



## Cache Valley Clear Skies

The Journal of the Cache Valley Astronomical Society



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[www.cvas-utahskies.org](http://www.cvas-utahskies.org)

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### Meeting Announcement

Our meeting this month is on September 25. It will be held in the Bonneville Room of the Logan City Library at 7 PM. We will be having our annual elections and some presentations on backyard observatories. Come and join us!!

### Upcoming Star Parties and CVAS Events

Sept 6 – Star Party at Logan Family Place 8:30  
(1525 N 200 West in Logan)

Sept 25 – CVAS Meeting

Sept 26 – Star Party Preston Junior High 7:30

Sept 27 – River Heights Elem. Presentation  
(1:30 – 2:15 pm )

Sept 30 – Star Party River Heights Elem. 7:30

Oct 4 – Star Party Cache County Library  
(Providence, Location TBA)

Oct 7 – STEM Fair Mt. Side Elementary

Nov 4 – STEM Fair River Heights Elementary

Nov 11 – STEM Fair Summit Elementary

Nov 29 – STEM Fair White Pine Elementary

### The President's Corner By Dell Vance, CVAS President



August started out with 3 Star Parties the first 10 days. CVAS participated in the following Star Parties:

- August 2<sup>nd</sup> - Held at Beaver Mt. Parking lot. A family reunion joined us, and we had great skies to view that night. I took a

picture of the Milky Way as a nightscape picture. The skies are always incredible at this location.

- August 6<sup>th</sup> – Held at Braegger Park in Providence for the Cache County Library. We had 60 – 70 people there and good skies.
- August 9<sup>th</sup> – Held at the plaza for the Logan Library. It was also well attended. There was quite a bit of light, but we were still able to show the participants the planets, the moon, and some deep sky objects. The Library staff was very pleased with the event.



Overall it was a very productive start for the month.

We have some requests for Star Parties in September. The list is changing quite a bit as requests start coming in. We also have been invited by the County School District to attend some more STEM Fairs, like we did last spring. Be sure to check the information contained in the Newsletter and the website to get the information about these opportunities. We will also send out reminders as the events come up.

September is also the month for our CVAS elections. We are still looking for some nominees, particularly for the Vice President and the Treasurer positions. These are great opportunities to serve and help the club. We will also have presentations about some of the observatories our members have and hope to give the attendees some ideas they can use for future observatories. It should be an interesting discussion.

I will be stepping down from the President position this year, so this is my last “President’s Corner” article for the Newsletter. I still intend to remain very

active in the club and may occasionally write an article or two. I want to especially thank all of you for your great support and consideration for our efforts to strengthen the club. I am very happy that we have been able to increase our outreach efforts. We are getting recognition from the community, especially the schools, for our willingness to share our talents with others. I am very pleased with our efforts to get telescopes into all the Libraries in the Cache Valley. We have telescopes in 7 of the 10 libraries and hope to soon have another one in the library in Preston. That leaves two left to do. That is a very impressive accomplishment.

I am enjoying the clear skies we have this summer. I hope all of you are getting out to do some observing.

Thanks again for your great support.

Clear Skies

## CVAS Member Photos



Photos by Ross Trowbridge

# The Beauty of Planetary Nebula

By Blaine Dickey

We are fortunate to be able to see the amazing shapes and colors of Planetary Nebula made possible by my modern imaging cameras. This month I would like to share some of the brighter planetary nebulas that are visible at this time of the year that I have imaged using different cameras and equipment. The planetary nebulas are so named because they look like faint planets as seen through the telescope. They are actually gas that has been ejected from an old star that has shed its outer layers at the end of its life.

