THE LUNAR OBSERVER

A PUBLICATION OF THE LUNAR SECTION OF THE A.L.P.O.
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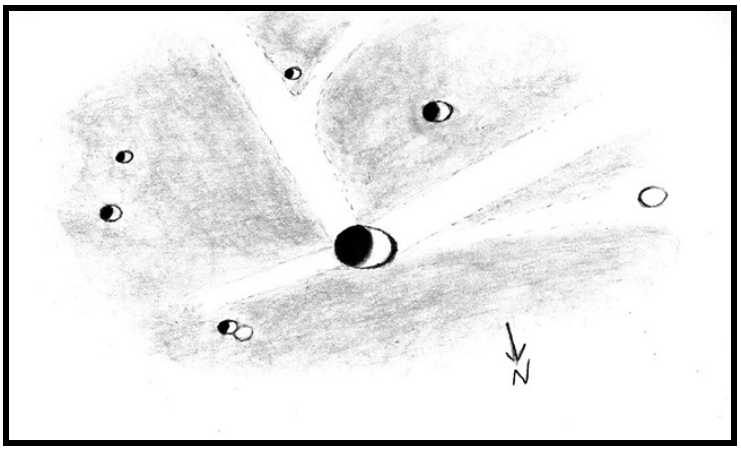
RECENT BACK ISSUES: http://moon.scopesandscapes.com/tlo_back.html

FEATURE OF THE MONTH – AUGUST 2013

EGEDE-A



Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA
March 22, 2013 02:25-02:45, 03:05-03:15 UT, 15 cm refl, 170x, seeing 8/10

I observed this crater and vicinity on the evening of March 21/22, 2013 while watching the moon hide four stars. This crater is north of Egede and west of Aristoteles in Mare Frigoris. Egede A is a moderately large, very crisp and symmetric crater with a modest ray system. There is a half-circle of craters surrounding Egede A from southwest to northeast that are smaller versions of it. Egede B to the southwest is the largest of these craters. Counter-clockwise from Egede B are Egede E, M, C and F. The Lunar Quadrant map shows Egede E and N close together between B and M, but I saw only one crater there. It was probably E since that was more nearly midway between Band M as I had seen it. There appears to be a modest ghost ring just north-west of Egede F. Egede G to the west is about the same size as Egede B, but is much shallower. I noticed four rays radiating from Egede A. The widest and brightest ray heads west from Egede A, passing north of B amd south of G. A fainter ray north of this bright one points toweard Egede G. Another ray, nearly as wide and bright as the westward one, heads south from Egede A, and appears to split just north of Egede E with the main ray continuing to the south, and a narrow branch heading west from Egede E. A narrow ray eastward from Egede A peters out just south of Egede F. This eastbound ray appears slightly brighter than the narrow westbound ray near Egede G.

LUNAR CALENDAR

AUGUST-SEPTEMBER 2013 (UT)

Aug. 03	08:54	Moon at Apogee (405,833 km – 252,173 miles)
Aug. 03	22:00	Moon 4.0 Degrees S of Jupiter
Aug. 04	09:00	Moon 5.2 Degrees SSW of Mars
Aug. 05	05:00	Moon 4.3 Degrees SSW of Mercury
Aug. 06	21:50	New Moon (Start of Lunation 1121)
Aug. 09	23:00	Moon 4.8 Degrees SSW of Venus
Aug. 13	05:00	Moon 3.0 Degrees SW of Saturn
Aug. 14	10:56	First Quarter
Aug. 16	12:12	Extreme South Declination
Aug. 17	20:00	Moon 1.6 Degrees NE of Pluto
Aug. 19	01:27	Moon at Perigee (362,264 km – 225,100 miles)
Aug. 21	01:44	Full Moon
Aug. 21	12:00	Moon 5.3 Degrees NNW of Neptune
Aug. 22	22:00	Moon 1.9 Degrees SE of asteroid 324-Bamberga
Aug. 24	03:00	Moon 3.2 Degrees NNW of Uranus
Aug. 28	09:35	Last Quarter
Aug. 29	17:06	Extreme North Declination
Aug. 30	23:47	Moon at Apogee (404,882 km – 251,582 miles)
Aug. 31	17:00	Moon 4.5 Degrees S of Jupiter
Sept. 02	05:00	Moon 6.1 Degrees SSW of Mars
Sept. 05	11:35	New Moon (Start of Lunation 1122)
Sept. 06	10:00	Moon 4.5 Degrees SSW of Mercury
Sept. 08	22:00	Moon 0.76 Degrees SE of Venus
Sept. 09	18:00	Moon 2.5 Degrees S of Saturn
Sept. 12	17:09	First Quarter
Sept. 12	18:30	Extreme South Declination
Sept. 14	01:00	Moon 1.5 Degrees NNW of Pluto
Sept. 15	16:35	Moon at Perigee (367,384 km – 228,284 miles)
Sept. 17	21:00	Moon 5.4 Degrees NNW of Neptune
Sept. 19	11:12	Full Moon
Sept. 20	13:00	Moon 3.1 Degrees NNW of Uranus
Sept. 26	01:06	Extreme North Declination
Sept. 27	03:55	Last Quarter
Sept. 27	18:18	Moon at Apogee (404,308 km – 251,225 miles)
Sept. 28	06:00	Moon 4.9 Degrees SSW of Jupiter

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** 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)

Additional commentary accompanying images is always welcome.

