

San Diego Astronomy Association

Celebrating Over 50 Years of Astronomical Outreach



October 2023

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

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

Next SDAA Business Meeting

October 10th at 7:00pm
10070 Willow Creek Rd
San Diego, CA 92131
Via Zoom

Next Program Meeting

October 18th at 7:00pm
Mission Trails Regional Park
Visitor and Interpretive Center
1 Father Junipero Serra Trail

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Newsletter Deadline

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

Program Meeting October 18th

Topic: Lunar Exploration: What We Did, What We Saw, What We Learned
Speaker: Neil J. Farber

Neil J. Farber is a retired academic internal medicine physician. He obtained his undergraduate degree Cum Laude in Biology at Franklin & Marshall College, Lancaster Pennsylvania, in 1972, and was Phi Beta Kappa. He went on to get his medical degree from the University of Pennsylvania in Philadelphia, Pennsylvania in 1976. He then completed a residency in Internal Medicine at Temple University Hospital in Philadelphia. Dr. Farber practiced medicine for 40 years, teaching, researching and providing patient care in medical schools initially on the East Coast. For 12 years he was Professor of Clinical Medicine at University of California, San Diego, retiring at the end of April 2019. His academic interests are in education and teaching, especially in regards to patient-physician communication skills. He has received numerous awards, including Top Doctor of San Diego five times. He has published over 60 research papers, and has recently published a book. He is a docent, and Docent Training Coordinator, at the San Diego Air & Space Museum, with a special interest in space exploration.



Many people are not aware of the extensive investigation, both manned and unmanned, that NASA conducted of our nearest neighbor, the Moon. This talk will explore the unmanned landers and orbiters of the 1950s and 1960s, the six manned landings of the Apollo program, and the orbiters of more recent years. We will discuss what was seen and what we have learned about our Moon and our Solar System from these explorations.

The meeting will be online with Zoom.

<https://sdaa.org/program-meeting/>

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 September 12, 2023 – Unapproved and subject to revision

1. Call to Order

The meeting was held via Zoom and was called to order at 7:04pm with the following board members in attendance: Dave Decker, President; Mike Chasin Treasurer; Gene Burch, Recording Secretary; Alicia Linder, Corresponding Secretary; Hiro Hakozaki, Director; Gracie Schutze, Director; Bee Pagarigan, Director; David Wood, Director; Steve Myers, Primary Grid Reconstruction committee; Bill Cecil, JSF coordinator; Tom Kennedy, TDS site maintenance committee.

2. Approval of Last Meeting Minutes

The August meeting minutes were approved.

3. Treasurers & Membership Report

The treasurer's report was approved. Mike reported that, pending a final review, JSF had a net profit of over \$7,600. Our insurance premium of \$2,354 was paid and money was moved from our SDCCU checking account to our SDCCU savings account. The audit committee's final report was received and accepted by the Board. Mike said that our attorney has served Chase Bank with notice that we intend to pursue legal action if they refuse to reimburse us for the \$5,000 counterfeit check which they cashed.

4. Standard Reports

a. Site Maintenance Report:

Items Completed:

- SDGE Fuel Mitigation Letter – SDGE sent a letter recommending that they be allowed to do fuel mitigation on the TDS site, which basically includes removing or thinning brush around the power poles and lines. It was decided that it was in our best interest to allow them to do it. Mike will sign and return the form letter we received and Gene will be the point of contact to coordinate the work.

Work in progress items:

- TDS Restroom roof damage - estimates are work in progress
- Ongoing issues with Main Gate lock - under review

b. Observatory:

Observatory is in excellent condition. Weather has been fantastic and we are seeing more activity at the star parties. Getting ready to prepare the 2024 TDS calendar. Please pass the JSF dates so I can avoid a duplicate public star party.

c. Loaner Scope Report:

Two scopes are currently out (SDAA-023, Orion XT10; SDAA-031, Orion XT8). Two members are pending pickup of loaners; had to reschedule due to Hurricane Hilary.

Two scopes are out of rotation pending some maintenance work. SDAA-027 needs to be refitted with the newer/better donated CG-5 mount. SDAA-032 is not yet a complete kit and still needs to be tested/documented.



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I'm still watching for suitable donations to avoid having to spend club funds to get SDAA-032 ready to loan out. If anybody has a line on a compact all-in-one guidescope+camera (e.g. Orion Magnificent Mini autoguider) that is a significant chunk of what is needed. Also going to need T-rings and/or 2" bayonet mounts for Canon and Nikon bodies. A QHY PoleMaster would be superb. If any of these come up in possible donations, or if any members have a line on discounted/used parts, please let me know.

The Bill Neis estate included a donated Orion 10" dobsonian (an Intelliscope with the DSCs removed, just like SDAA-023). I'm looking forward to adding this scope to the loaner fleet. There is also a Coronado PST in the Bill Neis estate, which I've proposed be added to the loaner fleet.

d. Private Pad Report:

We still have 7 pads available and, although we have had some interest in the last two weeks, still have 10 people on the waiting list. People seem reluctant to commit to a pad until there is more information about the power grid upgrade.

I got a report last night that there appears to have been a tent left set up on pad 42. I'm contacting the lessee.

e. Program Meetings Report:

October's topic will be - **Lunar Exploration: What We Did, What We Saw, What We Learned.**

Kin will invite Bill Ochs, who was the last NASA project manager for JWST to be our speaker for the 2024 banquet which will be on January 27th.

The November program meeting will be "gadget night" and will be in person at Mission Trails Regional Park. We will try to broadcast it via Zoom as well.

f. AISIG Report:

We held an "in person" live meeting here in San Diego. Kin and Ed demonstrated the set up a "simple" imaging rig. The meeting was well attended (a lot more than I anticipated) with many members taking notes and getting involved with the activities. Several members asked if we could have a "group set up" meeting similar to what's been done in the past where imaging novices get advice from "the experts" in troubleshooting their rigs.

The next AISIG meeting is scheduled for 9-27 and the topic is tentatively going to be on N.I.N.A. (the popular astrophotography software) and PHD2 guiding software.

g. Newsletter Report:

All looks great – Thanks, Andrea!



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h. Website Report:

Nothing new to report. I remain concerned that committee chairs and Board members may not get the new delegated emails. I recommend a check to make sure everyone is either checking the new delegated accounts regularly or forwarding to an account they check regularly.

i. Social Media:

No report

j. Outreach Report:

August Narrative: Wow, what a record-breaking event SDAA had on Saturday, August 12th when the public descended on our annual Julian StarFest! Over 1,000 people were there to see the Perseids Meteor Shower, unfortunately, the coastal marine layer and humidity moved in at midnight, covering the sky with clouds. There were numerous vendors and astronomy sessions, both during the day and night. Woody Schlom presented a solar presentation along with the good folks at Orange County Telescope providing 3 solar scopes for the general public to view. At 8:00pm, Saturday night, Wood described deep space objects that he photographed with his various cameras and telescopes. Dennis Ammann conducted a Constellation Talk at 9:45 pm, to about 50 people, just before the clouds started moving in at 10:30pm. Camping was sold out on Friday and Saturday nights. Mr. & Mrs. Michael Menghini were presented a SDAA plaque by David Decker, President, SDAA for their continued support each year for this event. All agreed that SDAA member, Bill Cecil did a wonderful job leading this event for the first time.

As for the annual International Society for Optics and Photonics (**SPIE**), downtown SD Convention Center, the coastal marine layer moved in on August 21st, wiping out any chance of seeing anything in the night sky. The SDAA members who attended SPIE enjoyed a great time talking 'shop' and showing them their telescopes with the engineers and scientists from all over the world.

The other monthly events were very successful, with only one cancellation, K.Q. Ranch Stargazing on August 19th because of weather. Ken Searcy almost cancelled Sycamore Canyon West, but took a chance and was able to salvage that event until 9:00pm when the clouds moved in. The William Heise County Park stargazing event was also very successful on August 5th with a nice dark sky and medium size crowd, giving the campers a quality stargazing event all the way to 11:30pm!

In general, Summer 2023 ended with August being a wonderful month for SDAA outreach and stargazing.



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2023	AUGUST	YTD
Events Completed	6	51
Events Cancelled	1	30
Total Attendance	699	4476

k. TARO Report:

TARO is back on line and accepting DSO imaging requests. Some additional testing will be needed before we are confident Exo-planet observations can be run.

l. Cruzen Report:

Aug 19 was supposed to be the "grand opening" training session, but Hurricane Hilary scuttled that attempt. The training is rescheduled for September 16, weather permitting.

