

San Diego Astronomy Association

Celebrating Over 50 Years of Astronomical Outreach



March 2022

SDAA Update

<https://www.sdaa.org/>
A Non-Profit Educational Association
P.O. Box 23215, San Diego, CA 92193-3215

Next SDAA Business Meeting

March 8th at 7:00pm
10070 Willow Creek Rd
San Diego, CA 92131
Via Zoom

Next Program Meeting

March 16th at 7:00pm
Live Stream

SDAA is now actively using online facilities like Zoom and YouTube to provide access to club meetings and special events. While our public outreach events have restarted in some San Diego County facilities, most events in city owned facilities are still undergoing review.

Public outreach events have restarted at The Lipp telescope. The Lipp hosts will limit the amount of people inside the observatory when the telescope is operational. Please observe masking and social distancing guidelines if you are unvaccinated.

As the pandemic remains a part of our lives, please continue to observe safe practice guidelines while at TDS.

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Incorporated in California in 1963

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Program Meeting March 16th

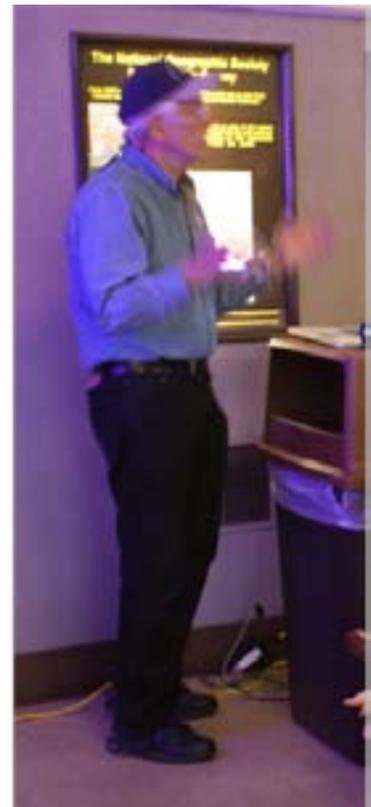
Speaker: Mike Bertin

Topic: Galileo's Finger: The Birth and Death of Galileo

History of the famous "Father of Modern Science" with obscure details most amateurs are not familiar with. Mike Bertin is a senior docent at Palomar Observatory and has spoken on Galileo, Palomar Observatory, and George Hale in numerous venues. He holds a BS in Physics from M.I.T and a PhD in nuclear physics from Rutgers.

You can register in advance for the meeting at the following link. After registering, you will receive a confirmation email containing information about joining the meeting. You may be required to log in with a Zoom login and password in order to attend the meeting.

<https://us02web.zoom.us/j/89298162225?pwd=TVZsTTg3dzRXcERDY0tXeHErVXArQT09>



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) <https://sdaa28.wildapricot.org/SDAA-Store>

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



San Diego Astronomy Association

San Diego Astronomy Association Board of Directors Meeting February 8, 2022- Unapproved and subject to review

1 Call to Order

The meeting was held via Zoom and was called to order at 7:08pm 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; Hiro Hakozaki, Director; Dave Decker, Director; Mike Chasin, Director; Gracie Schutze, Director, Steve Myers, Primary Grid Reconstruction Chairperson and member Kristina Miller, Banquet Committee.

2. Approval of Last Meeting Minutes

The January meeting minutes were approved.

3. Treasurers & Membership Report

The treasurer's report was approved. The banquet funds are trickling in. Chase Bank has denied the claim for the \$5,000 counterfeit check that they cashed on our account. Mel is still working with the bank and will file a claim with the CFPB as well as filing a police report. She is also looking to change banks from Chase to Cal Coast Credit Union. The loaner scope chairperson has requested \$200 which was approved. She also reported that SDGE has raised their rates quite a bit and we will probably exceed our budget estimates for utilities at TDS.

