



THE OBSERVER

East Valley Astronomy Club



Comet Lovejoy 2013

The Backyard Astronomer December Roundup *by Bill Dellinges*

Autumn constellations still dominate the area around the meridian during the month of December. I use the word “dominate” loosely, as the fall and spring night skies have a dearth of bright stars since we are peering into space away from the plane of our Galaxy. The main constellation of fall is Pegasus, the Flying Horse. Its four main stars form the asterism of the Great Square of Pegasus. This Square represents the torso of the horse. The horse is seen upside down at mid latitudes in the U.S. A neck is formed from Alpha to Delta Pegasi. A sharp turn northwest leads to Enif (Epsilon Pagasi), the horse’s snout. A jumble of stars west of Sheat (Beta

Pegasi) form two galloping legs. Pegasus has no hindquarters or tail. In Greek mythology Pegasus was born from the blood of Medusa, who was slain by the hero Perseus. The warrior Bellerophon rode Pegasus to Mount Olympus where a furious Zeus struck the rider from the steed and placed Pegasus in the night sky as a constellation.

There are only two other bright stars below Pegasus. A line drawn from the left side of the Square south takes the eye to Deneb Kaitos in Cetus the Whale. Another line from the right side of the Square south arrives at Fomalhaut in Pisces Austrinus. Neither

UPCOMING EVENTS:

- Public Star Party - December 13*
- Evac Holiday Party- December 20*
- Local Star Party - December 21*
- Deep Sky Star Party - December 28*
- Check out all of the upcoming club events in the Calendars on page 7*

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The Backyard Astronomer

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constellation is bright, but these two stars are beacons in an otherwise vapid sky. Here we range far from the Milky Way plane and indeed find the south pole of our Galaxy very near NGC 253 in Sculptor, just below the Tail of Cetus.

During the month of December we lose one bright planet and gain another. Venus will sink in the west and Jupiter will rise in the east. The sky is rich in deep sky objects and double stars. Along with the aforementioned NGC 253, other galaxies worth your attention are M31 in Andromeda and NGC 2403 in Camelopardalis. Another interesting object in Camelopardalis is Kemble's Cascade, a chain of stars running several degrees terminating at NGC 1502, a small open star cluster. Within the cluster look for Struve 485, a nice equal magnitude double star with a separation of 18".

If you're fond of open star clusters, you'll find a plethora of them overhead this month. To see these diamonds on black velvet, try M36, M37, and M38 in Auriga. Cassiopeia is loaded with jewels too. Try M52, M103, NGC 663 (better in my opinion than M103), NGC 457, and NGC 7789, a large "powdery" cluster. M34 near Algol in Perseus is often overlooked, but is a splendid cluster – use low power as it's

Evac Meeting Minutes

Claude Haynes called the meeting to order at 07:30 PM on November 15. Claude started the meeting by showing an awesome slide of the Earth, Moon, Mars and Venus as seen through the rings of Saturn.

Observatory Manager Dave Coshov reported that we had a good month at the observatory but we are still in need of additional operators. If anyone can help out one night a month, it would be great.

Events Coordinator Lynn Young said that we will have another busy month for public outreach. The following school star parties are scheduled this month:

- December 3 - Poston Jr High Star Party
- December 6 - MCC Red Mountain Star Party
- December 9 - Kino Jr High Star Party
- December 11 - Edu-Prize School QC Star Party
- December 17 - Akimel A-al Middle School Star Party
- December 19 - Basis Ahwatukee Star Party

The public outreach events are a significant part of the role of EVAC in educating the public about astronomy. You don't have to be an expert or even own a telescope to lend a hand at one to these events. If you want to help just send an email to events@evaonline.org so we can gauge how much help we will have at a particular event. Come on out and see the look on the faces and listen to the comments when the public

looks through a telescope. very large. Rising low in the east are two stunning clusters, the Pleiades and the Hyades. They represent Taurus the Bull's shoulder and face respectively. Any binocular will afford a lovely view of the Pleiades which just might be the most beautiful object in the sky. For the Hyades, a very large cluster due to its distance of only 150 light years, you'll need a binocular yielding a field of eight degrees.

Anyone for doubles? A few popular, bright ones to feast on are Gamma Andromedae (9.7"), Gamma Arietis (7.6") and the challenging triple Iota Cassiopeiae (2.8", 7.3").

To my readers: I have been writing Backyard Astronomer articles for EVAC's newsletter off and on since 1995 and monthly since about 2004. The monthly grind of meeting a deadline has worn out this old stargazer. Starting next year, I would like to make a change, something a little more relaxing for me. I'll still be around and a threat, but submitting articles every now and then rather than monthly. I thank those who have told me they enjoyed my articles and the several editors whom I've worked with over the years. Finally, I must thank my wife Lora who generously spent much time proofreading my articles so I would not be arrested by the grammar police.

looks through a telescope.

