

The High Desert Observer

June 2024



This Month's Meeting - June 28th

IN-PERSON & Zoom, Friday at 7 p.m.
Mesilla Valley Radio Clubhouse
6609 Jefferson Ave. Las Cruces, NM

At the corner of Wilt and Jefferson -- take the Porter exit from US 70, about 5 miles east from the I-25 interchange. Go south on Porter until you come to Jefferson. From there, turn left and go to the corner of Jefferson and Wilt. The meeting will also be available to members via Zoom.

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Tombaugh Lecture Series Presentation for the Month

**Andrew Colwell - Museum Curator,
Education/Museum of Nature & Sciences/
Quality of Life**

Mark will give an update on the current Mission2Mars grant status, an introduction to the education department for the City of Las Cruces Museum of Nature & Science, as well as a look at an exciting astrophotography opportunity.



Andrew Colwell is the Museum Curator of Education for the Museum of Nature & Science. The programs that he create introduce science to the community of Las Cruces from pre-k to adult programming

he strives to create a space for space, dinosaurs, chemistry, and all other sciences that is inclusive, educational, and most importantly fun. Andrew holds a M.A. in anthropology from NMSU, and a B.S. in archaeology from the University of La Verne. He has been working in education and science for the past 10 years and is currently living in Alamogordo with his wife and three cats.

Member Article

Cataclysmic Variable Star *T CrB* will Soon 'Explode Into Life'

Rich Richins

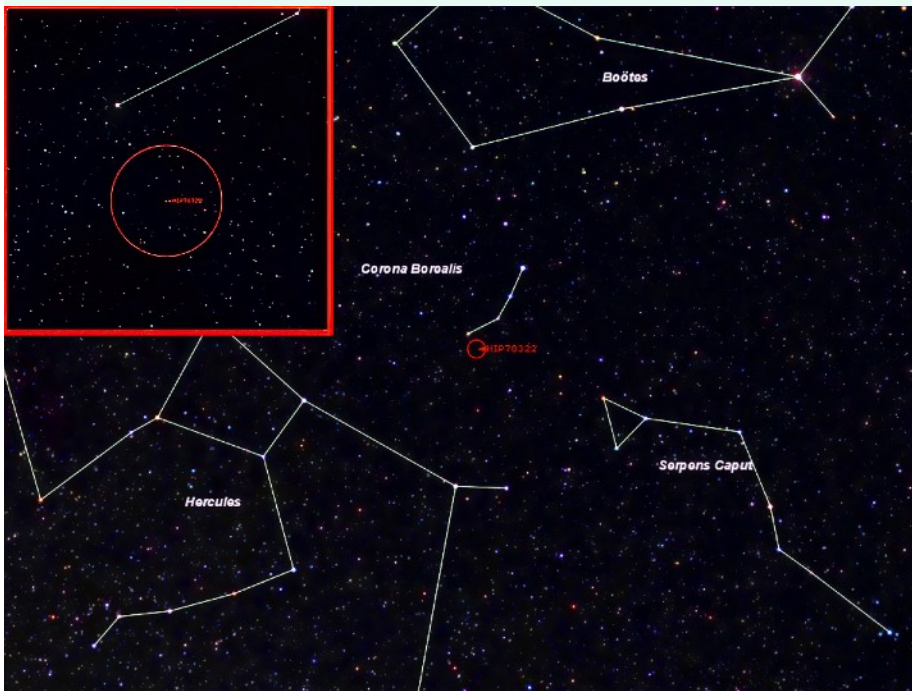


Roughly once every 79 years, a small dim star in Corona Borealis briefly roars into life brightening by nearly 1000 fold. The star is T Coronae Borealis (aka The Flare Star) and it is one of over 1600 known cataclysmic variable stars that dot our night sky.

Cataclysmic variable stars are small hot (white dwarf) stars that orbit around large cool red giant

stars. The stars are close enough together that the gravity from the white dwarf attracts a stream of hydrogen from its accompanying red giant. In time the amount of hydrogen attracted to the white dwarf reaches a critical temperature and pressure and nuclear fusion occurs - rather suddenly. The last flaring occurred in 1946 during which time the star was estimated to brighten from magnitude 10 to about magnitude 2.5 - nearly as bright as the belt stars in Orion. The flaring (nova) only lasts a short time - on the order of days to weeks. Then the star returns to its dim (but hot) white dwarf state.

It's impossible to know exactly when the event will occur, but the star has recently gone through a couple of changes that indicate that a nova is imminent. It could happen during Summer 2024 or perhaps during 2025 or even as late as early 2026. In reality, the nova occurred a few thousand years ago, but the star is so far away (~3000 light-years) that the light from this event is just now approaching Earth.



The star should be visible during evenings throughout the Summer and early Fall. After about mid-October, you'll have to get up early to get a good view at it. It's not hard to find. Look for Arcturus (the bright star in Boötes) then use the map/inset to localize the proper region (click on the map for a larger version). With luck, you could be the first person on the planet to observe the brightening. Happy observing!

