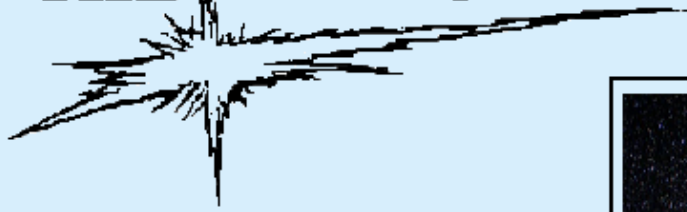


THE METEORITE



The Summer Triangle

With Milky Way



Newsletter of the Mahoning Valley Astronomical Society, Inc.

IN THIS ISSUE:

JULY 2013

- ★ **Event Calendar, News Notes**
- ★ **Minutes of the June Meeting.**
- ★ **The MVAS-OTAA: Announcement & details.**
- ★ **MVAS Reminders and Activities.**
- ★ **Observer's Notes: A Summer Vacation?**
- ★ **MVAS Homework: NGC 6755**
Homework Charts: V Aql, asteroid (3) Juno
- ★ **Constellation of the Month: Aquila**
- ★ **August 2013 Sky Almanac**
- ★ **Gallery: Odds 'n Ends, Door Prize update.**

Meteorite Editor: Phil Plante
1982 Mathews Rd. #2
Youngstown OH 44514



JULY 2013

Newsletter of the Mahoning Valley Astronomical Society, Inc.

NEWS NOTES

MVAS CALENDAR

- JUL13-14** YSU Festival of Arts, Noon till 5:00 PM
- JUL 27** Business meeting at the MVCO 8:00 PM
- AUG 3** OTAA work session at the MVCO. Noon?
- AUG 10** MVAS-OTAA at the MVCO. Registration 5:00 PM
- AUG 31** Business meeting at the MVCO. 8:00 PM

NATIONAL & REGIONAL EVENTS

- AUG 6-11** **AstroBlast 2013.** Oil Region Astronomical Observatory, Two Mile Run County Park Oil City, PA. This year is the 20th anniversary. The event will include dark sky observing, speakers and great food.
<http://www.oras.org>
- AUG 8-11** **NOMAC Starparty.** Hosted by the Northern Michigan Astronomy Club, at the Raven Hill Discovery Center in East Jordan, MI. \$20/ night, \$30 for two nights, \$35 for all three nights. Camping on site, motels in vicinity-. Some electrical plug-ins. Food and drink available.
<http://www.nomac.net>
- SEP 6-10** **Almost Heaven Star Party.** By The Mountain Institute near Spruce Knob. Circleville, West Virginia., Registration is \$80 Meals - \$30 per day. Features speakers, meals, dark skies. Room for 225 astronomers. <http://www.ahsp.org>

A spin of variation. A Swiss team from the Geneva Observatory has achieved extraordinary precision using a comparatively small 1.2-meter (48") telescope for an observing program that spanned seven years. They have discovered a new class of variable star by measuring the tiny variations in stellar brightness. This new finding is based on regular brightness measurements of more than three thousand stars in the open star cluster NGC 3766, in the constellation Centaurus. The observations reveal how 36 of the cluster's stars followed an unexpected pattern - they had tiny but regular variations in their brightness at the level of 0.1% of the stars' normal brightness. These variations had periods of between 2 hours to 20 hours. The stars are somewhat hotter and brighter than the Sun, but otherwise apparently unremarkable. The new class of variable stars is yet to be given a name.

The precision of these measurements is twice as good as that achieved by similar studies with other telescopes; It was sufficient to reveal these tiny variations for the first time. "We have reached this level of sensitivity thanks to the high quality of the observations, combined with a very careful analysis of the data," says Nami Mowlavi, leader of the research team, "but also because we have carried out an extensive observation program that lasted for seven years. It probably wouldn't have been possible to get so much observing time on a bigger telescope."

How a star's brightness changes depends on the complex processes in their interiors. This has led to the development of a branch of astrophysics called astero-seismology, where astronomers can "listen" to these stellar vibrations. This allows them to probe the physical properties of the stars and get to know more about their inner workings.

"The very existence of this new class of variable stars is a challenge to astrophysicists," says Sophie Saesen, another team member. "Current theoretical models predict that their light is not supposed to vary periodically at all, so our current efforts are focused on finding out more about the behavior of this strange new type of star." Although the cause of the variability remains unknown, there is a tantalizing clue: some of the stars seem to be fast rotators. They spin at speeds that are more than half of their critical velocity, which is the threshold where stars become unstable and throw off material into space. This fast spin will also have an important impact on their internal properties. "...but we are not able yet to adequately model their light variations," explains Mowlavi. "We hope our discovery will encourage specialists to address the issue in the hope of understanding the origin of these mysterious variations."

MVAS BOARD OF TRUSTEES

President	Lou DiNardo
Vice President	Rich Mattuissi
Treasurer	Steve Bartos
Secretary	Phil Plante
Appointed Trustee (2013 & 2014)	Bob Danko
Appointed Trustee (2012 & 2013)	Rosemary Chomos
Elected Trustee (2013)	Dave Ruck

OBSERVATORY STAFF

Observatory Director	Larry Plante
Assistant Director	Dave Ruck
Assistant Observatory Staff	Chuck Oiesen
Librarian	Rosemary Chomos

PUBLICATIONS STAFF

Meteorite Editor	Phil Plante
Production / Editor	Steve Bartos
MVAS Webmaster	Sam DiRocco
MVAS Webmaster	Harry Harker

MVAS, P.O. BOX 564 NEWTON FALLS, OH 44444-9998
 MVAS Homepage- <http://mvobservatory.com>

MINUTES OF THE JUNE MEETING

JUNE 29, 2013 at the MVCO

The meeting was called to order at 8:02 PM by President Lou DiNardo. All officers and Trustees were present. Roll Call was taken, showing seventeen members present. There were three guests on hand; Virginia and Steven Bartos, and Dominic Mattuissi. Of course Molly the dog was there too. A Call for the Reading of the Minutes was made. Rosemary Chomos moved to suspend the reading. Karin Dinardo seconded the motion. By voice vote all were in favor. With no further discussions, the Minutes were adopted as published.