The only outstanding maintenance item is to address the tracking slipping / gear lash issue on the Schaefer mount. After discussion with other members familiar with the mount, it sounds like I may just need to adjust the RA clutch tension (it may have been loosened while I was repairing the RA encoder). If that doesn't resolve the problem, I'll look into adjusting the gear lash and perhaps biasing the counterweights slightly.

m. Merchandise Report:

We sold quite a bit of merchandise at JSF and a few license plate frames as well. It's time to place another order for silkscreened items (T-shirts and sweatshirts) and Gene will send out a notice as soon as we get an updated price list from our vendor. Bee presented the Board with 6 different designs for stickers, all of which the Board liked. She is going to finalize the designs and get back to the Board for approval.

n. Astronomical League Report:

Nothing new at this time.

o. JSF Report:

It would appear the Julian StarFest 2023 was one of the largest such events in recent memory. All of the available camping spaces in the main field were filled with few exceptions. On Saturday night the grounds and surrounding roads were overwhelmed by the public coming to see the Perseid meteor shower. Parking was full by early evening and there was simply no way to control the traffic into the event but to close off access at Wynola Road.

Bill Cecil presented the Board with a number of suggestions to improve JSF 2024 and all of them seemed to be great ideas.



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The Board wants to again thank Bill and Dan and Sandy Kiser for all their hard work to make JSF a great success not only financially, but as an outreach event as well! Thanks also to all the other volunteers who stepped in to make JSF 2023 the success it was.

p. Primary Grid Reconstruction Report:

We have indications that the project planning has been completed and is currently being cost evaluated.

5. Old Business:

- | | | |
|----|--|---------------|
| a. | Audit Committee Report (see Treasure's Report) | Chasin |
| b. | Other old business – check fraud (see Treasure's Report) | Decker/Chasin |

6. New Business:

- | | | |
|----|--|------------|
| a. | SDGE Fuel Mitigation Letter (see Site Maintenance Report) | Chasin/Bee |
| b. | Set Date for fall BBQ – November 11th | Decker |
| c. | SDAA Sticker Concept (see Merchandise Report) | Pagarigan |
| d. | Other New Business (Dave mentioned that we need to come up with a way to keep the SDAA calendars and social media sites current and synced). | Decker |

7. Adjournment: The meeting was adjourned at 8:51pm.

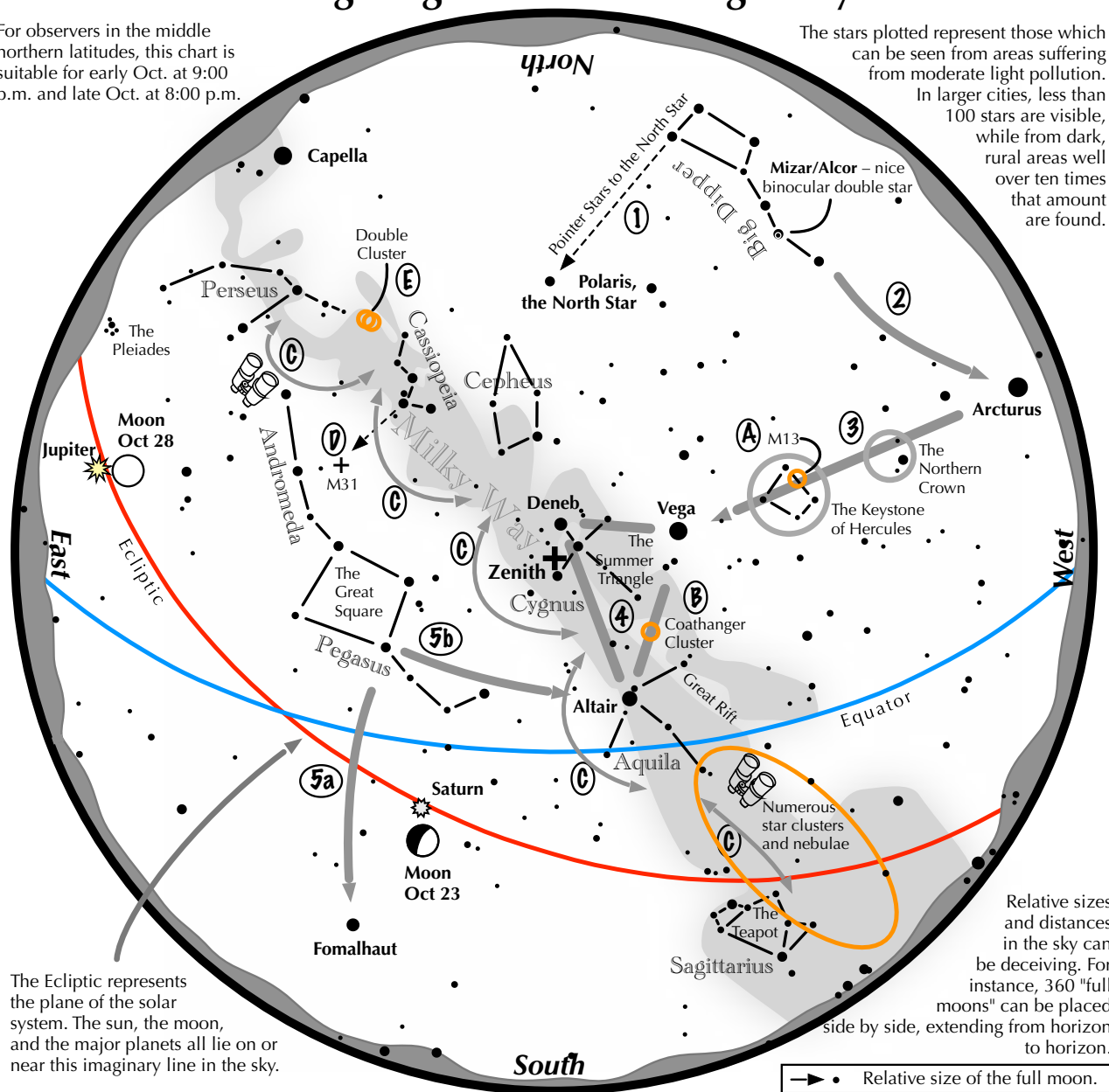


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Navigating the October Night Sky

For observers in the middle northern latitudes, this chart is suitable for early Oct. at 9:00 p.m. and late Oct. at 8:00 p.m.

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.



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

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Follow the arc of the Dipper's handle. It intersects Arcturus, the brightest star in the early October evening sky.
- 3 To the northeast of Arcturus shines another star of the same brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 4 Nearly overhead lie the summer triangle stars of Vega, Altair, and Deneb.
- 5 High in the east are the four moderately bright stars of the Great Square. Its two southern stars point west to Altair. Its two western stars point south to Fomalhaut.

Binocular Highlights

A: On the western side of the Keystone glows the Great Hercules Cluster, a ball of 500,000 stars. **B:** 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger. **C:** Sweep along the Milky Way for an astounding number of fuzzy star clusters and nebulae amid many faint glows and dark bays, including the Great Rift. **D:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **E:** Between the "W" of Cassiopeia and Perseus lies the Double Cluster.

