

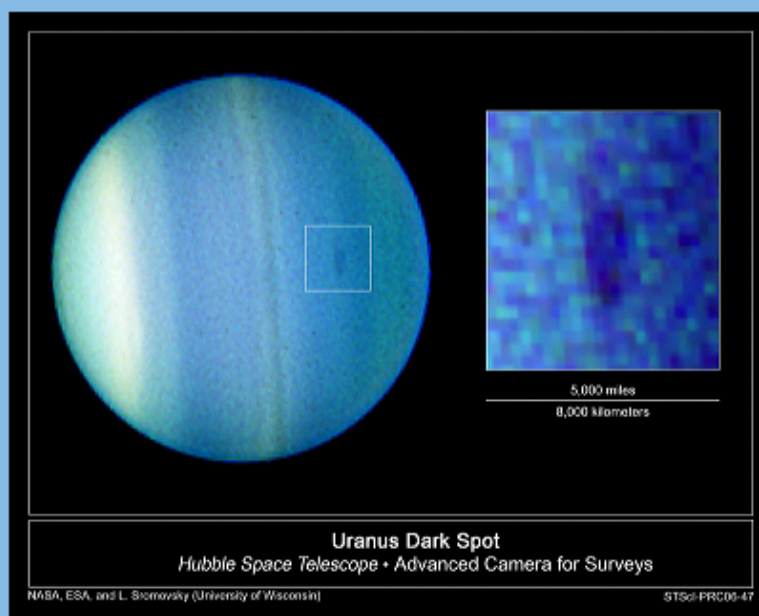
THE METEORITE



URANUS

*HST finds Dark Spot
Oct. 16, 2010*

(North Pole to the right)



Newsletter of the Mahoning Valley Astronomical Society, Inc.

IN THIS ISSUE:

SEPTEMBER 2011

- ★ Event Calendar, News Notes
- ★ Minutes of the August Meeting
- ★ MVAS Reminders: Too Much Information?
- ★ MVAS Activities: Here and There
- ★ Observer's Notes: Jumpin' Jupiter
- ★ MVAS Homework: M-74 or Uranus
Homework Charts: TX Psc, asteroid (1) Ceres
- ★ Constellation of the Month: Pisces
- ★ October 2011 Sky Almanac
- ★ Gallery: Two OTAA's

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Youngstown OH 44514



SEPTEMBER 2011

Newsletter of the Mahoning Valley Astronomical Society, Inc.

MVAS CALENDAR

- SEP 17** Business meeting at the MVCO 8:00 PM
- SEP 24** Open date: star party at the MVCO 8:00 PM
- OCT 22** Business meeting at the MVCO 8:00 PM
- OCT 29** Halloween party at the MVCO 7:00 PM

NATIONAL EVENTS

September, U.S. Congress: The James Webb Space Telescope faces Congressional budget cutting- to zero funds. The JWST represents the next generation of exploration of the universe. The American Astronomical Society (AAS) suggests that astronomers get involved now. It is all up to you. The Debt Limit Deal practically stopped all remaining appropriations bills from reaching the House floor for a vote. The House-Senate conference committee is to hash out a final budget for NASA when Congress returns in September. This action will move to the Senate where Senator Mikulski's (D-Maryland) CJS subcommittee will set the NASA bill. The AAS is encouraged by Senator Mikulski's public support for JWST. There may still be time to take action to save JWST.

Here are some things individuals can do to support JWST:

- Write a letter to your Congressmen about saving JWST.
- Write a letter to the President, with a copy to your Congressmen, in support of JWST.
- Encourage friends, neighbors, and colleagues to write to their member of Congress to support the JWST.
- Consider writing an Op-Ed piece for your local paper on the importance of supporting the JWST.

MVAS BOARD OF TRUSTEES

President	Sam DiRocco
Vice President	Harry Harker
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Assistant Editor	Steve Bartos
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MVAS Webmaster	Bill Pearce

MVAS REPRESENTATIVES

OTAA Representative	Harry Harker
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MVAS Homepage- <http://mvoobservatory.com>

NEWS NOTES

Four Years from Pluto. The New Horizons spacecraft remains healthy and on course. It is now approximately 21 times as far from the Sun as the Earth is, between the orbits of Uranus and Neptune. By July 1, the 2011 checkout of the spacecraft and its payload, went very well. A radio checkout via a lunar occultation of the craft was made during May and June. Some much-needed spacecraft tracking was also completed. Every indication points to a near perfect course toward Pluto. It's likely that a course correction maneuver won't be needed until at least 2013. Some "cruise science" was done using the space plasma instruments - SWAP and PEPPSI - in studying the charged-particle populations of the solar system.

The project team is now focused on new debug software and the four-day command loads to be sent just before and just after the core nine-day load for Pluto closest approach is sent. In addition, they are analyzing and prioritizing responses to some 280 potential emergency scenarios for the 2015 encounter - just in case. A first encounter rehearsal with New Horizons is planned for the summer of 2012. Designed as a stress test for the spacecraft, the "24-hour rehearsal" will include an intense one-day portion of the encounter near closest approach. The science team also leads a search for Kuiper Belt flyby targets after the Pluto encounter. They are planning a major scientific conference on the Pluto system for the summer of 2013.

That conference will allow the world's astronomers and planetary scientists to review the state of knowledge about the Pluto system before the encounter and to begin detailed planning of ground-based and space-based campaigns to observe the planet and its moons in conjunction with the New Horizons flyby. The conference will also give researchers a chance to develop educated predictions about what New Horizons may find. A similar kind of meeting for educators in 2014 is being discussed. Stay tuned.

Search for Funds. The SETI Institute in California, which got a direct hit from Federal and California budget cuts, had to halt operations this past April. But after a public campaign launched on its website, SETI said it had received \$223,000 from 2,557 donors. This exceeded its \$200,000 goal. Jodi Foster, actress in the 1997 movie "Contact" was among them. The amount of her donation was not revealed. Recalling her roll in the movie, Foster said the telescopes "could turn science fiction into science fact, but only if it is actively searching the skies. I support the effort to bring the array out of hibernation." She stressed the need of returning the ATA array's search of newly discovered planetary worlds for signs of extraterrestrial intelligence. Apollo 8 mission astronaut Bill Anders, who also funded the SETI campaign, said "it is absolutely irresponsible of the human race not to be searching for evidence of extraterrestrial intelligence." Founded in 1984, SETI was due to relaunch its operations next month. But in order to ensure long-term research, it will have to find new sources of financing. SETI is placing its hopes on getting a US Air Force contract to track orbiting space debris that could damage satellites and the International Space Station.