TREASURER'S REPORT: The Report was read by Steve Bartos. A motion to accept the Report as read was made by Chris Stephan. A second to the motion was made by Larry Plante. The motion passed by a unanimous voice vote.

General Fund

5/1 thru 5/31 2013

OPENING BALANCE:	\$	9,010.92
CLOSING BALANCE:	\$	8,752.06
AVAILABLE FUNDS (NON-RESERVED):	\$	4,567.94
ACCOUNT NET GAIN/LOSS FOR THIS PERIOD:	\$	- 258.86

INCOME:

MVAS CLOTHING SALES	\$	61.00
NEW MVCO KEY DEPOSITS (DINARDO, STEPHAN)		20.00
INTEREST		0.16
TOTAL INCOME	\$	340.02

EXPENSES:

CK# 2789 INSURANCE (WESTERN RESERVE)	\$	300.00
2790 CHAIN FOR 16" DOME SHUTTERS		40.02
TOTAL EXPENSES	\$	340.02

Reserved Funds

KEY DEPOSITS (MVCO)	\$	270.00
CASH FROM ORIGINAL OAD FUND (FOR LAND)		3,914.12
TOTAL RESERVED FUNDS	\$	4,184.12

CORRESPONDENCE: Bob Danko reports no mail arrived in the P.O. Box. Astronomy magazine had sent Steve Bartos an order-ad from Astronomy Magazine for their 2014 Astronomy Calendar. Going price was about \$6.00 each. Bob Danko moved to order 15, Karin DiNardo seconded this motion. All were in favor by a unanimous voice vote. One will be used at the MVCO. several others asked to reserve a copy for them. Steve can order more as needed. Several might be sold at the OTAA meeting as well.

COMMITTEE REPORTS/OFFICER REPORTS:

LIBRARIAN: Rosemary will try to get the new books in place shortly. The roof developing new leaks is still a concern. She will not have time to repair the curtain in the 12" building. Obtaining a new curtain may be the only option for now. **IMAGING COMMITTEE:** Lou DiNardo reported that poor weather has hampered imaging attempts. He had imaged Saturn a few nights in June. **VISUAL COMMITTEE:** There were no Visual Committee Reports or Homework Observation Reports turned in. See Phil if you have questions or reports to turn in. Thanks in advance.

OBSERVATORY DIRECTOR'S REPORT: Larry Plante has been up to assemble the new BBQ grill that was purchased by the MVAS. It was deemed that as in traditional fashion, a female name be given to the unit; much like naming a ship. name. Phil Plante thought it was an obvious (and safe) pun that it should simply be called "Barbie Que". After several groans and some

cheers, it seemed to become the un-official name. The more important issue is when do we break-in this grill master machine, with a side burner too! (for chili sauce?)

More seriously, Larry has investigated roofing material costs. At Banner supply in Youngstown, they wanted \$1,800 for materials alone- no labor. But installing roofing is what they do. A check at Lowe's showed that the needed 16 steel panels and cap would run around \$600. The lumber needed to build the trusses - 2x4s and hardware would cost around \$300. Larry thinks this is a straightforward project we can do ourselves; for under or near \$1,000.00. The main issue is figuring how to attach this cover roof to the existing building. Expert advice would be most helpful. No voting activity was taken on the purchase of materials nor was a work date set. So far the roof patch has been holding up well. There was heavy rain earlier that afternoon and no leaks were evident during the meeting.

OLD BUSINESS: Rich Mattuissi extended his thanks to everyone that helped out with the scouting troop event called the Bill Pearce Memorial Stargaze. It was held in Austintown Park on June 14, 2013. Lou, Karin, Larry, Don, Jodi and Roy were the members at the event. The late Bill's wife Elaine was present as well. They hope to make this an annual event.

Phil noted progress in compiling all members' names since the founding of the MVAS in 1939. He was up to 2004 and had 448 names. These are to be used on a 75th Anniversary T-shirt being designed by Jodi and Rosemary. Turning to OTAA meeting activity, a noon starting time was set for the work day on Saturday, August 3rd. A work list will be assembled and most likely posted to the e-mail group stay tuned. We will need to contact the vendors for chairs, tables and the tents soon. Harry needs to get the internet working as well.

The OTAA Work Committee was started with the usual suspects stepping up. Thus we have: Parking- Rosemary Coffee- Rosemary, Registration- Steve, plus needs helpers. Scope attendants- Bob (8" Dynamax), Chris (8" Draper), Lou (12"), Phil (25"). The 16" will likely be closed due to use of the building for other activity (food, TV, etc). Emcee will be Bob Danko. Speaker still in the works (Tom Fields?). We'll need night watch and Sunday morning clean-up people as well as some bodies to set-up tables and chairs early that Saturday afternoon August 10th. As for door prizes, we have about 27 items left from last year. It's a start. Please bring an item or two, to put on the table. Main raffle prizes? Chris and Bob have had no luck getting donations. Chris was trying to get the Explore Scientific 100° 20mm eyepiece- currently on sale.

At a previous meeting Jodi suggested the new iOptron tripod tracking mount for astrophotography. These were going for around \$400- the MVAS was slated to purchase this. Given this, Phil decided to purchase and donate the 20mm eyepiece for a Raffle prize. This would seem to have a wider appeal of OTAA attendees, as the mount would interest mostly astro-imagers. Phil will coordinate with Tony on what he was planning for a main prize. Don Durbin will contact Anacortes to see what they can offer for door prizes.