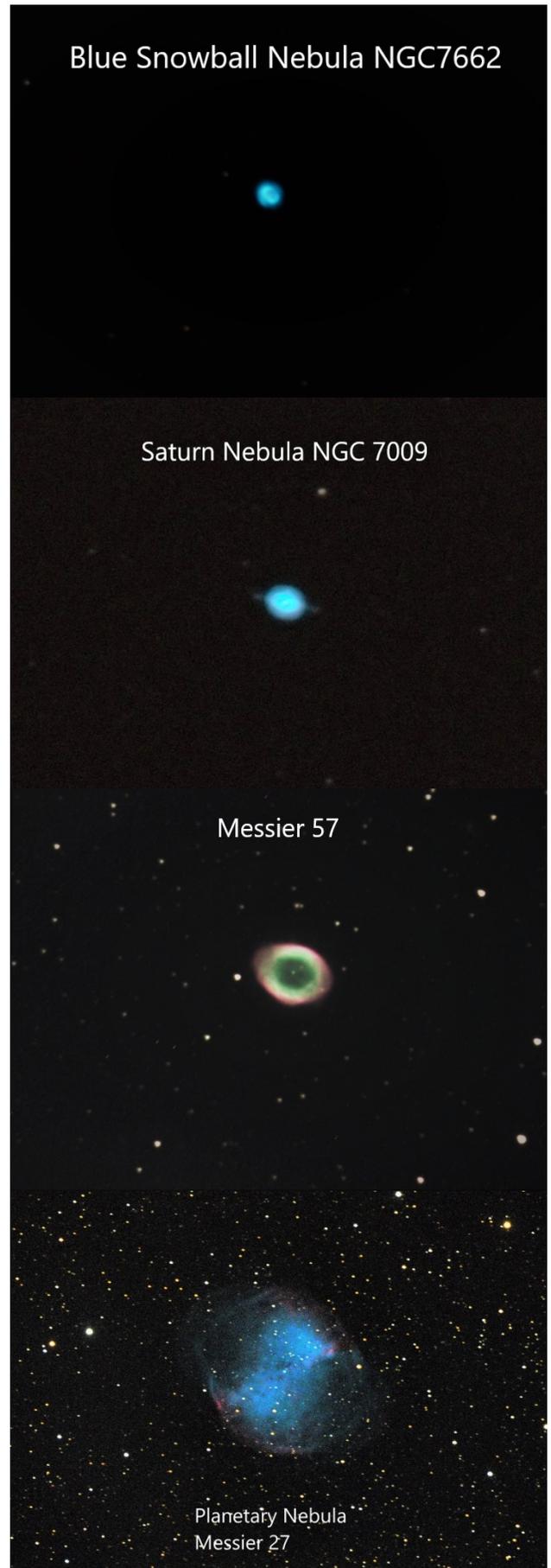
Some of the planetary nebulas look like the names they have been given. The first Nebula, NGC 7662, resembles its name which is "The Blue Snowball". The color is sublime and some details are visible in the disk.

The second, NGC 7009, is called the Saturn Nebula because of the obvious resemblance to the planet Saturn. This shape can be seen visually without a camera. This nebula resembles the planet Saturn when the rings are seen edge about every 15 years as it revolves around the sun.

The next object, Messier 57, is named the Ring Nebula for obvious reasons. It resembles a golden ring shape. A 15<sup>th</sup> magnitude star lies at the center of the nebula that is easy to see in a photo, but very difficult to see visually without a large telescope in a dark sky. The ring shape is easily seen visually.

Finally Messier 27, the Dumbbell Nebula, somewhat resembles a barbell. A star is also visible at the center of this exquisite nebula. Visually it looks like a soft whitish square shaped cloud with two lobes.

There are over a hundred planetary nebulas that could keep an observer or imager busy for a long time.



Photos by Blaine Dickey

## CVAS Images and Notes

By Tom Westre

One of the great astronomy magazines is *Sky and Telescope*. I have been reading that magazine since high school (that's a long time).

Back in the 1940's (before my time), Walter Scott Houston began writing a column for *Sky and Telescope* called "Deep Sky Wonders." He continued for years to write the column until he passed away. A few years later, in July 1999, Sue French picked up the column for *Sky and Telescope* and continues to write it today. Sue is an experienced observer. Her knowledge of the objects is extensive. Besides her column she has written an excellent book called Deep Sky Wonders, which I highly recommend.

While looking through past issues of *Sky and Telescope*, I found an interesting target in the November 2011 issue in Sue's column. In that column she focuses on six targets northeast of the Veil Nebula in Cygnus. On the night of August 23, I decided to try to image them in my Orion 115 mm Triplet APO refractor.

The object in her list that really interested me was Lassell 1, a double Triple star system. Double and multiple stars have always interested me. We usually focus on Albireo or the Double Double in Lyra. Lassell 1 seemed to stand out as a fascinating challenge to image.

This double triple was discovered in 1856 by British astronomer William Lassell. Lassell discovered Neptune's moon Triton, just 17 days after Neptune was discovered in October 1846 as well as Ariel and Umbiel the moons of Uranus in 1851 with his home built 24 inch telescope. The magnitudes of the Double Triple range from 10.6 to 13.5. Sue found them in her 130 mm (5.1 inch) scope. She recommends increasing the magnification to 164x. The component separations are 19", 22", and 12".

