

San Diego Astronomy Association

Celebrating Over 50 Years of Astronomical Outreach



December 2022

<https://www.sdaa.org/>

A Non-Profit Educational Association
P.O. Box 23215, San Diego, CA 92193-3215

Next SDAA Business Meeting

December 13th at 7:00pm
10070 Willow Creek Rd
San Diego, CA 92131
Via Zoom

Next Program Meeting Annual Banquet

January 28th at 5:00pm
Handlery Hotel

There will be no program meeting in December

The next Program Meeting will be: The Annual Banquet January 28, 2023

Topic: Explore Moon to Mars: Humanity's Grand Plan
Speaker: Jessica Rzeszut

NASA Solar System Ambassador Jessica Rzeszut will present an overview and update on NASA's Mars 2020 mission and the Artemis program, and discuss how we'll use what we're learning to take the next giant leap in our space exploration journey.



Jessica is a lifelong space enthusiast with over a decade of professional marketing and communications experience. Born and raised in the Midwest, she has resided in the San Diego area for many years and now considers it home. Her fascination, appreciation and enthusiasm for space spans education, entertainment, art, literature and fashion, and was ignited when, as a child, she was encouraged to consider the consequences of whether we are alone in the Universe, or not.

Jessica joined the NASA Solar System Ambassador program - a public engagement effort that works with volunteers to communicate the science and excitement of space exploration and discoveries - in 2021 in order to continue the conversation about space exploration with her neighbors and her community.

Handlery Hotel, in the Crystal Ballroom, on Saturday, January 28, 2023. The tentative schedule of events is as follows:

- 5-6pm - Self hosted cocktail hour
- 6-7pm - Buffet dinner and club annual meeting
- 7-8pm - Guest speaker
- 8-9:30 - Auction and raffle

Banquet tickets will be \$75. Parking is free. We plan to offer zoom attendees a chance to watch for \$20 if interest level is sufficient.

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Newsletter Deadline

The deadline to submit articles
for publication is the
15th of each month.

Link to SDAA Merchandise Store <https://sdaa28.wildapricot.org/SDAA-Store>

Link to Outreach Calendar <https://calendar.google.com/calendar/embed?src=g-calendar@sdaa.org&ctz=America/Los>



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San Diego Astronomy Association Board of Directors Meeting

November 8, 2022 – Unapproved and subject to revision

1. Call to Order

The meeting was held via Zoom and was called to order at 7:07pm with the following board members in attendance: Dave Wood, President; Kin Searcy, Vice President; Melany Biendara, Treasurer; Gene Burch, Recording Secretary; Alicia Linder, Corresponding Secretary; Dave Decker, Director; Mike Chasin, Director; Hiro Hakozaiki, Director; Steve Myers, Primary Grid Reconstruction committee and Mark Smith, Private Pad Chairperson.

2. Approval of Last Meeting Minutes

The October meeting minutes were approved.

3. Treasurers & Membership Report

The treasurer's report was approved. Mel reported that things have been pretty quiet and our taxes are done. JSF made a profit and we still have an attorney working with Chase bank in an effort to recover the \$5,000 loss from the counterfeit check that Chase cashed against our account.

4. Standard Reports

a. Site Maintenance Report:

No report.

b. Observatory:

October was a tough month for star parties weather-wise. Hoping for clearer skies in November. Despite star party cancelations, the Lipp continues to be utilized for private member activity. All is going well. Star parties continue to be well staffed. Equipment is in great condition. The trench along the observatory wall remains open and unprotected.

c. Loaner Scope Report:

4 telescopes currently out. 3 returns scheduled for Oct 22 delayed to Nov 19 due to weather.

SDAA-026 (8" Zhumell) due Oct 28 Nov 19

SDAA-027 (astrophotography rig) due Oct 28 Nov 19

SDAA-029 (iOptron SkyGuider) due Oct 28 Nov 19

SDAA-004 (8" LX-90) issued Oct 23, due Jan 21

Four loaners that I would like to sell/remove from the loaner program:

SDAA-001 10" Coulter (one of two) – I've got photos and will work on getting this sold via the newsletter and mailing list

SDAA-002 4.5" Takahashi reflector with .965 eyepieces – banquet raffle/auction item?

SDAA-024 Celestron SPC8 with Vixen Super Polaris mount – banquet raffle/auction item?

SDAA-025 Meade 2080 SCT on fork+wedge mount – banquet raffle/auction item?

Inventory updates:

SDAA-004 has a JMI MOTOFOCUS visual back of little value since it's not being used for astrophotography. There's also no diagonal included in the kit. I'll be looking for an affordable but decent SCT threaded diagonal for this scope. In the meantime, I've borrowed the diagonal from SDAA-024.



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Equipment donations and sales:

USB 3.0 fiber extender sold on eBay. \$128.65 donated to the club.

d. Private Pad Report:

We have 7 free pads and 10 people on the waiting list (one who is looking to upgrade).

There is some reluctance to lease until there is some clarity on how the grid upgrade will affect pad owners (outage times, reconnection requirements, etc.).

e. Program Meetings Report:

November meeting set for in-person at MTRP. New rules state no refreshments in areas with carpeting so no coffee and cookies in the theater where we will be meeting. Carpeting extends out into the lobby area and setting up there would be disruptive.

We need to agree on a meeting schedule for next year. Then reassess for 2024. Two proposals for consideration:

A: Regular monthly meetings February - November. January is banquet and no meetings in December. Meetings would be at MTRP theater with augmentation of their facilities for virtual participation by off-site speakers.

B: "Quarterly" in-person meetings at MTRP. Schedule April, July, October/November. Emphasis on in-person speakers and activities like gadget night. Hold Zoom meetings on months that do not have in-person meeting.

Kin says it's easier to get speakers for Zoom meetings and many members have expressed that it is much easier for them to attend the meetings via Zoom. We also realize the value of in-person meetings, but we now have to pay for security to use MTRP. With these things in mind, it was decided to hold In-person meetings in January (our banquet), March, June, September and November (gadget night) at MTRP. The other meetings will be held via Zoom and we will try and share the in-person meeting on Zoom if we can overcome some technical issues with the facilities at MTRP.

f. AISIG Report:

No report. Dave is going to reach out to Kevin Linde to see if he's still interested in hosting AISIG.

g. Newsletter Report:

As always, the newsletter looks great – Thanks, Andrea!

h. Website Report:

No Report

i. Social Media:

No report



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j. Outreach Report:

Below is a summary of outreach event participation with numbers for October and for YTD:

2022	October	YTD
Events Completed	8	77
Events Cancelled	4	21
Total Attendance	370	4942

In October we had a few interesting outreach events scheduled, including the Webelos Woods at Mataguay Scout Ranch, Cabrillo National Monument, Borrego Springs Library, and the Crestridge Ecological Reserve.

