



THE OBSERVER

East Valley Astronomy Club



The Reflecting Dust Clouds of Orion
APOD January 21, 2003

EVAC This Month

by Don Wrigley

A new year is upon us all too soon, it seems, and I find myself staring at a blank screen trying to produce a New Year's message that is more than just a checklist of platitudes. Putting my thoughts down in writing has always been difficult for me and I never seem to find the right words to express how I feel. I wish I could properly convey how proud I have been to be associated with this club throughout so many years. I seem to meet people all the time who have an interest in astronomy, or rather, whenever I have occasion to speak with people outside of the home - bank tellers, other teachers, store clerks,

the folks who come to my door with religious pamphlets- the conversation often gets steered into the topic of astronomy and then EVAC. I tell them all about EVAC and all the great work it does. Sometimes, they will show up at a meeting, and some of them even join the club. Sometimes they come to me. I used to have a giant (eight inch) refractor in my back yard that jutted out above my block wall like an over-sized artillery piece. People would knock on my door and ask if it was indeed a telescope and if I were associated with any sort of a club. One of them was Howard Israel, who was

UPCOMING EVENTS:

- Local Star Party - January 2*
- Public Star Party - January 8*
- Deep Star Party - January 9*
- EVAC Monthly Meeting - January 15*
- Check out all of the upcoming club events in the Calendars on page 10*

INSIDE THIS ISSUE:

<i>EVAC This Month</i>	1
<i>If It's Clear...</i>	2
<i>Winter's Top Ten Celestial Delights</i>	3
<i>Announcements</i>	5
<i>Classified Ads</i>	7
<i>Meeting Maps</i>	9
<i>Calendar</i>	10
<i>Membership Form</i>	11

EVAC This Month

Continued from page 1

dedicated EVAC member for many years afterward. It's fun being a recruiter for EVAC. I'm sure many of you have tried it already.

No club can operate without dedicated people, so I think it appropriate to mention at least a few of them here. What would we do without Marty Pieczonka. As both the newsletter editor and webmaster he fulfills two of the most demanding and time consuming jobs in the whole organization. Thank you, Marty. And what about our events coordinator Lynn Young, who devotes so much of his time and energy to attend the forty or so school star parties that thrill literally thousands of school children each year? Thanks for the work you do, Lynn, and the dozen or so EVAC volunteers who always can be relied upon to show up at these events. I won't list the names, they know who they are.

I don't know of anyone who has worked harder for or contributed more to the club than Claude Haynes. It would take volumes to describe all that he has done throughout the year, from running the meetings, to setting up the food tent at the two big starparties (one hosted by SAC), to his work at GRCO and the SkyWatch program. He shows up at many of the school star parties

If It's Clear...

by Fulton Wright, Jr. Prescott Astronomy Club

January 2016

Celestial events (from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find information) customized for Prescott, Arizona. All times are Mountain Standard Time.

On Friday, January 1, the Moon is at last quarter phase and rises at 12:42 AM (Saturday).

On Monday, January 4, before astronomical twilight (6:07 AM), you might see some Quaranrid meteors. The radiant is in Bootes. As usual, there are no guarantees with meteor "showers". When I try to observe meteors, they have a tendency to miss the earth's atmosphere. I promise not to look.

On Saturday, January 9, it is new Moon and you have all night to hunt for faint fuzzies. If you are up about 6 AM, you can find Venus and Saturn within half a degree of each

as well, and would be a very tough act to follow if he were leaving us entirely. We are fortunate to have him continue with us as vice-president. Thank you, Claude. One last "thank you" goes to Dave Coshov for his exemplary work as observatory manager. His skill, patience, and flexibility in setting up the schedule for volunteers has been remarkable. Unfortunately, for personal reasons, Dave has decided that he will no longer be able to carry out the tasks required for the position. Claude Haynes has agreed to serve as an intermediate until a replacement can be found. If anyone is interested in taking over that position, contact me.

Well, that's about it - except to say that I hope to see all of you at the meeting on January 15th. Our speaker will be Chris Corbally, from the Vatican Observatory whose topic "Stellar Spectral Classification" should be of great interest to us all, especially now that we have a spectrometer at the observatory waiting to be put to use! Happy New Year to all of you!