4. Standard Reports

a. Site Maintenance Report:

I emailed a representative from KP Environmental, a company SDGE must have contracted with to conduct their fuel reduction efforts. I notified the representative that we support their fuel reduction efforts including at TDS but are hoping to have a plan in place to remediate the increased light pollution before thinning or removing the vegetation. The representative asked us to let them know once we are ready. The meeting notes from the January board meeting indicate that the decision was made to let them do the work and then come up with a plan for the light intrusion. Please advise whether we want to let them do the work now or, as I mentioned to the representative from the contractor, hold off until we have a plan in place to remediate the increased light pollution likely to result from the brush clearing.

The warming room door combination lock is being rebuilt. The door is currently blocked closed with a brick until the door lock can be brought back to TDS and re-installed. Many thanks to Ed for taking care of the issue.

b. Observatory/Loaner Scope Report:

Observatory:

Observatory has been running well. We have excellent host participation and attendance. Filling the 2022 host schedule now.



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Rancho Bernardo High School's Astronomy Club visited TDS on January 29th. The event went very smoothly.

Loaner Scopes:

Ed Rumsey has completed the turnover of the loaner scope program to the new chairperson, Paul Krizak. Many, many thanks to Ed for his years of great service and his willingness to assist Paul during the transition!

The loaner program currently has one scope out.

SDAA #024 (Celestron SPC8) was returned Feb 5 on time and in good condition.

SDAA #024 (Celestron SPC8) was loaned on Feb 5 and returned the same night.

SDAA #023 (10" Orion Intelliscope) has been loaned out, due in May.

Now that I have had a chance to review the loaner scope inventory, I would like to request a \$200 budget for the remainder of FY22 to complete the following upgrades to the loaner fleet:

Complete the SDAA#027 beginner astroimaging loaner

Onboard SDAA#028, adding a refractor to the fleet

Add a Celestron NexYZ cell phone holder to the loaner accessories.

c. Private Pad Report:

The proposal for Pad 62 construction is almost ready for the BOD. I'm hoping it will make it in time for the meeting.

There are currently 7 available pads and 7 people on the waiting list. Note that 5 of the available pads are right by the water tank to the south and I've recently had two people relocate from two of those pads to other areas on the site. I'm trying to steer people thinking of putting up structures for remote imaging to those pads because I'm thinking it would be easier to mitigate the light trespass from that water tank with that kind of a setup.

d. Program Meetings Report:

Kin reported that we lost our March speaker, but he's working on a replacement. He's still working with MTRP to try and start in person meetings again. We will have to pay for security for the time we're there, which is expected to be around \$120 per meeting. As of now, the target date for resuming live meetings is September, but that could change.

e. AISIG Report:

There was no AISIG meeting in January and we still need someone to take over as the AISIG chairperson.



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f. Newsletter Report:

As always, the newsletter looks great – Thanks Andrea!

g. Website Report:

TDS All Sky Cam now displays as short videos of the last hour of images. Kudos to Hiro and Jeff Stevens for making this happen!

h. Social Media:

No report

i. Outreach Report:

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

2022	January	YTD
Events Completed	5	5
Events Cancelled	4	4
Total Attendance	154	154

Weather accounted for 3 of the 4 cancelled events in January. Another was related to technical issues with the new Fleet Science Center planetarium software. An event with the Girl Scouts in Escondido proceeded in spite of serious cloud cover. The night was considered a “success” in spite of the challenge, by substituting hands on activities and initiating rousing discussions.

We have not yet hosted any traditional school, on campus, activities since March of 2020. But we have several scheduled in the next few months, pending school approval and cooperative weather.

General organizational issues include a proposed realignment of the outreach program with a structure based on the type of event and activities, rather than on our current geographical areas. In practice, geography has had little to do with coordinating events in the last few years. Major changes in social mores and technology present an opportunity to improve our outreach to, and impact on our community. We should have a proposal for board consideration in the near future.

Also, Ed Rumsey and I have serviced a very nice Starmaster Dobsonian, which is an SDAA asset. We will be using this scope to support public outreach events in the near future.

Dave mentioned that we have several possible new venues or events in the works, including; Hell Hole Canyon County Park, the Borrego Springs Library and some new events at Dixon Lake and possibly with the Sierra Club.