MINUTES OF THE AUGUST MEETING

AUGUST 20, 2011 at the MVCO

President Sam DiRocco called this outdoor meeting to order at 8:01 PM. Nineteen members answered Roll Call. Three guests attended; they included Dennis Marco and regulars Virginia and Stephan Bartos. A call for the reading of the Minutes was made. A motion to suspend the reading and accept them as published was made by Greg Higgins. Bob Danko seconded the motion. By a unanimous voice the Minutes were accepted.

TREASURER'S REPORT: The Report was read by Steve Bartos. He reported a net loss of \$701.16 for July. With no questions or discussion the Report was accepted by a voice vote. The motion to accept was made by Greg Higgins and seconded by Dan Schneider. Phil Plante noted that the membership be aware that \$7,664.12 of the closing balance is in Reserved Funding, and is not available for general operation expenditures.

<u>General Fund</u>	<u>7/1 thru 7/31 2011</u>
OPENING BALANCE:	\$ 10,724.93
CLOSING BALANCE:	\$ 10,023.77
OPERATIONAL FUNDS (NON-RESERVED):	\$ 2,359.65
ACCOUNT NET GAIN/LOSS FOR THIS PERIOD:	\$ -701.16
<u>INCOME:</u>	
SKY & TELESCOPE RENEWAL	\$ 65.95
DUES	30.00
INTEREST	0.89
TOTAL INCOME	\$ 96.84
<u>EXPENSES:</u>	
CK# 2757 20 TONS OF GRAVEL (DRIVEWAY)	\$ 500.00
2758 POST OFFICE BOX	23.00
2759 RADIO RECEIVER	105.00
2760 OUTHOUSE CLEANED	\$ 170.00
TOTAL EXPENSES	\$ 798.00
<u>Reserved Funds (Unavailable for operations)</u>	
KEY DEPOSITS (MVCO)	\$ 250.00
YTD: 50" PROCEEDS RESERVED FOR OAD FUND	\$ 3,500.00
CASH FROM ORIGINAL OAD FUND (FOR LAND)	\$ 3,914.12
TOTAL AMOUNT IN OAD FUND	\$ 7,414.12
TOTAL RESERVED FUNDS	\$ 7,664.12

CORRESPONDENCE: No mail received at the MVAS P.O. Box. However, Steve did receive a letter from Hospice of the Valley requesting that MVAS make a donation. The MVAS had once made a donation. It was decided to skip it this time around.

COMMITTEE/OFFICER REPORTS: *Visual Committee:* No report called for or given. *Imaging Committee:* Ditto.

OBSERVATORY DIRECTOR'S REPORT: Larry Plante has not been up to the MVCO very much in recent weeks. He has sanded and painted the frame for the MVCO driveway sign. He plans to paint the outhouse floor and seal the back porch concrete. He asked if the inside walls of the outhouse be painted. There was no general consensus to do this. He will donate the paint. He has investigated a new breaker box and found that the Seimans line of panels offered the best value. He will upgrade the electrical box for greater load capacity, sometime after the OTAA meeting.

Repair work is now on the schedule. A leak at the 16" dome and roof interface has developed at the east wall. The 16" eyepieces and box were drenched (cleaned by now). In

addition, one corner of the 12" building is beginning to rot and this will need attention fairly soon. Rosemary will see about repairing or replacing a curtain rod at the 16" stage. It was asked if the radio equipment would be placed out of harm's way during the OTAA. It was first thought that the 16" stage would be used for storage and closed off. But the general feeling was to leave the 16" scope open for viewing should someone want to use it at the OTAA. Unused radio stuff will be stowed somewhere out of the way. (the "HAM-radio telescope" is supposed to be active during the OTAA).

OLD BUSINESS: Sam had a price quote for spouting repair around the 16" building; from EZ Spouting. Rich Mattuissii had them come out to get the quote. The cost was estimated at \$650 for seamless spouting. It was not known if this included fascia/soffet work. No action taken at this time. No word on the 50" mirror pick-up during the OTAA weekend. Rosemary noted we should clean out around the mirror before it is picked up. Phil reminded us that the week after our OTAA is the Black River OTAA- as well as our last Scenic Vista public night for 2011. Both set for September 3rd. If Scenic Vista is cancelled due to weather, consider attending Black River even it is also cloudy there. There are several members that always attend Black River and you may join them. If you can't attend Black River please help out at Scenic Vista if this goes forth.

NEW BUSINESS: Bob Danko said a few of the new guys were interested in getting keys to the MVCO. He asked if there was a set date for training. Sam said they could learn anytime if someone wanted to train them. It was decided to begin this tonight. Robert, Tim and Pandian expressed interest. Guest Dennis Marco expressed interest in membership. After a brief introduction, Harry Harker nominated Dennis. Bob Danko seconded it. By unanimous voice vote, Dennis was accepted into the MVAS. Welcome Dennis. We look forward to observing with you as well as having you join in all the other activities the MVAS enjoys. Phil pointed out that Black River will not be having an OTAA event on Saturday, September 24th. This is a New Moon weekend and it seemed a good time to schedule an MVAS star party and cook-out at the MVCO. Some members will likely be attending the Oil City AstroBlast occurring that same week. The MVCO might be a more viable option for others. With unanimous consent an MVCO star party was set for September 24. The MVAS business meeting is a week before, thus both event plans can be finalized at that time.

GOOD OF THE SOCIETY: Sharon Shanks had a booklet on the Astro Missions flown on the Space Shuttle. This was found in the late Rick Pirko's collections. The late Ron Parise was an MVAS member and shuttle astronaut that flew on both Astro Missions. The booklet was signed by Ron and included with it were several B&W photos of the MVO circa the 1973-75 era when Ron was active in the MVAS. This was given to our Librarian Rosemary for safe keeping. Larry asked if Rosemary has had any contact with Agnes Bufwack lately. There hasn't been but she may try before the OTAA as the plan was to bring her out to the MVCO for a visit. Agnes is well in her 90's now.

Orion Telescope has sent over \$524 worth of items for use as OTAA door prizes. A special letter of thanks to Orion would be order. This shipment included two telescopes both worth around \$149. These scopes will be added to the main raffle prize list. There was a short discussion on how to use the telescopes and on the manner the raffle would be conducted. It was erroneously reported that winners would be limited to one prize. All raffle tickets would be combined in one container but

there would be no limit to prizes an individual could win. It was suggested we go back to the Chinese style raffle, but it was pointed out we have advertised a one pot raffle. So it shall remain so. The telescopes were briefly considered for use a children's prize (OTAA) and one as a prize at the Christmas party. Orion's understanding was that they were for the OTAA, so that will be the use.