NEW BUSINESS: Chris Stephan had magnetic MVAS signs that are meant to be attached to car doors. Made by Middlefield Signs, they have the 16" scope design as on our hoodies. They look really great. The lettering and color can be changed but only one time. You can get them for \$70 for two. See Chris if interested. Chris was also made a distributor of the DVD "Mystery In The Sky" produced by Guustaaf Damave. He asked permission to set-up a sales table at the OTAA. Prices are \$12

MVAS- OTAA MEETING AUGUST 10, 2013

AT THE MVCO IN BRACVEILLE, OH

1076 SR 534 NEWTON FALLS, OH 44444

The MVAS-OTAA Schedule:

- 5:00 PM** Registration opens. \$5 per person. Main Raffle Tickets are \$1.00 per ticket-no limit. Two prizes (see below)..... **VENDOR:** Chris Stephan will be selling copies of the DVD "Mystery In The Sky" at \$12 each. The video is about epsilon Aurigae.
- 6:15 PM** Pot luck picnic dinner. Bring a covered dish or dessert. Coffee and soft drinks will be provided.
- 7:15 PM** OTAA announcements, raffle drawings. Speaker?
- 8:29 PM** Sunset. Astronomical twilight ends at 10:16 PM. Moonset of a 10% crescent is at 10:07 PM. MVAS scopes will be available for observations.

12:00 AMMidnight buffet. Get them left-over's!

MAIN RAFFLE PRIZES

- 1- AstroPhysics 10.5 x 70mm Binocular
- 1- Explore Scientific 20mm 100° eyepiece, 2" barrel

Sample Door Prize list (as of July 10)

Books:

- 1- Star Trek: 1st Contact
- 1- Jupiter Observer's Handbook
- 1- Double Stars for Small Telescopes
- 1- The Heavens
- 1- Seeing in the Dark
- 1- S&T Video Astronomy
- 1- The Intelligible Universe
- 1- Transits of Venus
- 1- The Planets
- 1- Lunar 100 Card-Plastic
- 2- Cosmic Decoder -card game

DVDs:

- 1- Black Holes Explained
- 2- Mystery In The Sky
- 2- In-explicable Universe

Optical:

- 1- Canon wide T-ring
- 1- Meade 26mm QX eyepiece

Miscellaneous:

- 1- Nintendo Star Wars: Episode 1
- 1- 4 x 30mm binocular (kid's toy)

Come one; come all to the MVAS-OTAA meeting. The \$5.00 registration fee enters one into the Door Prize raffle. The Main Raffle tickets are sold separately at \$1.00 each. No limit. Separate "ticket canisters" will be used, one for each Main Raffle prize. A speaker is tentative, observing begins after the talk, otherwise after the raffles. Your scopes and binoculars are more than welcome.

For everyone's safety and for saving night vision, no vehicles should enter or remain in the upper observing field after dark. Please try to arrive before sunset if you need to unload heavy or big scopes. All parking is in the lower level with headlights facing away from the buildings. We all know about green lasers. Don't point one at anyone and limit usage. Do stick around for the midnight buffet! Feel free to observe or image all night. Many have done this in years past. We hope this year is no exception.

Getting there: The MVCO is on Rt. 534 about 0.8 miles north of the Rt. 82 and Rt. 534 intersection. It is on the east side of Rt. 534. Look for a white MVCO sign at the driveway entrance. If possible use parking lights only, when arriving in the dark.

per DVD or \$8 each for an order of seven or more. By unanimous consent Chris was granted permission to sell as many as he could. A some of the proceeds would be donated to the MVAS.

We were reminded of the YSY Festival of Art on July 13th and 14th. We'll need several MVAS folks to attend the solar scopes outside of the planetarium. Check e-mails for what is going on- who is going. Sharon suggested that for next year, the MVAS conduct this activity as it's own event and will thus get full credit for it rather than MVAS helping the Planetarium. We'd still use the YSU scopes. In other matters, Steve has had three more MVCO keys made as that was all the blanks they had in stock. The price went up to \$15 each (It was \$10 last time). Thus MVCO key deposits should reflect this increase.

Rich Mattuissi asked when it would be a good time to bring the scouts to Scenic Vista for hiking trails and more astronomy. Phil recommended out September 14th AstroHam event. Ham radio operators would be there around noon. There would be time for hiking and ham radio observations before stargazing that night. Rich will contact the Park to let them know the scouts might be camping out as well.

Chris is eager to paint the inside of the 16" building. Discussion on color settled on an antique white or other neutral color. Chris moved to have the MVAS purchase the paint and supplies as well as new ceiling panels. Larry Plante seconded the motion. By voice vote all were in favor. Chris will get to this in July but would need some help moving furniture around.

GOOD OF THE SOCIETY: Sharon Shanks would take care of sending flowers for Jodi's mothers funeral. Sharon will be reimbursed the expense. A card was signed earlier, Lou would send to Jodi. There was a discussion of the old MVAS "Sunshine fund" back in the 1940's. It was decided we start this up again in which members could donate funds specific to the fund. The donations would be deposited in the general fund and kept track off much like key deposits and the OAD Fund. Chris Stephan moved to adopt a Sunshine Fund, Karin DiNardo seconded the motion. All were in favor by voice vote. Chris had also donated two green laser pointers for use at the MVCO. Thank you Chris. They might come in handy.

VISUAL REPORTS: Rich has observed Saturn and Luna, Chris reported 80 vso's with the 8". Eric Klesch was catching the globulars in Ophiuchus. Rosemary got to see the "Big Moon", Bob spied on Venus and Mercury, Lou had imaged Saturn, Phil managed 4 vso's in June. All pretty good observations for a cloudy month.

ADJOURNMENT: Adjournment was agreed to at 9:05 PM on a motion from Lou DiNardo and second from Bob Danko. We thank our hosts Keith Janeco for the pizza and Larry Plante for the huge Amish donuts. The next meeting will be at the MVCO on July 27, 2013. Meeting begins at 8:00 PM. Scheduled hosts are Greg Higgins (main meal), Rosemary Chomos (desserts), Rich Mattuissi (drinks). **PASSWORD:** Give the name a summer/fall nebula, such as The Lagoon, North American, Blue Snow Ball, Cat's Eye, etc *-minutes by Phil Plante*

MVAS REMINDERS

YSU Summer Festival of Arts: July 13 & 14. Noon till 5PM.

