

San Diego Astronomy Association

Celebrating Over 50 Years of Astronomical Outreach



May 2021

SDAA Update

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

Next SDAA Business Meeting

May 11th at 7:00pm
10070 Willow Creek Rd
San Diego, CA 92131
Via Zoom

Next Program Meeting

May 19th at 7:00pm
Live Stream

SDAA is now actively using online facilities like Zoom and YouTube to provide access to club meetings, events, and outreach programs in keeping with state and local mandates regarding physical distancing requirements during the COVID-19 pandemic. In-person events will start again in 2021 as soon as allowed by said mandates. Look for updates on the Lipp telescope.

Since TDS is private space there is no reason to lock down the facility but there are actions you can take to help keep the site safe for all of us. If you plan to visit and use the facility, please bring along some disinfectant wipes or disinfectant spray cleaner. When you finish using the restrooms or the warming room, please wipe down the areas that you touched in order to help prevent the spread of any viruses. As much as we love sharing the views of the night sky, try to maintain the recommended 6-foot physical distance guideline.

Additionally, we want to thank all of you who participated in and donated at our annual fundraiser. Your funds are used, in part, to maintain TDS and we have used this past year to perform a lot of maintenance around the site. Your donations have offset the costs of repairing the warming room, mitigating erosion and ensuring our facilities are in good working order.

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Incorporated in California in 1963

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May 19, 2021 Program Meeting

Speaker: Dr. Michael Ressler – Project Scientist, James Webb Space Telescope
Topic: James Webb Space Telescope

The James Webb Space Telescope will continue to revolutionize our study of the cosmos. Slated for launch in late 2021, Webb will look deeper than either the Hubble or Spitzer Space Telescopes at infrared wavelengths. This talk will describe Webb as a whole, with a focus on the Mid-Infrared Instrument — a partnership between JPL and a consortium of European astronomical institutes.

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.



<https://us02web.zoom.us/j/89298162225?pwd=TVZsTTg3dzRXcERDY0tXcHErVXArQT09>

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

April 13, 2021 - 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; Steve Hallman, Vice President; Melany Biendara, Treasurer; Gene Burch, Recording Secretary; Alicia Linder, Corresponding Secretary; Dave Decker, Director; Hiro Hakozaiki, Director; Pat Boyce, Director and member Jerry Hilburn.

2. Priority / Member Business

None

3. Approval of Last Meeting Minutes

The March meeting minutes approved.

4. Treasurers & Membership Report

Mel reported that things are good and we had several major expenses this past month including the drywall repair and upgrades to the warming room, the septic tank cleaning and a 2-year renewal of Wild Apricot.

5. Standard Reports

a. Site Maintenance Report:

Nothing new to report.

b. Observatory/Loaner Scope Report:

Observatory:

No star parties are planned for April or May. Training has resumed. Lipp scope remains excellent. The roof had an incident which has been fixed and we are monitoring.

Loaner Scopes:

We continue to have had a lot of activity in the loaner program. Members have been pretty good at returning on time. We now have a waiting list for beginner scopes.

c. Private Pad Report:

We currently have 4 unleased pads and 15 people on the waiting list. One of the vacant pads was never improved and 2 of the people on the waiting list are current pad lessees looking to upgrade I'll work up my recommendation (and an option or two) for the annual letters for the BOD to approve in the next week or two and send them to you/BoD.

The board approved spending \$500 to buy back a "grandfathered" pad that will become a club asset and be available for rental.

d. Program Meetings Report:

17 Mar 2021 Speaker / Topic:

- Speaker: Dr. Daniel Apai - Steward Observatory

- Presentation: Exoplanets / Astrobiology

- Attendees: 41

Current Program Meeting Petty Cash as of 6 Aug 2020 = \$524

Expenses Since 6 Aug 2020 Report - None

e. AISIG Report:

In March, the AISIG group had a very educational talk from Stuart Foreman on how to process a high-quality image of the Cone Nebula taken by our TARO observatory. The April AISIG ZOOM meeting will feature a talk by Greg Crinklaw on Sky Tools 4.



