the clouds return so that was my last view from down under.

We left winter to return to Fargo where it was 100+ at 9:30. Our luggage (not the 6" as I was still carrying my terrorist weapon) took a side trip to who knows where, showing up a day later with tags saying it came in on Southwest Airlines. That doesn't fly to Fargo and we were never on it. So I hope they enjoyed the bonus trip, maybe it was sunny where they were. Trivia: QANTAS stands for Queensland And Northern Territories Air Service. So I did learn something on the trip.

Oh yes, I also learned how to make a geyser erupt precisely at 9:15 a.m. every morning. Yes, they have a geyser near Rotorua that erupts daily at precisely 9:15 a.m. give or take a minute or two. But it isn't nature that triggers it, they pour 350 grams of powdered soap into the geyser. That reduces the surface tension and it blows a couple minutes later. Miners washing their clothes in the constant runoff from the geyser discovered that when their clothes suddenly were washed away with an eruption triggered by the soapy water they were washing their clothes in -- or so the story goes. You can believe it or not as they say.



This is the house we rented for 4 nights in Baylys Beach North Island of New Zealand. You don't have a beach in view (you sure can hear the waves crashing however) but you do have an observatory with a 14" Newtonian and 8" LX90 in the front yard. She uses it for star shows early in the evening but you have it the rest of the night. 4 nights in the house with scopes cost less than one night in any hotel you'd stay in elsewhere on the island. There are no hotels in Baylys beach, just lot of bed and breakfast homes and this bed and observatory. The photo was supplied by Deborah and was taken before she built the observatory. It is in the green spot right of the drive. She has two other rental houses but this is the only one with scope. By day she's a math teacher (not science).



This shot is taken right at the front door before you climb the steps up to the observing level (a door lowers to cover the steps so you don't test out Newton's discovery of gravity in the dark.) The blue "sky" at the upper left is really a poster not sky. The ropes are used to open and close the dome slit. Once opened or closed they can be tied up out of the way but were left hanging in this shot. The upper half of the tube rotates so you can usually get the eyepiece to a good viewing angle. I say usually, as when you are pointed near the zenith none of her ladders are tall enough as yet. She has a good selection of 1.25" eyepieces but for low power in that scope you need 2" long focal length eyepieces she doesn't have as yet. I took along a good 70 degree 40mm eyepiece I use in my 14" and it gave excellent views in the scope. It gave me well over a 1 degree field while her 35mm 1.25" was limited to less than a degree. Neither the dome nor scope are computer controlled so you have to rotate the dome and scope separately. When working in an unfamiliar sky I found it took several tries to get the slit and scope looking in the same direction. The dome rotator switch was off to the side so just because you could see the area you wanted to look didn't mean the scope could. It will track for about a half hour before you need to rotate the dome. While you can do planetary photography, deep sky work is not possible, at least not yet.



It houses the 14" reflector (about f/7 but I didn't measure it and she doesn't know -- it was donated by a telescope builder). She also has a portable 8" LX90 she uses in front of the observatory most evenings that are clear running sky shows for tourists. By day there's a 60mm Coronado H-alpha filter on a Williams refractor that's mounted on the 14" for solar work.

If anyone is interested in viewing from down under, here email address is: astronomy@igrin.co.nz

Events Calendar

September 2006						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1  Sun: 18:53 - 07:59	2  Sun: 18:54 - 07:58 Hyde Observatory Open to the Public
3  Sun: 18:55 - 07:56	4  Sun: 18:56 - 07:54	5  Sun: 18:57 - 07:53 Venus close to Regulus	6  Sun: 18:58 - 07:51 Moon close to SAO164560	7  Sun: 18:59 - 07:49	8  Sun: 18:59 - 07:48	9  Sun: 19:00 - 07:46 Hyde Observatory Open to the Public
10  Sun: 19:01 - 07:44	11  Sun: 19:02 - 07:43	12  Sun: 19:03 - 07:41	13  Sun: 19:04 - 07:39	14  Sun: 19:05 - 07:38	15  Sun: 19:06 - 07:36 Mahoney Star Party; Mercury close to Mars	16  Sun: 19:07 - 07:34 Hyde Observatory Open to the Public
17  Sun: 19:08 - 07:33	18  Sun: 19:09 - 07:31	19  Sun: 19:10 - 07:29 Moon close to Saturn	20  Sun: 19:11 - 07:27	21  Sun: 19:12 - 07:26 Moon close to Venus	22  Sun: 19:13 - 07:24 Club Star Party	23  Sun: 19:14 - 07:22 Hyde Observatory Open to the Public
24  Sun: 19:15 - 07:21 Moon close to Spica	25  Sun: 19:16 - 07:19	26  Sun: 19:17 - 07:18 PAC Club Meeting	27  Sun: 07:18 - 19:18 Mercury close to Spica	28  Sun: 07:20 - 19:15	29  Sun: 07:21 - 19:13	30  Sun: 07:22 - 19:11 Hyde Observatory Open to the Public

Moon phase images by: António Cidadão

**Directions to Olive Creek
Observing Site**

Shorter:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to SW 72 St. Turn Left (South) on SW 72 St. and go about 5 miles until you get to SW Panama Rd. Turn right (West) until you get to SW 100 St. (SW 100 St does NOT go through to Hwy 33). Turn Left (South) on SW 100 St and go about 1 to 1 1/2 miles until you see the sign and entrance to Olive Creek (this is the West side of the Park). It's on your left (East) side of the road.

More Black Top:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to about SW 114 St. - the first intersection after SW 100 St. (forgot to look at this street sign, sorry - you'll see a sign for Olive Creek though at this road- but don't count on anymore signs after that, I didn't see any). Turn Left (South) on SW 114 St and go about 5 miles or so until you get to SW Panama Rd (you'll see a church and small school on your right). Turn Left (East) and go about a mile to SW 100 St, then turn Right (South) and go 1 to 1 1/2 miles until you see the Olive Creek entrance and sign (on your left hand side of the road).

**OFFICERS
OF THE PRAIRIE ASTRONOMY CLUB**

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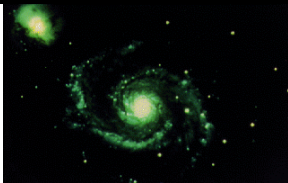
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**The Prairie Astronomer
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First Class Mail

**Next PAC Meeting
August 29, 2006
7:30 PM
Hyde Observatory**

«TITLE» «FIRSTNAME» «MIDDLENAME» «LASTNAME» «RENEWALDATE»
«CAREOF»
«ADDRESS1»
«ADDRESS2»
«CITY», «STATE» «ZIP»