Sam reported that someone's child has drawn two small circles on the 12" tube with a permanent green marker. A light switch cover also had been drawn on. All efforts to remove them have failed. Child mischief has seemed to increase over the years. We are a family oriented organization and don't want to restrict access. But everyone agreed that stricter parental supervision is called for and keeping close watch on children by other members is needed. Safeguards like keeping unattended buildings locked during events must be adhered to.

Phil Plante has purchased a 2008 book called "A Passion For Mars" by Andrew Chaiken. This was suggested by Chris Stephan as it features a chapter on his Mars-lunar grazing occultation in 2003. He organized the "expedition" that had many well know names in armature astronomy taking part. This will be donated to the Terry Biltz Library. Besides the MVAS connection, the book is filled with high quality color photos. A hard back edition, even both covers have color photos of Mars on them (hidden under the paper sleeve). This book spans the exploration of Mars up to the Mars Rovers Opportunity and Spirit. Looks like a good read.

VISUAL REPORTS: Bob Danko has been watching Mercury and Saturn from Grand River Reserve. Phil Plante managed 20 variable star estimates. Both he and Larry Plante video taped a lunar occultation of pi Sgr the night of August 10th.

ADJOURNMENT: Adjournment came at 8:42 PM. We thank our hosts Jodi and Roy McCullough for the super delicious homemade meatball sandwiches. Made with homemade sauce from their garden tomatoes. More than worth the price of admission. The next meeting will be at the MVCO on September 17, 2011. Meeting begins at 8:00 PM. Scheduled host is Dan Schneider. **PASSWORD:** Name a feature seen on Jupiter, such as festoon, projection, Equatorial Zone, (n,s) equatorial belts, white oval, dark streak, etc. *-minutes by Phil Plante*

MVAS REMINDERS

With the season winding down, we have a tentative "last" star party planned for September 24 at the MVCO. A BBQ is planned so bring the chow you want to grill. Bring your scope and binoculars or enjoy the MVAS scopes. It is also getting to be time to order **2012 Astronomy Calendars and RASC Handbooks**. Please consider what you want to get. We may start taking orders as soon as the September meeting (if Steve allows it!). Nothing has been ordered thus far and club prices are not yet determined. However, the sooner we get the membership order recorded, the sooner we can send in a bulk purchase order. It takes a month or so to receive the shipments. It's nice to have them ready to distribute at the November or Christmas meetings.

The night of the October 22nd business meeting occurs during the last stretch of the **Orionid meteor shower**. Best viewing is after midnight but a waning moon will rise later and interfere somewhat. October 29 is the 5th MVAS **Halloween Party**. Costumes optional. Observing might be done with the 4 day old moon up. In November, a main **peak of the Leonids**

happens on Thursday evening Nov. 17th around 11:00 PM (that's Nov. 18 at 4hr UT). The peak occurs about a half hour before the radiant rises for us here in Ohio. A 53% last quarter Moon rises about the same time as the radiant. And nearly in the same spot at 76 azimuth. The Moon's light will interfere with dim meteors. Observing on your own? Might be worth a shot. The Leonids have been known to throw a surprise at us. Find a spot with clear view of northeast to zenith.

It's a **New Moon on November 25**, which is the Friday of Thanksgiving weekend. Most people enjoy a long holiday weekend. That Saturday night could be a good time to close out the MVCO for 2011 with a group observing session. Temperatures will likely be chilly but could still be on the "civilized" side of comfort. With luck there won't be any snow around, but winter attire will be highly recommended. We've observed at the MVCO in November before. Even in January. We once held a total lunar eclipse BBQ in December 1991. A TV crew came along too. There was an inch of snow on the ground, and it was cold. But the 30 or so people on hand had a great night of BBQ and good cheer. The fact that the eclipse clouded out just after it started didn't seem to dampen the spirits. MVAS is weather proof?

Maybe we can try a new type of event this year in that only binoculars are used- a "Binocular Blast"? Binocs are the ideal winter instrument being easy haul out in the snow, easy to make ready and use. If you suddenly get too cold, they are quick to stow away to get back indoors. It would be a nice start or training session in winter binocular observing. Let's keep this one in mind, if for anything, a binocular event next year. So this Thanksgiving...if you're looking to escape the relatives, here's an excuse to get away. Yes, you may bring some left-overs.

MVAS ACTIVITIES

Jake and Elwood made it to the Cuyahoga OTAA convention July 30. It was really nice to have a meeting room (Letha House) that had air conditioning. The food was good and plenty of prizes too. Tony won an Astro-Zap certificate. The skies were beautiful. We saw the best Milky Way appearance at an OTAA event since long ago at Scenic Vista. Hope to go back there.

The MVAS radio astronomy SIG has most of the equipment installed and running at the MVCO; all summer it seems. It will be great to see the science start flowing, providing solar data. *History recall:* There was a brief period of radio work done in the early 1970s (at MVO). The late Ron Parise and YSU classmate Del Ferry were the main participants. Bernie Cortese was also a sponsor. Allen says there was a need for solar observations for the AAVSO that drove the effort. No reports made it in though. Look for more MVAS activities involving HAM radio and astronomy next year. Nothing set yet- just ideas.

Several members were out and about in July. Jodi and Roy were on Mauna Kea, HI and in Nebraska? We'd love to hear a report. Phil went to the ALPO meeting in Las Cruces, NM also in July. A trip to the VLA radio telescope was part of the deal. At some point you'll see photos and a short report. The Secretary would like to thank Harry Harker for filling in at the July meeting, due to the trip to New Mexico. Good job Harry.

The **MVAS-OTAA** was a great success. Thanks to all that helped with set-up and clean-up. Special thanks go out to Dr. Pat Durrell for his 2012 talk. Steve B. did a fantastic job of getting vendor donations for the prizes. Thanks to all members that donated to this as well. The MVAS especially thanks **Orion Telescopes** for their generous donation of over \$524 worth of equipment for this event. Full OTAA report later.....

