



# THE LUNAR OBSERVER

A PUBLICATION OF THE LUNAR SECTION OF THE A.L.P.O.

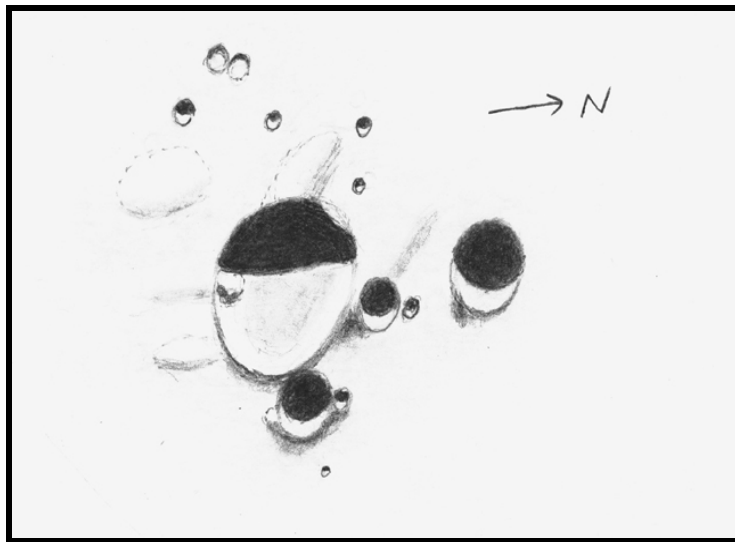
EDITED BY: Wayne Bailey [wayne.bailey@alpo-astronomy.org](mailto:wayne.bailey@alpo-astronomy.org)

17 Autumn Lane, Sewell, NJ 08080

RECENT BACK ISSUES: [http://moon.scopesandscapes.com/tlo\\_back.html](http://moon.scopesandscapes.com/tlo_back.html)

## FEATURE OF THE MONTH – DECEMBER 2009

### HAIDINGER



**Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA**

**September 12, 2009 10:08-10:40 UT**

**15 cm refl, 170x, seeing 6-8**

I sketched this crater and vicinity on the morning of Sept. 12, 2009 between two occultations. Haidinger is a relatively isolated crater south of Palus Epidemiarum (south of Mare Nubium). This is a moderately deep crater with a flattened northeast rim and a dimple in its northwest side. No detail was noticed on its floor, but there appears to be a substantial peak inside its south rim. Haidinger A is the modest but deep crater just north of Haidinger, while Haidinger J is the similar but larger crater farther north. A small crater lies between A and J, and a high point is on the southeast rim of Haidinger J, judging from the shadow there. Haidinger B is the fairly large, deep crater just east of Haidinger. There is a small peak at the

south rim of Haidinger B, and a small crater just north of B. These two features share a substantial shadow with Haidinger B. A tiny bit of shadow east of B may be a minute pit. There is an assortment of craters west and southwest of Haidinger. The southernmost of this group is Haidinger N. Three smaller, but otherwise similar craters are farther north; the one farthest northwest is Haidinger P. Two relatively shallow craters make a close pair west of Haidinger N. Several low elevations and strips of shadow surround Haidinger on the south, west and north.

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## **LUNAR CALENDAR**

### **DECEMBER 2009-JANUARY 2010 (UT)**

Dec. 02	07:31	Full Moon
Dec. 02	23:36	Extreme North Declination
Dec. 04	14:13	Moon at Perigee (363,478 km - 225,855 miles)
Dec. 06	23:00	Moon 5.1 Degrees SSW of Mars
Dec. 09	00:15	Last Quarter
Dec. 10	05:00	Moon 7.1 Degrees SSW of Saturn
Dec. 15	23:00	Moon 3.1 Degrees S of Venus
Dec. 16	02:36	Extreme South Declination
Dec. 16	12:02	New Moon (Start of Lunation 1076)
Dec. 18	07:00	Moon 1.4 Degrees NNW of Mercury
Dec. 20	14:55	Moon at Apogee (405,730 km - 252,109 miles)
Dec. 21	12:00	Moon 3.8 Degrees NNW of Jupiter
Dec. 21	12:00	Moon 3.3 Degrees NNW of Neptune
Dec. 23	21:00	Moon 5.4 Degrees NNW of Uranus
Dec. 24	17:35	First Quarter
Dec. 30	10:12	Extreme North Declination
Dec. 31	12:00	Full Moon (Partial Lunar Eclipse)
Jan. 01	20:37	Moon at Perigee (358,682 km - 222,875 miles)
Jan. 03	06:00	Moon 6.3 Degrees SSW of Mars
Jan. 06	13:00	Moon 7.4 Degrees SSW of Saturn
Jan. 07	10:41	Last Quarter
Jan. 12	08:30	Extreme South Declination
Jan. 13	19:00	Moon 4.6 Degrees SSE of Mercury
Jan. 15	07:00	Moon 1.5 Degrees NW of Venus
Jan. 15	07:12	New Moon (Start of Lunation 1077)
Jan. 17	01:41	Moon at Apogee (406,433km - 252,546 miles)
Jan. 17	21:00	Moon 3.4 Degrees NNW of Neptune
Jan. 18	04:00	Moon 4.3 Degrees NNW of Jupiter
Jan. 20	04:00	Moon 5.5 Degrees NNW of Uranus
Jan. 23	10:53	First Quarter
Jan. 26	21:06	Extreme North Declination
Jan. 30	03:00	Moon 6.2 Degrees SSW of Mars
Jan. 30	06:18	Full Moon
Jan. 30	09:04	Moon at Perigee (356,592 km - 221,576 miles)

## AN INVITATION TO JOIN THE A.L.P.O.

**The Lunar Observer** is a publication of the Association of Lunar and Planetary Observers that is available for access and participation by non-members free of charge, but there is more to the A.L.P.O. than a monthly lunar newsletter. If you are a non-member you are invited to join our organization for its many other advantages.

We have sections devoted to the observation of all types of bodies found in our solar system. Section coordinators collect and study members' observations, correspond with observers, encourage beginners, and contribute reports to our Journal at appropriate intervals.

Our quarterly journal, **The Strolling Astronomer**, contains the results of the many observing programs which we sponsor including the drawings and images produced by individual amateurs. Additional information about the A.L.P.O. and its Journal can be found on-line at: <http://www.alpo-astronomy.org/index.htm> I invite you to spend a few minutes browsing the Section Pages to learn more about the fine work being done by your fellow amateur astronomers.

To learn more about membership in the A.L.P.O. go to: <http://www.alpo-astronomy.org/main/member.html> which now also provides links so that you can enroll and pay your membership dues online.