Arriving at Mataguay we found cows had claimed our observing grounds, so a little cowboy roundup was necessary as well as some “clean up” of the grounds before setting up scopes. It is always fun hosting for these Cub Scouts about to become Boy Scouts. Cabrillo Lighthouse was unfortunately cancelled due to weather, and the Crestridge event was low turnout with enthusiastic patrons. The Borrego Library was a good event with clear skies the evening before Nightfall began. They are already asking us to return in the Spring.

k. TARO Report:

TARO is operational weather permitting. Accepting DSO and exoplanet observation requests.

l. Cruzen Report:

Paul Krizak has taken over as the Cruzen Observatory Chairperson and has a great plan to finally get the observatory operational. The First formal commissioning excursion to Cruzen took place on Oct 23rd and the following progress was made:

- 110v wiring/conduit on the north pier was fixed up to avoid tripping hazard, and all four receptacles now fully wired and functional.
- Power strips and power cords rerouted and neatly tucked away.
- 12v fused power distribution panel built and installed on the south wall.
- PWM dimmers for the door sill lights and room lights added.
- LED shop lights added on the northwest and southeast corners.
- South roof control box adjusted and tightened
- Tables, chairs, cabinets moved around a bit to make movement more comfortable
- Red film added over Gemini-2 hand control display. Greatly reduces glare.
- Added a hook to the Gemini-2 hand control so it's less likely to get dropped.
- Mounted the Schaefer RA drive control to the north pier
- Verified and documented the correct DSC configuration settings for the Schaefer
- Tested a few startup/shutdown scenarios with the G11



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November's excursion is expected to include:

- Jim Traweek noted that the end cap for one of the roof beams is missing.
- All the roof beams should be checked and sealed to avoid wasp/bee infestation.
- Complete the 110v wiring improvements, notably fixing the south pier's receptacle to lay down like the north pier now does.
- Complete the 12v red interior lighting
- Add switches for the white lights (they currently just plug in)
- Add reflective tape / plastic reflectors to counterweight shafts, tripping hazards, roof beams, basically anything that a member might bump into in the dark
- Add a hair dryer to the inventory for dew abatement
- Fix the Schaefer RA encoder slipping for good (glue)
- Add a crosshair reticle eyepiece to the Stellarvue finder on the DK. Found a NIB on Cloudy Nights for \$60
- Nylon thumbscrews to allow DK focuser rotation. Jim says he has some that he'll get installed next time he's up there.
- Mount the DSC controller and add cable management on the Schaefer
- 12v wiring and extensions to allow for plugging in the DK's cooling fans when parked
- Red lamps for tables (if I can find some that are reasonably priced and can be sufficiently dimmed)
- We are currently on track for an April member training session and first light

m. Merchandise Report:

We now have SDAA license plate frames for sale in our store. The frames are made of a high-quality metal and are very nice. Gene is taking pre-orders for t-shirts and sweatshirts if anybody is interested.

n. Astronomical League Report:

No Report.

o. JSF Report:

No report.

p. Primary Grid Reconstruction Report:

We are behind providing our consultant the requested design criteria.

Specifically:

- 15-minute data for both electrical meters
- Field location of TARO/Boyce electrical run

The committee still needs to recommend to the board pad usage regulations – this will drive the number of circuits required for the private and public pads. Our “nothing greater than an electric blanket” is driving current planning.



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5. Old Business:

- a. Bank Fraud Update (see Treasurer's Report) Biendara
- b. Banquet Update – Scheduled for January 28th and we've started to get donations for the raffle/auction. We're still working on the final details but will get information out as soon as possible. Chasin
- c. We've only received one quote for the electric gate at TDS which was higher than expected. Still working on additional quotes. Chasin
- d. New Board slate Wood

6. New Business:

- a. The Board reviewed a proposal by a private pad holder to add solar and a storage unit to their pad. The Board rejected the plan as submitted and will send our recommendations to the lessee. Wood/Smith
- b. KNVS bar/restaurant in Oceanside is now displaying artwork from some of our SDAA members. We had about 200 submissions and there will be about 100 digital images and 15 prints on display for about 4 months.

7. Adjournment: The meeting was adjourned at 9:19pm.

Astrophotography Exhibit

A new restaurant/bar recently opened in Oceanside called KNVS (pronounced, "Canvas") which is an art-themed venue. The owner, Kevin Shin, is on the board of the Oceanside Museum of Art and created the place to showcase local artists and their work in exhibits that run for 3-4 months. The hors d'oeuvres and drinks are created to align with the theme of the art on display. Kevin is a self-proclaimed astronomy nerd and invited the SDAA to share our images from November 11th through February. This is an excellent outreach opportunity for the club. SDAA members stepped up and submitted 171 digital and 22 printed images from 24 astrophotographers covering 85 different targets. A 5-member judging panel faced the daunting task of selecting which of those spectacular images would be included in the exhibit. There is space on the walls for 12-15 printed images and 2 digital projectors will display slideshows of digital images. We're working to get some guest speakers for some "special event" evenings as well. Kevin Shin is already amping up the hype on social media. If you haven't had the pleasure of visiting KNVS and the Switchboard restaurant next door, it is definitely worth dropping by. The soft opening will be 11/11 and promises to be a lively event.