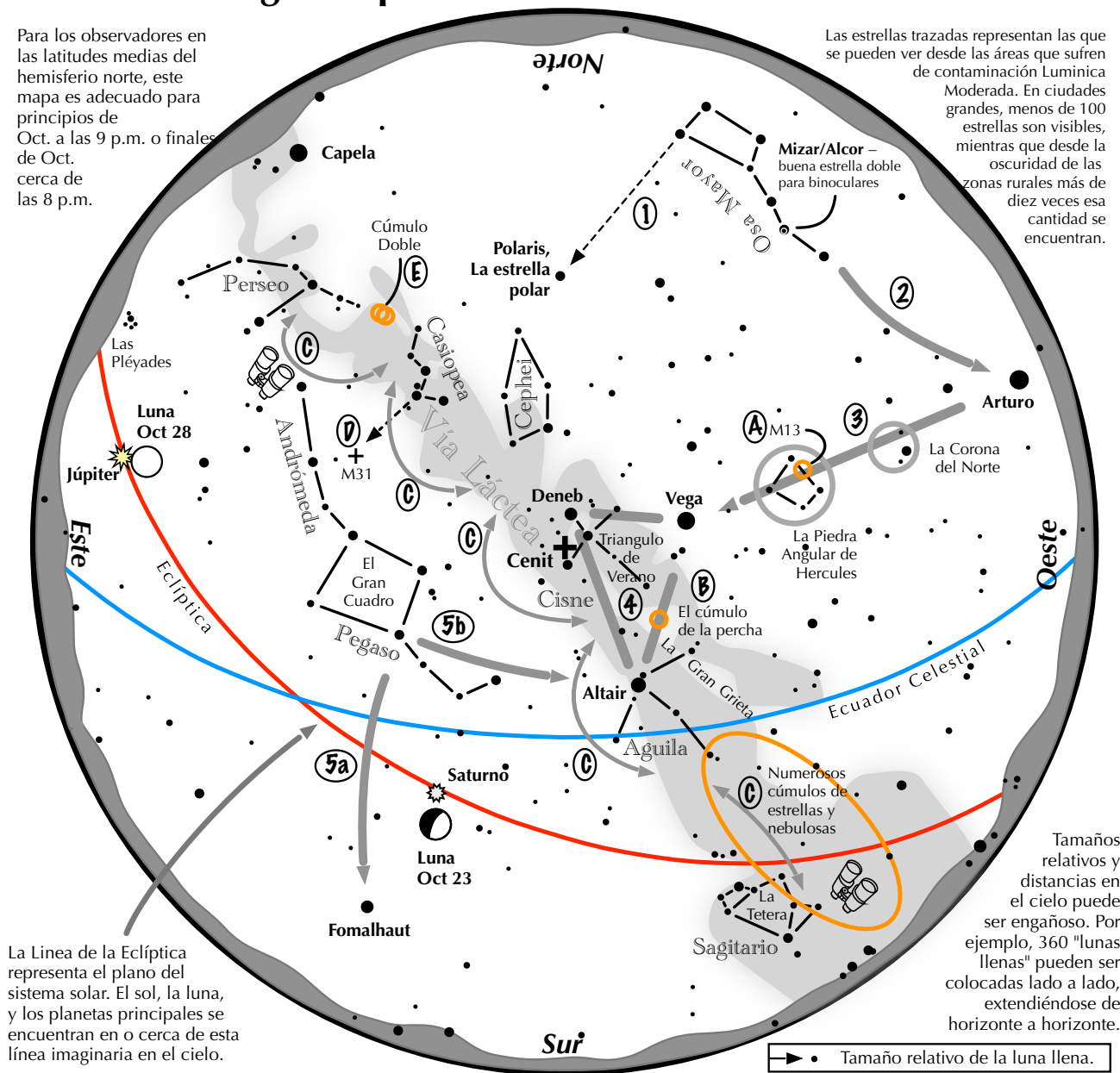


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Navegando por el cielo nocturno de Octubre

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

- 1 Haz una línea hacia el norte desde las dos estrellas en la punta de la Osa Mayor. Pasa por Polaris, la estrella polar.
- 2 Siga el arco del mango de la Osa Mayor. Se cruza con Arturo, la estrella más brillante en el cielo de la noche de octubre.
- 3 Dibuja una línea desde Arturo a Vega. Un tercio del camino se encuentra "La Corona del Norte". Dos tercios de esa distancia llevan a la "piedra angular de Hércules." Se necesita un cielo oscuro para ver estas dos configuraciones estelares tenues.
- 4 Las estrellas del Triángulo de verano, Vega, Altair y Deneb, brillan en el Cenit.
- 5 En lo alto del Este se encuentran las cuatro estrellas brillantes de la Gran Cuadro de Pegaso. (5a) Sus dos estrellas occidentales apuntan al Sur hacia Fomalhaut. (5b) Sus dos estrellas meridionales apuntan al Oeste hacia Altair.

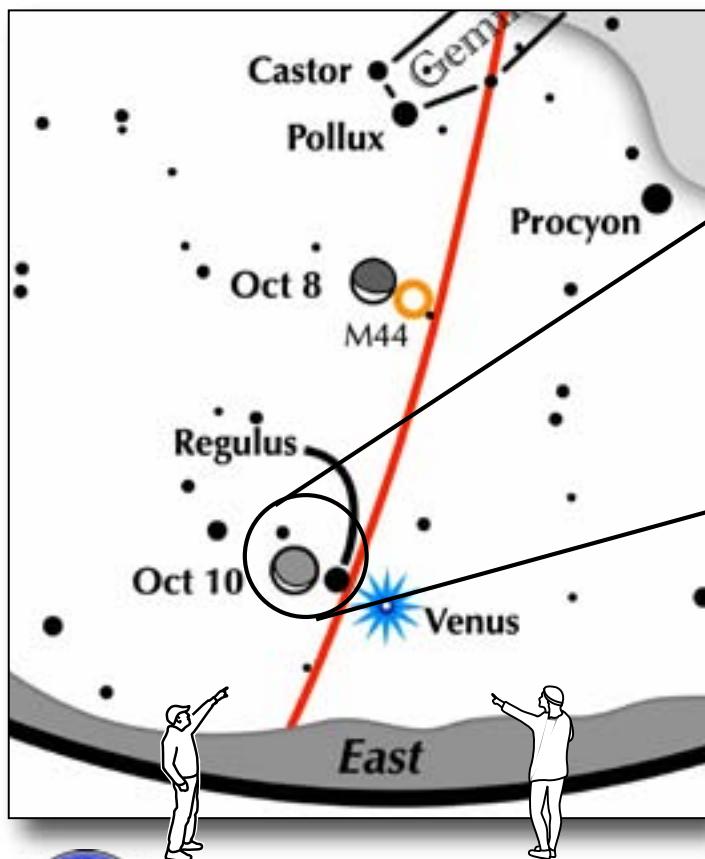
Puntos destacados con binoculares

- A: En el lado occidental de la Piedra Angular brilla el Gran Cúmulo de Hércules, un círculo borroso de 500,000 estrellas.
- B: Casi a la mitad de la distancia entre Altair y Vega, brilla la "Percha," un grupo de estrellas que describe un perchero.
- C: Recorre la Vía Láctea en busca de un número asombroso de destellos tenues y bahías oscuras, incluido La Gran Grieta.
- D: Las tres estrellas más occidentales de las "W" de Casiopea apuntan hacia el sur hasta M31, la Galaxia de Andromeda, un óvalo "borroso." E: Entre la "W" de Casiopea y Perseo se encuentra el Doble Cúmulo.

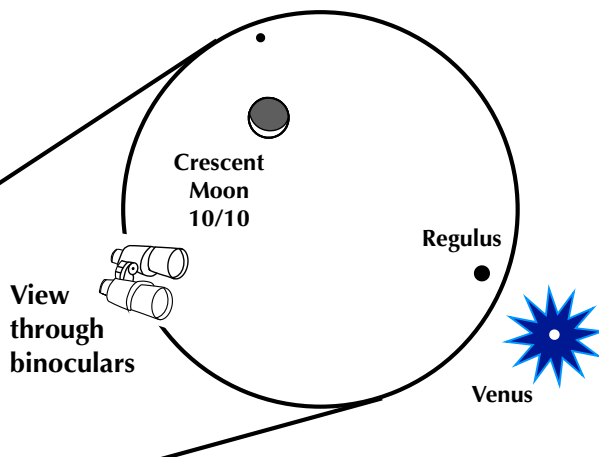


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In the early morning on October 10, try this challenge:



View to the east
on October 10
90 minutes before sunrise



Crescent moon meets Venus and Regulus

On the morning of October 10, the crescent moon, glowing full with earthshine, floats left of brilliant Venus. Look 90 minutes before sunrise.

Between them, shines Leo's brightest star, Regulus.

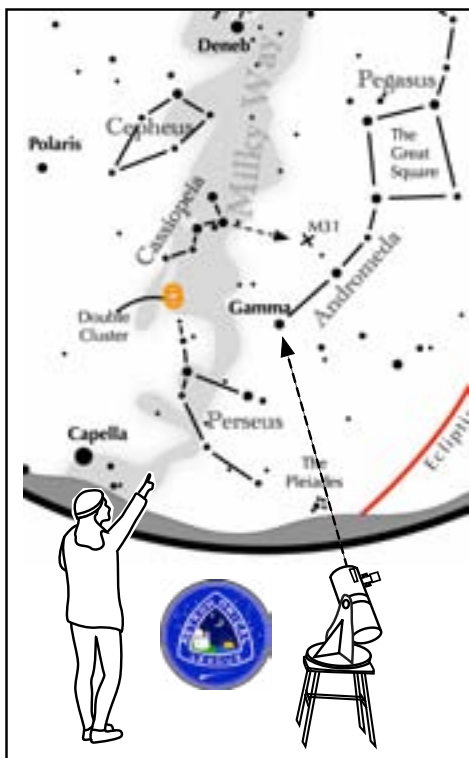
Two mornings earlier a thicker crescent moon was near M44, the Beehive star cluster.

The meeting of the crescent moon and Venus also occurs on the mornings of November 9 when the moon nearly covers Venus, and of December 9.



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ASTRONOMICAL LEAGUE Double Star Activity



Other Suns: Gamma Andromedae

How to find Gamma Andromedae on an October evening

Face northeast. Find the Great Square and the curve of stars extending to the lower left. This is Andromeda. Gamma is the third star on the string and is as bright as the major stars of the Big Dipper. From the "W" of Cassiopeia, Gamma lies to the lower right.