**Note:** The published images now contain links to the original, full resolution images. Clicking on an image while connected to the internet, will download the original image, which in some cases is significantly higher resolution than the published version.

### **When submitting observations to the A.L.P.O. Lunar Section**

In addition to information specifically related to the observing program being addressed, the following data should always be included:

- Name and location of observer
- Name of feature
- Date and time (UT) of observation
- Size and type of telescope used
- Orientation of image: (North/South - East/West)
- Seeing: 1 to 10 (1-Worst 10-Best)
- Transparency: 1 to 6
- Magnification (for sketches)
- Medium employed (for photos and electronic images)

### **CALL FOR OBSERVATIONS:** **FOCUS ON: Atlas & Hercules**

*Focus on* is a bi-monthly series of articles which includes observations received for a specific feature or class of features. The subject for the **January 2010** edition will be Atlas & Hercules. Observations of all kinds (electronic or film based images, drawings, etc.) are welcomed and invited. Keep in mind that observations do not have to be recent ones, so search your files and/or add this pair of craters to your observing list and send your favorites to:

**Wayne Bailey** - [wayne.bailey@alpo-astronomy.org](mailto:wayne.bailey@alpo-astronomy.org)

**Deadline for inclusion in the Atlas-Hercules article is December 20, 2009**

### **FUTURE FOCUS ON ARTICLES:**

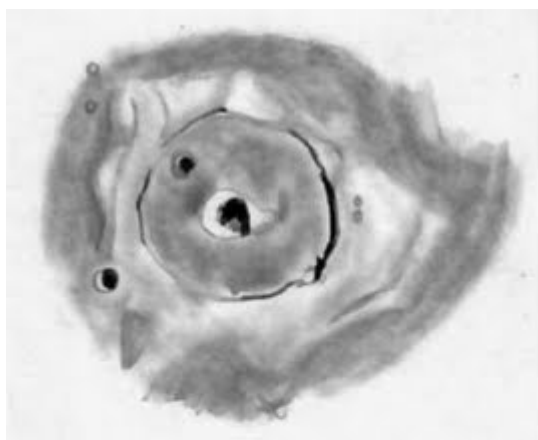
In order to provide more lead time for potential contributors the following targets have been selected:

<b>Snellius-Furnerius</b>	<b>TLO Issue: Mar. 2010</b>	<b>Deadline: Feb. 20, 2010</b>
<b>Ray Craters</b>	<b>TLO Issue: May 2010</b>	<b>Deadline: Apr. 20, 2010</b>
<b>(at all Phases)</b>		

# CASSINI

Charles Galdies

[Znith Astronomy Observatory Malta](http://Znith Astronomy Observatory Malta)

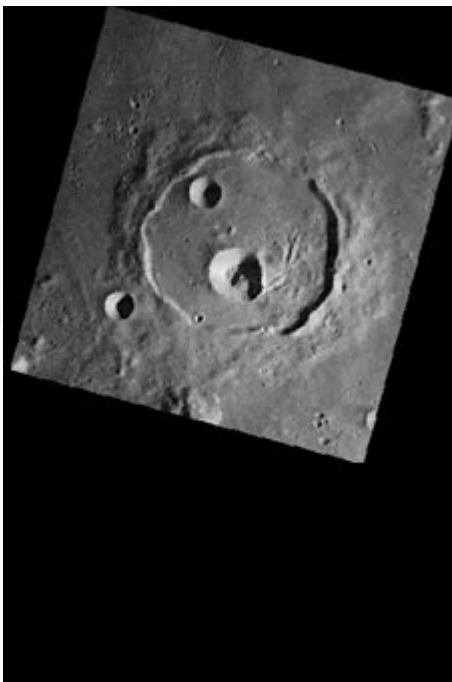


Lunar crater CASSINI  
28th August 2009,  
19:35 UT

200mm SCT f/10, 17mm televue plossl,  
2x televue barlow, moon filter,  
seeing 5/10 with thin cirrus clouds

Sketch by Charles Galdies © 2009

[Znith-observatory.blogspot.com](http://Znith-observatory.blogspot.com)



I enjoyed sketching this crater. It was a lovely summer evening, clear sky and a tempting moon. After a brief scan I decided to sketch the elusive Cassini crater. This flooded crater has a narrow wall and the tone of the floor is very similar to that of the surrounding surface. The outline of this crater is somewhat polygonal and its interior has a large bright ring plain. To the west of this there is a bright deep crater on the south edge.

The outer slope of Cassini contains a lot of detail that is hard to sketch. In my sketch I tried to bring out the gentle rising slope from the outer area up till the narrow crater walls.

To the right is a picture of cassini for reference, taken under similar sun illumination from the LOPAM database. After examining this reference picture with my sketch I noticed the similarity in the tone and subtle shadows visible on the floor of Cassini.

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# GOODNIGHT MONSIEUR CAUCHY

**Phil Morgan**

The crater Cauchy was named after the French mathematician Augustin Cauchy (1789 – 1857). As this bright little 8-mile wide crater disappears into the lunar night the famous hyperbola of the Rupes Cauchy (south) and the Rima Cauchy (north) become the focus of attention for the observer as he (or she!) scans the terminator for objects of interest.

On this occasion I was struck by the large amount of material that appeared to be piled up just outside the southern edge of the Rima Cauchy.

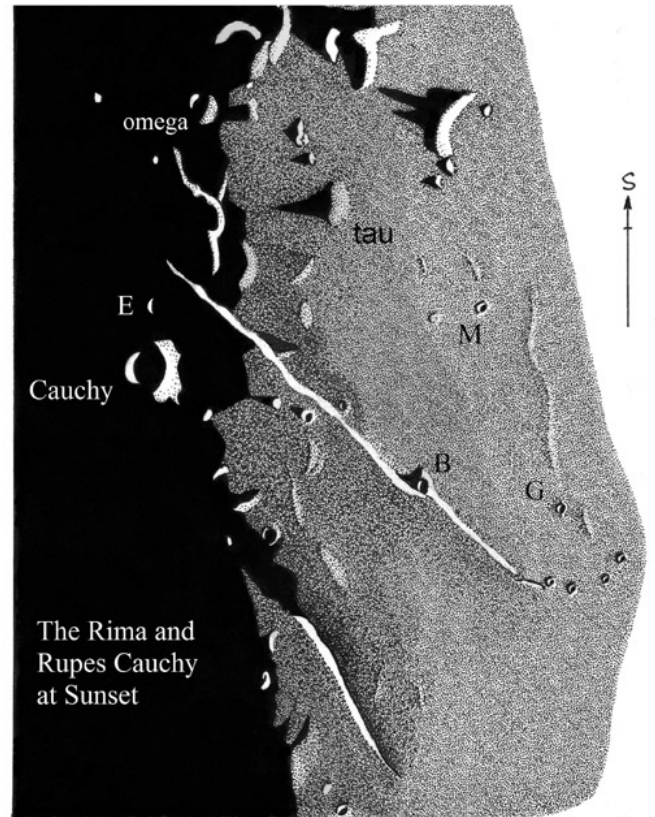
**CAUCHY** – Phillip Morgan, Worcestershire, England.  
October 8, 2009 02:45-03:25 UT. 305mm f/5  
Newtonian, 400x. Seeing 7-8/10, Transparency 3-4/6,  
Colongitude 141.4-141.7°.

