

THE OBSERVER



Spitzer's Orion
 APOD 08/31/2019: Image Credit: [NASA, JPL-Caltech](#)

From the Desk of the President by Steve Bradshaw

As the John Lennon Christmas song says, "Another year over, and a new one just begun." Welcome to 2024. It's hard to believe that we made yet another trip around the Sun. Even though we made the trip while traveling at 67,000 MPH, I hope that you were able to stop and enjoy life along the way.

A big reason why our astronomy club this past year has been able to "enjoy life along the way" is Claude Haynes. Claude just finished two terms as our club President. During that time, he spent hours each week working on our behalf. By every metric, he has helped us to success. We have a large membership,

a solid bank account, an active presence in the community, and we've learned new things. Best of all, we have had fun and have spent time together! So, both personally and on behalf of the entire club, I would like to thank Claude for his seemingly tireless efforts on our behalf. I am very happy, and a bit relieved, to know he will be on the Board of Directors this year. His years of experience are so valuable to us. With any luck, maybe he can prevent me from making some "rookie errors" as I take on my new role.

We have some other folks changing roles this year too. We have Nathan Eskey joining the Board of

UPCOMING EVENTS:

- EVAC Riparian Star Party - January 12th*
- EVAC Monthly Meeting - January 19th*
- Dr Jacob Adler (ASU) - Geology of Earth, Mars and the Moon.*

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From the Desk of the President

by Steve Bradshaw

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and Jake Lealcala taking on our Events Coordinator role. I am glad to have them aboard and look forward to their ideas and contributions. We also have Dave Coshow retiring from the Board of Directors this year. He has been a long-term club member and I want to thank him for all the time and energy he has provided to the club over the years.

So, what about this new year? There are many things that I hope to see continued. These include our monthly meetings, our private star parties, and our east valley community outreach activities. But there are things that I would like to see more of this year. I will be writing about four “wants” in next month’s newsletter. However, to wrap up this month’s column I am going to share one of my

“wants” now. It’s a simple one. This year, **I would like every one of us to appreciate the grandeur and beauty of the night sky.** Most of us love the technical and scientific aspects of our hobby. I sure know that I do. But as multi-faceted human beings, we also need grandeur and transcendence in our lives. So, the next time you are looking up, allow yourself a moment to just stop, ponder, realize, and then say, “Wow, that’s beautiful.” You’ll have multiple opportunities too. January has cool stuff to look at. January starts with the Quadrantid meteor shower, one of the three biggest in the year. Then later this month, on the 18th, the half-moon will be dancing in the sky next to Jupiter, the King of the Planets. Through it all remember to appreciate the beauty. It will do you good.

The Backyard Astronomer

by Bill Dellings

Dellings’ Catalog of Stellar Rich-Fields for Binoculars (6th Edition January 2024)

I present for your consideration my 6th edition of large star fields only deliverable to your eyes by the wonderful invention of the binocular. Their 5 to 8-degree fields can display a larger chunk of night sky than a telescope provides. In my 1st Edition (September 2022, EVAC newsletter) I stated two requirements to be met in selecting my targets: 1) A binocular with a large real field (I use one with an 8-degree field), 2) The target must not already have a formal astronomical designation (M, NGC, IC, Mel, Cr, Tr, etc.).

In the September 2023 newsletter, I left off at Del-15 in Cassiopeia. Here, we invade **Orion** to find **Del-16**, (Centered on) RA 5h 20m DEC +04°. This is the star field between Mintaka, the western most star in the Belt of Orion, and Bellatrix. The area is ablaze with eight 4th magnitude stars and enhanced by many dimmer stars due to a spur of the Milky Way sweeping down upon the area. Sidebar: My first choice of a stellar rich field in Orion would have been, without a doubt, the Belt of Orion – it’s spectacular! However, it seems an astronomer by the name of Per Collinder listed it in his 1931-star cluster catalog as Cr 70. Thus, I shall respect that (grudgingly) and not claim it as mine. (Not long ago I found it on a star chart somewhere but can’t remember where. I did find it listed in Sky Catalog 2000 Vol. 2, p. 276 and featured in The Night Sky Ob-

server’s Guide Vol. 1, p.265. The Internet also addresses it. Reference charts for Del-16, 17, and 18: Sky Atlas 2000, Chart 11, Bright Star Atlas 2000, Chart 4, S&T Pocket Atlas, Chart 14.

I want to introduce you to Del-17 and 18 but first another sidebar which will make this a Triple Delight. Matt Wedel, in his S&T Binocular Highlight column of January 2018 featured an asterism he calls the Stingray just below (SSW) of Zeta Tauri. It’s lovely and will just about fill a binocular field. I was observing it one night and happened to slide my bino first a little SE, then NE, all the while passing through a beautiful stellar field which seemed to me to present itself in three somewhat distinct clumps – the Stingray and my two nascent Del objects 17 and 18. I was agog. I thought, oh boy, three new Del objects! It was not to be. The “Stingray is Cr 65! (That darn Collinder beat me to it! Again! (Note: In Wedel’s column, he indicates several stars of the Stingray as Cr 65, but like Cr 70 above, neither is shown in the three reference atlases I use in this series. Nevertheless, it’s there for you to enjoy as you view Del-17 and 18. And here they are:

Del-17, Orion: Taurus: RA 5h 40m DEC +13°. SE of the Stingray (which was stolen from me) and north of Betelgeuse lies the middle “clump” of the Triple Delight I alluded to above. I call it Del-17. It includes, among many other stars, 126, 133 and 134 Tauri. Just outside the field at 5 o’clock is Collinder 69 (Arrgh! The man is everywhere!).