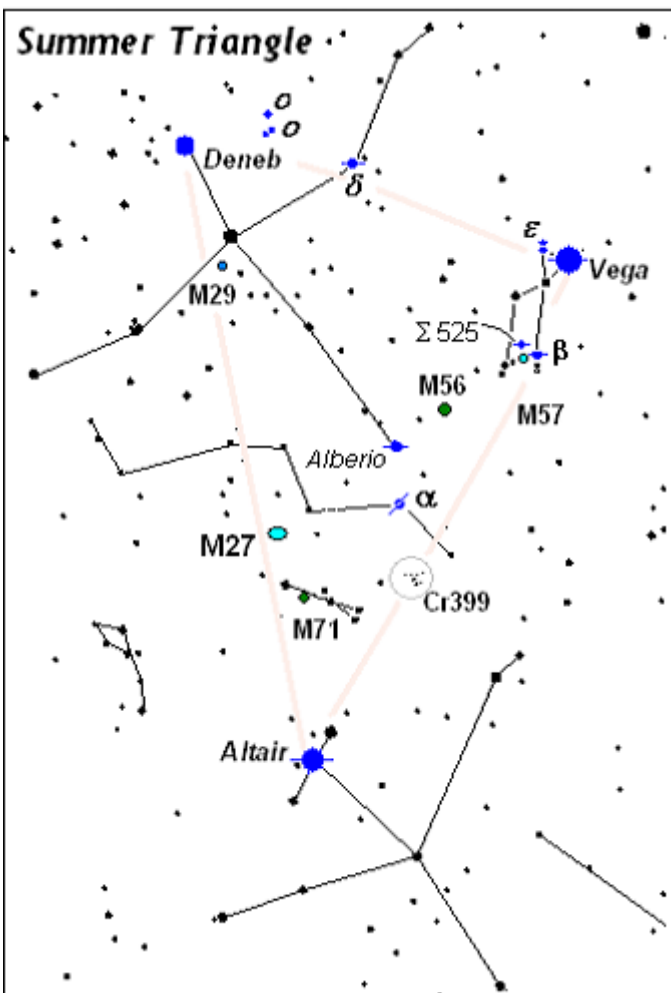
We need helpers to attend the solar scopes set-up outside of the planetarium. Check e-mails for last minute details.

August 3rd. We have a work day scheduled at the MVCO to spruce up the joint- for the OTAA meeting the next weekend. Start time was set for noon. Check the e-mail group for details.

MVAS ACTIVITIES

June Scenic Vista Public Night. As would be normal- this event was clouded out. Several members showed up just in case. About a half-dozen folks showed up including Park Program Director Jan Palmer. Some snacks and good cheer always make for a good event, clouds or not.

Observer's Notes: A Summer Vacation?



One of the first things a stargazer learns is the star pattern known as the "Summer Triangle". It takes the form of a triangle when you trace imaginary lines between the stars Vega to Deneb to Altair and back to Vega. Using three of the brightest stars in the summer sky, it's like a three star "constellation". In late May and early June, it sits in the eastern sky around 10 PM. It crosses the meridian in the wee hours of night. By the end of

August, it lies nearly overhead at 10:00PM. In mid-November it can be seen over the western horizon. The best views are during summer when it is high overhead. So get out a reclining chair and binoculars. Maybe even a telescope; Scopes definitely give better views of some sights. Those imaginary triangular lines will serve as your highway in the sky. And there are places to visit along that Triangular Highway.

Some have likened the triangular shape to be the "V" in summer Vacation. Fair enough. But let's keep both interpretations in mind. The "V" puts us in travel mode while the triangle serves as a simple road map. A good many celestial treats line-up along the 'roads' of the triangle. Most are the usual, random sight-seeing stops during summer explorations. But let's do a tour via the Triangular Highway. Use the road map at left. It can be done in a night. You can travel in any direction you like, but the list below starts at Deneb then runs to Vega and then to Altair then back to Deneb. The list below has all your road-side stops. Did someone just yell "Road Trip !!! ...".

You'll need a scope to split δ Cyg and ε Lyr. A scope will give the best views of the M-objects but they can be spotted in binoculars as fuzzy stars. Have a safe trip!
-P. Plante

Trip Itinerary

Obj.	Name	Type	Mag.	sep/size	notes
α Cyg	Deneb	star	1.25	A2 type star	1,400 ly
ο Cyg	--	str. Trio	3.8-7.0, 4.8	331"	orang-blu-wht.
δ Cyg	--	dbl. str.	2.9- 6.3	2.5"	yellow, green
ε Lyr	Double-Double	dbl. str.	5.0-5.3	210"	both yellowish
α Lyr	Vega	dbl. str.	0.0-9.5	78.2"	sapphire, blue
Σ 525	--	dbl. str.	6.1-7.6	45.1"	yellow, blue
β Lyr	Sheliak	dbl. str.	3.6-6.7	46.0"	white, blue
M-57	Ring	pl. neb.	8.8	71"	use high mgx.
M-56	--	globular	8.3	7.1'	rich star field
β Cyg	Alberio	dbl. str.	3.4-4.7	34.7"	gold, blue
α+8 Vul	Σ I 42	str. Pair	4.6-5.9	424"	orange, white
Cr-399	Coat Hanger	asterism			orange and blue stars
α Aql	Altair	dbl. str.	0.9-9.8	192"	yellow, violet
M-71	--	globular	8.0	7.2'	loose globular
M-27	Dumbbell	pl. neb.	7.3	348"	big scope best
M-29	--	open cl.	6.6	6.0'	open cluster