Jumpin' Jupiter

This September through October might be our best nights for observing Jupiter in NE Ohio...before the snow flies if you know what I mean. So here is a primer to help you decipher what you're looking at. If you closely observed Saturn this year, you will be well prepared for the more intense features that Jupiter presents. Similar features appear on both planets although Saturn displays a much more muted version. With Saturn lost to the Sun this autumn, a good memory will be needed to help visualize and compare features. (Should be a nice trick for us older folk.) Jupiter approaches center stage now, becoming well placed in eastern skies by October. First time viewers will be delighted with the details that telescopic study reveals. Veteran observers will welcome the familiar dance of rotating features and orbiting moons. The same nomenclature is used for features on Jupiter and Saturn; so study-up. The ringed planet returns to the morning sky in November.

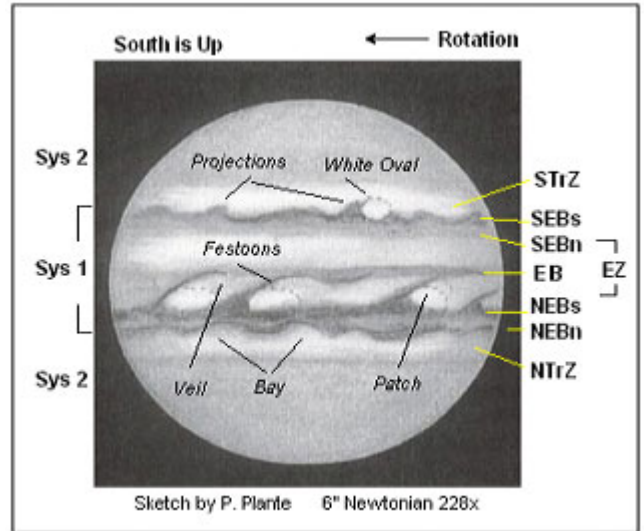
There are two systems of rotation on both planets. Called System 1 and System 2. On both, the area around the middle (equator) and including the two nearby belts (north and south) are System 1 rotation. Rest of the planet rotates in System 2. This includes the remaining south and north hemispheres and polar regions. For Jupiter, System 1 rotates once in 9 hr, 50m and 30s. System 2 rotates in 9 hr, 55m and 40s. You can notice the features change position within a half an hour or so. If you sketch or do tri-color imaging you need to be quick in order to have the features stay aligned in multiple images or in keeping the reference point in the sketch at the same spot on the paper.

For our Jupiter purposes here, we'll focus on features nearest the equator, in System 1. Across the diameter of Jupiter there is a bright, wide bright zone that straddles the Jovian equator. It's called the Equatorial Zone (EZ). On either side of the EZ, you'll find the dark north or south Equatorial Belts (NEB or SEB). Inspect the edges of these belts closely, especially the edges facing the equator. Look for tiny dark "hooks" or projections that jut into the EZ. Sometimes these projections end in a fine line that flows into the EZ; the line is called a festoon. Sometimes you can see the festoon loop right back into the belt. This is called a loop festoon (naturally). Check to see if the area within the loop is brighter than the surrounding zone. Sometimes a festoon will connect to an adjacent south or north Tropical Belt (TrB) in System 2, or to a very faint Equatorial Zone Belt (EZB). The area between two adjacent festoon connections may appear darker or dusky. This is called a veil.

Check out the zones for dark spots, dark ovals or dark streaks. Conversely, study the dark belts for bright or white ovals, spots, or streaks. Dark streaks in a belt are called bars or barges. The Great Red Spot (GRS) is in System 2 rotation, in the South Tropical Zone (STrZ). Check *S&T* magazine or their website for updates on when the GRS will be on the CM- to determine if you can observe it. Organizations like the A.L.P.O. accept transit timings of the GRS. This allows them to keep track of any drift in longitude that the GRS may be experiencing.

You may also want to watch the shadow transits of Jupiter's moons; as the shadow crosses the disc. A small very dark circular spot on Jupiter is likely a shadow of one of the moons. Tables in *S&T* and the current year *RASC Handbook* predict when these shadows are in transit. A blue filter will increase the contrast of the belts and zones; remember everything will be tinted blue. A red filter penetrates deeper into Jupiter's cloud tops. Focus on the contrast between features and not the color

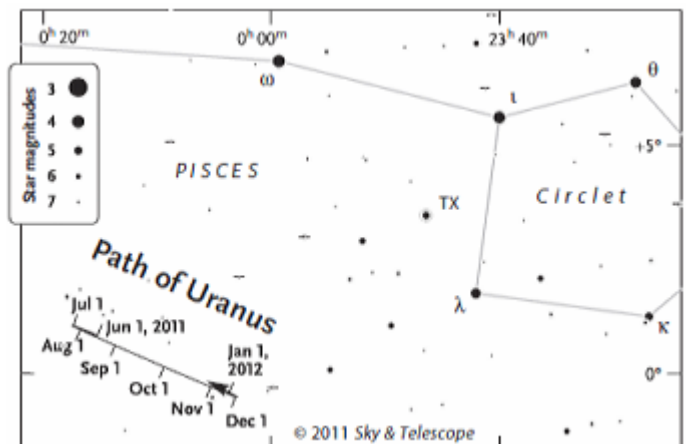
the filter imparts. There is enough going on with Jupiter to have you jumping back and forth between eyepiece case and telescope. Change magnification often. Try with and without filters. Use powers over 150x if your equipment and seeing allows. Persistent observations will serve to increase the details you can see. It trains your eye at observing- and not just Jupiter. Study the sketch below to help you recognize various features.



MVAS Homework: M-74 or Uranus

Celebrate a birthday! Pierre Méchain found M74 at the end of September 1780. Charles Messier, then included it in his catalog on October 18, 1780. This is a fine example of a spiral galaxy seen face-on. M-74 is one of the more difficult M-objects to spot; it is sometimes called the Phantom Galaxy. Its nucleus appears stellar but the spiral arms are seen as a much dimmer disk. Very good conditions are needed to see the spiral shape. Knowing they are there helps "detect" the presence of a spiral in 100mm scopes, seen as a faint disk. Under superbly dark skies, larger telescopes begin to show the faint spiral arms. In scopes 16-inch and up, knots of star clouds and nebulae can be recognizable within the spiral arms. Try a sketch.

