

THE METEORITE



M-17
NGC 6618
The Omega Nebula
The Swawn Nebula
In Sagittarius



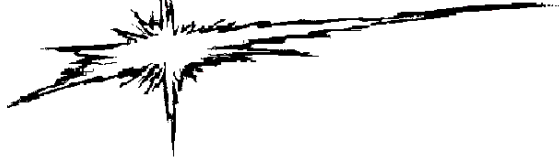
Newsletter of the Mahoning Valley Astronomical Society, Inc.

IN THIS ISSUE:

JULY 2010

- ★ **Event Calendar, News Notes**
- ★ **Minutes of the June Meeting**
- ★ **MVAS Activities: Repairs \$\$, Goodbye 50"**
- ★ **MVAS Reminders: MVAS Door Prizes, SFA, Chris, Scenic Vista, CAA-OTAA**
- ★ **MVAS Homework: Lobster Nebula**
Homework Charts: R SGR, asteroid (8) Flora
- ★ **Constellation of the Month: Sagittarius**
- ★ **August 2010 Sky Almanac**
- ★ **Gallery: June Sky, Old Digs**

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



NEWS NOTES

Cool Stars. Astronomers have found what looks to be 14 of the coldest stars known so far. These brown dwarf stars are so cold and faint that you can't see them with visible light telescopes. But the Spitzer Telescope's infrared imaging was able to pick up the feeble glow they throw off. These new objects are between 350 to 620 degrees Fahrenheit. For a star, this is as cold as some planets are, orbiting around other stars. These brown dwarfs have been very elusive objects. But many more should be coming out of hiding very soon. NASA's *Wide-field Infrared Survey Explorer (WISE)* mission is scanning the entire sky in the infrared. It is expected to find hundreds of such cold objects, if not even colder ones. WISE is searching a volume of space 40 times larger than that sampled in the recent Spitzer study, which concentrated on a region in Bootes.

The Spitzer mission is designed to look at targeted patches of sky in detail, while WISE is searching the whole sky. It is possible we might even find a cool brown dwarf that is closer to us than Proxima Centauri. Brown dwarfs form just like stars; out of collapsing balls of gas and dust. But brown dwarfs they are small in comparison. They never gather enough mass to ignite nuclear fusion and shine with their own starlight. The smallest known brown dwarfs are about 5 to 10 times the mass of Jupiter. Some known gas-giant planets around other stars are also in this range. Brown dwarfs start out with left-over internal heat that came from their formation. As they get old, they cool down. The first confirmed brown dwarf was announced in 1995.

"Brown dwarfs are like planets in some ways, but they are in isolation," said astronomer Daniel Stern, co-author of a Spitzer paper at JPL. "This makes them exciting for astronomers - they are the perfect laboratories to study bodies with planetary masses." Most of the new brown dwarfs found by Spitzer are thought to belong to the coolest known class of brown dwarfs, called T dwarfs. They are defined as being less than about 2,240 degrees Fahrenheit. One of the objects appears to be so cold that it may even be a long-sought Y dwarf - a proposed class of even colder stars. The T and Y classes are part of a larger system categorizing all stars; for example, the hottest, most massive stars are O stars; our sun is a G star.

"Models indicate there may be an entirely new class of stars out there, the Y dwarfs, that we haven't found yet," said co-author Davy Kirkpatrick, a co-author of the study and a member of the WISE science team at the California Institute of Technology, Pasadena, Calif. "If these elusive objects do exist, WISE will find them." Kirkpatrick is a world expert in brown dwarfs - he came up with L, T and Y classifications for the cooler stars.
- from Pasadena CA (JPL) Jun 25, 2010

Old Dust. On June 24, Japan's space agency (JAXA) said it had found traces of an unknown gas in the pod thought to contain ancient dust from asteroid Itokawa. Brought back to Earth by the Hayabusa spacecraft, it made a fiery re-entry into Earth's atmosphere on June 13. Researchers at the Japan Aerospace Exploration Agency's Sagami-hara Campus in Kanagawa began opening the Hayabusa capsule, a process expected to take about a week. It is unclear how much, if any, asteroid dust was collected due to malfunctions while in contact with the asteroid. If dust 10 microns in size is found, scientist will be able to look for clues to the origin of the solar system.

Newsletter of the Mahoning Valley Astronomical Society, Inc.

MVAS CALENDAR

- JUL 10/11** Festival of Arts at YSU. 12:00 noon
JUL 17 Scenic Vista Public Night. Sunset 8:54 PM.
JUL 31 MVAS business meeting at MVCO. 8:00 PM
AUG 14 MVAS-OTAA. MVCO 6:00 PM.
AUG 28 MVAS business meeting at MVCO. 8:00 PM

NATIONAL & REGIONAL EVENTS

- JUL 23 - 24** Midwest Astro-Imaging Conf & Mac Astro Workshop. Fees \$200. At Hoffman Estates, Chicagoland, IL <http://www.mwaic.com/>
AUG 5-8 Indiana Family Star Party/GREATCon 2010. Camp Cullom, Frankfort, IN. <http://home.comcast.net/~jmmahony1/PGO/starparty/>
AUG 5-8 Stellafane. Breezy Hill Road, Springfield, VT <http://stellafane.org/>
AUG 8-15 ASTROBLAST 2010. Two Mile Run County Park, Oil City, PA . <http://www.oras.org/>

OTAA MEETINGS 2010

- JUL 10** Cuyahoga OTAA, Lake Erie Nature Center
AUG 14 Mahoning OTAA, Braceville, OH
SEP 4 Black River OTAA, Birmingham, OH

YSU WARD BEECHER PLANETARIUM

- JUL 10/11** Summer Festival of Arts. MVAS scopes needed.