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j. TARO Report:

The Paramount ME Dec and AZ drive gears have been cleaned, inspected and relubricated. No abnormal wear was noted.

TARO is operational and is accepting DSO/EXO target imaging requests, weather permitting – which has sucked (a lot!) lately.

k. Cruzen Report:

Gene said he's going to need someone to help and get Cruzen finished.

l. Merchandise Report:

Several sales this month.

m. Astronomical League Report:

Nothing new to report.

n. JSF Report:

We are still working on preparations for the 2022 Julian StarFest. We have contacted our San Diego County CEP specialist who is helping us with the permit application. There is a new section and form for COVID precautions, so we are currently working through that. In the off-chance that the event permit could not be approved for some reason, we are working to avoid any non-reimbursable expenses to the latest date possible. So far, we have not had to pay any fees or deposits.

o. Primary Grid Reconstruction Report

Steve reported on his progress and gave some preliminary budget estimates for the different phases. The board discussed the timeline for the different phases and agreed that we should prioritize primarily by liability to the club and benefit to the club members. Steve will put together a proposed timeline and report back to the board.

It was noted that the club is only responsible for the wiring up to the outlet at each pad site. It's the responsibility of the pad lessor to maintain any wiring from the outlet to the actual pad or pier. Steve is going to put together a list of pads where the wiring from the club's outlet to their pad is a concern. Once that's done, we'll notify the pad holder and possibly disconnect the wiring from the outlet to the pad, depending on the severity of the problem.

5. **Old Business:**

- a. The annual fund raiser was held vis Zoom on February the 12th. Both the sweepstakes and the auction were very successful with great participation from the membership.

6. **New Business:**

- a. New business - none

7. **Adjournment:** The meeting was adjourned at 9:15pm.