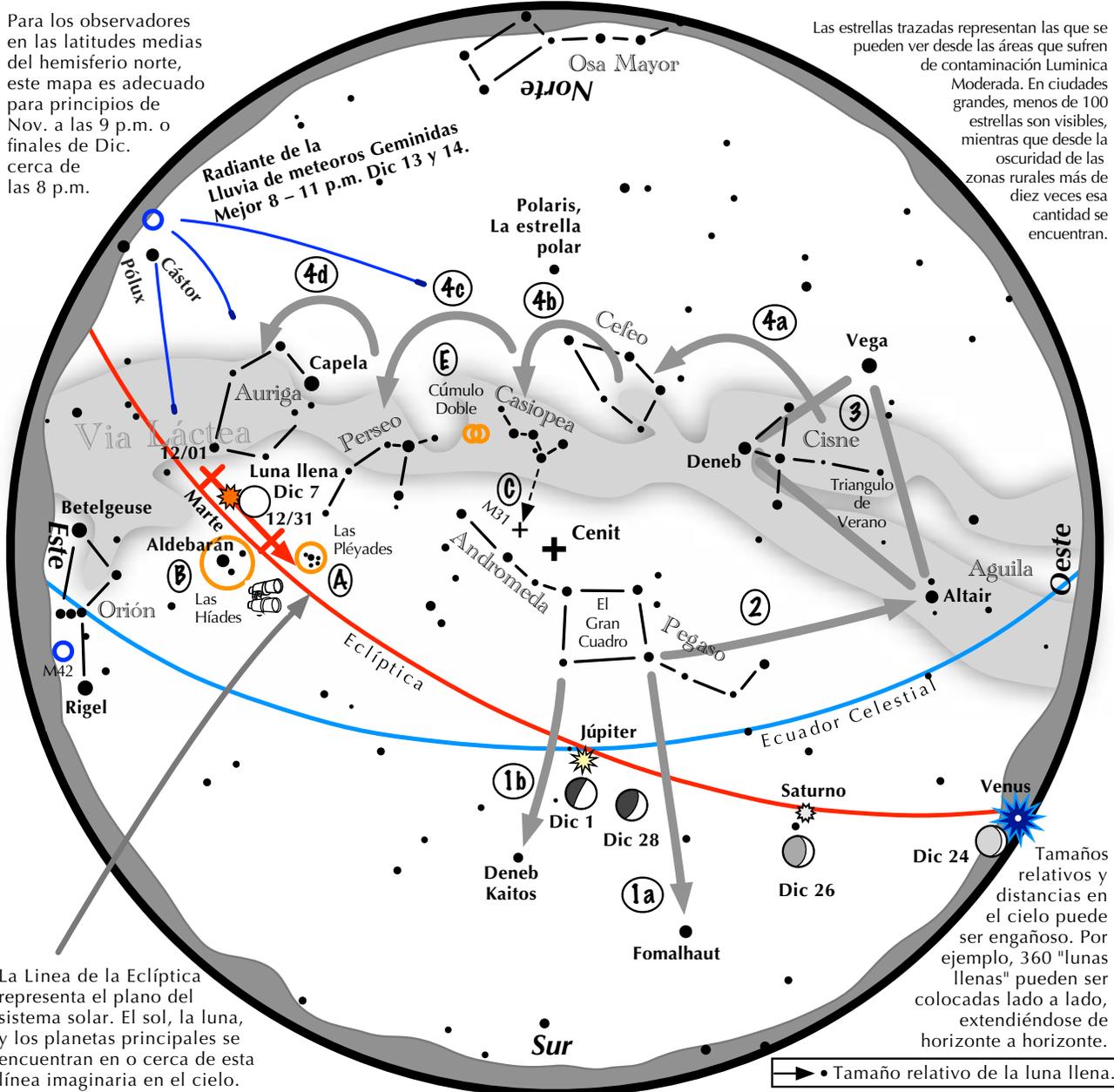


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Navegando por el cielo nocturno de Diciembre

Para los observadores en las latitudes medias del hemisferio norte, este mapa es adecuado para principios de Nov. a las 9 p.m. o finales de Dic. cerca de las 8 p.m.

Las estrellas trazadas representan las que se pueden ver desde las áreas que sufren de contaminación Luminica Moderada. En ciudades grandes, menos de 100 estrellas son visibles, mientras que desde la oscuridad de las zonas rurales más de diez veces esa cantidad se encuentran.



La Línea de la Eclíptica representa el plano del sistema solar. El sol, la luna, y los planetas principales se encuentran en o cerca de esta línea imaginaria en el cielo.

Tamaños relativos y distancias en el cielo puede ser engañoso. Por ejemplo, 360 "Lunas llenas" pueden ser colocadas lado a lado, extendiéndose de horizonte a horizonte.

→ • Tamaño relativo de la luna llena.

Navegando por el cielo nocturno: simplemente comience con lo que sabe o con lo que puede encontrar fácilmente.

- Hacia el sur. Casi arriba está el "Gran Cuadro" con cuatro estrellas con el mismo brillo que las de la Osa Mayor. Extiende una línea imaginaria hacia el sur siguiendo las dos estrellas más occidentales del Gran Cuadro. La línea lleva a Fomalhaut, la estrella más brillante del sur. Una línea que se extiende hacia el sur desde las dos estrellas más orientales, lleva a Deneb Kaitos, la segunda estrella más brillante del sur.
- Dibuja otra línea, esta vez hacia el oeste siguiendo el borde sur del Gran Cuadro. Lleva a la estrella Altair.
- Ubique a Vega y Deneb, las otras dos estrellas del "Triángulo de verano." Vega es su miembro más brillante, mientras que Deneb se localiza en el medio de la Vía Láctea.
- Salta a lo largo de la Vía Láctea desde Deneb hasta Cefeo, que se asemeja al contorno de una casa. Continúa saltando a la "W" de Casiopea, a Perseo y finalmente a Auriga con su brillante estrella Capela.

