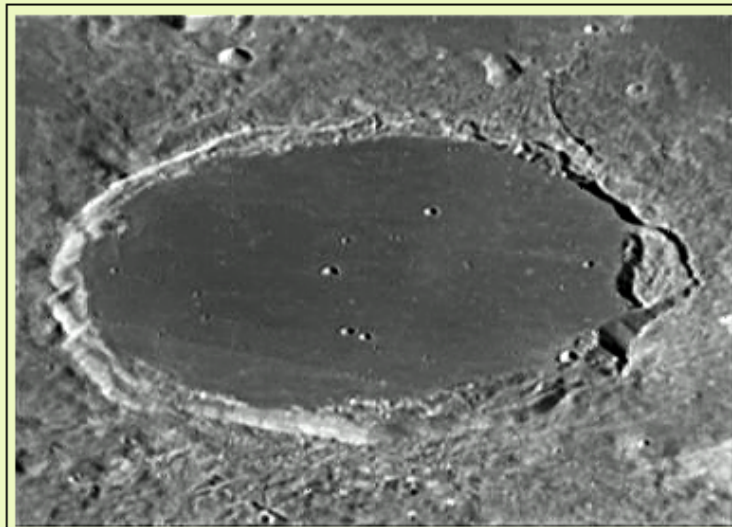


THE METEORITE



Lunar Crater:

Plato



Newsletter of the Mahoning Valley Astronomical Society, Inc.

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MAY 2011

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Meteorite Editor:

Phil Plante
1982 Mathews Rd. #2
Youngstown OH 44514



MAY 2011

NEWS NOTES

A Close Encounter. Astronomers say they're readying their instruments to observe an aircraft carrier-sized asteroid that will come closer to Earth than our own moon does. It will be a spectacular research opportunity, they say, but won't pose any threat to Earth. There's no danger of a possible impact when the asteroid 2005 YU55 makes its closest approach Nov. 8, coming within 201,700 miles of Earth. However, the proximity will give them a chance to study it in detail, they said. "While near-Earth objects of this size have flown within a lunar distance in the past, we did not have the foreknowledge and technology to take advantage of the opportunity," said Barbara Wilson, a scientist at NASA's Jet Propulsion Laboratory in Pasadena, California. "When it flies past, it should be a great opportunity for science instruments on the ground to get a good look." Astronomers at the University of Arizona in Tucson discovered the asteroid, about 1,300 feet across, in 2005. *-(UPI) May 3, 2011*

Rain Everywhere. As spring unfolded at Saturn, April showers on the planet's largest moon, Titan, had brought methane rain to its equatorial deserts, as revealed in images captured by NASA's Cassini spacecraft. This is the first time scientists had obtained current evidence of rain soaking Titan's surface at low latitudes. Extensive rain from large cloud systems, spotted by Cassini's cameras in late 2010, has apparently darkened the surface of the moon. The best explanation is these areas remained wet after methane rainstorms. The observations released in the journal *Science*, combined with earlier results in *Geophysical Research Letters* in February, show that the weather systems of Titan's thick atmosphere and the changes on its surface are affected by the changing seasons.

Cassini found that the surface temperature responds more rapidly to sunlight changes than does the thick atmosphere. The changing circulation pattern produced clouds in Titan's equatorial region. Clouds on Titan are formed of methane as part of an Earth-like cycle that uses methane instead of water. On Titan, methane fills lakes on the surface, saturates clouds in the atmosphere, and falls as rain. Though there is evidence that liquids have flowed on the surface at Titan's equator in the past, liquid hydrocarbons, such as methane and ethane, had only been observed on the surface in lakes at polar latitudes. These observations suggest that recent weather on Titan is similar to that over Earth's tropics. In tropical regions, Earth receives its most direct sunlight, creating a band of rising motion and rain clouds that encircle the planet. *-(SPX) Mar 18, 2011*

Pluto's atmosphere. British astronomers have confirmed the presence of carbon monoxide in the atmosphere of Pluto. Jane Greaves of the University of St. Andrews in Scotland led a team of British astronomers who found a strong signal of the gas using a telescope in Hawaii. She presented the findings at the Royal Astronomical Society's National Astronomy Meeting, held in Wales. Previously thought to extend to 60 miles above the surface, the new measurements show the atmosphere extends to more than 1,860 miles above Pluto. The carbon monoxide and methane, the only other gas to be positively identified, are probably the result of solar heating of Pluto's surface ice. In the early 90s, Pluto made its closest approach to the sun during its 248-year orbit. *- Scotland (UPI) Apr 19, 2011*

Newsletter of the Mahoning Valley Astronomical Society, Inc.

MVAS CALENDAR

- MAY 28** MVAS meeting at the MVCO. 8:00 PM.
Hosts: pot luck BBQ- bring your grilling' foods.
- JUN 18** MVAS meeting at the MVCO.
THIS IS ONE WEEK EARLY.
- JUN 25** Scenic Vista Public Night. Starts 9:01 PM- Sunset.
- JUL9-10** YSU Festival of Arts. Noon till 5:00 PM.