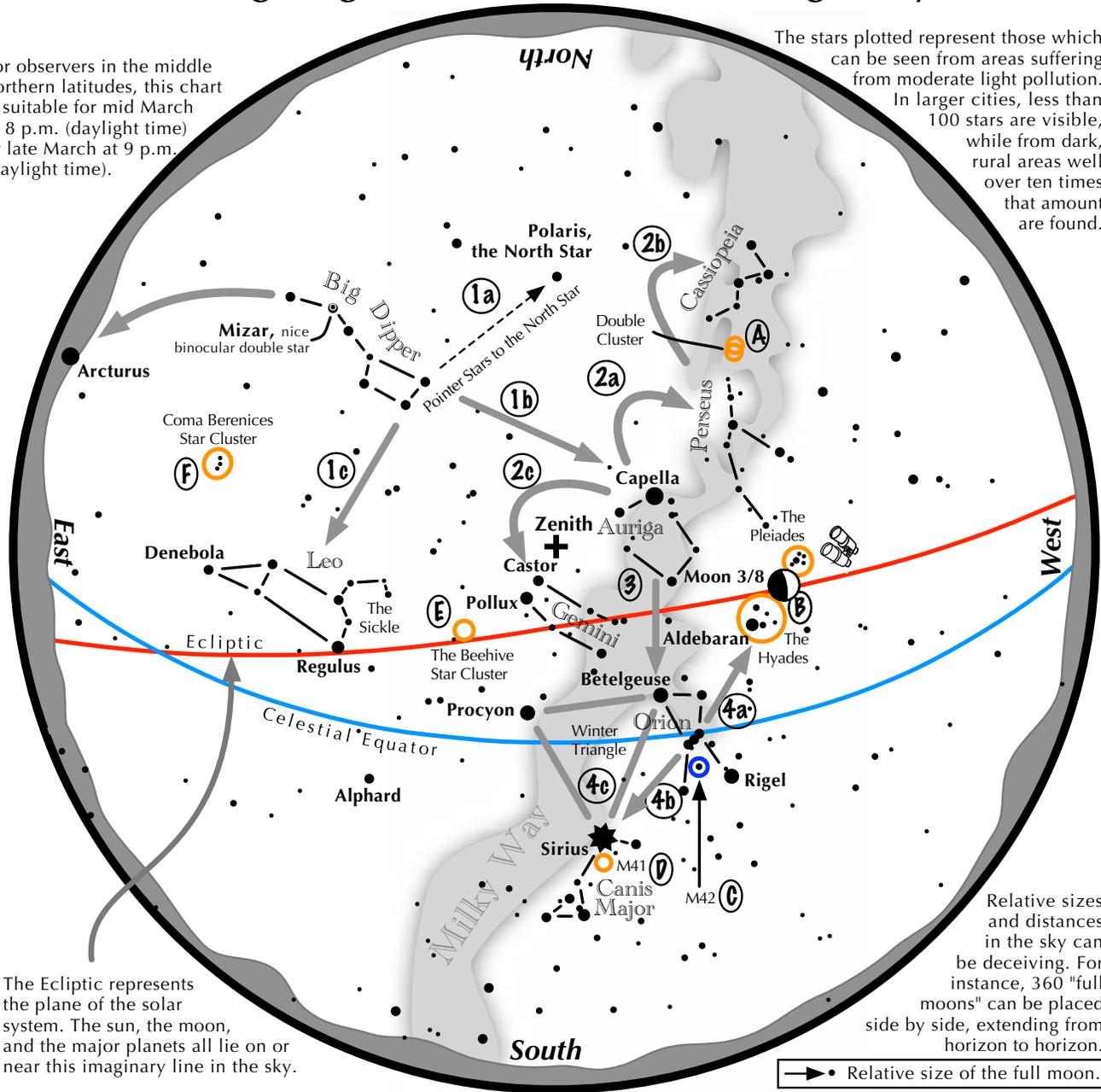


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Navigating the mid to late March Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid March at 8 p.m. (daylight time) or late March at 9 p.m. (daylight time).

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

Navigating the March night sky: Simply start with what you know or with what you can easily find.

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star. Its top bowl stars point west to Capella in Auriga, nearly overhead. Leo reclines below the Dipper's bowl.
- 2 From Capella jump northwestward along the Milky Way to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt Stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.
- 4 Use Orion's three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius. It is a member of the Winter Triangle.

Binocular Highlights

A: Between the "W" of Cassiopeia and Perseus lies the Double Cluster. **B:** Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **C:** M42 in Orion is a star forming nebula. **D:** Look south of Sirius for the star cluster M41. **E:** M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **F:** Look high in the east for the loose star cluster of Coma Berenices.



