THE LUNAR OBSERVER

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

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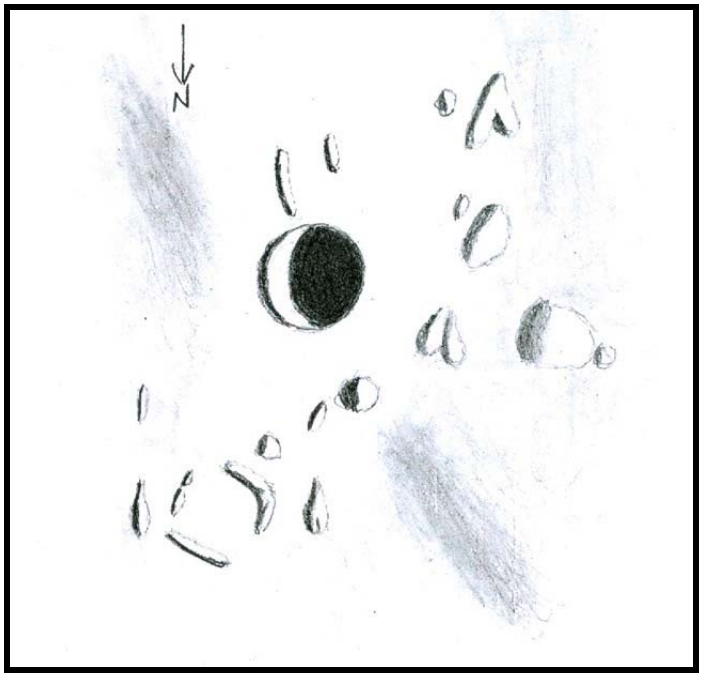
17 Autumn Lane, Sewell, NJ 08080

RECENT BACK ISSUES: http://moon.scopesandscapes.com/tlo_back.html

FEATURE OF THE MONTH – NOVEMBER 2011

DARNEY



Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA
August 22, 2011 08:50-09:06, 09:25-09:40 UT, 15 cm refl, 170x, seeing 7-8/10

I sketched this crater and vicinity on the morning of Aug. 22, 2011 after the moon hid 39 Tauri. Darney is located where Maria Nubium and Cognitum come together. This is basically a simple, round, deep crater with a raised rim. Darney is surrounded by an assortment of hills. A group of peaks and ridges to its northeast obviously are an old ring. Two more ridges are east and southeast of this ghost ring, and another ridge is just to its west; this last feature is identified as Darney alpha on the Lunar Quadrant map. A large round peak between Darney alpha and Darney has the darkest shadow of any elevation in this area. Two little peaks are between this well-shadowed peak and the ghost ring. A variety of elevations are west of

Darney. One is V-shaped, and two in contact are teardrop-shaped. None of these features has dark shadowing. (The shadowings may be exaggerated on the sketch). Two ridges are just south of Darney. One of them comes close to, but does not touch the rim of Darney. The general terrain is lighter north and south of Darney than it is to the east and west. Two dusky streaks are southeast and northwest of Darney. They look somewhat like ordinary rays, except that they are relatively dark instead of light (I think of them as 'negative rays.').

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LUNAR CALENDAR

NOVEMBER-DECEMBER 2011 (UT)

Nov. 02	16:38	First Quarter
Nov. 04	03:00	Moon 5.6 Degrees NNW of Neptune
Nov. 06	22:00	Moon 5.8 Degrees NNW of Uranus
Nov. 08	13:21	Moon at Apogee (406,176 km – 252,386 miles)
Nov. 09	17:00	Moon 4.9 Degrees N of Jupiter
Nov. 10	20:17	Full Moon
Nov. 13	07:24	Extreme North Declination
Nov. 18	15:09	Last Quarter
Nov. 19	04:00	Moon 7.2 Degrees SSW of Mars
Nov. 22	20:00	Moon 6.3 Degrees SSW of Saturn
Nov. 23	23:25	Moon at Perigee (359,691 km - 223,502 miles)
Nov. 25	06:10	New Moon (Start of Lunation 1100)
Nov. 26	06:48	Extreme South Declination
Nov. 26	09:00	Moon 1.9 Degrees NNW of Mercury
Nov. 27	03:00	Moon 2.9 Degrees NNW of Venus
Nov. 27	15:00	Moon 2.1 Degrees SSE of Pluto
Dec. 01	11:00	Moon 5.6 Degrees NNW of Neptune
Dec. 02	09:52	First Quarter
Dec. 04	03:00	Moon 5.8 Degrees NNW of Uranus
Dec. 06	01:14	Moon at Apogee (405,412 km – 251,911 miles)
Dec. 06	19:00	Moon 5.0 Degrees N of Jupiter
Dec. 10	13:36	Extreme North Declination
Dec. 10	14:37	Full Moon (Total Eclipse of the Moon)
Dec. 17	07:00	Moon 7.9 Degrees SSW of Mars
Dec. 18	00:48	Last Quarter
Dec. 20	06:00	Moon 6.3 Degrees SSW of Saturn
Dec. 22	02:58	Moon at Perigee (364,800 km – 226,676 miles)
Dec. 22	02:00	Moon 2.7 Degrees SSW of Mercury
Dec. 22	18:07	New Moon (Start of Lunation 1101)
Dec. 23	17:24	Extreme South Declination
Dec. 25	01:00	Moon 1.9 Degrees S of Pluto
Dec. 27	06:00	Moon 6.1 Degrees NNW of Venus
Dec. 28	22:00	Moon 5.6 Degrees NNW of Neptune
Dec. 31	12:00	Moon 5.7 Degrees NNW of Uranus

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 is on-line at: **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.

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 has 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: Mare Humorum

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 2012** edition will be **Copernicus**. 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 Copernicus and its ray system to your observing list and send your favorites to:

Wayne Bailey - wayne.bailey@alpo-astronomy.org

Deadline for inclusion in the Copernicus article is December 20, 2011

FUTURE FOCUS ON ARTICLES:

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

Archimedes	**March 2012**	**February 20, 2012**

Editor's Note:

This month has had so many excellent submissions that I've decided to postpone my scheduled Focus On Mare Humorum article until next month. Mare Humorum hasn't been neglected, though. The following two submitted articles address specific features in Mare Humorum.

THE WESTERN SHORE OF MARE HUMORUM AND THE LIEBIG SCARP

Phil Morgan

At 19:30 hrs UT on the 14th of February, 2011 the western (IAU) shore of the Mare Humorum was well presented and so I decided to attempt a sketch of the region, the results being shown in the south up observation reproduced here (Fig. 1). Seeing was (as usual of late) not particularly favourable, and so I was unable to pick out some of the finer rilles that I have recorded in the past.

The most striking feature at this colongitude is the great Liebig Scarp. A fault similar to the Straight Wall, and running northwards for some 80 kilometres from the crater Liebig G.