MVAS Homework: NGC 6755

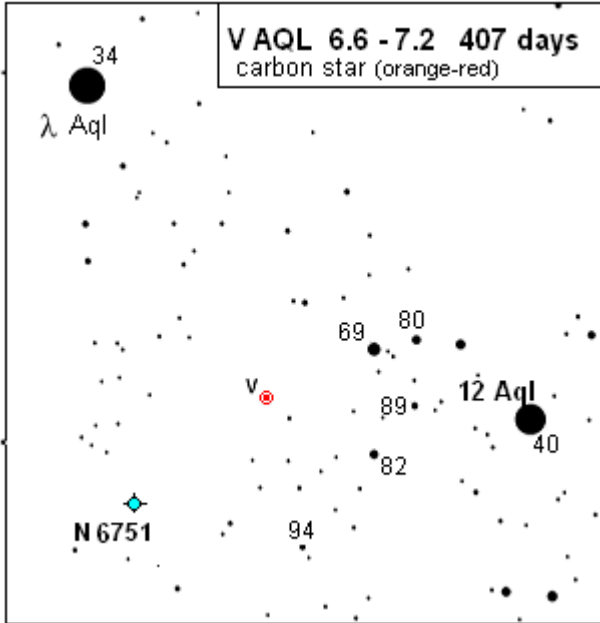
This out of the way open cluster is a group of 80 faint stars of 10-14th mag. It has a diameter of 10'. The stars are arranged in two groups separated by a fairly wide, obvious dark rift oriented SW-NE. The SE star group is larger and richer (about 50 stars) and contains several stars in two rich subgroups. A 10 mag. star sits on the W edge of the N group. See the Gallery section for more information.

MVAS OBSERVER CHARTS

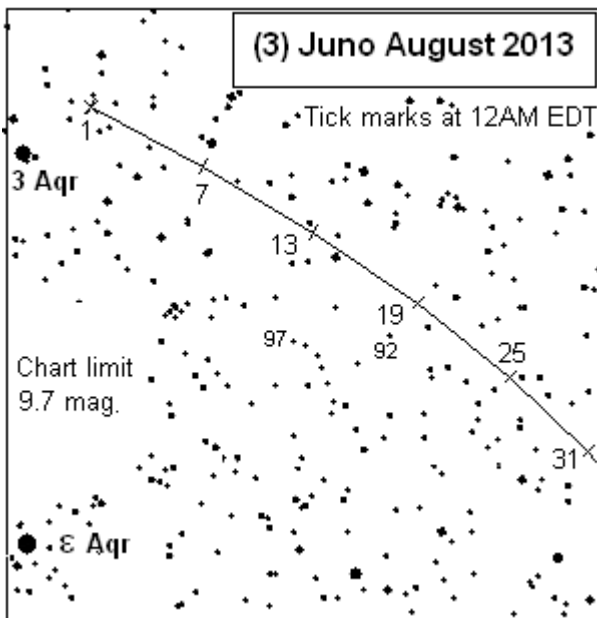
MVAS OBSERVATIONS - DUE AUGUST 2013

Variable star of the month: V Aquilae (abbrev: V Aql).

This variable is well suited for binocular observation. It is a carbon star which means it should be easy to identify due to its deep orange glow. The magnitude range is about 1/2 magnitude. This will be a challenge to detect if you're a newbie at variables. With a period of over 400 days the change is also slow. Good training. If you are using a scope, hop over to the planetary nebula NGC 6751, "The Dandelion Puff Ball".

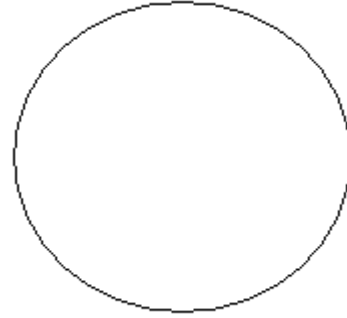


Asteroid of the month: (3) Juno. This month we'll stop in on asteroid Juno as it swings through Aquarius. It was the third asteroid ever discovered - in 1804. Juno comes to opposition on August 4th. It will be around 9th magnitude at that time. It drops to magnitude 9.2 by the start of September. Your best bet is to use a scope 4" or more in size. Give it a shot!



OBSERVER _____

Featured object: NGC 6755. Please try a sketch. As any for open cluster, locate the brightest few stars and pencil-in their positions as accurately as you can. Next take some time to make points for the fainter stars. No smudging is needed. You can make a point. No excuses! This is barely drawing. Make it a challenge. It's practice to hone your observing skills.



NGC 6755 Observation:

Date: _____ Time(EDT) _____ Scope _____

V Aql magnitude estimates:

Date:	Time:	estimate:	Instrument:
_____	_____	_____	_____
_____	_____	_____	_____

(3) Juno Observations:

Date:	Time:	Instrument:	magnification:
_____	_____	_____	_____
_____	_____	_____	_____