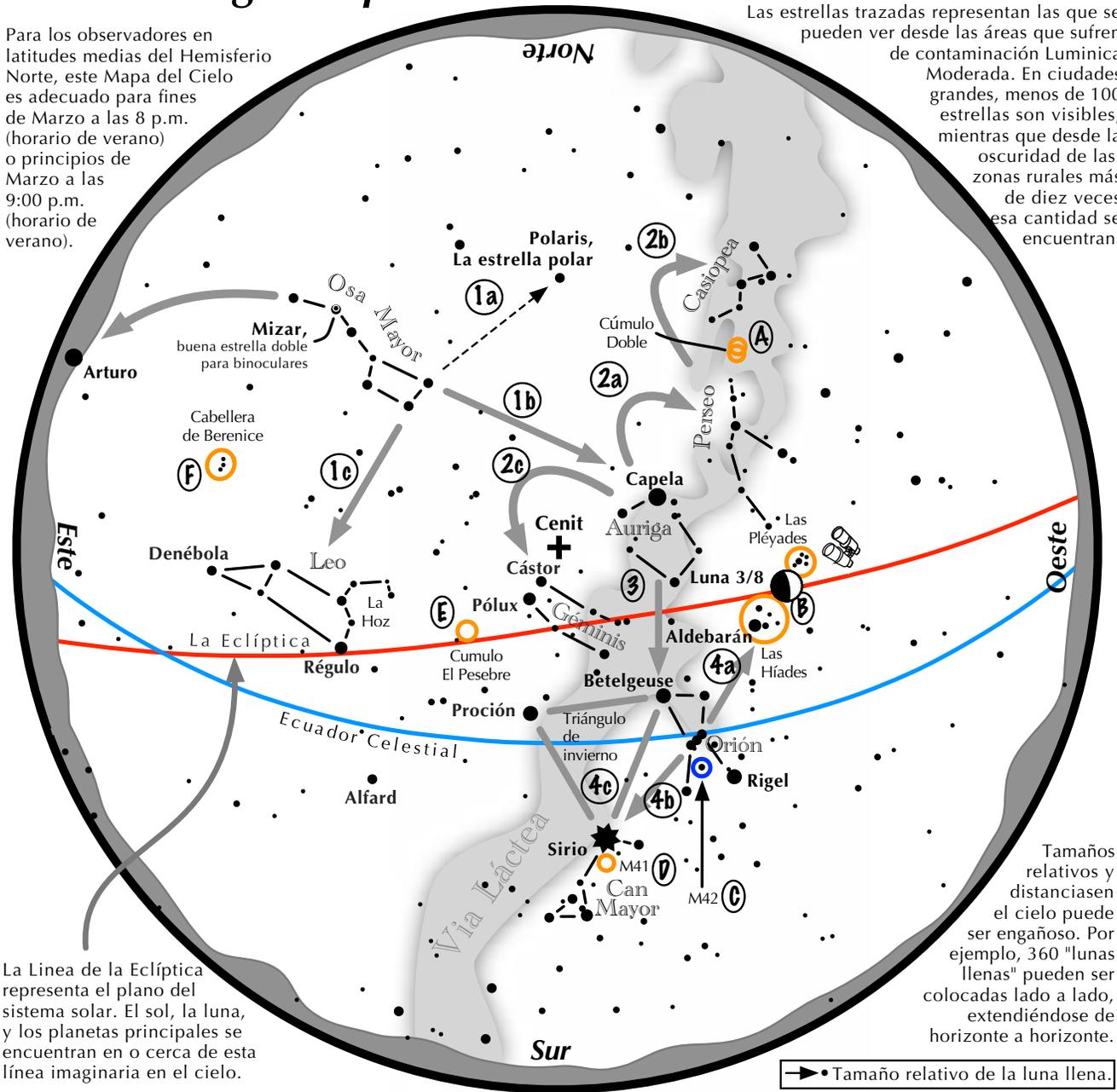


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Navegando por el cielo nocturno de Marzo

Para los observadores en latitudes medias del Hemisferio Norte, este Mapa del Cielo es adecuado para fines de Marzo a las 8 p.m. (horario de verano) o principios de Marzo a las 9:00 p.m. (horario de verano).

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.

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

- 1 Sobre el horizonte noreste se alza la Osa Mayor. Dibuja una línea desde sus dos estrellas finales hasta la estrella polar. Las estrellas superiores del tazón apuntan al oeste a Capela, casi por encima. Leo yace debajo del tazón de la Osa Mayor.
- 2 Desde Capela, salte hacia el noroeste a lo largo de la Vía Láctea hacia Perseo, luego hacia la "W" de Casiopea. Siguiendo salto hacia el sureste desde Capela a las estrellas gemelas de Cástor y Pólux en Géminis.
- 3 Directamente al sur de Capela se encuentra la constelación de Orión con sus tres estrellas del Cinturón de Orión, su brillante estrella roja Betelgeuse y su brillante estrella azul-blanca Rigel.
- 4 Usa las tres estrellas del Cinturón de Orión para apuntar al noroeste hacia la estrella roja Aldebarán y el cúmulo estelar Híades, y luego hacia el cúmulo estelar de las Pléyades. Viaja hacia el sudeste desde las estrellas del cinturón hasta la estrella más brillante en el cielo nocturno, Sirio. Es un miembro del Triángulo de invierno.