CALL FOR OBSERVATIONS:
FOCUS ON: Mons Rumker

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 2013** edition will be **Mons Rumker.** Mons Rumker is most visible on observations close to the terminator, although 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 this to your observing list and send your favorites to:

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

Deadline for inclusion in the Mons Rumker article is August 20, 2013

FUTURE FOCUS ON ARTICLES:

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

Subject	TLO Issue	Deadline
Schickard-Wargentin	**November 2013**	**October 20, 2013**
Aristarchus	**January 2014**	**December 20, 2013**

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

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND. Digital images of 7 day Moon, Alphonsus, Alpine Valley, Hadley Rille & Triesnecker.

HOWARD ESKILDSEN - OCALA, FLORIDA, USA. Elevation measurements of Archytas G & Gambart C domes. Digital images of Catena Davy, Copernicus(2), Godin C plateau, Gould-Tycho, Hipparchus-Horrocks, Hyginus-Herschel, Lambert-Draper, Lambert-Copernicus, Mare Humorum, Montes Appenines, Montes Archimedes, Plato, Sinus Medii, Spitzbergen-Eratosthenes, Thebit & Timocharis-Feulee.

ROBERT H. HAYS, Jr.-WORTH, ILLINOIS, USA. Drawings of Egede A, Euctemon & Fontenelle.

RICHARD HILL – TUCSON, ARIZONA, USA. Digital images of Barrow, Deslandres, Mons Rumker(3), Montes Apennines & Rupes Recta.

ROBERT REEVES-SAN ANTONIO, TEXAS, USA. Digital image of Northern 3rd Qtr. Moon.

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RECENT TOPOGRAPHICAL OBSERVATIONS

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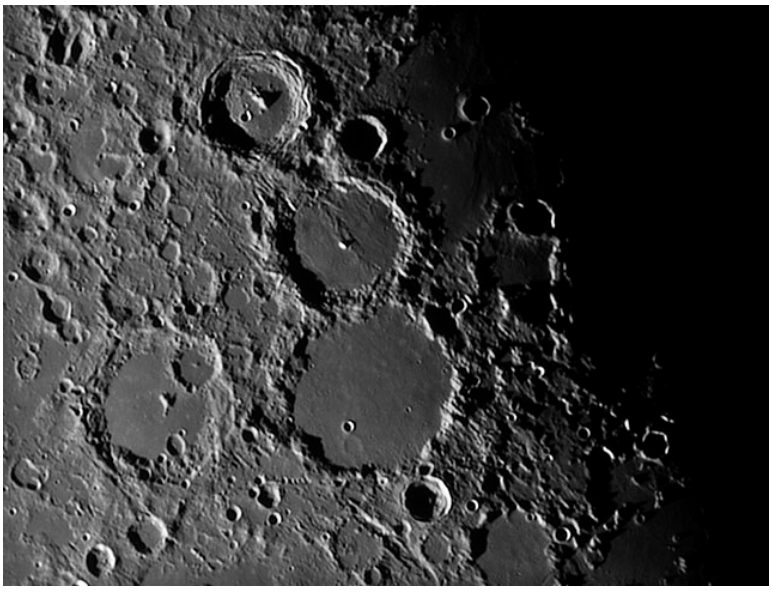
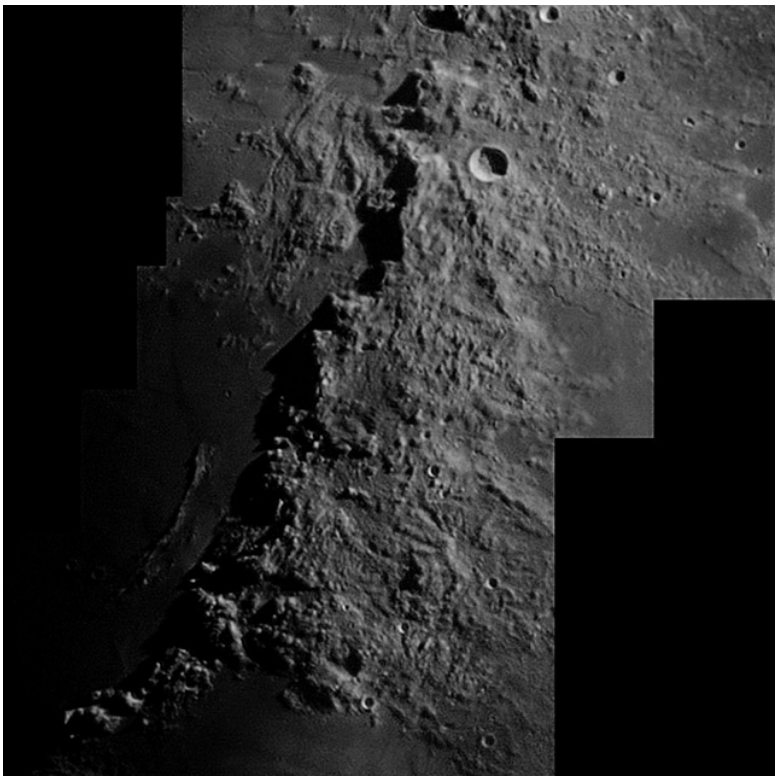