NATIONAL & REGIONAL EVENTS

- JUN 3-5** **Western Colorado Astronomy Club.** Summer star party. Held at the C-Loop of the Saddlehorn Campground, Colorado National Monument, near Fruita, CO 81521. \$7 gate fee.
www.wcacastronomy.org
- JUN 18-25** **Grand Canyon Star Party 2011.** Held at the Grand Canyon National Park, South Rim. See web-site for fees, registration, lodging, etc.
<http://www.tucsonastronomy.org/gcsp.html>
- JUN 29 - Jul 2** **ALCON 2011.** National Convention of the Astronomical League. Held At Ruby's Inn Convention Center, 26 South Main Street, Bryce Canyon City, UT 84764. \$50 registration for all four days of the convention. Vendors, speakers, workshops, stargazing.
<http://alcon.astroleague.org>

MVAS BOARD OF TRUSTEES

President	Sam DiRocco
Vice President	Harry Harker
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Secretary	Phil Plante
Appointed Trustee (2011 & 2012)	Bob Danko
Appointed Trustee (2010 & 2011)	Bill Pearce
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Assistant Editor	Steve Bartos
MVAS Webmaster	Harry Harker
MVAS Webmaster	Bill Pearce

MVAS REPRESENTATIVES

OTAA Representative	Harry Harker
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MVAS, P.O. BOX 564 NEWTON FALLS, OH 44444-9998
 MVAS Homepage- <http://mvsobservatory.com>

MINUTES OF THE MARCH MEETING

APRIL 30, 2011 at the MVCO

The meeting was called to order at 8:02 PM. Trustee Bob Danko presided in the absence of the President and Vice President. Roll was taken with 19 members giving a Password. Two members arrived later in the meeting. Four guests were also on hand. A Call for the Reading of the Minutes was made. Greg Higgins moved to suspend the reading and accept the minutes as published. Larry Plante seconded the motion. With no requests for corrections or other discussion, the minutes were accepted by a unanimous voice vote.

TREASURER'S REPORT: The Report was read by Steve Bartos. Mark Baker moved to accept the report as read. Lou DiNardo seconded the motion. With no further discussion, the Report was accepted by a unanimous voice vote.

General Fund 3/1 thru 3/31 2011

OPENING BALANCE:	\$	8,431.84
CLOSING BALANCE:	\$	11,637.69
AVAILABLE FUNDS (NON-RESERVED):	\$	11,387.69
ACCOUNT NET GAIN/LOSS FOR THIS PERIOD:	\$	3,205.85

INCOME:

PARTIAL PAYMENT FOR 50" MIRROR	\$	3,000.00
DUES		167.00
SKY & TEL RENEWAL		65.90
50/50 RAFFLE		21.00
DONATION		0.05
INTEREST		0.85
TOTAL INCOME	\$	3,288.80

EXPENSES:

CK# 2749 DONATION TO SCENIC VISTA PARK	\$	50.00
2750 SKY & TEL RENEWAL		32.95
TOTAL EXPENSES	\$	82.95

Reserved Funds

KEY DEPOSITS	\$	250.00
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(FYI: RESERVED FUNDS ADDENDUM - NOT GIVEN IN ABOVE REPORT)
YTD 50" PROCEEDS RESERVED FOR OAD FUND (LAND) \$ 3,500.00
CASH FROM ORIGINAL OAD FUND (ALSO FOR LAND) \$ 3,914.12
ACTUAL FUNDS AVAILABLE FOR MVAS OPERATIONS \$ 3,973.57

CORRESPONDENCE: No mail was received at the MVAS P.O. Box. No other reports of MVAS correspondence via postal mail.

COMMITTEE/OFFICER REPORTS: *Imaging Committee:* No new images were reported at this meeting. *Visual Committee and Homework:* No reports were submitted at this meeting. *Librarian Report:* Nothing new to report.

OBSERVATORY DIRECTOR'S REPORT: Larry Plante reported that things seem to be in fairly good shape since his last visit during the Chili Cook-off on April 16. The ground is still a little wet from the non-stop rain in April. When turning on the water pump, an elbow joint blew-out spilling some water on the floor of the 16" building. Folding chairs had been stored against the plumbing and is thought that this might have damaged the piping. It is hereby noted that items should not be stored next to the water pump plumbing. He hoped to repair this sometime in the coming week. Phil Plante noted that the ladder for Titan is missing, and assumes that Mike Sprague is using it again.

OLD BUSINESS: Phil Plante reported on some items he was made aware of: According to the log book, the H-alpha and white light solar filters have been returned to the 8" building. There was much rejoicing (Bob). Bob Danko pointed out that if

you use the solar filters, you should check to see if any dew had formed on them. If so, let them dry out in the Sun before using them. It is a possibility the filters could be damaged if used in a wet condition. Phil also noted that there is a simple, but specific procedure needed to use the H-alpha filter and one should seek training if you don't know this. Otherwise it won't work. Ask an officer for advice. There has been no word yet from NASA on having a speaker for the OTAA.

Bill Pearce sent an e-mail that he would contact the 50" mirror buyer in Columbus, to see when the balance of \$1,500 would be paid- which is also when he would pick up the mirror. The plan was to have this cash transaction- mirror pick-up done by the end of spring (May) as a deadline. The total \$5,000 proceeds from the mirror sale have been voted to go towards a land purchase. We will need this money to buy land. To that end, Harry has been given access to a website used by realtors that lists properties for sale. He reported (via e-mail) that there is surprisingly very little on the market right now, for what would suit our needs. He will keep an eye open for any viable observatory sites. Greg Higgins told of a 5 acre parcel SW of Newton Falls, but not far from him, in Portage County. Bob said the skies were dark at Greg's place. Others thought sites near Berlin Center, Damascus or Deerfield were also dark.

The upcoming OTAA Scenic Vista Stargaze was discussed. Current predictions didn't bode well for clear skies, but weather usually changes. Plans were made to do rockets/ planes at 1:00 PM. Phil would bring a cooler of pop. Larry and Rosemary would coordinate the coffee supplies. Larry would bring a microwave. All depends on a clear night. Many were looking forward to such a night. For our main OTAA event in August, Phil has a 19mm Panoptic to use as one main prize. Sam and Harry will assemble an eyepiece kit for a second prize. Bob Danko donated an eyepiece case to go with the kit. Phil has several door prizes as well, 2- *Video Astronomy* books, 2- 42mm monoculars, and one *Observer's Sky Atlas* handbook. All are reminded that it is not too early to start collecting items to use as door prizes of the August 27, MVAS-OTAA meeting.