Dan Matlaga gave a very interesting presentation about the astronomical significance of how John F. Kennedy's funeral was conducted. Lynn Young received an observing award for completing the Messier Objects list.

Elections were held and the following positions were filled:

- . President Claude Haynes
- . Secretary Marty Pieczonka
- . Board Members(5) :
 - Ron Barstad
 - Dave Shiel
 - David Douglass
 - Gordon Rosner
 - John Goerger

Leslie Watkins has volunteered as Vice President and we will have a short meeting at the Holiday Party to confirm. We still need to fill the position of Treasurer. If anyone is interested, please contact Claude Haynes.

The next meeting will be held on December 20th at 07:00 PM when we will have our annual Holiday Party. Please bring an appetizer dish or desert dish if you can. EVAC will provide the main course.

If It's Clear...

by *Fulton Wright, Jr.*

Prescott Astronomy Club

December 2013

Celestial events (from *Sky & Telescope* magazine, *Astronomy* magazine, and anywhere else I can find information) customized for Prescott, Arizona. Remember, the Moon is 1/2 degree or 30 arc- minutes in diameter. All times are Mountain Standard Time.

This month Comet ISON might have survived its close passage of the sun and might put on a good show. Early in the month look low in the east just before dawn. The internet should be a good source of info on its condition.

This is a good month to follow the phase of Venus. It goes from a 38 arc-second, 30% illuminated crescent to a 60 arc-second, 4% illuminated crescent. Look for that bright UFO in the southwest, half an hour after sunset.

On Monday, December 2, it is new Moon and you have all night to hunt for faint fuzzies.

On Sunday, December 8, the Moon is at first quarter phase and sets at midnight.

On Saturday, December 14, from Moonset (about 5 AM) to Astronomical Dawn (about 6 AM), you might see some Geminid meteors. Of course you can look earlier in the evening, but the Moon will be a problem. I have a free dinner for anyone who can prove they dressed too warmly for this event.

On the night of Sunday, December 15, from 11:45 PM to 3:10 AM (Monday), the almost full Moon passes through the large and scattered open cluster, NGC 1647. Since the brightest stars are only 9th magnitude, this will be an observing challenge. Use your biggest telescope and fairly high magnification. The best chance of seeing stars disappear at the thin dark limb is from 11:45 PM to 1:30 AM. The Moon occults a 5th magnitude star (not part of the cluster) at 4:24 AM.

On Monday, December 16, at 5:13 PM (9 minutes before sunset), the full Moon rises, spoiling any chance of seeing faint fuzzies for the night.

On the night of Tuesday, December 17, you can see some events with Jupiter's moons. Here is the schedule:

08:03 PM Callisto's shadow falls on Jupiter.
11:16 PM Callisto's shadow leaves Jupiter.

12:17 AM Callisto moves in front of Jupiter.
03:27 AM Io's shadow falls on Jupiter.
03:42 AM Callisto moves from in front of Jupiter.
03:54 AM Io moves in front of Jupiter.
05:42 AM Io's shadow leaves Jupiter.
06:09 AM Io moves from in front of Jupiter.

On Friday, December 21, just after midnight, the Sun passes the Winter Solstice. That means that the days will slowly start to be longer and the nights shorter. Don't expect the temperature to go up much for a couple of months.

On the night of Tuesday, December 24, the Moon is at third quarter phase and rises at 12:20 AM (Wednesday).

On the night of Wednesday, December 25, at 2:40 AM (Thursday), you can watch Io disappear into Jupiter's shadow with that new telescope you just got during the day. 24 minutes later, you can watch Callisto do the same thing.

On the night of Friday, December 27, you can see some events with Jupiter's moons. Here is the schedule:

07:14 PM Ganymede's shadow falls on Jupiter.
08:06 PM Ganymede moves in front of Jupiter.
09:08 PM Io disappears in Jupiter's shadow.
10:20 PM Ganymede's shadow leaves Jupiter.
11:14 PM Ganymede moves from in front of Jupiter.
11:38 PM Io appears from behind Jupiter.

On the night of Saturday, December 28, you have two chances to see a shadow transit on Jupiter. From 6:18 PM to 8:44 PM, Io or its shadow will be on Jupiter. This event starts with the planet very low in the sky and the sky not really dark yet. The second chance goes from 1:02 AM (Sunday) to 4:06 AM with Europa. In both cases the satellite and the shadow are near each other, because Jupiter is getting near opposition and the Sun is shining over our shoulder on the way to the planet.