Normally after the floor of a rille has sunk the keystone shaped mass exerts a pressure on the inner walls of the rille and this often gives rise to outer rille banks with levees, or raised edges. But the amount of material here was much more, some 7-8 miles wide in places.

An explanation for this is that the ground between the two Cauchy faults was originally raised up slightly to produce a low plateau. Following this uplift there was a subsequent collapse in places and this resulted in a zone of compression to the north. The large number of domes in the region is a good indicator of post Mare magmatic intrusion. It is also interesting to note that the Rupes Cauchy continues as a normal rille for a short distance at its extreme northwestern end.

To the south of Cauchy, and now partly engulfed in shadow, the dome omega has the appearance of a normal crater at this colongitude. This is of course due to the width and depth of the large summit depression.

Editor's Note: This note is also expected to appear in the BAA Lunar Section Circular.. It's reprinted here since many of our readers don't receive the BAA Circulars.



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# LACUS MORTIS

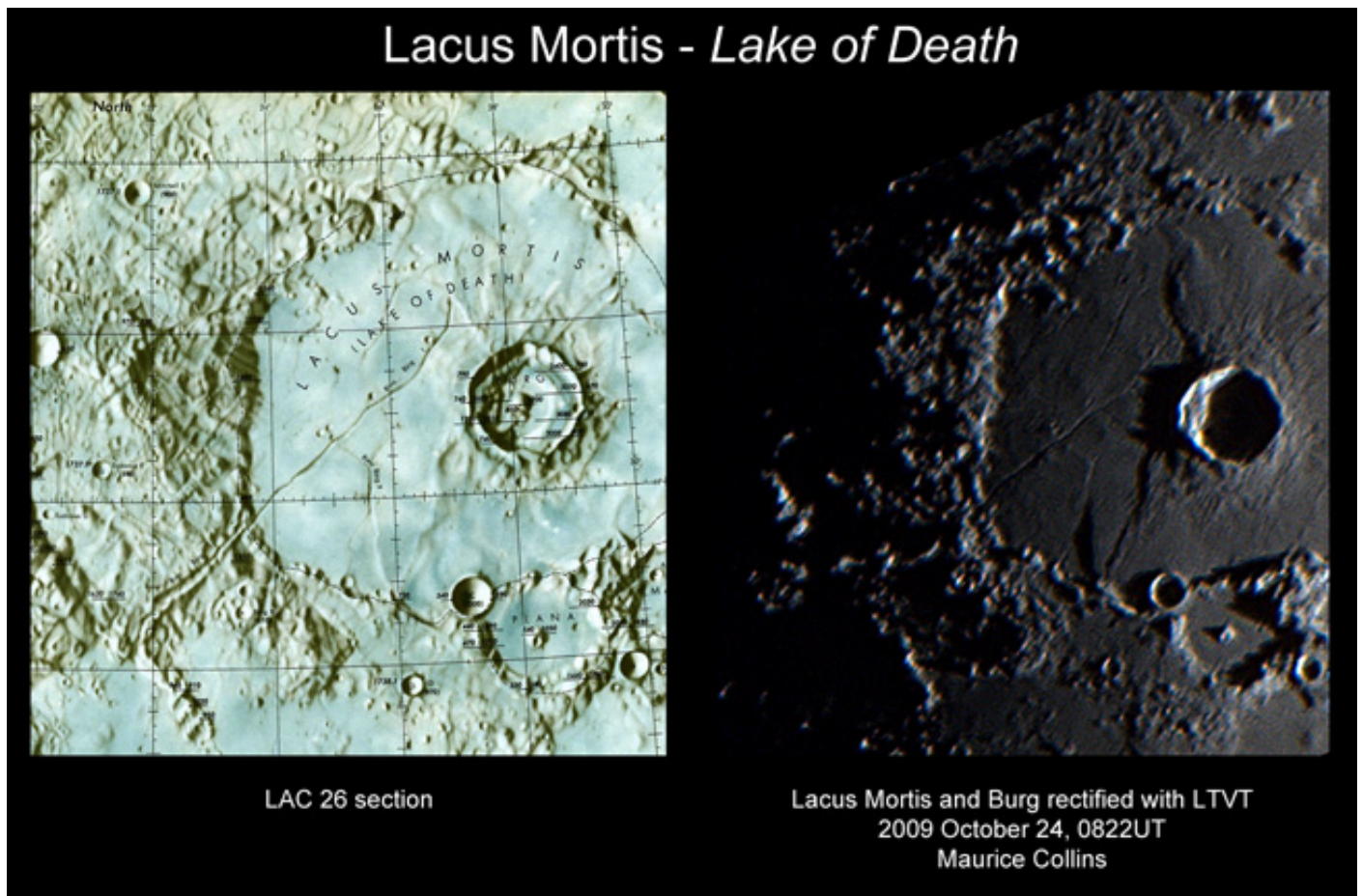
**Maurice Collins**

Here is a rectified view of Lacus Mortis from Oct 24 compared to LAC (Lunar Aeronautical Chart) 26 (<http://www.lpi.usra.edu/resources/mapcatalog/LAC/lac26/>).

You may notice that the map is different to the image in the placement of some craters at the intersection of Rima Burg I and II. At the junction of the rilles Rima Burg I and Rima Burg II there are a couple of craters that are drawn more east-west but look to be north-south on my image. I wondered if it was just a perspective thing, but it seems that they may have been drawn incorrectly by the mapmaker. But mapmakers are only human afterall!

That straight fault or wall in the centre of the image seems to be almost perpendicular to a radial from the Imbrium impact and the lineaments are probably Imbrium sculpture also. I am still working on that one.

I wish more nights at seeing A-II.