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f. Newsletter Report:

Current issue looks good – nothing new to report.

g. Website Report:

Nothing new to report.

h. Social Media:

General Meeting date change notification has been posted on the social accounts.

i. Outreach Report:

Our EAA Live Stream event scheduled for March 25, was postponed to April 3, due to weather. Nevertheless, it was our March event titled, “Say ‘Goodbye’ to Winter”. The theme was based on the Vernal Equinox, its meaning, history, and its use as the anchor point for the RA and Dec celestial coordinate system. Gary and I hosted the event at Oak Oasis County Preserve with the continued blessing of the SD County Parks Dept. We had a rough beginning when the beta version of SharpCap crashed and required rebooting and re- installing. Fortunately, its impact was minor, pausing the upstream for only about 2 minutes. Woody Schlom attended to observe and collaborate on the live viewing process. The Greater San Diego Science and Engineering Fair was quite successful, even in a virtual format. Our committee headed by Kin Searcy, has made awards to several of the astronomy related projects, some of which were also nominated for the State Science Fair.

SDAA awards will be made during our program meetings in the near future.

The SDAA will be assisting Timeanddate.com once again, with live imaging of the Lunar Eclipse on May 26, during the early morning hours. We will probably use the OakOasis site.

Hopefully, we will also be able to schedule another regular EAA Outreach during the later part of this month, date to be determined.

Currently, there has been no official updates to COVID policies for our host partners, the San Diego City and County Parks, Escondido Parks, California State Parks, etc. With COVID response doing well, we do anticipate the re-opening of a few of these public venues soon. When that occurs, we will put appropriate, public, events back on the outreach calendar. I have also collaborated with Ed Rumsey re: our policies and schedules for TDS Public events. We have agreed that we should be prepared to implement our re-opening plans, which were previously approved in concept and then put on hold due to the COVID statistics at the time.

j. TARO Report:

TARO is operational and is accepting DSO/EXO target imaging requests, weather permitting.

k. Cruzen Report:

Gene still needs to get with Ed to finish the operations manual for the TAK/Gemini II and do the final set up of the mount.

l. Merchandise Report:

Need to order a few more hats.

m. Astronomical League Report:

The Astronomical Leagues annual convention, ALCON has been cancelled due to COVID.

n. JSF Report:

It is clear we will not be able to get a permit for August 2021. County Events Permitting is still estimating end of year as best case for this type of event. Based on this, we have notified Toni and Michael Menghini that we will not be able to hold a 2021 JSF at the Winery. They have agreed to reserve August 25-28, 2022 for JSF. While Sandy and I will not be able to organize a Virtual JSF, we will be checking with the other members during the JSF Committee meeting later this week. I will provide an update after the meeting.



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6. Old Business:

- a. Observatory/Warming room has been painted, with thanks to member Gracie Schutze. We're just waiting for some wall art to complete the upgrade.
- b. Development of the Downing observatory (JDRO) for club use is ongoing. Dave, Mike, Scott Dixon and Pat Boyce are working with Mr. Downing to figure out how to best use it.
- c. Mike Chasin is still working on the Software Assets project.

7. New Business:

- a. Jerry Hilburn offered to organize a "Covid friendly" spring cleanup event in May.
- b. Dave Decker proposed a Fall BBQ and "vintage scope" event in September, depending on the state of Covid.
- c. The JSF Trademark is up for renewal and we may need to contact an attorney for assistance – Mel is working on this.

8. **Adjournment:** The meeting was adjourned at 8:48pm.

TDS Cleanup - May 15th

On Saturday May 15th We will hold our annual Spring Cleanup at TDS. A dumpster will be positioned at the compound for everyone to use in sprucing up their pads and junk removal. A list of allowed items will be posted on the container. Cleanup will commence at 9AM. This is a good time to clear any decomposing tarps and carpeting, as well as dried brush from your pad area. Please bring your weed whackers, yard tools, sun protection, and wear protective clothing as desert brush and cactus can be irritating.

Due to Covid considerations we will not hold a BBQ this year, but we will supply water, tea, and light snacks for everyone who attends.

The Club BBQ that has given us years of service has succumbed to the elements and we have to clear out the debris. We will be deconstructing the BBQ for disposal into the dumpster. As this is a big project requiring brute force please bring tools appropriate for breaking up cinder block if you can help.

This is a great chance to get outside, work off some of those Covid 19lbs, and see your fellow socially-distanced members! Please contact Jerry Hilburn at 858-877-3103 or send email to tds@sdaa.org to RSVP as this will help with planning supplies.

Got weeds? If you need weed whacking at your (TDS) pad or observatory, Ben and Mike are on it. Suggested donation is \$20 for pads, and \$50 for observatories. Just use the SDAA Donate link (<https://sdaa28.wildapricot.org/Donate>) and be sure to include your pad number!

STI Knife Edge Focuser - Free



Produced by Stellar Technologies International. These focusers were state of the art for working with film. This version is for Canon EOS cameras, or any with that form factor and back focus. The kit includes a Ronchi grating if you prefer an interference pattern to blinking a star. Instructions, 22mm Plössel, and case, are included.

