

THE OBSERVER



Bernard Miller - April 8, 2024 - Doniphan Mo.

From the Desk of the President by Steve Bradshaw

This month's message from me is more business oriented rather than astronomical, scientific, or personal. It's important, so please keep reading.

As you all know, we had an eclipse in April. If you have pictures or an eclipse adventure, then please consider putting together a 5-to-15-minute presentation to share with other club members at the May 17th meeting. Your photos could be of the actual eclipse, or anything eclipse or eclipse-trip related. As examples, we had members who traveled and took pictures of totality, we had a member who was a NASA eclipse ambassador and attended events prior to the eclipse,

and another member who created an eclipse display board, and so on. Do you have total eclipse pictures? Great! Partial eclipse pictures? Great! Cloudy eclipse pictures? Great! (I have seen a few cloudy eclipse pictures, and they are quite interesting.) An Interesting array of crescent sun-shaped shadows on the pavement? Great! Interesting people you met or helped? Great!

The eclipse was a major event for many of us and won't be repeated in the continental U.S. for another 20 years. We should enjoy celebrating what we saw. If we get sufficient response, we may just make our next club meeting an eclipse night of member-to-member sharing.

UPCOMING EVENTS:

EVAC Riparian Star Party - May 10th
EVAC Monthly Meeting - May 17th

Check out all of the upcoming club events in the Calendar on Page 11.

INSIDE THIS ISSUE:

<i>From the Desk of the President</i>	1
<i>EVAC Outreach Events</i>	2
<i>April 19th 2024 Meeting Minutes</i>	3
<i>Leo and His Two GHosts</i>	3
<i>What's up - May 2024</i>	4
<i>Announcements</i>	5
<i>Deep Sky Imaging Target Highlights for May 2024</i>	6
<i>Used Equipment for Sale</i>	8
<i>EVAC Rental Program</i>	8
<i>Classified Ads</i>	8
<i>Calendar</i>	11
<i>Membership Form</i>	12

From the Desk of the President

by Steve Bradshaw

Continued from page 1

Please respond to vp@evaonline.org as soon as possible with the name and length of your presentation so that we can make up a schedule and plan the next club meeting.

I have one more business item. Each month during the club general meetings we typically mention the members of the EVAC Board of Directors. The Board of Directors is a vital function for the club and right now we are one person short. Alex Beck reluctantly had to resign due to conflicts with his work life. At this time, I would like to acknowledge Alex for the time that he served on the Board. By serving on the Board, he served each one of us. On behalf of all of us here at EVAC, thank you Alex.

Moving forward, it's time to elect a new Board member. We have one nomination, but other nominations are welcome. At the May 17th club meeting we will vote on a new Board member. If you are interested, or have a nomination, please email president@evaonline.org. It would be good to receive nominations at least a week before the May 17th club meeting. I would like to be able to gather and send out some "bio" information before the May 17th meeting.

You might wonder what the Board does? It is the Board that defines the strategies to meet the club's mission and purpose as laid out in the club's founding documents. These strategies include allocating and protecting the club's financial and material resources, ensuring legal compliance, growing the club, evaluating potential club projects, and providing general club governance. To illustrate how important the Board is, as President I run the Board meetings, but I don't have a vote on the decisions that affect the club's activities. The Board ultimately decides the future of the club. The Board typically meets one evening per month.

EVAC Outreach Events

by Jake LeAncala

May Outreach Events:

- Church Youth Group Star Party
- May 10th – 2nd Friday Star Party.

Details can be found on the EVAC website. Just go to www.evaonline.org/events-meetings. Click on the calendar en-

At this time, we have one person that has been nominated to fill the open position. That person is Morgan Moran. I asked Morgan for his "bio" so that we could get to know him. Like many of us, Morgan said he was interested in astronomy for many years before he bought his first telescope in January 2020. Shortly after that he joined EVAC and dealt with the pandemic-induced remote Zoom meetings like all of us. With the pandemic restrictions over, these past two years he has regularly volunteered his time and telescope at our public outreach events. He is also a volunteer at GRCO each month. Most recently, he signed up with NASA, got training and collateral, and for a few months became an official NASA Eclipse Ambassador. In the real world, he works in marketing at GoDaddy, analyzing data to improve the effectiveness of marketing programs for GoDaddy.