NEW MOON ON DECEMBER 2 AT 5:23

FIRST QUARTER MOON ON DECEMBER 9 AT 8:12

***FULL MOON ON DECEMBER 17 AT 2:29**

LAST QUARTER MOON ON DECEMBER 25 AT 6:48

Looking for that perfect weekend activity?

Why not resolve to getting involved?

Contact Dave Coshow to join the staff at GRCO

Email: grco@evaconline.org

Help Wanted EVAC Officers:

Treasurer

Email: Claude Haynes - president@evaconline.org



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Upcoming Meetings

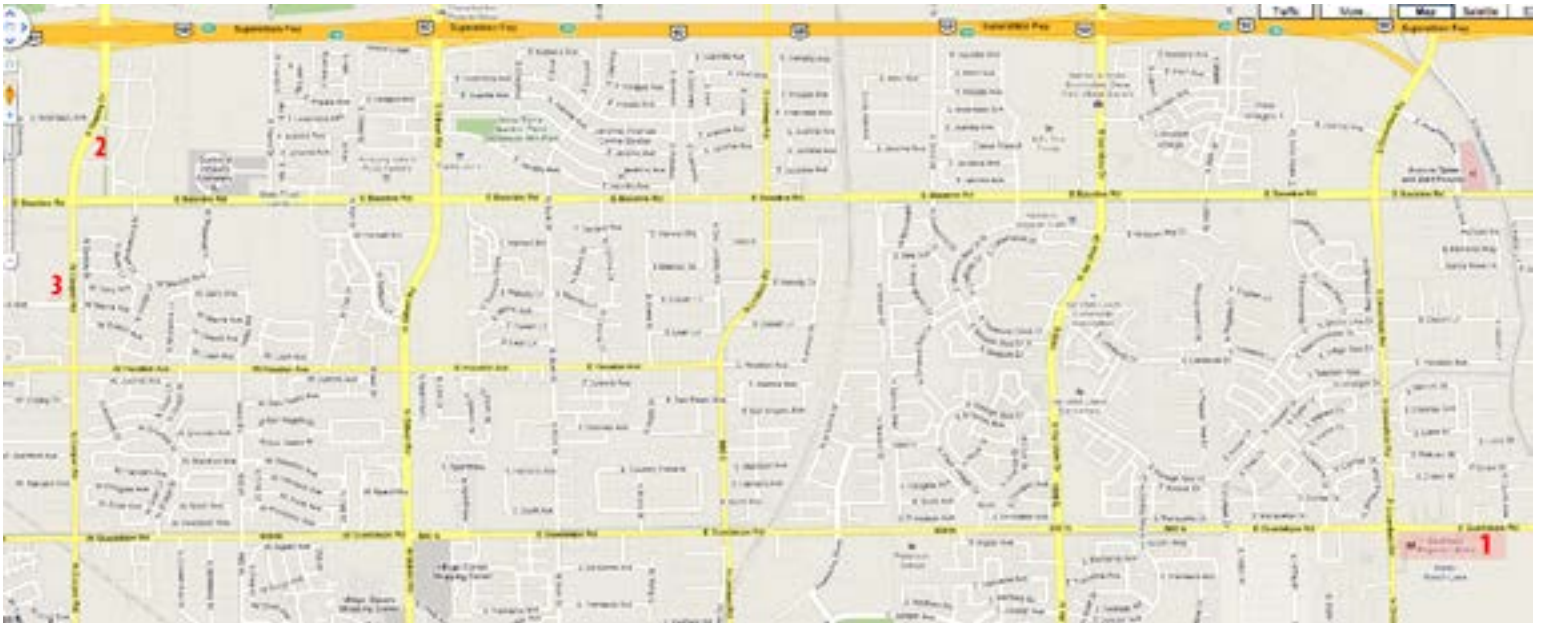
December 20
Holiday Party - 07:00 PM
January 17
February 21
March 21
April 18
May 16

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!



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

1

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



NOVEMBER 2013

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

December 3 - Poston Junior High

December 6 - MCC Red Mountain

December 9 - Kino Junior High

December 12 - Edu-Prize School QC

December 13 - Public Star Party & SkyWatch at
Riparian Preserve

December 17 - Akimel A-al Middle School

December 19 - Basis Ahwatukee

December 20 - General Meeting at SE Library

December 21 - Local Star Party

December 28 - Deep Sky Observing Night

JANUARY 2014

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 10 - Public Star Party & Skywatch at
Riparian Preserve