Since there have been requests for MVAS clothing items that were out of stock, Phil finally got around to ordering supplies. We should be fully stocked in all items (our normal limited stock) as of this meeting. We have grey MVO shirts, dark blue 16" tees and hoodies, black 8" /MVAS tricolor tees. MVAS logo embroidered polo and mock turtle shirts as well as ball caps and knit hats are available. Nylon jackets are special order. Some production prices went up (knit hats in particular). Current pricing for tees should remain the same. Other items increase.

NEW BUSINESS: After seeing the ponds of water during the Chili Cook-off, Greg thought it is time for new gravel in the drive way. At least at the bottom. He thought it seemed like at least 12 years since we last put down gravel. (A video check showed Rick Pirko grading new gravel during the 8" building project in July 2001) Bob pointed out that we need to divert the water coming down the drive, as it washes out the gravel. Greg said there was an old brick-lined ditch that used to do this but has been silted over. Bob would see about digging this out. There is a place on Rt. 82 that can supply the gravel. It was not known, off hand, how many tons were used last time. The contractors that fixed the drains last year used this place. The out house is full with rain water and will need to be pumped out; sometime at least a month before the OTAA. No dates were set for either of these projects.

With the missing ladder for Titan, it was suggested we buy another and chain it up so that it can't be taken. It was pointed

out that is courteous to allow Mike to borrow the ladder for his new project. At the same time though, someone that comes out to use the 25" is stuck with no ladder. This ladder was acquired for safe and comfortable use of the 25". It cost about \$200 and Phil noted that he donated \$100 towards the purchase, specifically to use with Titan. A motion was made by Larry to buy another ladder. There was no second. This action is tabled for now. We will pursue an arrangement with Mike to ensure that the ladder will be available for observers, while he uses it during daytime construction. Greg moved the discussion to the OTAA meeting. He suggested we have a swap table this year. We could advertise it, allowing other clubs to bring things for sale or silent auction. MVAS had done this many years ago but stopped it in the mid 90's. All were in favor of this idea- bring your old stuff to sell, or homemade astro- gadgets. It was also decided we would rent some tables and chairs and tents for the OTAA. We would hold off on buying more tables for now, until we clean out space to store them. Rosemary got permission to haul away all the old paint and other chemical products in the tool shed that may no longer be useable due to freezing. Someone said we need to rent a dumpster and clean-out under the stage while we are spring cleaning.

GOOD OF THE SOCIETY: Dick Klesch brought the original 16" focuser that was given to him by Rick Pirko many years ago. It is mostly all brass. He wanted to know if we still wanted it; to clean and refurbish before he got rid of it. The general consensus was that it could be a good back-up to the current focuser. Phil noted it would cost nothing to hide it at the observatory and being that it is part of our history, might be worth keeping. It has been left at the MVCO for now.

Greg was going to bring this up at the next meeting, but given the discussion on the original 16" focuser, he brought up an idea he has for the current 16" focuser. In conversation with Moonlite Focusers (after a personal purchase), he thinks it would benefit and encourage use of the 16" if we refit the focuser with a modern fine focuser, machined by Moonlite. They can do this if we ship them the focuser. This action would allow use of the 3" eyepieces as well as standard 2" and 1-1/4" accessories. Planetary imaging would be much easier. Bob suggested we also do this to the focuser on the 4" Draper. The rack is just simply wearing out. He pledged a donation toward the Draper mount. That would likely cost about \$275. No price was given for the 16" focuser job. There is a Moonlite focuser on Titan and they are well made and nice to use. No action was discussed or voted on at this time. Something to think about?

VISUAL REPORTS: Phil had a whopping 2 variable star estimates in April. Bob had no luck using his 4" scope. Lou DiNardo tried Venus imaging in the daytime but it was too turbulent. Jodi spotted the ISS at 5 AM one morning coming out of shadow. Usually we see it going into Earth's shadow. April seemed like it was nearly 100% clouded out with rain.

ADJOURNMENT: Adjournment came at 8:56 PM. We thank our hosts Mike, Fred, and Lisa Boyer. The pizza and subs were tasty. The next meeting will be at the MVCO on May 28, 2011. Meeting begins at 8:00 PM. There is no scheduled host. It is a night of BBQ delights. To start the Memorial Day weekend, please bring favorite items to grill for yourself or to share. Or you may bring a dessert, snacks, or some drinks. **PASSWORD:** name a double star (your favorite?). *-minutes by Phil Plante*

MVAS REMINDERS

Newest names to add to the list of paid-up members for 2011 are: M. Boyer, J. Haklar (new), D. Harris, E. Mahoney (new), J. Pandian, and D. Schneider. Thank you all. If you haven't paid yet we hope you can soon. We know it's tough out there. If you would like some MVAS merchandise please see the Treasurer. Prices: Tee's (black, blue and grey) are \$10 each. Polo/golf shirts are \$25 each. Mock turtles are \$25 each. Hoodies are \$25 each. Ball caps are \$10 each. Knit hats are \$12 each.

MVAS ACTIVITIES

What is your Quest? Well we all know what April weather brings to the table. It can be an early summer feast or a bowl of ice cubes. We got ice cubes for the Galaxy Quest. I believe there may have been snow flakes in the air. So that was a bust.

