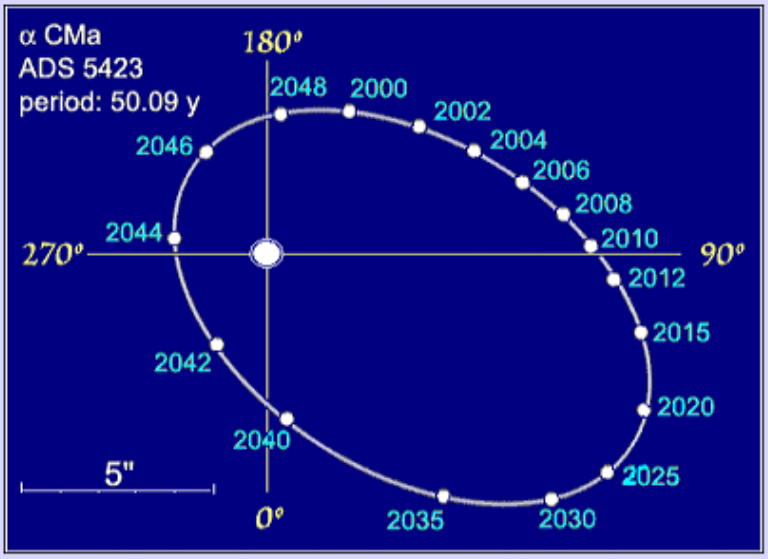
THE METEORITE



Sirius

"The Dog Star"

Newsletter of the Mahoning Valley Astronomical Society, Inc.

IN THIS ISSUE:

FEBRUARY 2014

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

THE METEORITE

Newsletter of the Mahoning Valley Astronomical Society, Inc.

FEBRUARY 2014

MVAS CALENDAR

FEB 22	Business meeting at YSU. After 8:00 PM show. **ATTEND the spectroscopy lecture at 7:00 PM**
MAR 1	Public Night at Mill Creek Farm. 7:00 PM
MAR 22	Bino-Blast at the MVCO, 7:00 PM
MAR 29	Business meeting at YSU. After 8:00 PM show.

NATIONAL & REGIONAL EVENTS

Feb 23-Mar 2 **Winter Star Party 2014.** Held at Camp Wesumkee Girl Scout Camp located on Scout Key between Marathon and Big Pine Key. There is an on-site caterer. The camp has both men and women's bathhouses, and an air-conditioned room for daytime talks. http://www.scas.org/winterstarparty.htm

MAR 8 **Wagemen Winterfest.** Held at Deer Lakes Park, Tarentum, PA, Allegheny County. Star party at Wageman Observatory. Date to be announced http://www.3ap.org/

MAR 26-29 **Mid-South Star Gaze & Astronomy Conference.** Held at the Rainwater Observatory & Planetarium, French Camp, Mississippi. It is held under one of the darkest skies in the southeastern United States and just off the beautiful Natchez Trace Parkway near the village of French Camp, Mississippi. http://www.rainwaterobservatory.org/rainwater/

MVAS, P.O. BOX 564 NEWTON FALLS, OH 44444-9998

MVAS Homepage- http://mvobservatory.com

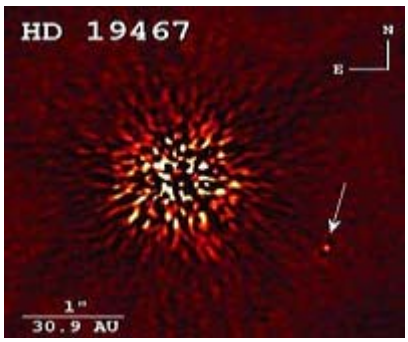
NEWS NOTES

In Memoriam: John Dobson (1915 - 2014)

It is with heavy hearts that we must report the passing of John Dobson. He died peacefully this morning, Wednesday, January 15th, in Burbank, California. He was 98 years old. He leaves behind a son, numerous close friends, and fans and admirers worldwide. On March 8th, in honor of John, this year's ISAN (International Sidewalk Astronomy Night) will be dedicated to his memory. Amateur astronomers around the globe can join in and celebrate John's life and continue to carry the torch that he lit back in 1968 when he co-founded the San Francisco Sidewalk Astronomers. *-From the Sidewalk Astronomers website.*

A New Beacon. A surprise supernova has erupted in M82, the irregular galaxy in Ursa Major. Observers were reporting it to be around magnitude 10.8 as of Sunday, January 26th, with a color on the orange side of white. An early spectrum by astronomers at Caltech on Jan 22nd suggested that it was still two weeks away from reaching its peak brightness. Spectra show it to be a Type Ia supernova — an exploded white dwarf. The supernova went undiscovered for a week as it brightened. Prediscovery unfiltered CCD images by K. Itagaki of Yamagata, Japan, show nothing at its location to as faint as magnitude 17.0 through January 14.5. By January 15.57 is was at magnitude 14.4. The actual explosion seems to have occurred late on January 14th or early on the 15th UT. It received the name SN 2014J once its nature was confirmed. It originally went by the preliminary designation PSN J09554214+6940260. *-from Sky & Tel*

Brown Dwarf imaged. A team of researchers led by Justin R. Crepp, the Freimann Assistant Professor of Physics at the University of Notre Dame, has directly imaged a very rare type of brown dwarf that can serve as a benchmark for studying objects with masses that lie between stars and planets. Precise radial velocity measurements were obtained using the HIRES instrument installed on the 10-meter, Keck I telescope. The observations, which span 17 years starting from 1996, showed a long-term acceleration, indicating that a low-mass companion was "tugging" on the parent star. Follow-up high-contrast imaging observations were then taken in 2012 using the NIRC2 instrument on the Keck II telescope- with adaptive optics. This reveled the companion brown dwarf. Understanding brown dwarfs, such as HD 19467 B, could lead to a fuller understanding of exoplanets. This image provides a step towards directly imaging and acquiring the spectrum of Earth-like planets. From the spectrum of an exoplanet, we should be able to tell what the planet is made of, what its mass is, radius, age, etc.