Other Objects in Aquila to observe

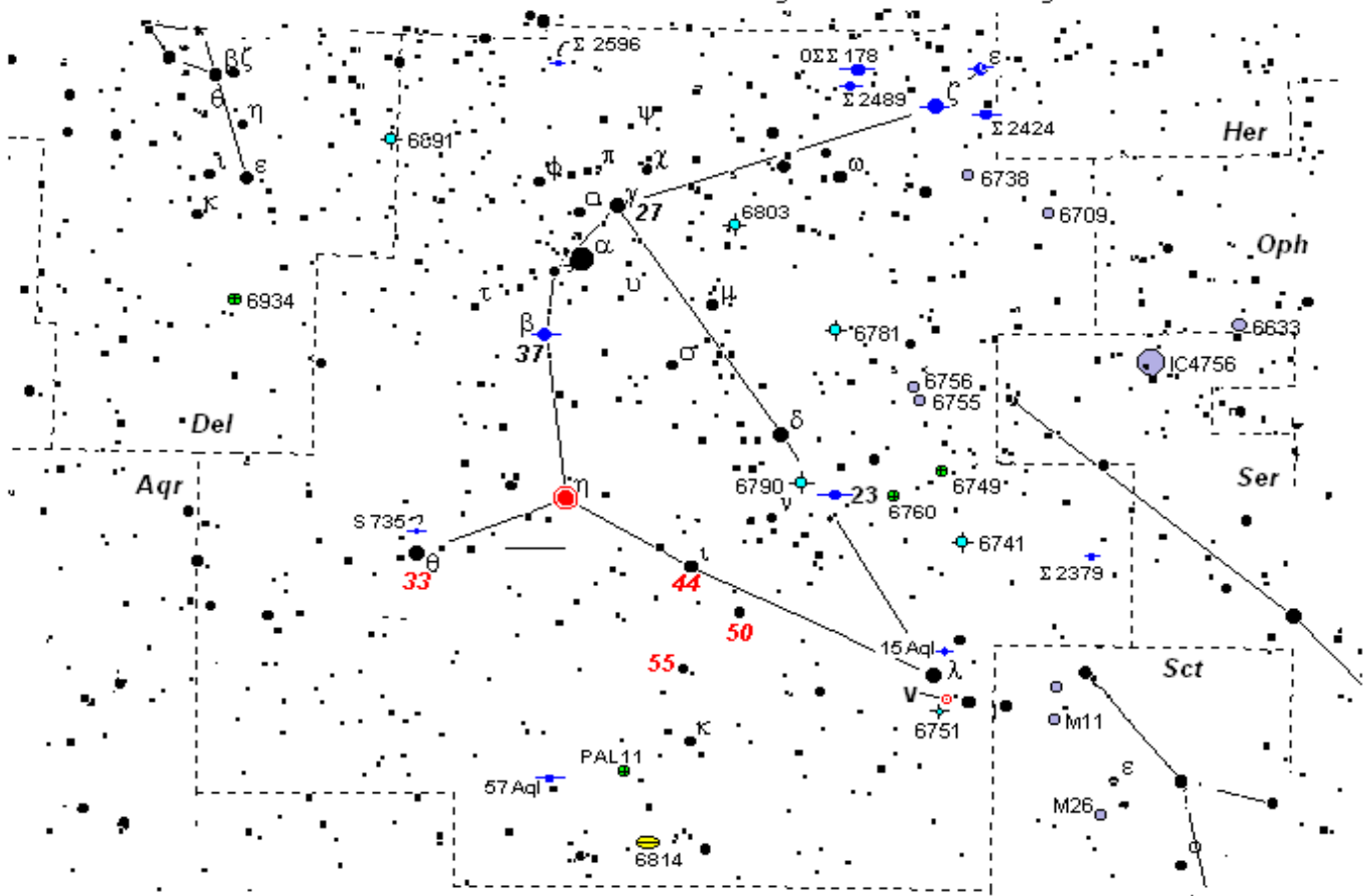
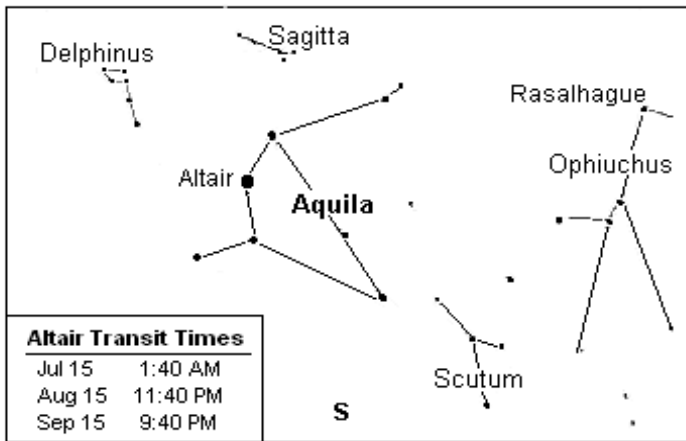
D. Sky	Date	Scope	DbI.	Date	Scope	SEP	MAG	SPLIT?
N- 6741	_____	_____	57 Aql	_____	_____	35.9"	5.7 - 6.3	Y / N
N- 6760	_____	_____	23 Aql	_____	_____	3.0"	5.3 - 8.3	Y / N
N- 6751	_____	_____	15 Aql	_____	_____	39.1"	5.5 - 7.0	Y / N

Lunar Occultations (see Sky Almanac):

Star	(UT) Date	Time	Scope	magx.	Event(circle)
_____	_____	_____	_____	_____x	R D
_____	_____	_____	_____	_____x	R D
_____	_____	_____	_____	_____x	R D

Constellation of the Month — Aquila

You will find Aquila looking due south near the transit times given at left for the bright star Altair—near the top-middle of the constellation. Binoculars show the area around Altair to be rich in stars. The sky background seems darker than usual. One is reminded of a similar view around Vega. You can use binoculars to follow eta Aql vary in brightness. Comparison magnitudes are given on the chart. Look for the italicized, **RED** numbers next to the star. For the other objects you'll want to use a scope. There is a fine assortment of colorful double stars to track down. 15 Aql may be the best. What do you think? Most of the colors listed are those used in T. W. Webb's "Celestial Objects for Common Telescopes". First published in 1859, the colors in Webb's book will make an interesting comparison to what modern eyes and equipment now show. The deep sky objects are worthy targets for the novice as well as the seasoned observer. Notice there is a concentration of objects along the western side of Aquila. Enjoy the sights here before the "Eagle" flies to the west for winter.



variable= η Aql 3.48 to 4.39 magnitude in 7.1766 days.

variable= ν Aql 6.6 to 7.2 magnitude, 407 days

DEEP SKY				DOUBLES			Check list		Instruments used: _____ on _____ _____ on _____ _____ on _____
type	mag.	size	notes	mags.	sep.	"colors"	_____	_____	
N6738	OC	8.3	15'	Σ 2379	5.9, 7.5	13"	white, violet	_____	Σ 2424
N6803	PN	11.3	5.5"	Σ 2424	5.3, 9.6	19"	yell., green	_____	15 Aql
N6781	PN	11.8	1.8"	15 Aql	5.4, 7.2	38"	yell., lilac	_____	N6756
N6756	OC	10.6	4'	0Σ 178	5.7, 6.5	88"	yell., lilac	_____	Σ 2489
N6755	OC	7.5	14'	Σ 2489	5.7, 9.3	8.2"	white, org.	_____	N6760
N6760	GC	9.0	9'	57 Aql	5.7, 6.5	36"	yell., bluish	_____	Σ 2596
N6741	PN	10.8	8"	Σ 2596	7.2, 8.6	2.1"	yellow, ash	_____	N6814
PAL11	GC	9.8	3.5'	S 735	7.1, 7.9	8.2"	yell., bluish	_____	S 735
N6814	Gal	12.1	3' x 2'	23 Aql	5.3, 8.3	3.0"	yell., blue	V Aql _____	_____
N6751	PN	11.9	20"					V Aql _____	_____

Solar and Lunar (EDT).