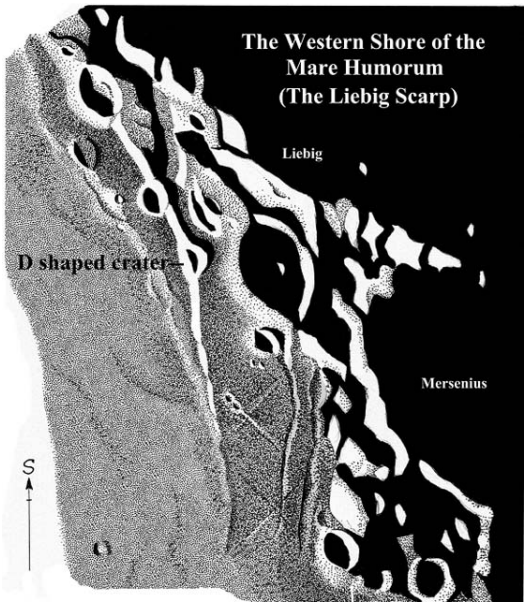
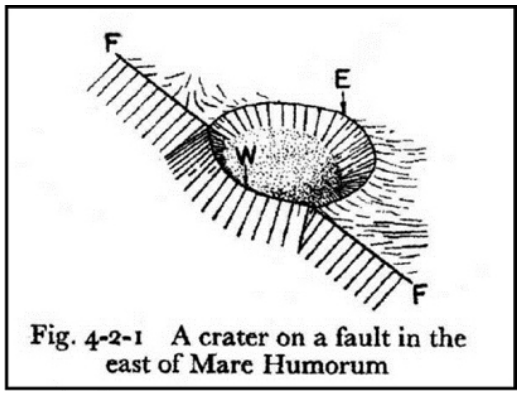


Figure 1. *The Liebig Scarp. Phillip Morgan –Lower Harthall-Tenbury Wells, Worcestershire, England. February 14, 2011 19:30-20:00 UT. Seeing 6/10 Transparency 4/6. Colongitude 49.5-49.8°. 305 mm f/5 Newtonian, x400.*

This fault has a much greater curvature than the Straight Wall, and may have formed slightly differently since there is an absence of any relay ramps on its open eastern face. The relay ramps of the Straight Wall could indicate a gradual formation of the fault over a period of time, but the Liebig Scarp would appear to have had a much more sudden genesis. Although I have suggested elsewhere that the Straight Wall could possibly have started out as a normal looking rille, I would say that the evidence is much stronger here with definite rille segments still visible at both the north and south ends of the fault. The LROC WAC image in Figure 2 shows clearly (arrowed) that the Liebig Scarp is still a normal rille as enters the northern rampart of the crater Liebig G.



Most likely we are looking at what once was a normal curving peripheral rille that had formed as a consequence of tension in the surface because of outpourings of magma filling the basin centre. Later lava flows nearer to the eastern edge of the rille brought about a sudden slumping of the eastern side of the rille.

Figure 2. *Fielder's (Classical) sketch of the D shaped crater.*

The resulting scarp face was of great interest to lunar geologist Gilbert Fielder, and in particular the odd D shaped crater that is situated at the mid point of the fault face on the upthrown side. (Fig. 2)

Writing in 'Lunar Geology' (July 1965, page 57) and dealing with "Craters on Faults", Fielder felt that this peculiar half crater was of special interest because, situated as it is on the upthrown block of a fault, it indicated a quiescent process of growth for this particular crater.

Going on to say that "If the crater formed by an explosion after the fault, the fault would not bend around the crater, and the wall at W (Classical) would have blown away. This circumstance still has to be explained even if the crater formed before the fault; and one would then expect to find some trace of the wall W on the downthrow, yet nothing of the kind is observed. Clearly the crater did not form explosively; rather it grew slowly along with the fault itself."

Unfortunately for Fielder the images that he had to hand back at the time of his writing were limited to Earth based telescopic photographs, the best probably being those made at Mount Wilson. As such these did not really show him the true nature of this strange crater until the Lunar Orbiter missions, and today of course, we have the marvellous LROC WAC highly detailed views.

The south up LROC image in Figure 3 shows us clearly that this odd D shaped little feature is in fact a very ancient crater that had formed before the implacement of the Liebig Scarp, and was cut almost neatly in half when the eastern side of the fault dropped away.

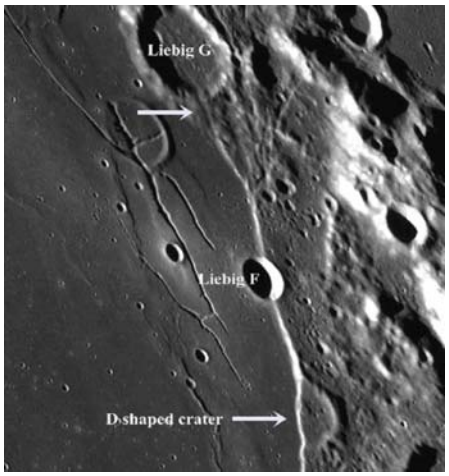


Figure 3*. LROC WAC image of the western Mare Humorum and the Liebig Scarp.*

There are still the remnants of a once grand central peak still visible on the floor, close to the very edge of the fault, but no evidence at all of any remains of the missing half of the crater at the foot of the slope . So we can only assume that they were eroded away by the erosive action of later lava flows that once swept up to the base of the scarp face.

Just to the south of the D crater is the bright crater Liebig F. This little crater is completely unaffected by the dipping of the fault face, and so is a newer feature.

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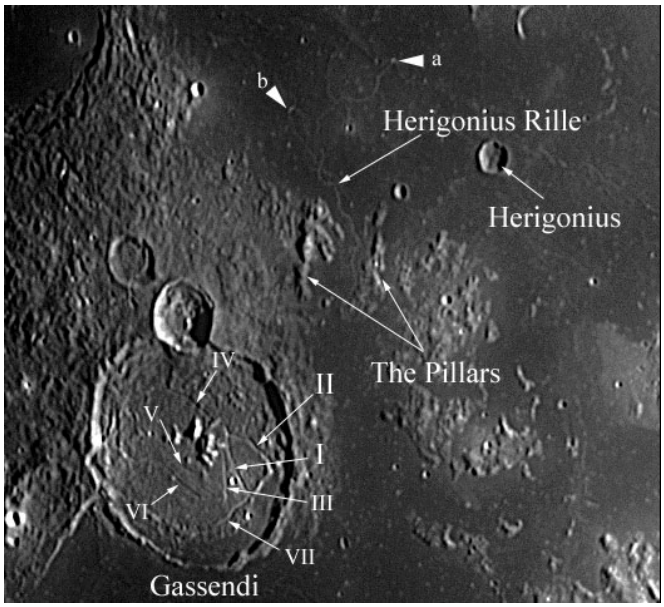
TALE OF TWO RILLES

Howard Eskildsen

HERIGONIUS RILLE (Rima Herigonius) meanders south from the collapse pit "a" and passes through the strait between the "Pillars" (unofficial name coined by Chuck Wood). It gradually fades from view northeast of Gassendi. This sinuous rille represents a volcanic flow channel that once carried molten basalt southward. Collapse pit "b" is the source of another sinuous rill that appears to intersect with the Herigonius Rille, however, the LROC WMS Image Map seems to show it fading away before reaching the other rille.



HERIGONIUS & GASSENDI RILLES*. Howard Eskildsen, Ocala, Florida, USA. November 29, 2009 02:01 UT. Seeing 8/10 Transparency 5/6. Meade 6" refractor, 2x barlow, DMK 41AU02 AS, no filter.*

GASSENDI RILLES (Rimae Gasssendi) arose from a different type of igneous activity. As is typical of floor-fractured craters, intrusive magma rose beneath the crater floor, elevating and fracturing it. Some extrusion of lava filled the southern margin of Gassendi. The Roman numbering of the various branches of the Gassendi Rilles was taken from Lunar Designations and Positions, Quadrant III, compiled Arthur and Agnieray.

LUNAR TOPOGRAPHICAL STUDIES

Coordinator – Wayne Bailey - wayne.bailey@alpo-astronomy.org

Assistant Coordinator – William Dembowski - dembowski@zone-vx.com

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

OBSERVATIONS RECEIVED

JAY ALBERT – LAKE WORTH, FLORIDA, USA. Digital image of Mare Humorum.

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND. Digital images of 3, 10 & 12(2) day moon, Mare Orientale.

ED CRANDALL – LEWISVILLE, NORTH CAROLINA, USA. Digital images of Archimedes, Clavius & Montes Apennines.