ALPHONSUS - Maurice Collins-Palmerston North, New Zealand. July 16, 2013 06:52 UT. Seeing A-III. WO FLT-110, Refr, f/21(3x barlow), ASI120MC. North down.

RECENT TOPOGRAPHICAL OBSERVATIONS

GODIN C Plateau - Howard Eskildsen-Ocala, Florida, USA. June 18, 2013 01:07 UT. Seeing 8/10, Transparency 4/6. 6" f/8 refractor, Explore Scientific lens, 2x barlow, DMK 41AU02.AS, IR block & V block filters.



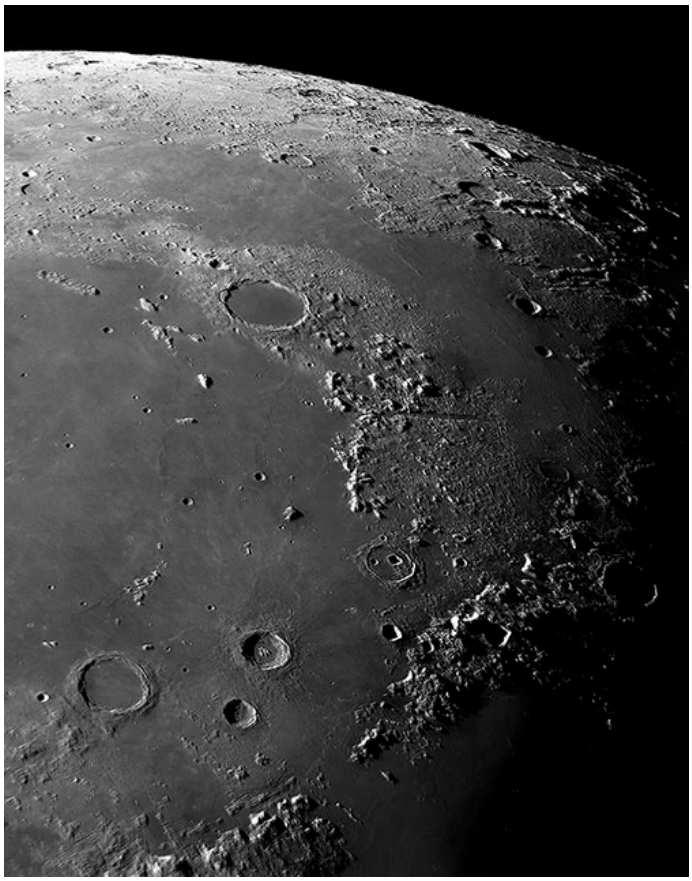
MONTES APENNINES – Richard Hill – Tucson, Arizona, USA June 17, 2013 02:59 UT. Seeing 7/10. TEC 8" f/20 MAK-CASS, DMK21AU04. Wideband 656.3 nm filter.

Perhaps one of the best mountain ranges on the moon is Montes Apenninus with the many rilles and valleys along both flanks. There the big gash of Rima Bradley in the upper left to the sinuous rille of Rima Conon just below and to the right of the prominent crater Conon. The central highland plains in these mountains are crossed by numerous unnamed rilles. The various Mons on the Imbrium side of these mountains are well shown catching the early sunlight and then casting dramatic shadows on the mare floor.

This image was composed from 12 AVIs that were run through Registax 6 taking the best 300/1500 frames of each and stacking them. Additional processing was then done using GIMP and IrfanView and the final results were made into the mosaic by AutoStack.

RECENT TOPOGRAPHICAL OBSERVATIONS

3rd QUARTER MOON-Robert Reeves-San Antonio, Texas USA. June 29, 10:15 UT. C-8 SCT, f/25, Skyris 274M.



It is July 1, so the Celestron embargo on discussing their new planetary camera is lifted and I can talk about it.

For a number of months I have been beta testing a new USB3 1200 x 1600 pixel color camera built in partnership between The Imaging Source and Celestron. Previously I have been using the camera electronics and sensor as supplied by Imaging Source. After a recent trip to the Celestron factory in Torrance, California, I swapped out the color beta camera for a production monochrome camera of the same resolution. Of course, then I had to wait out the obligatory new equipment weather curse. Saturday morning, the seeing was subpar, but I was able to get off some shots with the new Skyris 274M.