Again, if anyone would like to nominate someone else then please do so. We will vote on a new Board member at the May 17th meeting. I realize that not everyone might read this Newsletter so I will be posting a shorter version of this message to our evac-announce mailing list. We want to ensure that everyone gets this important information.

Finally, our Newsletter Editor Marty Pieczonka would like to pass the baton to someone younger. The newsletter is published using Adobe InDesign. The editor's job mainly involves cutting, pasting and grammar checking. The benefits are free EVAC membership and a paid subscription for Adobe Cloud that includes Photoshop, Dreamweaver and the full version of Adobe Acrobat. If anyone is interested, please contact Marty at news@evaonline.org.

See you at the May 17th meeting.

Steve Bradshaw

try for location and times. Contact [Jake LeAncala](mailto:jake@evaonline.org), (Events Coordinator), if you can volunteer at an event. It is helpful to know who is coming so we can inform you of where the observing field is located and how to gain access.

EVAC Meeting Minutes for April 19th, 2024 at 07:30 P.M. AZ Time

by James Yoder

Meeting Minutes

YouTube: EVAC monthly meetings can be viewed on YouTube. Go to the [YouTube](#) website to play any of the meeting recordings or select this [link](#) for the current meeting recording.

Welcome

EVAC President Steve Bradshaw welcomed club members to the meeting and reviewed the agenda. We had three new visitors.

Announcements

Steve Bradshaw reviewed the following club business items:

- EVAC periodically offers basic astronomy classes such as [Beginners Guide to Small Telescopes](#) and [Planetary Imaging Primer](#). These classes consist of ZOOM sessions and hands-on labs and are periodically available based on interest. The next scheduled class is **Beginners Guide to Small Telescopes**. This class is composed of five Zoom meetings and five labs. The cost is \$15 for EVAC members. The class will start Tuesday, May 7th. Contact James Yoder (jty.astro@ArtCentrics.com) if you would like to take this class or be added to the waitlist for either class.
- To join the distribution list for EVAC announcements go [here](#).
- Joining or renewing membership can be accomplished online [here](#).
- [EVAC Calendar](#) shows what events and meetings are slated for EVAC members.

- Past newsletters can be accessed [here](#).
- Used equipment for sale can be viewed [here](#).
- Equipment that can be rented by members can be viewed [here](#).
- More information can be found here. Contact James Yoder (jty.astro@ArtCentrics.com) if you would like to take the class

Member Presentation

Speaker: Evelio Sevillano.

Topic: Astro Imaging and Plasma.

This talk focused on Astrophotography from Evelio's backyard which is located in Gold Canyon. He reviewed what a plasma is and how it composes over 99% of the visible universe. Evelio also discussed the equipment he utilizes for deep sky astrophotography and shared some examples of the images that he has captured.

Featured Presenter

Speaker: Dr. Jenna Moore.

Topic: The Simons Observatory - Next-Generation Cosmology from the Atacama Desert .

Jenna recently obtained her PHD where she participated in a project to develop and build the components of radio telescopes that are being placed in the Atacama Desert in Chile. She talked about the Simons Observatory and the work it is doing to study the Cosmic Microwave Background (CMB). The observatory site was selected due to the high altitude, low humidity and relative ease to access.

The Backyard Astronomer

by Bill Dellenges

Leo and His Two Ghosts

The bright winter stars and Milky Way have sunk into the west and its summer counterpart has yet to rise. Thus, Leo the Lion dominates the spring sky in May. Facing south, high on the meridian, the big cat is hard to miss as it looks down on you, letting you know he is not only the King of Beasts but king of the spring constellations (along with Ursa Major to the north).