The Backyard Astronomer

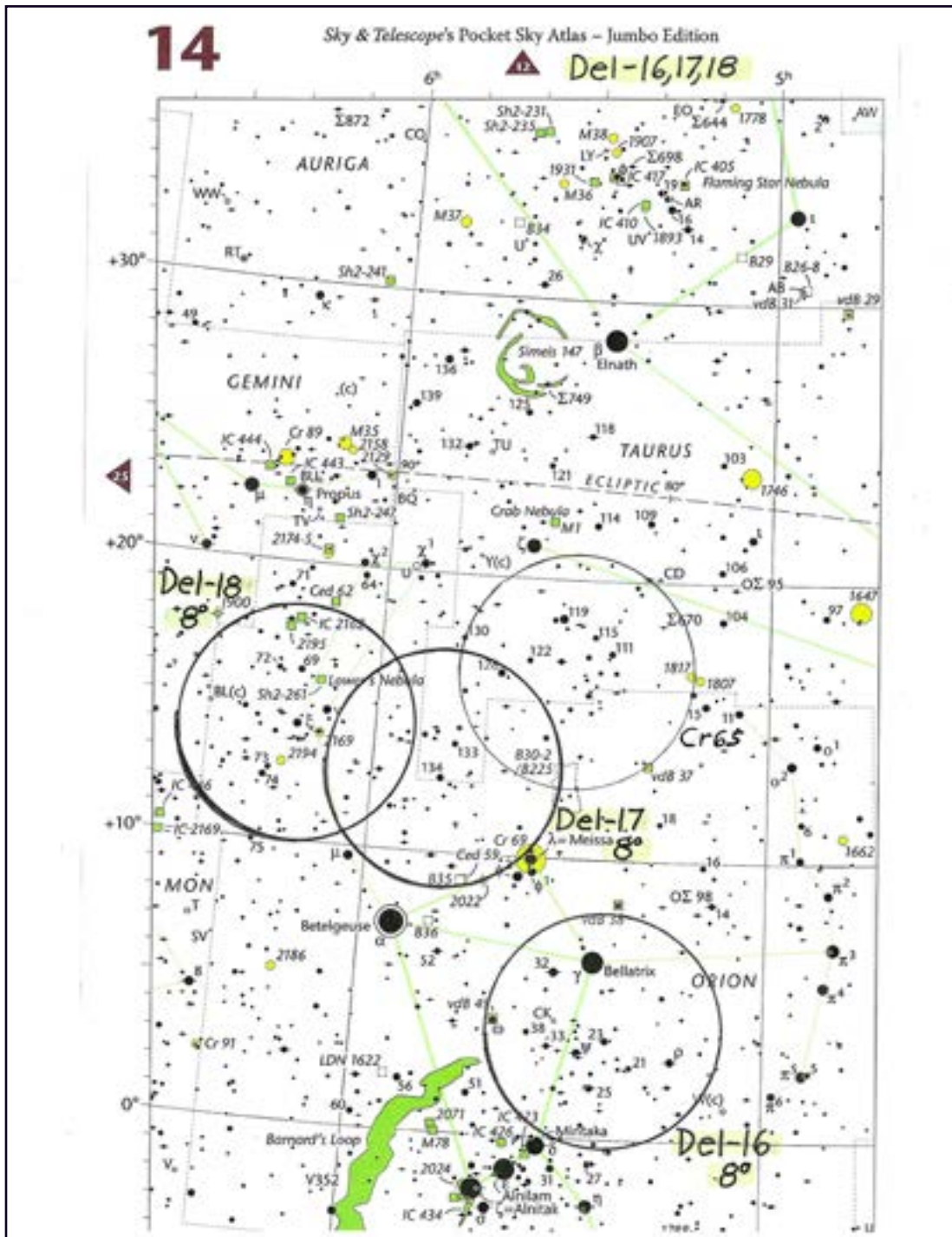
by Bill Dellenges

Continued from page 2

This is a large, sparse naked eye cluster denoting Orion's head.

Del-18, Orion: RA 6h 10m DEC +14°. Del-18 is just east of Del-17 and actually overlaps it somewhat. At its center is Xi and Nu Orionis, two stars representing Orion's right elbow. Del-18 has more stars than Del-17 and includes the famous open star cluster NGC 2169, the "37 Cluster."