Suggested magnification: 40x
Suggested aperture: >2 inches

Gamma Andromedae

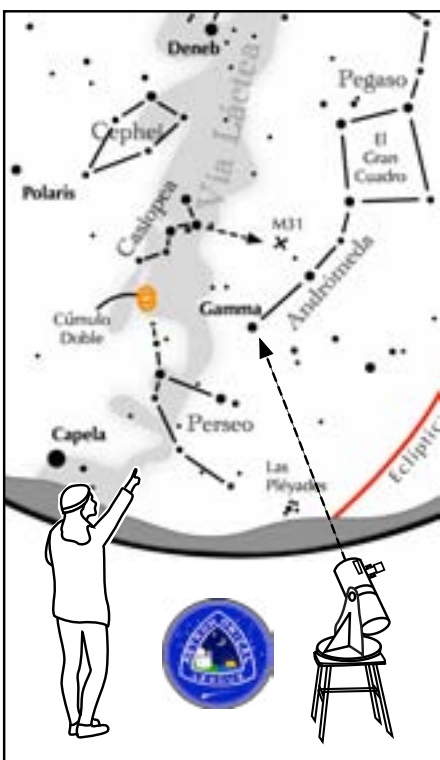
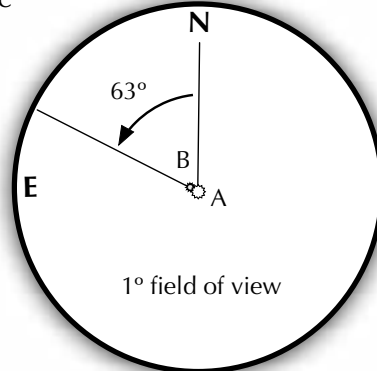
A-B separation: 9.7 sec

A magnitude: 2.3

B magnitude: 5.0

Position Angle: 63°

A & B colors:
orange, blue



Otros Soles: Gamma Andromedae

Cómo encontrar Gamma Andromedae en una tarde de Octubre

Mira al noreste. Encuentra el Gran Cuadro y la curva de estrellas que se extiende hacia la parte inferior izquierda. Gamma es la tercera estrella de la cadena y es tan brillante como las estrellas principales de la Osa Mayor. Desde la "W" de Cassiopeia, Gamma se encuentra en la parte inferior derecha.

Ampliación sugerida: >40x,
Apertura sugerida: >50 mm

Gamma Andromedae

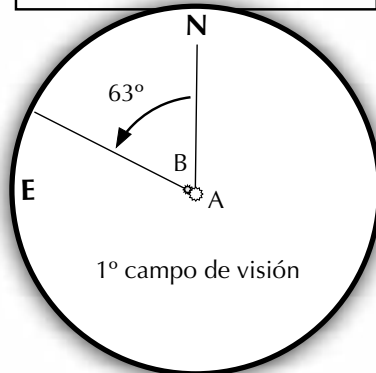
A-B separación: 9.7 sec

A magnitud: 2.3

B magnitud: 5.0

PA: 63°

A & B color:
naranja, azul





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October 2023 Another Look

Dave Phelps

October's New Moon is on Saturday the 14th. The Full Moon will be Saturday the 28th. Fridays the 6th and the 13th have smallish moons and will contribute to dark skies for your star party.

Also on Saturday, the 14th an annular solar eclipse will travel from Oregon through Texas. Maximum in Southern California will be 70% at 0924 PDT and 77% at 0931 in southern Arizona.

October's Full Moon has been traditionally called the Hunter's Moon. When the October Full Moon is closest to the Autumnal Equinox in August, it is then called the Harvest Moon.

Native American names for the October Full Moon include Drying Rice Moon, Falling Leaves Moon, Freezing Moon, Ice Moon and Migrating Moon. The Kelts also named it the Seed Fall Moon, the Pagan Blood Moon or the Sanguine Moon.

In French Pleine Lune d'Octobre, in German Oktober Vollmond, in Spanish Luna Llena de Octubre, In Greek Οκτώβριος Πανσέληνος, Októvrios Pansélinos

This year Antares α Scorpii and Alniyat σ Scorpii will be occulted by the moon several times at different locations across the world. In October the occultations occur from Europe to the far East but we should have an interesting close approach in the western US. Of particular interest is the fact that M4 sits between the two and would certainly be an interesting view. The occultations begin around 0200 and end in daylight. The moon is a waxing crescent.

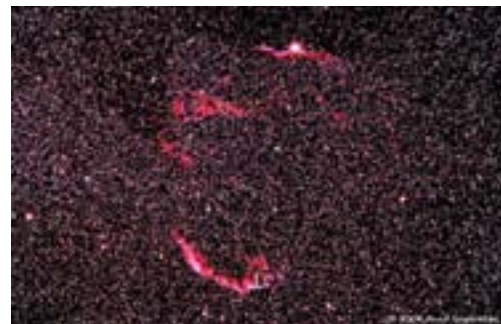
Cygnus is big. While not the biggest, it is within the top 20% of constellations in size at over 800 square degrees and sits above the Milky Way, bisecting it along the great rift.

Because of its location, it is the home to 70 open clusters, 2 Messier open clusters, 7 Caldwell, 23 Sharpless HII regions, 38!? planetaries, as a start 17 NGC and IC galaxies, over 2800 extra-solar planetary system and 31 Barnard dark regions.

We could concentrate on Cygnus from summer evening to winter evening and never learn all there is to know. Just the bright stuff rewards hours of study: Deneb, Albireo, M29 and M31, 6946 the Fireworks Galaxy, I5146 the Cocoon, 7027 the Jewel Bug, 5070 and 7000 the Pelican and North American Nebulae, 6888 the Crescent, 6960 to 6995 the Veil and IC 1318 the Sadr region. Finally add to that for curiosity's sake Cygnus X-1, X-3 and the Sadr OB region.

" Thee, silver Swan, who, silent, can o'erpass?
A *hundred* with *seven* radiant stars compose
Thy graceful form: amid the lucid stream
Of the fair Milky-Way distinguished: one
Adorns the *second* order, where she cuts
The waves that follow in her utmost track;
This never hides its fire throughout the night,
And of the rest, the more conspicuous mark
Her snowy pinions and refulgent neck." — Eudokia

Curtis Croulet - TVA



https://ocastronomers.org/wp-content/uploads/2019/01/veil_b_36x360_sig_oca.jpg

Cygnus is old, but not as old as some. Before the Romans called it Swan, it was a Hen or even just a bird. We look to the Greeks for much of our lore, but they dropped the ball on Cygnus. What we do know was probably not firmed up



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until Ptolemy in his *Almagest*. In their inimical style, the Greeks turned the legend of Cygnus into porn. If you want to refresh your memory find a copy of “*Star Tales*” by Ridpath. You will find, however, according to Ovid, the constellation took its name from the Greek proper name Cynus, while another story says it’s Orpheus, changed into a Swan, and placed near his beloved Harp in the sky.

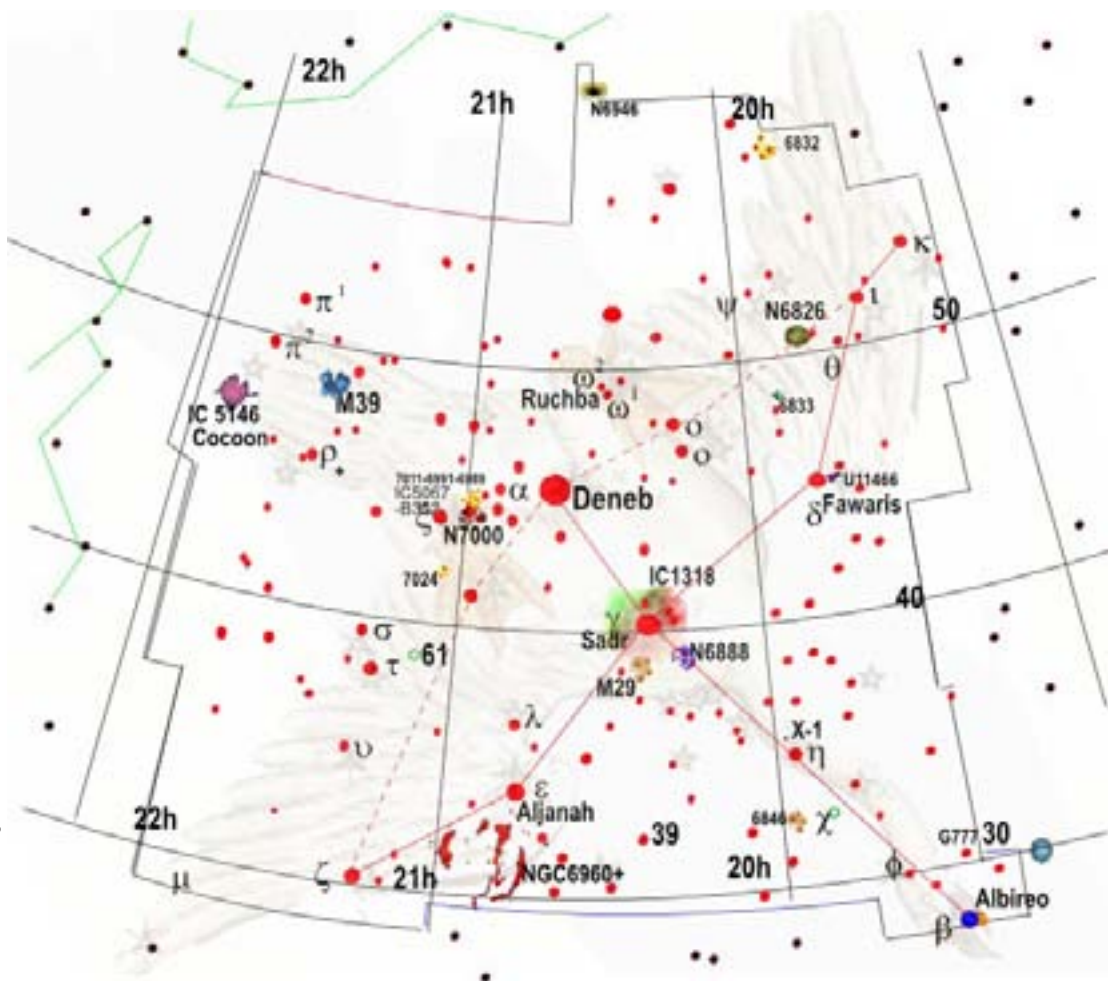
In Arabia Cygnus was the Flying Eagle. In about 300 BC in Egypt she was called the Hen. On the Euphrates’ star list Cygnus is the Bird of the Forest, but that may be just an interpretation but may also be the forerunner of the Roc of Sinbad. Before Eratosthenes in the 3rd century BC, to the Greeks she was simply “the Bird”. We can also add the Arab’s Rider to some of its stars and the legend of the Herdsman a Chinese and the Spinster includes some of Cygnus’ stars. History is silent of any Hebrew, Assyrian, or Phoenician names for Cygnus.