MVAS BOARD OF TRUSTEES

President	Sam DiRocco
Vice President	Harry Harker
Treasurer	Steve Bartos
Secretary	Phil Plante
Trustee (Appointed)	Bill Pearce
Trustee (Appointed)	Roy McCullough
Trustee (Elected-membership)	Dan Schneider

OBSERVATORY STAFF

Observatory Director	Larry Plante
Librarian	Rosemary Chomos

PUBLICATIONS STAFF

Meteorite Editor	Phil Plante
Assistant Editor	Steve Bartos
MVAS Webmaster	Harry Harker

MVAS REPRESENTATIVES

OTAA Representative	Harry Harker
---------------------	--------------

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

MINUTES OF THE JUNE MEETING

JUNE 19, 2010 at the MVCO

The meeting was held outside where it was cooler. President Sam DiRocco called the meeting to order at 8:00 PM. Roll Call had 19 members answer the password, with two late arrivals. A quorum needed for valid business (10 members) was met with twenty-one members present during this meeting. There was a call for a reading of the minutes. Bob Danko moved to suspend the reading. Greg Higgins seconded this motion. All in favor, Minutes accepted as published.

TREASURER'S REPORT: The Report was read by Steve Bartos. Steve explained that there was an exchange of a payment made to the concrete company for the window block work that was added to the project. Total costs were unchanged. Greg Higgins moved to accept the report. Larry Plante seconded the motion. All were in favor. Report accepted.

General Fund 5/1 thru 5/31 2010

OPENING BALANCE:	\$ 11,504.44
CLOSING BALANCE:	\$ 6,883.11
AVAILABLE FUNDS:	\$ 6,633.11

INCOME:

INTEREST	1.06
TOTAL INCOME	\$ 1.06

EXPENSES:

CK# 2724	FITTINGS FOR CORRUGATED PIPE	\$ 14.98
2725	16 RASC HANDBOOKS (2010)	295.20
2726	16" BLD. WATER PROOFING & REPAIR	2000.00
2727	16" BLD. BLOCKING FOR WINDOW	346.21
2728	16" BLD. BALANCE FOR REPAIRS	1800.00
2729	MEMORIAL DONATION FOR L. G. DINARDO SR.	50.00
2730	TWO MEADE 90MM TELESCOPES	116.00
	TOTAL EXPENSES	\$ 4,622.39

Reserved Funds

KEY DEPOSITS	\$ 250.00
--------------	-----------

CORRESPONDENCE: Bob Danko reported no mail received.

COMMITTEE/OFFICER REPORTS: No active committees.

OBSERVATORY DIRECTOR'S REPORT: Larry Plante reported that everything was working ok. Dan Schneider was out to prime/seal the new block in the west wall. Inside and out. Next chore is painting the building, inside and out. The outside needs to be power washed to remove flaking paint and dirt. Bill Pearce has a power washer that could be used. Greg Higgins has a commercial unit that he said he would rent out. This work will depend on weather, of course. Bob Danko reported water in the 8" building after a heavy rain storm. He was thinking of installing a drain around the building. It was pointed out that a drain had been installed during the 90's.

Greg thinks the drain may be clogged with silt that washed down the hill after all the trees were cut down. With grass there now to hold the water, this shouldn't be occurring now. Greg suggested blasting the drain free with the power washer, when the building is cleaned up. Larry installed a metal shelf outside on which the TV antenna is now mounted. He also cut back the old exhaust pipe coming out of the 16" building. He placed a cap over the end of it. The antenna wire passes thru this pipe/cap. Bob caulked around the new vent in the outhouse; the roof was leaking there. The problem seems to be fixed. Home work was called for later, but no one had any.

OLD BUSINESS: Phil Plante reminded members about the

YSU Festival of Arts on July 10 and 11. The Planetarium staff was hoping to have a few of us do public solar observing outside the planetarium. The usual volunteers would be out of town or working. It was also noted that Chris Stephan would be making a trip to Ohio in July and would stop at the MVCO that Saturday of July 10. He would give a talk (PowerPoint) called "Citizen Sky". This starts at 8:00 PM with a bbq taking place afterward. Bring what you want to grill. We have another Scenic Vista Public Night on July 17th. Rocket launches in the afternoon were expected to go on as usual.

Jodi has investigated the Scenic Vista lock. It has indeed been changed because there has been unauthorized use and trouble in the park. The new park caretaker is Bill Bookman. He would give us one key and ask that it not be copied until it is determined who has been causing the problems in the park. It was undecided who would get the key at this time. Mr. Bookman would let any of us in for personal use if they call him before closing time (330-424-4681), until additional keys are issued.

NEW BUSINESS: Regarding the main issue of discussion to follow, Bill Prewitt had a DVD of the Group 72 working on the 72 inch mirror in California. The main issue tonight was the fate of the 50" mirror blank. Harry Harker conducted the session. Earlier in the year, the trustees decided to "test the waters" to see what the market situation might be for selling the 50" blank. Early in June, Bill Pearce placed an ad on AstroMart that it was for sale; for \$5,000. Not quite the language the trustees were thinking of, but it was done. We received several offers in quick order. One was from a Mr. Francis O'Reilly in Columbus, OH (member of the Columbus club) seeking to build a personal scope. Another serious offer came from the optician that makes the big "Monster" mirrors for Orion Telescopes (in Canada). He was making a 50" mirror for the Italian Government and he would pay the \$5,000 sight unseen. We would have to crate and ship the mirror, at his expense however.