There is a 7<sup>th</sup> member (E) very close to Lassell 1's brightest component which is a challenge to spot. An 8 or 10 inch reflector will be needed.

Lassell 1 is located 4 degrees east of Zeta Cygni. To locate the double triple enter the following coordinates and slew to the target:

RA 21h 34.9m DEC +32 deg 05'

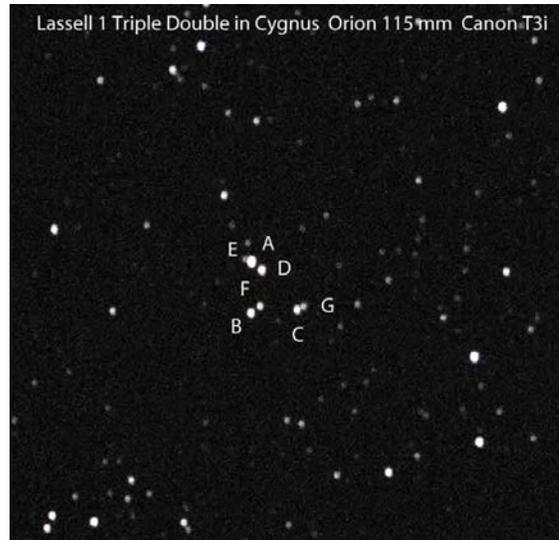


Photo by Tom Westre

Lassell 1 components showing their designations from Washington Double Star Catalog. Image by Tom Westre with Orion 115mm triplet refractor and Canon T3i.

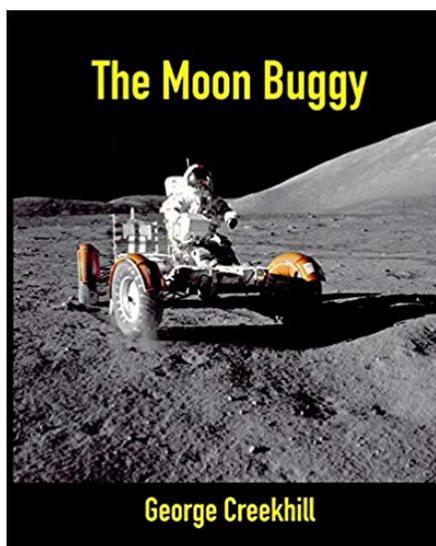
While you are in Cygnus looking at this Double Triple, check out two more famous doubles other than Albireo.

**16 Cygni.** Sissy Haas in her *Double Stars for Small Telescopes* considers this a showcase double. "A bright wide pair of whitish gold stars, exactly alike, in a wonderful starry field." 16 Cygni B has a planet discovered in 1996 which orbits its star in 800 days. The planet is 2.38 Jupiter masses. Their magnitudes are 6 and 6.2. The double separation is 39.1" at RA 19h 41.8m DEC + 50 deg 31"

**61 Cygni.** Haas says another "showcase pair and remarkable object. Its two bright stars are wide apart but show orbital motion (it is 11 light years away) both amber yellow." Orbital period 659 years with magnitudes of 5.3 and 6.1. Separated by 31.1" RA 21h 06.9m DEC +38 deg 45'.

## Kidstronomy Corner

By Bonnie Schenk-Darrington



Creechill, George. 2017. *The Moon Buggy*. No city: Self-published.

Ages 6 – 12 years (Grade levels 1 – 4)

37 pages

\$11.99 on [Amazon.com](https://www.amazon.com)



(4 out of 5 planets)

This month, I want to talk about one more book related to the moon landing. *The Moon Buggy* is a self-published offering by George Creechill, and a one-of-a-kind children's book. I was able to find many books on the moon buggy (or LRV—lunar roving vehicle) for adults, including actual NASA manuals on how to drive and build it. But this is the only children's book on the subject that I have been able to find, which is sort of weird, when you really think about it. As soon as I came across it on Amazon, I was interested. Because we drive cars here on earth, there is an immediate experiential factor that children may not feel for other space hardware, e.g., a lander or a rocket. And really, how cool would it be to drive a car on the *moon*? As a child, I would have been much more excited to drive a car on the moon than I would have been to, say, hit a golf ball on the moon.