Cygnus has six named stars: β Albireo, ϵ Aljanah, π 1 Azelfafage, α Deneb, δ Fawaris, and γ Sadr. In addition ω 2 is Ruchba and π 2 is Pennae Caudalis. As a bit of a side note, δ Fawaris is a triple star system and scheduled to be the north star in 9,000 years.

β Albireo is famous for its colors. Back in the day, a buddy painted the base of his Dob gold and the tube blue and named his telescope Albireo. It was a good telescope. An original Coultter from Idyllwild, figured by the man himself. 61 Cygni is called Piazzi’s falling star. It’s a double dwarf system and one of the closest stars to earth. Gliese 777 has two confirmed planets and a dwarf companion. Both π and ω are double double systems.

Along with the North American Nebula, NGC 7000+, The Veil Nebula is one of the most photographed objects in Cygnus today. When all we had to work with visually were UHC, HII and OIII filters and photographically with ASA 400 Kodachrome those objects were more challenging.

Although the Veil is big, around 3 degrees across and portions can be glimpsed naked eye with only a filter, its overall





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surface brightness is very low, making it very hard to see. With a filter and a large telescope you can trace the circumference of the Veil and perhaps, with the longer focal length of the SCT's you may get better contrast. Likewise with NGC7000, the North American Nebula and its partner the Pelican, a UHC filter is needed for any real visual work. Unlike the reflection of the SN remnant that is the Veil, the NAM is an emission nebula. The dark lane between the two is Lynds 935.

Much like the last two, NGC 6888, the Crescent Nebula, is difficult to see visually and needs a UHC or OIII filter to have much success. Even then, not much more than the bright edge is visible. It took a calm, freezing winter night and a mile elevation before I was able to trace any of the inner nebulosity.

https://ocastronomers.org/wp-content/uploads/2018/12/20.92344.61_00211-3_Clear_300secA_SDMPsm.jpg

There are a ton of open clusters in Cygnus. M29 and M39 are our two Messier's and some of the other clusters are Cr 419, Cr 420, 421, Do 6, Do 2, Do 8, Do 9, Do 10, Do 11, Do 36, Do 44 and 6910. <https://www.flickr.com/photos/celfosc79/> M29 is right near γ , Sadr, in the center of the constellation. It is somewhat condensed, a little hard to pick out from the background and quite a pretty little cluster. M39 is up by π , a little easier to see, a few more stars and also quite pretty up against the background stars.

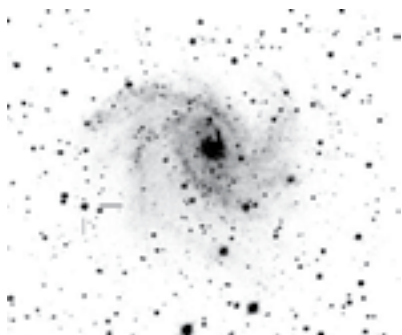


You will find an image of M39 at <https://ocastronomers.org/wp-content/uploads/2018/12/m39.jpg>

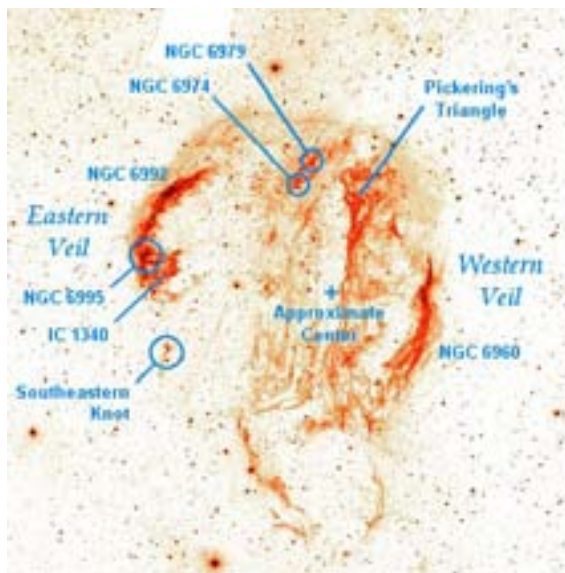
<https://ocastronomers.org/wp-content/uploads/2018/12/m39.jpg>

The Collinder catalog (Cr) was compiled in the 1930's and is composed mostly of difficult to see stellar associations. The Dolidze (Do) catalog was compiled in the Republic of Georgia at the Abastumani Astrophysical Observatory. This catalog has 57 open clusters listed. An additional 11 were added when astronomer G. N. Dzimselejsvili joined Dolidze later. A number of amateur astronomers have made a study of open clusters. A good place to start would be the Astronomical League's Guide to Open Star Clusters. You can find it at https://cfas.org/data/uploads/astronomy-ebooks/openclusters_manual.pdf.

https://en.wikipedia.org/wiki/Veil_Nebula#/media/File:Cygnus_Loop_Labeled.png



<https://ocastronomers.org/wp-content/uploads/2018/12/SN2004etabcd-copy.jpg>



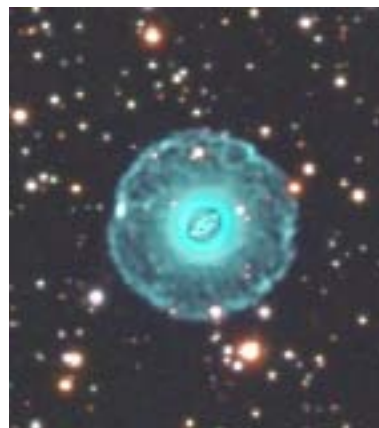


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There are 7 Caldwell's in Cygnus, all associated with named objects. C12 is the Fireworks Galaxy, NGC 6946. Its a 6th magnitude face on spiral, at +60° the furthest north deep sky object in Cygnus and the target of a number of very good astrophotos on the Orange County Astronomers website, at <https://ocastronomers.org/>. The Blinking Planetary, Caldwell 15, NGC 6826 is bright, 9th magnitude and easy to see as a featureless blue blob. It will take power, however, and with telescope inches and a decent sky you will see the central star. The planetary gets its name because the central star, HD186924, is variable.

Caldwell 19 is one of those gifts that just keep coming. Also known as IC 5146 and Collinder 470, C19 is an emission/reflection nebula with an open cluster embedded. Newer studies have also shone it to be a stellar nursery. <https://jthommes.com/Astro/IC1311.htm>

https://www.flickr.com/search/?text=ngc 6826_Peter Goodhew



<https://www.galactic-hunter.com/post/ic1318-the-sadr-region> (Antoine&Dalia Grelin)

Attached to C19 is Barnard 168, a dark lane I used in the past to follow to and from the Cocoon.

Very familiar to is all, C20 is the North American Nebula, C27 is the Crescent Nebula and C33 and C34 are the eastern and western loops of the Veil.