The kit looks to be in exceptional condition. We are passing as-is.

Price is free to Contributing Members only.

Ed Rumsey, observatory@sdaa.org, 858.722.3846

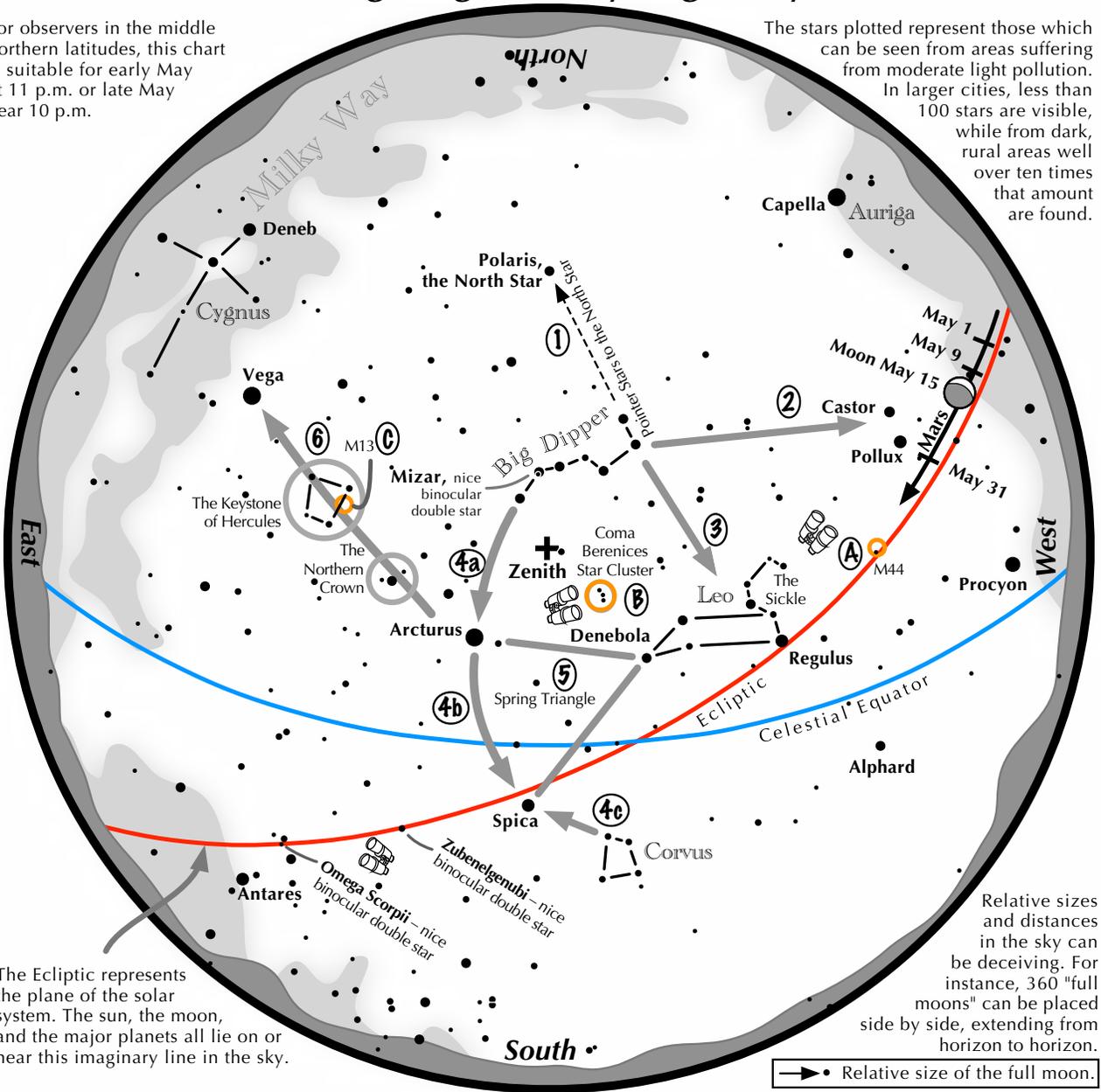


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Navigating the May Night Sky

For observers in the middle northern latitudes, this chart is suitable for early May at 11 p.m. or late May near 10 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.



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 May night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line northward from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Through the two diagonal stars of the Dipper's bowl, draw a line pointing to the twin stars of Castor and Pollux in Gemini.
- 3 Directly below the Dipper's bowl reclines the constellation Leo with its primary star, Regulus.
- 4 Follow the arc of the Dipper's handle. It first intersects Arcturus, then continues to Spica. Confirm Spica by noting that two moderately bright stars just to its southwest form a straight line with it.
- 5 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 6 Draw a line from Arcturus to Vega. One-third of the way sits "The Northern Crown." Two-thirds of the way hides the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.