Editor's Note: On close examination, there are additional faint features near the intersection of the rimae. The lighting illustrated in the LAC chart is almost directly opposite that of Maurice's image. It would be interesting to see equivalent images under different lighting to see whether the appearance of this area is significantly different. Does anyone have images showing this detail under different illumination?

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# NECTARIS AND A NEW FACE OF THE MOON

**Howard Eskildsen**

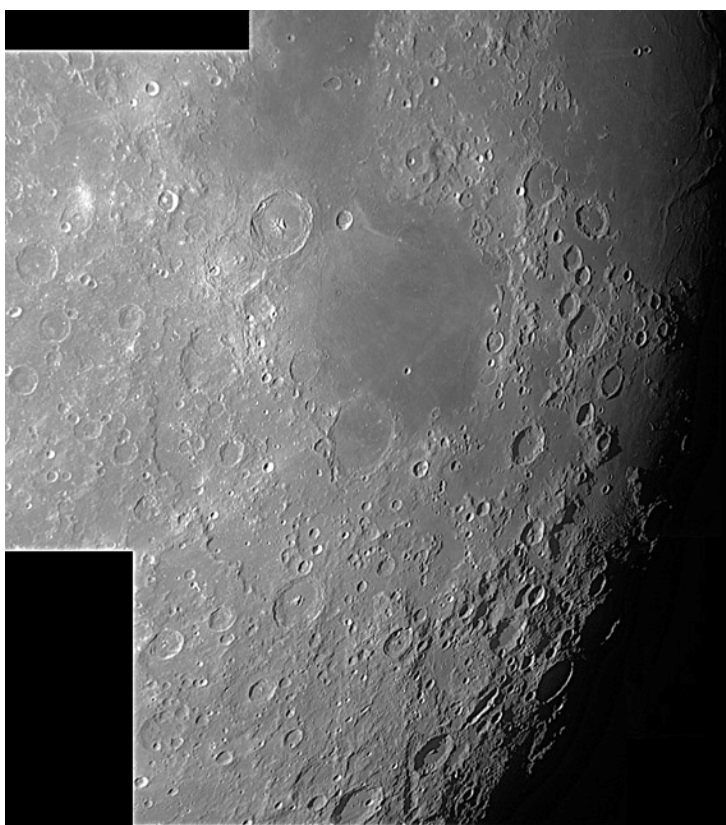
*Editors Note: Portions of the following article were published in the November 29, 2009 LPOD.*

In August I received a message in my office that someone named Pamela Baldwin had called and would like to speak to me. The name seemed vaguely familiar; was it a former patient, former co-worker? With some misgivings I returned the call, and she explained that she had seen one of my photos of the Nectaris basin on the Astronomy magazine website and wondered if her "dad", Ralph might use it in an article that he was writing about that region. For a moment I was dumbfounded, but then collected my wits and asked if she was referring to Dr. Ralph Baldwin, author of *The Face of the Moon*. She stated that, yes, he was her father and suggested that I give him a call. She even mentioned that he lived in Naples, Florida, and that he would enjoy a visit sometime.

I timidly called the number and he answered. He affirmed that he was working on an article on Mare Nectaris and invited me to come by for a visit. My schedule was full for the next 6-8 weeks, and I stated that

perhaps later in the year I could make it there to see him. He replied, "Well if you are coming, you better hurry. I am 97 years old!"

In October, Bob O'Connell, the founder of the Lunar Observing Group with the Alachua Astronomy Club and I drove over 500 miles round trip to visit with a 97 year old icon for two hours. We had a wonderful time although his poor hearing made



## A RECENT MOSAIC OF MARE

NECTARIS - Howard Eskildsen, Ocala, Florida, USA. November 5, 2009 08:23 UT. Seeing 7/10, Transparency 4/6. Meade 6" f/8 refractor, 2x barlow, DMK41AU02, W-15 Yellow filter+IR block filter.

conversation challenging. At times both Bob and I were kneeling by his chair to shout questions into his ear. He still has a sharp mind and keen wit and provided interesting insights into his prior works. Several plaques from scientific organizations and from the Department

of Defense adorned his walls. We had a grand time, but felt a quite humbled by the presence of this lunar giant, even at his advanced age.

Since that time I have acquired *The Face of the Moon* and *The Measure of the Moon*. I had already read *The Face of the Moon* that Bob O'Connell had loaned to me. Curiously, Bob's copy had originally belonged to Fred Whipple and still held a faint, haunting aroma of pipe tobacco. My two copies were retired from college libraries, and I purchased them from the internet. While I am thrilled at owning both books, I can't help but wonder that such seminal works no longer have a place in university libraries.

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# LUNAR TOPOGRAPHICAL STUDIES

Coordinator – Wayne Bailey - [wayne.bailey@alpo-astronomy.org](mailto:wayne.bailey@alpo-astronomy.org)

Assistant Coordinator – William Dembowski - [dembowski@zone-vx.com](mailto:dembowski@zone-vx.com)

Website: <http://moon.scopesandscapes.com/>

## OBSERVATIONS RECEIVED

MICHAEL BOSCHAT – HALIFAX, NOVA SCOTIA, CANADA Digital image of Mare Crisium to Endymion.

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND Digital images of 5, 7, 9, 11, 12, 13, 14 day moon, Archimedes, Aristarchus, Clavius, Copernicus, Kepler, Lacus Mortis, Mare Humorum, Plato, Plato's Hook, Southern region(2), Theophilus(2), Tycho, Apollo 11 Landing Site.

ED CRANDALL – WINSTON-SALEM, NORTH CAROLINA, USA Digital images of Atlas-Hercules(4), Montes Rhiphaeus, Sinus Iridum.

WILLIAM DEMBOWSKI – WINDBER, PENNSYLVANIA, USA Digital images of Alphonsus, Aristoteles-Eudoxus, Aristoteles-Eudoxus-Montes Caucasus, Central Highlands, Posidonius, Southeast Quadrant and Stofler-Maurolycus. Banded crater report for Burg.

HOWARD ESKILDSEN - OCALA, FLORIDA, USA Banded crater reports for Aristillus, Burg, Conon, Dawes, Maury, Messier, Rosse and Theaetetus. Digital image of Mare Nectaris.

CHARLES GALDIES – NAXXAR, MALTA Drawing of Cassini.

RICHARD HILL – TUCSON, ARIZONA, USA Digital images of Atlas-Hercules(4), Cruger-Byrgius, Eddington, Gassendi and Grimaldi-Riccioli.

PETER LLOYD – BEDFORDSHIRE, UNITED KINGDOM Digital image of Atlas-Hercules.