Don Wrigley

other in the east.

On Saturday, January 16, the Moon is at first quarter phase and sets at 1:11 AM (Sunday).

On Tuesday, January 19, at 6:12 PM the Moon occults Aldebaran. Sunset is at 5:47 PM so you should be able to see the star with your unaided eye as it disappears behind the dark limb of the Moon. The star reappears on the bright limb of the Moon at 7:23 PM. You might want binoculars or a small telescope to watch that event.

On Saturday, January 23, at 5:53 PM (3 minutes after sunset) the full Moon rises, spoiling any chance of seeing faint fuzzies for the night.

On Sunday, January 24, the dedicated Jupiter watchers can see several events with Jupiter's moons. Here is the schedule:

09:36 PM Jupiter rises.

If It's Clear...

Continued from page 2

12:34 AM (Monday) Europa's shadow falls on the planet.
02:24 AM Europa moves in front of the planet.
03:20 AM Europa's shadow leaves the planet.
05:09 AM Europa moves from in front of the planet.
06:08 AM Io's shadow falls on the planet.

07:02 AM Io moves in front of the planet.
07:33 AM the Sun rises.

On Sunday, January 31, the Moon is at last quarter phase and rises at 1:12 AM (Monday).

The Backyard Astronomer

by Bill Dellings (January 2016)

Winter's Top Ten Celestial Delights

The winter night sky might arguably be the finest display of stars and constellations all year. A plethora of splendid deep sky objects within them can keep a stargazer busy from dusk to dawn if he or she wears everything they own to keep warm and have a 55 gallon drum of hot coffee nearby. Here's an interesting challenge: Suppose you had to pick the best ten objects of winter from the blizzard of gems overhead. Which ones would make your top ten?

Given anyone's choices will be subjective, I shall be so bold as to submit to you my list of the ten best winter objects (in no particular order as they're all winners).

1) The Winter Hexagon: I see this as an object because I've always thought the cluster of bright constellations comprising the winter sky is simply outstanding compared to any other season of stellar groupings. Even summer's celestial panoply of constellations, along with the summer Milky Way, can't match the bright stars and constellations of winter. Many are grouped together in a fairly limited area such that we can create the Winter Hexagon. Let's begin with Capella in Auriga to form our hexagon. Carry on to Castor and Pollux in Gemini (we'll consider them one stop). Now proceed to Procyon in Canis Major. Sail southwest to Sirius in Canis Major. Rove along to Rigel in Orion. Ascend northwest to Aldebaran in Taurus. Finally, cruise north to Capella to complete the journey. Was that fun or what!?

2) M-37: While in Auriga, check out M-37. I think it's the best of the M-36, 37, 38 litter of star clusters in this constellation. What do you think?

3) M-35: This beauty in Gemini is one of my favorite open star clusters. Perhaps only M-7 in Scorpius can compete with it for top honors. Take some time to track down NGC 2158, another open cluster less than half a degree southwest of M35. It's five times more distant and thus appear as

just a ghost with a hint of resolution. Some mistake it for a comet. Don't let this happen to you!

4) The Pleiades: "Glitter like a swarm of fireflies in a tangled braid" (Tennyson). I'm going out on a limb here, but I think M-45, the Seven Sisters, is the single most stunning thing in the night sky that a telescope or binocular can deliver to your eyeballs. It never fails to take my breath away whether the view is in my 7x50, 16x70, or 20x100 binoculars. Over the decades, I've enjoyed sharing that view with the public and hearing their gasps of amazement. I inform them they're looking at the second closest star cluster to us after the Hyades (120 light years), also in Taurus. The Pleiades are "only" 378 light years away, close enough that seven of the cluster's 200 stars can be resolved with the naked eye.

5) The Orion Nebula: Without a doubt, M-42 is the finest emission nebula in the northern skies. Though 1,300 light years away, it's such a huge assemblage of hot glowing hydrogen gas, it appears nebulous even to the unaided eye. Binoculars enhance the view of the nebula along with additional stars and gas making up the Hunter's Sword, a spectacular scene to behold in itself. Astronomers tell us there is enough hydrogen gas in M-42 to create 10,000 Suns. Note the famous Trapezium at the center of the nebula, four of the brightest 6,000 stars responsible for stimulating the gas to shine.