The Astronomical Society of Las Cruces

(ASLC) is dedicated to expanding public awareness and understanding of the wonders of the universe. ASLC holds frequent observing sessions and star parties, providing opportunities to work on Society and public educational projects. Members receive electronic delivery of The High Desert Observer, our monthly newsletter, plus membership in the Astronomical League including their quarterly publication, Reflector, available in either paper or digital format. ASLC members are also entitled to a discount on a subscription to Sky and Telescope magazine. Annual Individual Dues are \$36; Family \$42; Student (Full Time) \$24. Dues are payable in January and partial year prorated for new members. Please contact our Treasurer, Patricia Conley, treasurer@aslc-nm.org for further information.

Coming Events

Monthly, on an evening close to the first-quarter moon, ASLC hosts a public “MoonGaze” observing session in Las Cruces. We also hold periodic special evening sessions at Tombaugh Observatory on the NMSU campus.

Also monthly, the ASLC welcomes public viewing at the Haas Observatory in Leasburg Dam State Park, located just 20 miles north of Las Cruces. Our 16-inch Meade LX200 telescope at this site is used to observe under rather dark skies.

Keep updated on the dates, times, and locations through this [link](#) with additional information available at our website www.aslc-nm.org as well as our [Facebook](#) page.

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Featured Article

A Hero, a Crown, and Possibly a Nova!

By Vivian White



This article is distributed by NASA's Night Sky Network (NSN). The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

High in the summer sky, the constellation Hercules acts as a centerpiece for late-night stargazers. At the center of Hercules is the "Keystone," a near-perfect square shape between the bright stars Vega and Arcturus that is easy to recognize and can serve as a guidepost for some amazing sights. While not the brightest stars, the shape of the hero's torso, like a smaller Orion, is nearly directly overhead after sunset. Along the edge of this square, you can find a most magnificent jewel - the Great Globular Cluster of Hercules, also known as Messier 13.

Globular clusters are a tight ball of very old stars, closer together than stars near us. These clusters orbit the center of our Milky Way like tight swarms of bees. One of the most famous short stories, *Nightfall* by Isaac

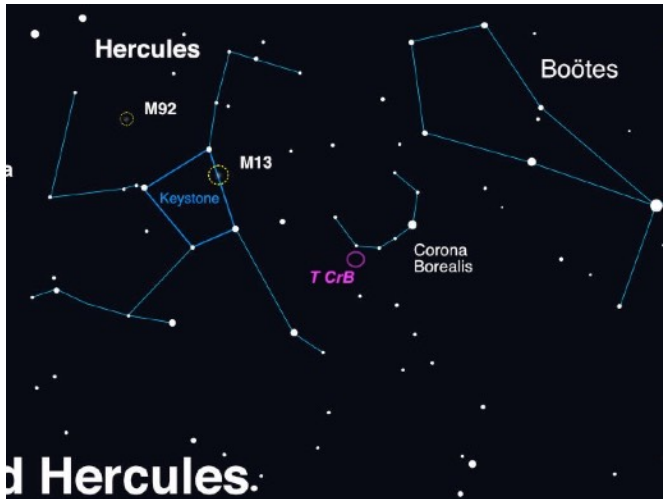
Asimov, imagines a civilization living on a planet within one of these star clusters. They are surrounded by so many stars so near that it is always daytime except for once every millennium, when a special alignment (including a solar eclipse) occurs, plunging their planet into darkness momentarily. The sudden night reveals so many stars that it drives the inhabitants mad.

Back here on our home planet Earth, we are lucky enough to experience skies full of stars, a beautiful Moon, and regular eclipses. On a clear night this summer, take time to look up into the Keystone of Hercules and follow this



Red Giant and White Dwarf Nova (Artist Rendition): <https://i.imgur.com/YHqZO3c.jpg>

sky chart to the Great Globular Cluster of Hercules. A pair of binoculars will show a faint, fuzzy patch, while a small telescope will resolve some of the stars in this globular cluster.



Stellarium Web Sky Chart: <https://i.imgur.com/YHqZO3c.jpg>



<https://science.nasa.gov/mission/hubble/science/explore-the-night-sky/hubble-messier-catalog/messier-13/>

Bonus! Between Hercules and the ice-cream-cone-shaped Boötes constellation, you'll find the small constellation Corona Borealis, shaped like the letter "C." Astronomers around the world are watching T Coronae Borealis, also known as the "Blaze Star" in this constellation closely because it is predicted to go nova sometime this summer. There are only 5 known nova stars in the whole galaxy. It is a rare observable event and you can take part in the fun! The Astronomical League has issued a Special Observing Challenge that anyone can participate in. Just make a sketch of the constellation now (you won't be able to see the nova) and then make another sketch once it goes nova.

Tune into our mid-month article on the Night Sky Network page, as we prepare for the Perseids! Keep looking up!

Celestron Mount for Sale - Mark Gorman

Celestron CGEM II Equatorial Mount, Tripod with 2" heavy duty legs, NexStar+ hand controller, 12 V DC power supply and two 22 lb. counterweights. 40 lb. payload capacity. Polar alignment scope. Only 4 years old, but I needed a larger mount for my new scope. Includes wheeled hard case. Only \$800.