Mild mannered. The Chili Cook-off wasn't dependant on weather, but it was still a windy, cold, rainy day. About 18 people attended. Eight crock pots worked their magic. Pot #11 was easily the hottest, radioactive brew. Only the brave went back for thirds. Pot #16 was a close second as far as heat went. The rest spanned the range from a good kick (#22) down to very mild (#8). In the end the mild chili had one more vote than #16. Congratulations to the Bartos family as they are now a two time winner of the event. Movies were watched, while corn bread and pies cleared the palate, for the next round of tasting. We thank Don (corn bread), Rosemary (pies), Bob, Mike, and Larry for drinks. All of the chili's were excellent and very tasty. It was a treat to sample them all. However, the names of the chili masters have been omitted to protect the innocent. All agreed to another Cook-off next April.

Observer's Notes.....

Remote Safety -- By Chris Stephan

MVAS member Chris Stephan sent this message pertaining to a very a serious topic. He believes this is something all observers should keep in the back of the mind. Chris has posted this as a Forum topic on the *Citizen Sky* web site, and has asked the MVAS editor the AAVSO director to include it in their respective newsletters. So here it is.

Posted: April 17, 2011 - 2:17am

This morning and afternoon, several of us from Riverwoods Field Lab helped out at our sister location, DuPuis Management Area. It was an Earth Day Saturday and we had several hundred people out. It was a lovely day. DuPuis is probably 20 miles from the nearest town. Amateur astronomers like to be away from city lights, so we often seek out country places away from cities. Something serious happened at DuPuis today, in the daytime that made me think there could be that rare occurrence when being that far out from a city could be bad.

I was manning the registration booth when a fellow ran up to me and yelled that a lady was injured. (I used to work on a rescue squad in Ohio). I ran over and found the lady in a car. A man found her way back on a trail (DuPuis is 22,000 acres). She was horseback riding and the horse stumbled and threw her. The man somehow heard he cry for help and got her into his vehicle and drove her up to where we were all at. My first look almost knocked me over. She had such bad head and neck injuries that we had to call 911. The nearest town is 20 miles away. It took 20 minutes for the Fire Dept. and EMS to arrive. I

gave her the best first aid that I could, and really tried to keep her from moving her neck. She was in such pain. When the paramedics looked at her they immediately called for the Life Flight helicopter and it landed in the field at Dupuis. They had to get her to a major trauma center fast.

Needless to say I was shaken up all day. I still cannot get her off my mind. I keep praying for her. Fortunately, she was able to move her legs.

What does this have to do with astronomy? What if you or I were out by ourselves in a distant place and got badly injured or had a major medical problem? It would take a long time for help to arrive. I saw this today first hand. Country places are great, but when help is needed, it takes them a long time to get there, and time is of the essence.

Chris Stephan
Robert Clyde Observatory
Sebring, Florida USA

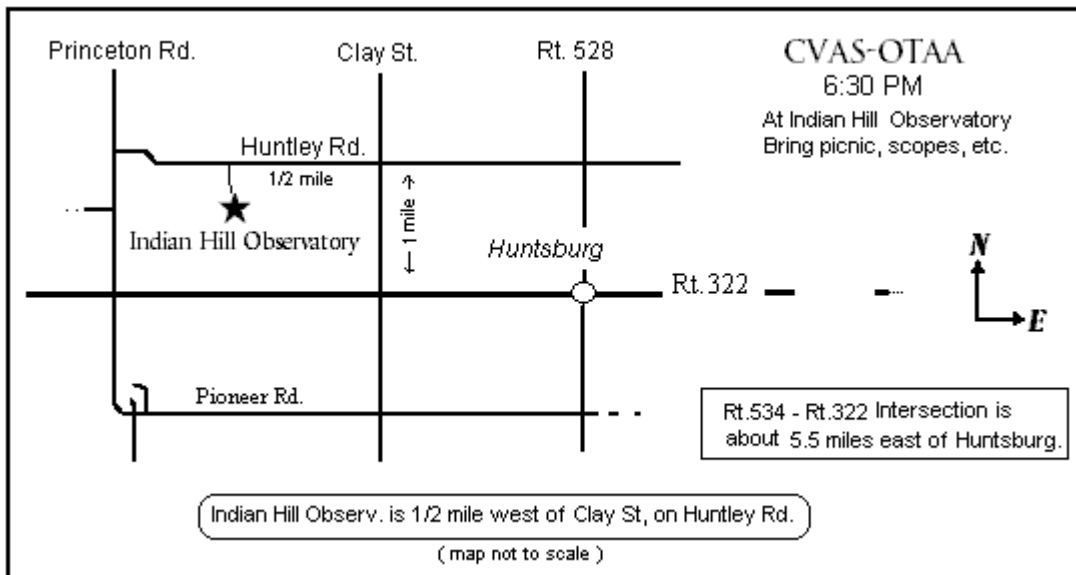
CHAGRIN VALLEY OTAA MEETING - 2011

Be sure to attend the Chagrin OTAA convention on June 4th, 2011. Start time is slated for 6:00 to 6:30 PM. It's usually a laid-back event with good friends and food. Looking forward to the grilled hot dogs! Always good stuff. Bring your scope to set up along the drive. The Indian Hill Observatory buildings and festivities are up on the hill. Walk up and enjoy the company, food and of course their great telescopes.

Check their website for more details as they become available. Learn more about the CVAS too! There is a link to a Google map for Indian Hill Observatory (IHO) on their website. For old schoolers a simple map is given below. Good to use with a road atlas. CVAS starts the regular OTAA convention season. Let's make it a good one.