6) NGC 2392: The Eskimo Nebula in Gemini is 3,000 light years away and one of the more interesting to observe in that class of dying stars. Like most planetaries, it has a small angular diameter and thus requires high power to appreciate. Try 150x to start. You'll probably be more pleased with powers of 200x or more. A nebula filter may improve the view though it might dim the 10th magnitude central star which is on its way to becoming a white dwarf.

The Backyard Astronomer

Continued from page 3

7) M-41: This gorgeous star cluster can be found four degrees due south of Sirius in Canis Major and is a naked eye object in a dark sky not withstanding being attenuated by the blinding light from the night sky's brightest star. This relatively large cluster is perhaps best appreciated through giant binoculars (15x70's or larger).

8) M-46 and M-47: I combine these two interesting clusters into one because they're only about one degree apart; I can't resist looking at one without sliding my scope over to the other. These two clusters in Puppis sit adjacent to one another in right ascension and are very different in appearance primarily due to distance. M-47, the western cluster, is larger and sparser as it's the closer of the two at 1,600 light years. It shows about twenty bright stars. To its east is M46, 4,480 light years away. Being further away it appears slightly smaller than M-47 with dimmer stars giving the cluster a granular texture. Interestingly, on its north edge a planetary nebula can be discerned even at low power. Higher power shows a miniature version of the Ring Nebula.

9) NGC 2362: This is a small but interesting star cluster in Canis Major. The Dog's back leg points right to it. A line through Epsilon to Delta Canis Majoris and extended 2.5 degrees (and slightly south) will deliver you to this charming little guy. A bright 4.4 magnitude star smack in

the middle of the cluster might initially make you think you've not arrived at NGC 2362. Up the power and take a closer look. It will become evident there is a cute little package of gems here. By the way, that bright central star is Tau Canis Majoris, a triple star. It has magnitude 10.5 and 11.2 companions 8.2" and 14.5" from the primary. How can you find them amongst the clusters stars? I found that surprisingly easy given their position angles of 90 and 79 degrees respectively.

10) The Double Cluster in Perseus (NGC 884/869):

Let us turn our attention north to one of the grandest spectacles in the night sky. Between the tip of Perseus and Cassiopeia the eye can perceive a hazy smudge of light. Put any binocular or telescope on it and likely your heart will skip a beat and you'll go weak in the knees. To see this object at its best, use an instrument rendering at least a one degree real field so you'll get both clusters in the field with room left over for esthetic framing purposes. Then it will seem like you're gazing upon hundreds if not thousands of diamonds on black velvet. Both clusters contain young stars over 7000 lights years away.

The winter sky is awash with celestial delights and it was a challenge to limit the list here to only ten. Certainly these are gems but dozens more await the winter observer. The only question is, can you handle the cold?

LAST QUARTER MOON ON JANUARY 1 AT 22:30

NEW MOON ON JANUARY 9 AT 18:30

FIRST QUARTER MOON ON JANUARY 16 AT 16:26

***FULL MOON ON JANUARY 23 AT 18:45**

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 on the Contact-Us tab.

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.





**TELESCOPES
FOR SALE**

*Come To Our Amazing
Telescope Shop*

We buy, sell and trade binoculars and telescopes
Daily programs with our onsite planetarium
Weekly star-gazing events!
162 E. Wickenburg Way in historic downtown
Wickenburg's Mecca Plaza
Open 11a.m.-5p.m. (W, F, S, Su) & 5-9p.m. (Tu)
623-217-6635 ★ 928-684-8842



5757 N. Oracle Road Tucson, AZ 85704 520-292-5010
www.starizona.com

***Looking for that perfect weekend activity?
Why not resolve to getting involved?
Contact Claude Haynes to join the staff at GRCO
Email: grco@evaconline.org***

Webcam imaging made easy!

Time lapse

**Planetary
& lunar
imaging**



**Motion
detection**

Meteor capture

Free trial!

www.AZcendant.com

PHOTON

INSTRUMENT LTD.