The Columbus offer had sent a \$500 deposit to hold the mirror on his behalf. He would pick up the mirror and understood we had no way of lifting it. He had until August to do this or the deal was off and the \$500 was non-refundable. It was now up to the membership to decide if this offer and sale of the 50" was what they wanted to do. The other option, led mostly by Phil Plante and few others, would be to keep the mirror for future attempts at completing it. A decision was now upon us.

A lengthy discussion ensued about the faults of this mirror and using it at the MVCO. Bob pointed out that the scopes we have hardly get used as it is. There would be no room at the MVCO to put it in a building. Bob had spoke with Mike Sprague about building a house for the 25" and Mike was in favor of it. Bob thought some of the proceeds could go towards that project. Dave Ruck was also in favor of selling it. Bill Prewitt said the mirror was too heavy and would never cool down. We would need to build a massive machine to finish it and need a big building. Don Durbin said the magnification would be too high at 20x per inch of aperture. He added that a 50" is overkill and that a 25" was the biggest size scope anyone could use in this area. Rosemary asked where and how the Columbus guy would use the scope. It would be a private scope. Jodi asked why we couldn't explore a collaboration with other clubs and possibly have the scope installed someplace like the Gauga dark Sky site.

Bill Pearce presented the \$500 deposit check and went on to state that 50" mirror was a disgrace sitting as a door stop. Greg wanted to know when the club acquired ownership of the 50". It was picked up in January 1970 from Corning. When Merle Cook

passed away in 1973, it was moved to Walter Mackey's by club members. Phil Plante then spoke about keeping the mirror and how it was nearly completed in 1999 for minimal costs (Contraves Corp.) The 50" was part of a long term plan for a second MVAS site. Attempts to buy this land also failed in 1999. Most of the ideas and plans were in a PDF document he posted a few days earlier so that members could see what had been going on with the 50" the last 12 years or so. Bill Prewitt countered with the fact that 40" blank, to curve, could be bought for \$3,000. It would be thinner and lighter making optical work and a mount for it easier to manage.

There was a debate about taking a vote this night. Jodi and others wanted to delay the vote until the July meeting to allow time to explore options. Joe Capello suggested a mail-in ballot be used to give more members the chance to vote. Mark Baker noted that a special meeting could be called for this. He also noted that some members don't get email and may not be aware of what has been going on. Harry pointed out that we had a quorum (by the Constitution) on hand and that these were the most active members, in any case. The consensus was that we should not delay this 30 year old decision any longer. Bob Danko moved that we sell the mirror to the Columbus offer for \$5,000, which was seconded by Bill Pearce. There was a discussion on the selling price and that we may not be getting the most we could. Phil Plante wanted to amend the sell motion to stipulate that any and all proceeds go towards a land purchase. This was tabled until after the sell/keep vote was taken. A hand vote was taken; 15 yeas and 6 nays. The 50" mirror will be sold to the Columbus group.

With the sale now confirmed, Plante moved that all proceeds from the sale be used only for land acquisition. Bill Pearce seconded the motion. Phil pointed out that we can't continue to spend-away our future on new toys. We had \$10,000 set aside specifically for land, but half was spent on other things (12" building was part of it). Dave Ruck reminded us that when the MVCO site was for sale (1998) there was a good chance we would lose the site. It was an unsettling time and we had to look for land as a fall-back position at that time. It has also been a long standing wish for the MVAS to have another, darker site, while keeping the MVCO as home base. Rosemary wanted to be assured that this was not a motion to purchase land immediately. She also reminded us that there would be real estate taxes and other costs in owning land. Mark Baker noted that with the current downturn in real-estate prices, this may be a good time to start looking for land. Greg Higgins moved to amend the land use motion, to allow use of some of the 50" proceeds for constructing a house for Titan. The President thought there was enough cash in the general fund to cover this expense. There was no second to the amendment.

A vote to restrict use of 50" proceeds for land purchase only was taken by a hand count: 17 yeas, 4 nays. The 50" proceeds will be used to purchase land (re-establish the OAD Fund). Tony Mehle recommended the 50" payment be made by cash or bank note. This had already been decided on. Harry said he would have his sister, a real-estate agent, begin looking for possible sites. Jodi asked that we make some type of deal with the purchaser of the 50", in we be allowed to have a look through the completed scope.

GOOD OF THE SOCIETY: Steve received the insurance bill from the Cincinnati based carrier (Holloway) and it is up \$25 from last year (\$275 now). He also had order forms for the Astronomy Magazine 2011 Calendars for \$6.50 each. Start your Christmas planning.

VISUAL REPORTS: There were reports of Comet McNaught in the morning sky. Bob saw it with binoculars. Jodi and Roy saw it with their 25". Bob and Larry had a good night on the 8" the previous Wednesday. Deep sky, planets and double stars. The bridge in M-51 was seen. Phil Plante got 6 variable stars thus far in June. He also did some MVAS homework.