Binocular Highlights

A: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **B:** Look near the zenith for the loose star cluster of Coma Berenices. **C:** M13, a round glow from a cluster of over 500,000 stars.



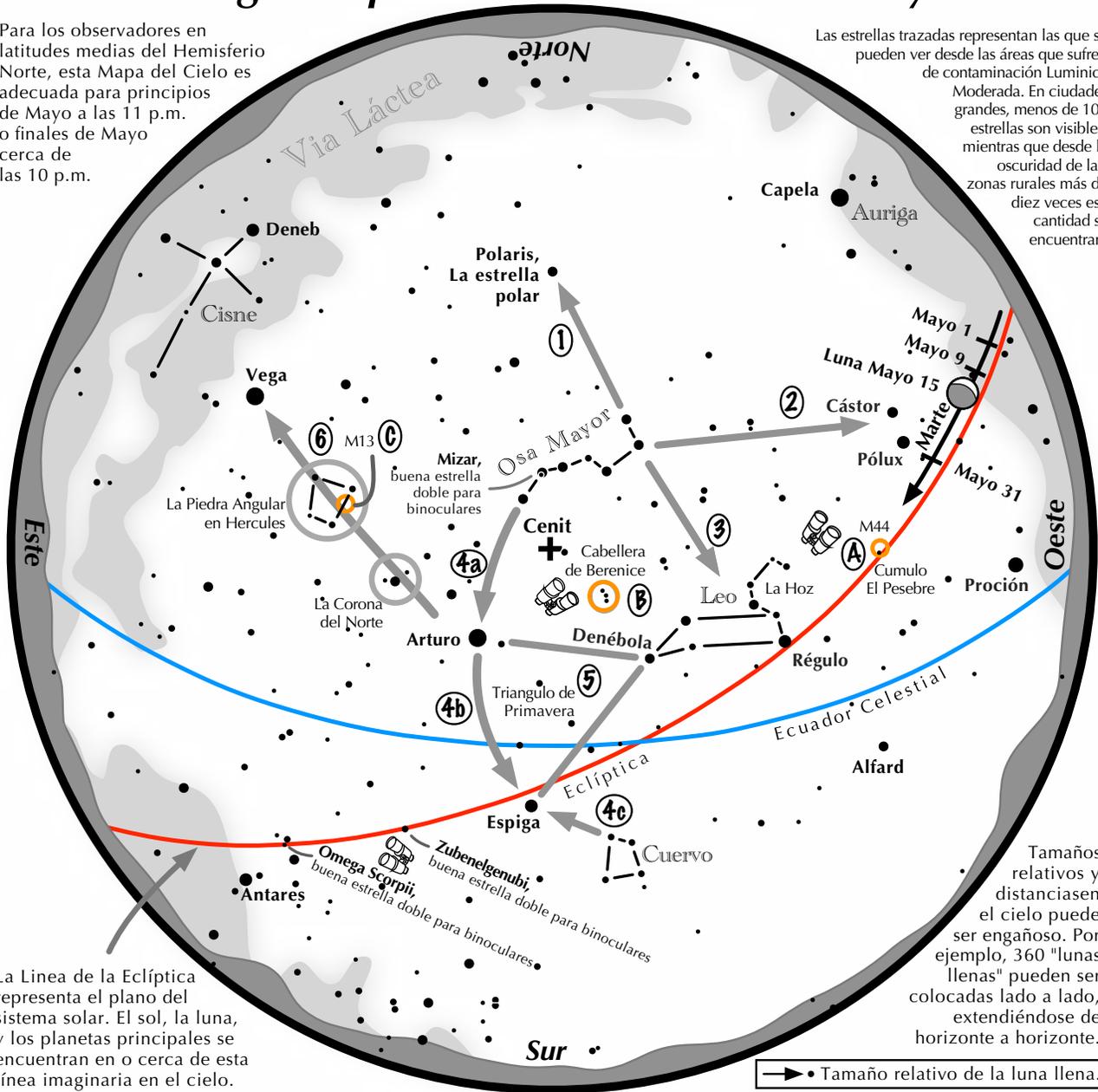


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Navegando por el cielo nocturno de Mayo

Para los observadores en latitudes medias del Hemisferio Norte, esta Mapa del Cielo es adecuada para principios de Mayo a las 11 p.m. o finales de Mayo cerca de las 10 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 A través de las dos estrellas diagonales de la Osa Mayor, dibuja una línea que apunta a las estrellas gemelas de Cástor y Pólux en Géminis.
- 3 Directamente debajo del tazón de la Osa Mayor se encuentra Leo con su estrella principal, Régulo.
- 4 Siga el arco del mango del tazón de la Osa Mayor. Primero cruza Arturo, luego continúa hacia Espiga, luego Cuervo.
- 5 Arturo, Espiga y Denébola forman el triángulo de primavera, un gran triángulo equilátero.
- 6 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.