Puntos destacados con binoculares

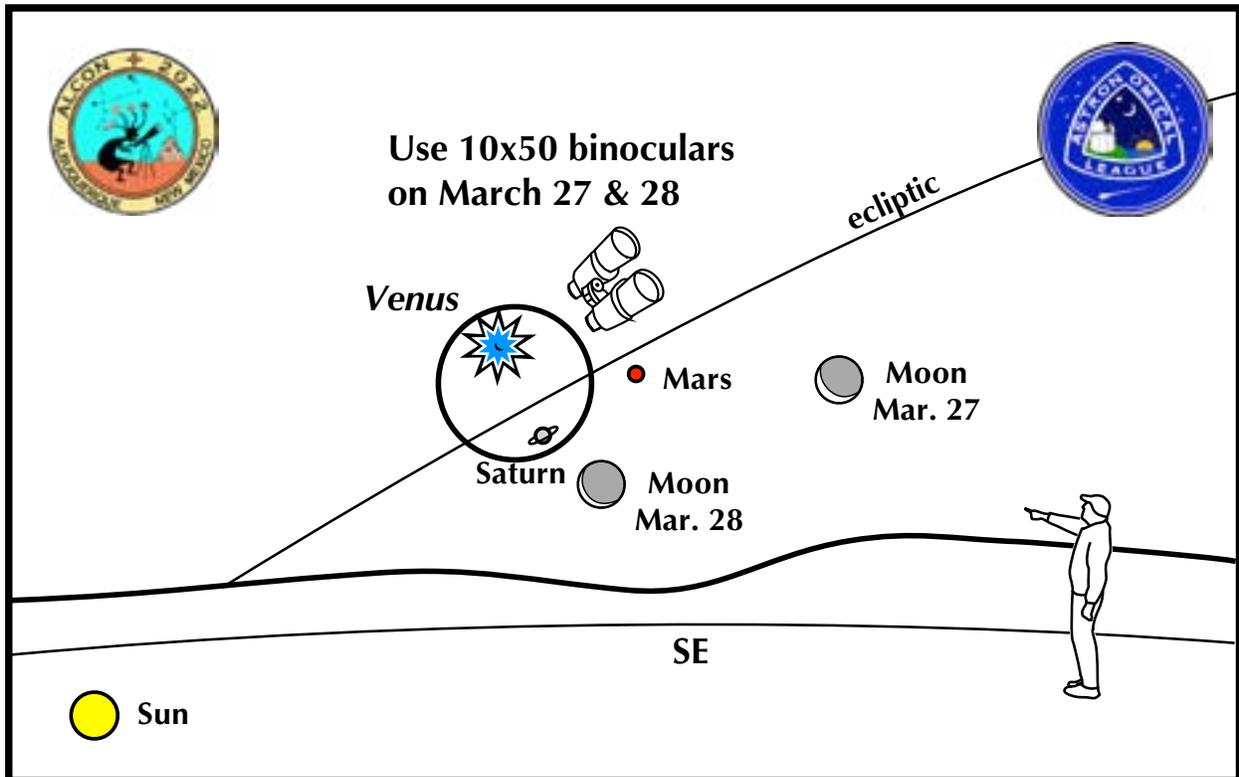
A: Entre la "W" de Casiopea y Perseo se encuentra el Doble Cúmulo. **B:** Examina las estrellas de las Pléyades y las Híades. **C:** M42 en Orión es una nebulosa formadora de estrellas. **D:** Mire al sur de Sirio para el cúmulo estelar M41. **E:** M44, un cúmulo de estrellas apenas perceptible a simple vista, se encuentra al sureste de Pólux. **F:** Mira alto en el este para ver el cúmulo de estrellas perdidas de Cabellera de Berenice.





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If you can see only one celestial event in the morning this March, see this one.



Crescent Moon passes Venus, Mars & Saturn

- Look in the east–southeast beginning 75 minutes before sunrise on March 27 & 28.
- Venus shines brightly low above the east–southeastern horizon.
- On Mar. 27, Mars lies about 1 binocular field to the right of Venus and Saturn lies in the same field as Venus, but to its lower right. The very thin crescent moon, full with earthshine, glows to the planetary trio's right.
- On the following morning, an even thinner moon floats below Saturn and Mars. Saturn should be slightly brighter than reddish Mars.



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Free to a good home: Celestron SLT Mount + Tripod



Celestron SLT mount in what appears to be excellent condition: appears to have few hours on it and those hours appear to have been gentle. The SLT is Celestron's entry-level alt-az computerized goto mount, rated to carry small telescopes such as 5" Newts, 4" Maks, or 3" doublet refractors. Plastic spur gears drive both axes.