ADJOURNMENT: Adjournment came at 9:27 PM. We thank our hosts Keith Janeco for the pizza and snacks. Members watched the DVD of the 72" mirror work. The next meeting will be at the MVCO on July 31, 2010. The meeting begins at 8:00 PM. Scheduled hosts is Greg Higgins. **PASSWORD:** name an Apollo astronaut.
-minutes by Phil Plante

MVAS ACTIVITIES

During May and early June the 16" building foundation repair was completed. It included installation of spouting, drain pipe and concrete repair to the foundation. A new "back porch" was poured. The back windows were removed and blocked in with cement blocks by the contractor. What follows is a listing of the expenses, so far. No paint or primer are included. The whole outside (and inside) of the building will be done. So this expense might not really count towards the repair costs. Invariably, someone will want to know how much the repairs cost, so if you need to know, here it is:

Ck# 2700	drain box *	\$ 45.00
Ck# 2719	gutters	377.75
Ck# 2722	corrugated pipe	50.26
Ck# 2723	spouting	152.19
Ck# 2724	Corrugated pipe fittings	14.98
Ck# 2726	contractor	2,000.00
Ck# 2727	concrete/block exchange	346.21
Ck# 2728	contractor	<u>1,800.00</u>
	Costs of 16" Bld. repairs	\$ 4,786.39

* not used.

From the former 50" Committee Chair: As you know, the 50" mirror blank was put up for sale. At the June meeting, the membership decided to unload the mirror for \$5,000. Thus, an era comes to and end. Like the 25" mirror, the 50" mirror was a sore spot for many over the last 40 years. Some didn't want it while others saw the dream Merle Cook once had. The mirror once came close to being finished for practically nothing. Close-but no cigar. We hope the proceeds from the sale will help us achieve another long standing desire; an MVAS dark sky site. A place where we'd no longer have to deal with park boards or public areas. A private dark sky site that a member could set up at. Meanwhile, we can only wish the best of luck to the new owner of the 50". Regardless of how you feel about the mirror, it was a major part of our history. Starting long before most of us were around. It would be great to see an MVAS legacy project be completed, by those willing to tackle this big project. Maybe someday, we can look through it. -P. Plante

MVAS REMINDERS

The **MVAS OTAA** will be soon upon us and all are urged to kick in a few items for door prizes. We are known for our door prizes and for the food we have on hand. Let's do our best not to disappoint our friends and guests from the OTAA. At the July meeting we will assign work duties. Please consider a job you'd to do. We'll need helpers for: setting up tables & chairs, take registration. Lay out the electric line. Parking attendants, coffee maker, telescope attendants for the 8", 8" SCT, 10" SCT(?), 12",

16"(?), and 25" - hopefully set-up in the yard. We need a Master of Ceremonies. A speaker? Night watch and clean-up patrols. And all this is actually fun!

We have the **YSU Festival of Arts July 10 and 11**. All you need do is show up. YSU will have solar scopes there. You will be stationed outside the planetarium, where you can duck-in to cool down, get a drink, etc. There will be plenty of food vendors at the event. Anyone wearing an MVAS shirt gets half off a regular ice at the Rita'a booth. It is unknown if any clowns will be near the telescopes. But then again we may show up.

Also on **July 10th, honorary member Chris Stephan** will visit the MVCO to give a PowerPoint presentation he gave to the AAVSO last summer. Starts at 8:00 PM. PowerPoint Viewer has been installed on the computer at the MVCO and we will use the 42" screen monitor to watch the presentation. A typical MVAS BBQ is in order so bring the supplies you want to cook/share with others. If you wish for something different, try the Cuyahoga OTAA that same night. All OTAA events are pleasant times with fellow astronomers and a variety of scopes to look through. Let's hope for clear skies wherever you are that night.

A week later on July 17, we have the second **Scenic Vista Public Star Party** in 2010. Rockets are expected to fly in the afternoon, with an ongoing picnic (usual mode of operation). Hope to see you there. Bring telescopes and binoculars.

Some other OTAA club events to note:

JUL 10, 6:00 PM Cuyahoga Astronomical Association (CAA) 2010 OTAA Convention. **This will take place at the Lake Erie Nature and Science Center. Located at 28728 Wolf Road, Cleveland, OH 44140-1350.** To get Directions, call (440) 871-2900. Letha House Park of the Medina County Park System is still under renovations. They hope to return their OTAA convention to Letha House next year. Check the website for info about this year's event.

Featured Speaker: Stellar formation will be the topic addressed by Adjunct Prof. Steve Kosztya, in his presentation "A Star is Born." He teaches theoretical astronomy, chemistry, physics, and materials science in the Physics & Astronomy Department at Baldwin-Wallace College. Kosztya, who also teaches at the University of Akron, has experience in radio astronomy at The National Radio Astronomy Observatory in Green Bank, West Virginia.

- Registration and social activities: 1:00 - 3:00. Also register for door prizes!
- At 3 PM "Globular Clusters" will be discussed by CAA member and past vice-president Bruce Lane in our convention meeting room.
- Door Prize Drawing: 4:00 PM. Over \$800 worth of prizes to lucky winners.
- Potluck Dinner will start at 5:00 PM. Bring a favorite dish to share. The Club will provide hot dogs, fixings and paper products.
- Featured Speaker: At 7 PM. Prof. Steve Kosztya, "A Star is Born" in the planetarium.
- Star Party: Wolf Picnic Ground, the large open playing field adjacent to the center, will be reserved for a star party starting at 8 PM, weather permitting. Paved parking is available on both sides of the playing field.

http://www.cuyastro.org/2010_convention.html

AUG 14, 8-11PM Chagrin Valley Astronomical Society (CVAS) Annual Super Star Party at Penitentiary Glen. Presented by Lake Metroparks and CVAS. *Pre-registration required*.
<http://www.lakemetroparks.com/programs/SuperStarParty.shtml>

MVAS Homework:

Discovered by Philippe Loys de Chéseaux in 1745-46. M-17 is one of only six "nebulae properly so called" in his catalog. De Chéseaux's discovery wasn't known, thus Charles Messier independently rediscovered it and cataloged it on June 3, 1764. The Omega Nebula (M17, NGC 6618), is also called the Swan Nebula, or the Horseshoe Nebula. In the southern hemisphere, it is often called the **Lobster Nebula**. M-17 is a region of star formation and shines by ionized gas emission, produced by high energy radiation emitted from young stars. Unlike other emission nebulae, the stars are hidden in the nebula. A small cluster of about 35 bright stars seems to be hidden in the nebulosity. They are not very obvious in visible light images.