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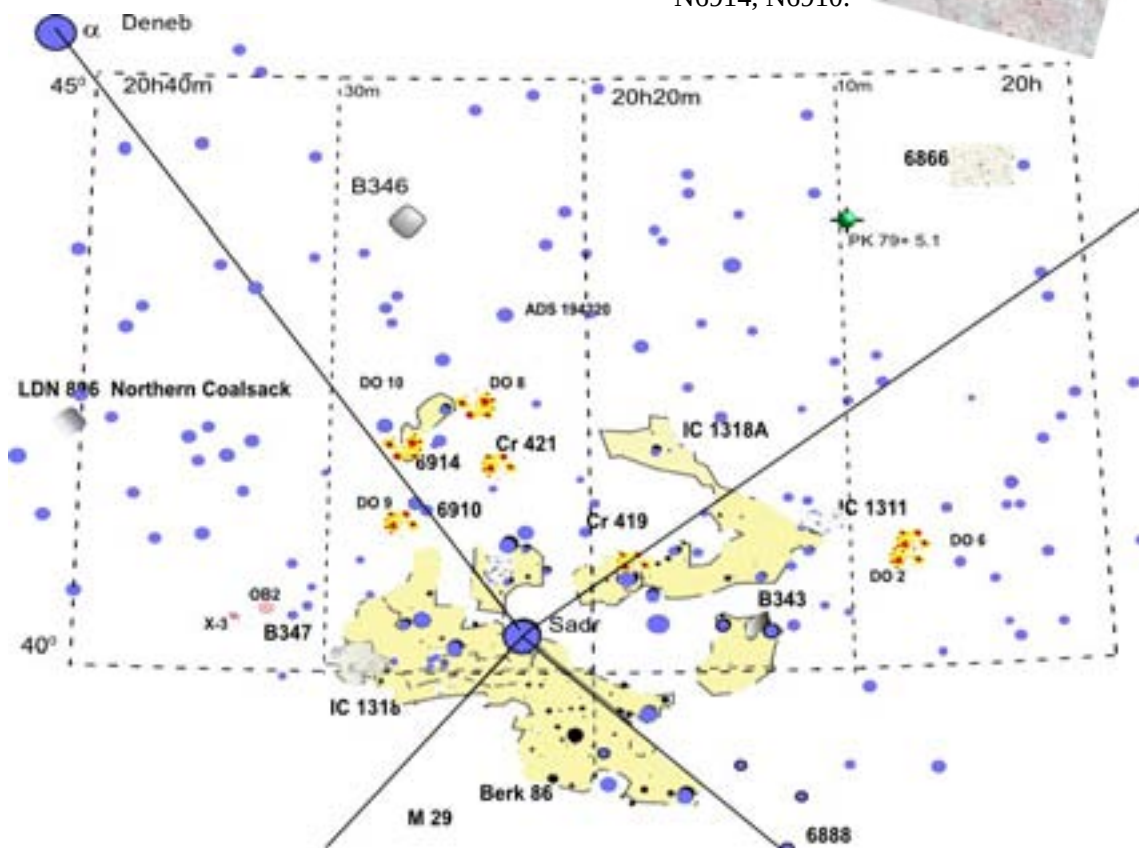
Cygnus X-1, HDE226868, is a black hole orbiting a supergiant star about a 5th of the distance as the earth is from the sun. It is near Sharpless 2-101 and emission nebula now called the Tulip, mag 9. Using the image as a finder chart you will be able to find the visible star part of X-1. <https://www.flickr.com/search/?text=cygnus+x-1>

https://ocastronomers.org/wp-content/uploads/2018/12/Cocoon4_crop.jpg

There is so much content in Cygnus, I decided, as an exercise, to choose a random piece of sky at and see what I could find. So I picked an area 40 minutes by 5 degrees centered on the area between Sadr and Deneb and then went searching for open clusters and dark nebula. I also found IC 1318, The



Butterfly. IC 1318 is a massive area of nebulosity surrounding Sadr. Look for Open Clusters IC 1311, Cr421, DO2, DO 6, DO8, DO9, DO10, N6914, N6910.





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Planetary Nebula PK 79+5.1 was discovered in 1948 by Rudolf Minkowski and Patchnik 6 discovered more recently. <https://www.hansonastronomy.com/ic-1311-in-cygnus>

PK 79+5.1 or M 4-17 should be easy enough to find. Its 12th magnitude but 23' across, whereas Patchnik 6 will be a fascinating challenge.

Years ago, when scanning Cygnus, the Sadr complex was not a target. Low surface brightness and contrast with Milky Way stars made anything hard to identify. I still remember some years ago when a black and white image an amateur with the Phoenix club showed of this area north and east of Sadr. It was a massive complex of nebulosity with no coherency. <https://commons.wikimedia.org/w/index.php?curid=12100647> / Thanks to the September issue of the Temecula Valley Astronomer's Newsletter.

There are four dark nebula of note in this area. LDN 896 is nicknamed the Northern Coalsack. B343 is a very dark hole into the side of the gamma cygni complex close to a couple of 7th mag. Stars. B347 is on the other side of Sadr. Its a dark streak into one of the wings of the butterfly. B346 will be tougher. It in an area of lower contrast, but it has a few finder stars near by.



NGC 6910 is a nice open cluster near to Collinder 421 and NGC 6914 which is not an open cluster but a reflection nebula. You will be able to see their contrast by comparing foreground to background variations in color. Different filters will make one than the other pop out.

Near each other and close to the west wing of the Butterfly are two binary systems consisting of huge blue O and B type stars <https://www.perseus.gr/Astro-DSO-Nebulae-Dark-B346.htm>

interacting and creating X rays. OB2's

main star is 6th magnitude but hidden in Milky Way dust. X-3 is fainter at about 15th magnitude. The science surrounding these objects is amazing, including huge X ray collisions, trailing solar winds and star creation.

So, go ahead. Let's start a book on Cygnus and see what we can see.

Dark Skys

Dave Phelps



San Diego Astronomy Association

Ioptron CEM60 Mount, Tripod, Case



SDAA presale price is \$1400 for Contributing Members.

Cloudy Nights pricing will be \$1700.

This CEM60 mount includes the LiteRoc 1.75" tripod, weights, case, Go2Nova hand control, power supply, and cables as shown in the photos. The mount has been tested with the HC for normal functionality. It is in good condition with normal cosmetic wear and includes (2) 20 lb. weights and (1) 11 lb. weight, for a total of 51 lbs! This is **not** the "CEM60-EC" version which has optional high-resolution encoders.

Ioptron states the payload capacity of the CEM60 is "60 lb. (27.2kg), exclude counterweight". To reach this capacity a more substantial tripod is recommended.

We are selling "as-is." Bottom line, you can have this very popular Ioptron CEM60 mount at a very attractive price.

Dave Decker, *for* SDAA,
Dave.Decker@sdaa.org ; (619) 972-1003



San Diego Astronomy Association

Meade ETX-125 System



SDAA presale price is \$400 for Contributing Members.
Cloudy Nights pricing will be \$475.

This Meade ETX-125 is the full GoTo version with the #457 hand control and the "tilt wedge" #884 tripod. The system also includes the items listed and shown in the photos. Currently the motor focuser is not installed but has been tested and functions normally. The old Meade camera, using RCA phone jacks, also works well.

Meade ETX-125 w/#497 HC, and #884 field tripod

Meade Motor Focuser for ETX 125 (working but not mounted)

Parks Erect Image 45 deg diagonal for SCT threaded, and Meade Erect Image 45 deg diagonal

Eyepieces: Meade 9mm Plossl, Meade 25mm Plossl, Parks Silver Series zoom EP, 7-21mm

Helical Focuser 1.25", unknown brand

Meade Electric Eyepiece camera, RCA phone cable, working

120 VAC to 12 VDC power supply, and 12VDC car adapter cable

12 VDC blower dryer

Backpack carry all for ETX 125

Meade tripod case for #884

We are selling "as-is." Bottom line, contributing members can have this complete ETX 125 system at a very attractive price.

Dave Decker, for SDAA,
Dave.Decker@sdaa.org ; (619) 972-1003



San Diego Astronomy Association

SDAA Contacts

Club Officers and Directors

President	Dave Decker	President@sdaa.org	(619) 972-1003
Vice President	Kin Searcy	VicePresident@sdaa.org	
Recording Secretary	Gene Burch	Recording@sdaa.org	(858) 926-9610
Treasurer	Mike Chasin	Treasurer@sdaa.org	(858) 210-1454
Corresponding Secretary	Alicia Linder	Corresponding@sdaa.org	
Director Alpha	Dave Wood	DirectorAlpha@sdaa.org	(858) 735-8808
Director Beta	Hiro Hakozaki	DirectorBeta@sdaa.org	(858) 869-9507
Director Delta	Gracie Schutze	DirectorDelta@sdaa.org	(619) 857-0088
Director Gamma	Bee Pagarigan	DirectorGamma@sdaa.org	(760) 703-6183