Date	Sunset	Moonrise	Moonset
1	8 : 41	01 : 55a	— : —
5	8 : 36	05 : 18a	— : —
9	8 : 31	— : —	9 : 37p
13	8 : 26	— : —	11 : 54p
17	8 : 20	— : —	02 : 36a
21	8 : 15	08 : 20p	— : —
25	8 : 08	10 : 34p	— : —
29	8 : 02	12 : 36a	— : —

PLANET WATCH

Saturn	Uranus	Neptune
Sets	Rises	Transits
12:23a	11:09p	3:11a
12:08a	10:53p	2:55a
11:49p	10:38p	2:39a
11:33p	10:22p	2:22a
11:18p	10:06p	2:06a
11:03p	9:50p	1:50a
10:48p	9:34p	1:34a
10:33p	9:18p	1:18a

August 2013

S	M	T	W	T	F	S
				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

Asteroid for August 2013 (3) Juno

Date	Transits	RA		Dec.	Alt.	Azm	Magnitude
		hr.	min				
		<i>topocentric</i>					
1	1 : 29 am	20	45.4	-04.4	40°	150°	9.0
7	1 : 01 am	20	40.2	-05.2	42	160	9.0
13	12 : 32 am	20	35.1	-05.9	42	169	9.0
19	12 : 04 am	20	30.4	-06.7	42	179	9.0
25	11 : 59 pm	20	26.1	-07.5	41	188	9.1
31	11 : 08 pm	20	22.5	-08.4	39	197	9.2

Date UT hr Celestial Highlights

3	00	R Sgr at max. 7.3 mag.
4	01	Juno at opposition. 9.0m
6	22	NEW MOON
12	18	Perseids. Moon +31%
12	00	R Ser at max. 6.9 mag.
14	11	FIRST QUARTER MOON
21	02	FULL MOON
22	00	R Cyg at max. 7.5 mag.
27	02	Neptune at opposition
28	09	LAST QUARTER MOON

Variable Star of the Month: V Aql 6.7- 7.2 407 days

LUNAR OCCULTATIONS FOR: AUGUST 2013

Civil (24hr)			UT			Moon			Star	Star	event	dbl./			
date	hr	min	sec	date	hr	min	sec	Ph	% illum.	alt	azimuth	name	Mag.	PA	sep.
1	2	27	24	1	06	27	24	R	26-	5°	069°	ZC 654	6.0	325°	0.10"
1	3	40	34	1	07	40	34	D	26-	18	80	EOS TAU	3.5	x027°	182"
12	21	37	03	13	01	37	03	M	35+	15	235	ZC 2002	6.8	194°	NA
13	23	28	19	14	03	28	19	D	46+	3	243	ZC 2136	6.6	139°	NA
14	22	47	03	15	02	47	03	D	57+	16	225	47 LIB	6.0	081°	0.64"
15	21	50	05	16	01	50	05	D	68+	26	198	ZC 2425	5.9	040°	NA
17	0	03	02	17	04	03	02	D	79+	20	215	ZC 2591	6.2	067°	0.10"
17	22	20	00	18	02	20	00	D	87+	30	175	ZC 2763	6.5	123°	0.08"
20	4	14	42	20	08	14	42	M	99+	18	236	NU AQR	4.5	336°	NA
24	4	21	04	24	08	21	04	d	87-	56	189	62 PSC	5.9	016°	NA
24	5	16	15	24	09	16	15	R	87-	52	211	62 PSC	5.9	291°	NA

at MVCO

D= disappearance. Good occultation event.

d= disappearance, the star's magnitude approaches the observing limits of 200mm objective

R= reappearance. Good occultation event

r= reappearance, the star's magnitude approaches the observing limits of 200mm objective

All disappearances (D) occur on the eastern limb (left side in the sky). Reappearances (R) always occur on the western limb.

Position Angle (PA): tells where along the west limb to watch for a reappearance.

PA is referenced to celestial north: North=0° East=90° South=180° West=270°

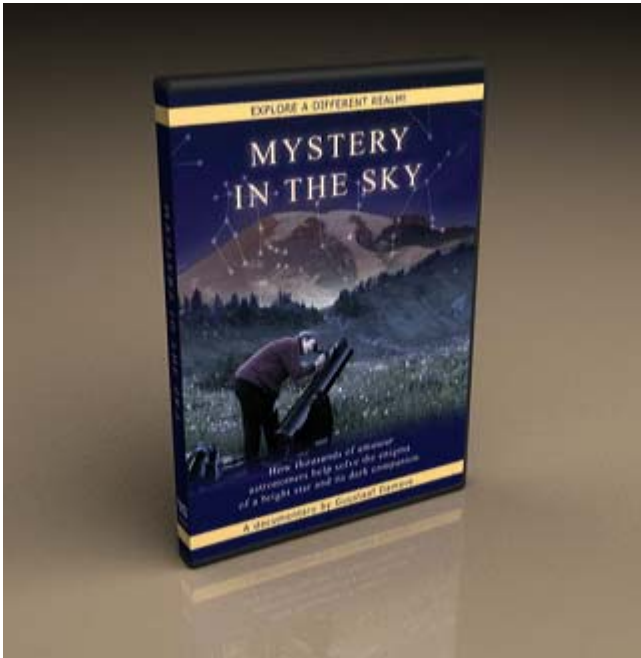
Ocultations computed using Occult v3.6 (I.O.T.A.)

Variable star data from AAVSO. All other data computed with MICA 1800-2050 (Willman-Bell)

GALLERY.....

Odds 'n Ends.....