The attached shot is six frames with a huge amount of overlap (OK, it was an unplanned accidental mosaic) taken at 5000mm focal length, best 300 of 2000 frames, Autostakkert, Registax6, CS3, and little sleep. The seeing limited my resolution. I think I achieved equal resolution at 2000 mm focal length a week ago when the seeing was above average. The median time for all exposures was about 5:15 AM CDT June 29, 2013.

Poor seeing aside, I sure like this new camera. It's so small I had it in my pocket the other night and forgot where it was. It is plenty sensitive for the terminator, grabs huge amounts of lunar real estate and runs great with FireCapture software.

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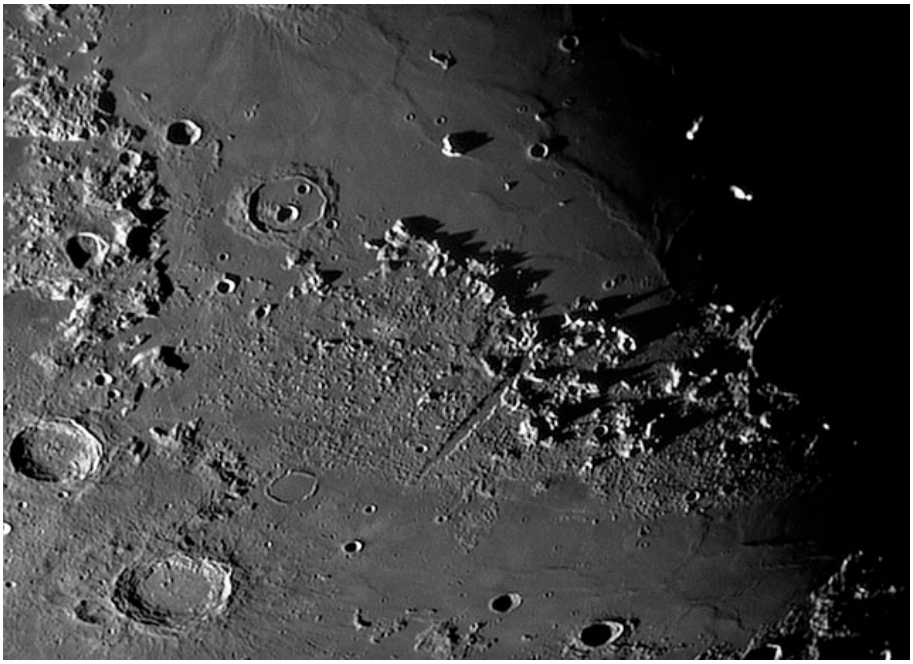
ADDITIONAL TOPOGRAPHICAL OBSERVATIONS



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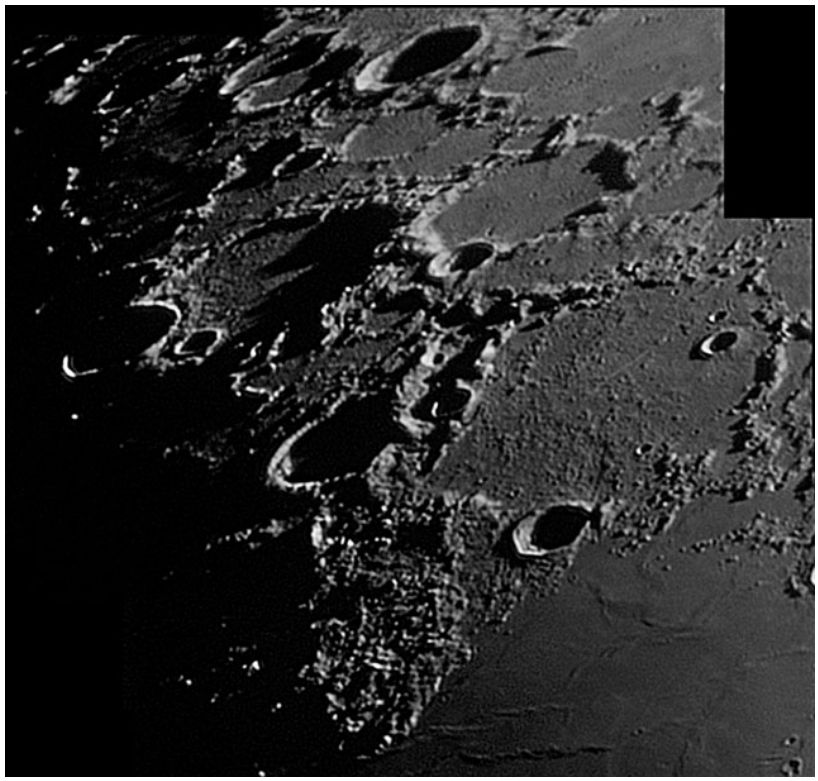
ALPINE VALLEY - Maurice Collins-Palmerston North, New Zealand. July 16, 2013 06:43 UT. FLT 110, f/21, ASI120MC. North down.

