CACHE VALLEY ASTRONOMICAL SOCIETY

Cache Valley Clear Skies

The Journal of the Cache Valley Astronomical Society

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Meeting Announcement

We will be having a Zoom club meeting on Wednesday March 24th, at 7:00 pm. It will be with Pedro Selvilla and he will be talking about the WISE space-dyamics program. We will let you know more as the date gets closer. We hope you will all be able to join us.

Clear Skies!

The CVAS Executive Committee

Photo by Bruce Horrocks

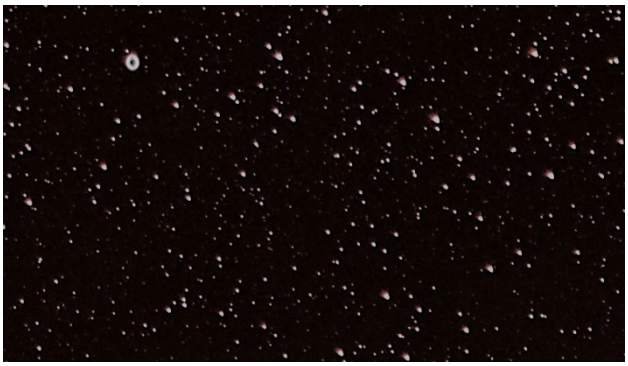
The President's Corner
By Bruce Horrocks – CVAS President

Welcome to March! I have told my wife that this past year has seemed like the movie Groundhog Day. The whole COVID pandemic has put so many things like club meetings, trips, and vacations on hold, and now here we are about a year later when the whole thing started. I really liked how Bill Murry in movie of Groundhog Day began to make each day better, even though he lived each day over and over. As I thought about what to say in this month newsletter, I thought I would share my path in astronomy over the past few years and how the CVAS club has helped, and how I hope that it may help each of you.

When I was around 8 years old, my parents got me a Sears telescope for Christmas. This was such a cool gift for a young boy, and I was just intrigued with looking at the moon and the planets. It only had a 3-inch aperture, and the first time I looked at the Orion Nebula I kept wondering how my lens got so dirty, not realizing what I was actually seeing. Years later my dad and I purchased a larger telescope and together we used this for years, visually observing as many things as we could. I will confess that as the years went on, my

desire to see more increased, but my vision just would not allow it. Astronomy became frustrating for me.

I have for years also enjoyed photography and decided that maybe I could try my hand at astrophotography. I started reading about what to use and the processes, and it seemed too expensive and difficult. But I decided to try so in the summer of 2017 I mounted my Nikon camera with a 300mm zoom lens on the top of my telescope and was able to get capture a few blurry images of the moon and even got the Ring Nebula.



I spent one night trying to take an image of the Andromeda Galaxy and finally after a few attempts I finally got one that I thought was half decent. At least these early images showed me more than what I had seen with my own eyes.

When I showed these to my wife, she mentioned that she had just read in the paper about an astronomy club meeting and thought that should go check it out. I went to this meeting and really did not know anyone at all in the club. I was kind of excited about my Andromeda Galaxy image and showed it to Tom Westre. While I am sure he had seen better he encouraged me to meet with Blaine Dicky who he said was also a club member who did astrophotography. So, I went back to several more meetings and while I still felt like a stranger, I started to meet a few other people who were friendly. One night I sat by Shirly, who was very nice, another time by Clark, another by night by Harvey, then Wendell, and many others that I could name. Then one night there was a meeting at Blaine Dickey's observatory. I had just started to build my own and really knew nothing about what I was doing. I learned much that night about how to add red lights inside your observatory, but most of all how to have a warm room so you do not have to set out there and freeze all night. Had it not been for the visit, my observatory would have ended up much different and lacking.

At one of the club meetings Tom Westre proposed a special interest group for those that have greater interest in astrophotography. There were a couple of meetings as a smaller group and while I admit my knowledge into this did not increase that much, my amazement of what some club member had achieved did. I wanted to learn how to get the results that I was seeing them produce. As I continued on this venture, I found the club members were a great source of encouragement and information. I learned a little bit more from Dale Hooper about monochrome cameras and filters. It became an enjoyable time to go to club meetings where Dell Vance was always having a blast. A little at a time my images were beginning to improve and show better details.

