

The High Desert Observer

February 2024



This Month's Meeting - Feb 23rd

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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From the President Tim Kostelecky

We received a thoughtful response from last month's speaker, Mallory Conlon, Outreach & Education Coordinator from Yerkes Observatory. She included a follow-up regarding an inquiry during the meeting. Thank you, Mallory!

Mallory's message:

It was great to connect with you all, and thanks so much again for inviting me! I also wanted to follow up on one of the questions that was asked about great discoveries that happened at Yerkes - W.W. Morgan discovered the shape of the Milky Way here! From his obituary: Morgan conducted research at [UChicago's] Yerkes Observatory in Williams Bay for more than 60 years. He was widely recognized for his discovery of the spiral arms of the Milky Way and for his system for classifying stellar brightness and spectra. His announcement of the finding that our galaxy has a spiral structure was received by his peers at a 1951 meeting of the American Astronomical Society with an unprecedented standing ovation.

Thanks again!

*Mallory Conlon, M.S.
Outreach & Education
Yerkes Observatory | Yerkes Future Foundation*

Tombaugh Lecture Series - Speaker for the Month

Rich Richins

ASLC Member

"Once in a (Wratten #80A) Blue Moon"

Astronomers use filters to better view or capture desired astronomical targets. Filters can help to overcome atmospheric limitations and to accommodate the quirks of human eyesight and imaging sensors. Properly used, an astronomical filter will increase the contrast between the target and its background enabling a better view (or better data capture). A variety of different types of filters types are commonly employed such as color filters, polarizing filters, neutral density filters, and interference filters (including light pollution and band pass filters). Rich will share additional specifics underlying the need for filters and will review the types of tools available to address various situations.

Rich received various degrees from Cal Davis and U. Ky. He spent his career primarily as a plant research biochemist. Twice he spun novel research projects into small businesses - both of which are still around today. In 1999, Rich moved from the Bortle 7 skies of Riverside, CA to the dark skies of southern New Mexico. Soon thereafter, he re-kindled a childhood interest in amateur astronomy. For the past 20-ish years, he has approached the hobby with the same creative experimentalist attitude that fueled his research career.



ASLC-West Outreach

Mike Nuss

We didn't have a presentation this February. I made the wrong call on Friday, the 9th and the clouds cleared enough to have had the presentation before the clouds came back that night. And mercifully it stayed cloudy enough

to call off the Saturday evening program on a windy-snowy night on the 10th.

Now I can start complaining on how hot it's getting already. It was great to see Mr. Barks on the panel of experts involved with the rollout meeting of the Shelyak Alpy 200 spectrograph! An international presence. Looks promising for amateurs.

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.

ASLC Board of Directors

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Featured Article

Connecting the 'Dots' with Asterisms

By Kat Troche



This article is distributed by NASA's Night Sky Network (NSN).

NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

In our December Night Sky Notes, we mentioned that the Orion constellation has a distinct hourglass shape that makes it easy to spot in the night sky. But what if we told you that this is not the complete constellation, but rather, an asterism?

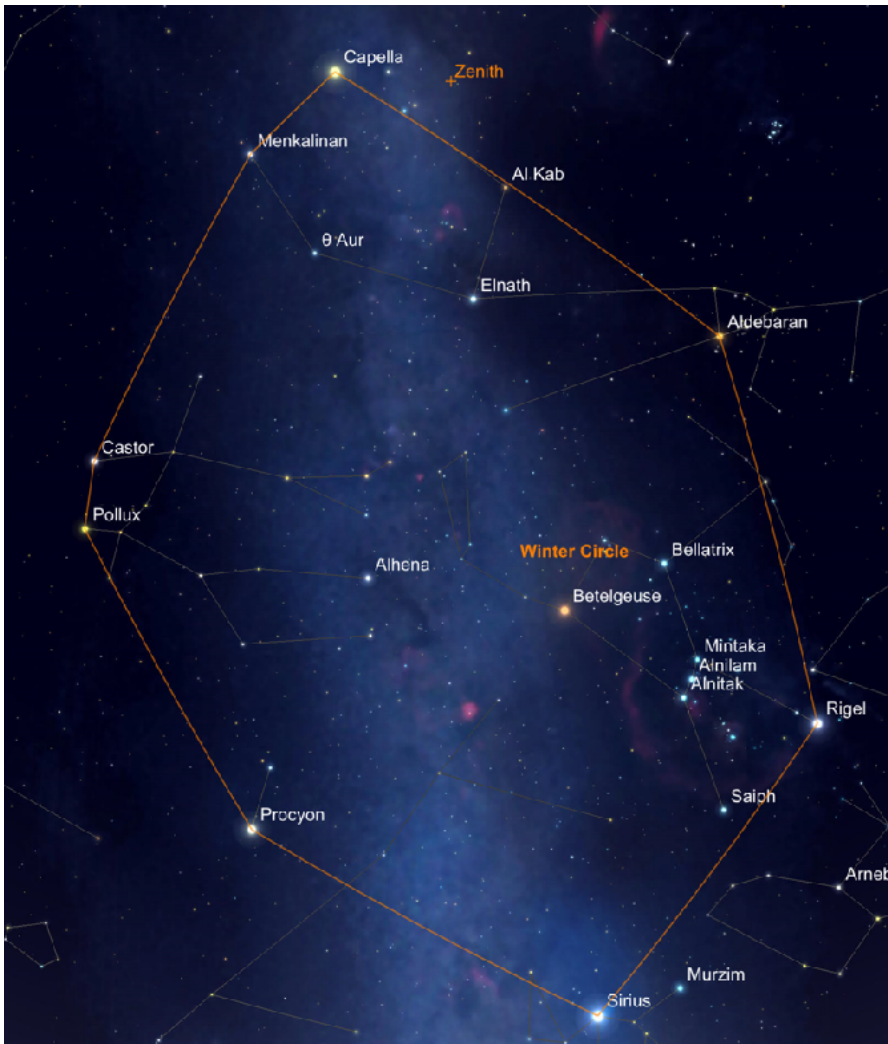
An asterism is a pattern of stars in the night sky, forming shapes that make picking out constellations easy. Cultures throughout history have created these patterns as part of storytelling, honoring ancestors, and timekeeping. Orion's