- from SpaceDaily: Image courtesy Crepp Et Al. 2014, APJ.

MINUTES OF THE JANUARY MEETING

JANUARY 25, 2014 at YSU

A cold, blustery day kept most away. Snow fall made travel difficult for those members in outlying communities. The scheduled 7:00 PM Spectroscopy talk was postponed until the February meeting. A couple from Warren showed up to hear the talk but was not aware that the lecture had been cancelled for the night. They planned to attend the back-up night. Still, thirteen MVAS members arrived at YSU along with nearly 20 members from the public. Several younger students and two youngsters were in the crowd. The show began with Sharon discussing light and colors. The featured program was "Footsteps". A great show describing the historical quest in reaching the Moon. After that, Sharon used the star projector for a sky tour of winter constellations and planets. Nicely done.

At 9:09 PM the meeting was called to order by President Lou DiNardo. The President, Treasurer and Secretary were present. Other Trustees were absent. Roll Call was taken and revealed thirteen members present. This met the required quorum of 10 members needed to conduct official business (voting). Guests included Virginia Bartos and Aiden Rogers. The reading of the Minutes was suspended. Minutes accepted on a motion from Mike Heim with a second from Larry Plante. All in favor.

TREASURER'S REPORT: Treasurer Steve Bartos read the activity for the month of December 2013. On a motion by Karin DiNardo to accept the Report and a second by Bob McCully, the Report was adopted by a unanimous vote.

General Fund	**12/1 thru 12/31 2013**	
OPENING BALANCE:	$	8,656.99
CLOSING BALANCE:	$	9,504.84
AVAILABLE FUNDS (NON-RESERVED):	$	5,275.72
ACCOUNT NET GAIN/LOSS FOR THIS PERIOD:	$	+ 847.85
INCOME:		
DUES	$	590.00
CHRISTMAS PARTY (DINNER PAYMENTS)		320.00
ASTRONOMY CALENDARS (SALES)		60.00
MVAS MERCHANDISE (SALES)		57.00
INTEREST		0.15
TOTAL INCOME	$	1027.15
EXPENSES:		
CK# 2802 COPIES AND POSTAGE FOR METEORITE	$	179.30
TOTAL EXPENSES	$	275.00
Reserved Funds		
OBERVATORY ACQUISITION & DEVELOPMENT FUND	$	3,914.12
MVCO KEY DEPOSITS		285.00
SUNSHINE FUND		30.00
TOTAL RESERVED FUNDS	**$**	**4,229.12**

2014 Membership dues paid *A. Avent, M. Baker, S. Bartos, M. Dimoff, L. & K. DiNardo, D. Durbin, E. Eaken, H. Harker, M. Hoffman, C. & D.. Iliff, K. Janeco, R. & E. Klesch, T. Mehle, L. Miyashita. Thank you!*

CORRESPONDENCE: Bob Danko sent word that there was no mail at the Post Office Box. He has also paid the rental fee for the next 6 months and would donate this payment. After a brief discussion is was decided to reimburse Bob for this payment. On a motion by Paul Baker and second by Larry Plante the motion was adopted by voice vote. No other correspondence was reported.

COMMITTEE REPORTS: *IMAGING COMMITTEE:* On behalf of committee chair Jodi McCullough, Lou DiNardo pointed out the imaging efforts by the McCullough's in imaging newly discovered SN 2014J in M-82. It is a Type Ia supernova that was currently around 11th magnitude. Easily seen in their images. Great and amazing work guys! *VISUAL COMMITTEE:* No Visual Reports turned in.

OFFICER REPORTS: *OBSERVATORY DIRECTOR:* Larry Plante had gone to the MVCO to pick up the Observer of the Year plaque and inspect the buildings. He noticed that the ceiling panel beneath the vent (to the right of the TV screen) was water logged and damaged. He has removed this. Apparently the plastic bag plug in the vent has failed and water seeped down onto the panel. It appears the roof has no leaks, just water coming down the vent. In an attempt to put a plastic cover over the vent, he found that the 10 ft. ladder was not in the 8" building. It seems that Mike Sprague has it again. The next day he returned with his own ladder for the fix-it up on the vent. Inspecting the roof, he found a soft spot near the SE side of the dome. We will need to look into this and inspect for leaks and water damage to beams or plywood under the soft area.

Further inspection showed no signs of water flow across the 8" building floor, which has been a regular winter event. Thus, everything at the MVCO has stayed dry so far. We'll have to see what the next few months will bring. Getting back to the ladder issue, Larry thinks it is time to purchase another 10 foot ladder so that we have one available. They go for about $200. The main use of the ladder is for observing with Titan, but is very handy for maintenance work. Bob McCully offered an extension ladder he had not used in years, but this would not work at a telescope. With that, Larry moved to purchase a new 10ft step ladder. Paul Baker seconded the motion. The motion passed by a unanimous voice vote.