Indian Hill Observatory
15735 Huntley Rd.
Huntsburg, OH 44046

<http://www.chagrinvalleyastronomy.org>



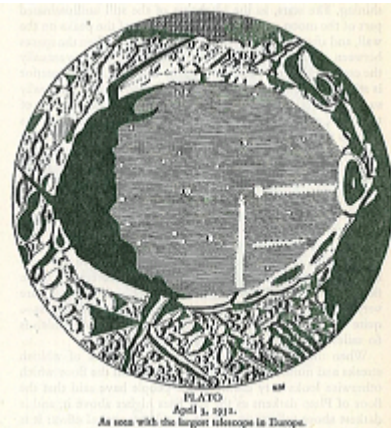
MVAS Homework:

Plato's Hook: A Homework Challenge

In his book *The Moon*, H.P. Wilkins shows his observation of the crater Plato made with the Meudon 33-inch refractor, dated April 3, 1952. It shows a curious hook shape in the shadow cast by Gamma Peak (a crater rim peak). Some claim this is a mistake made by Wilkins. Since then, others have on occasion reported the Hook. More recently, on May 3, 2009, Maurice Collins (New Zealand) made a series of images that seemed to confirm Wilkins' observation. On April 22, 2010, Phil Morgan's (UK) sketch also shows the hook. At 21:15 UT the 'hook' looked very pronounced. By 21:30 UT the effect had diminished, but still had a hooked shape. These results appear to confirm the hook effect.

The Geologic Lunar Research Group (in Europe) conducted CCD and visual studies, under similar solar illumination conditions when the Hook had been sighted. These were in March and May 2002. Visual observers reported seeing no hook. Out of nearly 200 images, a curve was sometimes detected; it curved either north or south. But there were no independent, and/or simultaneous images to confirm any of the curves. The apparent short duration of the Hook appearance (perhaps 15 minutes) would indicate the Hook may be a spurious effect caused by seeing conditions. But then one must ask why the hook is not seen at other times, when seeing is equally poor. The Morgan observations were done with a solar colongitude of 17.1° to 17.2°. This corresponds to a lunar age of an 8.5 day old moon. In fact this solar colongitude occurs 33.5 hrs. after first quarter phase (when colongitude = 0°).

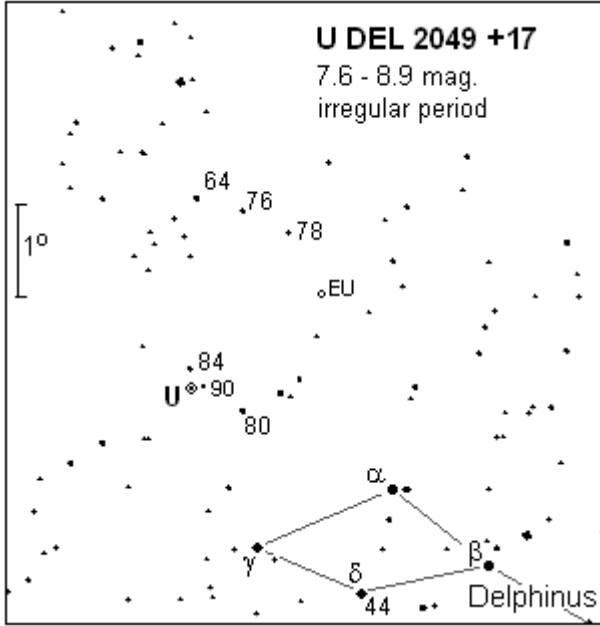
Other sightings of Plato's Hook have been earlier at around 16° colongitude. This gives us a window of about 2 hours for ideal illumination. Current explanation is that the Gamma shadow falls across a very shallow circular depression on the crater floor, warping the shadow. Whatever the cause, Plato's Hook is an extra Homework challenge. This June, when the 1st quarter moon sets, Delphinus sits up in the eastern sky. Do the Plato thing, and then move over to Delphinus. Use a fairly high magnification on Plato. Look for the Hook during the 2 day span after first quarter. In the Eastern US this summer, the Moon will have set for the prime times (16°-17° col.) But on Sep 6. at 6h 7m UT the Moon will be 15° high in the SW. Good luck!



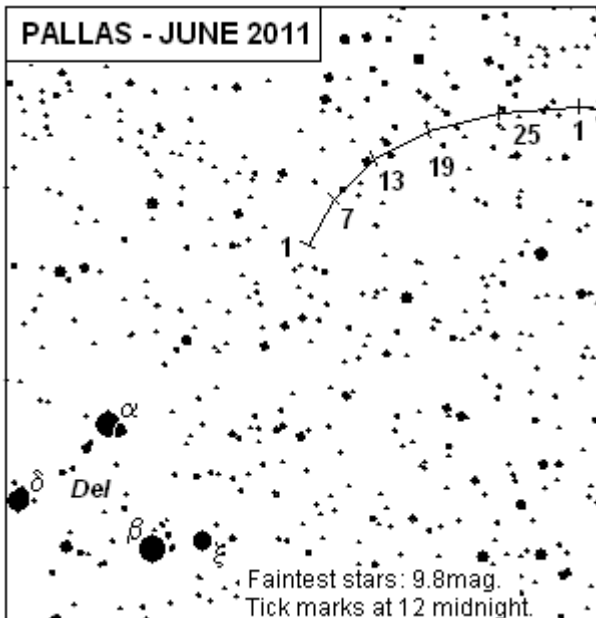
Above: Wilken's sketch from 1952. Plato's Hook can be seen in the top left, on the crater floor. South is up, in this inverted view (Newtonian, straight through a refractor or Cass, etc.)

Variable star of the month: **U Delphinus** (*abbrev:* U Del). U Del is a semi-regular giant star. It has a period around 110 days but usually varies from this. This is another easy binocular target, being one of the brighter stars in the area when at maximum. Look for either a dull yellow or light orange glow to help pick it out. Check it once a week to see if it changes.