Note that the photo above is the stock image from Celestron's website, not of this specific item.

The mount being given away has no handset.

The SLT mount is compatible with most NexStar hand controllers, so if you have a spare one (perhaps leftover from upgrading to StarSense auto-align) then you can re-flash it to the SLT firmware using the Celestron Firmware Manager utility (<https://www.celestron.com/pages/manuals-software>). It may also be a good source for parts if you have an existing SLT in need of some work.

Paul Krizak, for SDAA, loanerscopes@sdaa.org



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Free to a Good Home: Heavy Duty Meade Super Wedge fits most 8-12" Meade SCTs



The Meade Super Wedge is made from very heavy cast alloy aluminum (~26 lbs). There are three large knobs for fine adjustments to bring it into precise polar alignment. It will work with most Meade SCTs from 8"-12", including: LX200, Classic LX200, LX90, LX50 & RCX400. It mounts to the top of the Meade Standard Field Tripod for the LX200, etc. This unit has signs of long-term storage: a little rust, some dust and dirt, but otherwise appears to be in good mechanical condition. The triangular tangent arm for fine azimuth adjustment is not pictured: but, is included as well. All offered "as is".

Free to a good home! First serious inquiry takes it home.

Paul Krizak, for SDAA, loanerscopes@sdaa.org



San Diego Astronomy Association

SDAA Contacts

Club Officers and Directors

President	Dave Wood	President@sdaa.org	(858) 735-8808
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newsletter@sdaa.org

Assistant Editor: Craig Ewing

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

February 2022



This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach.

Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

Hang Out with the Twins of Gemini

David Prosper

The night skies of February are filled with beautiful star patterns, and so this month we take a closer look at another famous constellation, now rising high in the east after sunset: Gemini, the Twins!

If you're observing Orion, as discussed in last month's article, then Gemini is easy to find: just look above Orion's "head" to find Gemini's "feet." Or, make a line from brilliant blue-white Rigel in the foot of Orion, through its distinct "Belt," and then on through orange Betelgeuse. Keep going and you will end up in between the bright stars Castor and Pollux, the "heads" of the Gemini Twins. While not actually related – these stars aren't bound to each other, and are almost a magnitude apart in brightness – they do pair up nicely when compared to their surrounding stars. Take note: more than one stargazer has confused Gemini with its next-door neighbor constellation, Auriga. The stars of Auriga rise before Gemini's, and its brightest star, Capella, doesn't pair up as strikingly with its second most brilliant star as Castor and Pollux do. Star-hop to Gemini from Orion using the trick above if you aren't sure which constellation you're looking at.

Pollux is the brighter of Gemini's two "head" stars - imagine it has the head of the "left twin" - and located about 34 light-years away from our Solar System. Pollux even possesses a planet, Pollux b, over twice the mass of Jupiter. Castor - the head of the "right twin" - by contrast, lies about 51 light-years distant and is slightly dimmer. While no planets have been detected, there is still plenty of company as Castor is actually a six-star system! There are several great deep-sky objects to observe as well. You may be able to spot one with your unaided eyes, if you have dark skies and sharp eyes: M35, a large open cluster near the "right foot" of Gemini, about 3,870 light-years away. It's almost the size of a full Moon in our skies! Optical aid like binoculars or a telescope reveals the cluster's brilliant member stars. Once you spot M35, look around to see if you can spot another open cluster, NGC 2158, much smaller and more distant than M35 at 9,000 light-years away. Another notable object is NGC 2392, a planetary nebula created from the remains of a dying star, located about 6,500 light-years distant. You'll want to use a telescope to find this intriguing faint fuzzy, located near the "left hip" star Wasat.

Gemini's stars are referenced quite often in cultures around the world, and even in the history of space exploration. NASA's famed Gemini program took its name from these stars, as do the appropriately named twin Gemini North and South Observatories in Hawaii and Chile. You can discover more about Gemini's namesakes along with the latest observations of its stars and related celestial objects at nasa.gov.