WILLIAM DEMBOWSKI – WINDBER, PENNSYLVANIA, USA. Digital images of Clavius, Copernicus-Eratosthenes, Longomontanus-Tycho-Orontius & eastern Mare Humorum. Banded Crater form for Pytheas.

HOWARD ESKILDSEN - OCALA, FLORIDA, USA. Digital images of Herigonius, Humboldt, Mare Humorum(2), Mare Nectaris(2) & Pythagoras.

PETER GREGO – ST. DENNIS, CORNWALL, UK. Drawings of Gassendi, Macrobius & Plato.

PHILLIP MORGAN –LOWER HARTHALL-TENBURY WELLS, WORCESTERSHIRE, ENGLAND. Drawings of Beer, Cassini, Encke, Gassendi(2), Petavius & Promontorium Laplace.

KLAUS PETERSEN-GLINDE, GERMANY. Digital images of Mare Humorum(2).

MICHAEL SWEETMAN – TUCSON, ARIZONA, USA. Digital images of Aristarchus & Deslandres.

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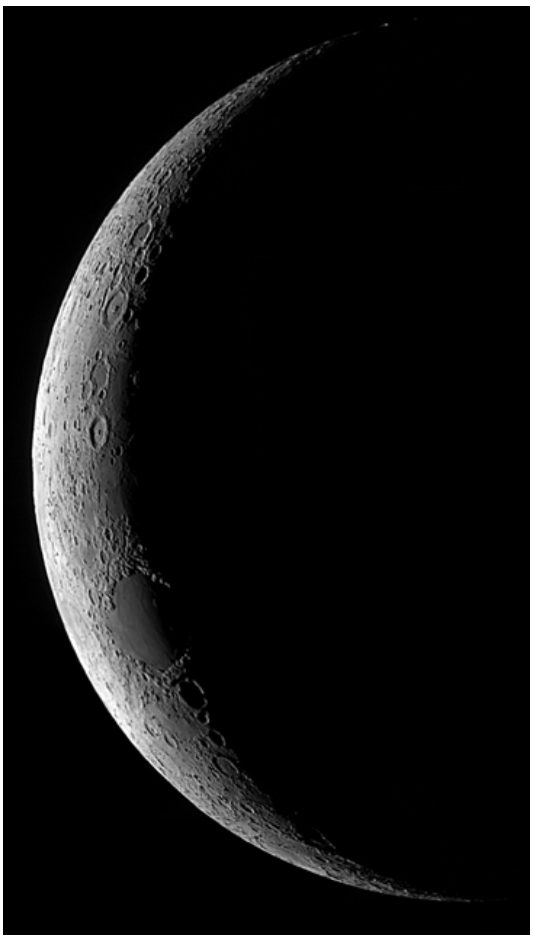
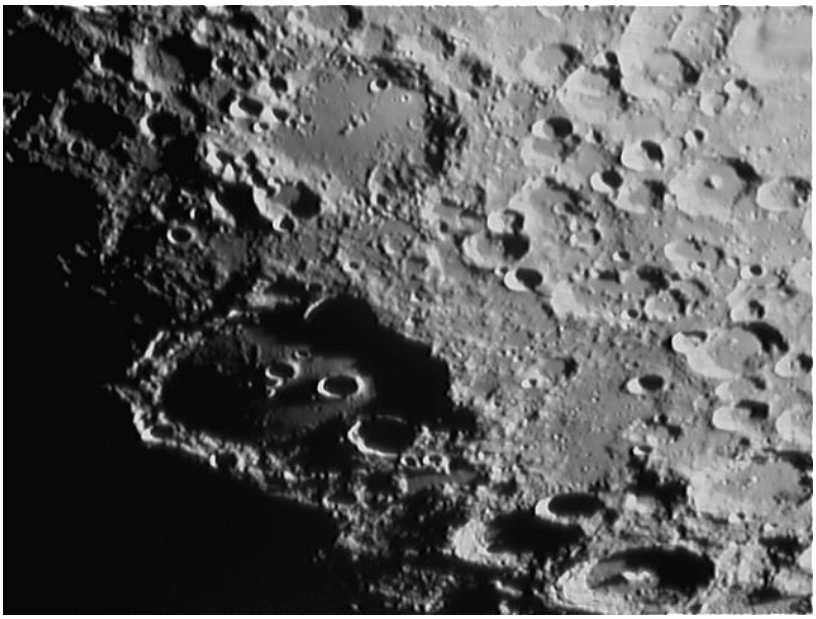
RECENT TOPOGRAPHICAL OBSERVATIONS



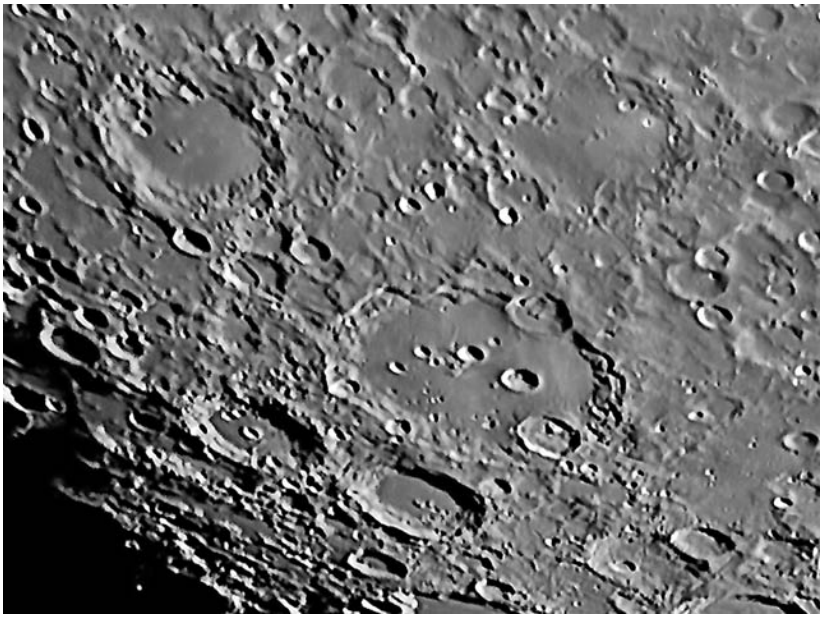
3 day MOON - Maurice Collins-Palmerston North, New Zealand. September 30, 2011 06:50-07:05 UT. ETX-90 SCT, LPI.

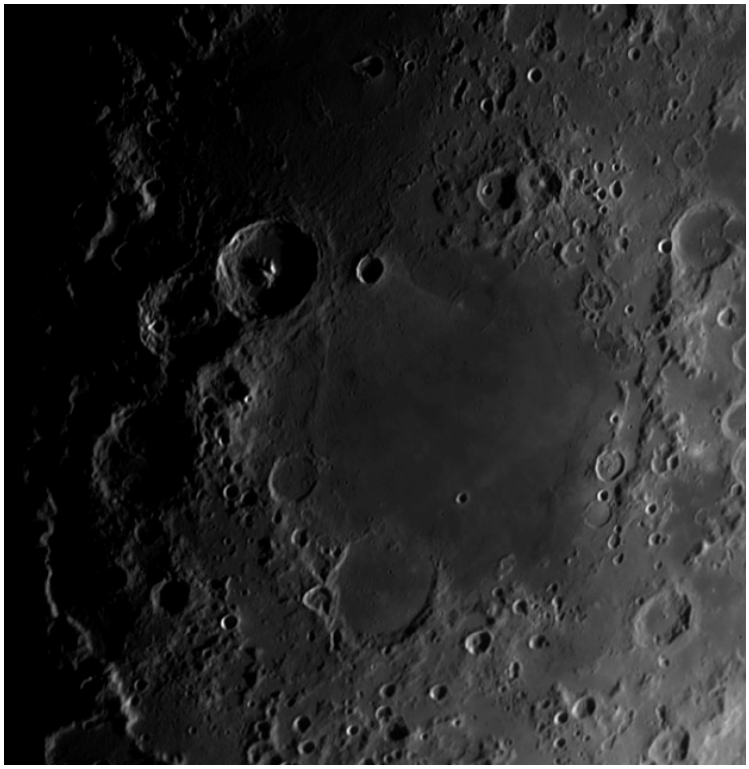


CLAVIUS – Ed Crandall – Lewisville, North Carolina, USA. October 7, 2011 23:40 UT. 110 mm f/6.5 APO, 3x barlow, ToUcam