CATENA DAVY- Howard Eskildsen-Ocala, Florida, USA. June 18, 2013 01:03 UT. Seeing 8/10, Transparency 4/6. 6" f/8 refractor, Explore Scientific lens, 2x barlow, DMK 41AU02.AS, IR block & V block filters.

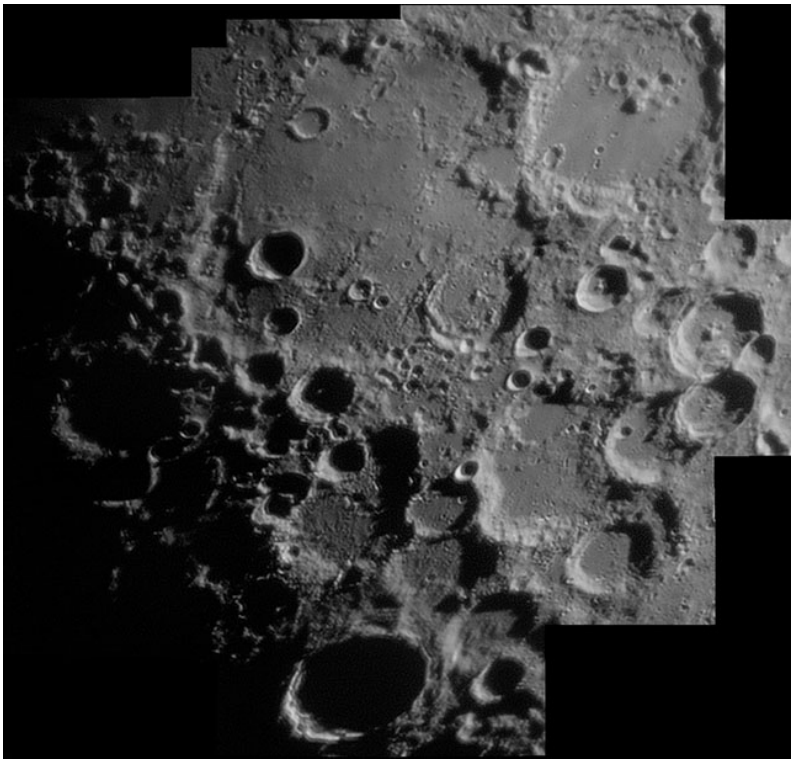
ADDITIONAL TOPOGRAPHICAL OBSERVATIONS



BARROW – Richard Hill – Tucson, Arizona, USA June 17, 2013 02:46 UT. Seeing 7/10. TEC 8” f/20 MAK-CASS.. DMK21AU04. Wideband 656.3 nm filter

I always enjoy the sunrise shadows around Barrow. The craggy mountains that form the walls cast long "v" shaped shadows on the floors of those craters. A good example of this can be seen on the floor of Goldschmidt. The foreground is dominated by the rough floor of W Bond with a nice rima cutting across it. Note the valley that goes from the north wall of Barrow along the wall of Goldschmidt. This is not well seen with higher sun. Byrd is at the upper left corner of this image deep in shadow with only one wall being illuminated.

This image is a composite of 11 images each 300/1500 frames stacked using Registax-6. The resultant images were processed using GIMP and IrfanView. The final montage was made using AutoStitch.



DESLANDRES – Richard Hill – Tucson, Arizona, USA June 17, 2013 03:13 UT. Seeing 8/10. TEC 8” f/20 MAK-CASS.. DMK21AU04. Wideband 656.3 nm filter

It's always a dramatic selenoscape when Deslandres is on the terminator. There's a wealth of detail on the floor of this giant ancient crater including the row of secondary craterlets that contains Hell H in the north part of Deslandres. There is a curious gash on the floor of Deslandres that goes from northern Lexell, across Deslandres to the wall between Hell and Hell B. Just north of Hell are several more nice rows of secondary craterlets.