Committees

Site Maintenance	Ben Grunbaum	TDS@sdaa.org	
Observatory Director	Ed Rumsey	Observatory@sdaa.org	(858) 722-3846
Private Pads	Mark Smith	Pads@sdaa.org	(858) 484-0540
Outreach	Dennis Ammann	Outreach@sdaa.org	(619) 247-2457
N. County Star Parties	-Vacant-	NorthStarParty@sdaa.org	
S. County Star Parties	-Vacant-	SouthStarParty@sdaa.org	
E. County Star Parties	Dave Decker	EastStarParty@sdaa.org	(619) 972-1003
Central County Star Parties	Dennis Ammann	CentralStarParty@sdaa.org	(619) 247-2457
Camp with the Stars	-Vacant-	CampWiththeStars@sdaa.org	
K.Q. Ranch Coordinator	Dennis Ammann	KQ@sdaa.org	(619) 247-2457
Newsletter	Andrea Kuhl	Newsletter@sdaa.org	(858) 547-9887
New Member Mentor	Dan Kiser	Mentor@sdaa.org	(858) 922-0592
Webmaster	Jeff Stevens	Webmaster@sdaa.org	(858) 566-2261
AISIG	Dave Wood	AISIG@sdaa.org	
Site Acquisition	-Vacant-	SecondSite@sdaa.org	
Field Trips	-Vacant-	FieldTrips@sdaa.org	
Grants/Fund Raising	-Vacant-	Grants@sdaa.org	
Julian StarFest	Bill Cecil	info@julianstarfest.com	
Merchandising	Gene Burch	Merchandising@sdaa.org	(858) 926-9610
Publicity	Jeff Flynn	Publicity@sdaa.org	(619) 806-6505
Loaner Scopes	Paul Krizak	loanerscopes@sdaa.org	
Cruzen Observatory Director	Paul Krizak		
TARO Observatory Director	Dave Wood	TARO@sdaa.org	
Governing Documents	TBD		
TDS Network	Dave Wood	TDSNet@sdaa.org	(858) 735-8808
Amateur Telescope Making	-Vacant-		
ALCOR (Astronomical League Correspondent)	Dave Decker	ALCOR@sdaa.org	(619) 972-1003

SDAA Editorial Staff

Editor - Andrea Kuhl

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

October 2023



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

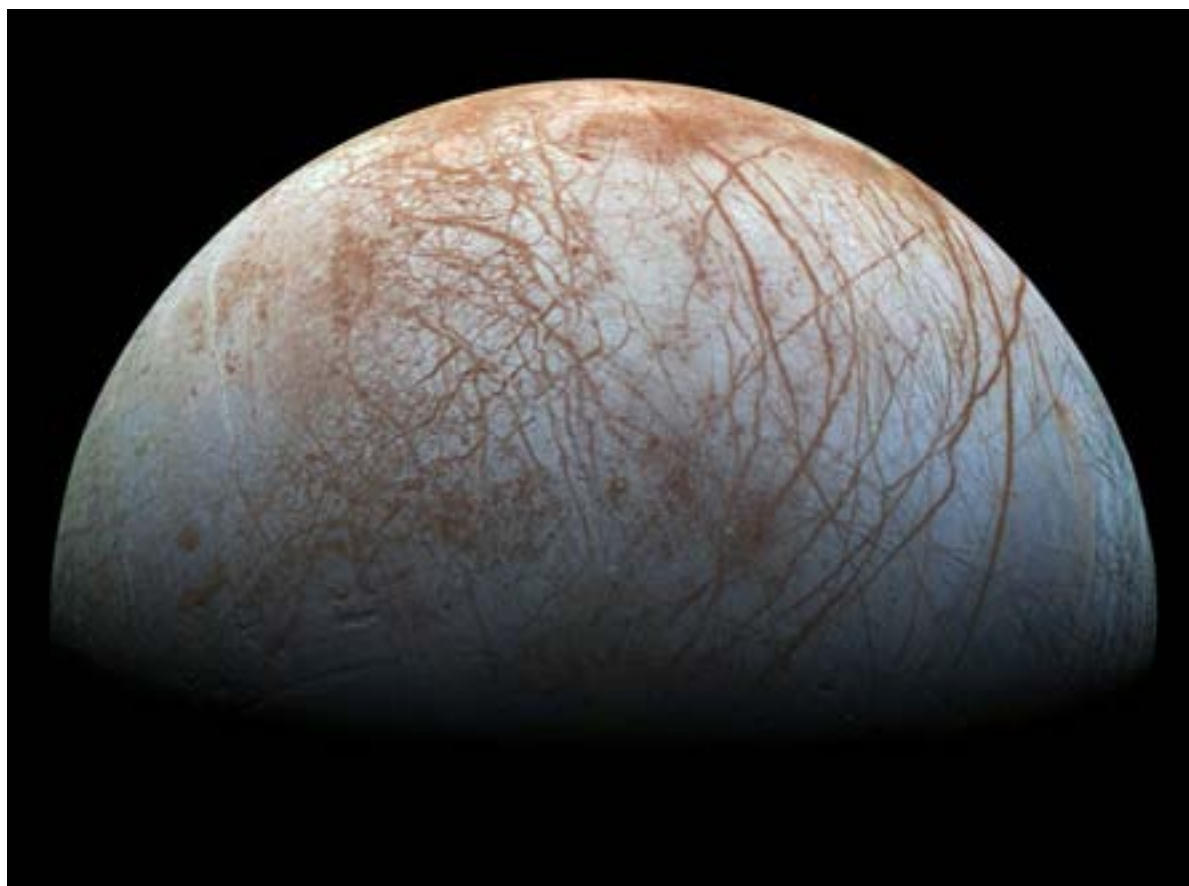
The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

From Galileo to Clipper, Exploring Jupiter's Moons

By Vivian White

*"...We, too, are made of wonders, of great
and ordinary loves, of small invisible worlds,
of a need to call out through the dark."*

From *In Praise of Mystery: A Poem for Europa* by Ada Limon



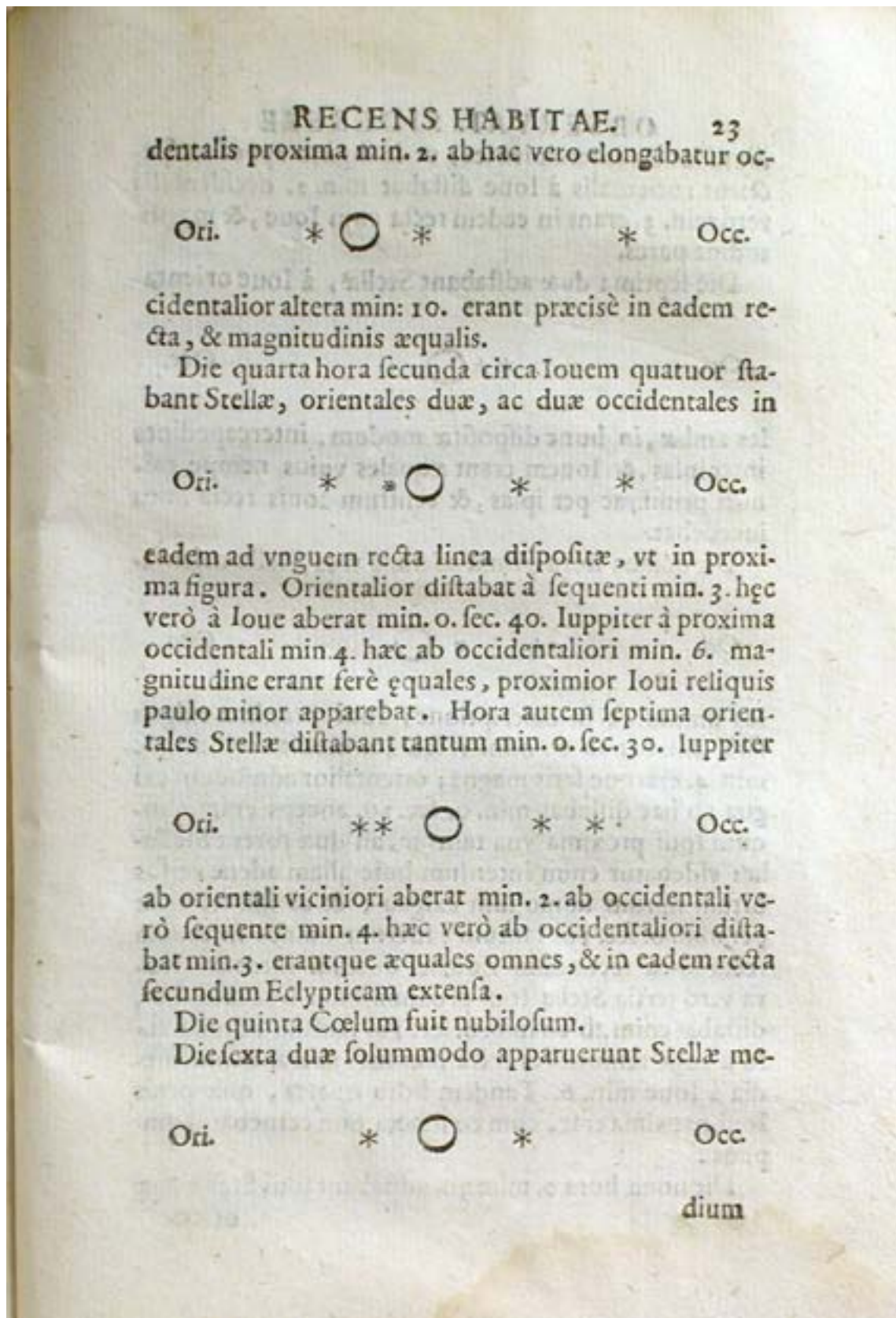
As autumn begins, if you're up late, you may notice a bright point of light rising in the east. Look a bit closer, with a pair of binoculars, and you'll notice it's not a star at all. While stars look point-like no matter how big your backyard telescope, this light appears as a circle under closer examination. Even more curious, you will likely see a line of smaller dots on one or both sides. Congratulations! You've rediscovered the king of the planets - majestic Jupiter - and its four largest moons.