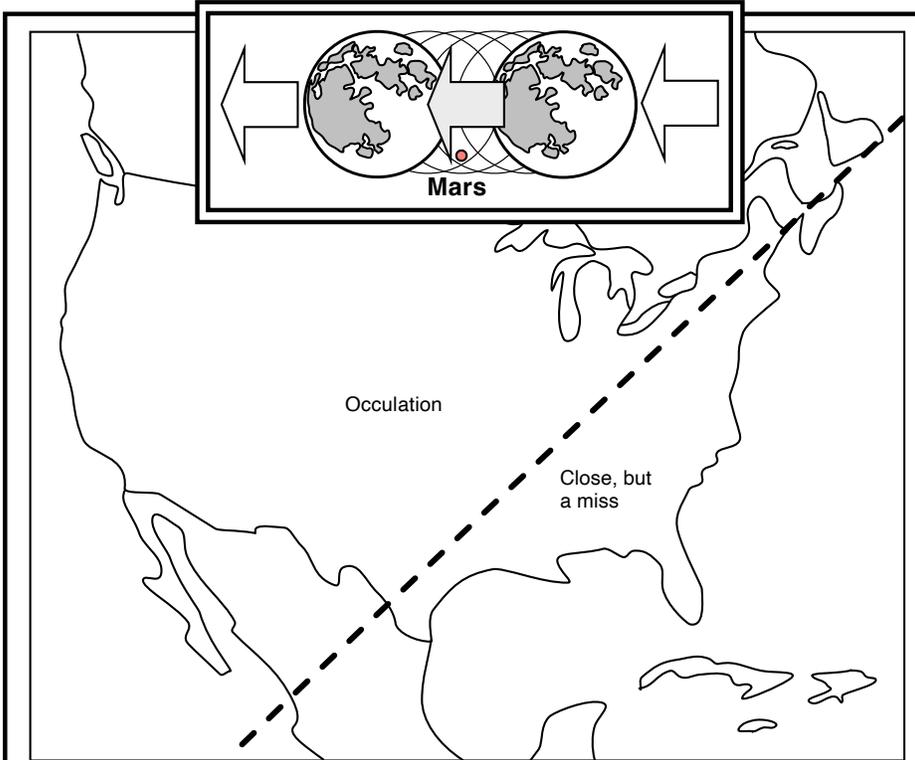
Destacan con Binoculares. **A** y **B**: examina las estrellas de las Pléyades y las Híades, dos cúmulos de estrellas a simple vista. **C**: Las tres estrellas más occidentales de la "W" de Casiopea apuntan hacia el sur hasta M31, la Galaxia de Andrómeda, un óvalo "borroso." **D**: Barrer a lo largo de la Vía Láctea desde Altair, pasar Deneb, a través de Cefeo, Casiopea y Perseo, y luego a Auriga para visualizar muchos intrigantes cúmulos de estrellas y áreas nebulosas. **E**. Cúmulo Doble de Perseo.





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If you can see only one celestial event this December, see this one.



Occultation of Mars occurs northwest of a line drawn from Augusta, ME through Columbus, OH through Little Rock, AR, and through San Antonio, TX

Full Moon occults Bright Mars

In the evening hours of **Dec. 7**, the brilliant full moon passes in front of bright Mars, which is at opposition, for viewers west of a line drawn from August, ME through San Antonio, TX. It may not be easy to see because of the moon's bright glare!

Approximate local times of disappearance and reappearance. Begin viewing a few minutes before listed disappearance time. Mars' time and position of reappearance is hard to judge since the planet lies concealed behind the moon beforehand.

City	Disappearance	Reappearance
Augusta	10:57	11:25
Austin	8:58	9:12
Buffalo	10:32	11:13
Chicago	9:10	10:04
Columbus	10:26	10:56
Denver	7:45	8:47
Indianapolis	10:16	10:56
Kansas City	8:57	9:51
Little Rock	9:06	9:32
Los Angeles	6:31	7:30
Phoenix	7:32	8:30
Salt Lake City	7:42	8:45
San Antonio	8:59	9:07
San Francisco	6:36	7:35
Seattle	6:53	7:50



Occultations demonstrate the moon's eastward orbital motion as Earth's rotation causes it to move in a westward arc across the night sky.





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ASTRONOMICAL LEAGUE

The RASC Observer's Handbook and Observer's Calendar are now available for pre-order on the League Sales webstore!

OBSERVER'S CALENDAR

OBSERVER'S HANDBOOK

2023

A beautiful complement to the Handbook, filled with dates of notable celestial events – lunar and planetary conjunctions, eclipses, meteor showers and more.

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December 2022 Another Look

The winter solstice or the first day of winter is on December 21, 1348 PST. For those readers in Brisbane, this time will mark the first day of Summer. (Note APOD October 21, 2022)

December 8 full moon

November 25 and December 23 are December's new moons

Moon Names : Cold Moon, Snow Moon for the Cherokee, the Chinese, Bitter Moon, the Old English had the Oak Moon and the Christmas Moon in early America.

Striding across the cold winter sky, stars cracking in the wind and burning down through the air, he brandishes his club and holding his lions pelt shield up, Gilgamesh or maybe Uruanna or even Tammuz shines for us as he has for 30,000 years. Over 4000 years ago he marked the rise of Sirius and the inundation of the Nile. He has, as Tammuz, risen in June for the Assyrians. He wears his belt and sword and is dressed in (maybe) a lions skin. He is a son of Poseidian who gifted him with the ability to walk on or (maybe) in water.

For the Greeks, the constellation now known as Orion, marked the new year when he rose with the sun. Orion is followed by his dogs Canis Major and Minor. Canis Major's brightest star Sirius was the star the Egyptians used to calibrate their year by the rising of the Nile. Not much remains of the oldest stories of Orion except his various names and his importance as a seasonal marker.

More imaginative, and through centuries of oral and some written tradition, the Greeks had him falling in love with the Plead Merope, chasing her across the heavens, being blinded by Merope's father, Oenopion, regaining his sight by the light on the sun and becoming the favorite hunting companion of the goddess Artemis

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• [https://commons.wikimedia.org/wiki/File:Sidney_Hall_-_Urania%27s_Mirror_-_Orion_\(best_currently_available_version_-_2014\).jpg](https://commons.wikimedia.org/wiki/File:Sidney_Hall_-_Urania%27s_Mirror_-_Orion_(best_currently_available_version_-_2014).jpg)

•Phew, when did guy stop to eat?

The easternmost (left) star in the belt is zeta ζ Orionis, a beautiful triple star system but you will probably only see two, the third is very close to ζ .

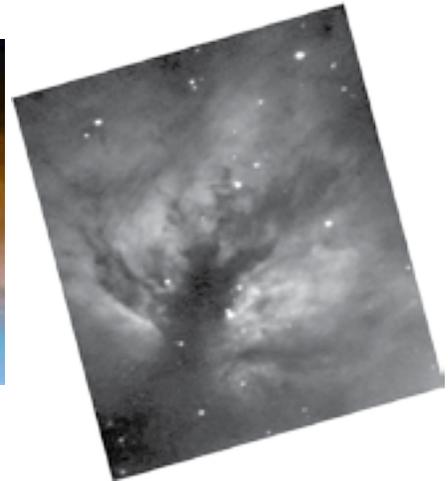
Zeta's ζ common name is Alnitak, meaning girdle, and it is associated with several very famous astronomical objects.





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Right next to Alnitak is the Flame Nebula, NGC 2024. One of the objects that actually look something like its name. Its big and will fill the field in your medium power eyepiece. Close to the Flame is the Horsehead, long thought to be a mystical and difficult object to view. The Horsehead is Number 33 on Barnard's list of dark nebula and the reason I make sure to study each constellation for its own dark nebula.