The photographic color of the Omega Nebula is reddish, with some gradations to pink. This color comes from hot hydrogen gas, excited by the youngest and hottest stars which have just formed. However, the brightest nebular region is actually white in color. Not just an overexposed image, as one might think. This white color seems to stem from of a mixture of the emission light, mixed with reflections of the bright starlight off of the dust in the region. The nebula contains a large amount of dark obscuring material. This gives it the characteristic "2" or Swan shape appearance. This dark dust has been heated by the hidden young stars, and shines brightly in infrared light.

The mass of the gas has been estimated to be about 800 times that of the Sun, enough for forming a conspicuous cluster. This is a good deal more mass than that of the Orion nebula, M42. While the bright nebula seems to be roughly 15 light years in extension, the total gaseous cloud, including dark dusty material, seems to extend to at least 40 light years. Distance estimates vary, but modern values are between 5,000 and 6,000 light years. A little closer than its apparent neighbor, M16. These two star forming regions are likely close together, in the same spiral arm (the Sagittarius or Sagittarius-Carina arm) of the Milky Way. Perhaps part of the same giant system of cosmic interstellar dust.

It is easy locate in a finder under dark skies. Pump up the magnification as high as practical. About 200x should allow you detect the fainter details in the bright portion. Bad seeing usually won't detract from nebula views. M-17 is one nebula that seems to handle the use of light pollution filters rather well. Like M-42, the nebula's contrast with the sky background is improved. Try an UHC or OIII filter for best results. Bigger scopes are recommended as well. Be patient and spend some time enjoying the view. Wait for those moments of steady seeing, much like planetary or double star viewing. Memorize those fine details in the bright and dark parts. Include them in your homework sketch. Build-up an image in graphite, over time, like a CCD chip. Use your shoulder-top computer for some image processing. A pencil instead of a mouse.

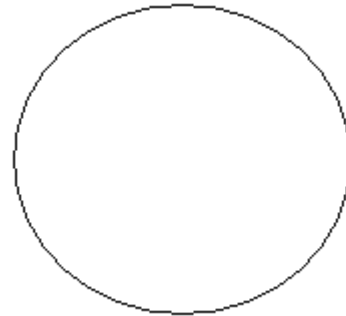
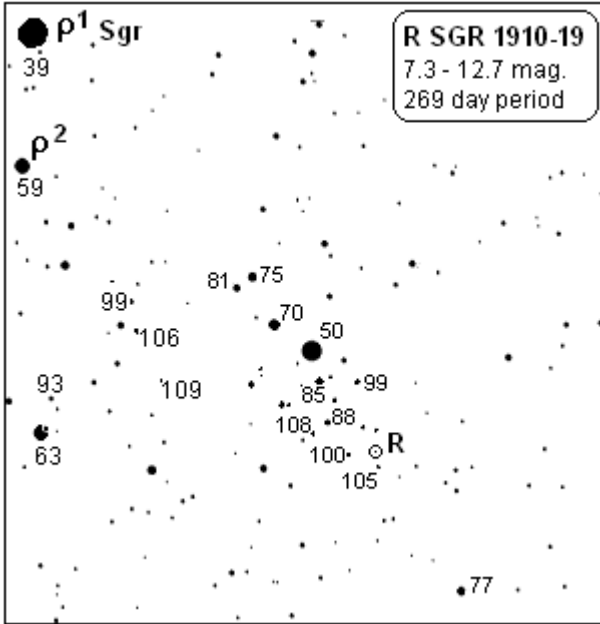
MVAS OBSERVER CHARTS

MVAS OBSERVATIONS - DUE AUGUST 2010

Variable star of the month: **R Saggiarii** (*abbrev.*: R Sgr). Located southwest of rho Sagittarius, R Sgr will be on the rise during July and August. Heading for maximum light around September 2nd. It usually peaks around 7.3 magnitude but variables do waver a bit in meeting predictions. That's a reason to monitor them! Start by learning the field in July; when do you first pick it up with binoculars? Watch it grow brighter. By September, you should be a pro at it!

OBSERVER _____

Featured object: M-17 . Please try a sketch. Combine all the image information you gather with your brain, using various magnifications and nebula filters. Place stars as accurately as you can, first. These will be your reference points for drawing outlines of the nebula itself. Smudge with finger, as needed.



M-17 Observation:

Date: _____ Time(EDT) _____ Scope _____

R SGR magnitude estimates:

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

_____	_____	_____	_____
_____	_____	_____	_____

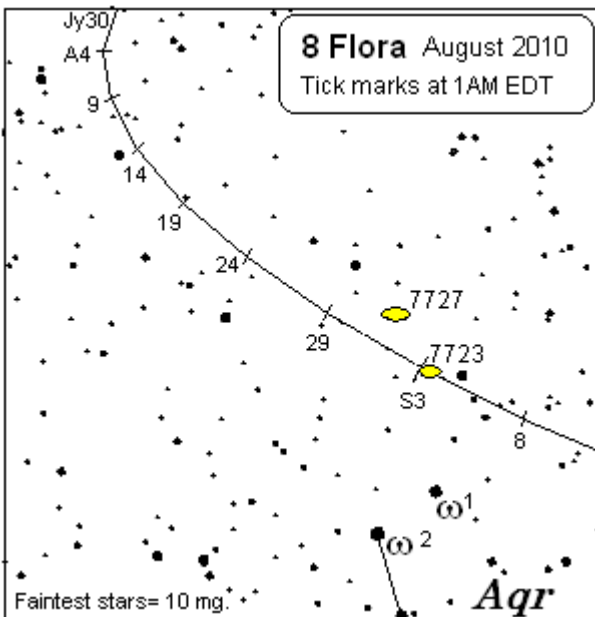
(8) Flora Observations:

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

_____	_____	_____	_____
_____	_____	_____	_____

Asteroid of the month: **(8) Flora**. Looking ahead into August, we'll track down an early morning asteroid in (8) Flora. It will slowly gain in brightness from 9.2 to 8.4 magnitude during the month. Becoming easier for binocular sightings. As September starts, it approaches two 11.5 magnitude galaxies. It passes really close to NGC 7723 around the 3-4th of Sep.

Other Objects in Sagittarius to observe



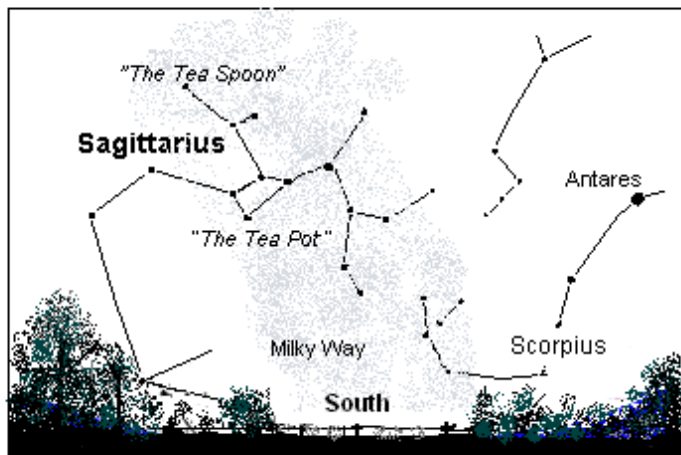
Object	Date	Scope	Object	Date	Scope	Split?
M- 8	_____	_____	μ Sgr	_____	_____	SEP. 16.8" Y / N
M- 22	_____	_____	21 Sgr	_____	_____	1.5" Y / N
M- 24	_____	_____	54 Sgr	_____	_____	44.7" Y / N

Lunar Occultations (see Sky Almanac):

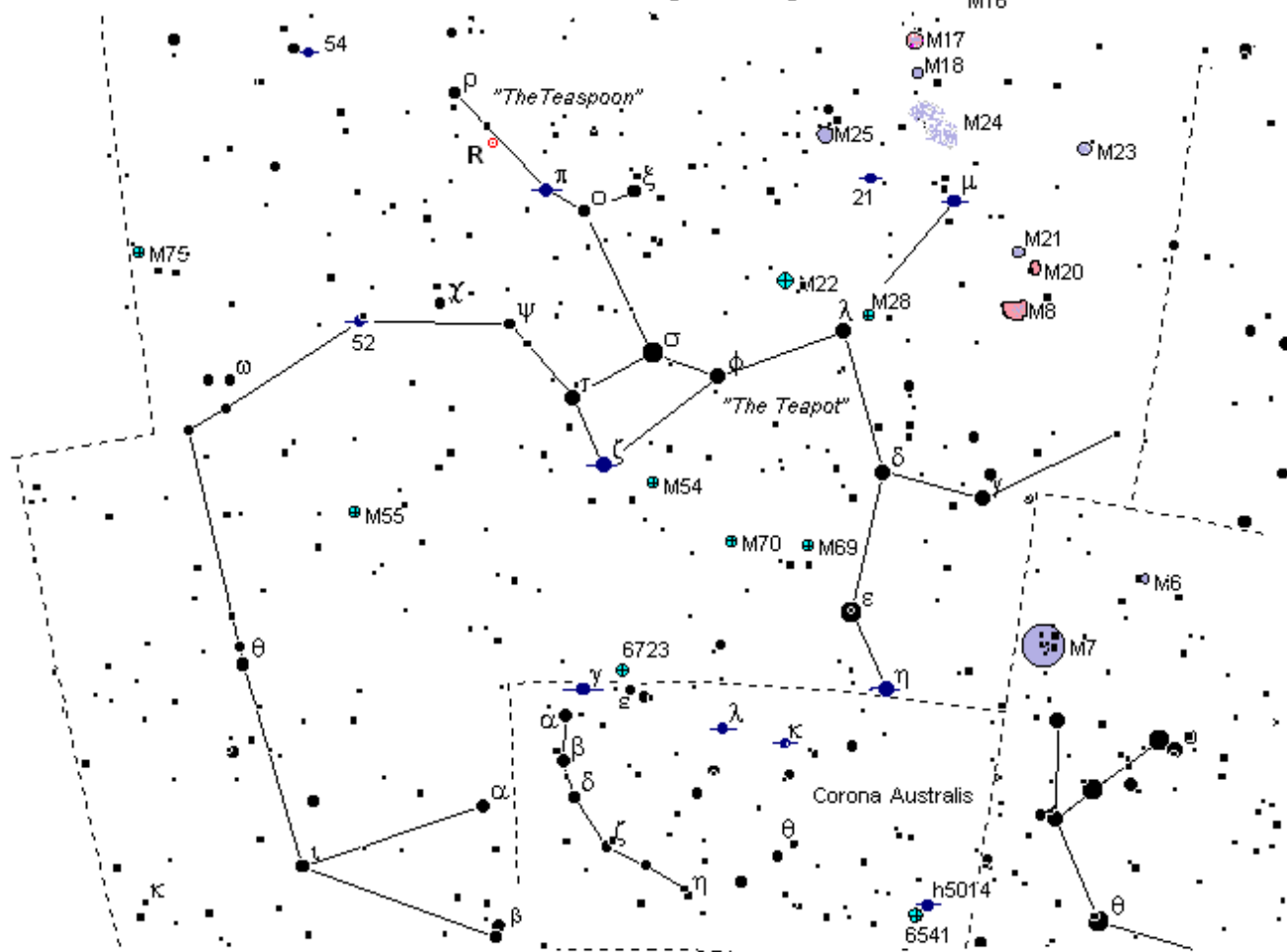
Date (UT): _____ Time(UT): _____ Scope/magx Phenom (circle)