RECENT TOPOGRAPHICAL OBSERVATIONS

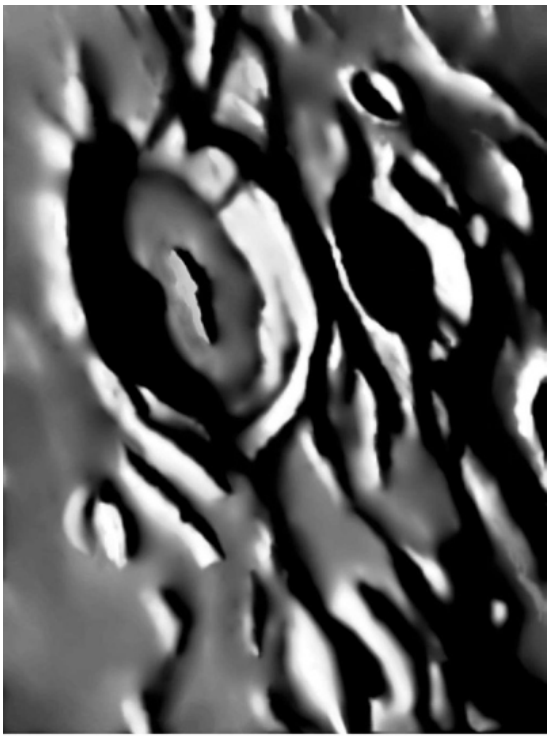
CLAVIUS – William Dembowski, Windber, Pennsylvania, USA. October 7, 2011 23:48 UT Colongitude 39.9º, Seeing 5/10. Celestron 9.25" SCT f/10, DMK41 UV/IR filter.



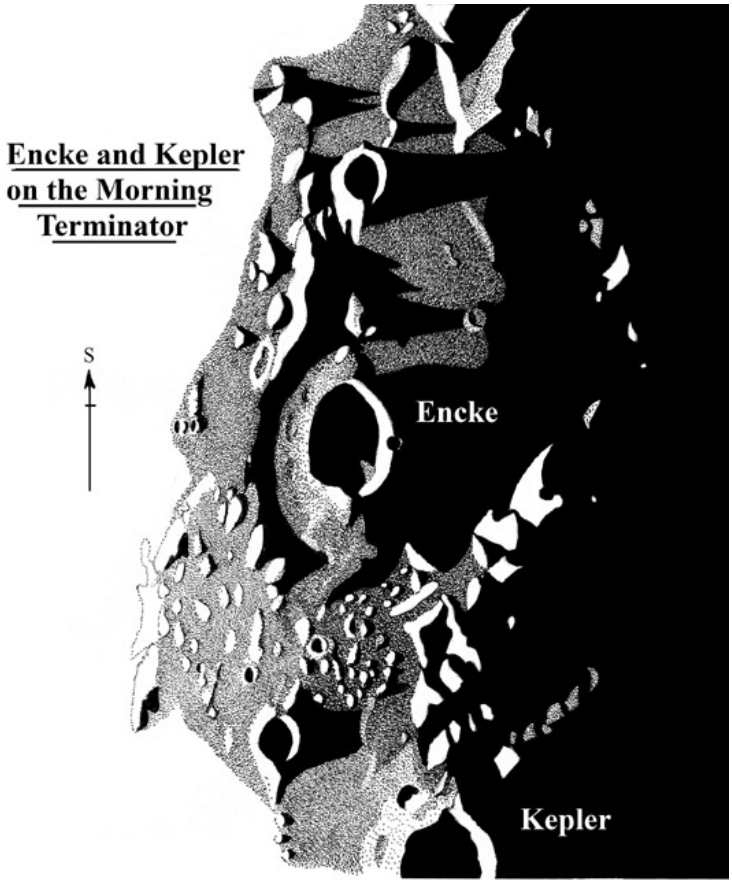


MARE NECTARIS - Howard Eskildsen-Ocala, Florida, USA. October 3, 2011 00:17 UT. Seeing 6/10, Transparency 6/6. 6" f/8 refractor, Explore Scientific lens 2X Barlow, DMK 41AU02.AS, IR block & V block filters.

RECENT TOPOGRAPHICAL OBSERVATIONS



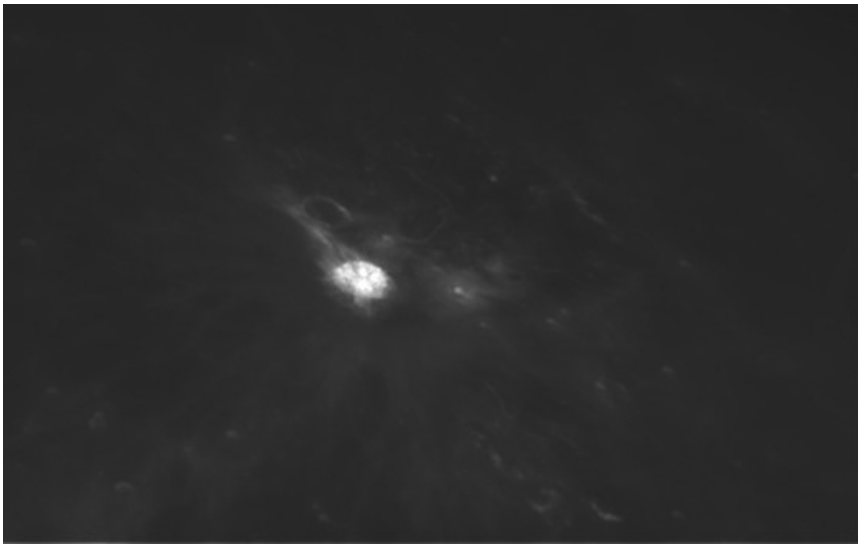
MACROBIUS – Peter Grego, St. Dennis, Cornwall, UK. October 15, 2011 00:20-01:05 UT. Seeing AII-III, slight haze and wind. Colongitude 124.9-125.3°. 200 mm SCT, 170X, no filter.



ENCKE –Phillip Morgan –Lower Harthall-Tenbury Wells, Worcestershire, England. October 7, 2011 21:00-21:35 UT. Colongitude 38.3-38.5º Seeing 7/10, Transparency 4/5. 305mm, f/5, Newtonian, 400x.

RECENT TOPOGRAPHICAL OBSERVATIONS

ARISTARCHUS – Michael Sweetman, Tucson, AZ, USA, October 8, 2011. 4" f/10 refractor. DMK21.