SALES REPAIR SERVICE RESTORATION

ASTRONOMICAL TELESCOPES

WARREN & JUDY KUTOK

122 E. MAIN STREET MESA, AZ. 85201

480-835-1767 800-574-2589

Upcoming Meetings

January 15

February 19

March 18

April 15

May 20

June 17

July 15

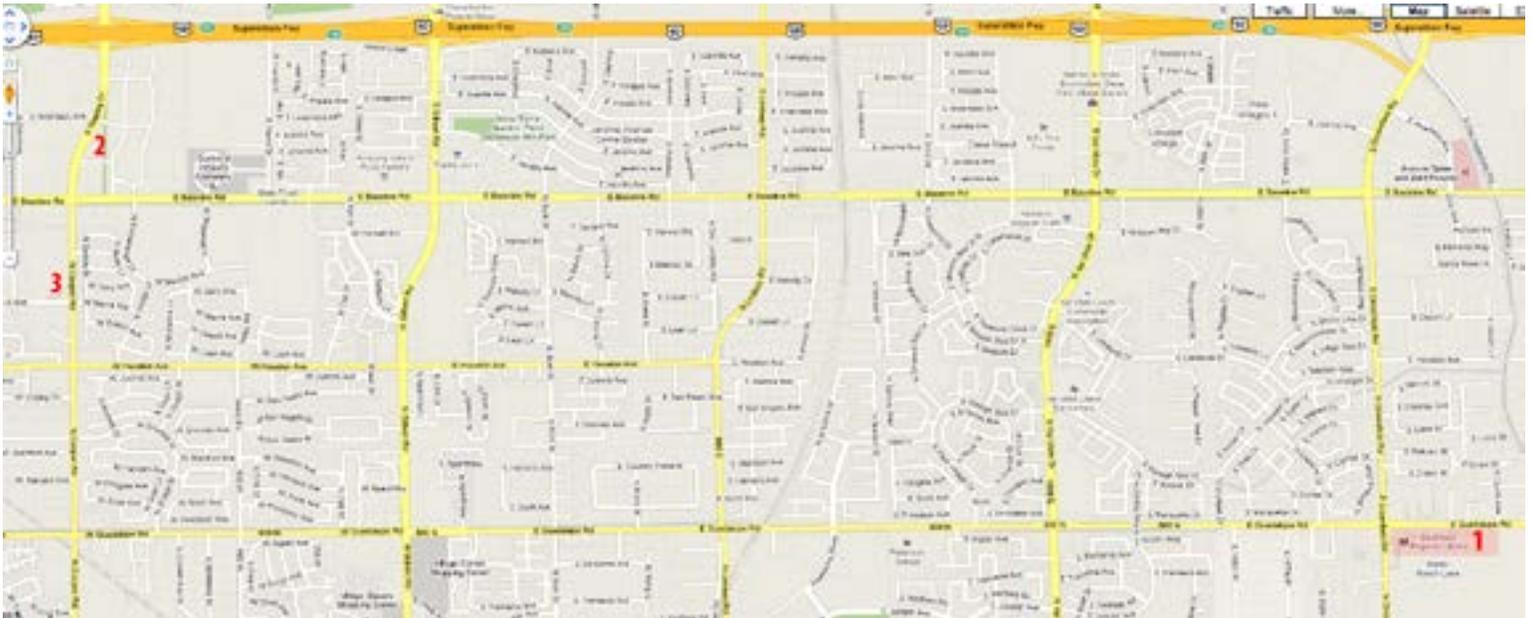
August 19

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 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.

All are welcome to attend the pre-meeting dinner at 5:30 pm. We meet at Old Country Buffet, located at 1855 S. Stapley Drive in Mesa. The restaurant is in the plaza on the northeast corner of Stapley and Baseline Roads, just south of US60.

Visitors are always welcome!