_____	_____	_____	_____x	R	D
_____	_____	_____	_____x	R	D
_____	_____	_____	_____x	R	D

Constellation of the Month — Sagittarius



By the end of July, Sagittarius is south by 11PM. It is highest in the sky now. And this is the best time of night to observe this constellation. As July/August progress, the day's heat and haze linger and often spoil the earlier evening views of the deep sky stuff. These night-mornings can still be cool and haze free. And there is a treasure trove of M-objects to be found in Sagittarius. Just sweep along the Milky Way if you are lucky to be in a dark sky site. Even with binoculars or a finder scope, they will stand out, calling for closer inspection with a telescope. Sagittarius is an archer, but many see it as a Teapot. It's easy to make out the spout, handle, and teapot. The Milky Way serves as the steam coming out of the spout. In the steam, you'll find favorites like The Lagoon (M8). Trifid (M20), The Horseshoe (M17). And M16 in Serpens. The Great Star Cloud (M24) and one of the finest globulars- M22. Indulge yourself with the tea steam- and perhaps a glass of iced tea, to keep you going on a warm night with Sagittarius.



DEEP SKY				mag.	size	type	Check list		Instruments used: _____ on _____ _____ on _____ _____ on _____ _____ on _____
mag.	size	type	"name"						
M8	--	50' x 40'	Neb. "Lagoon"	M23	5.5	27'	Open Cluster	_____ M8	_____ M23
M16	6.0	6'	Open Cl. "Eagle"	M24	--	95' x 35'	star cloud	_____ M16	_____ M24
M17	--	11' x 6'	Neb. "Omega Neb"	M25	4.6	32'	Open Cluster	_____ M17	_____ M25
M18	6.9	9'	Open Cluster	M28	6.9	10'	Globular Cluster	_____ M18	_____ M28
M20	--	17' x 12'	Neb. "Trifid Neb."	M54	7.7	12'	Globular Cluster	_____ M20	_____ M54
M21	5.9	13'	Open Cluster	M55	6.3	19'	Globular Cluster	_____ M21	_____ M55
M22	5.2	33'	Globular	M69	7.7	10'	Globular Cluster	_____ M22	_____ M69
				M70	7.8	8'	Globular Cluster		_____ M70
				M75	8.6	7'	Globular Cluster		_____ M75

Solar and Lunar (EDT).

Date	Sunset	Moonrise	Moonset
1	8 : 41	11 : 21P	x : xx
5	8 : 36	1 : 14A	x : xx
9	8 : 31	5 : 47A	x : xx
13	8 : 26	x : xx	10 : 07P
17	8 : 20	x : xx	12 : 45A
21	8 : 14	x : xx	3 : 37A
25	8 : 08	8 : 15P	x : xx
29	8 : 02	9 : 54P	x : xx

PLANET WATCH

VENUS	JUPITER	NEPTUNE
Sets	Rises	Transits
10:33P	10:53P	2:46A
10:25P	10:37P	2:29A
10:17P	10:21P	2:13A
10:08P	10:05P	1:57A
10:00P	9:48P	1:41A
9:51P	9:32P	1:25A
9:41P	9:15P	1:09A
9:32P	8:59P	12:53A

August 2010

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 2010 (8) Flora

Date	Rises	RA		Alt.	Azm	Magnitude
		hr.	min			
		Dec.				
		topocentric				
1	10 : 59 PM	23	50.0	20°	122°	9.2
7	10 : 38 PM	23	50.7	23	127	9.0
13	10 : 16 PM	23	50.2	26	133	8.9
19	9 : 54 PM	23	48.6	29	139	8.7
25	9 : 31 PM	23	45.9	31	146	8.5
31	9 : 07 PM	23	42.1	33	154	8.4

Celestial Highlights

4	1.0	LAST QUARTER MOON
6	23.0	Mercury elong. E 27°
10	3.0	Triton 15" N. of Neptune
10	4.1	NEW MOON
13	6.0	Perseid meteors
15	2.0	Sgr. Milky Way on CM
15	4.0	Cyg. Milky Way at zenith
16	18.2	FIRST QUARTER MOON
19	6.0	Venus elong. E 46°
20	10.0	Neptune at opposition
24	17.1	FULL MOON

Variable Star of the Month: **R SGR** 7.3 - 12.7mag 269 day period

LUNAR OCCULTATIONS FOR: AUGUST 2010

Civil (24hr) EDT			UT			Moon			Star	Star	event	dbl./			
date	hr	min	sec	date	hr	min	sec	Ph	% illum.	alt	azimuth	name	Mag.	PA	sep.
3	2	53	21	3	06	53	21	R	49-	31°	92°	ZC 375	6.8	177°	0.100"
4	5	12	11	4	09	12	11	R	39-	17	75	ZC 493	6.9	291°	NA
5	5	16	38	5	09	16	38	R	28-	41	93	SAO 76621	8.5	262°	NA
16	23	14	35	17	03	14	35	D	54+	6	231	42 Lib	5.0	53°	NA
20	22	59	50	21	02	59	50	D	89+	26	183	ZC 2822	5.6	112°	NA
27	1	43	34	27	05	43	34	R	94-	50	150	ZC 3524	6.9	305°	0.35"
28	1	44	00	28	05	44	00	R	89-	49	133	ZC 89	6.5	254°	0.100"
31	3	21	40	31	07	21	40	R	64-	52	109	SAO 75768	7.6	260°	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 western limb to watch for a reappearance.