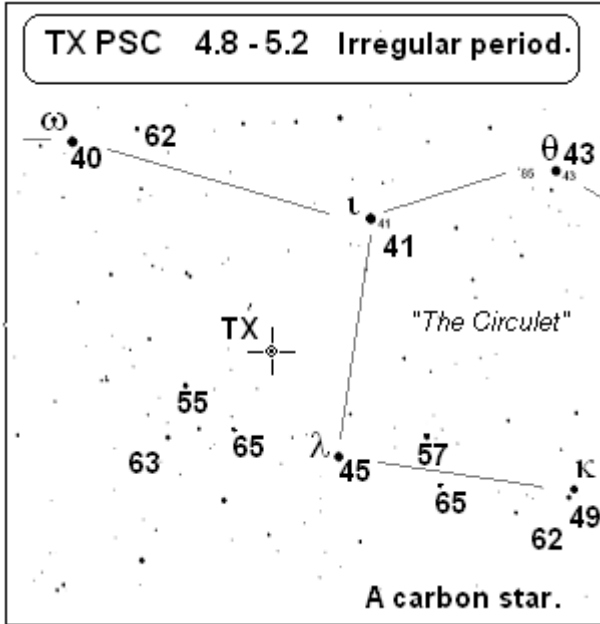
If M-74 eludes you, use the *S&T* finder chart below to spot Uranus in binoculars or finder scope. At higher power (+100x), you should start seeing its tiny blue-green disk, barely larger than a fuzzy star. Crank up the power. Try sketching Uranus. Do you see limb darkening? Let's get some homework done!



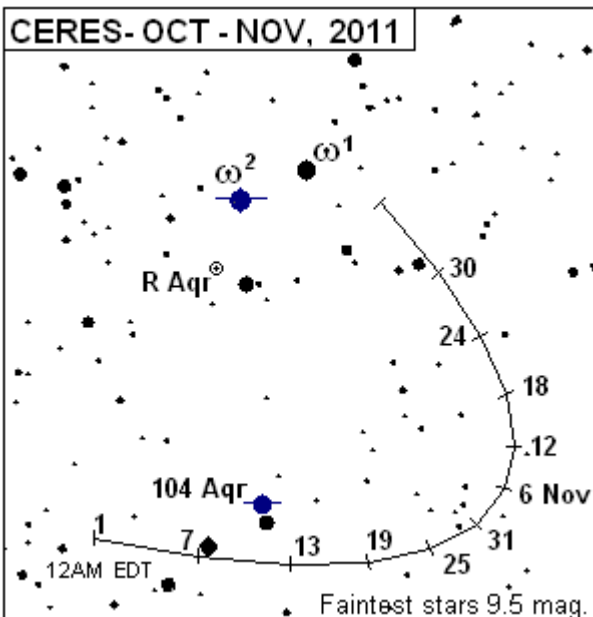
MVAS OBSERVER CHARTS

MVAS OBSERVATIONS - DUE NOVEMBER 2011

Variable star of the month: **TX Piscium** (*abbrev.*: TX Psc). TX is a bright carbon star. Usually gleaming a golden - orange color near maximum light. All this means is that you can use binoculars to monitor this star. Its irregular period means you need to check it often. It may never seem to drop in magnitude. But you'll notice when it does. So if you've never bothered to observe things in the sky beneath Pegasus, here is an excuse.

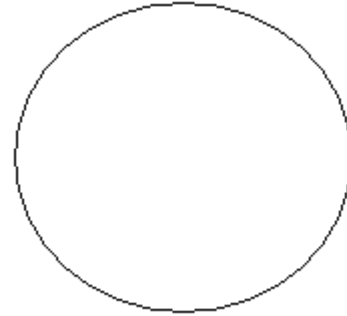


Asteroid of the month: **(1) Ceres**. It was at its brightest in early September. But we were watching Vesta at the time. It is still bright enough for binoculars during October (7.9 - 8.2 mag). Moving in Aquarius, the observing window is catching up to the setting sun. It starts off near 104 Aqr then loops northward towards omega Aqr. Variable star R Aqr is in the same area. That was our variable the August issue. Still checking it? Use the R Aqr comp stars to estimate the magnitude of Ceres



OBSERVER _____

Featured object: M-74 or Uranus. Please try a sketch. For M-74, smudge the fainter parts (spiral) with your finger. Draw any field stars too. For Uranus, draw the tiny circle that would be the planet. Check for limb darkening and render that as best you can. Any brightness difference in the hemispheres (see cover image for equatorial orientation)? Try to draw that, if you see any.



M-74 or Uranus Observation:

Date: _____ Time(EDT) _____ Scope _____

TX Psc magnitude estimates:

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

_____	_____	_____	_____
_____	_____	_____	_____

(1) Ceres Observations:

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

_____	_____	_____	_____
_____	_____	_____	_____

Other Objects in Pisces to observe

D. Sky Date Scope **Dbi.** Date Scope

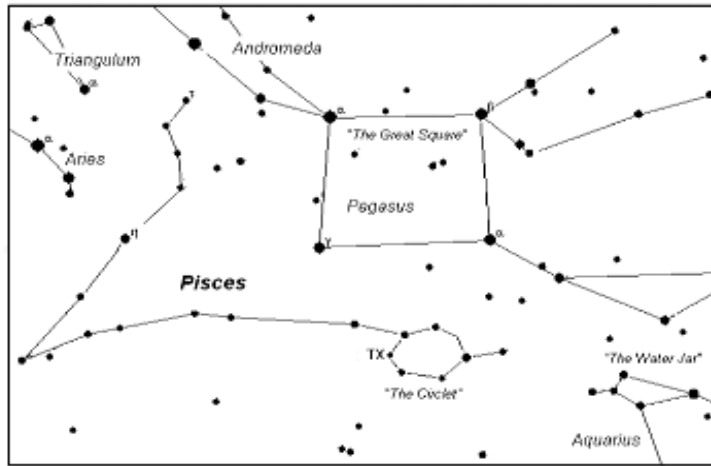
	Date	Scope	Dbi.	Date	Scope	SEP	MAG	SPLIT?
N- 676	_____	_____	ζ Psc	_____	_____	22.8"	5.2 - 6.2	Y / N
N- 488	_____	_____	φ ¹ Psc	_____	_____	30"	5.3 - 5.5	Y / N
N- 524	_____	_____	35 Psc	_____	_____	11.4"	6.1 - 7.5	Y / N

Lunar Occultations (see Sky Almanac):

Star (UT) Date Time Scope magx. Event(circle)