Leo is one of the few constellations to resemble what it's supposed to be. The western half, a backwards looking

question mark or "Sickle", represents the chest of the Lion seen in profile. It's brightest star, first magnitude Regulus (L. "little king"), is the Lions heart. A string of stars running north from Regulus form the backward question mark. Midway up the chest is the second brightest star in the string, Algieba (Ar. "forehead"), a fine double star (Mag. 2.4, 3.5, Sep. 4.7"). To complete the Lion, we need to jump 15 degrees to the east to a triangle of stars signifying the Lion's hind quarters and tail, the latter anchored by second magnitude Denebola (Ar. "lion's tail"). Note the root of the name – Deneb - is also used for the tail of Cygnus the Swan! So, we have a large, relatively bright

The Backyard Astronomer

by Bill Dellinges

Continued from page 3

constellation easily recognizable to the budding stargazer, loaded with several interesting double stars and Messier galaxies.

Now, about the Ghosts! Once a stargazer has learned the constellation of Leo, and IF he or she is blessed with a dark sky, they just might notice a ghostly glow on either side of the Lion. On a line between Regulus west to Polux (Gemini's brightest star) and a skosh below that line lies M44, the Beehive star cluster, just visible to the naked eye as a nebulous blob. This is Ghost number one – one of most beautiful open star clusters the heavens offer us mortal souls. The reason you see it at all with the naked eye is because it's close, only 592 light years away (most star clusters are thousands of light years away). In fact, M44 is the fourth closest star cluster to Earth. That makes it appear large and best observed with binoculars rather than a telescope.

The Ghost on the east side of Leo can be located 15 degrees to upper left (NE) of the Lion's tail star Denebola, midway between Denebola and Cor Caroli in Canes Venatici (the Hunting Dogs). You might want to use a pla-

nisphere or small star atlas for help in navigating this stellar no man's land. But in a reasonably dark sky and dark-adapted eyes, the Ghost will make itself present. The cluster resides in the constellation Coma Berenices (Berenice's Hair), comprised of only three fourth magnitude stars shaped like an inverted "L". You'll have an easier time finding the cluster than the constellation. The cluster is known as the Coma Berenices Cluster or Mel 111 and appears larger than the Beehive cluster in Cancer, as it's only 280 light years distant making it the second closest star cluster to Earth.

We have seen that our Ghosts Mel 111 and M44 are the second and fourth distant star clusters from Earth. What might be the first and third? The first is the Hyades in Taurus at 120 light years and the third, also in Taurus, the Pleiades at 440 light years. To clarify, in order of distance from us: Hyades, Mel 111, Pleiades, M44. This ranking ignores the so-called Ursa Major Moving Cluster Group, 50 or so stars with a common proper motion about 80 to 300 light years light years away, cruising past us currently (including the inner five stars of the Big Dipper asterism – thus the "Ursa Major" connection).

What's Up - Some Astronomical Events of Note for May 2024

by James Yoder

Here we make note of some interesting astronomical occurrences for the month that are visible from the Phoenix Metro area. Events we are on the lookout for include:

- [Transits](#) – When a celestial body passes directly between a larger body and the observer. For example when one of the inner planets such as Venus passes in front of the Sun ([image](#)).
- [Eclipses](#) – Specifically we are focused on [Lunar Eclipses](#) (where the Earth passes between the Sun and the Moon) and [Solar Eclipses](#) (where the Moon passes between the Sun and the Earth).
- [Comets](#) – For the comets we are focused on bright comets ([image1](#), [image2](#)) or ones that may have a near miss with other astronomical objects such as globular clusters, planets, nebula, etc ([image](#)).
- Planet Activity – [Oppositions](#), [Conjunctions](#) ([image1](#)) and [Occultations](#) ([image2](#)) of note that may be an opportunity for observation or photography. For Jupiter, we also note when multiple moon shadow transits are visible.
- Visually Interesting astronomical alignments such as Moon & planets arrangement in the morning or evening sky ([image1](#)).