So, this book nicely fills an important gap in the children's literature about the moon landings. As a bonus, the book is nice and large—about 8 x 10 inches—so you can get a good, detailed look at lots of amazing NASA photographs of scenes like the rocket that took the moon buggy up, scientists building the moon buggy, a schematic of all the moon buggy's parts,

the lunar landing module containing the moon buggy, astronauts driving the moon buggy on both the earth and the moon, and the moon buggy's ultra-lightweight mesh tires. The highly accessible text explains everything you could ever want to know about the moon buggy—how much it weighed, how far it drove on each mission, how astronauts repaired it in microgravity, how fast it could go, and its various purposes in the Apollo missions. If you have had the good fortune to see a moon rock, there's a chance it was collected by an astronaut driving a moon buggy!

One thing the book doesn't make clear is how many moon buggies there really were. For most of the book, the author speaks of "the moon buggy," as if there were only one, and the astronauts drove the same one, with maybe a new battery from earth, during each mission. But then, on p. 25, the author writes, "After the mission was over, we left the Moon Buggies on the Moon. They are still there. Maybe one day we'll go back and drive them again?" That made me really stop and think, "Wait. How many moon buggies are still up there? One for each mission that used a moon buggy (Apollo 15, 16, and 17)?" I wish the author had explained that a little better. On the other hand, knowing there may be multiple moon buggies still parked on the moon makes me want to find a really, really good telescope and see if I can find one!

Secondly, although the text and photos are, in general, very high quality, this book is obviously self-published. The book would have benefitted from some editorial direction. I would have liked to see the text better organized and divided into chapters, for example. A professional book designer would have made the book more attractive, as well. It's basically some text and pictures, without a lot of visual appeal. On first glance, it's a pretty serious-looking book. My 9-year-old was a bit intimidated by it; he didn't swipe it off my desk, and when I showed it to him and suggested we read it together, he told me he wasn't super interested in it. A more attractive cover and page presentation would have gone a long way.

On Amazon, this book is said to be targeted at ages 6 – 12 years and grade levels 1 – 4. I found that factoid a little baffling, since most kids don't turn 12 until sixth grade, and there's a huge difference in reading ability between a first grader and a sixth grader. If it were up to me, I would say this book works best for grades 4 – 6 (ages 9 – 12). The text might be accessible to a younger child, but the design might not attract them as much.

4 out of 5 planets. Fabulous info and photos, but could have been a more professional and attractive effort.

## Upcoming Events and Anniversaries

- Sep 01 - 40th Anniversary (1979), [Pioneer 11](#), Saturn Flyby
- Sep 03 - [Mercury](#) Passes 0.7 Degrees from [Mars](#)
- Sep 07 - [James Van Allen's](#) 105th Birthday (1914)
- Sep 08 - [Moon Occults Saturn](#)
- Sep 09 - [Moon Occults Dwarf Planet Pluto](#)
- Sep 09 - [Neptune At Opposition](#)
- Sep 09 - 180th Anniversary (1839), [John Herschel](#) [Makes 1st Photograph Using Glass Plate](#)
- Sep 11 - 45th Anniversary (1974), [Charles Kowal's](#) Discovery Of Jupiter Moon [Leda](#)
- Sep 12 - 60th Anniversary (1959), [Luna 2](#) Launch (USSR Moon Impact Mission)
- Sep 13 - [Mercury](#) Passes 0.3 Degrees From [Venus](#)
- Sep 15 - [Moon Occults Asteroid 21 Lutetia](#)
- Sep 16 - [International Day for the Preservation of the Ozone Layer](#)
- Sep 17 - 230th Anniversary (1789), [William Herschel's](#) Discovery of Saturn Moon [Mimas](#)
- Sep 17 - [John Goodricke's](#) 255th Birthday (1764)
- Sep 18 - 30th Anniversary (1989), [Rich Terrile's](#) Discovery of Neptune Moons [Thalassa](#) & Naiad
- Sep 18 - [Leon Foucault's](#) 200th Birthday (1819)
- Sep 19 - [Simon Plossl's](#) 225th Birthday (1794)
- Sep 21 - [Gustav Holst's](#) 145th Birthday (1874)
- Sep 22 - [Saul Perlmutter's](#) 60th Birthday (1959)
- Sep 23 - [Hugo von Seeliger's](#) 170th Birthday (1849)
- Sep 23 - [Hippolyte Fizeau's](#) 200th Birthday (1819)
- Sep 25 - [Ole Romer's](#) 375th Birthday (1644)
- Sep 26 - [Christopher Hansteen's](#) 235th Birthday (1784)
- Sep 27 - [Benjamin Gould's](#) 195th Birthday (1824)
- Sep 27 - [Daniel Kirkwood's](#) 205th Birthday (1814)
- Sep 27-29 - [3rd Annual Southwest Astronomy Festival](#), Southern Utah
- Sep 30 - 10th Anniversary (2009), [1st Clown is Launched into Space \(Guy Lalibere\)](#)
- Sep 30 - [Phil Plait's](#) 55th Birthday (1964)
- Sep 30 - 90th Anniversary (1929), [Rocket-Powered Manned Flight by Fritz von Opel](#)