From my backyard venues I never found it with my 3" refractor. In my 8", my light polluted backyard also made everything in that area pale and faint. But when I put the 17 on it at a dark sky site, Wow! IC 434 was large and bright and the black cloud of B33 was huge. Actually, Alnitak is embedded in IC 433's nebulosity. Look for Sigma σ Orionis. Sigma's bright light illuminates IC 434. On the other side of the Horse, between it and the Flame is NGC 2023, full of Hydrogen clouds. All I remember seeing is the star, an 8th magnitude Herbig star embedded in NGC 2023. Its star is designated 37903 in the Henry Draper catalog.

[Horsehead and Flame – Rick Gonzalez TVA](https://ocastronomers.org/user_images/ngc2024-flame-nebula/)

<https://www.adamblockphotos.com/ngc2024.html>

A little further down from the belt is Orion's sword, Part of the huge Orion molecular cloud and maybe the closest star forming regions to our solar system. The Orion nebula, M42, has been recognized for thousands of years and is one of our favorite deep sky targets



The Orion Nebula has been visible for 30,000 years. Who can say what those early tool makers thought of that little fuzzy star and what significance they gave it. There is a Aurignacian mammoth ivory carving dated between 32,000 to 38,000 years old that was found in Germany depicting the nebula. Even just 50 years ago all we really new was that it was big and composed of gas. Our spectroscopes told us there was hydrogen and we were pretty sure it was a stellar nursery, but we had no idea just how big I it was. *OCAstronomers.org Unattributed*



When I turned my 3" on it in the early 1960's I saw the great cloud, but what was front and center was the Trapezium. Now, that was sumptin'. I could split it with my 3, but my buddy's brother only saw three in his 60mm Tasco. Not bad, the first observations of the Trapezeium were done by none other than Galileo, and he also saw only three. You will be able to pick out six if your seeing allows and it would be interesting to see what some big long focus instruments in our amateur's hands can accomplish.

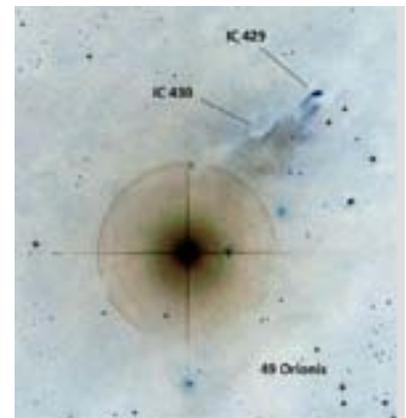
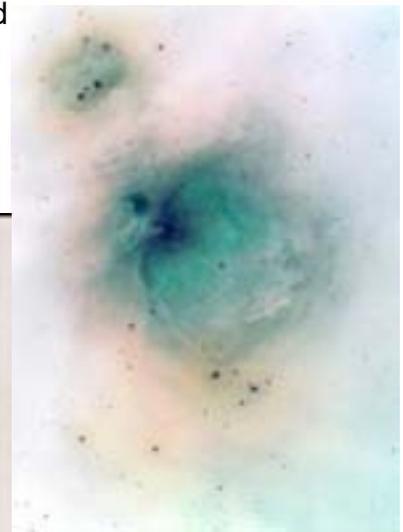


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The main piece of the image we see here is composed of M42 and M43. The bluish nebula closer to the corner is NGC 1977.

<https://www.temeculavalleyastronomers.com/photo-gallery.html> Curtis Croulet TVA 0311

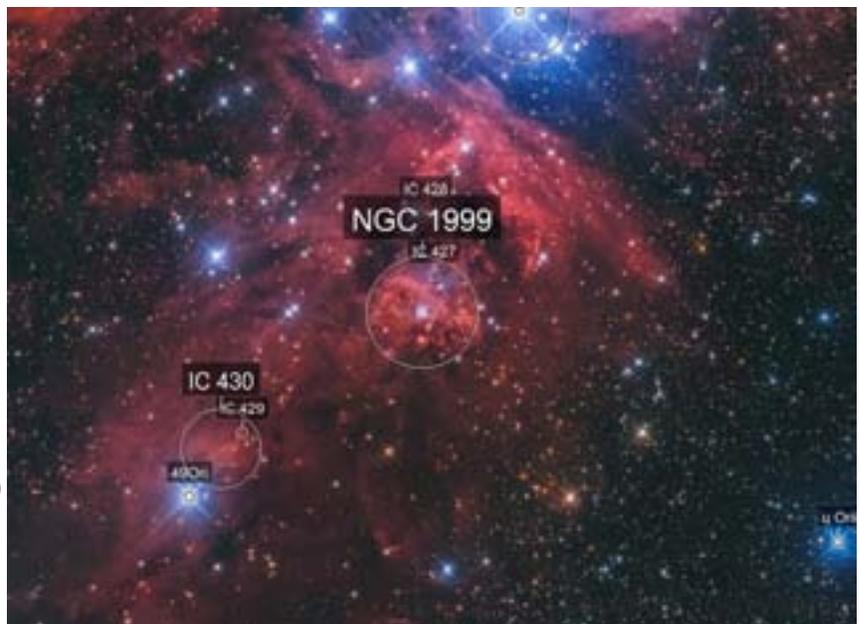
I have searched diligently for the classification of the dark lane separating M42 and M43, but could not find it. Current professional images often show a significant gap between



42 and 43, others not so much.

https://commons.wikimedia.org/wiki/File:Orion_constellation_Hevelius.jpg

Below the nebula and fading off into the greater Orion molecular cloud are several bits of nebulosity I found. As amateurs, we tend to look for the glorious objects like M42 and tough objects like the Running Man. I inverted Curtis's image to bring out NGC 1980 and the nebulosity south of M42. There are two more clusters of nebulosity running south, the area around NGC 1999 and around IC 430. The inverted image around 49 Orionis is IC 429 and IC 430. You can find an image of the hole in NGC 1999 at APOD on March 7, 2018 and on the OCA website.





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The original image can be found at https://commons.wikimedia.org/wiki/File:49_Ori_-_IC_430_-_IC_429_-_DSS2_labeled.png.

