



# The Prairie Astronomer

April, 2013

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The Official Newsletter of the Prairie Astronomy Club

## April Program

Alexandra Toftul and Matt Heflin with the UNL chapter of American Institute of Aeronautics and Astronautics. Alexandra spent last summer at NASA Marshall Spaceflight Center working on a new electric propulsion system. She will talk about her experiences and the propulsion system.

## In This Issue:

- Upcoming Club Events
- Internet Links of Interest
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Palomar 8 is a dim globular in Sagittarius almost 42,000 light years distant and 18,000 light-years from the center of the galaxy. That means we have to look clear across the disk of our galaxy to see it through all the dust that blocks our view. Fortunately, in this particular direction the dust isn't too thick and we can see it in ordinary light though greatly dimmed. It's diameter is stated to be about 13.5 minutes of arc across but I can see only the center 5 minutes of that in my image. Beyond that the stars are lost in the dense star field of the Milky Way. The cluster was discovered in 1952 by George Abell.

*Image Credit: PAC Member Rick Johnson*

## Featured Photo



## Club Events

## ON THE NET

Newsletter submission deadline May 15, 2013

PAC Meeting

Tuesday April 30th, 2013 @Hyde Observatory

UNL chapter of American Institute of Aeronautics and Astronautics

PAC Meeting

Tuesday May 28th, 2013 @Hyde Observatory

TBA

**PAC:**

[www.prairieastronomyclub.org](http://www.prairieastronomyclub.org)

**PAC E-Mail:**

[info@prairieastronomyclub.org](mailto:info@prairieastronomyclub.org)

**NSP:**

[www.nebraskastarparty.org](http://www.nebraskastarparty.org)

**NSP E-Mail:**

[info@nebraskastarparty.org](mailto:info@nebraskastarparty.org)

**OAS**

[www.OmahaAstro.com](http://www.OmahaAstro.com)

**Hyde Observatory**

[www.hydeobservatory.info](http://www.hydeobservatory.info)

**Panhandle Astronomy Club**

[Panhandleastronomyclub.com](http://Panhandleastronomyclub.com)

**PAC-LIST:** You may subscribe to the PAC listserv by sending an e-mail message to:

[mailsrv@prairieastronomyclub.org](mailto:mailsrv@prairieastronomyclub.org). In the body of the message, write "Subscribe PAC-List your-email-address@your-domain.com"

For example:

Subscribe pac-list me@myISP.com

To post messages to the list, send to the address

[pac-list@prairieastronomyclub.org](mailto:pac-list@prairieastronomyclub.org)

PAC can also be found on Twitter and Facebook.

Buy club apparel through the club website. Shirts, hats, mugs, mouse pads and more.



**2013 PAC Star Party Dates - Dates in bold are closest to the new moon**

|            |                |                       |
|------------|----------------|-----------------------|
| January    | Jan 4th        | <b>Jan 11th</b>       |
| February   | Feb 1st        | <b>Feb 8th</b>        |
| March      | Mar 1st        | <b>Mar 8th</b>        |
| April      | Apr 5th        | <b>Apr 12th</b>       |
| May        | May 3rd        | <b>May 10th</b>       |
| June       | May 31st       | <b>Jun 7th</b>        |
| July       | Jun 28th       | <b>Jul 5th</b>        |
| <b>NSP</b> | <b>Aug 4-9</b> |                       |
| August     | Aug 2nd        | <b>Aug 9th</b>        |
| September  | Aug 30th       | <b>Sep 6th</b>        |
| October    | Sep 27th       | <b>Oct 4th</b>        |
| November   | Oct 25th       | <b>Nov 1st</b>        |
| December   | Nov 29th       | <b>Dec 6 and 27th</b> |

**Lunar Party Dates:**

Apr 19th  
May 17th

Aug 16th  
Sep 13th  
Oct 11th

### **Internet Links of Interest**

<http://www.universetoday.com/>

<http://www.thespacereview.com>

<http://www.thespacereview.com/article/1945/1>

<http://space.flatoday.net/>

<http://www.spaceportamerica.com/>

<http://www.planetary.org/home/>

<http://www.nasaspaceflight.com/>

<http://www.spacex.com>

## April Observing: What to View--Jim Kvasnicka

### Planets

**Jupiter/Venus:** The month begins with Jupiter high and Venus low in the west. Venus inches higher as the two head towards conjunction on May 28<sup>th</sup>.

**Mercury:** Not visible the first half of May. Later in the month Mercury joins Jupiter and Venus in the west. From May 24-29 the three planets fit in a 5° circle.