Asteroid of the month:

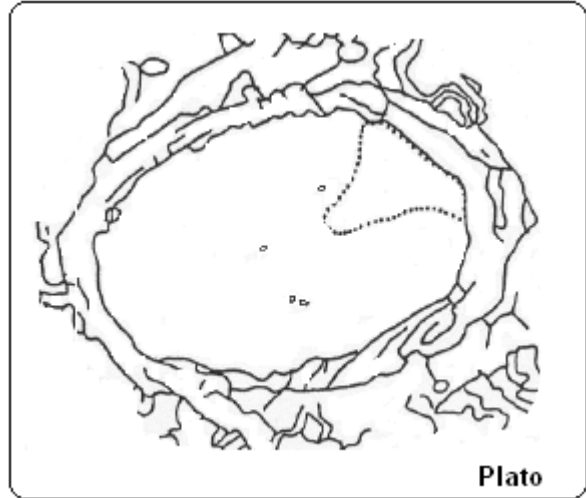


(2) **Pallas**. When you get done checking U Del, swing westward to find (2) Pallas. This 524km diameter body starts June shining at 10th magnitude. By month's end it increases to 9.7 magnitude. By the end of July it is maxed-out at 9.5 magnitude. Not very bright or much change, but it is close to other Homework targets. A 4" or larger optic will work best. Give it a shot. Go To mounts should make this easy. For others wanting to learn manual scope pointing- here is a good practice target. Sequence imaging sounds like a good project too.



OBSERVER _____

Featured object: Plato. Please try a sketch; shading with pencil, a black marker for the shadows. A simple sketch- just draw and fill-in shadows on the crater floor. South is at top. Observe when ever you can, but keep Plato's Hook in mind.



Plato Observation:

Date: _____ Time(EDT) _____ Scope _____

U Del magnitude estimates:

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

(2) Pallas Observations:

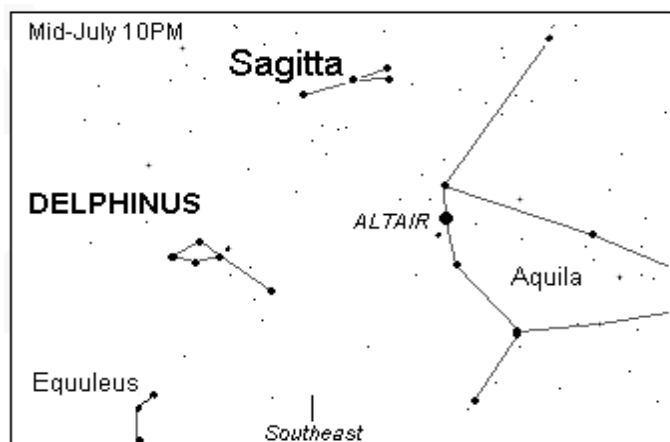
Date:	Time:	Instrument:	magnification:
_____	_____	_____	_____
_____	_____	_____	_____

Objects in Delphinus to observe

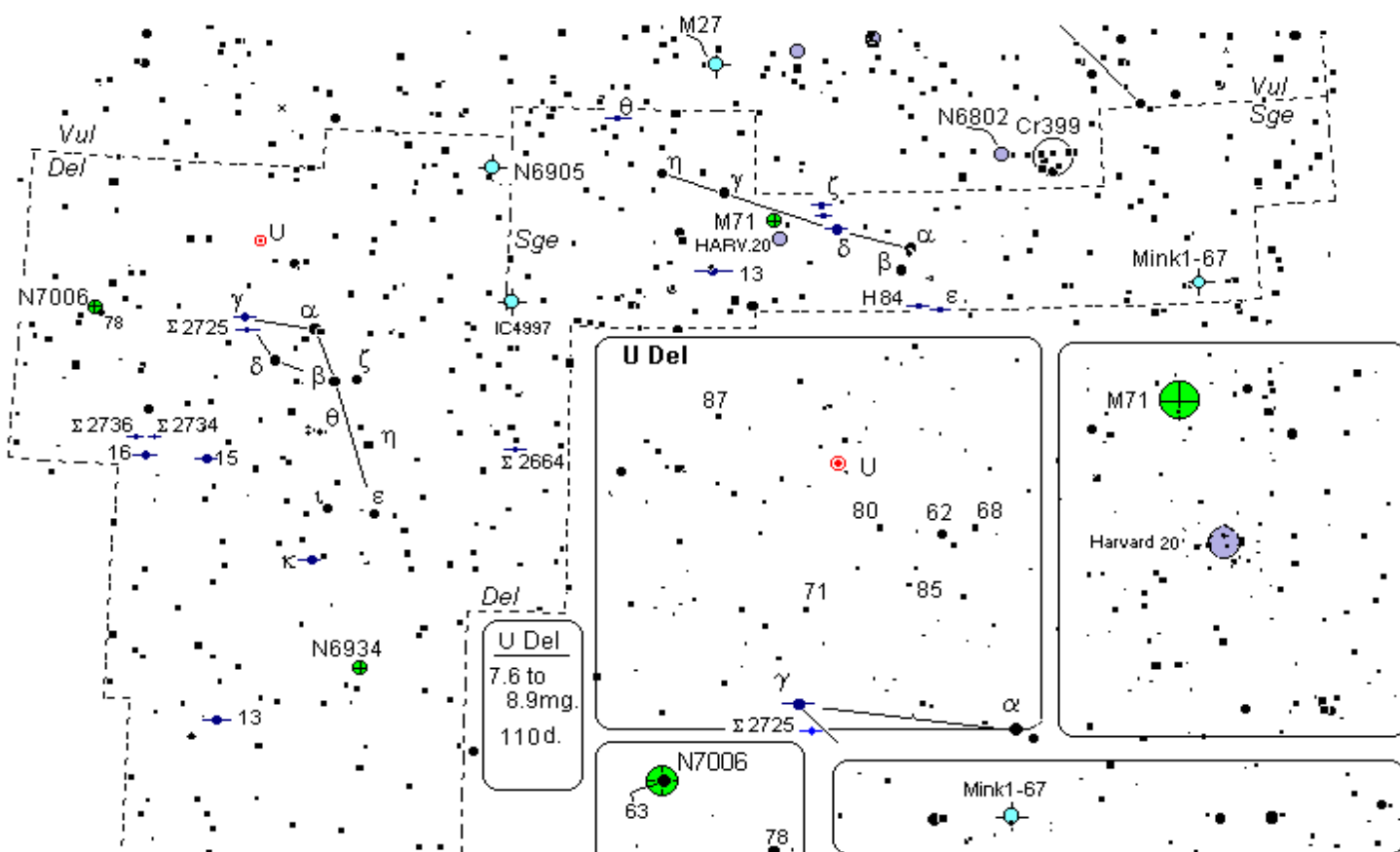
D. Sky	Date	Scope	Dbl.	Date	Scope
N- 6934	_____	_____	γ Del	_____	_____
N- 7006	_____	_____	Σ 2725	_____	_____