Puntos destacados con binoculares

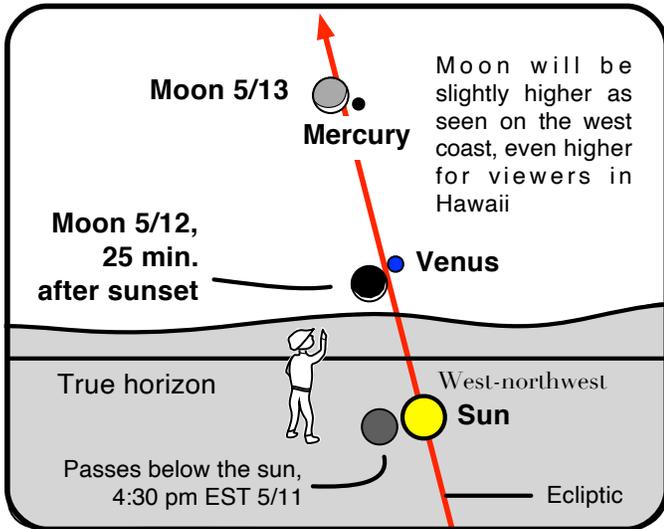
A: M44 (Cumulo El Pesebre), un cúmulo de estrellas apenas perceptible a simple vista, se encuentra al sureste de Pólux. B: Mira alto en el este para ver el cúmulo de estrellas perdidas de Cabellera de Berenice. C: M13, un brillo redondo de un cúmulo de más de 500,000 estrellas.



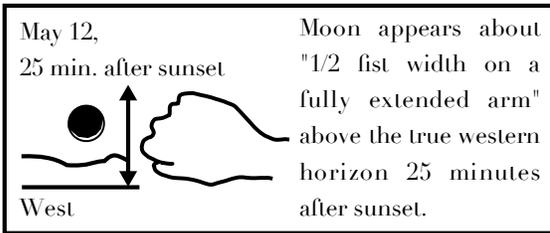


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If you can observe only one celestial event this month, see this one:



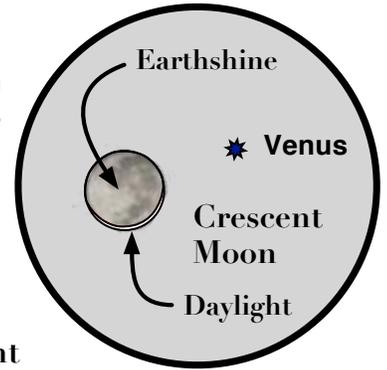
May 12 & 13, 2021:
Young Moon 25 minutes after sunset
very low in the west. Tough to see.



View through 10x50 binoculars on May 12



Young, thin Moon in the evening twilight



Crescent moons, sporting Earthshine, are always pretty to view. How thin of a crescent have you seen? May 12 and 13 present a good opportunity to catch a very thin moon, but binoculars may be needed. Look low into the western twilight 25 minutes after sunset on May 12 when the moon is just 1.25 days old, i.e., 1.25 days after it passed below the sun.

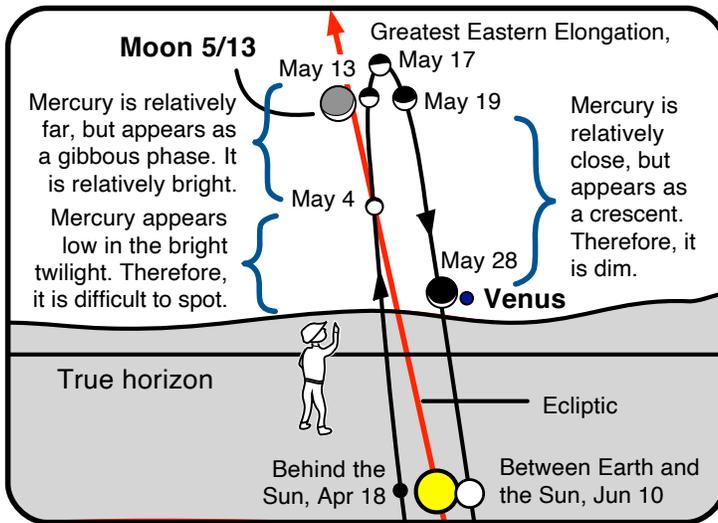
Its thin sliver should be a tad easier to spot for west coast observers than east coasters. Venus will lie just to its right which may aid in discerning the moon. If you are unable to find the crescent, try again the following evening when the moon is a little higher in the sky and shows a slightly thicker slice. It is then 2.25 days old and lies next to Mercury.