Look for Chris Stephan's table at the OTAA convention on August 10th. He has a bunch of "Mystery In The Sky" DVD's to sell. He has been named a distributor of this 2010 video, by its producer Gustaaf Damave. It tells the story of eclipsing variable star epsilon Aurigae and variable star observing in general. The DVDs are \$12 each. Or, \$8 each for seven or more purchased at the same time. It would be a great addition to any private or public library or observatory. Science teachers take note! Get those students into astronomy with this DVD.



For MVAS members- Chris has had magnetic signs made for placing on your vehicle. If you'd like to order a pair (or one) see Chris. Going rate is \$75 per pair. Ask Chris about any color change. This is limited to one change for all future production, as the editor understands. Pretty cool as it is below! Great way to promote the MVAS.



OTAA MAIN RAFFLE PRIZES:

Astro Physics 10.5 x 70mm premium binoculars.

These binoculars feature high-tech multi-coatings on all lens and prism surfaces for highest possible light transmission and image contrast. All optical surfaces are manufactured to a high level of polish and accuracy to insure sharp images under all observing conditions. The use of oversize prisms insures excellent light throughput to the edges of the field-of-view. All-metal construction makes these binoculars rugged and stable, yet the rubber-armored covering makes them comfortable in your hands. They will not lose collimation over time or with rough handling. They are nitrogen-purged and waterproof and will not fog over internally, nor will the coatings on the internal optical surfaces degrade with time under any conditions.



Explore Scientific 20mm 100° 2" barrel eyepiece.

Each 100° Series Nitrogen-Purged Waterproof eyepiece is internally sealed and purged with inert, dry nitrogen gas to prevent internal fogging, to halt the intrusion of fine particulates and fungus, and to maximize the life of the internal coatings. To make sure, every 100° eyepiece is tested by submerging them down to 1 meter of water for 30 minutes



June 15th Scenic Vista:

Another wash-out...well at least it didn't rain. The few that showed up stayed near the pavilion. Rosemary supplied the pastries and chips as usual. Thanks Rosemary! Scopes were set-up for a photo-op with the Park's Program Director, Jan Palmer. See middle photo...



The intrepid MVAS crew. L-R: Larry, Mike, Rosemary, Jan, Phil. After this photo was taken, a few from the public showed up and joined the conversation in the pavilion. It was an enjoyable afternoon despite cloudy skies.



Cloudy skies persisted until sunset- photo taken just before. We all left shortly after darkness fell.

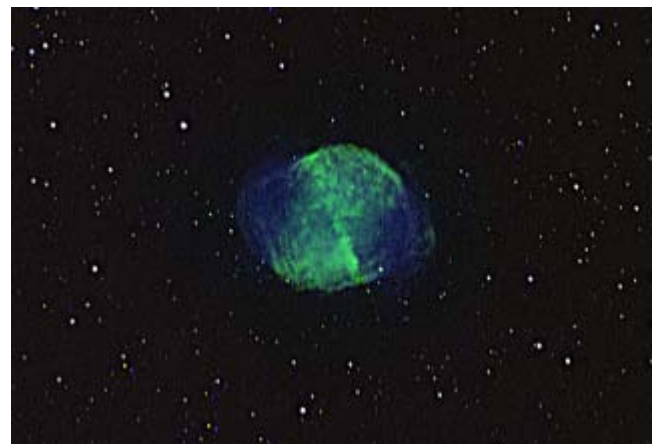
A Homework Cluster?

So you think that NGC 6755 is an odd object for Homework? Well you may be right... but why not offer-up a real challenge?

The easy stuff seems just as hard- so it seems from reports turned in. The MVAS imagers might want to try this one. Visually you'll need a larger objective to spot this one. Say 6" and up. There are hundreds of these ghostly clusters to look for. You might even make this a favorite pass-time, looking for the overlooked open clusters. In this image, NGC 6755 is in the lower right. You might make out the dark rift that splits the cluster. The smaller chunk lies to the lower left. The small knot of stars at upper left is NGC 6756. Can you make it out? This image might be what you see in a 12" or larger scope. NGC 6755 resides in western Aquila. With Aquila being the constellation of the month, it fits in well with all the other Homework objects. Regardless if you do homework, give this a shot. Change the routine and try something that might be a challenge. It will make you grow as an observer. You will feel less daunted by attempting to observe all that there is- not just the showpiece objects.



Last month's Homework: Mike Heim did a nice job with last month's Homework by imaging M-27 using the Hubble Space Telescope color Palette during processing. He used a 6" Newtonian for this.



UPDATE TO OTAA DOOR PRIZE LIST.

Just as this issue was going to print (PDF), Tony sent the editor a list of door prizes he had just ordered. This is most impressive and generous. We must all thank Tony for this! This should inspire you to grab at least one item for the prize table. We like to keep the attendees happy with prizes. MVAS is known for this, along with our food spread. Keep the tradition going. Thanks again Tony. As they say, "You ad man!".

- 1 BAA Chart Of The Heavens
- 1 Beautiful Universe 2013
- 1 Binocular Highlights
- 1 Deep Sky Wonders
- 1 Deep-Sky - Hidden Treasures
- 1 Lunar 100 Card Plastic
- 1 Messier Card
- 1 Moon Map Laminated
- 1 Night Sky Digital Collection 2004-2007
- 1 Night Sky Star Wheel
- 1 Pocket Sky Atlas
- 1 Popular Astronomy: Discover the Constellations
- 1 Secrets Of Stargazing
- 1 Skylight Mini Red and White
- 1 Star Trails
- 1 Orion 4.57" ID Full Solar Filter
- 1 Orion 1.25" Jupiter Observation Filter
- 1 Orion 1,25" Mars Observation Filter
- 1 Orion Shorty 1,25" 2x Barlow
- 1 Orion RedBeam LED USB Keyboard light
- 1 Orion Medium Delux Accessory Case
- 1 Orion DeepMap 600 Folding Star Chart
- 1 Orion Lenspen Micro Pro
- 2 Astronomy Calendars 2014