After I became the club president and was responsible to help plan out meetings it placed a bit more responsibility on me to learn more and help the club members as well. Soon I was given a new camera from my work for my several years at work. Learning how to use this became another challenge as well. I spend hours watching YouTube videos on how to learn to take images and process them with software. While I still consider myself a beginner in this hobby it has become more enjoyable and I am starting to see some improvement and trying for more challenging deep space objects.

Now my purpose for sharing this is in no way to boast or imply that I am better at astrophotography than anyone else, but to highlight the importance of the CVAS club and how I hope that it can help you improve in whatever interest you have in astronomy.

There was a young couple who came to one of our club meetings one time and they asked me what I thought of the club. I told them that there was a lot of knowledge in the club on a variety of subjects and it would be well worth their time to join. During this COVID pandemic it has been a challenge to hold any type of regular club meeting, but I think we are starting to see the light at the end of this tunnel. We hope to start holding some star parties this summer and by applying some cameras and other viewing technology we can do this in a safe and approved way. I hope that each of you will realize how we appreciate you in our club and hope that it is helpful to you as well. We would appreciate hearing from each of you and let us know what you are doing in this amazing hobby. Whether you are a visual viewer or photographer, into double stars or nebulae, we would love to hear what you know and your experiences with astronomy. Hope to see you on this month Zoom meeting.

Clear Skies,

Bruce Horrocks

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

Newsletter Guidelines

It has been suggested by the CVAS Executive Committee that we come up with some guidelines for article submissions for our newsletter.

- We would like all submissions to be sent to Wendell by the 27th of each month. Just send him an email with the article as an attachment (wendellw57@comcast.net).
- Please submit your articles as a "Word" document.
- If you have pictures or sky maps that go with your article, please place them in the text where you would like them to be, but also send them as separate attachments in the email.
- Please try to keep them at a reasonable length (500 to 800 words or so).
- Preferred font is Times New Roman
- Perfect spelling and grammar are optional.

Your thoughts and suggestions are always appreciated. After all, this newsletter is for you. Thanks for all of your help in making our newsletter GREAT!! (the editor)

Photo by Dell Vance

Milky Way Galaxy Wintertime vs. Summertime View

By Dell Vance

The Milky Way Galaxy is a spiral galaxy with several arms. Our solar system is located in one of the smaller arms, the Orion Arm. In the wintertime evening sky, the Milky Way runs from Cassiopeia to a position just east of Orion. The Milky Way can be easily found by locating Sirius, the Dog Star, and Procyon. The Orion Arm of the Milky Way lies between these two stars. The wintertime view of the Milky Way is quite different than the summertime view.

In the summertime evening sky, you will find the Milky Way is running from Cassiopeia through Cygnus, the Swan, and ending between Sagittarius and Scorpio.

It is very bright and has dark regions of dust. The area between Sagittarius and Scorpio is in the Sagittarius Arm of the Milky Way. The Sagittarius Arm has a high concentration of stars. Directionally you are look toward the center of the Milky Way.

In the wintertime you are looking at stars in the Orion Arm of the Milky Way. The Orion Arm has a lower concentration of stars than the Sagittarius Arm. Directionally you are looking away from the center of Milky Way Galaxy. The result is that the wintertime view of the Milky Way is less spectacular than the summertime view.

Nightscape photos of the Milky Way can be easily taken with a Digital Single-Lens Reflex Camera (DSLR) and a tripod. Basically, on a moonless night, in a location away from light pollution, simply point the DSLR toward the area where the Milky Way is known to be. The camera settings that work well for this type of picture are:

- 20 to 30 second exposure
- ISO 800 or higher
- Focal Length as low as possible for the camera
- Set the focus to infinity (be sure to check focus after an image is taken)

Some of these photos can be spectacular. If you want more information on taking Nightscape images, just let me know and I'll see what I can do.