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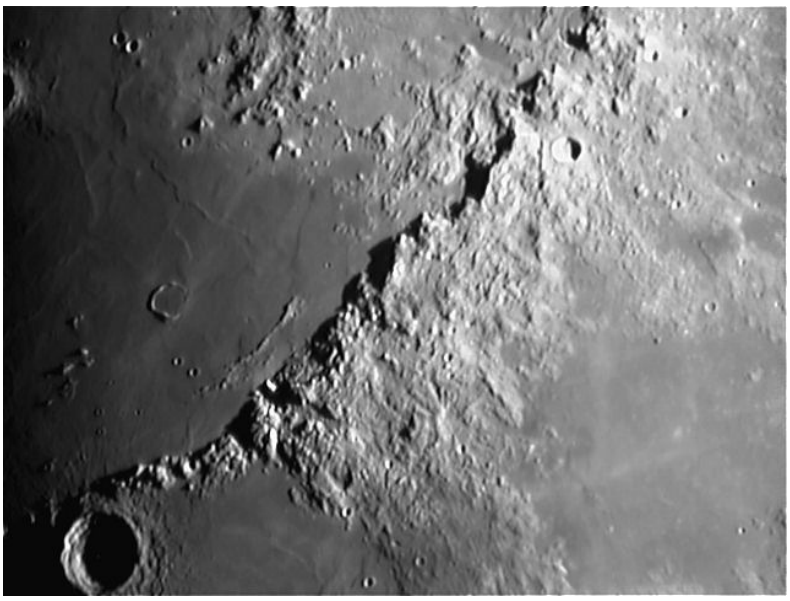
ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

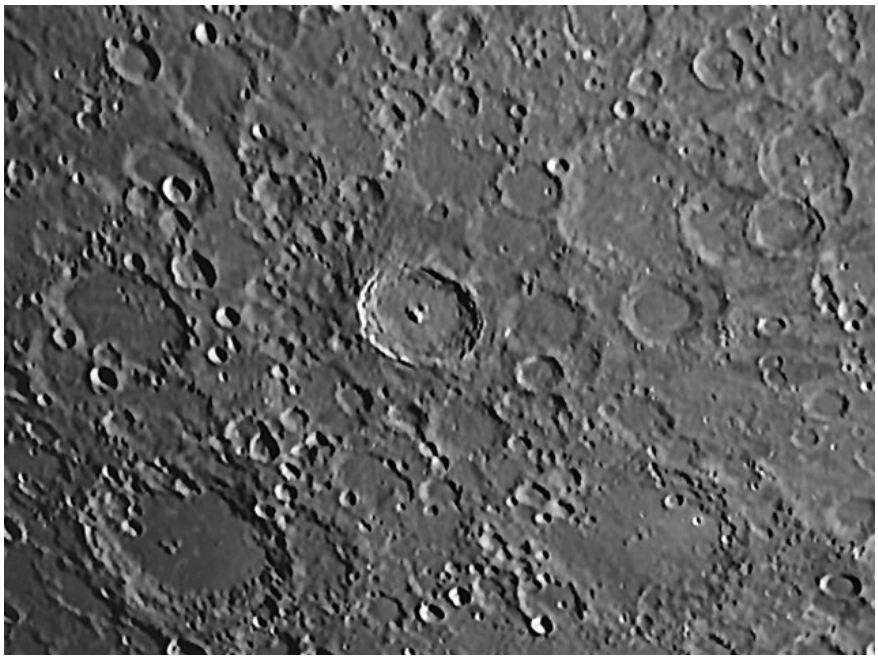
LIMB FLATTENING BY MARE ORIENTALE - Maurice Collins-Palmerston North, New Zealand. October 18, 2011 20:50 UT. ETX-90 SCT. Left & Center afocal. Right LPI.

Libration was favouring Mare Orientale, flattening of limb obvious to eye in 8Xrw binoculars as a flat area of the normally curving lunar limb. Libration was giving a profile view of the "dent" in the lunar surface figure caused by the basin impact seen edge-on.

ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

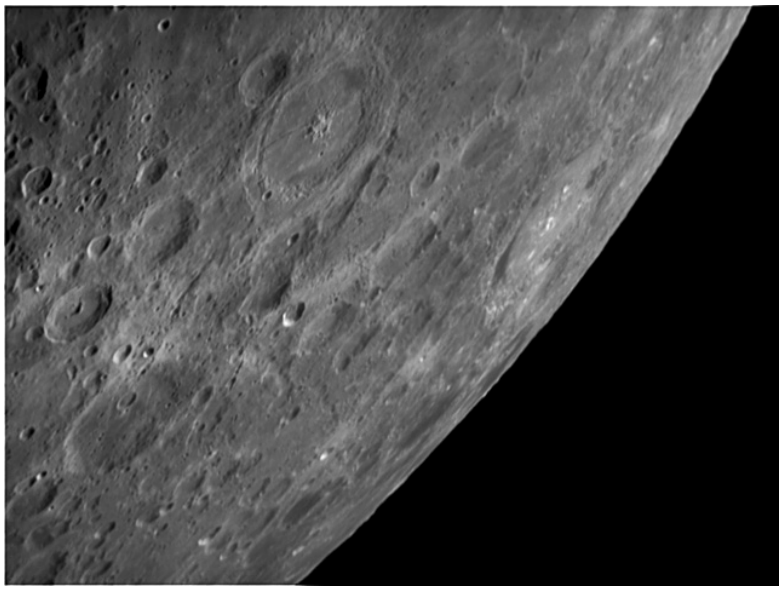


MONTES APENNINES – Ed Crandall – Lewisville, North Carolina, USA. October 7, 2011 23:25 UT. 110 mm f/6.5 APO, 3x barlow, ToUcam

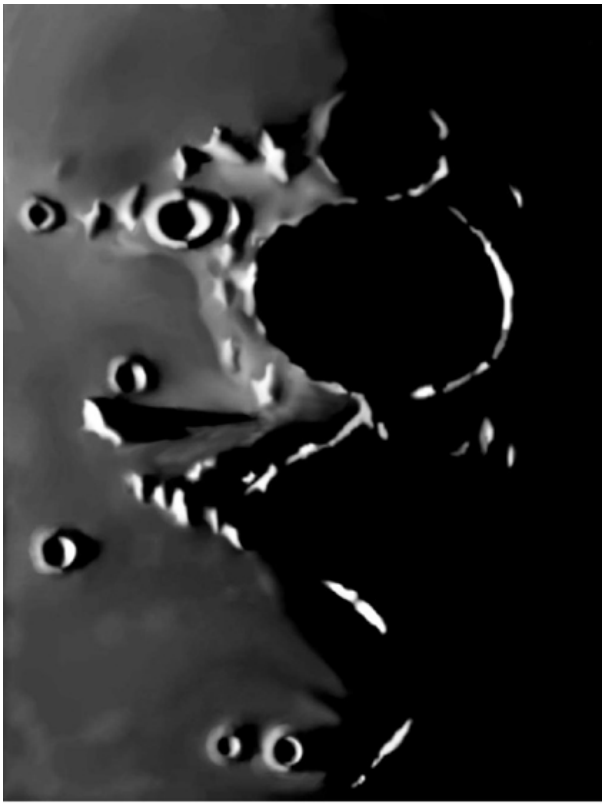


LONGOMONTANUS-TYCHO-ORONTIUS – William Dembowski, Windber, Pennsylvania, USA. October 7, 2011 23:55 UT Colongitude 39.9º, Seeing 5/10. Celestron 9.25" SCT f/10, DMK41 UV/IR filter.

ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

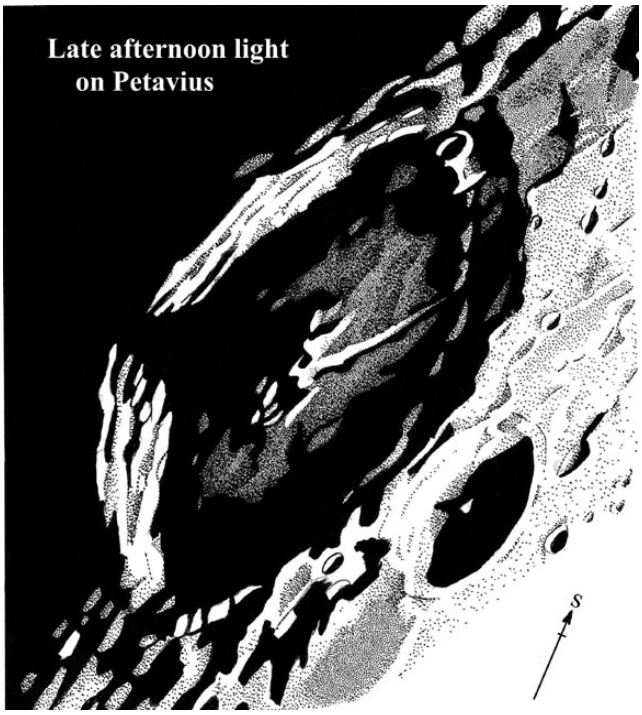


HUMBOLDT - Howard Eskildsen-Ocala, Florida, USA. October 3, 2011 00:22 UT. Seeing 6/10, Transparency 6/6. 6" f/8 refractor, Explore Scientific lens 2X Barlow, DMK 41AU02.AS, IR block & V block filters.