hourglass is just one of many examples of this, but did you know Orion's brightest knee is part of another asterism that spans six constellations, weaving together the Winter night sky? Many asterisms feature bright stars that are easily visible to the naked eye. Identify these key stars, and then connect the dots to reveal the shape.

Asterisms Through the Seasons

Try looking for these asterisms this season and beyond:

- Winter Circle – this asterism, also known as the Winter Hexagon, makes up a large portion of the Winter sky using stars Rigel, Aldebaran, Capella, Pollux, Procyon, and Sirius as its points. Similarly, the Winter Triangle can be found using Procyon, Sirius, and Betelgeuse



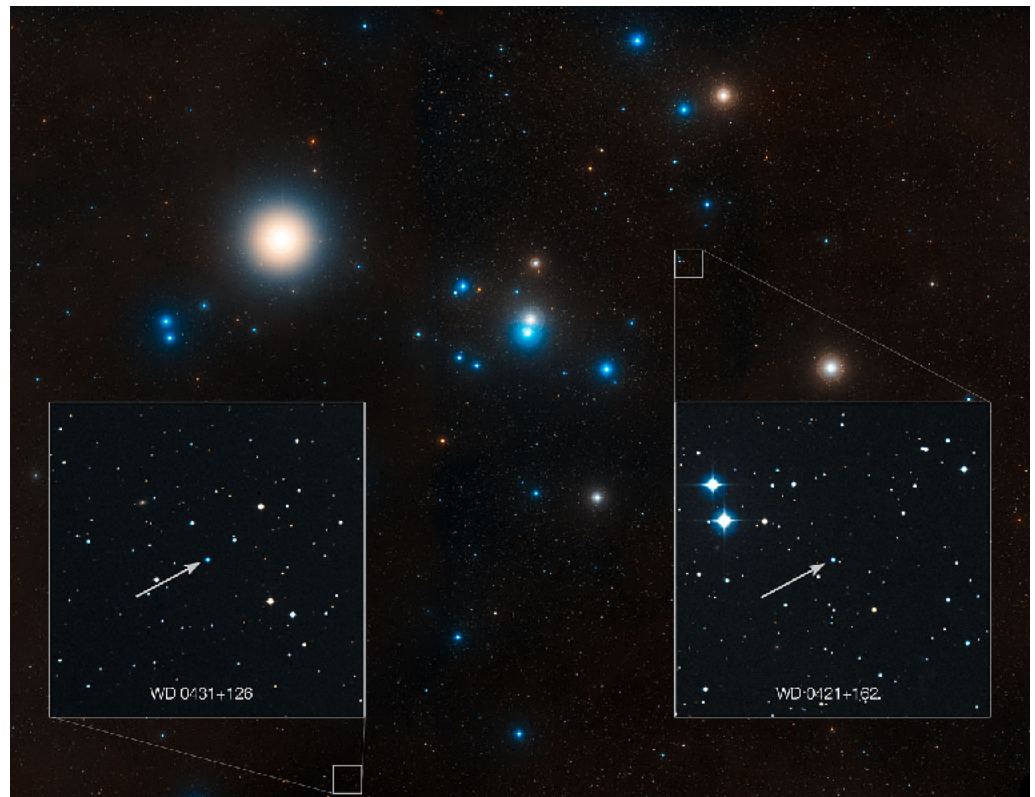
as points. Orion's Belt is also considered an asterism.