LIBRARIAN: No report available.

OLD BUSINESS: Details of the March 1st public event at Mill Creek Experimental Farm were revealed. The program will be called March in to the Skies. At the YSU Telescope workshop the preivious weekend, the Mill Creek Program Director met with several MVAS members to go over the program logistics. We will be set-up in the parking lot as far from the street (Rt. 46) as is possible. Lights will be turned off. The plan is to have at least one telescope stay on a specific type of object; galaxy, nebula, planet, cluster, double star. This avoids repeat views for the public and eases the need to find objects for telescope operators. So we need at least 5 telescopes for the event. A warm up room will be available and talks are planned for afterwards (Jodi, Phil). The talks are also the back-up plan in case it is cloudy. Hot chocolate and light snacks (smores?) will be provided by the Park. This is the same place that the Venus Transit event was held. Please consider bringing your scope. We have one more meeting before the event and we can determine scope assignments then.

We have a few openings in the Host list, so please inspect the updated list in the February Meteorite, pick a pot! Let Phil know your intentions! Of course 2014 dues are payable anytime.

NEW BUSINESS: President's Report: Lou DiNardo reported that the four officers have appointed Rosemary Chomos for a second term as Appointed Trustee. Term runs 2014 and 2015. Lou has also kept (appointed) the current O.D., Librarian and Editor. Larry, Rosemary and Phil, respectively. Nest order of business was to have the general membership elect a Trustee. This is a one year term position- for 2014. Candidates were incumbent Dave Ruck and Don Cherry. With the three officers

present recused of the vote, that left ten members available (a quorum) to take this vote. Ballots were provided and the meeting paused for the voting to take place. A tally of the votes showed 6 votes for Don Cherry and 4 votes for Dave Ruck. With that, Don Cherry in the Elected Trustee. Welcome to the team Don. Thank you Dave for your duty as Trustee. It is appreciated. No other New Business was brought up.

GOOD OF THE SOCIETY: Steve had two Astronomy Calendars left ($10 each).

VISUAL REPORTS: Dan Schneider watched a transit on one of Jupiter's moons on December 26th (most likely Io). One morning, Lou DiNardo saw a spectacular show of street lights shining vertical beams of light into the sky. Sometimes called snow pillars, they are caused by horisontal plate crystals of ice. These are similar to pillars seen over a low Sun or Moon. The pillars stunned Lou on how bad light pollution really was. Paul Baker mentioned that government agencies are finding that full cut-off lighting is reducing the number of lamps needed, saving energy and expenses. Phil had 4 variable star estimates in January. No other reports. Clouds be our nemesis.

ADJOURNMENT: Adjournment came at 9:45 PM. We thank our hosts: Phil for the pizza and wings, Larry for the carrot cake, berry pie and other treats, and to Mike for the pop. The next meeting will be at YSU on February 22, 2014. The internet lecture on Spectroscopy will be at 7:00 PM. Meeting begins after the 8:00 PM planetarium show.. Scheduled hosts: Chuck & Debbie Iliff (snack), Ed Eaken (drinks). PASSWORD: Name a lunar crater. *-minutes by Phil Plante*

MVAS REMINDERS

March in to the Sky. March 1, 7:00 p.m. – 10:00 p.m. at the MetroParks Farm in Canfield. Where we held the Venus Transit event in 2012. In the works since December, the MVAS and Mill Creek MetroParks Recreation Department has invited the public to a "star party". MVAS will show off the the beauty of night sky through our telescopes. We are to show galaxies, star clusters, double stars, nebulae and Jupiter that night. The plan is to have to least one telescope dedicated to one of those objects. Examples: NGC-2392 (Clown Face), M-1, M-42, M-45, M-35, 36, 37, 38, M-3, M-51, 66/65, 81/82, γ Leo η Per, h3945 (CMa) Mizar, and Jupiter. This avoids duplicate views and eases the burden of finding objects for the scope operator. **So we need a minimum of five telescopes** there. The observing session will be followed by a brief presentations to discuss and learn about the objects viewed through the telescopes and about April's lunar eclipse. This is also the cloudy night back-up plan. A celestial children's craft activity will be conducted and refreshments will be provided. Presentation and warm-ups will be held inside McMahon Hall. **The address is: 7574 Columbiana-Canfield Rd. Canfield, OH 44406.** Just north of the Fairgrounds. We will be set up in the parking lot. Please make plans to attend.

2014 DUES. As always, it is that time of year to scrounge up some cash for your MVAS 2014 dues payment. Many have paid already and we thank them sincerely. Without such monetary support, the MVAS and MVCO would be in dire straights. We have a looming project ahead with roof repairs. Regular maintenance is always needed. There has been talk of increasing storage capacity for OTAA supplies like tables and chairs. With the 75th Anniversary upon us, we'll need extra funds to support the festivities that are planned. Such as a celebration dinner in October and grand prize. Probably a small telescope. All of these will dig into our account. Thanks in advance for your dues payments.

Hosting. We still have a few openings for host duty this year. The list below reads the usual suspects that volunteer every year. It would be nice to see a few new names on the list. The great thing is that you can share the expense and hassles with another member. Not only dos this provide us with good eats, it also helps build camaraderie within the membership. After all, the last word in our name is "Society". So please team-up, and cover one of the openings. The list is below, check the open dates. Please let Phil Plante know your hosting plans.