Lunar Occultations (see Sky Almanac):

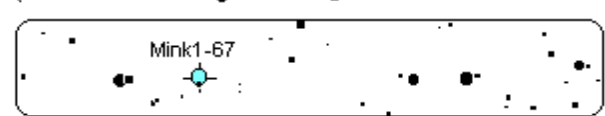
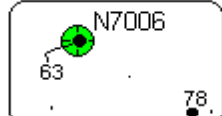
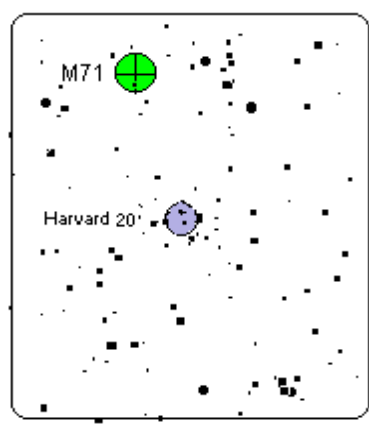
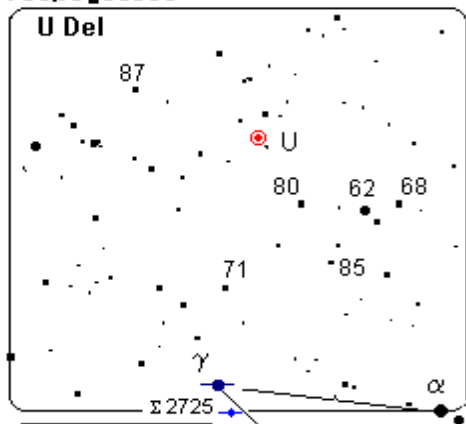
Star	Date (in UT)	Time	Scope	magx.	Event(circle)
_____	_____	_____	_____	_____x	R D
_____	_____	_____	_____	_____x	R D
_____	_____	_____	_____	_____x	R D



Here are two small constellations that deserve a look. Riding below Cygnus, they can be spotted approaching the meridian around midnight by Aug. 1st. They are Delphinus and Sagitta. Delphinus is easy to make out with naked eye. Practice makes Sagitta an easy find. Some say they can see Cr399, called the "Coathanger", with unaided eyes. Can you see it? Binoculars turn it into a nice spectacle. α Del and α Sge are each paired with a close star making for nice binocular doubles. There are a few more in the region and slow scans with binoculars will reveal them. In dark skies you might pick out M71 with large glasses. Moving on to a telescope allows you to explore the double star selections given here. The deep sky objects will need a telescope to see. The planetaries are faint. N7006 is involved with a 6.3 mag star which may wash out the view of N7006. A big scope may do the trick. Last but not least is the variable star U Del. Using the chart below you can follow its 1.5 magnitude change using binoculars. These constellations have much to offer. Enjoy!



U Del
7.6 to 8.9mg.
110 d.



DEEP SKY			
N6905	PN	11.9m	42" x 84"
N6934	GC	8.9	7'
N7006	GC	10.6	3.3'
M71	GC	8.4	7.2'
HARV.20	OC	7.7	6'
IC4997	PN	11.6	1.6"
Mink1-67	PN	8.2	1.8"
Cr399	OC	3.6	60'
N6802	OC	8.8	3.2'
M27	PN	7.6	6.7'

DOUBLE STARS			
γ Del	4.3, 5.1	9.6"	gold, bl.grn.
13 Del	5.6, 9.2	1.5"	wht., olive
Σ 2664	8.4, 8.9	27"	---
Σ 2725	7.8, 8.4	4.2"	yell., blue
Σ 2734	9.0, 9.5	24.1"	---
Σ 2736	8.2, 10.1	27.7"	---
θ Sge	6.7, 7.3	87"	yell., white
ζ Sge	5.0, 9.0	8.4"	green, blue
ϵ Sge	5.7, 8.3	88"	yell., blue
13 Sge	7.2, 9.5	80"	---
H 84	6.4, 9.5	28"	reddish, blue

Check list	
N6905	___ γ Del ___
N6934	___ 13 Del ___
N7006	___ Σ 2664 ___
M71	___ Σ 2725 ___
HARV.20	___ Σ 2734 ___
IC4997	___ Σ 2736 ___
Mink1-67	___ θ Sge ___
Cr399	___ ζ Sge ___
N6802	___ ϵ Sge ___
M27	___ 13 Sge ___
	___ H 84 ___

Instruments used:

___ on ___

___ on ___

___ on ___

___ on ___

U Del was :

___ mag. on ___/___/___

___ mag. on ___/___/___

Solar and Lunar (EDT).