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

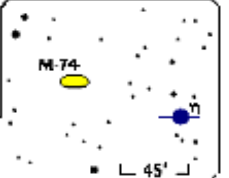
Constellation of the Month — Pisces



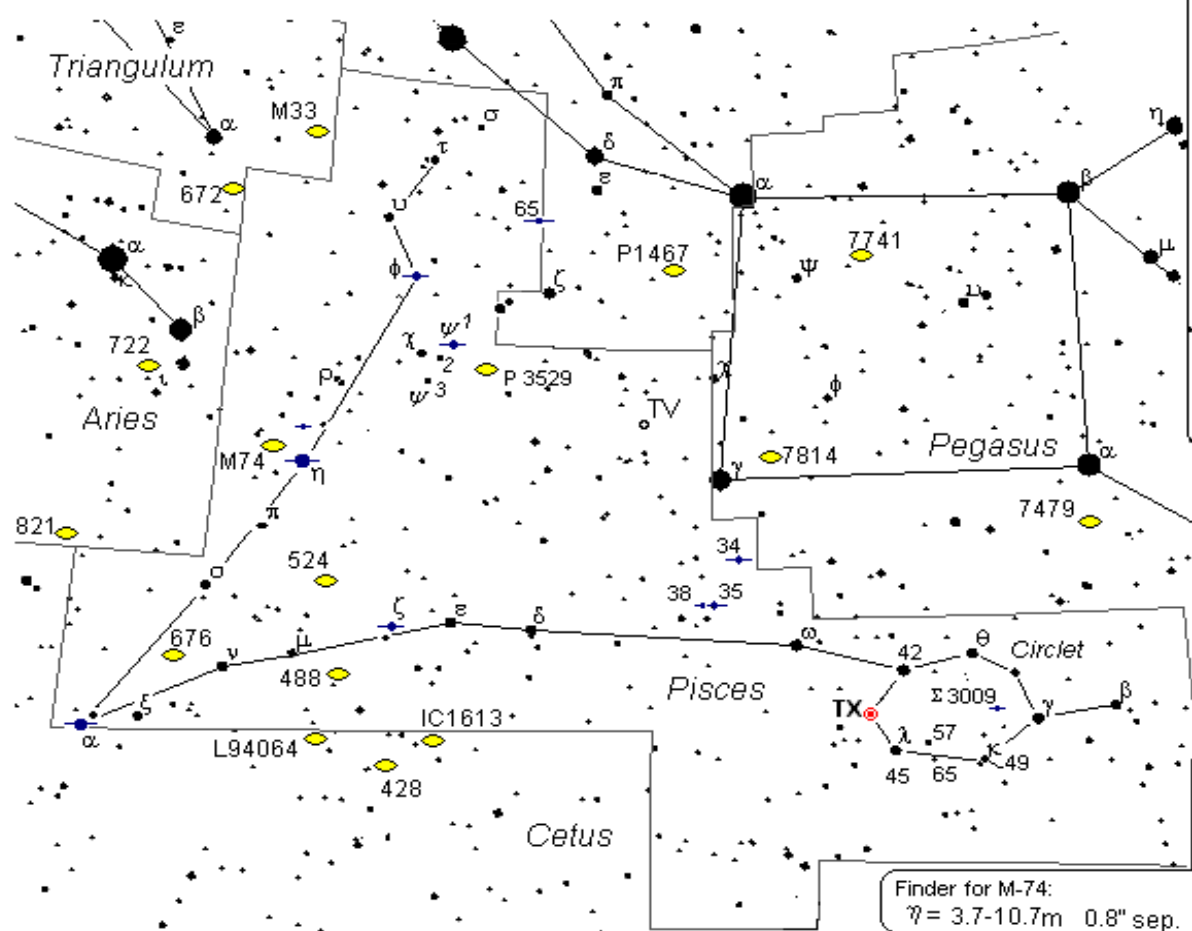
Pisces, the "Two Fish" is an ancient constellation of the Zodiac. The Babylonians had a 12 month calendar of only 360 days. Every six years they added a month to make the Zodiac years come out evenly. Hence the Two Fish served double duty as that 13th month. You can find Pisces swimming below Pegasus on autumn nights. It has very dim stars; η and γ are at 3.7 mag. while α is at 4.1 mag. there are a handful of galaxies available for moderate scopes. M-74 is the brightest but even this is a tough one. Being close to η Psc should make finding it a bit easier. There is the usual selection of fine binary stars to tackle. What colors do you see? Variable star TX Psc is a carbon star with a deep yellow-gold color. It is irregular and varies between 4.8-5.2 mag. It usually seems much brighter than these numbers indicate. A nice binocular star to keep track of. A nice binocular "double" is ρ Psc. Naked eye asterisms are here to trace- look for the Circllet (Psc), The Water Jar (Aqr) and the Great Square (Peg). Pisces may be dim, but it has nice things to fish for. Just don't wait to do so every six years.

Pisces (actually M-74) Transit Times	
<i>Daylight Time</i>	
SEP 15	3:30 AM
OCT 01	2:27 AM
OCT 15	1:28 AM
NOV 01	12:29 AM
<i>Standard Time</i>	
NOV 15	10:26 PM
DEC 01	9:27 PM
DEC 15	8:28 PM
JAN 01	7:29 PM

TX Psc
4.8 - 5.2 mag.
irregular
Some magnitudes of Circllet stars are given on the chart to use for your estimates. Decimal points omitted.



Finder for M-74:
 $\eta = 3.7-10.7m$ 0.8" sep.



DEEP SKY				DOUBLE STARS:				Check list		Instruments used:	
	Mag.	Size	Type		Mag.	Size	Colors				
M 74	9.9	12' x 1'	Galaxy	α Psc	4.1-5.2	1.9"	both white	<input type="checkbox"/>	α	<input type="checkbox"/>	TX ___ mag. on ___/___/___
M 33	6.2	73' x 45'	Galaxy	ζ Psc	5.2-6.2	22.8"	yellow, rose	<input type="checkbox"/>	ζ	<input type="checkbox"/>	TX ___ mag. on ___/___/___
N 524	11.4	3.5' x 3'	Galaxy	ψ 1 Psc	5.3-5.5	30"	both yellow	<input type="checkbox"/>	ψ 1	<input type="checkbox"/>	
N 676	9.6	5' x 1'	Galaxy	34 Psc	5.5-9.4	7.6"	white, blue	<input type="checkbox"/>	34	<input type="checkbox"/>	
N 488	11.1	6' x 4'	Galaxy	35 Psc	6.1-7.5	11.4"	white, violet	<input type="checkbox"/>	35	<input type="checkbox"/>	
N 722	11.0	7.2 x 2'	Galaxy	38 Psc	7.1-7.7	4.0"	both orange	<input type="checkbox"/>	38	<input type="checkbox"/>	
IC 1613	9.9	11' x 9'	Galaxy	65 Psc	6.3-6.3	4.3"	both yellowish	<input type="checkbox"/>	65	<input type="checkbox"/>	
PGC 3529	11.5	?	Galaxy	Σ 3009	6.9-8.8	6.6"	peach, lime	<input type="checkbox"/>	Σ 3009	<input type="checkbox"/>	

Solar and Lunar (EDT).