- **Diamond of Virgo** – this springtime asterism consists of the following stars: Arcturus, in the constellation Boötes; Cor Caroli, in Canes Venatici; Denebola in Leo, and Spica in Virgo. Sparkling at the center of this diamond is the bright cluster Coma Berenices, or Bernice's Hair – an ancient asterism turned constellation!

- **Summer Triangle** – as the nights warm up, the Summer Triangle dominates the heavens. Comprising the bright stars Vega in Lyra, Deneb in Cygnus, and Altair in Aquila, this prominent asterism is the inspiration behind the cultural festival Tanabata. Also found is Cygnus the Swan, which makes up the Northern Cross asterism.

- **Great Square of Pegasus** – by Autumn, the Great Square of Pegasus can be seen. This square-shaped asterism takes up a large portion of the sky, and consists of the stars: Scheat, Alpheratz, Markab and Algenib.

Labelled overview of the Hyades star cluster (ground-based image)



This image shows the region around the Hyades star cluster, the nearest open cluster to us. The Hyades cluster is very well-studied due to its location, but previous searches for planets have produced only one. A new study led by Jay Farihi of the University of Cambridge, UK, has now found the atmospheres of two burnt-out stars in this cluster – known as white dwarfs – to be “polluted” by rocky debris circling the star. Inset, the locations of these white dwarf stars are indicated – stars known as WD 0421+162, and WD 0431+126. Credit: NASA, ESA, STScI, and Z. Levay (STScI)

Tracing these outlines can guide you to objects like galaxies and star clusters. The Hyades, for example, is an open star cluster in the Taurus constellation with evidence of rocky planetary debris. In 2013, Hubble Space Telescope's Cosmic Origins Spectrograph was responsible for breaking down light into individual components. This observation detected low levels of carbon and silicon – a major

chemical for planetary bodies. The Hyades can be found just outside the Winter Circle and is a favorite of both amateur and professional astronomers alike.

How to Spot Asterisms

- Use Star Maps and Star Apps – Using star maps or stargazing apps can help familiarize yourself with the constellations and asterisms of the night sky.
- Get Familiar with Constellations – Learning the major constellations and their broader shapes visible each season will make spotting asterisms easier.
- Use Celestial Landmarks – Orient yourself by using bright stars, or recognizable constellations. This will help you navigate the night sky and pinpoint specific asterisms. Vega in the Lyra constellation is a great example of this.

Learn more about how to stay warm while observing this Winter with our upcoming mid-month article on the Night Sky Network page through NASA's website!

ADDITIONAL LINKS:

<https://science.nasa.gov/solar-system/skywatching/night-sky-network/a-flame-in-the-sky-the-orion-nebula/>
<https://science.nasa.gov/solar-system/skywatching/what-are-asterisms/>
<https://science.nasa.gov/solar-system/skywatching/night-sky-network/astronomy-club-supports-the-tanabata-festival/>
<https://science.nasa.gov/missions/hubble/nasas-hubble-space-telescope-finds-dead-stars-polluted-with-planet-debris/>
<https://science.nasa.gov/mission/hubble/observatory/design/cosmic-origins-spectrograph/>
<https://science.nasa.gov/skywatching/night-sky-network/>

IMAGE CREDITS:

Winter Circle Sky Safari Image: <https://i.imgur.com/cpLb0wZ.png>
Hyades star cluster: <https://esahubble.org/images/heic1309b/>

Monthly Meeting Minutes January 2024

John McCullough - Secretary

Call to Order:

Tim Kostelecky, President, Astronomical Society of Las Cruces (ASLC, the Society), called the January 2024 meeting to order at 7:00 pm on 26 January 2024 at the Mesilla Valley Radio Clubhouse. There were eighteen (18) members, spouses, and guests in attendance, as well as thirteen (13) attendees via Zoom at the start of the meeting.

Tim welcomed the group to tonight's meeting and announced that the minutes from the November 2023 meeting (thanks to John McCullough, Secretary) were published in the January 2024 issue of the Society newsletter, the High Desert Observer (HDO). Tim asked if there were any required additions, deletions, or corrections to the minutes as submitted. There being none, a motion to accept the November 2023 minutes as submitted was offered by Steve Barkes and seconded by Bernie Jezercak. There being no objections, the motion was passed by acclamation.