PHILLIP MORGAN – WORCESTERSHIRE, ENGLAND Drawing of Cauchy.

MICHAEL WHITE – LEVIN, NEW ZEALAND Digital images of 7, 12 day Moon, Hipparchus-Albategnius, Lunar X, Theophilus and Vogel-Hipparchus-Albategnius.

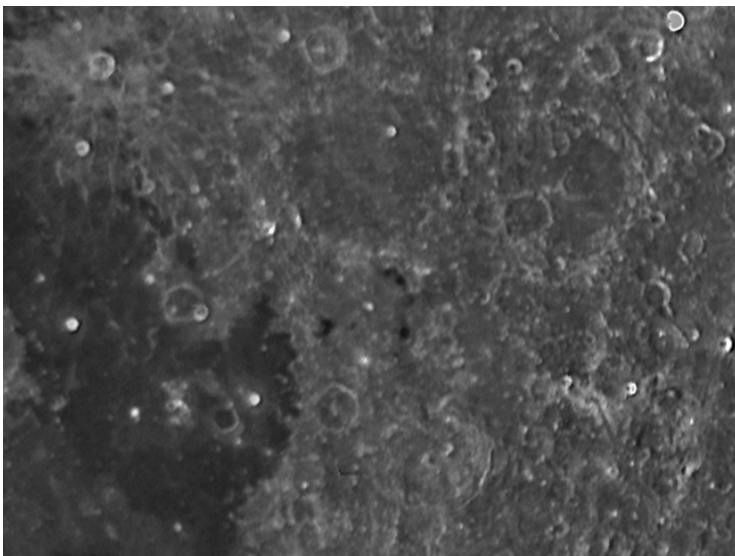
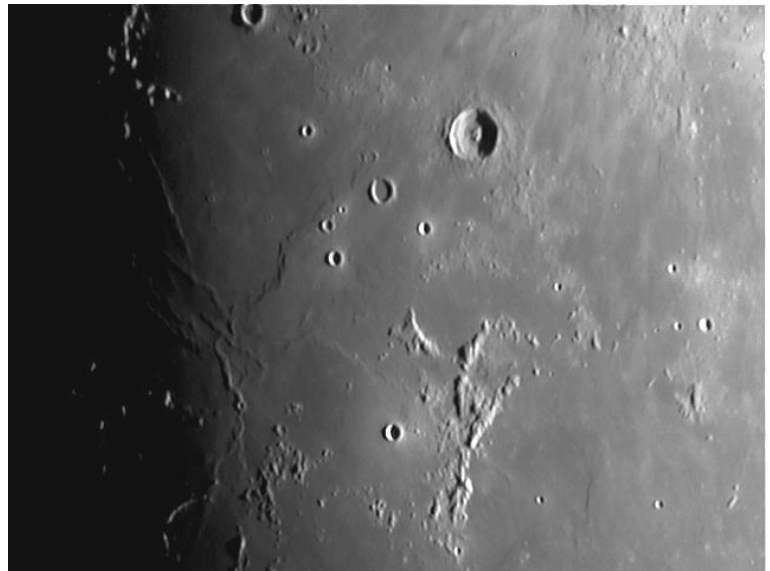
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# RECENT TOPOGRAPHICAL OBSERVATIONS



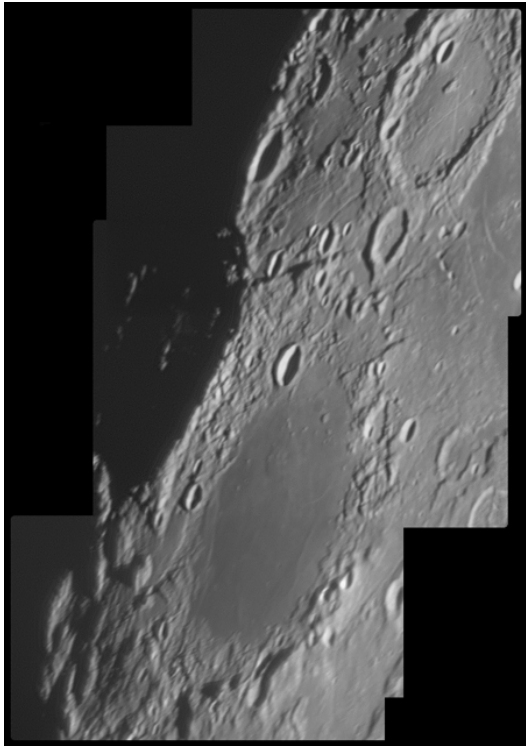
**MARE CRISIUM to ENDYMION** – Michael Boschat, Halifax, Nova Scotia, Canada.  
November 4, 2009, 00:00 UT. C8, f/10, 80x.  
Orientation: North/South - East/West. Seeing 6/10, Transparency: 4/6. Afocal, Centrios 3.0 MP DSC-3020 Digital Camera handheld over eyepiece set at 1.6 zoom.

**MONTES RIPHAEUS REGION** - Ed Crandall – Lewisville, North Carolina, USA.  
October 29, 2009 00:42 UT. Colongitude 36.5°, Seeing A III. 110 mm f/6.5 APO, 3x barlow, Toucam.

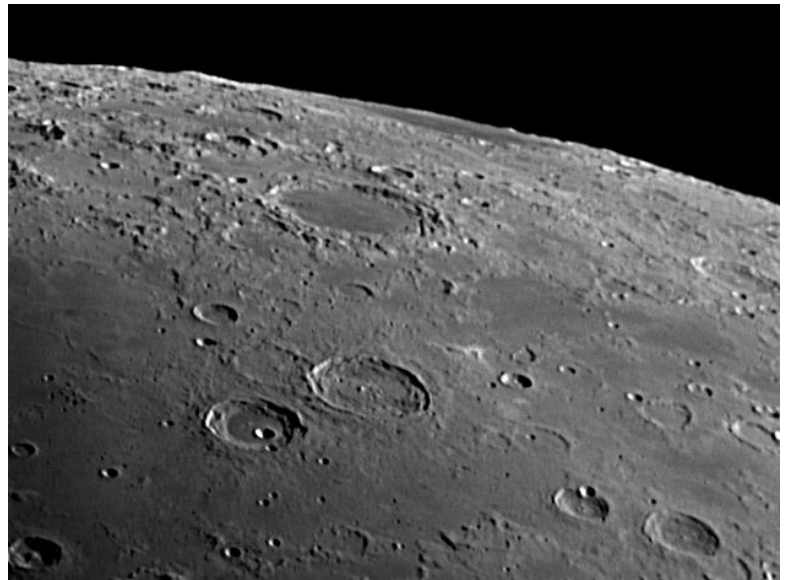


**ALPHONSUS** – William Dembowski, Windber, Pennsylvania, USA, October 6, 2009 01:52 UT, Seeing 5/10, Colongitude 116.8°. Celestron 9.25", f/10 SCT, DMK41, UV/IR filter.

