

# THE LUNAR OBSERVER

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

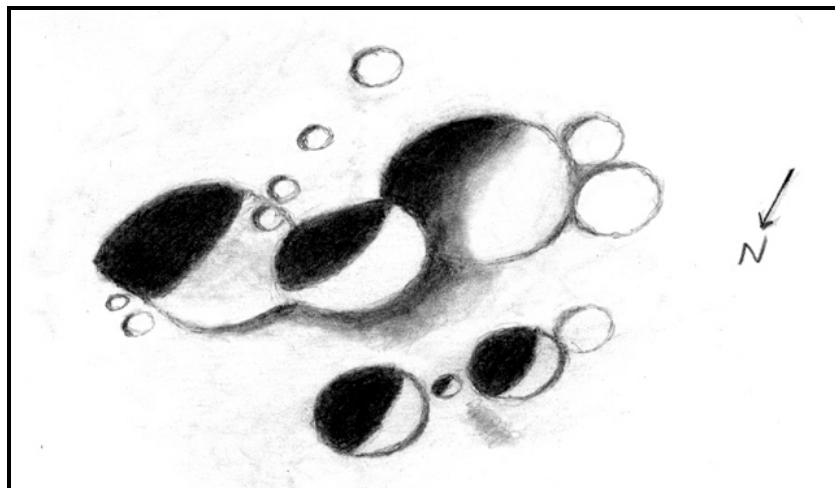
EDITED BY: Wayne Bailey [wayne.bailey@alpo-astronomy.org](mailto:wayne.bailey@alpo-astronomy.org)

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

## FEATURE OF THE MONTH – AUGUST 2012

### Dove



**Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA**  
**February 28, 2012 02:30-03:10 UT, 15 cm refl, 170x, seeing 7-8/10**

I sketched this crater and vicinity on the evening of Feb. 27/28, 2012 after the moon hid 45 Ari. This area is just north of Pitiscus and well south of Mare Nectaris. Dove itself is the easternmost of a conspicuous trio of overlapping craters. Dove has a pointed east end and a flattened or indented northeast rim seemingly caused by two small shallow craters. Dove C is the middle crater of this trio. It overlaps both Dove and Pitiscus B to its southwest. Dove C is obviously younger than its neighbors. It is crisply outlined and has a bright interior. Dove C does appear to have a slightly flattened southeast rim. Pitiscus B has more interior shadow than its neighbors. Some of this may be from the rim of Dove C. Two shallow saucers abut Pitiscus B to the west and southwest. Another modest saucer is east of Pitiscus B, and three more pits extend northward from there; the one at the north end is within the rim of Dove near Dove C. There is much exterior shadowing along the west side of Dove C, some of it spreading to its neighbors. The deep, crisp crater northwest of Dove C is Pitiscus K, and Pitiscus F is the similar crater to its southwest near B. There is a small, deep pit between

Pitiscus K and F, and a larger but shallower crater south-west of F. A small dusky patch is north of Pitiscus F and west of the nearby pit, but it does not appear to be directly connected to either crater.

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# **LUNAR CALENDAR**

## **AUGUST-SEPTEMBER 2012 (UT)**

Aug. 02	03:26	Full Moon
Aug. 03	19:00	Moon 5.7 Degrees NNW of Neptune
Aug. 06	14:00	Moon 4.8 Degrees NNW of Uranus
Aug. 09	18:56	Last Quarter
Aug. 10	10:53	Moon at Apogee (404,124 km – 251,111 miles)
Aug. 11	22:00	Moon 0.68 Degrees E of Jupiter
Aug. 12	09:48	Extreme North Declination
Aug. 13	21:00	Moon 0.90 Degrees ENE of Venus
Aug. 16	02:00	Moon 3.4 Degrees SSW of Mercury
Aug. 17	15:53	New Moon (Start of Lunation 1109)
Aug. 22	00:00	Moon 5.2 Degrees SSW of Saturn
Aug. 22	05:00	Moon 2.4 Degrees SW of Mars
Aug. 23	19:40	Moon at Perigee (369,730 km – 229,740 miles)
Aug. 24	13:54	First Quarter
Aug. 25	18:42	Extreme South Declination
Aug. 27	01:00	Moon 0.88 Degrees SSW of Pluto
Aug. 31	01:00	Moon 5.6 Degrees NNW of Neptune
Aug. 31	13:57	Full Moon
Sept. 02	22:00	Moon 4.7 Degrees NNW of Uranus
Sept. 07	06:01	Moon at Apogee (404,295 km – 251,217 miles)
Sept. 08	10:00	Moon 0.70 Degrees SSW of Jupiter
Sept. 08	13:15	Last Quarter
Sept. 08	18:12	Extreme North Declination
Sept. 09	07:00	Moon 1.0 Degree NW of asteroid 1-Ceres
Sept. 12	16:00	Moon 3.6 Degrees S of Venus
Sept. 13	09:00	Comet Gehrels-2 0.75 Degrees ESE of Moon
Sept. 16	02:09	New Moon (Start of Lunation 1110)
Sept. 16	12:00	Moon 5.5 Degrees SSW of Mercury
Sept. 18	12:00	Moon 4.8 Degrees SSW of Saturn
Sept. 19	02:53	Moon at Perigee (365,748 km – 227,265 miles)
Sept. 19	22:00	Moon 0.83 Degrees ESE of Mars
Sept. 22	00:12	Extreme South Declination
Sept. 22	19:41	First Quarter
Sept. 23	06:00	Moon 1.1 Degrees WSW of Pluto
Sept. 27	06:00	Moon 5.8 Degrees NNW of Neptune
Sept. 30	02:00	Moon 4.7 Degrees NNW of Uranus
Sept. 30	03:17	Full Moon

## **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 nonmember 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 is on-line at: http://www.alpoastronomy.org/index.htm](http://www.alpoastronomy.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.