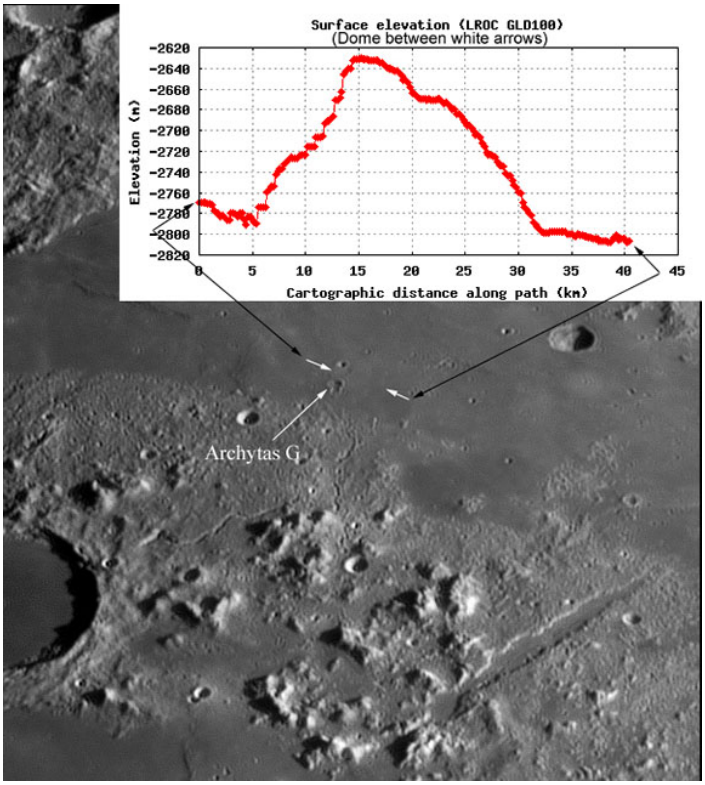
At the bottom of this image is the "elephant in the room". Tycho is filled with shadow with sunlight just catching the far wall. Note the softness of the surrounding features covered with ejecta.

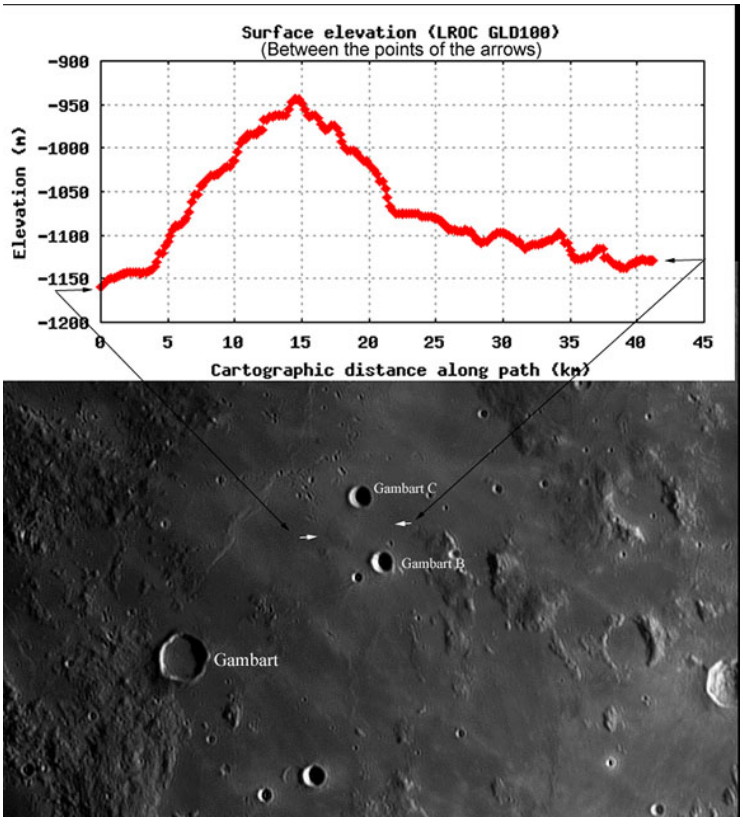
I left a tab on the right side of this montage to preserve the image of the triplet craters (bottom to top) of Huggins, Nasireddin and Miller. Note how the wall of the latter seems to have slumped into Miller C. Further, I enjoy the overlapping of all the craters demonstrating the different ages.

Nine AVIs of 1500 frames each were run through Registax-6 with the best 300 stacked into images. These were further processed with GIMP and IrfanView. The final images were assembled into this montage with AutoStitch.

ELEVATION MEASUREMENTS

ARCHYTAS G dome- Howard Eskildsen-Ocala, Florida, USA. June 18, 2013 00:51 UT. Seeing 8/10, Transparency 4/6. 6” f/8 refractor, Explore Scientific lens, 2x barlow, DMK 41AU02.AS, IR block & V block filters.





GAMBART C dome- Howard Eskildsen-Ocala, Florida, USA. June 18, 2013 00:56 UT. Seeing 8/10, Transparency 4/6. 6” f/8 refractor, Explore Scientific lens, 2x barlow, DMK 41AU02.AS, IR block & V block filters.

LUNAR TRANSIENT PHENOMENA

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

LTP NEWSLETTER – AUGUST 2013

Dr. Anthony Cook - Coordinator

Observations for June were received from the following observers: Jay Albert (Lake Worth, FL, USA - ALPO) observed: Aristarchus, Earthshine, Manilius, and Plato. Charles Galdies (Malta) imaged Aristarchus. Maurice Collins (New Zealand - RASNZ) imaged: Alphonsus, Aristarchus, Mare Imbrium, Plato, Theophilus, and took some whole Moon images. Rik Hill (Tucson, AZ, USA) imaged: Barrow, Cassini, Deslandres, Monte_Alpes, Montes Appennines, and Rupes Recta. Norman Izett (New Zealand, NZ Astronomers) imaged Earthshine, and a very thin lunar crescent. Pawel Kaldonek (Poland) imaged several features. Michal Pyka (Poland) imaged the Moon. Robert Reeves (San Antonio, TX, USA) imaged several features. Claudio Vantaggiato (Italy, UAI) imaged Aristarchus, Menelaus, and Plato.