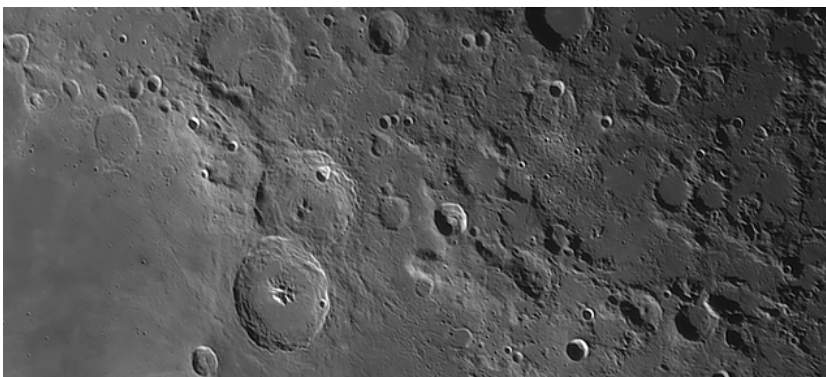
# RECENT TOPOGRAPHICAL OBSERVATIONS



**GRIMALDI to RICCIOLI** – Richard Hill, Tucson, Arizona, USA. November 1, 2009 03:06 UT. Seeing 8/10, C14, 1.6x barlow, DMK21AU04, UV/IR blocking filter.

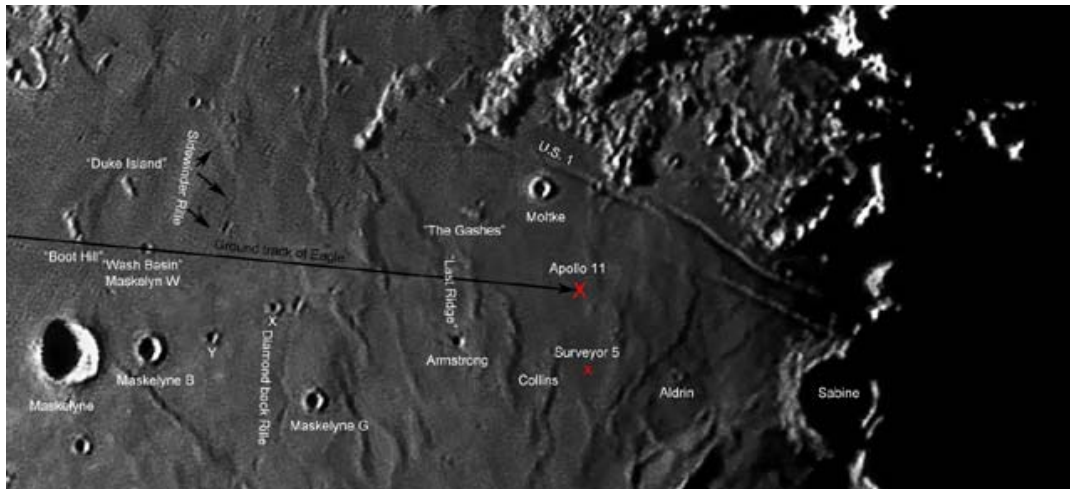


**ATLAS** – Peter Lloyd, Bedfordshire, United Kingdom. June 2, 2006, 21:35 UT. LX200, ToUcam 740k, IR pass filter.



**THEOPHILUS, CYRILLUS, CATHARINA** – Michael White – Levin, New Zealand. November 24, 2008, 06:20 UT. Orion XT10i Dobsonian, 2x barlow, DMK41AF02.

# ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

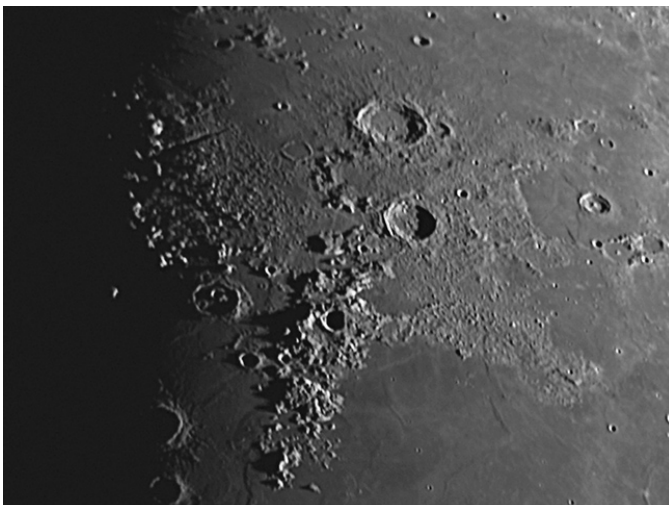


**APOLLO 11 LANDING SITE** - Maurice Collins - Palmerston North, New Zealand, October 24, 2009 08:06 UT. C8, LPI.

From images taken on Oct 24 I have managed to find some of the Apollo 11 flight path groundtrack landmarks they used on the way down to touchdown.

I used an image in the 1969 issue of National Geographic along with a section of images from my mosaic of Oct 24. It is hard to be exact about the actual landing spot, but I think it is fairly close to where I put the X. It was quite neat to be able to pick out things like "boot hill" and "last ridge", plus the craters named after the astronauts - the only craters named for living persons.

**SINUS IRIDUM** - Ed Crandall – Lewisville, North Carolina, USA. October 29, 2009 00:19 UT. Colongitude 35.5°, Seeing A III. 110 mm f/6.5 APO, 3x barlow, Toucam.



**ARISTOTELES-MONTES CAUCASUS** – William Dembowski, Windber, Pennsylvania, USA, October 25, 2009 23:24 UT, Seeing 5/10, Colongitude 359.5°. Celestron 9.25", f/10 SCT, DMK41, UV/IR filter.

## ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

**CRUGER to BYRGIUS** – Richard Hill, Tucson, Arizona, USA. November 1, 2009 03:11 UT. Seeing 8/10, C14, 1.6x barlow, DMK21AU04, UV/IR blocking filter.



**EDDINGTON** – Richard Hill, Tucson, Arizona, USA. November 1, 2009 03:06 UT. Seeing 8/10, C14, 1.6x barlow, DMK21AU04, UV/IR blocking filter.