### **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 be included (**Bold items are required**):

**Name and location of observer**

**Name of feature**

**Date and time (UT) of observation**

**Size and type of telescope used**

**Magnification (for sketches)**

Orientation of image: (North/South - East/West)

Seeing: 1 to 10 (1-Worst 10-Best)

Transparency: 1 to 6

Medium employed (for photos and electronic images)

### **CALL FOR OBSERVATIONS:**

#### **FOCUS ON: Aristillus**

*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 **September 2012** edition will be **the crater Aristillus and surroundings**. Observations at all phases and 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 Aristillus 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 Aristillus article is August 20, 2012**

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

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

**Atlas time series      TLO Issue: November 2012**

**Deadline: October 20, 2012**

**Alphonsus time series      TLO Issue: January 2013**

**Deadline: December 20, 2012**

For these Focus On articles, I would like to get images covering as wide a range of phases (colongitudes) as possible to examine variations of the albedo features in the craters. So send as many different images as you can get.

## **Notice**

The September issue of The Lunar Observer will probably be about a week later than usual. I'll be travelling, with unknown internet access, for several weeks around the end of August.

# DEPRESSION IN RUINED CRATER BY DORSA BARLOW

**Howard Eskildsen**

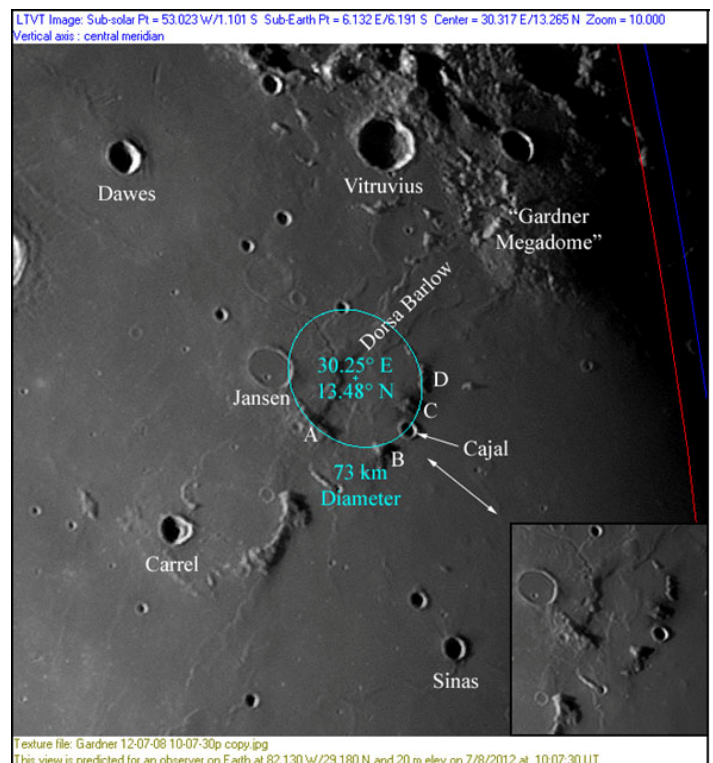
A depressed area lies near the center of a possible ruined crater presumed to have been present prior to the mare lava deposits. LTVT was used to make a circle which roughly fits the arc of mountains to the south and east of Dorsa Barlow. Coordinates of the proposed crater center were derived from LTVT and are shown on image.

Per LROC ACT-REACT QuickMap:

Elevation crater center	-1450m
Deepest portion of depression	-1500m
Ridge A	+ 80m
Mountain B	+ 0m
Mountain C	-550m
Ridge D	-800m

Dorsa Barlow varies irregularly in elevation from -1000m to -750m between ridge A and a point about 50 km from the ridge. About 70 km from ridge A, it rises upward to -700m in the approximate area where the buried rim of the hypothetical crater should lie. From there the dorsa trends downward to -1040m near the foot of the Gardner Megadome.

**DORSA BARLOW** - Howard Eskildsen-Ocala, Florida, USA. July 8, 2012 10:08 UT. Seeing 6/10, Transparency 3/6. 6" f/8 refractor, Explore Scientific lens, 2X Barlow, DMK 41AU02.AS, IR & V block filters



# FURTHER NORTH

## **Phil Morgan**

Last time that I visited this region on 2012 March 30<sup>th</sup> (LSC Vol.49 No.5 May 2012) I concentrated on the area from Montes Spitzbergen to Kirch. This time I decided to continue my journey northwards as far as what Johannes Hevelius described as “The Great Black Lake”. The wonderful 104 km x 104km Plato.