- Very clear skies and an unobstructed western horizon are needed.
- Use binoculars. The bright twilight will likely prevent Earthshine from being seen on May 12. A much better chance occurs on May 13. On May 13, the moon lies higher in the sky next to Mercury. Again, bring out the binoculars.

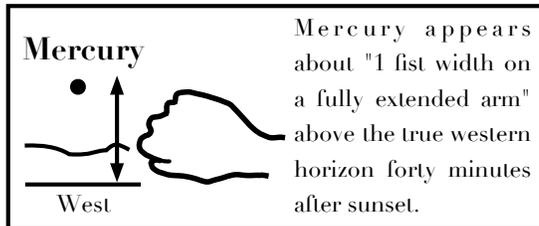


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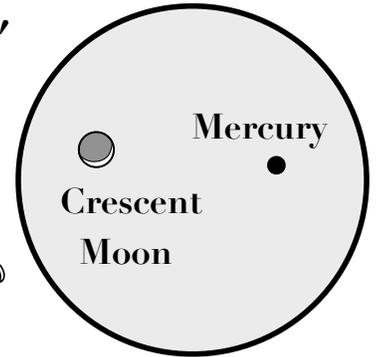
If you can observe only one celestial event this month, see this one:



May 2021:
Mercury forty minutes after sunset in the west-northwest



View through 10x50 binoculars on May 13



Mercury in the evening twilight

Have you ever spotted Mercury? Many stargazers have not. From early through mid May presents a good opportunity to catch the elusive little planet. Look low into the west-northwestern twilight forty minutes after sunset.

Mercury comes between the Sun and Earth on April 18, then two weeks later, it is found climbing higher above the western horizon each evening as it moves away from the Sun. Between May 4 and 19, it is bright enough and high enough in the twilight sky that it can be seen rather easily if the sky is clear and if the horizon is unobstructed. After May 19, it dims significantly, making it again difficult to spot.

- Using binoculars, look on May 13 for the crescent Moon entering the scene to the left of Mercury. Can you see Earthshine on the Moon's dark side?
- Bright Venus shines immediately above the horizon on May 28 and lies to the right of Mercury. Binoculars might be able to reveal this pairing, but the sky may prove to be too bright.



San Diego Astronomy Association

Remembering Nick Marilao

I am very sad to report that one of the San Diego Astronomy Association's long time members, Nick Marilao, has passed away. I received the phone call while I was at Tierra del Sol on Sunday afternoon, April 10th that he was hospitalized. He passed away on April 13th and he was 61 years old. He is survived by his mother and two brothers.

According to records, he became a member of the SDAA on June 1, 1983. (His member number was 106.) That made him the 9th longest-running, living member of the club as of January, 2015. Going through newsletters, he was a frequent volunteer at both 'Stars in the Park' and at school star parties. Regarding 'Stars in the Park', he was there nearly every month -- 39 of them -- between September 1999 and September 2003. The following photo shows Nick "in action."



credit SDAA

Personally, he was one of the first members that I met in the SDAA. Talk about someone who was friendly and enjoyed sharing his joy of astronomy. And did he know the sky?! He was one of those people who could remember objects not only by their IDs, nicknames, and types, but, moreover, by their locations. You've heard astronomers say something such as "Go to that star, then hop over to that one two degrees to the lower left, then go to those two stars straight under it, and you'll find the double star."? Nick was one of those people. His knowledge was impressive!



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As you might know, I am writing a book about the history of the SDAA. Naturally, I pinged Nick for his help. And, of course, he obliged. One of the most interesting photographs that I have of TDS is the following 3-photo strip from him. If you can't read it, it is dated May 30, 1992. For those of you who go to TDS, do you notice anything that didn't exist at that time that is now part of the bathroom-shower building structure?





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I guess that the following photo will be how I will always remember Nick, exactly four years ago this month --

Thanks, Nick for one of the reasons why I am now a long time member of the SDAA.