Date	Sunset	Moonrise	Moonset
1	8 : 50	x : xx	8 : 58p
5	8 : 53	x : xx	11 : 55p
9	8 : 56	x : xx	1 : 26a
13	8 : 58	x : xx	3 : 44a
17	8 : 59	10 : 34p	x : xx
21	8 : 00	12 : 03a	x : xx
25	8 : 01	1 : 42a	x : xx
29	8 : 01	4 : 12a	x : xx

PLANET WATCH

Saturn Sets	Pluto Transits	Neptune Rises
3:26 AM	3:14 AM	1:38 AM
3:10 AM	2:59 AM	1:22 AM
2:54 AM	2:43 AM	1:06 AM
2:38 AM	2:27 AM	12:50 AM
2:22 AM	2:11 AM	12:35 AM
2:07 AM	1:54 AM	12:19 AM
1:57 AM	1:38 AM	12:03 AM
1:36 AM	1:22 AM	11:43 PM

June 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		

Asteroid for June 2011 (2) Pallas

Date	TRANSITS	RA		Alt.	Azm	Magnitude
		hr.	min			
1	5 : 17 AM	20	31.4	19°	83°	10.0
7	4 : 53 AM	20	30.3	24	86	10.0
13	4 : 27 AM	20	28.5	29	90	9.9
19	4 : 01 AM	20	26.0	35	94	9.8
25	3 : 34 AM	20	22.9	40	99	9.8
1	3 : 07 AM	20	19.3	45	104	9.7

(at midnight)

Variable Star of the Month: **U Del** 7.6 - 8.9 mag irregular

Celestial Highlights

Date	UT hr	Event
1	21	part. sol. eclips.-in Iceland
1	21	NEW MOON
6	00	W Lyr at max. 7.9 mag.
9	02	FIRST QUARTER MOON
10	10	Jupiter- Dbl. shadw . trans.
15	20	FULL MOON
23	11	LAST QUARTER MOON
26	08	Jupiter- Dbl. shadw . trans.
27	00	V Cnc at max. 7.9 mag.
28	06	Pluto at opposition

LUNAR OCCULTATIONS FOR: JUNE 2011

Civil (24hr)			UT			Moon	Moon	Moon	Star	Star	event	dbl./			
date	hr	min	sec	date	hr	min	sec	Ph	% illum.	alt	azimuth	name	Mag.	PA	sep.
4	22	05	39	5	02	05	39	D	11+	12°	284°	SA0 97018	8.1	103°	NA
7	22	16	49	8	02	16	49	D	38+	28	250	19 SEX	5.8	187°	NA
11	0	48	05	11	04	48	05	D	73+	16	237	ZC 1858	6.3	060°	NA
16	2	55	27	16	06	55	27	D	100-	23	197	4 SGR	4.7	230°	NA
18	1	24	19	18	05	24	19	R	93-	23	147	ZC 2902	5.9	212°	.050"
20	4	33	46	20	08	33	46	R	79-	38	169	ZC 3163	7.3	240°	NA
22	5	00	02	22	09	00	02	R	61-	43	147	SAO 146526	7.4	254°	NA
25	4	02	32	25	08	02	32	R	32-	25	95	ZC 197	7.0	209°	.100"
26	20	10	22	27	00	10	22	R	16-	14	76	SAO 93217	8.3	292°	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.)

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

GALLERY.....

Chili galore. . .

It was another wet day in April 2011. But that didn't keep the MVAS from enjoying the warming effects of their famous chili's, within the confines of the MVCO. Some accused the #11 pot as being radioactive. But we all survived. Get ready...next year's batch is on the drawing board. Next year's theme- chili that warps space-time (radioactive? been there, done that).



ABOVE: Members begin the tast testing. Supposed to start at 7:00 PM but the first bowls were filled 20 minutes early. Everyone hungry? Waited all day to feast, it seems. It was cold out anyway, so the heat hit the spot.

Below: Most of the entries are here. A few showed up later. The Radioactive #11 is the silver pot on the left. Next hottest was #16 at far right, by cracker box. The winner was very mild, it being #8 with green design (up front). Remember- it's space-warp next year!



What gives with all this rain, so far in 2011? Maybe we should schedule only rain day- indoor eating events next year. The weather gods will still give us opposite what we want. They'll give us clear, dry observing conditions. We win no matter what!



Above: It has been called a scope shed, a monolith (Kubric style), and even a spare privy. Tonight, it could have been an Ark. But only for crock pots...two of a kind. Good luck with that!



Where's Waldo?

Back in March a bunch of MVAS members went to hear Dr. Neil deGrasse Tyson speak at Mt. Union University. Roy McCullough passed along some photos he took that night. Names are omitted and individuals not singled out to protect the innocent. MVAS members can have a go at picking out their fellow stargazers. Sorry no prize, and none of them are named Waldo either! Hey... it fills up a page. Works for me.



Afterwards, Jodi and Roy took us to visit the Clark Observatory on campus. The scope was used by John Mellish (then in Leetonia, circa 1916) and possibly by our founding father Jack Draper. By 1936, Walter Haas, was the sole user of this scope. He was a mathematics student at Mt. Union at that time. He honed his solar system observing skills with this scope. Walter started ALPO in 1947.