PLATO – Peter Grego, St. Dennis, Cornwall, UK. October 20, 2011 03:50-04:30 UT. Seeing AII, occasional cloud, 3° C. Colongitude 187.7-188.1°. 200 mm SCT, 170X, no filter.

ADDITIONAL TOPOGRAPHICAL OBSERVATIONS



PETAVIUS –Phillip Morgan –Lower Harthall-Tenbury Wells, Worcestershire, England. September 15, 2011 00:26-00:50 UT. Colongitude 119.0-119.3º Seeing 6/10, Transparency 3/5. 305mm, f/5, Newtonian, 400x.

CASSINI'S BRIGHT SPOT IN DESLANDRES – Michael Sweetman, Tucson, AZ, USA, October 8, 2011 06:27 UT. 4" f/10 refractor. DMK21.

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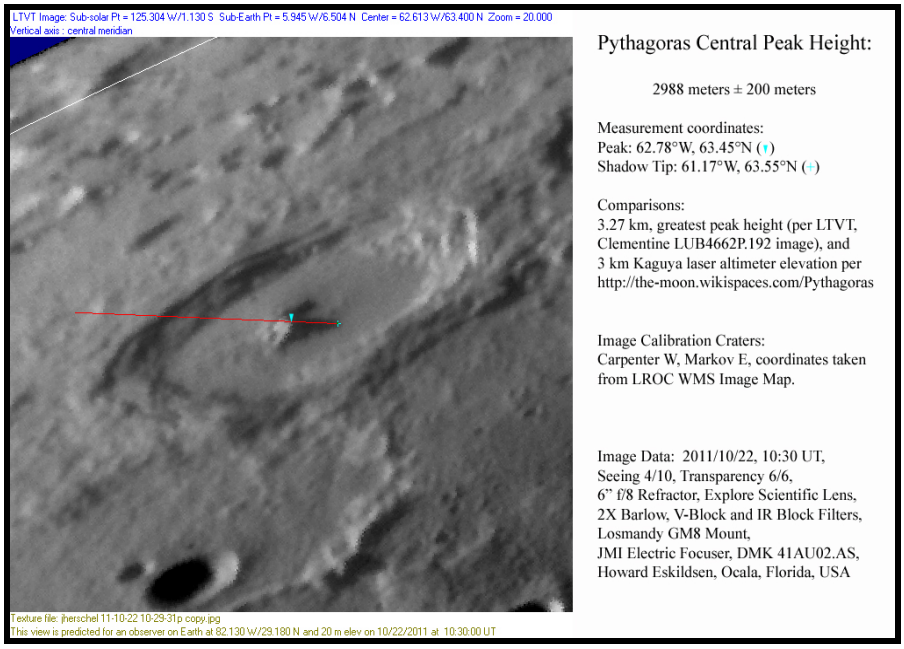
HEIGHT MEASUREMENTS



Pythagoras Central Peak Height:

2988 meters ± 200 meters

Measurement coordinates:
Peak: 62.78°W, 63.45°N (▼)
Shadow Tip: 61.17°W, 63.55°N (+)

Comparisons:
3.27 km, greatest peak height (per LTVT, Clementine LUB4662P.192 image), and 3 km Kaguya laser altimeter elevation per http://the-moon.wikispaces.com/Pythagoras

Image Calibration Craters:
Carpenter W, Markov E, coordinates taken from LROC WMS Image Map.

Image Data: 2011/10/22, 10:30 UT, Seeing 4/10, Transparency 6/6, 6" f/8 Refractor, Explore Scientific Lens, 2X Barlow, V-Block and IR Block Filters, Losmandy GM8 Mount, JMI Electric Focuser, DMK 41AU02.AS, Howard Eskildsen, Ocala, Florida, USA

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BRIGHT LUNAR RAYS PROJECT

Coordinator – Wayne Bailey – wayne.bailey@alpo-astronomy.org

Assistant Coordinator – William Dembowski – dembowski@zone-vx.com

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

RECENT RAY OBSERVATIONS

COPERNICUS & ERATOSTHENES - William Dembowski, Windber, Pennsylvania, USA. October 7, 2011 23:55 UT Colongitude 39.9º, Seeing 5/10. Celestron 9.25" SCT f/10, DMK41 UV/IR filter.

BANDED CRATERS PROGRAM

Coordinator – Wayne Bailey – wayne.bailey@alpo-astronomy.org

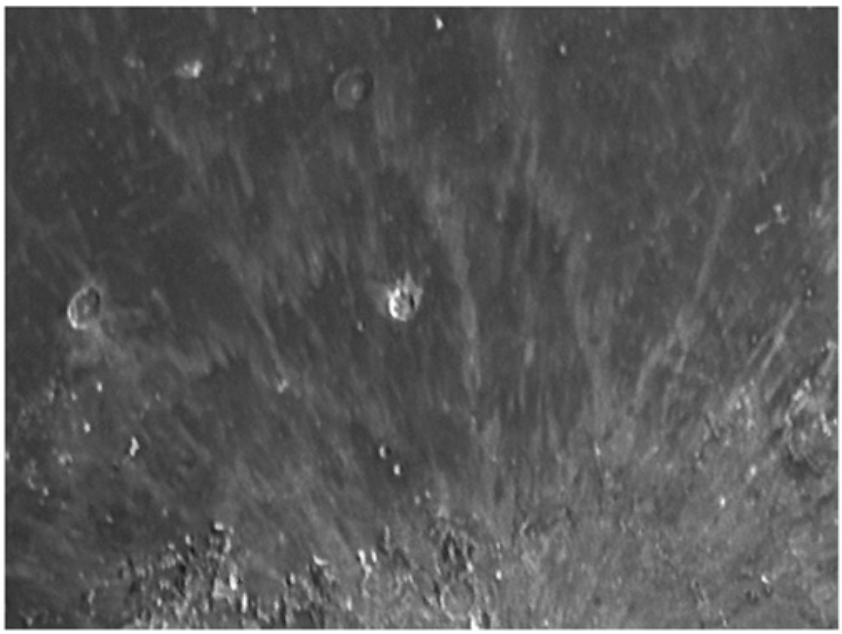
Assistant Coordinator – William Dembowski - dembowski@zone-vx.com

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

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

Crater Observed: **********
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: 4/10 Transparency: 3/6
Date (UT): 2011/08/12 Time (UT): 02:14
Colongitude: 65.3

Image: (North up) (East right)



LUNAR TRANSIENT PHENOMENA

Coordinator – Dr. Anthony Cook – atc@aber.ac.uk
Assistant Coordinator – David O. Darling - DOD121252@aol.com