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

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

GALLERY.....

June's (mostly) Sky Events.



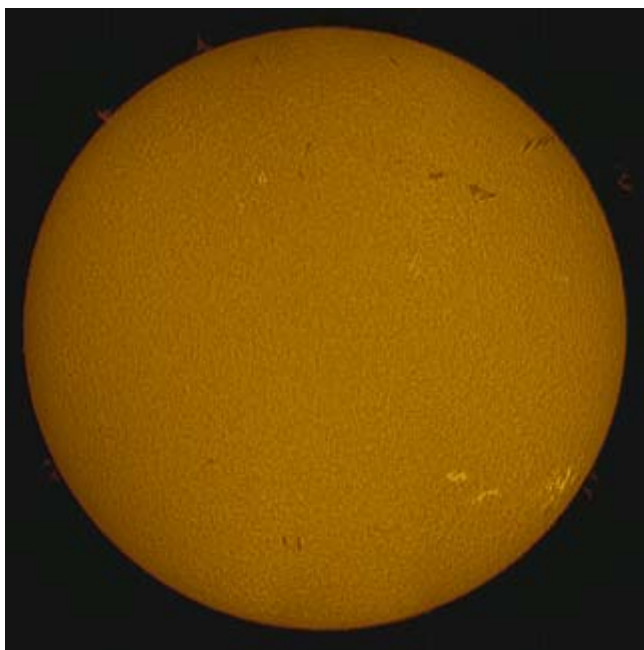
--Photos by the McCullough's

Here they have Jupiter in the early morning sky of May 30, 2010. Note that the South Equatorial Belt (SEB) is missing. Most likely covered by higher altitude ammonia ice

crystals. This disappearance seems to usually follow a rapid retrograde movement of the GRS. SEB fading happens on occasion, sometimes becoming just a bit transparent. At least 19 major fadings have been recorded to date. The SEB returns with the eruption of a "SEB Disturbance". Usually these form dark disturbances in the belt. Or serve as the beginning of the SEB return. One major SEB disappearance came in 1990. By April of 1993, an SEB eruption was spotted by the late ALPO observer José Olivarez, using a D&G 12" refractor. During the summer, keep an eye on Jupiter for the return of the SEB. If it does- look for dark spots to pop up in the SEBZ (zone), gradually merging into a belt. Note that the darkness of the GRS is usually inverse to the darkness of the SEB.



Jupiter has been keeping company with Uranus. (Jokes on your own please). Uranus is about 1/3 the size of Jupiter (diameter-wise). It is also about 4 times further away. The moons of Jupiter are in the same diameter range as our Moon.



On June 6, (and a few other days), Roy was busy catching the burgeoning solar activity in Hydrogen-alpha light. He posted this image along with close-ups of the prominences along the limb. For those not familiar, the dark lines on the disk are called filaments. Prominences seen against the hotter and brighter photosphere. The white patches are faculae. Often seen in white light images, these are higher temperature areas in the photosphere that usually precede sunspot formation- in the same location; or else they can linger for weeks after the sunspots fade away.



Jodi and Roy caught fleeting glimpses of Comet McNaught in mid-June. Most failed in just getting a visual sighting. They however worked their magic and obtained images! This was posted to the group on June 18. Note the two tails. The long ion tail is forced away from the Sun. The solar wind interacts and energizes the ions via electrical and magnetic forces. The shorter dust tail points back in the direction the comet has moved from. Ion tails are usually bluish in color. Dust tails are yellowish from reflected sunlight. Roy spotted McNaught in their 25" Obsession. The colors were seen, they reported.



This editor's favorite shot for the month. The Lagoon Nebula with Asteroid Ceres appearing as a short streak to center-right. Nice photo of M-8 and of the globular NGC6544 in the lower left corner. All in all, a very good month for Jodi and Roy. We thank them for sharing these great images.

Old Digs....

During the 16" building repair this past May- early June, there was a discovery of sorts made during the dig around the foundation. A rusted portion of a beer can was found. Big deal, you say. Well... when they built the building in 1961, the work crew Bernie had on hand would get rid of their empties by dropping them down into the blocks they just laid. So that was the story we've been told all these years. It's true. No one can say who drank this can. But we know it was a can of Duquesne, a beer produced in Pittsburgh. Allen Heasley tells us that the company folded soon after the building was done. It would've been nice to have a toast to the 16" building with a can of it, but that is not the "case". Another brand will have to do. As long as it's cold, I see no problems! We'll just have to use a Hefty bag for disposal. This remnant from the past will be displayed somehow. The can sealed in resin of some sort. I wonder if the crew ever considered these cans would be seen again. I wonder if they believed MVAS would still be observing there 50 years later. It's the ghosts of bricklayers past.
-Plante



-Photo courtesy of Tony Mehle