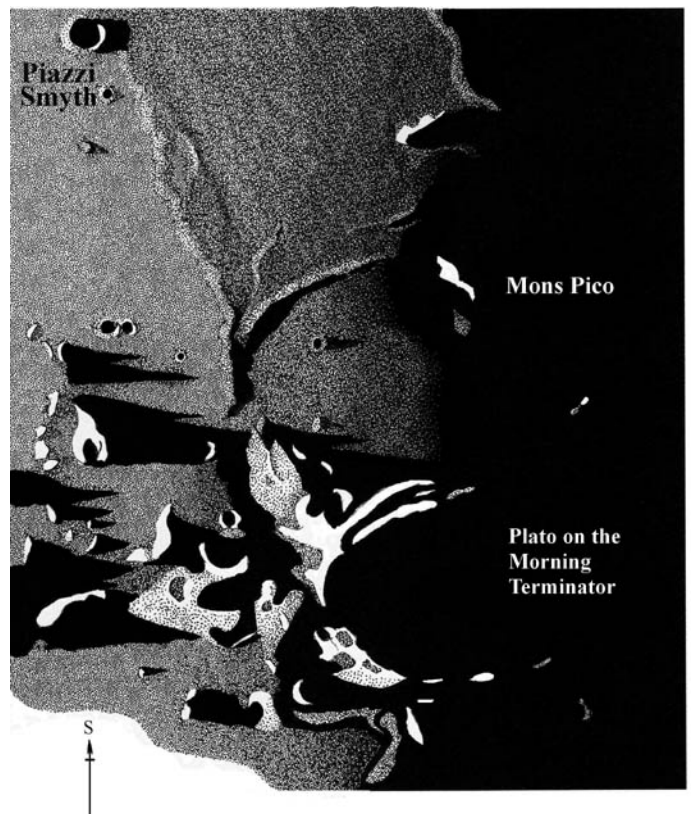
About half of the rim crest of Plato was still hidden beneath the dark lunar night, with just the odd bit of higher terrain just starting to become illuminated. On the southeast the rim divides into two with a noticeable ravine of darkness dividing the two fingers of illuminated rim crest. All of the floor area was still waiting to become bathed in the early morning rays of the Sun.

Immediately to the south of Plato is an enclosure bounded low wrinkle ridges and known as Ancient Newton. On the south crest of this enclosure sits the Mons Pico. An exceptionally brilliant isolated peak some 2,400km in height. Walter Goodacre thought he saw a snowstorm on its flanks, and described it as “an immense obelisk”.

At the extreme south is Piazzzi Smith. This 22km x 22km bowl shaped crater straddles a low but broad ridge that runs south eastwards from Ancient Newton.

Piazzzi Smyth was a 19<sup>th</sup> century British Astronomer.

**PLATO** –Phillip Morgan –Lower Harthall-Tenbury Wells, Worcestershire, England. May 28, 2012 22:00-22:30 UT. 305 mm f/5 Newtonian, x360. Seeing 5/10 Transparency 4/6. Colongitude 8.1-8.3°.



# 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

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND. Digital images of 8, 9, 10, 13 & 17 day Moon

WILLIAM DEMBOWSKI – WINDBER, PENNSYLVANIA, USA. Digital images of Archimedes-Aristillus, Eratosthenes-Montes Apenninus & Rupes Recta.

HOWARD ESKILDSEN - OCALA, FLORIDA, USA. Digital images of Anaxagoras rays, Gardner, Rimae Daniell-Posidonius, Montes Taurus-Mare Serenitatis. Elevation measurements of Birt, Dorsa Barlow & Posidonius.

HAYS, ROBERT - WORTH, ILLINOIS, USA. Drawings of Anaxagoras & Dove.

RICHARD HILL – TUCSON, ARIZONA, USA Digital images of Cruger-Byrgius, Hevelius-Grimaldi, Moretus-Maginus, Philolaus-Oenopides & Sinus Iridum.

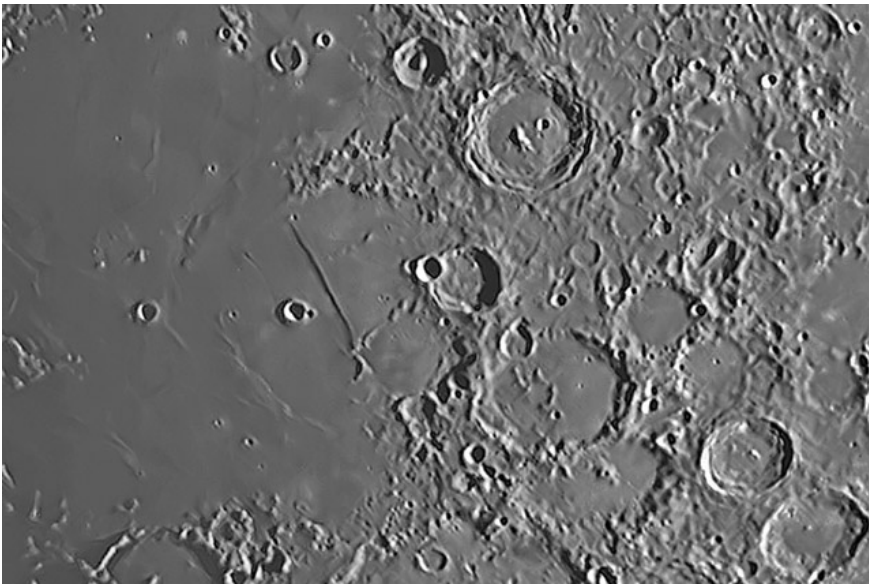
PHILLIP MORGAN –LOWER HARTHALL-TENBURY WELLS, WORCESTERSHIRE, ENGLAND. Drawings of Aristoteles-Eudoxus & Plato.