Date	Sunset	Moonrise	Moonset
1	7 : 06	x : xx	10 : 00p
5	7 : 00	x : xx	1 : 06a
9	6 : 53	x : xx	5 : 11a
13	6 : 47	7 : 20p	x : xx
17	6 : 41	10 : 18p	x : xx
21	6 : 35	1 : 27a	x : xx
25	6 : 29	6 : 18a	x : xx
29	6 : 24	x : xx	8 : 45p

PLANET WATCH

Neptune Transits	Jupiter Transits	Mars Rises
10:46 PM	3:12 AM	2:10 AM
10:30 PM	2:55 AM	2:06 AM
10:14 PM	2:38 AM	2:02 AM
9:58 PM	2:20 AM	1:58 AM
9:42 PM	2:02 AM	1:54 AM
9:26 PM	1:45 AM	1:50 AM
9:10 PM	1:27 AM	1:46 AM
8:54 PM	1:09 AM	1:41 AM

October 2011

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 October 2011 (1) Ceres

Date	TRANSITS	RA hr. min deg.	Dec. deg.	Alt.	Azm	Magnitude
		<i>topocentric</i>				
1	12 : 36 AM	23 : 50.5	-18.1	30°	170°	7.8
7	12 : 07 AM	23 : 45.4	-18.3	30	178	7.9
13	11 : 35 PM	23 : 41.2	-18.4	30	186	8.0
19	11 : 08 PM	23 : 37.6	-18.4	29	193	8.1
25	10 : 42 PM	23 : 37.6	-18.4	28	200	8.2
31	10 : 19 PM	23 : 32.7	-18.0	26	207	8.3
		<i>(at midnight)</i>		<i>(at midnight)</i>		

Variable Star of the Month: **TX Psc** 4.8 - 5.2 mag carbon star, irr.

Celestial Highlights

4	03	FIRST QUARTER MOON
6	02	Algol at minimum
8	20	Draconid meteor shower
12	02	FULL MOON
16	00	X Oph max. 6.8 mag.
20	03	LAST QUARTER MOON
21	22	Orionid meteor shower
26	20	NEW MOON
28	00	R Aur max. 7.7 mag.
29	01	Jupiter at opposition

LUNAR OCCULTATIONS FOR: OCTOBER 2011

Civil (24hr)	UT	Moon Ph	Moon % illum.	Moon alt	Moon azimuth	Star name	Star Mag.	event PA	dbl./sep.
4	19 : 54 : 00	4	23 : 54 : 00	D	59+	30°	178°	ZC 2854 7.2 005°	NA
5	22 : 47 : 12	6	02 : 47 : 12	D	70+	28	211	ZC 2986 6.4 071°	NA
15	22 : 57 : 01	16	02 : 57 : 01	R	86-	23	081	51 TAU 5.6 257°	166.0"
15	23 : 34 : 31	16	03 : 34 : 31	R	86-	30	086	56 TAU 5.3v 287°	NA
16	2 : 44 : 08	16	06 : 44 : 08	R	85-	63	129	67 TAU 5.3 336°	353.0"
17	1 : 14 : 59	17	05 : 14 : 59	R	78-	40	094	ZC 784 6.3 282°	1.90"
17	3 : 17 : 57	17	07 : 17 : 57	R	77-	61	123	109 792 5.0 214°	NA
19	4 : 47 : 30	19	08 : 47 : 30	R	58-	57	122	ZC 1084 7.3 290°	NA
20	2 : 21 : 24	20	06 : 21 : 24	R	48-	20	086	ZC 1198 6.1 244°	0.20"
20	3 : 59 : 21	20	07 : 59 : 21	R	47-	38	102	5 CNC 6.0 266°	0.05"
30	20 : 43 : 11	31	00 : 43 : 11	D	23+	9	229	ZC 2651 7.8 089°	NA

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.....

OH! Two OTAA's

July 30th was the **Cuyahoga Astronomical Association's** OTAA event, held at Letha House near Chatham, OH. Two MVAS members made the hour trip there. It was a glorious day with clear blue skies. The night was just as clear. Letha House was a treat, with air conditioning. This room served well for the dinner and presentation by NASA's Jay Reynolds. Presented here are some photos taken at this event.



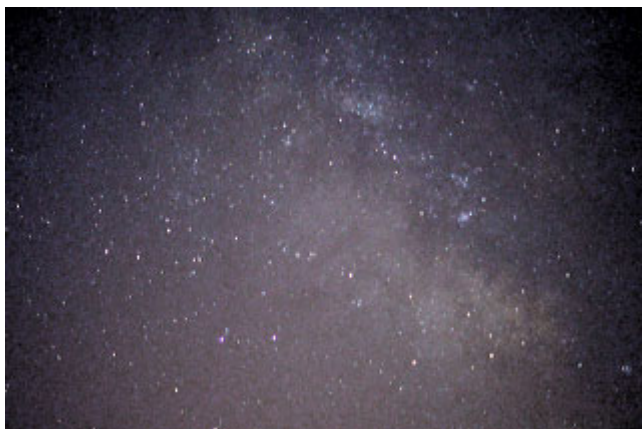
Right: One of two 16" scopes in the observatory.



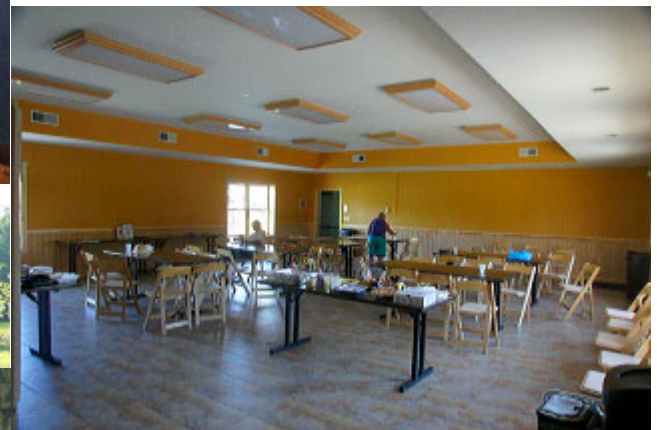
Below: One of the food tables after dinner had started.