2

Old Country Buffet
1855 S. Stapley Drive
Mesa, Az. 85204

1

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



JANUARY 2016

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

Jan 8 - Public Star Party

Jan 9 - Deep Sky Party

Jan 11 - San Tan Elementary

Jan 15 - EVAC Monthly Meeting

Jan 21 - Irving Elementary

Jan 22 - Irving Salt River Tribal Library

Jan 26 - Charlotte Patterson Elementary

Jan 27 - Concordia Charter School

Jan 28 - Frye Elementary

Jan 30 - Local Star Party

FEBRUARY 2016

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					

Feb 2 - Kino Jr High

Feb 3 - Kyrene Middle School

Feb 4 - Navarrete Elementary

Feb 6 - Deep Sky Party

Feb 10 - Greenfield School

Feb 12 - Public Star Party

Feb 18 - Payne Jr High

Feb 19 - EVAC Monthly Meeting

Feb 20 - City of Chandler Star Party

Feb 23 - Carson Jr High

Feb 25 - Redbird Elementary

Feb 27 - Local Star Party

East Valley Astronomy Club -- 2016 Membership Form

Please complete this form and return it to the club Treasurer at the next meeting or mail it to EVAC, PO Box 2202, Mesa, Az, 85214-2202. Please include a check or money order made payable to EVAC for the appropriate amount.

IMPORTANT: All memberships expire on December 31 of each year.

Select one of the following:

- New Member
 Renewal
 Change of Address

New Member Dues (dues are prorated, select according to the month you are joining the club):

- | | |
|---|---|
| <input type="checkbox"/> \$30.00 Individual January through March | <input type="checkbox"/> \$22.50 Individual April through June |
| <input type="checkbox"/> \$35.00 Family January through March | <input type="checkbox"/> \$26.25 Family April through June |
| <input type="checkbox"/> \$15.00 Individual July through September | <input type="checkbox"/> \$37.50 Individual October through December |
| <input type="checkbox"/> \$17.50 Family July through September | <input type="checkbox"/> \$43.75 Family October through December |
- Includes dues for the following year*

Renewal (current members only):

- \$30.00 Individual**
 \$35.00 Family

Name Badges:

- \$10.00** Each (including postage) Quantity: _____

Name to imprint: _____

Total amount enclosed:

Please make check or money order payable to EVAC

- Payment was remitted separately using PayPal
 Payment was remitted separately using my financial institution's online bill payment feature

Name:

Phone:

Address:

Email:

City, State, Zip:

- Publish email address on website

URL:

The Observer is the official publication of the East Valley Astronomy Club. It is published monthly and made available electronically as an Adobe PDF document the first week of the month.

- | | |
|--|---|
| <input type="checkbox"/> General Observing | <input type="checkbox"/> Cosmology |
| <input type="checkbox"/> Lunar Observing | <input type="checkbox"/> Telescope Making |
| <input type="checkbox"/> Planetary Observing | <input type="checkbox"/> Astrophotography |
| <input type="checkbox"/> Deep Sky Observing | <input type="checkbox"/> Other |

Would you be interested in attending a beginner's workshop? Yes No

How did you discover East Valley Astronomy Club?

PO Box 2202
Mesa, AZ 85214-2202
www.evaonline.org

All members are required to have a liability release form (waiver) on file. Please complete one and forward to the Treasurer with your membership application or renewal.

The Observer is the official publication of the East Valley Astronomy Club. It is published monthly and made available electronically as an Adobe PDF document the first week of the month. Printed copies are available at the monthly meeting. Mailed copies are available to members for a slight surcharge to offset printing and mailing expenses.

Please send your contributions, tips, suggestions and comments to the Editor at: news@evaonline.org Contributions may be edited. The views and opinions expressed in this newsletter do not necessarily represent those of the East Valley Astronomy Club, the publisher or editor.

Material in this publication may not be reproduced in any manner without written permission from the editor. ©2005-2014

The East Valley Astronomy Club is a 501(c)(3) nonprofit charitable organization.

www.evaonline.org

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

President: Don Wrigley

Vice President: Claude Haynes

Secretary: Jan Barstad

Treasurer: Brooks Scofield

Board of Directors: Dan Hahne, David Hatch, Ray Heinle, Marty Pieczonka & Wayne Thomas

Events Coordinator: Lynn Young

Property Director: David Hatch

Refreshments: Jan Barstad

Observing Program Coordinator: Marty Pieczonka

AL Representative: David Douglass

Membership: Les Wagner

Newsletter Editor: Marty Pieczonka

Webmaster: Marty Pieczonka

SkyWatch Coordinator: Claude Haynes

Observatory Manager: Claude Haynes