MICHAEL SWEETMAN – TUCSON, ARIZONA USA. Digital images of Aristillus(3) & Aristoteles-Eudoxus.



# RECENT TOPOGRAPHICAL OBSERVATIONS

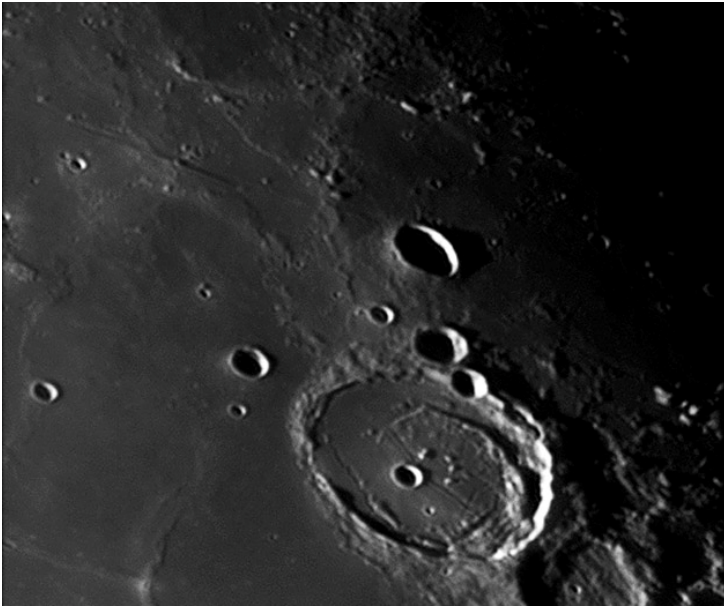
**17 Day MOON** - Maurice Collins-Palmerston  
North, New Zealand. July 6, 2012 19:44-20:00 UT.  
ETX-90 SCT, LPI. In daylight.



**RUPES RECTA** – William  
Dembowski, Windber, Pennsylvania,  
USA. June 28, 2012 01:54 UT  
Colongitude 16.8, Seeing 5/10.  
Celestron 9.25" SCT f/10, DMK41  
UV/IR filter.

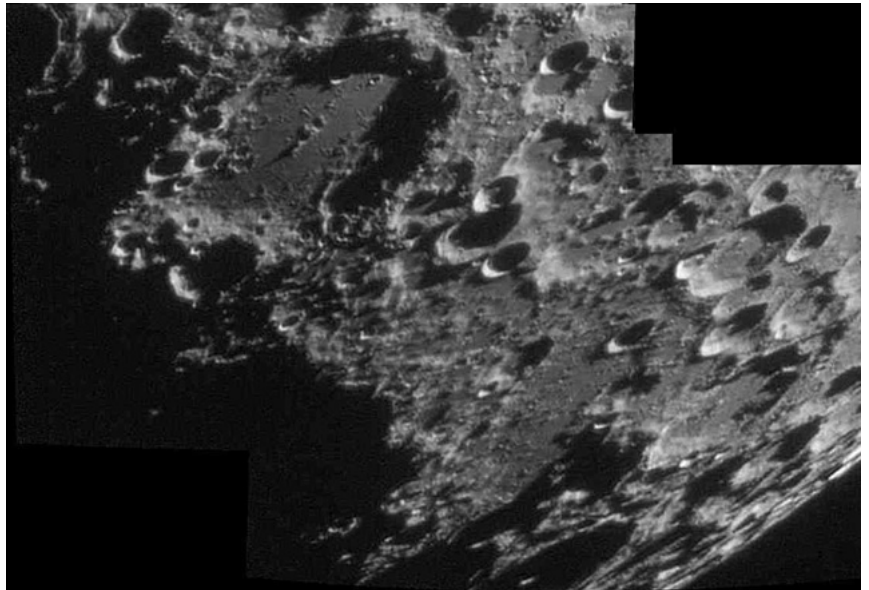


## RECENT TOPOGRAPHICAL OBSERVATIONS



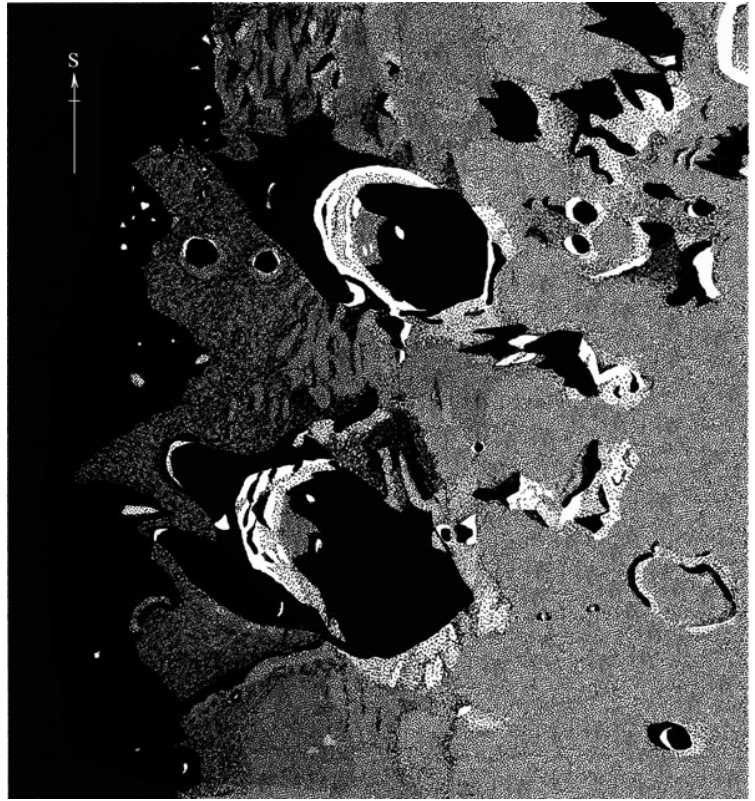
**RIMAE DANIELL-POSIDONIUS** - Howard Eskildsen-Ocala, Florida, USA. July 8, 2012 UT 10:06 UT. Seeing 6/10, Transparency 3/6. 6" f/8 refractor, Explore Scientific lens, 2X Barlow, DMK 41AU02.AS, IR block & V block filters.