The colored image will take you from NGC 1999 down to 49 Orionis.
<https://www.hansonastronomy.com/ngc-1999>

Under Orion's feet, mark too the Hare,
Perpetually pursued.
Behind him Sirius Drives as in chase,
hard pressing when he rises,
And when he sinks as hotly pressing still.
Frothingham's Aratos

While Orion fights Taurus in an effort to reach Merope and the Pleiades, His dogs, the big guy and the pup are chasing a rabbit across the sky. The rabbit's name is Lepus, meaning the Hare, and I suppose he is running for the shore of Eridanus, probably to hide in the rushes that grow deep on the river's shore. Lepus is another ancient constellation, showing up on cuneiform tablets, coins and seals from the Euphrates Valley, Chinese artwork, Indian astronomy and even into the oral legends of Australia and the islands nearby. The mythology put Lepus at odds with Corvus. The one rises, soon after the other sets. In addition, Lepus is hunted by Aquila, the Eagle, they are opposite and one rises as the other begins to set.

There are two red variable stars and one exciting multiple star in Lepus to find. The first is the famous Hind's Crimson Star, R Leporis. A red variable changing in magnitude from 5th to 12th. "R" is found 3.5 degrees from Mu μ Leporis. The top right star of Orion's stool. RX Leporis is also 3.5 degree from Mu μ but almost due north and right next to Iota ι Leporis. RX is a pulsating variable of only about one-half a degree of magnitude from 5 to 5.5. Although not physically related to Iota they make a terrific Blue/Red image in your eyepiece, only one degree difference in magnitude. To add to the excitement, Iota is also a double star with a 10th magnitude companion.



<https://www.sciencephoto.com/media/331140/view/variable-star-rx-lep>



Another interesting star(s) is NGC 2017, but first observed by John Herschel as a sextuple star and given the designation h3780, though Burham lists only 4 companions. Its only 6' west of Alpha α leporis. https://commons.wikimedia.org/wiki/Category:NGC_2017#/media/File:NGC_2017_PanS.jpg

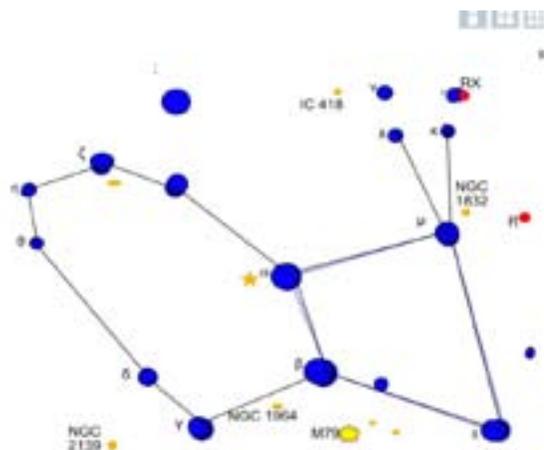
Staying with the colorful theme for the present, shift your telescope 4 degrees (about 15' of Arc) west to NGC 418. Its pretty small, 12", but is 9th magnitude with a 10th magnitude central star and lots of nebulosity. Hubble did an incredibly colorful one back in 1999. You can find it on hubblesite.org.

<https://www.nasa.gov/feature/goddard/2017/messier-79>



On the other side of Lepus, south of Beta β , is another one of Messier's

<https://ocaastronomers.org/wp-content/uploads/2019/01/m079.jpg>



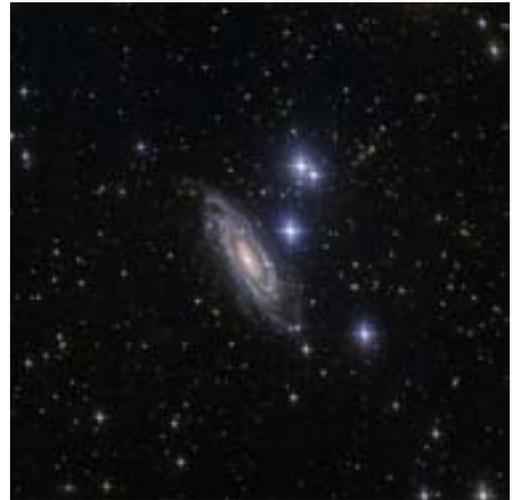


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globulars. It's M79 and it's big and at 8th magnitude somewhat resolvable in your 8". NASA did an outstanding piece of darkroom work and came up with a really great image. Hubble's image of M79 is also on hubblesite.org. The image was done by a local member of the Orange County Astronomers and can be found at <https://ocastronomers.org/wp-content/uploads/2019/01/m079.jpg>

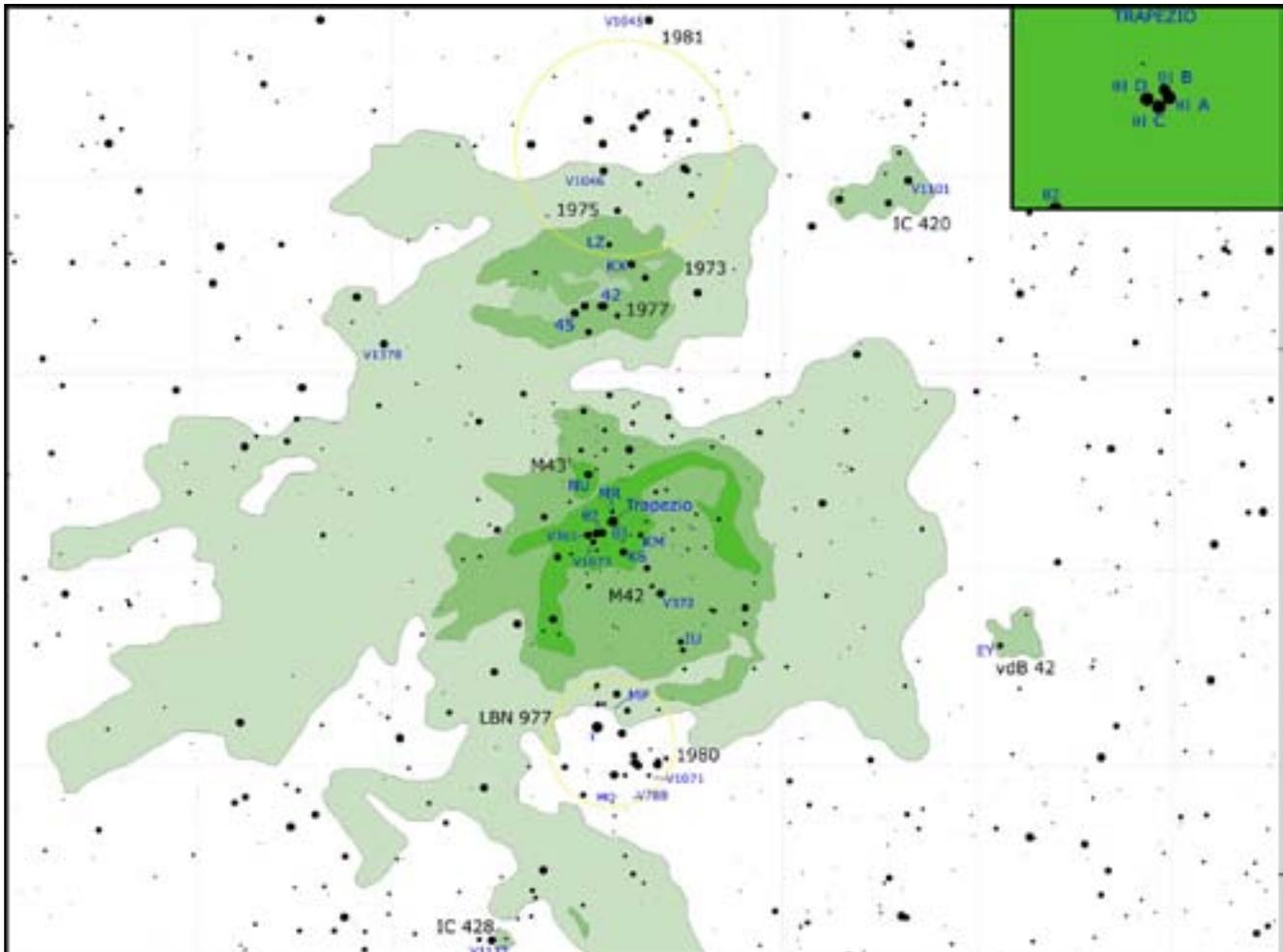
We have two "bright enough" galaxies near M79 that we want to see. NGC 1964 is 11th magnitude and NGC 2139 is 10th. All you will see with N2139 is its nucleus. It get bright real fast as the arms fade. N1964 is a different animal. Its titled sharply and at a steep position angle. Look it up at:

https://en.wikipedia.org/wiki/NGC_1964#/media/File:NGC_1964_-_Potw1739a.tif



Dark Skys
Dave Phelps

https://commons.wikimedia.org/wiki/File:Regioni_celesti_scelte_-_SpadaOrione.png





San Diego Astronomy Association

10.1" f4.5 Coulter Odyssey Compact \$200



Own a piece of history by picking up this 1980s vintage Coulter Odyssey Compact Dobsonian telescope. Solid and sturdy wood construction has survived decades of service in the SDAA loaner program while still slewing smoothly and precisely on both axes. Thick, high-quality f/4.5 10.1" mirror with pristine coatings and a center spot. Secondary mirror is also in excellent condition. As shown in the photos, this scope has a lot of wear and tear. But it's virtually all cosmetic – some TLC and a fresh coat of paint would bring this classic back to as-new condition. Or scavenge the optics and build your own telescope! Comes with what is shown in the photos: OTA, rocker box, 6x30 finder scope, Telrad base (no Telrad), and padded storage box for the primary mirror.

Presale price of \$200 plus fees for Contributing Members only.

Cloudy Nights & Astromart pricing will be \$250 plus fees and shipping.

Paul Krizak, for SDAA, loanerscopes@sdaa.org



San Diego Astronomy Association

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Have a great new piece of gear? Read an astronomy-related book that you think others should know about? How about a photograph of an SDAA Member in action? Or are you simply tired of seeing these Boxes in the Newsletter rather than something, well, interesting?

Join the campaign to rid the Newsletter of little boxes by sharing them with the membership. In return for your efforts, you will get your very own byline or photograph credit in addition to the undying gratitude of the Newsletter Editor. Just send your article or picture to Newsletter@SDAA.Org.



San Diego Astronomy Association

NASA Night Sky Notes

December 2022



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!

Binoculars: A Great First Telescope

David Prosper

Do you want to peer deeper into the night sky? Are you feeling the urge to buy a telescope? There are so many options for budding astronomers that choosing one can be overwhelming. A first telescope should be easy to use and provide good quality views while being affordable. As it turns out, those requirements make the first telescope of choice for many stargazers something unexpected: a good pair of binoculars!

Binoculars are an excellent first instrument because they are generally easy to use and more versatile than most telescopes. Binoculars can be used for activities like stargazing and birdwatching, and work great in the field at a star party, along the hiking trail, and anywhere else where you can see the sky. Binoculars also travel well, since they easily fit into carry-on luggage – a difficult feat for most telescopes! A good pair of binoculars, ranging in specifications from 7x35 to 10x50, will give you great views of the Moon, large open star clusters like the Pleiades (M45), and, from dark skies, larger bright galaxies like the Andromeda Galaxy (M31) and large nebulae like the Orion Nebula (M42). While you likely won't be able to see Saturn's rings, as you practice your observing skills you may be able to spot Jupiter's moons, along with some globular clusters and fainter nebulae from dark sites, too.

What do the numbers on those binocular specs actually mean? The first number is the magnification, while the second number is the size in millimeters (mm) of the lenses. So, a 7x35 pair of binoculars means that they will magnify 7 times using lenses 35 mm in diameter. It can be tempting to get the biggest binoculars you can find, but try not to get anything much more powerful than a 10x50 pair at first. Larger binoculars with more power often have narrower fields of vision and are heavier; while technically more powerful, they are also more difficult to hold steadily in your hands and "jiggle" quite a bit unless you buy much more expensive binoculars with image stabilization, or mount them to a tripod.

Would it surprise you that amazing views of some astronomical objects can be found not just from giant telescopes, but also from seemingly humble binoculars? Binoculars are able to show a much larger field of view of the sky compared to most telescopes. For example, most telescopes are unable to keep the entirety of the Pleiades or Andromeda Galaxy entirely inside the view of most eyepieces. Binoculars are also a great investment for more advanced observing, as later on they are useful for hunting down objects to then observe in more detail with a telescope.

If you are able to do so, real-world advice and experience is still the best for something you will be spending a lot of time with! Going to an in-person star party hosted by a local club is a great way to get familiar with telescopes and binoculars of all kinds – just ask permission before taking a closer look! You can find clubs and star parties near you on the Night Sky Network's Clubs & Events page at bit.ly/nsnclubsandevents, and inspire your binocular stargazing sessions with NASA's latest discoveries at nasa.gov.