San Diego Astronomy Association

NASA Night Sky Notes

October 2023





San Diego Astronomy Association

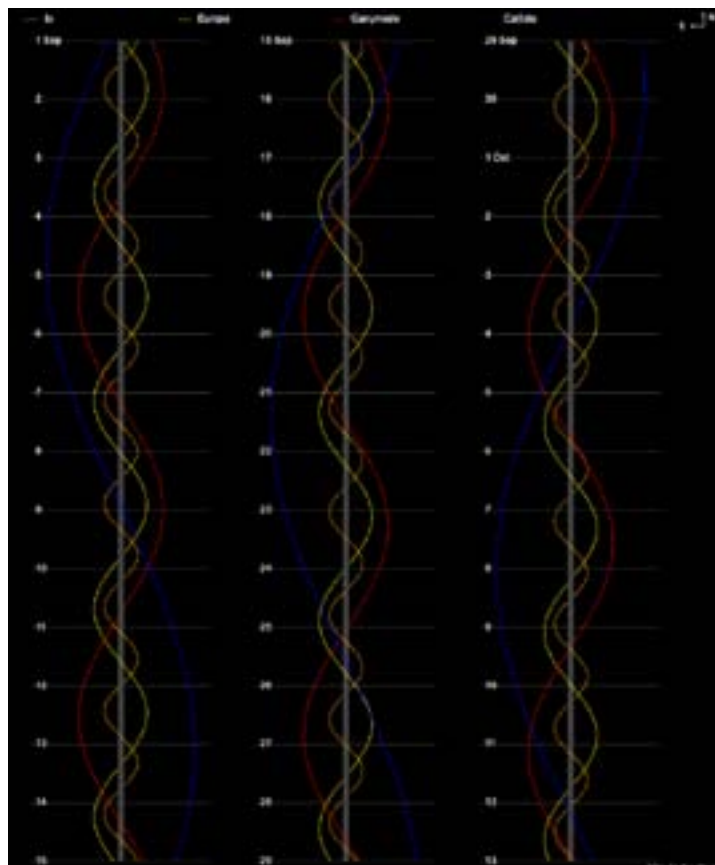
NASA Night Sky Notes

October 2023

Galileo's drawings of Jupiter and its Medicean Stars from Sidereus Nuncius. Image courtesy of the History of Science Collections, University of Oklahoma Libraries.

Galileo famously chronicled the four moving dots near Jupiter and surmised that they were orbiting the distant world. While Jupiter has well over 80 discovered moons as of September 2023, these brightest four are called the “Galilean Moons” - Io, Europa, Ganymede, and Callisto. (Great mnemonics exist to remember these in order of distance from Jupiter, such as “I Eat Green Caterpillars”) You can follow these like Galileo did, using stargazing apps or the handy image below. A favorite beginning observing challenge is to [track the movement of the Galilean Moons](#) over the course of many nights. Even within a few hours, you will notice them moving in relation to Jupiter, just as Galileo did.

Fast forward 414 years, and NASA will be sending a robotic mission to investigate the surface of one of these distant worlds. The [Europa Clipper Mission](#) is launching to the cold, icy moon in 2024, to begin orbiting in 2030. With its salty oceans covered by ice, Europa was chosen as an excellent location to continue the search for life outside of Earth. Clipper will be the largest spacecraft ever sent to another planet, designed to withstand Jupiter’s punishing radiation. Once it arrives at Jupiter in 2030, NASA plans to do about 50 flybys of Europa, mapping almost the entire surface of this watery world.



The position of the Galilean Moons of Jupiter in October 2023: <https://in-the-sky.org/jupiter.php>



San Diego Astronomy Association

NASA Night Sky Notes

October 2023

What was once only dreamed of in the small telescope of Galileo, or in great works of fiction, NASA is turning our wildest imagination into reality. One of the celebrated quotes from the classic 2010: Odyssey Two warns, "All these worlds are yours, except Europa. Attempt no landing there." Science fiction fans can feel relieved knowing that writer Arthur C. Clarke gave his blessing for the Europa Clipper mission.

Join the Europa Message in a Bottle Campaign to send your name with the spacecraft, hear the rest of the poem by the US Poet Laureate, and learn more about the wonders of space travel with the Clipper Mission: <https://europa.nasa.gov/participate>

Watch a wonderful Clipper webinar with Dr. Cynthia Phillips, planetary geologist with the mission: <https://www.youtube.com/live/RnnLJBLRBCA?feature=shared&t=269>

WANTED FOR: Orion Atlas EQ-G Equatorial Mount, #9996, circa 2000

Looking for the inside motherboard that connects the DB9 serial port connector to the hand controller. Mine is fried and leaves the mount non-operational. The motherboard may carry the Orion/Synscan part number of HM6GT-F00-10. This is the same motherboard for their EQ6 and EQ6-Pro mounts, and possibly the same as an older SkyWatcher mounts.

If you have one, please contact: brucelathrop@sbcglobal.net
Bruce Lathrop - Santa Clarita Valley Astronomy Club



San Diego Astronomy Association

2023 TDS Star Party Schedule

Date	Type	Sunset	Astro. Twi.	Moonrise(set)	Closing	Illum. [†]	Hosts
1/14/2023	Public	5:04 PM	6:31 PM	12:21 AM		55.6%	Kin Searcy & Ed Rumsey
1/21/2023	Member	5:10 PM	6:36 PM	7:52 AM		0.2%	Sara Brown & Patrick Dugan
2/11/2023	Public	5:30 PM	6:53 PM	11:14 PM		72.0%	Per Martin
2/18/2023	Member	5:36 PM	6:59 PM	6:23 AM		3.7%	Igor von Nyssen & Rumsey
3/18/2023	Member	6:58 PM	8:20 PM	5:55 AM		12.6%	Steven Myers
3/25/2023	Public	7:03 PM	8:26 PM	(11:40 PM)		20.9%	Ed Rumsey & Joe Fox
4/15/2023	Member	7:18 PM	8:44 PM	4:29 AM		24.8%	Jerry Hilburn
4/22/2023	Public	7:23 PM	8:51 PM	(10:27 PM)		8.6%	Ed Rumsey & Dave Decker
5/13/2023	Public	7:39 PM	9:13 PM	3:03 AM	10:30 PM	38.5%	George Sarabia
5/20/2023	Member	7:43 PM	9:20 PM	(9:14 PM)	10:30 PM	1.6%	Jerry Hilburn
6/10/2023	Public	7:56 PM	9:37 PM	1:36 AM	11:00 PM	52.8%	
6/17/2023	Member	7:58 PM	9:40 PM	(8:03 PM)	11:00 PM	0.3%	Bob Roth
7/8/2023	Public	7:59 PM	9:39 PM	12:07 AM	11:00 PM	67.3%	Per Martin
7/15/2023	Member	7:57 PM	9:35 PM	4:36 AM	11:00 PM	3.9%	Igor von Nyssen
8/12/2023	Public	7:36 pm	9:06 PM	3:26 AM	11:00 PM	12.2%	Ed Rumsey
8/19/2023	Member	7:29 PM	8:57 PM	(9:23 PM)	10:30 PM	10.9%	Bob Roth
9/9/2023	Public	7:02 PM	8:26 PM	2:17 AM	10:00 PM	24.5%	Joe Fox & Ed Rumsey
9/16/2023	Member	6:53 PM	8:16 PM	(7:52 PM)	10:00 PM	3.0%	
10/7/2023	Public	6:25 PM	7:47 PM	1:07 AM	9:30 PM	40.2%	Paul Krizak
10/14/2023	Member	6:16 PM	7:38 PM	(6:22 PM)	9:30 PM	0.0%	Igor von Nyssen
11/4/2023	Public	5:55 PM	7:18 PM	11:54 PM	9:00 PM	57.8%	Bob Roth
11/11/2023	Member	4:49 PM	6:14 PM	5:34 AM	8:00 PM	2.8%	
12/9/2023	Member	4:42 PM	6:10 PM	4:22 AM	8:00 PM	12.0%	Bob Roth
12/16/2023	Public	4:44 PM	6:12 PM	(8:54 PM)	8:00 PM	20.1%	

[†] Illumination at meridian crossing.

SDAA is now registered with the employer fund-matching platform Benevity. If your workplace offers matching charitable donations for non-profits and uses Benevity to distribute funds, you can now designate the San Diego Astronomy Association. Thank you for supporting the SDAA!

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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; \$40 for Basic Membership; \$70 for Private Pads; \$5 for each Family membership.