**MORETUS-MAGINUS** – Richard Hill – Tucson, Arizona, USA May 29, 2012 02:51 UT. Seeing 7/10. TEC 8" f/20 MAK-CASS.. DMK21AU04. Wratten 23 filter. North up.



# RECENT TOPOGRAPHICAL OBSERVATIONS

**ARISTOTELES-EUDOXUS** –Phillip Morgan –  
Lower Harthall-Tenbury Wells, Worcestershire,  
England. June 10, 2012 03:10-03:45 UT. 305  
mm f/5 Newtonian, x400. Seeing 6/10  
Transparency 3/6. Colongitude 157.4-157.7°.



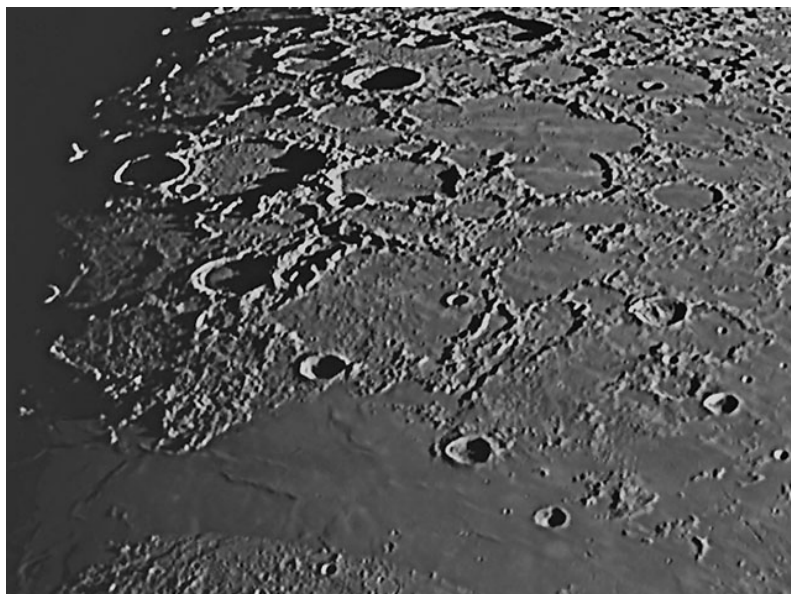
**ARISTOTELES-EUDOXUS** - Michael Sweetman,  
Tucson, Arizona, USA, July 27, 2012 04:48 UT, Seeing  
5/10 hazy. 6" refractor f/12. DMK21. Astonomik 742 nm  
IR pro filter.

## ADDITIONAL TOPOGRAPHICAL OBSERVATIONS



**10 day MOON** - Maurice Collins-Palmerston  
North, New Zealand. June 29, 2012 08:01 08:21  
UT. ETX-90 SCT, LPI.

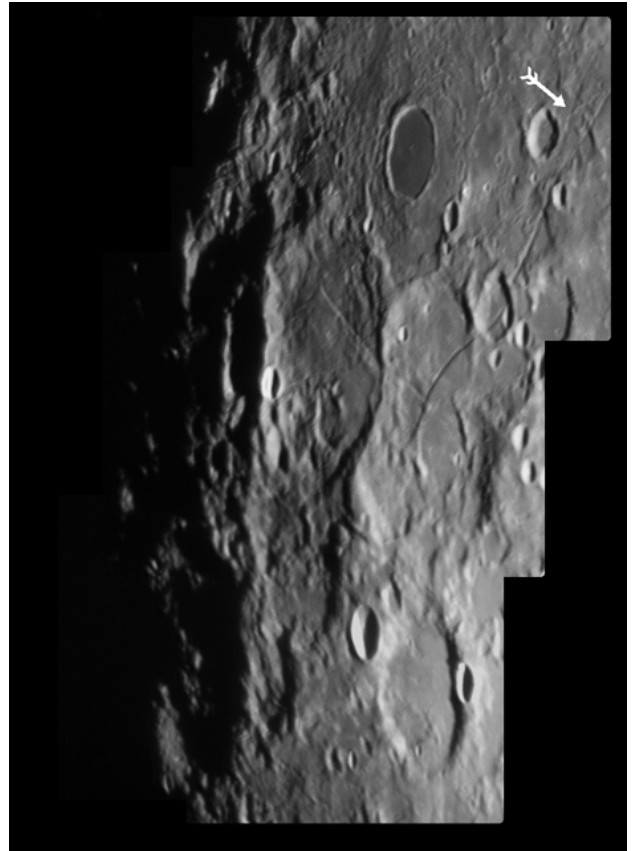
**METON-W. BOND** – William Dembowski,  
Windber, Pennsylvania, USA. June 28, 2012  
01:30 UT Colongitude 16.6, Seeing 5/10.  
Celestron 9.25" SCT f/10, DMK41 UV/IR  
filter.



## ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

**CRUGER-BYRGIUS** – Richard Hill – Tucson, Arizona, USA November 1, 2009 03:11 UT. Seeing 8/10. C14 SCT f/17.6. DMK21AU04. Wratten 23 filter.

I saw the LPOD for July 1 and it sent me to my image archive (<http://www.lpl.arizona.edu/~rhill/moonobs.html>). There in a 2009 image I clearly show the half crater! That really surprised me. (See arrow on image.)



**ARISTILLUS** - Michael Sweetman, Tucson, Arizona, USA, July 27, 2012 04:45 UT, Seeing 5/10 hazy. 6" refractor f/12. DMK21. Astonomik 742 nm IR pro filter.



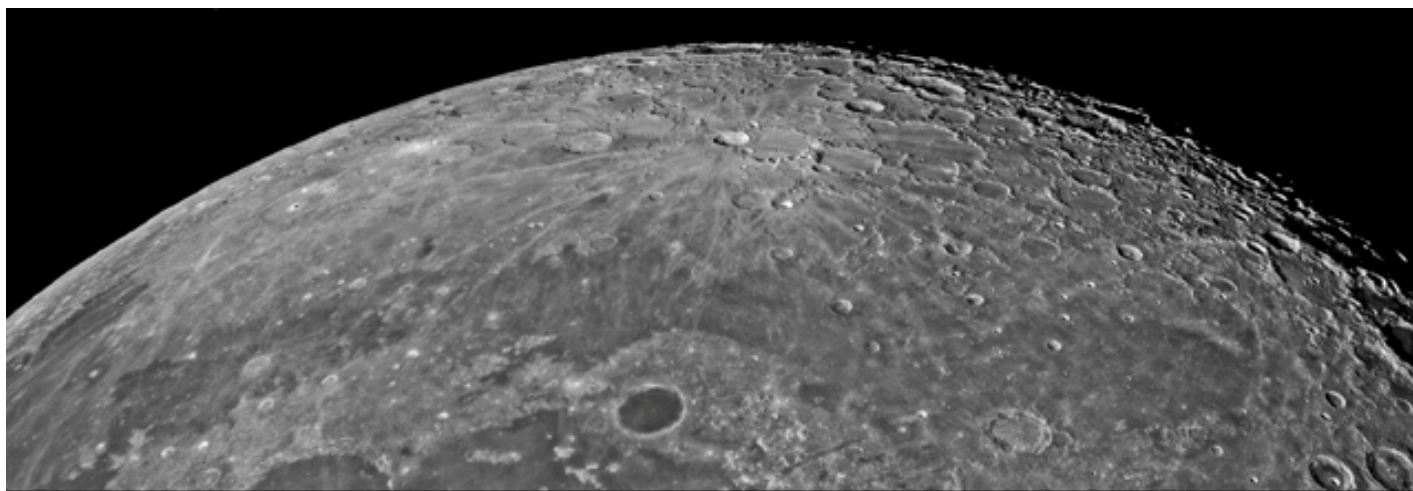
# **BRIGHT LUNAR RAYS PROJECT**

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**



**ANAXAGORAS** - Howard Eskildsen-Ocala, Florida, USA. February 20 2011 04:38 UT. 6" f/8 refractor, Explore Scientific lens, 2X Barlow, DMK 41AU02.AS, V & IR block filters.

# **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 – AUGUST 2012**

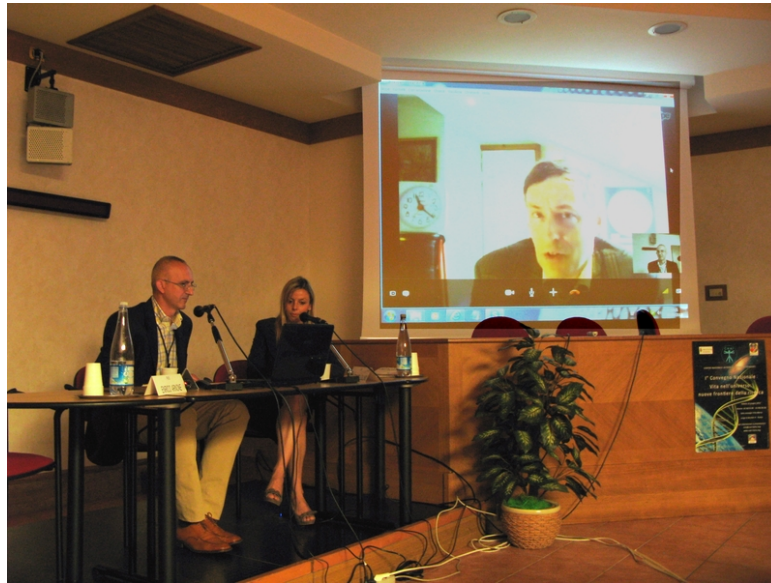
**Dr. Anthony Cook - Coordinator**

Routine observations for June 2012 were received from the following observers: Jay Albert (Lake Worth, FL, USA) observed: Alphonsus, Aristarchus, Carlini D, Eratosthenes, Gassendi, Herodotus, Mare Imbrium, Marius, Messier, Messier A, Mons Piton, Plato, Posidonius, and Schiaparelli. Gary Beal (New Zealand) took whole disk images of the Moon. Maurice Collins (New Zealand) imaged the Lunar Eclipse, Tycho, and took large area disk mosaics. Marie Cook (Mundesley, UK) observed: Maurolycus. Norman Izett (New Zealand) imaged Earthshine, and took whole disk images of the Moon. Jim McAloon (New Zealand) took an image of Hercules/Atlas region, and Rupes Altai. Avani Soares (Brazil) imaged Aristarchus.