## CVAS Loaner Telescope

CVAS provides a 10 inch Dobsonian telescope to club members. Contact Garrett Smith to make arrangements to use this telescope. Garrett can be contacted by email at [GarrettGillSmith@gmail.com](mailto:GarrettGillSmith@gmail.com).



## CVAS on Utah Public Radio

Listen to CVAS on Utah Public Radio each Tuesday at 4:48 pm. Blaine Dickey and Tom Westre are writing weekly astronomy related scripts and recording the program at their station. We are pleased that the folks at UPR have invited us to present a weekly topic on astronomy. You can listen in Logan on 91.5 KUSU-FM, or 89.5 KUSR Logan, with translators 92.1 Brigham City, 89.3 Bear Lake. There are other translators from Soda Springs to St George. You can also listen anywhere on their live stream or download UPR's free app on your smartphone. Check this out at [www.upr.org](http://www.upr.org).

## Library Loaner Telescope Program Status

| Library                           | Telescope Donated By  | Telescope Placed              | Available for Checkout | Library Status  |
|-----------------------------------|---|-------------------------------|------------------------|---|
| Logan Library                     | CVAS  | 6/10/2018                     | 10/15/2018             | Loaning out with Holds pending  |
| Logan Library #2                  | ICON Health & Fitness<br>            | 6/18/2019                     | 7/15/2019              | Loaning out   |
| Hyrum Library                     | CVAS  | 12/11/2018                    | 2/1/2019               | Loaning out   |
| Smithfield Library                | Occipital, Inc  | 12/14/2018                    | 4/10/2019              | Loaning out   |
| North Logan Library               | Utah NASA Space Grant Consortium<br> | 3/4/2019                      | 4/5/2019               | Loaning out   |
| Cache County Library (Providence) | INOVAR & CVAS Members   | 3/1/2019                      | 5/22/2019              | Holds on telescope  |
| Lewiston Library                  | Schreiber Food's<br>                 | Last Week of June (Tentative) |                        | Telescope was placed and they are in the process of setting it up.  |
| Richmond Library                  |   |                               |                        |   |
| Preston Library                   | Idaho NASA Space Grant Consortium   |                               |                        | Idaho Consortium is sending the library the award and they will order the items. We will make the modifications |
| Mendon Library                    | Campbell Scientific<br>            | 4/8/2019                      | 5/30/2019              | Loaning out   |
| Newton Library                    |   |                               |                        |   |

# CACHE VALLEY ASTRONOMICAL SOCIETY MEMBERSHIP APPLICATION FORM

Member # \_\_\_\_\_

NAME: \_\_\_\_\_  
                    First                      Middle Initial                      Last

Address: \_\_\_\_\_  
  Street                      City                      State                      Zip Code

Home Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_

Work Phone : \_\_\_\_\_ Occupation : \_\_\_\_\_

Email Address: \_\_\_\_\_

How did you learn about CVAS?

\_\_\_\_\_ Website    \_\_\_\_\_ Star Party    \_\_\_\_\_ CVAS Member    \_\_\_\_\_ Other \_\_\_\_\_

Membership: \$20 a year

Tell us about yourself: Do you have a special interest in astronomy? Do you have special skills? Are you willing to volunteer on CVAS projects or attend public outreach star parties? Astro equipment owned.

\_\_\_\_\_

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By signing this application, I acknowledge I have access to the CVAS website, [cvas-utahskies.org](http://cvas-utahskies.org), and the CVAS Constitution. I agree to abide by the constitution.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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Bring this form to the meeting or Mail Application to:

**Brad Kropp, CVAS Treasurer**  
1573 E 1425 N  
Logan, UT 84341

For any questions contact our Treasurer at [brad.kropp@usu.edu](mailto:brad.kropp@usu.edu) or our Secretary Wendell Waters at [wendellw57@comcast.net](mailto:wendellw57@comcast.net)