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NASA Night Sky Notes

February 2022



Castor and Pollux are Gemini's most prominent stars, and often referred to as the "heads" of the eponymous twins from Greek myth. In Chinese astronomy, these stars make up two separate patterns: the Vermillion Bird of the South and the White Tiger of the North. What do you see? The Night Sky Network's "Legends in the Sky" activity includes downloadable "Create Your Own Constellation" handouts so you can draw your own star stories: bit.ly/legendsinthesky

Image created with assistance from Stellarium.



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NASA Night Sky Notes

February 2022



Montage of Gemini North, located on Mauna Kea in Hawaii, and Gemini South, located on Cerro Pachón in Chile. These “twin” telescopes work together as the Gemini Observatory to observe the entire sky.

Image Credit: NOIRLab Source: <https://www.gemini.edu/gallery/media/gemini-northsouth-montage>



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2022 TDS Star Party Schedule

Date	Type	Sunset	Astro. Twi.	Moonrise(set)	Illumination [†]	Notes
Mar-5	Public	5:49 PM	7:10 PM	(9:04 PM)	12%	
Mar-26	Member	7:04 PM	8:27 PM	4:13 AM	34%	
Apr-2	Public	7:09 PM	8:33 PM	(8:49 PM)	3%	
Apr-30	Member	7:29 PM	9:00 PM	6:32 AM	0%	Mercury Greatest Eastern Elongation - Apr 29 (PM)
May-21	Public	7:44 PM	9:21 PM	1:37 AM	64%	
May-28	Member	7:49 PM	9:28 PM	5:06 AM	3%	Memorial Day Weekend
Jun-18	Public	7:59 PM	9:40 PM	12:11 AM	78%	Mercury Greatest Western Elongation - Jun 16 (AM)
Jun-25	Member	8:00 PM	9:42 PM	3:43 AM	10%	
Jul-23	Public	7:53 PM	9:29 PM	2:22 AM	22%	
Jul-30	Member	7:48 PM	9:22 PM	(9:25 PM)	5%	S. delta Aquariids peak night of Jul 29-30 (ZHR ^{††} 16)
Aug-20	Public	7:27 PM	8:55 PM	1:01 AM	37%	Saturn at Opposition on Aug 14
Aug-27	Member	7:19 PM	8:45 PM	7:30 AM	0%	Mercury Greatest Eastern Elongation - Aug 27 (PM)
Sep-17	Public	6:51 PM	8:14 PM	11:40 PM	54%	Neptune at Opposition on Sep 16
Sep-24	Member	6:42 PM	8:04 PM	6:20 AM	2%	Jupiter at Opposition on Sep 26
Oct-15	Public	6:15 PM	7:37 PM	10:21 PM	71%	Mercury at Greatest Western Elongation - Oct 8 (AM)
Oct-22	Member	6:07 PM	7:29 PM	5:06 AM	8%	Orionids peak night of Oct 20-21 (ZHR ^{††} 20)
Nov-19	Public	4:45 PM	6:11 PM	2:50 AM	21%	Leonids peak night of Nov 17-18 (ZHR ^{††} 15)
Nov-26	Member	4:43 PM	6:09 PM	(7:31 PM)	12%	Thanksgiving Weekend
Dec-17	Public	4:44 PM	6:13 PM	1:34 AM	38%	Geminids peak night of Dec 13-14 (ZHR ^{††} 150)
Dec-24	Member	4:48 PM	6:16 PM	(6:21:PM)	3%	Ursids peak night of Dec 21-22 (ZHR ^{††} 10)

[†] 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 as you've helped us raise over \$300 in 2020 at no cost to you. This is three times the amount we received in 2019. 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.

MEMBERSHIP INFORMATION

Send dues and renewals to P.O. Box 23215, San Diego, CA 92193-3215 or renew on-line. The notice that your membership in SDAA will expire is sent by email. Dues are \$60 for Contributing Memberships; \$35 for Basic Membership; \$60.00 for Private Pads; \$5 for each Family membership.