Below: a photo taken with a DSLR, 50mm F/1.8 lens, 4 seconds at ISO 6400. Milky Way above Sagittarius. (Unguided)



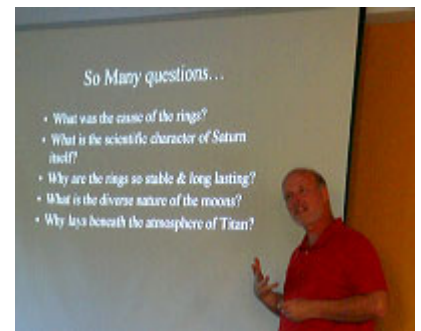
Lake at Letha House. Below: Inside the AC room...NICE!



Tony says HI!

After dinner and raffles, Dr. Jay Reynolds talked about the Cassini Mission to Saturn.

Below: As night fell, CAA - OTAA observers set up across from the lake for an excellent night of observing.



- So Many questions...
- What was the cause of the rings?
 - What is the scientific character of Saturn itself?
 - Why are the rings so stable & long lasting?
 - What is the diverse nature of the moons?
 - Why lava beneath the atmosphere of Titan?



MVAS - OTAA

On August 27, 2011 the Mahoning Valley Astronomical Society held their annual OTAA convention at the MVCO in Braceville, OH. Clouds from hurricane Irene threatened the event, but there were clear patches early-on. After 2:00 AM it was mostly clear with some passing haze. Dew became a problem by 3:00 AM. Earlier, as usual, the food was splendid with tasty dishes, desserts and snacks. There were more door prizes than registered attendees. First reports had over 70 people register. Everyone was a winner. The main raffle went well having at least six prizes. At least TWO telescopes were donated by **Orion Telescopes**. The MVAS is in much gratitude to Orion for supplying us with such items for the Main raffle and for door prizes. And of course- we now know which California vendor deserves some Ohio business as a show of thanks.

We send a special thanks to Dr. Pat Durrell of YSU for his engaging presentation debunking the 2012 "end of world" conspiracy theory. He gave plenty of information for us to use when it is time to "do battle" with those that buy into this nonsense. Perfect timing- as the talk wound down just as darkness allowed the scopes to begin work. The hit of the night was comet Garrad passing through Sagitta. It had been next to M-71 the night before but was well away from it tonight. Folks in the 8" building made comparisons through the 8" and 25". The 25" view was marginally better- showing a brighter sky background. Probably a normal thing for an F/4 instrument compared to an F/15 (the 8"). Most had left before 2:00 AM when the skies cleared. Two from Black River stayed the night imaging the comet.

All in all it was a wonderful event. Not the best skies, but better than MVAS has had in a while. We thank all that helped in putting this on; from door prize donors, those that brought food and drink, those that stayed to observe, those that took home some trash and yes, even the Sunday morning clean-up crew. Rosemary did more than her share, once again. Thanks Rosemary. Some photos follow.



Steve surveys the prize tables before the action starts. Good job Steve, keeping things under control!



Above: Bob conducts the raffle. Below: Sam is a proud door prize winner.



A few scopes are set up. The dessert table was attacked. Cheesecake!! A few happy campers. Dinner is served (above).

Another happy camper.

Raffles and announcements commence.





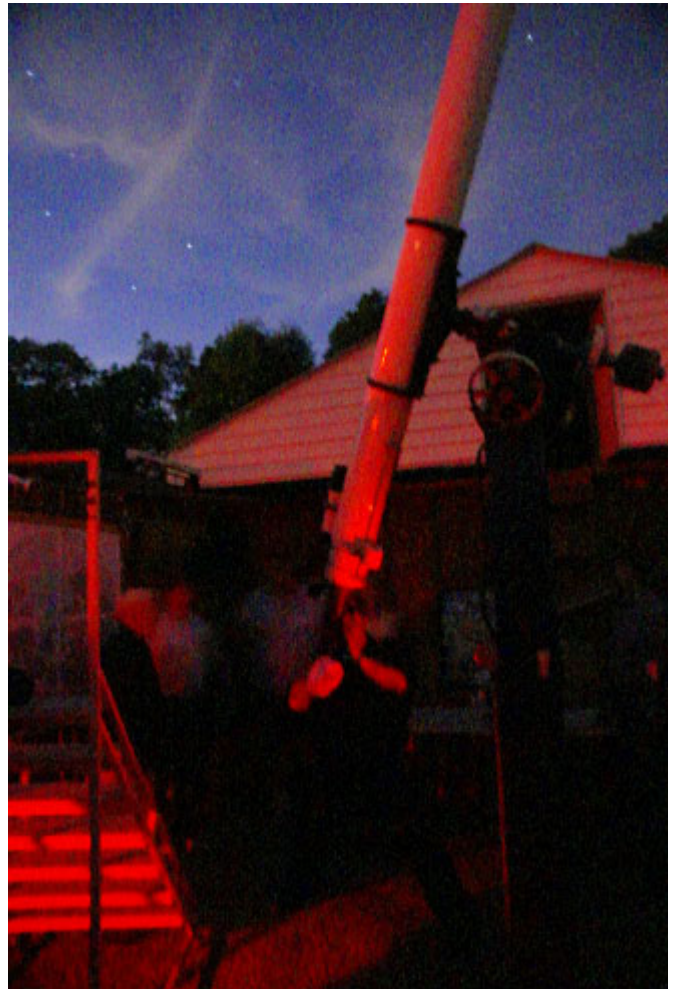
Sunset arrives over the parking lot. It was parking up top this year, as the lower parking level was a bit too soggy for cars. Seemed to work well.



Dr. Durrell begins his talk to the group. He had two titles for the talk. One was family friendly. This one was for astronomer types that have had enough of the bogus hype. All in good natured fun, of course.



Meanwhile as Pat's talk continued into darkness, the skies began to show promise for some observing. Thin cirrus clouds pass by. It also got much cooler as well.



The crowd in the 8" building had a time of it using both the 8" and 25". Sighting Comet Garradd (the action above) was a highlight. The usual stops at M57, M27, M13 filled the night. Dew covered the 25" secondary by 3:00 AM. By then, it was time for some cold, leftover beans. The OTAA "midnight buffet". Somehow, everything just seemed right.



The 22" Dob that showed up (Cuyahoga?) seemed to be going at it for much of the night. The MVAS 12" and Larry's 10" SCT were getting some views in as well.

(All OTAA event photos by Phil Plante.)