Equipment Requirements are noted as follows:

- NE – **N**aked **E**ye event, no equipment needed to appreciate this.
- BI – A decent pair of **B**inoculars are recommended.
- CT – **C**amera on a **T**ripod can be used to capture this event.
- TS – **T**elescope is required to view this event.

What's Up - Some Astronomical Events of Note for May 2024

by James Yoder

Date	Event	Time	Equipment	Images	Ref	Comments
05/05	Eta Aquarids		NE		1	Eta Aquarids meteor shower with expected peak shower rate of 40 meteors/hour in the late hours of May 5th to the morning of May 6th. Where in the sky the appearance of falling stars from this shower cannot be predicted if you trace its trail back it should trace back to the constellation Aquarius
05/08	New Moon	All Night				
04/10	Mercury AM Sighting		NE, BI, T	1	1	Since Mercury is so close to the sun it is generally difficult to spot in the sky. However, on this morning, it will appear 10° above the eastern horizon just before sunrise.
5/23	Full Moon	All Night				

These events and others throughout the year can be viewed on my webpage [here](#), Happy hunting!

Find Out What's Happening – Join EVAC-Announce List

If you would like to receive email announcements about EVAC meetings and activities, please join the EVAC–Announce mailing list. Click on the link below to subscribe. Enter your full email address in the box titled User Options and press OK. You will receive a confirmation email. Your privacy is respected by EVAC and we will never sell your email address, or use it for non-club relevant solicitations. This mailing list is designed for communication from EVAC, and does not enable users to respond to the message. If you wish to contact club officers, please use the list in the Contact-Us area on the Home page of our EVAC website. To subscribe to the EVAC–Announce mail group click: <http://www.freelists.org/list/evac-announce>. To unsubscribe use the same link, enter your email address and select Unsubscribe from the “Choose An Action” list. Another list to consider is AZ-Observing@groups.io, simply click on this link <https://groups.io/g/AZ-Observing> and follow the instructions on the page. EVAC also has a Facebook Group where members may share ideas, photos, and Astronomy related information. Click on the link to join: [East Valley Astronomy Facebook Group](#).

The Gilbert Rotary Centennial Observatory (GRCO) also has a Facebook Group where members may share ideas, photos, and Astronomy related information. To visit, please click on Gilbert Rotary Centennial Observatory - GRCO.

Gilbert Rotary Centennial Observatory is open on Friday and Saturday from sunset until 9:30pm. We need volunteers. Training is provided. Help us engage the community in the wonders of the night sky. Email grco@evaconline.org for information.

Deep Sky Imaging Target Highlights for May 2024

by James Yoder

The average low [temperature](#) for May in the Phoenix metro area is 69° F. May 8th is a new moon with Astronomical dusk at 8:50 pm and Astronomical dawn at 3:59 am, giving us 7:09 hours of imaging time.

In this month's list there are over 117 object/configuration combinations provided of just about every class of deep sky object including 20 Globulars, 14 Planetary Nebulas, 11 Nebulas, 12 Dark Nebula, 8 Open Clusters and 52 Galaxies/Galaxy Clusters.

Bright Moon Targets – These are small targets that have a high surface brightness, these would be globular clusters and Planetary Nebula, that with appropriate filters can likely be imaged even in a near full moon situation.

The [Prospective Imaging Objects Guide](#) (PDF download) covers objects that reach their highest point in the sky and cross the meridian (aka Transit) sometime between Astronomical Dusk to Dawn. We will be highlighting objects that transit roughly between 10pm and 2am. This ensures maximum imaging time over the month.

Happy Hunting!