HOST LIST FOR 2014

	SNACK	DESSERT	DRINKS
JAN	P. Plante	L. Plante	M. Heim
FEB	C&D Iliff	R. J. Pandian	E. Eaken
MAR	S. Shanks	M. Baker	S. Shanks
APR	E & S Bishop	R. Chomos	P. Plante
MAY	Annual BBQ. Bring BBQ & sides: your own or to share.		
JUN	K. Janeco	L. Plante	P. Plante
JUL	open	P & J Baker	L & K DiNardo
AUG	J. McCullough	R. McCullough	D. Ruck
SEP	D. Schneider	R. Mattuissi	R. Mattuissi
OCT	open	S. Bartos	L & K DiNardo
NOV	open	M. Dimoff	open
DEC	bring covered dish, dessert or entrée. We'll make plans		

Watch COSMOS! More than three decades after the debut of "Cosmos: A Personal Voyage," Carl Sagan's stunning and iconic exploration of the universe, an updated, new version will premier this March. *COSMOS: A SPACETIME ODYSSEY* is hosted by astrophysicist Dr. Neil deGrasse Tyson. Just like the original series, the new COSMOS tells us how we discovered the laws of nature and found our place in the universe. It is the story of our quest for knowledge. From the grandest to the smallest scale. COSMOS is set to premiere on **Sunday, March 9, on FOX** and globally on Monday, March 10, on the National Geographic Channel. Check your local listings.

MVAS ACTIVITIES

Telescope Workshop, January 18th. About nine MVASers showed up at the Ward Beecher Planetarium for this event. We had maybe 30 people total in the planetarium. The usual onslaught of deplorable "telescopes" arrived for a fix-up. About seven at last count. A few were worthy of using but most were nothing more than plastic models of a telescope. Still, to the owners, they had the best scope in the world. That is encouraging in a way, in that they liked their telescope and were still enthusiastic about astronomy. In that light we always use a gentle touch explaining that they can do better. Rather than discourage the budding observer, we fixed things the best we could. Advising low power and lunar observing to get started. Pointing them to proper websites and vendors was a good plan as well. These events are always fun and rewarding. What better way is there to cheer up a cold January day, than to see a thankful smile from someone who just learned how to use their telescope. And that maybe it is the best telescope in the world.

Observer's Notes:

The 8¼ inch Refractor- by Allen Heasley

The glass blanks for the telescope were obtained by John Hoynos in the year 1947. Can you imagine these blanks setting untouched in a cubby hole of the garage of our current observatory for the better part of 20 years? That is exactly what happened, and here is the story why.

John Hoynos was one of the best observers I have ever had the pleasure of observing with. He had knowledge of the geography of the sky second to none. His knowledge of astrology was even better than second to none! He was tops at telling what I will call the "romance" of the constellations. He was a rarity in that he mixed astronomy and astrology (the story telling). I remember one time he was lecturing a group of youngsters from one of the more "backward" schools of Trumbull County, at our observatory. And he was telling the story of the various constellations and he highlighted Orion, the Hunter. After the lecture and before the observing session, he asked if there were any questions. One little African-American boy raised his hand and asked "Did that there hunter have a dog?" And of course he did!

John and I were the very best of friends. I was much younger than he, so he kind of took me under his wing. I first met Jack Draper when I was 14 years old. Jack was almost old enough to have been my Grandfather. There are those who would attest he treated me like a son. We were very close. Jack Draper and John Hoynos were good friends, but they were very different individuals when it came to astronomical studies or their line of interest. John knew telescope making theory. He had read many books on the subject. He had made one 6" reflecting telescope and as far as I know, Jack had helped him with the finishing touches. Jack, on the other hand, had learned telescope making (lens and mirror grinding) the old fashioned way; trial and error and word of mouth. Experience had been his teacher. He had a gift that was given to him by the Creator, like a great artist.

So here I am, a young man who is a great friend of these two great people. And each one of them would tell me, over the years, their thoughts on the 8¼" lens blanks. John kept insisting he was going to grind them someday. And Jack was waiting in the wings, just itching to get his hands on the blanks. Each of these super persons was too proud to take the initiative, to ask the other to cooperate in making a great telescope. The thought of these blanks gathering dust, and the idea of what a great asset this would be to the MVAS, was a great concern to me. Remember, this was in the early 1960's, long before the advent of the huge amateur telescopes that are in use today. This would give the MVAS the largest amateur built telescopes of both types (reflector and refractor) east of the Mississippi River. So with the best interest of all concerned in mind (I hoped!), I conveyed the idea to John that Jack was really dying to grind the 8¼" blanks, and to Jack that John was really dying to have him grind the blanks. And so the 8¼" refractor telescope project was set in motion. To this day I believe the only persons who know of this happening were Bernie Cortese and my wife Bette. As I say, I hope I did the right thing. If not, I guess I can blame it on my youth. Please, never forget that the name of the telescope is "The Hoynos-Draper Refractor."