LTP NEWSLETTER – NOVEMBER 2011

Dr. Anthony Cook - Coordinator

Observations for September 2011 were received from the following observers: Jay Albert (Lake Worth, FL, USA) observed: Aristarchus, Censorinus, Cleomedes A, Eratosthenes, Gassendi, Madler, Mare Crisium, Mare Marginus, Mons Pico, Pytheas, Ross D, and Vallis Schroteri.. Maurice Collins (New Zealand) observed: Endymion, Hercules, Humboldt, Hyginus N, Langrenus, Mare Humorum, Petavius, Posidonius, Theophilus, Triesnecker and took whole disk images of the Moon. Marie Cook (Mundesley, UK) observed: Alphonsus, Aristarchus, Censorinus, Gassendi, Grimaldi, Langrenus, Linne, Manilius, Messier, Moltke, Mons Pico, Mons Piton, Petavius, Plato, Proclus, Promontorium Agarum, Schickard, Stofler, Torricelli B, Tycho, and Vallis Schroteri.. I took some webcam imagery of several features of the Moon from Newtown (Wales). John Field (New Zealand) took a color image of Earthshine. Kerry Koppert (New Zealand) took whole disk images of the Moon. Piotr Malinksi (Poland) observed: Aristarchus, Aristotles, Cassini, Fracastorius, Julius Caesar, Moretus, Posidonius, Reiner Gamma, Theophilus, Tycho, Walter, and took several images of other areas of the Moon. Brendan Shaw (UK) observed: Aristarchus, Cleomedes A, Herschel, Mare Humorum, Mare Tranquilitatis, Piccolomini and took images of several other areas of the Moon. Hamish Watchman (New Zealand) took a whole disk image of the Moon.

News: I received communications from Philip Withers (via Bill Leatherbarrow, BAA Lunar Section Director) concerning the Kerry Koppert image of Mare Crisium in the October newsletter where I said that Kerry's image showed only two of the craters in the Barker's Quadrangle area of Mare Crisium visible, and this dispelled the notion that the Moore LTP from 1949 Mar 03 was actually a LTP as there was not too much detail to be seen. Philip provided a higher resolution image from 2009 Sep 29 (not quite at the same illumination, but close) which showed a bit more detail of Barker's Quadrangle, but still not the other craterlets in the quadrangle. What this means for the original LTP description in the NASA catalog by Cameron, I am not sure – the account in the catalog is abridged and I do not have the original observer notes. As mentioned last month, the NASA catalog weight was officially a 4, but our initial ALPO/BAA weight was 2, and we have reduced this further to a 1 in view of Kerry's observation, and now Philip's image. This means that it will not count so much in statistical analysis.

At the start of October I attended the European Planetary Science Conference / Division of Planetary Sciences meeting in Nantes, France. Here I presented a poster showing that specular reflectance from crystalline rock facets, or spectral dispersion from pyroclastic/impact melt glass beads, do not offer an explanation for many of the LTP seen at Aristarchus crater. You can see a copy of the abstract on: http://meetingorganizer.copernicus.org/EPSC-DPS2011/EPSC-DPS2011-1537.pdf. Basically what this means is that although in theory slopes are great enough (upto 40° max) at Aristarchus crater (the most prolific LTP site), to produce sun-glint effects at extremes in libration, there is no evidence that this happens at specific slope azimuths or phase angles. It would also require crystal type facets to be parallel and exposed in bedrock over the crater rim or the presence of glass beads with similar optical properties. This was worth checking out as it might have offered a benign explanation for LTP. Interestingly spacecraft have observed rainbow like colors during imaging close to opposition, but no direct evidence of sunglint yet. We do see sunglint exposed crystals in bedrock here on Earth, but so far not yet on the Moon where dust has presumably covered up a lot of the rock strata.

LTP Reports: No LTP reports were received for September, but Peter Grego reported seeing a transient faint spot in the shadow filled interior of Gaseendi on 2011 Oct 07 at 21:45 UT. More next month on this, suffice to say that images taken close to this time would be incredibly useful in interpreting this report. I received also a report from Fran Power (Ireland) from 2011 Oct 03 UT 21:00-21:20, concerning colors in Apianus D. These were seen visually and confirmed by a second observer using the same telescope and further more a red colour was captured in an image. The colors were not seen elsewhere on the Moon. However the Moon was extremely low at the time, so I am err'ing on the side of caution here by assuming that this was some effect in our atmosphere. However it would still be really useful to hear from anyone who was imaging at this time. The observation will be described in more detail next month so that readers can decide if I am being too harsh in my assumption about the atmosphere.

Routine Reports: Back in 1993 Sep 03, according the extended LTP catalogue by Winnie Cameron, a LTP was seen in Cleomedes A by Clive Brook and Gerald North between 22:00 and 23:10UT. However according to the BAA Lunar Section Circular of the time it was Gerald North who discovered the LTP, Clive Brook discovering one the previous night. Furthermore it may not have been Cleomedes A. I have therefore re-written the LTP description below…

On 1993 Sep 03 UT2200-23:10 G. North (England, 18" reflector, x86 and x144, seeing V, and spurious color) "saw a brilliant splodge in the shadow and surrounding this was a faint asymmetric halo (more extended in an easterly direction) - possibly Mt Alpha catching the sunlight and halo being high ground catching last of the rays? However no shadow could be seen being cast by the mountain extending eastwards through the halo". The splodge faded over time. J.Cook (Frimley, UK) recorded bright spot but not halo during UT22:20-22:25 (8" reflector x140, seeing III-IV, but occasional cloud and haze and local trees). Concluded it was reflection & not anomalous. M. Cook (Frimley, UK, 3.5" reflector) saw same as J. Cook. Dr Roscoe (Worcester, UK, 3.5" reflector, seeing=II observed at 0430. Sketch did not show spot (which had gone by then). S. Beaumont observed at 2320 and reported as normal". The Cameron 2006 catalog ID=466 and weight=5. The ALPO/BAA weight=3.

On 2011 Sep 15, Jay Albert (Lake Worth, FL, USA) re-observed Cleomedes crater under similar illumination conditions to the above LTP report. Jay observed the following: "Cleomedes A did not seem especially bright and was a little hard to spot being almost overwhelmed by craters Tralles and Cleomedes E. I saw a faint pinpoint of light within the shadow of the N wall of Cleomedes, which appeared to be the tip of a high point on Cleomedes' inner N wall. This may or may not be related to the original LTP report. Within Cleomedes, craters B and J were seen as well as the elongated, very bright central peak (which cast long, sharp shadows across the floor) and a brightly lit section of the Rima Cleomedes. The inner E wall of Cleomedes E was brighter than Cleomedes A. The floor of Cleomedes E was in shadow, but with a tiny, bright spot within the shadow (also possibly related to the original LTP report?). By 03:40, the faint pinpoint of light within the shadow of Cleomedes' N wall was gone. I observed at 311x from 03:00 to 03:45 UT. I rechecked this area at 04:50 at 224x and found that the shadows from Cleomedes W and N walls had increased, covering much more of Cleomedes' floor, but I couldn't see any significant change to Cleomedes A". Brendan Shaw (UK) also observed Cleomedes on the same night at UT03:35, overlapping with Jay's observation and I have included his image in figure 1a and as a comparison in figure 1b is a sketch made by Jeremy Cook from back in 1993 Sep 03.

Now we seem to have a difference between the image and the sketch, the latter being more shadow filled. I have been scanning in the archives, but so far have not covered all observations from 1993 yet, When I have done so and found other reports from the LTP night in 1993, I'll publish further information about this LTP, and whether it really was sunlight catching Cleomedes α slopes.

On 1975 Sep 18, Peter Foley observed the following LTP on Aristarchus….

Aristarchus 1975 Sep 18 UTC 21:00? Observed by Foley (Kent, England, 12" reflector) "Deep blue-viol. spot in NW (IAU?) interior corner." NASA catalog weight=3 (average). NASA catalog ID #1414.

Marie Cook re-observed Aristarchus on 2011 Sep 10 but found no obvious sign of color, however the local conditions were hazy which might have reduced visibility of color.