Some Highlighted Targets (Most of these objects were imaged in Chandler)

Configuration	Page	Object(s)	Type	ImageLink
Hyperstar	24	Blue Horsehead (IC-4592)	Bright Nebula	144 min
Focal Reducer	14	M59, M60 Group	Galaxy Cluster	738 min
Primary Focus	17	Coma Galaxy Cluster (Abell-1656)	Galaxy Cluster	160 min
Primary Focus (Moon)	17	M-53 (Moon)	Globular Cluster	178 Min
Primary Focus (Moon)	24	White Eyed Pea (IC-4593)	Planetary Nebula	178 min

Resources:

- [ArtCentrics.com](#) – [May Potential Targets Guide](#) (PDF download)
- [Telescopius](#) – Lookup objects, plan imaging session.
- [Field of View Calculator](#) – Test Different Telescope, camera & eyepiece combinations.
- [Astrometry.net](#) – Solve images captured by your system. Get image RA/DEC, pixel scale, image size, orientation of the image you have taken.

THIRD QUARTER MOON ON MAY 1ST AT 04:27

NEW MOON ON MAY 7TH AT 20:21

FIRST QUARTER MOON ON MAY 15TH AT 04:48

FULL MOON ON MAY 23RD AT 06:53

Monthly Meetings will be held in person and also presented live online using Zoom. See the EVAC Website for updates.

The monthly general meeting is your chance to find out what other club members are up to, learn about upcoming club events and listen to presentations by professional and well-known amateur astronomers.

Our normal in-person monthly meetings have resumed. Also, the meetings will continue to be available online via Zoom.

Our meetings are held on the third Friday of each month at the Southeast Regional Library in Gilbert. The library is located at 775 N. Greenfield Road; on the southeast corner of Greenfield and Guadalupe Roads. Meetings begin at 7:00 pm.

Visitors are always welcome!



**Southeast Regional Library
775 N. Greenfield Road
Gilbert, Az. 85234**



Used Equipment For Sale at Great Prices

The East Valley Astronomy Club (EVAC) has just posted used astronomy equipment for sale.

- Sales are "As Is"
- Pick-Up-Only

Contact the EVAC Property Director (James Yoder) at properties@evaonline.org for more details and to answer any questions. Detailed information on products being offered can be found on the EVAC Sales webpage [HERE](#). This page includes a brief description of the items, photos and references (i.e. users manuals, ect.)

Equipment being offered for sale this month includes:

- **Celestron 8" on Fork Mount Package in good condition Sale Price = \$750**
- **Meade 4.5" Newtonian telescope in fair condition (Sale Price = \$75)**

EVAC Equipment Rental Program

The East Valley Astronomy Club (EVAC) is introducing a rental program for EVAC Members. Details on terms and equipment can be found on the [EVAC Rental page](#). Each item below rents for \$25/week for up to 4 weeks. Currently the following items are available for rent:

- **Celestron C-8 with Nexstar GoTo Mount** - Everything you need to beginning exploring the night sky.
- **ZWO Seestar S50 All-in-One Smart Telescope** - Everything you need to image the Sun, Moon and some bright deep sky objects. Extremely user friendly.
- **10" Dobsonian Telescope** - Everything you need to beginning exploring the sky.
- **Visual Filters for Deep Sky Objects** - 15 different filters to try before you buy.
- **Imaging Kit for Planetary & Moon Imaging** - Everything you need to capture and process images except the telescope.

Telescopes come with all equipment needed for observation (i.e. eyepieces, finder scope, power supply, etc.)

Contact the EVAC Property Director (James Yoder) at properties@evaonline.org for more details and to answer any questions.

Classified Ads

The following equipment is for sale. If interested, contact James Yoder: properties@evaonline.org.

Bill Frazer Astronomy Gear Collection;

- Vixen 115S (4.5") Refractor Telescope and GoTo Mount = \$800.
- Lunt LS60T Ha Solar Telescope and EQ Mount - \$700.
- Lunt Solar Binoculars - \$45.
- Meade 8" LX90 ACF SCT Telescope, GoTo Mount - \$650.
- Miyauchi 100mm 20x Fluorite Binoculars and Mount - \$800.
- Cannon 10x42 Image Stabilized Binoculars - \$750.
- Sky-Watcher AZ-GTi GoTo Mount - \$200.
- A large selection of eyepieces including: Baader, TeleVue, Celestron, Explorer Scientific, and others.
- Other Equipment including: Observing Chair, Laser Finder, Star Diagonals, Equipment Case, Filters.