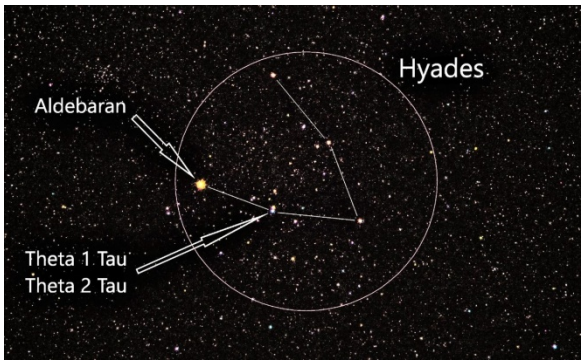
Clear Skies!

Taurus the Bull

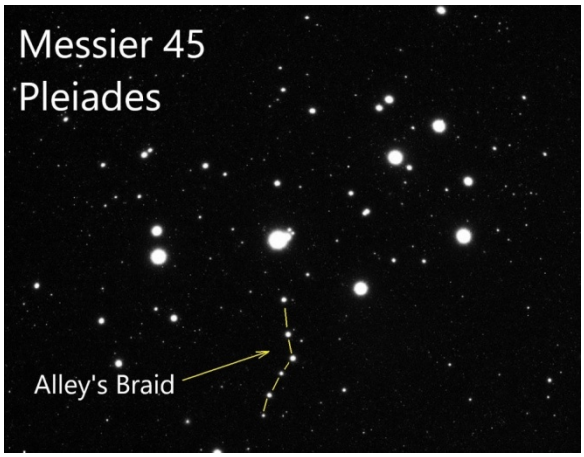
by Blaine Dickey

As winter wanes and spring takes its place we will soon say goodbye to some of the winter constellations. Before it is leaves our sky it is a good time to observe the constellation **Taurus** which is high overhead during this time of year.

Within Taurus are several noteworthy celestial sights worth taking a good look at. First of all a "**V**" shaped group composing the head of the Bull is called the **Hyades**. This grouping of stars can be seen with naked eye but really bursts in all its glory with just a modest pair of binoculars. The group is about 2 ½ degrees in diameter so it will fit nicely in the field of view of most binoculars. While you are there you may notice Aldebaran a +0.87 magnitude reddish orange star at the lower bottom of the "V" which marks the red eye of the bull. This is a red giant star 44 times the diameter of the Sun. Also you may notice a naked eye double star **Theta1 and 2** that are separated by about .1 of a degree and are about 150 light years distance. They are about 4 light years distance from each other so we can conclude that they are not bound by gravity.

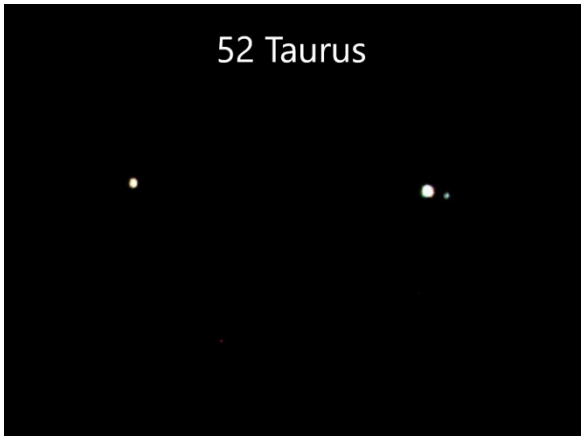


Another magical naked eye object **Messier 45** also known as the **Pleiades** or the **Seven Sisters** is located 12 degrees to the northwest of the Hyades. Those with unusual eyesight may see seven or more of the brighter stars of this group. This cluster is one of the nearest star clusters to Earth. A long exposure will show misty clouds around each of the stars. The cluster is referred to three times in the Bible such as Amos 5:8 " "Seek him that maketh the **seven stars**, and Orion…" . Another object you can observe with binoculars within the Pleiades is a small string of stars as seen the image below is called "**Ally's Braid**". Several double stars are also visible within this cluster.