**News and Comments:** The weather is always much talked about in the British Isles, where I live. The last few months however appear to have been quite exceptionally bad, with only one observation sent into me from the UK for the entire month of June - the wettest month since 1910. Of course the Moon, and Sun have been seen in the sky over the last few months from Britain, and there have been very occasional days when it was sunny for a few hours. However observation-wise the Moon has not been visible for long enough to risk putting a telescope outside before it starts to cloud over and probably rain. The BAA Lunar Section keeps a record of cloudy weather, through its Cloud Watch programme, and I would encourage observers to submit their records of the sky conditions to Andrew Bytnar ([ASByt@sky.com](mailto:ASByt@sky.com)). Fortunately we are very lucky to have an international network of observers, and this month received observations from Brazil, the UK, the USA and a flourish of keen observers in New Zealand. This article would have been very short if it wasn't for these enthusiastic observers!

Concerning Jim Moeller's image of a bright spot on the SW limb of the Moon from 2012 May 26 UT 21:21, following my request to see if anybody was observing around this time, or earlier, one image was received from UAI observer Andrew Mistretta (Italy) from 19:03-19:06 UT that day, but unfortunately although very detailed, it did not cover the SW limb area. Again, if you know of anybody who might have been observing the Moon at, or shortly before, 21:21UT on May 26<sup>th</sup>, please get in touch. John Westfall has sent me his analysis of the image that shows that the effect captured was just off the SW limb, and not on it.

On 16<sup>th</sup> June 2012 I was invited to give a 25 minute presentation on LTP to the Italian Association of Amateur Astronomers (C.N.A.I) in Rome. Unfortunately due to work, I was unable to attend myself, but instead sent a power point presentation with a voice over that was given during the meeting. This was followed by a Skype video session, where LTP questions were translated from Italian into English, I answered these, and they were translated back into Italian. I would like to thank Silvio Eugeni for inviting me to give a talk, and for setting up the Skype session, and would encourage the CNAI to become more active in LTP observing. One question that struck me as quite important was: "Is there a protocol for observing LTP"? I have since written some flow charts, and will put together into a LTP observing handbook shortly. When completed this will be on the BAA and ALPO web sites.



**Figure 1.** LTP question and answer session, via Skype, at the CNAI meeting Rome on 16 June 2012. (Left) Silvio Eugeni, (centre) translator, (right) myself. (© CNAI).

**LTP Reports:** No LTP reports were received for June 2012.

**Routine Reports:** Here is a selection of routine reports received for June.



**Figure 2.** Image of Aristarchus by Avani Soares with north towards the top. The image has been enlarged, corrected for atmospheric spectral dispersion, color and contrast enhanced, and sharpened.

**Aristarchus:** On 2012 Jun 01 UT 23:05-23:09 Avani Soares (Brazil) took some color images (see figure 2) of the Moon, and found a buried ghost crater near Wollaston D. By coincidence the illumination in the images matched (to within  $\pm 0.5^\circ$ ) that of 4 past LTP reports below:

On 1919 Jun 10 UT 19:00-19:30 Observed by Lapshin (Russia) "Greenish-yellow light shone from inside the crater for 1/2 hr. after which it returned to normal. Violet tint on W. bank & surrounding area & the dark color of the saddle & dark spot were distinct. Term. slightly E. of Herodotus. (Ast. E)=IAU W." NASA catalog weight=3. NASA catalog ID #372. ALPO/BAA weight=3.

On 1958 May 01 UT 02:50-03:10 Observed by Bartlett (Baltimore, MD, USA, 4" refractor, 4" reflector, 5" reflector, x180 S=1-5, T=3) "Entire sunlit area of floor was bluish" NASA catalog weight=4. NASA catalog ID #681. ALPO/BAA weight=1.

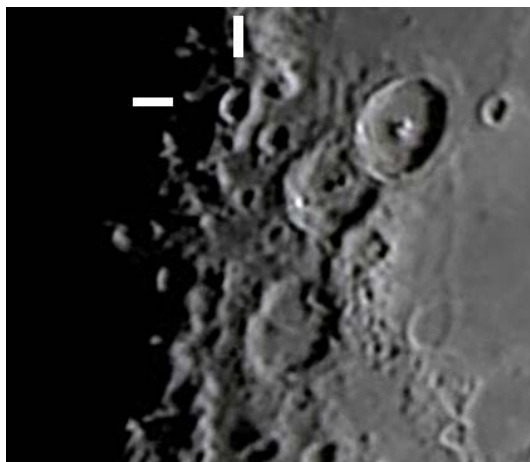
On 1963 Dec 28 UTC 01:15-02:00 Observed by Olivarez, Edinburgh?, TX?, USA, 17" reflector) "In poorer moments of seeing, red on Aris. rim & Sch. Valley. Spurious seeing effects?". NASA catalog weight=1. NASA catalog ID #788. ALPO/BAA weight=1.