Presentation:

Tonight's Tombaugh Series speaker was Mallory Conlon, on "Rejuvenating Astronomy Education and Research at Yerkes Observatory". Often called the birthplace of modern astrophysics, Yerkes Observatory maintained its status as one of the world's premier astronomical observatories throughout the 20th century. Now, through leadership from Yerkes Future Foundation and support from the community, Yerkes is entering a period of rejuvenation. To reconnect communities across Wisconsin with Yerkes and the field of astronomy in a meaningful way, Yerkes is rebuilding its education and research programming. In this talk, Mallory highlighted

what has been done since the Foundation took over ownership of the observatory in 2020 and provided insight into Yerkes' plans. A general discussion and Q&A followed her presentation. Mallory earned her M.S. in astronomy in 2014 from the University of Illinois at Urbana-Champaign. Since then, she has spent her career at the intersection of science and education, working to inspire a curiosity and appreciation for science in people of all ages and supporting those that want to make the pursuit of science their career. At Yerkes, she is responsible for developing and implementing outreach and education programming, continuing her mission of ensuring astronomy is truly for everyone. For education and outreach programming inquiries, reach out to her at mconlon@yerkessobservatory.org.

There were three new members and/or guests in attendance at tonight's meeting. Cal Estrada is here from Delaware, but he won't be relocating to New Mexico because of family considerations. Christopher Wrazen is a recent retiree looking to learn more about astronomy. David Baux, also recently retired, has moved from Vermont to Las Cruces. He is brand new to astronomy but is an experienced landscape/portrait photographer.

Officer/Committee Reports:

Treasurer:

Trish Conley, Treasurer, reported that annual member dues for 2024 (due 01 January) are being paid. She reported that insurance premiums have been paid and that Astronomical League (AL) dues are increasing \$1 per member this year. She also had some Royal Astronomical Society of Canada (RASC) items (2024 handbooks and calendars) available for purchase.

Outreach:

Stephen Wood, outreach coordinator, reported on recent and upcoming events. Previous events and attendance were:

Event	Date	Members	Visitors
November Moon Gaze	18 Nov	5	30
Loma Heights Elementary	07 Dec	3	100
White Sands National Park	14 Dec	10	75
LDSP (3rd Qtr. Moon)	06 Jan	5	0
January Moon Gaze	20 Jan	4	15

Event	Date
Tombaugh Elementary	02 Feb
LDSP (3rd Qtr. Moon)	03 Feb
Plutomania (10am – 1pm)	17 Feb
February Moon Gaze	17 Feb

Contact Stephen if you can support any or all events. He would like to see more members support the smaller events with telescopes.

ASLCWest:

Mike Nuss, ASLCWest coordinator, reported on recent activities in the Deming area. The events at Rockhound State Park and City of Rocks (CoR) State Park on 08 and 09 December, respectively, had about fifteen visitors, including from various foreign countries, on very cold and windy evenings. In January, the Rockhound event on 05 January was clouded out but the CoR event on 06 January had excellent weather. Events next month will be on 09 and 10 February.

Loaner Telescope Program:

Tim Kostecky, program coordinator, noted most telescopes in the program are donated. Two of the recent donations are Celestron Star Sense units. Tim demonstrated one of these at the recent LDSP

event and at tonight’s meeting. He plans to start a “Telescope of the Month” program to showcase other telescopes in the inventory.

Old Business:

There was no old business for discussion.

New Business/Announcements:

There was no new business offered for discussion.

The January 2024 meeting was adjourned at 8:18 pm.

-Respectfully submitted:
 John McCullough
 Secretary, ASLC

Member Images

Sunspots - Ed Montes



This is a whole-sun image I took with a sunspot group spanning over 150,000 km.

NGC 1291 Lenticular Galaxy in Eridanus - Alex Woronow



Data processed from Telescope Live Remote Observatory. My objective in processing this image was to reveal any structure present in the central bulge. Other images show some of the structures in this and other lenticular galaxies (see insets on https://en.wikipedia.org/wiki/Lenticular_galaxy). Revealing the details demanded differentiation of subtle contrasts that I would typically ignore and which required multiple tools that could each contribute an increment to that task

IC 410 Tadpole Nebula in Auriga - Bob Kimball

This image was taken from my backyard here in Las Cruces. There is a lot of stray light to deal with. There are approximately 90 X 120 sec subs of RGB-H. The total time was close to 12 hours. . It's a fascinating region for astronomers studying star formation.

**Horsehead Nebula (Barnard 33) in Orion
Tim Kostelecky**

My first night as an imager! So of course I had to shoot the Horsehead. It was one of several "first light" photos I obtained on Feb 4th from my home in Las Cruces with a new ASI335MC Pro camera and ASI-Air Mini controller. 17-30sec subs with unguided TeleVue 85 and EQ6-R Pro mount. Processed with Siril 1.2.1. I was just getting acquainted with the process and ended up with some pretty nice results. My longtime travel-companion TV-85 is appreciating the new-found attention.