Another J. D. Most amateur astronomers owe a great debt to John Dobson and his innovations in making affordable and transportable large aperture Newtonian telescopes. In the hey-days of telescope making (1920s to 1970s), large Newtonians usually involved massive, machined, EQ mounts. "Serious" long focal length scopes were usually permanently mounted on a pier. The alt-azimuth mount had been around for centuries. Galileo's Optik Tube was essentially mounted an alt-az mount. But it was always thought these mounts were hard to use, tracking the stars. In the late 70's and into the 80's Dobson utilized inexpensive cardboard Sonotube and plywood to craft alt-azimuth mounted telescopes. He used old war surplus porthole glass, ground and polished into paraboidal mirrors. Often 10 inches in size and bigger. Helping matters was the increased practice of making faster mirrors. These mirrors made the tubes shorter and more manageable to transport and track stars. New eyepiece designs (Nagler, Pretoria) came along with these short focus mirrors as a design point.

Telescope Making (ATM's) enjoyed a re-birth in activity and vendors jumped on the bandwagon with commercial Dobs; in direct competition with the SCT's that became popular in the 70's. But Dobs had more bang for the buck. Since then, amateur astronomy has never been the same. It changed for the better. The Universe opened up. Deep sky observing became the rage. Amateurs could use apertures only the pros had access to before then. Cosmology was revealed. Engineering types soon began to tinker with the design. Looking for that better mouse trap. Many incarnations of the "Dob" have since evolved from Dobson's basic design. We now have open truss designs, thin mirror- ultra-light designs and Go To capability. Titan is certainly based on the Dobsonian design. Without the Dobsonian design, the 25" mirror would still be sitting on a wooden pallet. It was to be a Cassegrain telescope, but its massive steel fork mount was a beast and it eventually disappeared. The John Dobson design saved the 25" mirror from becoming a dust collector. Titan now sits along side an 8" refractor. Curiously, the designer and maker of that 8" scope also had the same initials as Dobson-- J. D. Hmmm? I wonder how Draper would have utilized Dobson's ideas. *-P. Plante*

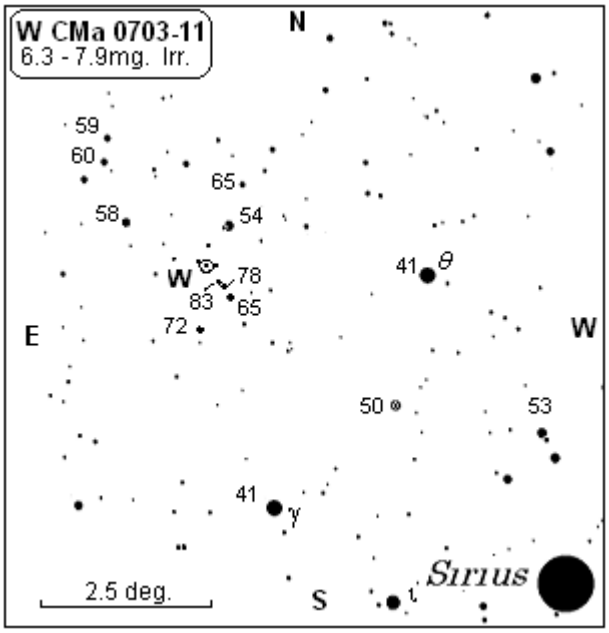
MVAS Homework: M- 41 and Sirius

M-41 was discovered by Giovanni Batista Hodierna before 1654 and was perhaps known to Aristole about 325 BC. M41 lies about four degrees almost exactly south of Sirius. It contains about 100 stars including several red giants. The brightest of them lies near the cluster's center. Can you see it? The actual diameter of the cluster is between 25 and 26 light years. It is estimated to be between 190 and 240 million years old. M-41 is an easy catch in binoculars.

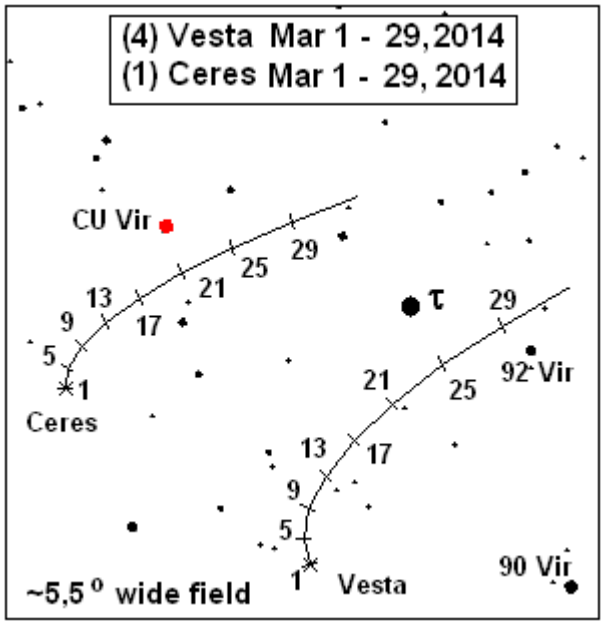
Sirius is a double star and is much more difficult to split than it would seem. Indeed most current observers have not likely split this one. It is now opening up as a pair as it they move along in their 50 year long orbit. Now at a separation of 10.07 arcseconds, it is a much wider pair than in recent years. It will widen a bit more until 2020 and then begin to close-up again. Now is the time to begin your quest to spot the white dwarf companion Sirius B. It lies nearly due east so this should help you find it. Let Sirius A drift out of the field and look for the 8.5 magnitude companion. You'll need very steady skies, clean and aligned optics. This is one for your bucket list. Not the featured Homework object, but one you can do instead of the variable.