*On 2004 May 02 at UT 22:20 R. Lena (GLR, Italy) received an image from one of his observers showing possible blue color in Aristarchus crater and part of the ray towards Herodotus. The ALPO/BAA weight=2.*

No greenish-yellow light can be seen inside Aristarchus, so the Lipshin LTP will stay at a weight of 3. The entire area of the floor has a measurable slight bluish tinge, therefore this appears to be perfectly normal at this stage in illumination and I am assigning the 1958 Bartlett observation a weight of 0 (not a LTP). There is some orange on the eastern rim of Aristarchus, despite an attempt to correct for atmospheric spectral dispersion, but I am uncertain with image resolution is sufficient to reveal natural color on Schroter's Valley. Therefore the 1963 LTP will be left at a low weight of 1 for now. Finally, concerning the GLR observation from 2004, yes there is some blue inside Aristarchus, but it is not so clear that there is blue at this colongitude on the SW ray, though I have seen this at later illumination stages. Therefore the 2004 LTP will be set at a weight of 1 until we have new images to confirm the SW ray as blue for this illumination

On 1873 Jan 04 French astronomer Trouvelot observed .Kant using an 8" refractor, from Cambridge, MA, USA, and saw: "*Luminous purplish vapors*". The NASA LTP catalog gives an observing time estimated at 23:00 and assigns this event a weight of 3 and a catalogue number of 180. The ALPO/BAA weight is also presently 3. On 2012 Jun 25 at 05:16-05:33 Maurice Collins took a whole Moon image, which by chance captured the region around Kant. Although we see no color here – this should be what the crater appeared like back in 1873, assuming that the 23:00 UT was correct.



*Figure 3. Kant as imaged by Maurice Collins on 2012 Jun 25. North is towards the top.*

The Cameron LTP extended catalog says that on 1982 Feb 03 UT20:00 that Marie Cook noted that Proclus was "abnormally low in brightness compared to Censorinus". On 2012 Jun 29 Norman Izett, Maurice Collins, and Gary Beal, all imaged the Moon within 43 minutes of each other, under assumed similar lighting conditions to the UT given in the catalog. As you can see from Figure 4, all three images show Proclus to be not too dissimilar in brightness visually to Censorinus, although it is slightly more difficult to tell with Maurice's image because there is some image saturation present. Upon going back through the LTP archives, I discovered that the Cameron quoted time of 22:00 is incorrect and should be 22:40-23:14UT. This has been corrected now on the ALPO/BAA LTP database that is used to generate the predictions, and we shall await some new observing opportunities before deciding whether there was anything abnormal in the original observation – of course it will help if the libration can be similar too.



**Figure 4.** Images of Censorinus and Proclus with north towards the top. (Left) taken by Norman Izett at 06:54UT. (Centre) taken by Maurice Collins at 07:28-07:45UT. (Right) taken by Gary Beal at 07:37UT.

Lastly on 2012 Jun 29 UT 02:20-02:35, Jay Albert re-observed Carlini D under the same illumination conditions to a reported flash seen by Maurice Collins back in 2004 Jan 02 at 09:05 UT:

*M. Collins (Palместon North, New Zealand, ETX 90, seeing 3, clear) saw a flash north of Carlini D at about 16W, 35N in adverted vision. It lasted only a split second. The ALPO/BAA weight=1.*

Jay reports that whilst viewing Mare Imbrium, that he did not see any flashes north of Carlini D, however he did see two small, circular bright spots north of the crater. The brighter of the two was closer to the crater at approximately  $34^{\circ}$  N latitude, or slightly higher. The second, less prominent bright spot was at about  $35^{\circ}$  N and close to the same longitude as the first spot. By increasing the magnification from 224x to 311x and 400x, he could see that the second bright spot was actually a tiny craterlet. He could not determine the nature of the first bright spot. Neither of these two bright spots showed up on Rukl chart 11. So there may be a possibility that the flash seen by Maurice was a brief moment of good seeing that brought a bright craterlet into view. Please keep on monitoring this area when you see it turn up on future predictions.

**Suggested Features to observe in August:** For repeat illumination (only) LTP predictions for the coming month, these can be found on the following web site: <http://users.aber.ac.uk/atc/tlp/tlp.htm>. If you would like to join the LTP 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 LTP, 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 LTP alerts can be accessed on <http://twitter.com/lunarnaut>.

Dr Anthony Cook, Institute of Mathematical and Physical Sciences, University of Wales Aberystwyth, Penglais, Aberystwyth, Ceredigion, SY23 3BZ, WALES, UNITED KINGDOM. Email: atc @ aber.ac.uk.

## KEY TO IMAGES IN THIS ISSUE

1. Anaxagoras
2. Aristoteles
3. Byrgius
4. Cruger
5. Dorsa Barlow
6. Dove
7. Eudoxus
8. Maginus
9. Meton
10. Moretus
11. Plato
12. Posidonius
13. Rimae Daniell
14. Rupes Recta
15. W. Bond

### FOCUS ON targets

**X** = Aristillus (September)

**Y** = Atlas (November)

**Z** = Alphonsus (January)