Craig (Ewing)



Mar. 2017, credit SDAA



San Diego Astronomy Association

Invitation to the Society for Astronomical Sciences SAS-2021 Symposium

from Bob Buchheim

When we think of astronomical research, the picture that comes to mind is a giant telescope on a high mountain top, staffed with PhDs and skilled technicians. But there is also a role for our backyard-scale telescopes and instruments in the scientific enterprise.

One way to organize the objects and phenomena that we see in the night sky is to think of them along three parameters:

- Brightness: Some are faint, and some are bright.
- Variability: Many are relatively unchanging: what you see in M-51 tonight is pretty much what Herschel saw 200 years ago ... unless what you see is a supernova, which flashes and fades away over a few months.
- Observing Cadence needed: Among those things that are variable or transient on human time scales – like that supernova – some require very rapid observing cadence (a measurement every few minutes or hours), and some require occasional measurement over years and decades.



A single well-done measurement can capture the “invariant” features, but to understand the variable objects, you may need to watch it every night: what astronomers would call “time series” observations.

Most of the instruments at big professional observatories are optimized for measurement of faint objects; and they are over-subscribed, which means that their sweet-spot is precise, but infrequent, measurement of faint objects.

What do I mean by “faint” and “bright”? Consider SDSS and Pan-STARRS: the *brightest* star that they can do accurate photometry on is about mag 14. Brighter than that, their instruments saturate. So, their bright limit is just about the same as our faint limiting magnitude. Bigger ‘scopes like Gemini and the upcoming LSST/Rubin Observatory have even fainter “bright limits”. We own the bright sky!

There are a great many bright phenomena for which data is needed: asteroid rotation periods (and shape models derived from their light curves), transients like novae and asteroid occultations, many types of stellar variability, and the orbital motion of binary stars.

Unlike the big observatories, we can spend as long as we want on a single object, we can partner around the world to observe important events, and there are more of us than there are professional researchers. Which means that there are projects we can do and data that we can gather, that aren’t practical for the big professional observatories. There is a role for us in astronomical research!

If you would like to learn about this role, and see the projects that other backyard scientists have been doing, then you should participate in the 2021 Symposium of the Society for Astronomical Sciences.

This year’s Symposium is being held on-line in mid-June. Go to www.SocAstroSci.org for complete information and registration. I think that you’ll be impressed by what people like you have been doing in the dark. We have arranged a very interactive format that will include extended discussions with the presenters and the attendees, to help you learn how you can participate in this aspect of your astronomical hobby.

I hope to see some of you at the SAS Symposium!



San Diego Astronomy Association

SDAA Contacts

Club Officers and Directors

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Field Trips	-Vacant-	FieldTrips@sdaa.org	
Grants/Fund Raising	-Vacant-	Grants@sdaa.org	
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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

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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

May 2021



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!

Virgo's Galactic Harvest

David Prosper

May is a good month for fans of galaxies, since the constellation Virgo is up after sunset and for most of the night, following Leo across the night sky. Featured in some ancient societies as a goddess of agriculture and fertility, Virgo offers a bounty of galaxies as its celestial harvest for curious stargazers and professional astronomers alike.

Virgo is the second-largest constellation and largest in the Zodiac, and easily spotted once you know how to spot Spica, its brightest star. How can you find it? Look to the North and start with the Big Dipper! Follow the general curve of the Dipper's handle away from its "ladle" and towards the bright orange-red star Arcturus, in Boötes – and from there continue straight until you meet the next bright star, Spica! This particular star-hopping trick is summed up by the famous phrase, "arc to Arcturus, and spike to Spica."

This large constellation is home to the Virgo Cluster, a massive group of galaxies. While the individual stars in Virgo are a part of our own galaxy, known as the Milky Way, the Virgo Cluster's members exist far beyond our own galaxy's borders. Teeming with around 2,000 known members, this massive group of galaxies are all gravitationally bound to each other, and are themselves members of the even larger Virgo Supercluster of galaxies, a sort of "super-group" made up of groups of galaxies. Our own Milky Way is a member of the "Local Group" of galaxies, which in turn is *also* a member of the Virgo Supercluster! In a sense, when we gaze upon the galaxies of the Virgo Cluster, we are looking at some of our most distant cosmic neighbors. At an average distance of over 65 million light years away, the light from these galaxies first started towards our planet when the dinosaurs were enjoying their last moments as Earth's dominant land animals! Dark clear skies and a telescope with a mirror of six inches or more will reveal many of the cluster's brightest and largest members, and it lends itself well to stunning astrophotos.