James Yoder

- Celestron NexStar 130SLT Goto Telescope - \$275.
- Celestron StarSense Explorer DX130AZ - \$200.
- Celestron NexStar SE Tripod and Mount - \$300.
- 4.5" Newtonian on Alt/Az Mount - \$50.

Brian Rucker -Orion X12i 12" Dobsonian - \$1,300.



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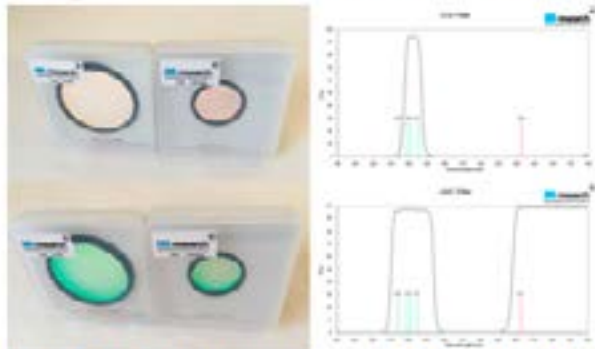
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MAY 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

May 1st - Church Youth Group Star Party

May 17th - EVAC Monthly Meeting

May 10th - 2nd Friday Star Party

JUNE 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

June 13th - San Tan Library Star Party

June 21st - EVAC Monthly Meeting

June 14th - EVAC Riparian Star Party

East Valley Astronomy Club - 2024 Membership Form

Member Dues (Based on the month you are joining the club)

	Individual	Family	Student (18yr+ with ID)
January - June	\$30.00	\$35.00	\$20.00
July - December (<i>Renew in January</i>)	\$15.00	\$20.00	\$10.00
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Renewal Dues (Current Members Only)

Astronomical League: \$7.50 Annually:

Individual	Family	Student (18yr+ with ID)
\$30.00	\$35.00	\$20.00
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name Badges: Quantity: _____

\$10.00 Each

Name to imprint: _____

Total amount enclosed:

Please make check or money order payable to EVAC.
Payment will be made using PayPal:

Name:

Phone:

Address:

Email:

City
State
Zip

URL
For website

Would you be interested in our outreach program? Yes No

How did you discover East Valley Astronomy Club?

Liability Release Form

In consideration of attending any publicized Star Party hosted by the East Valley Astronomy Club (hereinafter referred to as "EVAC"), the receipt and sufficiency of which is hereby acknowledged, I hereby affirm that I and any related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, children, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, hereby forever release, acquit and discharge to hold EVAC and its related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, from any and all causes of action, claims, losses, damages, liabilities, expenses (including attorneys' fees) and demands of any nature whatsoever, known or unknown, that in any way relate to, arise out of, or concern EVAC and/or my presence on the premises of any EVAC Star Party and related areas, whether or not those causes of action, claims, damages, liabilities, and demands are part of the specific subject matter of EVAC or any EVAC Star Party. This release is intended to and does cover all injuries and damages, and the consequences thereof, whether known or unknown at the time of the execution of this release, which have occurred or may hereafter occur or which may hereafter be discovered, and which may have been caused or may be claimed to have been caused by the said incident, and specifically includes, but is not limited to, bodily injuries, mental and emotional injury, pain and suffering, medical treatments, and loss of earnings or income.

My signature upon this form also indicates agreement and acceptance on behalf of all minor children (under 18 years of age) under my care in attendance. EVAC only recognizes those who are members or invitees and who also have a signed Liability Release Form on file as participants at an EVAC Star Party.

Signature _____

Date _____

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www.evaonline.org

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