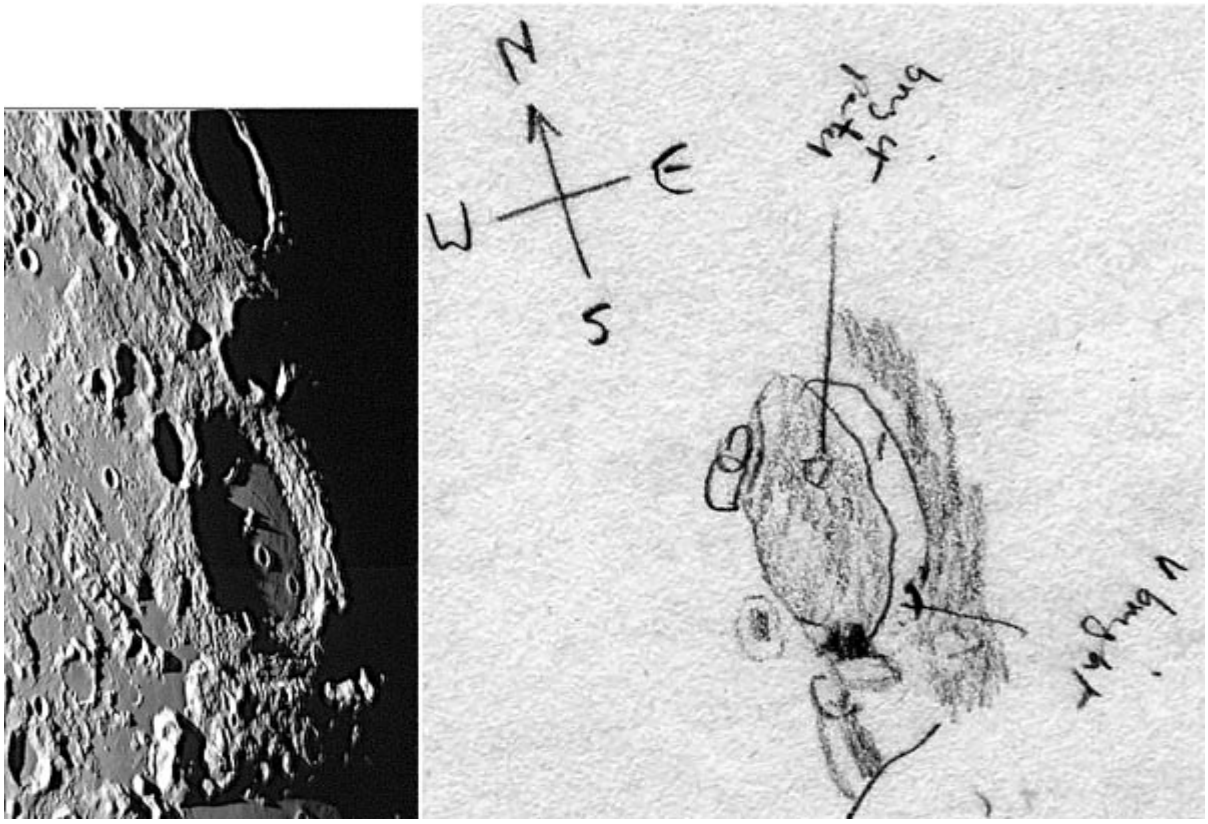


Figure 1a (left) CCD image by Brendan Shaw from 2011. **(b) right** – sketch by Jeremy Cook from the night of the LTP in 1993. North is towards the top in (a) and (b).

On 2011 Sep 30 at UT 07:22, John Field (New Zealand) took a color image of Earthshine. This corresponded to the same phase as when Ossola from Switzerland obtained a photograph on 1987 Feb 01 at 18:00? UT showing Tycho and Copernicus as being quite bright and Aristarchus as being even brighter. However in John's image in Figure 2, there does not appear to be anything exceptional. So I suspect that although illumination is similar ,topocentric libration (viewing angle) may have some effect on the perceived brightness of some of the features.

Suggested Features to observe in November: 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 .For members who do not have access to the internet, please drop me a line and I will post predictions to you. By re-observing and submitting your observations, we will get a clear understanding of what the feature ought to have looked like at the time. Only this way can we really fully analyze past LTP reports. 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 (presently 50 followers).

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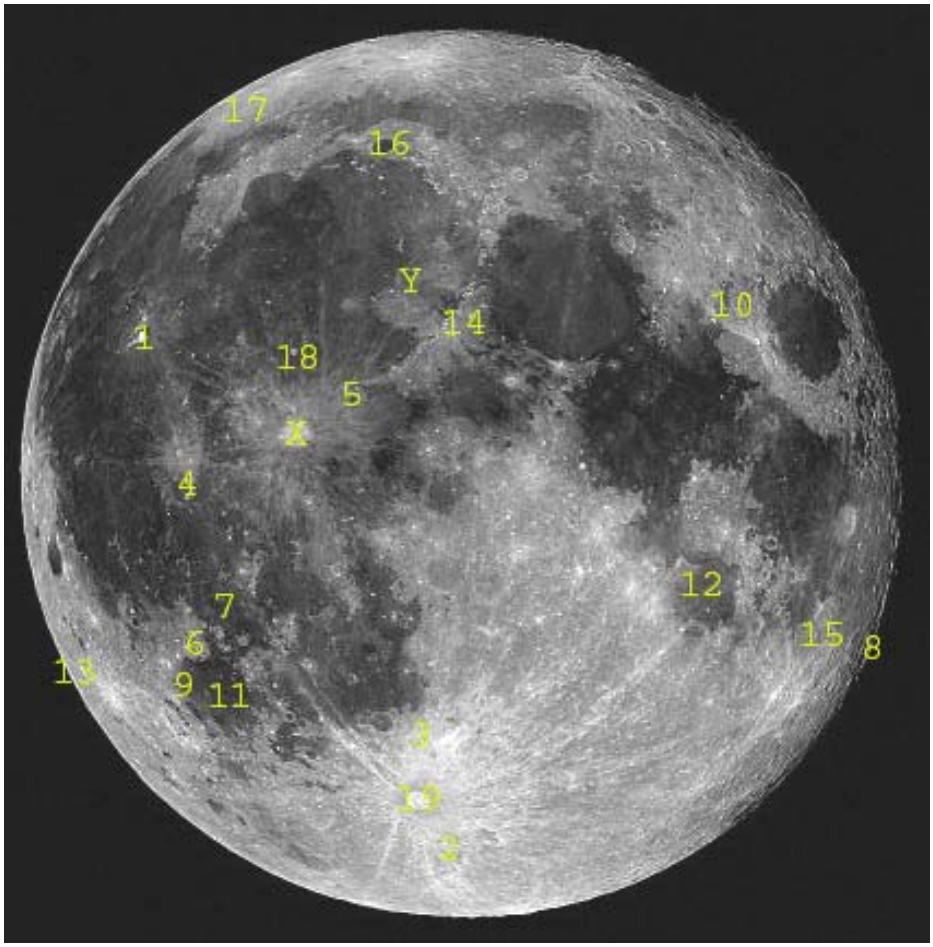
Figure 2. Earthshine image of the Moon by John Field.

KEY TO IMAGES IN THIS ISSUE

1. **Aristarchus**
2. **Clavius**
3. **Deslandres**
4. **Encke**
5. **Eratosthenes**
6. **Gassendi**
7. **Herigonius**
8. **Humboldt**
9. **Liebig Scarp**
10. **Macrobius**
11. **Mare Humorum**
12. **Mare Nectaris**
13. **Mare Orientale**
14. **Montes Apenninus**
15. **Petavius**
16. **Plato**
17. **Pythagoras**
18. **Pytheas**
19. **Tycho**



FOCUS ON targets

X = Copernicus (January)
Y = Archimedes (March)