Messier 1 which is named the **Crab Nebula** is also located in the constellation Taurus. This nebula was created by a supernova that exploded on July 4, 1054 A.D. 966 years ago. At the center of his nebula lies the first pulsar that was discovered in 1969. This pulsar blinks at 1/33 of a second, too fast to be seen with the naked eye. I have seen this nebula with binoculars on a dark night, but it is better seen with telescopes 3 inches or larger. In a 10 inch reflector it looks a colorless elongated nebula. The image below reveals pinkish and bluish colors of the nebula as taken through my 12" Meade scope, with a Mallincam Jr. Pro video camera.

There are also some interesting double stars worth taking a look at. The first of these is **52 Taurus** consists of +4.9 magnitude star with a +7.5 companion separated by 49 arc seconds. A third star is at a distance of 12 minutes. The brightest star is a large star that is 19 times the Sun's diameter and puts out 136 times the Sun's light but is nearly the same mass.



The next object **59 Taurus** is a +5.4 magnitude star within 12 arc seconds from a + 8.54 magnitude bluish companion. The main star is also a spectroscopic binary itself meaning in part that it is too close to be split with a telescope.

The third object **Struve 430** is a neat multiple object consisting of three different stars. Two of the stars form a double system but the third stars orbit is unknown and may or may not be associated with the double star. Nevertheless it is a beautiful triple with one star somewhat bluish compared to the others.

Elnath or Beta Taurus is the 25th brightest star in the sky a hot star 130 light years distance and 700 times the suns luminosity.

Finally **NGC 1647** is a large and scattered open cluster and though not nearly the showpiece of the Pleiades and Hyades, it is a fine cluster in binoculars.

Special Announcement

The CVAS website is up and operating. I would appreciate any feedback from club members. The website has a Gallery page and club members are invited to email me any images they take with their telescopes. If they include their name, type of telescope and camera that would also be informative. I also have a page for club members to send a picture of their telescopes and/ or observatories. I also encourage taking pictures of our meetings, STEM events or star parties for the image gallery. – Tom Westre; Webmaster

Upcoming Events and Anniversaries

- Mar 05 - Jupiter Passes 0.3 Degrees From Mercury
- Mar 06 - Mercury At Its Greatest Western Elongation (27 Degrees)
- Mar 6 – Last Quarter Moon
- Mar 13 - 240th Anniversary (1781), William Herschel's Discovery of Uranus
- Mar 13 – New Moon
- Mar 14 - Daylight Saving - Set Clock Ahead 1 Hour (United States)
- Mar 14 - Pi Day
- Mar 20 - Vernal Equinox, 09:37 UT
- Mar 21 – First Quarter Moon
- Mar 25 - 210th Anniversary (1811), Honore Flaugergues Discovers The Great Comet of 1811
- Mar 27 - Dwarf Planet 136472 Makemake At Opposition (51.726 AU)
- Mar 28 – Full Moon
- Mar 29 - Mercury Passes 1.4 Degrees From Neptune
- Mar 30 - Robert Bunsen's 210th Birthday (1811)
- Mar 31 - Rene Descartes' 425th Birthday (1596)

Library Loaner Telescope Program Status

10/31/2020

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	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	3/4/2019	4/5/2019	Loaning out
North Logan Library #2	Friends of the North Logan Library	10/26/2020	11/1/2020	Loaning out
Cache County Library (Providence)	INOVAR & CVAS Members	3/1/2019	5/22/2019	Loaning out
Lewiston Library	Schreiber Food's	7/9/2019	9/1/2020	Loaning out
Richmond Library	Anonymous	10/25/2019	1/25/2019	Loaning out
Preston Library	Idaho NASA Space Grant Consortium	9/5/2019	9/26/2019	Loaning out
Mendon Library	Campbell Scientific	4/8/2019	5/30/2019	Loaning out
Newton Library	A Club Member	9/24/2019	9/24/2019	Loaning out

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 lifetime membership

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.

_____

_____

By signing this application, I acknowledge I have access to the CVAS website, cvas-utahskies.org , and the CVAS Constitution. I agree to abide by the constitution.

Signature: _____ Date:_____

Bring this form to the meeting or Mail Application to:

Janice Bradshaw, Treasurer
175 W 700 S
Wellsville, UT 84339

For any questions contact our Treasurer, Janice Bradshaw at lojbrads@yahoo.com
or our Secretary Wendell Waters at wendellw57@comcast.net