MVAS OBSERVER'S CHARTS

Variable of the month: W Canis Majoris (*abbrev:* W CMa). This star is a carbon star with a moderate color index of 2.66. The higher the number, the redder the star. For instance T Lyr has an index of 5.46 and it is the reddest carbon star. W CMa is an easy catch in binoculars. Look for the orange-red star at it's position. It varies irregularly so keep an eyen on it every chance you get out with binoculars or scope. Record your estimates.



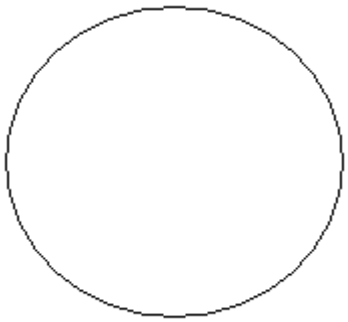
Asteroid of the month: (**4) Vesta.** Ceres will accompany Vesta all this year. We have two asteroids this month. But Vesta is the brighter one, going from 6.6 to 6.0 magnitude. Ceres starts at 7.7 and brightens to 7.2. To give you an idea, the star 90 Vir is at 5.9 mag. while τ Vir is at 4.2 magnitude. The chart limit is 8.6 mag. so both are bright targets in the field. Recently, it has been announced that Ceres has water, perhaps a water vapor atmosphere. It's an early morning binocular hunt. Have at it!



MVAS OBSERVATIONS - DUE MARCH 2014

OBSERVER_____

Featured object: M-41 . Please try a sketch. As with all open clusters, make a quick placement of the brighter stars in proper relationship to each other. Then, take your time and place pencil points for the other cluster stars in relation to those bright stars that serve as your reference. Mark brighter stars with bigger pencil points- like on the variable star chart at left. Have a little fun while you train your eye to pick-up detail; become a better observer in the process. Binocs or scope. Give it a try.



M-41 Observation:

Date:_____ Time(EDT)_____ Scope_____

W CMa magnitude estimates:

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

(4) Vesta Observations:

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

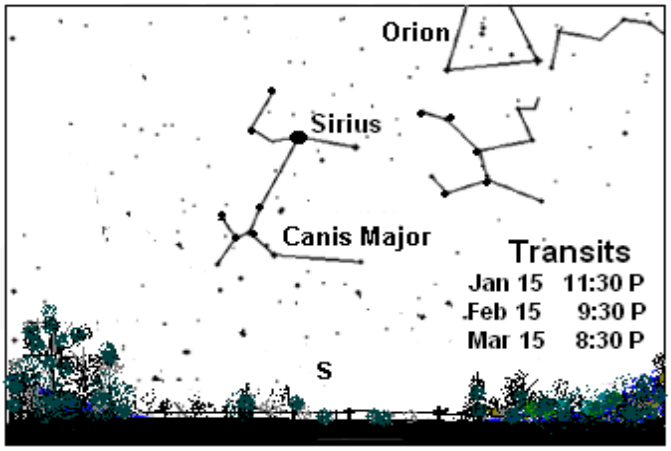
Other Objects in Canis Major to observe

D. Sky	Date	Scope	**Dbl.**	Date	Scope	SEP	MAG	SPLIT?
N- 2354	_____	_____	α CMa	_____	____	10.0"	-1.5 - 8.5	Y / N
N- 2360	_____	_____	ν^1 CMa	_____	____	17.0"	5.7 - 7.7	Y / N
N- 2383	_____	_____	h3945	_____	____	27.0"	4.8 - 5.8	Y / N

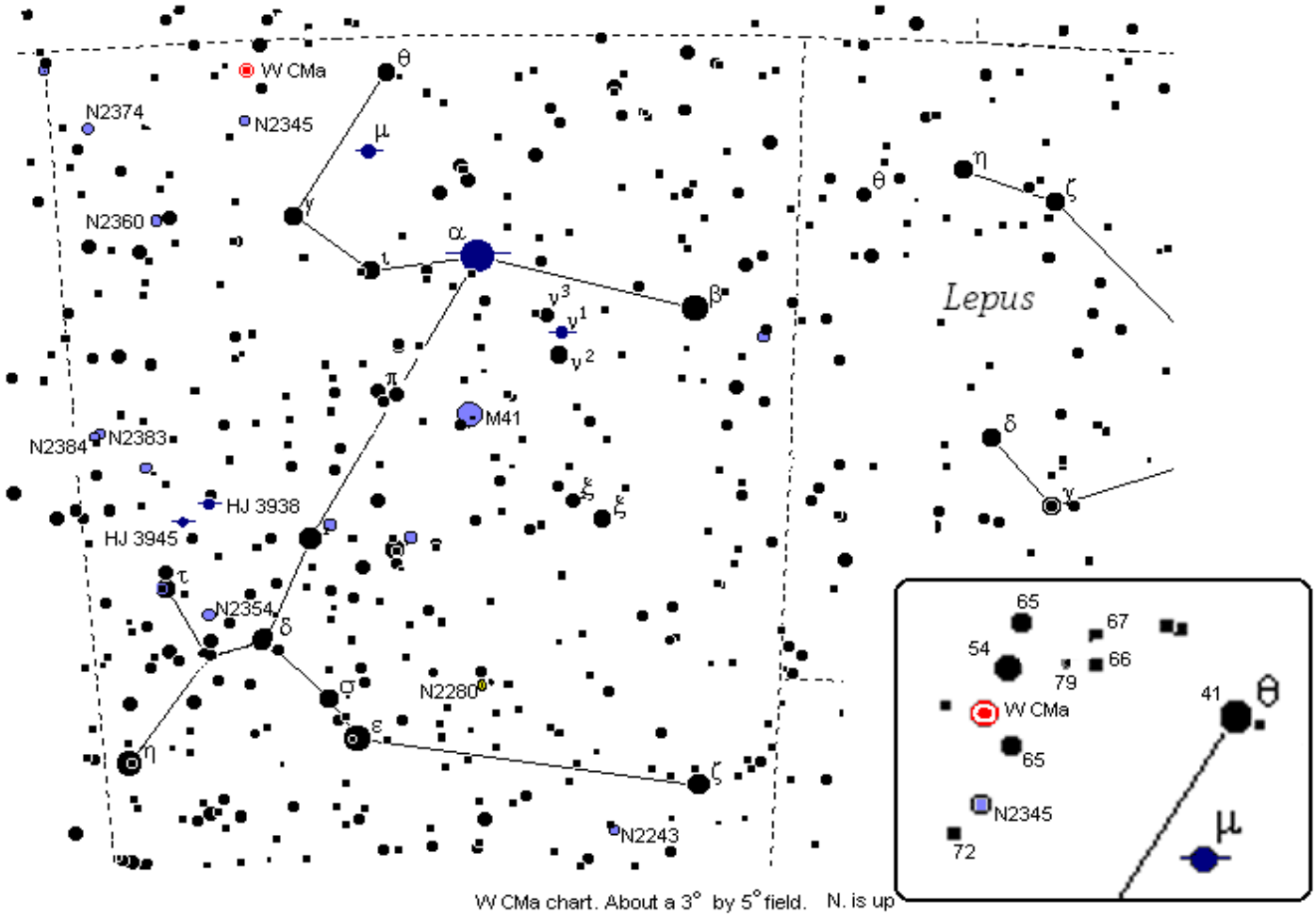
Lunar Occultations (see Sky Almanac):