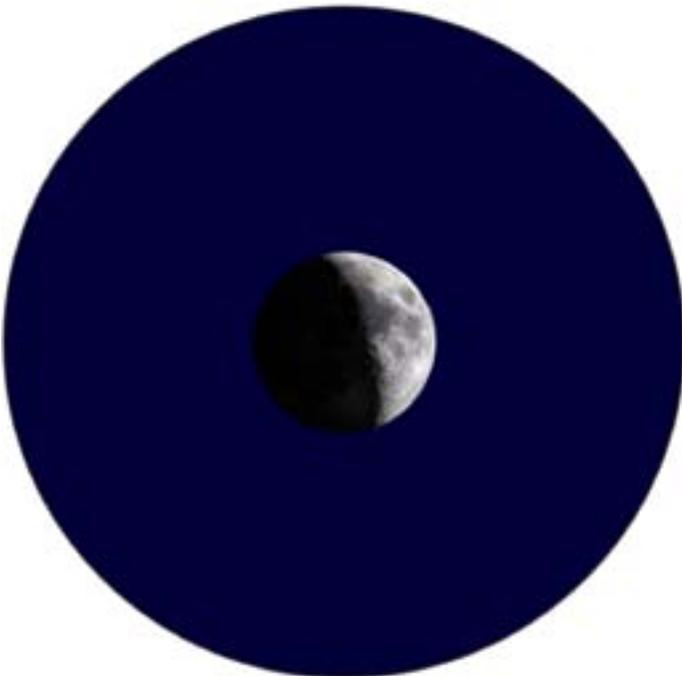
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NASA Night Sky Notes

December 2022



The two most popular types of binocular designs are shown here: **roof-prism** binoculars (*left*) and **porro-prism** binoculars (*right*). Roof prisms tend to be more compact, lighter, and a bit more portable, while porro-prisms tend to be heavier but often offer wider views and greater magnification. What should you choose? Many birders and frequent fliers often choose roof-prism models for their portability. Many observers who prefer to observe fainter deep-sky objects or who use a tripod with their observing choose larger porro-prism designs. There is no right answer, so if you can, try out both designs and see which works better for you.



A pair of good binoculars can show craters on the Moon around 6 miles (10 km) across and larger. How large is that? It would take you about two hours to hike across a similar-sized crater on Earth. The “Can You See the Flag On the Moon?” handout showcases the levels of detail that different instruments can typically observe on the Moon, available at bit.ly/flagmoon. Moon image courtesy Jay Tanner



San Diego Astronomy Association

2022/3 TDS Star Party Schedule

Date	Type	Sunset	Astro. Twi.	Moonrise(set)	Illum. [†]	Notes	Hosts
12/17/2022	Public	4:44 PM	6:13 PM	1:34 AM	37.8%	Geminids peak night of Dec 13-14 (ZHR†† 150)	Bob Roth
12/24/2022	Member	4:48 PM	6:16 PM	(6:21:PM)	3.4%	Ursids peak night of Dec 21-22 (ZHR†† 10)	Lipp unmanned
1/14/2023	Public	5:04 PM	6:31 PM	12:21 AM	55.6%		
1/21/2023	Member	5:10 PM	6:36 PM	7:52 AM	0.2%	Mercury at greatest western elongation. (1/30)	
2/11/2023	Public	5:30 PM	6:53 PM	11:14 PM	72.0%		
2/18/2023	Member	5:36 PM	6:59 PM	6:23 AM	3.7%		
3/18/2023	Member	6:58 PM	8:20 PM	5:55 AM	12.6%		
3/25/2023	Public	7:03 PM	8:26 PM	(11:40 PM)	20.9%		
4/15/2023	Member	7:18 PM	8:44 PM	4:29 AM	24.8%	Mercury at greatest eastern elongation. (4/11)	
4/22/2023	Public	7:23 PM	8:51 PM	(10:27 PM)	8.6%	Lyrids peak night Apr 22-23 (ZHR 18)	
5/13/2023	Public	7:39 PM	9:13 PM	3:03 AM	38.5%		
5/20/2023	Member	7:43 PM	9:20 PM	(9:14 PM)	1.6%	Mercury at greatest western elongation. (5/29)	
6/10/2023	Public	7:56 PM	9:37 PM	1:36 AM	52.8%	Venus at greatest eastern elongation. (6/4)	
6/17/2023	Member	7:58 PM	9:40 PM	8:03 PM	0.3%		
7/8/2023	Public	7:59 PM	9:39 PM	12:07 AM	67.3%		
7/15/2023	Member	7:57 PM	9:35 PM	4:36 AM	3.9%		
8/12/2023	Public	7:36 pm	9:06 PM	3:26 AM	12.2%	Perseids peak night of Aug 12-13 (ZHR 100)	
8/19/2023	Member	7:29 PM	8:57 PM	(9:23 PM)	10.9%	Saturn at Opposition. (8/27)	
9/9/2023	Public	7:02 PM	8:26 PM	2:17 AM	24.5%		
9/16/2023	Member	6:53 PM	8:16 PM	(7:52 PM)	3.0%	Neptune at Opposition. (9/19)	
10/7/2023	Public	6:25 PM	7:47 PM	1:07 AM	40.2%	Draconids Meteor Shower. (10/7)	
10/14/2023	Member	6:16 PM	7:38 PM	(6:22 PM)	0.0%	Annular Solar Eclipse. (partial here)	
11/4/2023	Public	5:55 PM	7:18 PM	11:54 PM	57.8%	Taurids peak night Nov 4-5. (ZHR 5)	
11/11/2023	Member	4:49 PM	6:14 PM	5:34 AM	2.8%	Uranus at Opposition - Nov 13	
12/9/2023	Member	4:42 PM	6:10 PM	4:22 AM	12.0%	Mercury at greatest eastern elongation. (12/4)	
12/16/2023	Public	4:44 PM	6:12 PM	(8:54 PM)	20.1%	Geminids peak night Dec 13-14 (ZHR 150)	

[†] Illumination at meridian crossing.

^{††} Published *zenithal hourly rate(s)* ZHR vary widely between sources.

AmazonSmile Donations

The SDAA board wants to thank members for using the AmazonSmile donation link. AmazonSmile has made a charitable donation to the San Diego Astronomy Association, in the amount of \$408.97 as a result of qualifying purchases made by customers between April 1st - June 30th. Our URL is smile.amazon.com/ch/51-0183640 and, if you are an Amazon user, we hope you will encourage your family to use this option.

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