January 15 - Basha Elementary School

January 16 - Charlotte Patterson Elementary

January 17 - General Meeting at SE Library

January 21 - Avalon Elementary School

January 23 - San Marcose Elementary School

January 28 - Concordia Charter School

January 29 - Payne Junior High

January 30 - Fry Elementary School

January 31 - Fuller Elementary School

East Valley Astronomy Club -- 2013 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:

How would you like to receive your monthly newsletter? (choose one option):

- Electronic delivery (PDF) *Included with membership*
 US Mail **Please add \$10 to the total payment**

Areas of Interest (check all that apply):

- | | |
|--|---|
| <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 |

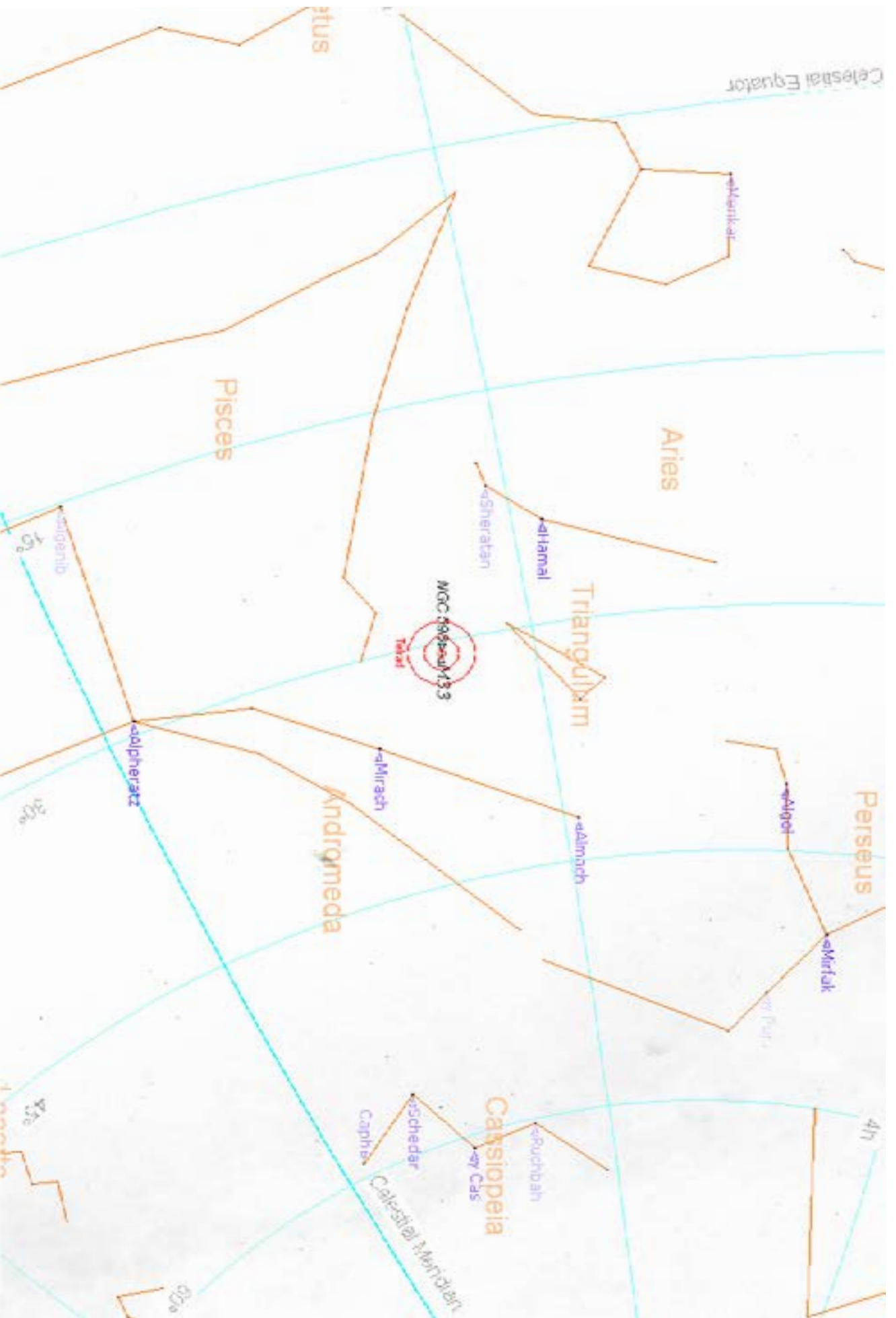
Please describe your astronomy equipment:

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.evaconline.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.



NGC 598 (M₃₃ Triangulum Galaxy) Spiral Galaxy in Triangulum
 RA 01h 33m 51s DEC +30° 39' 37" Size: 66.1' x 39.8' Magnitude: 6.3

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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.

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www.evaonline.org

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