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

Constellation of the Month — Canis Major



Canis Major is easy to find. Look for Sirius, the brightest star in the sky. You'll find Canis Major (and Sirius) just east of due south around mid-March at 8 pm. Look about 1/3 of the way up from the horizon. From a dark sky site, look for any hint of the winter Mily Way that runs past the constellation on its eastern side. What do your binoculars do for this patch of Milky Way? With binoculars, you should have no problem sweeping up the open cluster M41, below Sirius. M41 is visible from town with binoculars. There are several smaller open clusters that you may detect with binocuars. A telescope will be your best bet for these. With a scope working at moderate magnification, you can try for the double stars listed below. Perhaps the best kept secret is the double star hJ 3945. With striking orange and blue tints, it rivals Alberio in the summer sky. Do take a look. Sirius is a double too but it's a challenge to split for all but the bigger scopes. The glare from the -1.5 mag. primary star overwhelms the faint white dwarf companion glowing at 8.5 mag. With increasing separation over the next decade it may become easier to split. Steady seeing will improve your odds in any case. Over to the east of Sirius is our variable star W CMa. Don't forget to check in on this variable as well.



W CMa chart. About a 3° by 5° field. N. is up

DEEP SKY

	MAG.	SIZE	TYPE	
N2243	9.4	5'	OC	100 stars
N2280	10.9	5' x 3'		Galaxy
N2354	6.5	20'	OC	100 stars
N2360	7.2	12'	OC	80 stars
N2374	8.0	19'	OC	25 stars
N2383	7.4	3'	OC	15 stars
N2384	8.4	5'	OC	40 stars
M 41	4.5	38'	OC	80 stars

STARS

DOUBLES:

HJ 3945	4.8, 6.8	27"	red, / grn-blue
HJ 3938	6.4, 9.1	19"	- - -
ν1	5.7, 7.7	17"	yell./ violet
μ	5.1, 8.1	2.8"	yell. / blue
α (Sirius)	-1.5, 8.5	5.0"	white

VARIABLE STAR:

W CMa 6.3 to 7.9 mag. Irr. period

Check list

____ N2243	____ HJ 3945
____ N2280	____ HJ 3938
____ N2354	____ ν1
____ N2360	____ μ
____ N2374	____ α
____ N2383	
____ N2384	
____ M 41	

Instruments used:

____ on ____

____ on ____

____ on ____

____ on ____

W CMa ____ mag. on ___/___/____

2014 MARCH SKY ALMANAC

Solar and Lunar (EDT).

Date	Sunset		Moonrise		Moonset
1	6 : 15p		— : —		7 : 02p
5	6 : 19		— : —		11 : 30p
9	7 : 24	EDT	— : —	EDT	3 : 13a
13	7 : 28		— : —		5 : 47a
17	7 : 33		8 : 49p		— : —
21	7 : 37		— : —		— : —
25	7 : 41		3 : 43a		— : —
29	7 : 46		6 : 21a		— : —

PLANET WATCH

Jupiter *Transits*	Mars *Rises*	Saturn *Rises*
8:30 PM	9:56 PM	12:11 AM
8:15	9:40	11:55 PM
7:59	9:22	11:39
8:44	10:04	12:23 AM
8:28	9:45	12:07
8:13	9:24	11:46 PM
7:59	9:03	11:30
7:44	8:41	11:13