**Saturn:** Remains bright and big in a telescope all month.

**Uranus/Neptune:** In Pisces and Aquarius at dawn.

**Mars:** Not visible.

### Messier List

**M49/M61:** Galaxies in Virgo.

**M51:** The Whirlpool Galaxy in Canes Venatici.

**M63:** The Sunflower Galaxy in Canes Venatici.

**M64:** The Black Eye Galaxy in Coma Berenices.

**M85:** An oval galaxy in Coma Berenices.

**M94:** Galaxy in Canes Venatici.

**M101:** The Pinwheel Galaxy in Ursa Major.

**M102:** Galaxy in Draco, look for NGC 5866.

**M104:** The Sombrero Galaxy in Virgo.

**Last Month:** M40, M65, M66, M95, M96, M105, M106, M108, M109

**Next Month:** M58, M59, M60, M84, M86, M87, M88, M89, M90, M91, M98,

M99, M100

### NGC and Other Deep Sky Objects

**Mel 111:** Coma Cluster, use binoculars.

**NGC 4244:** The Sliver Needle Galaxy in Canes Venatici.

**NGC 4490/4485:** The Cocoon Galaxy, interacting pair in Canes Venatici.

**NGC 4631:** The Whale Galaxy in Canes Venatici.

### Double Star Program List

**Kappa Bootis:** Yellow and blue pair.

**Iota Bootis:** Yellow primary with a dim blue secondary.

**Pi Bootes:** Pair of white stars.

**Epsilon Bootis:** Yellow and greenish yellow stars.

**Xi Bootis:** Pair of yellow stars.

**Delta Bootis:** Yellow and blue-white stars.

**Mu Bootis:** Yellow pair.

**Zeta Corona Borealis:** Light blue primary with a greenish yellow secondary.

### Challenge Object

**Markarian's Chain:** Begins with M84 and M86 in Virgo. How many galaxies in the chain can you fit in your FOV?

## Basic Astronomy

To the contrary, many of the stars we see at night are not single points of light, but instead are two or more stars. The numerous double and multiple stars in the sky are divided into two types.

**Optical** – Pairs or multiple stars that are the chance alignment of nearer and much more distant stars.

**Physical** – Pairs or multiple stars that are gravitationally bound in orbit around one another.

The best thing that double and multiple stars offer the observer is their aesthetic appeal. A close pair of bright stars makes a beautiful sight. Double and multiple stars also offer color and color contrast. Albireo in Cygnus is the most observed double star and is famous for its blue and orange pair. Gamma Leonis is made up of two bright orange stars. Delta Corvi contains a white and beautiful rose colored star. There are more color contrast double and multiple stars than I can possibly mention.

The brightest star in a double or multiple star is called the primary. The fainter companion is called the secondary star. The brightest star is also referred to as the “A” star with the secondary the “B” star. If there are more stars in the multiple star they are assigned letters in descending order of brightness such as “C” and “D”.

Double stars are objects that can be observed in moderate light pollution or when the Moon is up. This makes them popular objects for urban observers.

The separation of the stars is listed in arc seconds. The direction from the primary to the secondary is its position angle listed in degrees. North being 0°, east 90°, south 180°, and west 270°.

If you are interested in observing double and multiple star the Astronomical League offers two observing programs for double stars. There is the Double Star Program for telescopes and the Binocular Double Star Program.

If you are interested in either of the Double Star Programs you can find additional information on the Astronomical League website or you can ask me and I would be glad to help you get started.

Good luck in your double star observations.

## ANNUAL MEMBERSHIP

**REGULAR MEMBER - \$30.00 per year. Includes club newsletter, and 1 vote at club meetings, plus all other standard club privileges.**

**FAMILY MEMBER - \$35.00 per year. Same as regular member except gets 2 votes at club meetings.**

**If you renew your membership prior to your annual renewal date, you will receive a 10% discount.**

**Club members are also eligible for special subscription discounts on Sky & Telescope Magazine.**

## Club Telescopes

To check out one of the club telescope contact **Ben Rush**. If you keep a scope for more than a week, please check in with Ben 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.

100mm Orion refractor:  
**Available**

10 inch Meade Dobsonian:  
**Available**

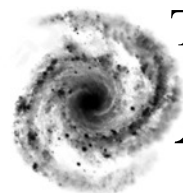
13 inch Truss Dobsonian:  
**Available**

## A look back at Astronomy Day

All photos courtesy of Mark Dahmke







# THE *Prairie* Astronomy Club

Amateur Astronomy --  
A Hobby as Big as the Universe

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 to the right. Newsletter comments and articles should be submitted to: **Jason Noelle at [jason.noelle@gmail.com](mailto:jason.noelle@gmail.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.

**PRESIDENT**      **Jason Noelle**  
402-730-8317  
[Jason.Noelle@gmail.com](mailto:Jason.Noelle@gmail.com)

**VICE  
PRESIDENT**      **Ben Rush**  
402-617-3905  
[Ben@Ben-Rush.net](mailto:Ben@Ben-Rush.net)

**2nd VP  
(Program Chair)**      **Jack Dunn**  
[Jdunn@spacelaser.com](mailto:Jdunn@spacelaser.com)

**SECRETARY**      **Dale Bazan**  
[dale.bazan@gmail.com](mailto:dale.bazan@gmail.com)

**TREASURER**      **Bob Kacvinsky**  
402-423-4967  
[bob.kacvinsky@syngenta.com](mailto:bob.kacvinsky@syngenta.com)

Club Observing Chair: **Jim Kvasnicka**  
[jim.kvasnicka@yahoo.com](mailto:jim.kvasnicka@yahoo.com)

Outreach Coordinator:

Website Editor:      **Ben Rush**

Publicity:      **Jack Dunn**  
[Jdunn@spacelaser.com](mailto:Jdunn@spacelaser.com)

FIRST CLASS MAIL

**Next PAC Meeting**  
**Tuesday**  
**May 28, 2012**  
**7:30 PM**  
**Hyde Observatory**