**LUNAR X near WERNER** – Michael White – Levin, New Zealand. September 26, 2008, 07:14 UT. Seeing A-IV. Orion XT10i Dobsonian, 2x barlow + 1.6x barlow, DMK41AF02.



# **BRIGHT LUNAR RAYS PROJECT**

Coordinator – Wayne Bailey – [wayne.bailey@alpo-astronomy.org](mailto:wayne.bailey@alpo-astronomy.org)

Assistant Coordinator – William Dembowski – [dembowski@zone-vx.com](mailto:dembowski@zone-vx.com)

Bright Lunar Rays Website: <http://moon.scopesandscapes.com/alpo-rays.html>

## **RECENT RAY OBSERVATIONS**

### **COPERNICUS & KEPLER –**

Maurice Collins - Palmerston North,  
New Zealand, October 31, 2009  
10:37-10:38 UT. C8, 3x barlow, LPI.



**13 DAY MOON** - Maurice Collins - Palmerston North, New Zealand,  
October 31, 2009 09:00-09:35 UT. C8, LPI.

Editor's Note: Maurice sent both a normal (left) and supersaturated (right) version of this mosaic. I've used it here in the rays section to illustrate that some of the ray structure becomes more obvious in the supersaturated version. For example, Tycho's rays on the highlands, and the fine structure in Copernicus' rays. Appropriate color filters should produce similar effects in monochrome images.



# **BANDED CRATERS PROGRAM**

**Coordinator – Wayne Bailey – [wayne.bailey@alpo-astronomy.org](mailto:wayne.bailey@alpo-astronomy.org)**

**Assistant Coordinator – William Dembowski - [dembowski@zone-vx.com](mailto:dembowski@zone-vx.com)**

**Banded Craters Program Website: <http://moon.scopesandscapes.com/alpo-bcp.html>**

## A.L.P.O. Lunar Section - Banded Craters Observing Form

Crater Observed: Burg  
Observer: William M. Dembowski      Observing Station: Elton Moonshine Observatory  
Mailing Address: 219 Old Bedford Pike, Windber, PA 15963  
Telescope: Celestron SCT      2.35 cm      f/10  
Imaging: ImagingSource DMK41      Filters: UV/IR  
Seeing: 6/10      Transparency: 3/6  
Date (UT): 2009/10/26      Time (UT): 00:26  
Colongitude: 00.0

Image: (North up) (East right)

NOTES: No banding visible at this time.

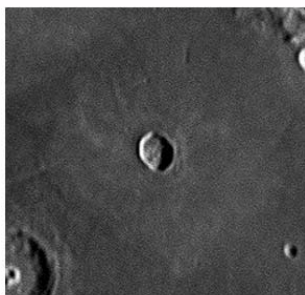


## A.L.P.O. Lunar Section: Selected Areas Program Banded Craters Observing Form

Crater Observed: Dawes  
Observer: Howard Eskildsen      Observing Station: Ocala, Florida  
Mailing Address: P.O. Box 830415, Ocala, Florida, 34483  
Telescope: Meade 6" Refractor      152 cm      f/8  
Imaging: DMK 41AU02.AS, 2X Barlow,      Filters: W15 Yellow and IR block  
Seeing: 6/10      Transparency: 5/6  
Date (UT): 2009/10/26      Time (UT): 00:19  
Colongitude: 00°  
Position of crater:      Selen. Long.      Selen. Lat.  
                                 26.4° East      17.2° North  
Lunar Atlas Used as Reference: Virtual Moon Atlas Expert Version 2.1

Image (North up):

Comments:



A dark lane crosses from SW to NE across the crater with bright albedo features lining either side of the band. The lighter margins appear to be due to clusters of bright points. This crater is more complex than it would seem at first glance.

# **LUNAR TRANSIENT PHENOMENA**

**Coordinator – Dr. Anthony Cook – [atc@aber.ac.uk](mailto:atc@aber.ac.uk)**

**Assistant Coordinator – David O. Darling - [DOD121252@aol.com](mailto:DOD121252@aol.com)**

## **LTP NEWSLETTER – DECEMBER 2009**

**Dr. Anthony Cook - Coordinator**

Firstly I wish our readers Happy Holidays and hopefully lots of clear sky. Observations for Oct 2009 were received from the following observers: Jay Albert (Lakeworth, FL, USA), Clive Brook (Plymouth, UK), Maurice Collins (Palmerston North, New Zealand), myself (Aberystwyth University, robotic telescope), Marie Cook (Mundesley, UK), Steve Lang (New Zealand), and Mike White (New Zealand). For those 8 observers receiving their alerts on the Twitter TLP alert page – <http://twitter.com/lunarnaut> – please be patient, alerts are comparatively rare, although this year there have been on average three suspected TLP reports every two months. For those who would like to receive TLP alerts the old fashioned way, by telephone, please let me know your name, telephone No. and how late you would like to be called. Other observers may prefer to receive alerts by email alone. For those who think that they are on the TLP network it might be a good idea to reconfirm your details and how late you would wish to be called in case personal preferences have changed.

Readers will no doubt have heard of the confirmation of water (and other molecules) being detected at the lunar south pole, after a thorough investigation of the LCROSS impact data. What implications this has for TLP research remains to be seen. We shall hopefully learn more about what gas species has made it into the cold traps at the poles, some of which might be from residual lunar outgassing over the past tens of millions of years, although watery comet impacts and solar wind H emplacement seem to be the main sources of the now frozen volatiles.

**TLP reports:** No TLP reports were received for the month of October, unless you count the instrument only read-out from LCROSS shepherding satellite and LRO during and subsequently after the LCROSS impact. However I have recently learnt about an interesting suspected TLP in Eratosthenes on 2009 Nov 25 at UT 18:42-21:03. This was discovered visually by Paul Abel, a BAA observer and verified by two others: Trevor Little and Chris North, all using Sir Patrick Moore's 15" reflector at Selsey in the UK. Although the alert went out late, due to my mobile phone battery running down when I was in the middle of nowhere, the length of the event permitted good coverage by other observers and a lot of excellent imagery was captured. The effect seen was a of brownish tinge on three tiny patches of the terraced wall of the illuminated north west inner rim of Eratosthenes. Only the Selsey observers, and the BAA Lunar Section's director, Prof. Bill Leatherbarrow, saw colour here. Prof. Leatherbarrow though suspects that what he saw was probably spurious colour as this was visible on other craters. The Selsey observers however made a thorough check for spurious colour, even changing eyepieces, and say that they ruled this out as the cause. Furthermore their observing conditions at Selsey were the best in the UK out of all the observations received, and they had the largest aperture. I have also tried to simulate where spurious colour would have been with some of the images that I was sent and have failed to model colour in the correct place. A more detailed and thorough report, and assigned TLP weight, will be discussed next month once I have received all available observations and images.