March 2014

S	M	T	W	T	F	S
						1 ●
2	3	4	5	6	7	8 ☽
9 EDT	10	11	12	13	14	15
16 ○	17	18	19	20	21	22
23	24 ☾	25	26	27	28	29
30 ●	31					

Asteroid for March 2014 (4) Vesta

Date	Rises		RA hr.	RA min	Dec. deg.	at 1:00 AM EDT Alt.	Azm	Magnitude
1	9 : 57 PM		14	59	- 01	21°	112°	6.6
5	9 : 41 PM		14	06	- 01	24	115	6.5
9	10 : 24 PM	EDT	14	06	- 01	27	118	6.4
13	10 : 06 PM		14	05	- 00	30	121	6.3
17	9 : 48 PM		14	04	- 00	33	125	6.3
21	9 : 29 PM		14	02	- 00	36	129	6.2
25	9 : 09 PM		14	00	+ 01	39	133	6.1
29	8 : 50 PM		13	57	+ 01	42	138	6.0

Variable Star of the Month: **W CMA** 6.3 - 7.9 mag irregular period

Celestial Highlights

Date	UT hr	
1	08	**NEW MOON**
5	05	Mars: Solis Lacus on CM
8	13	**FIRST QUARTER**
10	10	Jupiter 5.1° N. of Moon
14	10	Mercury 28° W Elong.
16	17	**FULL MOON**
19	01	Mars 3.2° N. of Moon
21	05	Mars: Syrtis Major on CM
22	21	Venus 47° W. Elong.
24	01	**LAST QUARTER**
25	04	Mars 4.8° N. of Spica
27	07	Venus 3.4° S. of Moon
30	18	**NEW MOON**

LUNAR OCCULTATIONS FOR MARCH 2014

Civil date	hr	min	sec	UT date	hr	min	sec		Ph	Moon % illum.	Moon alt	Moon azimuth	Star name	Star Mg	event PA	dbl./ sep.
6	23	09	02	7	04	09	02		M	36+	13°	282°	XZ 577	6.0	358°	NA
8	19	40	01	9	00	40	01		D	54+	65	209	119 Tau	4.3	120°	NA
8	20	39	23	9	01	39	23		D	55+	58	234	120 Tau	5.7	129°	NA
10	2	17	48	10	06	17	48	EDT	d	65+	17	279	20 Gem	6.9	101°	20.2"
10	0	07	37	11	04	07	37		D	74+	48	247	lam Gem	3.6	114°	.045"
12	3	31	56	12	07	31	56		D	82+	18	273	XZ 1237	6.5	98°	NA
13	0	52	32	13	04	52	32		D	88+	51	229	60 CNC	5.4	90°	.001"
13	2	05	35	13	06	05	35		r	89+	39	248	60 CNC	5.4	317°	.001"
24	5	08	04	24	09	08	04		R	46-	19	139	161582	6.3	307°	69.1"
24	6	45	08	24	10	45	08		R	46-	28	162	XZ 2699	6.8	231°	NA
-1	20	00	00	0	00	00	00									

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°
Occultations 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…..

Building The 8-1/4" Refractor... and its home. Below, Jack Draper begins grinding the lenses. Early 1964.

Below: The 8" is completed. A preliminary set-up at the 1964 OTAA meeting. Draper stands next to the pier. Charlie Prather is standing 3rd to the left ,in light blue shirt.

A new MVAS scope brought the OTAA folks out for the convention.

The steel framework for the 8" building takes shape. Below- the work on building a roll-off roof begins. Draper at left, John Hoynos to the right of Draper. Bernie Cortese is kneeling (white shirt). The concrete pad was poured in early June 1965.

A crane was needed to lift the roof onto the frame-work. Later the steel panels would be attached. Originally used for school bus siding, it fit the job and came a good price. Free.

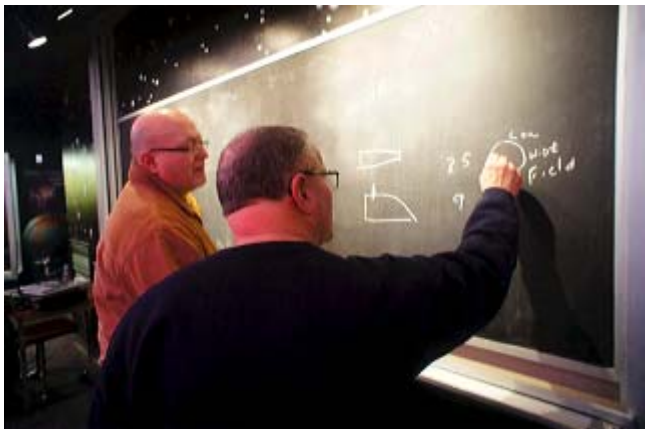
Then AAVSO President George Diedrich was on hand for the dedication and ceremonies at the August 28, 1965 OTAA meeting. He cut the ribbon on the door of the new 8" building. They originally called in Annex B. This era also saw the MVAS become heavily involved it observing for the AAVSO.

8" continued...

Perhaps one of the last photos of Jack Draper- standing next to his 8-1/4" refractor. Taken in 1965 shortly after the building was dedicated. In 2001, the steel building was replaced with a wooden structure that is still in use- in 2014.

The YSU Telescope Workshop: Jan 18, 2014.

Early arrivals wait for MVAS technicians to get busy. Slowly but surely, the telescopes arrived as did MVAS members. Tools and collimators went into action.



Prof. Bob explains optical designs, and eyepieces.

Paul and Jan brought a friend and his Tasco refractor.

One good scope was a 4" Orion Newtonian. It needed collimation and some mount work. (Left of center.)