If interested, please contact Mark at: mkgorman571@gmail.com

Member Images

Comet Tsuchinshan-ATLAS - Kent DeGross



This is a 150 sec integration in L. I measured the brightness of the nucleus at Gaia G magnitude 12.8 (probably not accurate). The tail appears about 10' long in this image. This is the comet that might be naked eye in September and October. You should be able to see it with a small telescope now. The streak is due to a satellite appearing in three of the subs.

Comet Tsuchinshan-ATLAS - Rich Richins



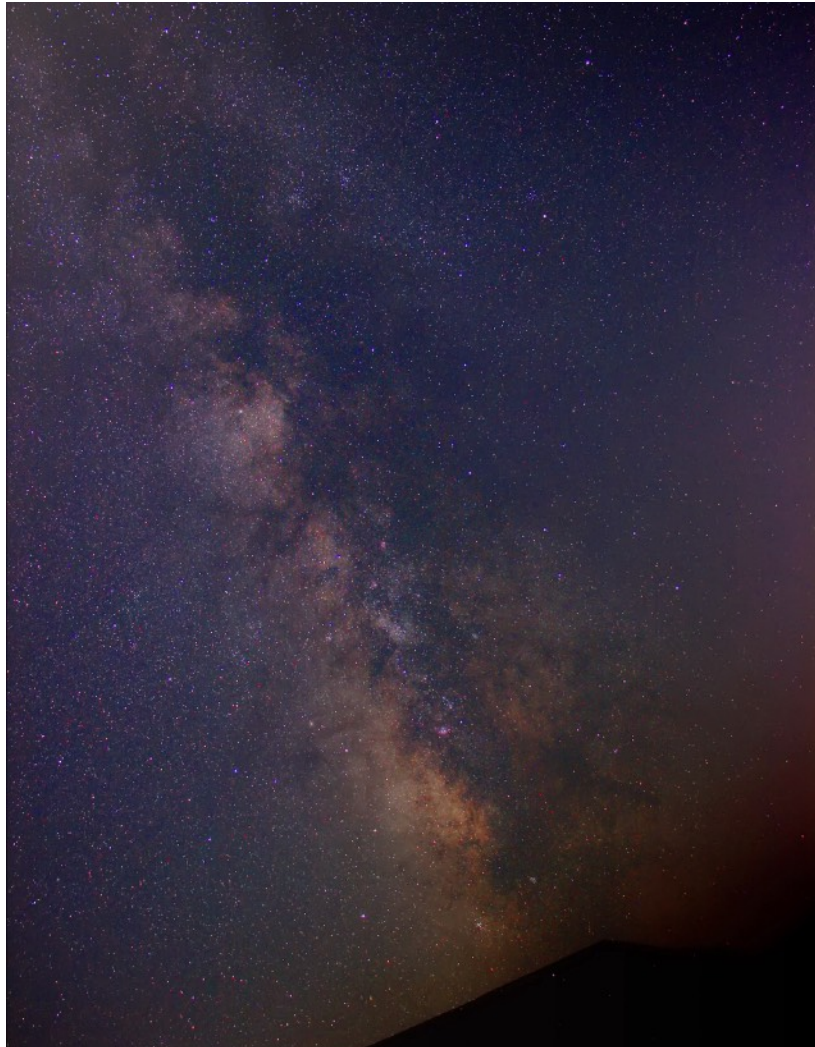
No, it's not a newly-discovered object. It's just that I'd seen Bob's and Kent's fine pics and figured I had to get in line. I took this the evening of June 1. It's the first time that I've imaged a comet with a reflector and a CCD (I usually use my C11/Hyperstar/DSLR).

NGC 5907 Splinter Galaxy - Mike Sherick



This image of NGC5907 "The Splinter Galaxy" is preliminary effort on this object. Due to weather conditions, I was not able to acquire as much RGB image data as I wanted. I plan to add more color data -- weather permitting. In any case, this LRGB image represents about 18 hours of data. Processed in APP, PixInsight, and PhotoShop. I hope you enjoy the image. Clear Skies, Mike

Milky Way - Jeff Johnson



Here is the Milky Way from my backyard here in Las Cruces. It was my first time using the new Sky Watcher mount to push exposures to longer than my previous 15sec shots for the MW. This is a "quick preview" using (for now) just 8-bit results to do a quick check of the data from one of the areas I captured last night. I have the 16-bit CR2 data to process, still! (and some longer FL shots)

Canon T3i, 25x90secs, 18mm (Canon 18-135mm lens), ISO800, f/4 ... on SkyWatcher mount and tripod.

Iris Nebula (NGC 7023) in Cepheus - Tim Kostelecky



Mark Gorman inspired me when I was with him while he imaged the Iris Nebula using his 14" SCT. But of course with my 5" refractor, I couldn't nearly match his result - but I'm pleased with it. This is a 150 minute integration (30 sec subs) with my ES 127 f/7.5 triplet refractor and ASI533 OSC camera. Processed with Siril. I could have stretched it further to show more detail, but I liked its delicate features and surrounding stars while keeping the noise at a minimum.