Although not a report from this year, I received details of a naked eye observation of Mons Pico from John Adey, here in the UK. He later took some CCD images through his telescope, which although show the mountain as very bright, do not show anything out of the ordinary. John's observation was on 2008 Apr 13 at UT 18:55-20:00 and interestingly coincides with a suspected (albeit low weight) TLP at the same mountain by A. Jarwaski (also in the UK) that I mentioned last year. So I am curious, has anybody in ALPO

or the BAA ever seen Mons Pico emerging from the terminator with the naked eye? Although it seems improbable, remember that some people claim to see Aristarchus on the Full Moon disk, or in Earthshine at times without the aid of a telescope, and Mons Pico can appear as a prominent bright star quite far from the terminator when it starts to be illuminated at lunar sunrise.

**Archive reports:** Following on from the repeat illumination Plato observations from last month, I would like to thank Brendan Shaw for sending me some additional similar illumination images of Plato. I also would like to correct a typo, on Marie Cook's 200 Nov 29 UT 19:20 report, it should have read: "A usual triangular lighter area was seen on the floor" instead I had accidentally used the word "unusual". This month we will take a look at repeat illumination observation that match the following TLP from 1976:

Aristarchus 1976 Aug 15 UT 23:00-23:45 Observed by Garbott (Bedfordshire, England, 10" reflector x500, seeing Antoniadi I) and by Moore (Sussex, England, 15" reflector, x360, seeing Antoniadi IV) "Noted blue color on N. wall extending toward Herod. Also saw orange color in S. region. Confirmed by father. (similar to many of Bartlett's rept's.), Moore noted nothing unusual at 2320h." NASA catalog weight=4 (high). NASA catalog ID #1444. ALPO/BAA weight = 2.

Here are some corresponding repeat illumination descriptive reports and one sketch.....

2009 Sep 9 UT 22:40 Marie Cook (Mundesley, UK, 90mm Questar, x80-130, seeing III-IV, transparency good, no spurious color) "no color seen".

2009 Oct 9 UT 10:25-11:42 Jay Albert (Lake Worth, FL, USA, Celestron-11, x311-400, seeing 8-6/10 and transparency 3<sup>rd</sup> mag but decreasing as twilight came along) "No color seen. However did see a gently curving terrace lower down on the east wall. All the walls were well lit and the dark vertical bands were prominent".

2009 Nov 7 UT 23:00 Alan Heath (Long Eaton, UK, Celestron-8, x200, seeing IV) "Made a search of Aristarchus and its environs for colour. None seen. The north part of Aristarchus was slightly brighter than the rest. Darker regions around the formation were grey. No obvious colour seen".

2009 Nov 7 UT 23:20-23:40 Marie Cook (Mundesley, UK, 90mm Questar, x80, seeing III, transparency very hazy with cirrus present) "No color seen. Usual region beyond the crater displayed a dark region to the north".

2009 Nov 8 UT 02:00 Clive Brook (Plymouth, UK, 5" refractor, x200, conditions mediocre at best) "Nothing unusual seen".

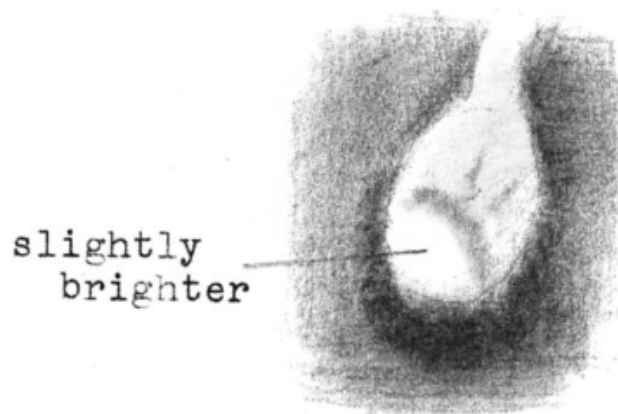


Fig 1. Sktech of Aristarchus by Alan Heath (Long Eaton, UK) on 2009 Nov 07 UT 23:00. North is at the bottom. This should have been the appearance that Garbott saw in 1976, albeit without any colour.

The above visual observations are all within +/-0.75 deg in selenographic colongitude of the original report, or about 5 days past Full Moon. In this exercise, of digging through the archives, we have not really

solved the mystery behind what the original TLP report was. However the fact that no one has since seen colour at this phase, suggests that it was probably not natural surface colour, and anyway this would have been seen at other phases too. Spurious colour is another contender for an explanation, and might explain why Sir Patrick Moore did not see any colour on the night of the TLP, although his observing conditions were far worse. I think what we really need now is a digital image so that we can put the spurious colour theory to the test. Repeat illumination chances will crop up on the web site below, so please keep a look out for this particular observation so we can put things to the test.

For repeat illumination TLP predictions for the coming month, these can be found on the following web site: <http://users.aber.ac.uk/atc/tlp/tlp.htm> .For members who do not have access to the internet, please drop me a line and I will post predictions to you. If you would like to join the TLP telephone alert team, please let me know your phone No. and how late you wish to be contacted. If in the unlikely event you see a TLP, please give me a call on my cell phone: +44 (0)798 505 5681 and I will alert other observers. Note when telephoning from outside the UK you must not use the (0). When phoning from within the UK please do not use the +44! Twitter TLP alerts can be accessed on <http://twitter.com/lunarnaut> but you will need to contact me to ask for permission to access these.

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## KEY TO IMAGES IN THIS ISSUE

1. **Alphonsus**
2. **Apollo 11**
3. **Aristoteles**
4. **Burg-Lacus Mortis**
5. **Byrgius**
6. **Cauchy**
7. **Copernicus**
8. **Cruger**
9. **Dawes**
10. **Eddington**
11. **Endymion**
12. **Grimaldi**
13. **Haidinger**
14. **Kepler**
15. **Mare Crisium**
16. **Mare Nectaris**
17. **Montes Caucasus**
18. **Montes Rhipaeus**
19. **Sinus Iridum**
20. **Theophilus**
21. **Werner-Lunar X**

### FOCUS ON targets

**X** = Atlas & Hercules (January)  
**Y** = Snellius & Furnerius (March)  
**Ray Craters** (May)