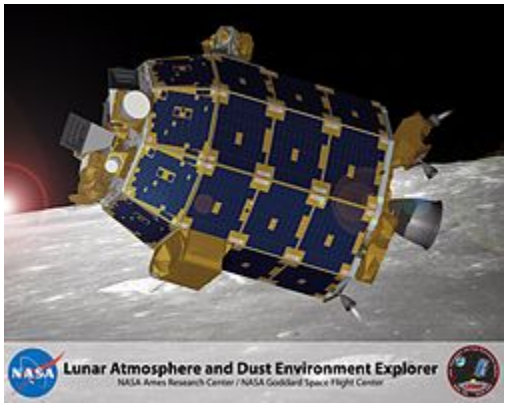


Figure 1. *Artistic representation of NASA LADEE mission*

News: NASA's LADEE (see Figure 1), or the Lunar Atmosphere and Dust Environmental Explorer, is due to launch on 2013 Sep 06, and has three objectives: (1) measure the lunar exosphere (highly rarified atmosphere where the atoms and molecules are so far apart that they never collide) before future exploration missions contaminate it. (2) determine whether the diffuse ray like glows, sometimes seen by astronauts from orbit, above the horizon, before sunrise, were dust related or Sodium ion glows? (3) to study dust released from impact events and establish how this may affect future surface exploration missions. ALPO's Brian Cudnik has been in contact with the LADEE team and will be encouraging amateurs to look for impact flashes on the Moon's night side, so that these can be checked against dust levels detected from LADEE from orbit. From the LTP perspective, there have been many observing efforts in the past to observe directly underneath spacecraft orbital positions, during Apollo, Clementine, and Lunar Prospector. However published journal papers discussing the results from this approach have been mixed and there have been possible band wagon effects where observers see more LTPs at this time than when spacecraft are not visiting the Moon. I am not attempting to denigrate the hard work that went into these observing programmes, but it is possible that some observers may have been a little too sensitive, especially during the Apollo era. So instead, if you do want to observe whilst this spacecraft is operating, then I would strongly encourage you to participate in the repeat illumination work run by the ALPO/BAA lunar sections, in order to try to eliminate some of the past LTP reported. If we happen to detect a TLP during the mission, during our routine observations, then all the better, and I would pass the information onto the LADEE team via Brian Cudnik.

I have now scanned in the entire collection of BAA Lunar Section LTP archive records (several boxes). This has been quite a long process spanning several years. The next stage is to place these into a directory structure for use in the LTP and routine observation database. Over the remainder of the Summer I will also be extracting LTP and routine observations from the ALPO Strolling Astronomer journals that Walter Haas kindly donated to the BAA. This task will help to capture the US perspective on LTP observations and what people were observing in general. These routine observations act as a control when doing statistical analysis on LTP and help remove observational bias effects i.e. do people see LTP in Aristarchus more often than anywhere else, simply due to the fact that more people observe this crater than any other? If you have any old routine lunar observations, i.e. photos, images, sketches or written descriptions, that have never been published before, then I would be very interested to see them – please email me and I will set up an account for you so that you can "upload" these into the special database we have here at Aberystwth University. You can add affiliation to your observations if you wish them to remain under the ownership of an astronomical society that you belong to. Any non-ALPO/BAA affiliation would preclude us from publishing the observation without getting permission from yourself or the astronomical society concerned, though we would make use of the dates, and UTs of the feature you were looking at for statistical purposes. We are especially interested in Apollo era and earlier observations to help fill gaps in routine coverage, though are just as happy to receive more modern observations. For old BAA and ALPO observations, I will make these available to other subsection coordinators in the ALPO and BAA Lunar Sections.

LTP Reports: No LTPs were reported in June, though I would like to show a couple of images of objects getting in the way of the Moon (see Figure 2). This kind of chance alignment is always going to happen somewhere on the Earth's surface if one waits long enough. Birds and bugs will be more common than aircraft, which in turn will be more common than the ISS passage. To spot the latter next to the Moon it is best to run some orbit prediction software to work out when it is likely to happen as seen from your observing location. Although I am always happy to receive such observations, I will refrain from publishing further images for some time as these do not fall under the category of true Transient Lunar Phenomena.