Virgo is naturally host to numerous studies of galaxies and cosmological research, which have revealed much about the structure of our universe and the evolution of stars and galaxies. The "Universe of Galaxies" activity can help you visualize the scale of the universe, starting with our home in the Milky Way Galaxy before heading out to the Local Group, Virgo Cluster and well beyond! You can find it at bit.ly/universeofgalaxies. You can further explore the science of galaxies across the Universe, along with the latest discoveries and mission news, at nasa.gov.



San Diego Astronomy Association

NASA Night Sky Notes

May 2021



The first image of a black hole's event horizon was taken in the center of one of the most prominent galaxies in Virgo, M87! This follow up image, created by further study of the EHT data, reveals polarization in the radiation around the black hole. Mapping the polarization unveils new insights into how matter flows around and into the black hole - and even hints at how some matter escapes! More details: apod.nasa.gov/apod/ap210331.html

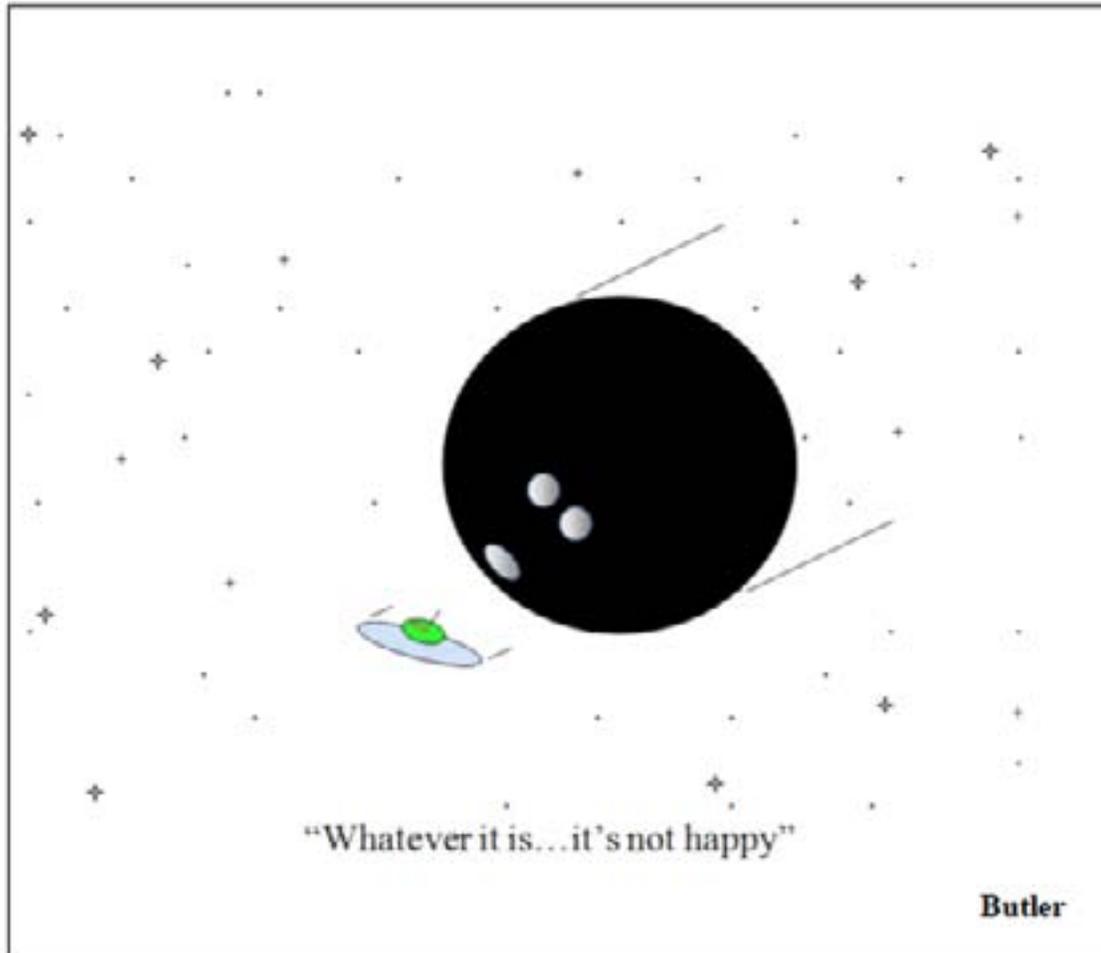
Credit: Event Horizon Telescope Collaboration



Find Virgo by "arcng to Arcturus, then spiking on to Spica." Please note that in this illustration, the location of the Virgo Cluster is approximate - the borders are not exact.



San Diego Astronomy Association



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