If you have binoculars, I hope you'll take a look at these four areas. They all exhibit beautiful star fields you won't soon forget. Note: Del-16 is a piece of cake to zero in on, just aim your bino between Mintaka and Bellatrix in Orion. Cr 65, Del-17 and 18 are more challenging as this is a busy area! These tips may help: Note the center of Cr 65 is 5° SSW of Zeta Tauri (southern horn tip). Del-17 is due north of Betelgeuse. Del-18 is midway between Betelgeuse and Mu Geminorum. Good hunting!



What's Up - Some Astronomical Events of Note for January 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.
- BL – 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.

Date	Event	Time	Equip-ment	Images	Ref	Comments
01/03	Quadrantids (120)	12/12/23 - 01/12/24	NE		1	
01/06	Jupiter Double Transit	19:19 - 19:57	TS	1 , 2		Jupiter is well placed for this event.
01/08	Mercury AM Sighting	Morning	NE	1		15° above eastern horizon.
01/11	New Moon					
01/25	Full Moon	All Night	NE			
01/27	Mercury-Mars Appulse	7:17 AM	NE, BI, T	1 , 2	1	6:50am 11° above horizon, 38' separation.

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

THIRD QUARTER MOON ON JANUARY 3 AT 20:30

NEW MOON ON JANUARY 11 AT 04:57

FIRST QUARTER MOON ON JANUARY 17 AT 20:52

FULL MOON ON JANUARY 25 AT 10:54

Deep Sky Imaging Target Highlights for January 2024

by James Yoder

The average low [temperature](#) for December in the Phoenix metro area is 46° F. January 11th is a new moon with Astronomical dusk at 7:07 pm and Astronomical dawn at 06:04 am, giving us 11:57 hours of imaging time.

In this month's list there are over 124 object/configuration combinations provided of just about every class of deep sky object including 2 Globulars, 17 Open Clusters, 18 Planetary Nebulas, 38 Nebula and 4 Dark Nebula, 45 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 for December

Configuration	Page	Object(s)	Type	ImageLink
Hyperstar	28	Jellyfish Nebula (IC-443)	Supernova Remnant	153 min
Hyperstar	30	Rosette Nebula	Nebula	52 min
FocalReducer	18	Running Man Nebula (NGC-1977)	Bright Nebula	No Image
FocalReducer	22	M-78	Bright & Dark Nebula	No Image
Primary Focus	16	Crab Nebula (M-1)	Supernova Remnant	300 min
Primary Focus	37	NGC 2403	Galaxy	256 min
Primary (Moon)	37	Eskimo Nebula (NGC-2392)	Planetary Nebula	88 min
Primary (Moon)	44	Ghost of Jupiter (NGC-3242)	Planetary Nebula	72 min

Resources:

- [ArtCentrics.com](#) – [January 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.

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 7:30 pm.

Visitors are always welcome!



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



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. To join: EVAC 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@evaonline.org for information.

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:

- **Meade LX200 8” SCT Package** in exceptional condition (\$5,000 new, Sale Price \$1,500).
- **Celestron NexStar 8” SCT Package** in good condition (\$3,000 new, Sale Price \$850).
- **Meade 8” on Fork Mount Package** in good condition (\$2,000 new, Sale price \$550).

EVAC 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](#). Currently the following items are available for rent:

- **Celestron C-8 with Nexstar GoTo Mount:** \$25 first week, \$20 each week after (up to 4 weeks).
- **Celestron 10” Dobsonian Telescope:** \$25 first week, \$20 each week after (up to 4 weeks).
- **Visual Filters for Deep Sky Objects:** \$5 for 24hrs, \$15 for each week.
- **Imaging Kit for Planetary & Moon Imaging:** \$5 for 24hrs, \$20 for each week.

Telescopes come with all equipment needed for observation (ie 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.



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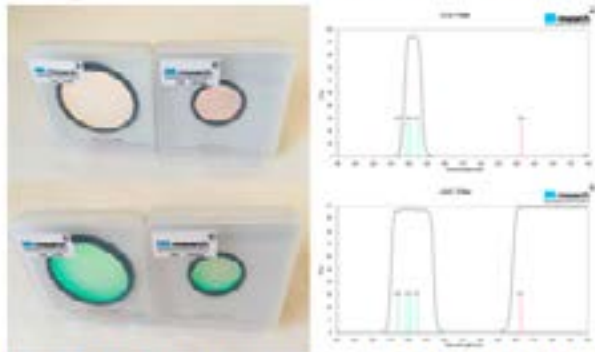
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JANUARY 2024

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			

January 13 - EVAC Riparian Star Party

January 19 - EVAC Monthly Meeting

FEBRUARY 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		

February 9 - EVAC Riparian Star Party

February 16 - EVAC Monthly Meeting

East Valley Astronomy Club - 2023 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: <input type="checkbox"/>
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: <input style="width: 95%;" type="text"/>	Phone:	<input style="width: 95%;" type="text"/>
Address: <input style="width: 95%;" type="text"/>	Email:	<input style="width: 95%;" type="text"/>
City State Zip	URL For website	<input style="width: 95%;" type="text"/>

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.

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www.evaonline.org

East Valley Astronomy Club
PO Box 2202
Mesa, Az. 85214-2202

President: Steve Bradshaw

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