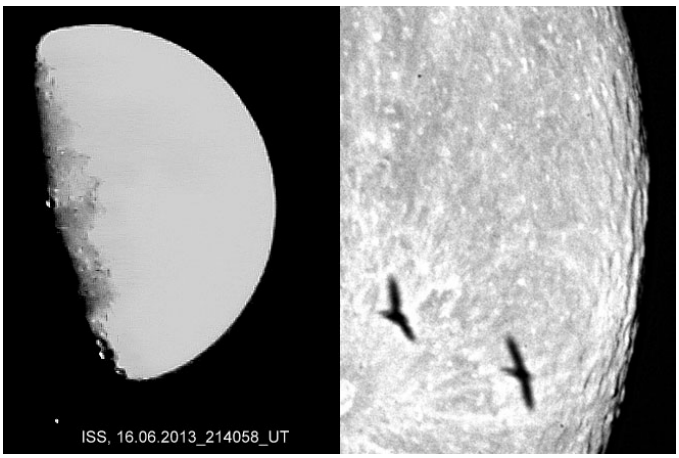


Figure 2. *(Left) the International Space Station (ISS) next to the Moon as imaged by Michal Pyka on 2013 Jun 17 UT 21:31 – it is the bright dot in the bottom left corner of the image. (Right) Birds flying past the Moon, through the line of sight, imaged by Maurice Collins on 2013 Jun 23 UT (sometime between 07:45 and 08:21 UT).*

Routine Reports: Here is a selection of reports received during June that can help to re-assess some past LTP observations.

Earthshine: On 2013 Jun 11 UT 06:01 Norman Izett captured an image of Earthshine - one from a sequence. Although there were no repeat illumination events for that night, I have included this (See Figure 3) to show how easy it is to monitor the relative brightness of features in Earthshine, and this can be achieved using binoculars or a telescope. There are many LTP accounts of features changing in brightness in Earthshine – personally I think it is more to do with image contrast and glare gradient issues affecting the visibility of different features, than variations in reflectivity or emissions on the night side. Anyway all you need to do to make an observation is to report the relative brightness of different features e.g. for Figure 3 below we would say:

(Bright) Aristarchus > Tycho > Copernicus = Menelaus > Kepler > Plato > Grimaldi (Dark)

…. meaning that Aristarchus was the brightest feature, followed by Tycho, and then by Copernicus (though this was equally as bright as Manilius), then by Kepler, then by Plato, then by Grimaldi….

We could use the Elger scale, but applied to the night side of the Moon instead, however this assumes that we can see visually enough features in Earthshine, and this is often not the case. A more scientific approach – less susceptible to relative measurements with respect to background is to measure the brightnesses directly off of images. Anyway, if you would like to send in some brightness measurements of features in Earthshine, I would gladly like to study them, to see if there is some variability as people have reported in the past.

Figure 3. *Norman Izett's Earthshine image of the Moon from 2011 Jun 11 UT 06:01. North is towards the top. – note the stars nearby to the Moon.*

Menelaus: On 2013 Jun 16 UT UAI observer Claudio Vantaggiato imaged this crater under very similar illumination to a LTP report by Brazilian observer Azevado back in 1969:

Menelaus 1969 Nov 17 UT 18:00-19:00 Observed by Azevado, Mongulhott, Fernades, Leal, and daSilva (Paralba, Brazil and Brazil, 8" and 10" reflectors) "Entire crater of Men. illum. by pale greenish light.(Azvevado)" NASA catalog weight=5. NASA catalog ID #1211. ALPO/BAA weight=4.

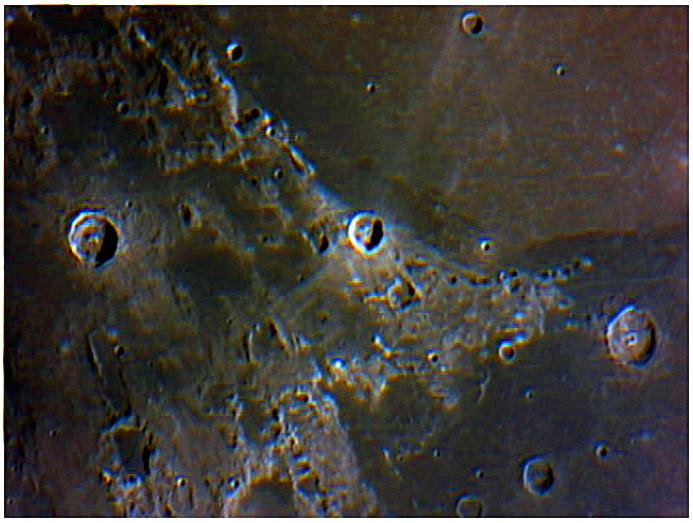


Figure 4. *2013 Jun 16 UT 20:14 Claudio Vantaggiato (UAI) color image centered on Menelaus with north towards the top. Image has been saturation enhanced and sharpened slightly.*

As you can see from Figure 4, Menelaus does not normally have a greenish cast to it. Therefore the ALPO/BAA weight remains at a 4, the original LTP color being unexplained.

Plato: On 2013 Jun 17 UT 02:32 Rik Hill (using a 8" Mak-Cas, 656 nm filter, seeing7/10) produced an image mosaic of the Montes Alpes area of the Moon. Unknown to Rik, Robert Reeves had been building a whole Moon mosaic with his new QHY5L-II CMOS camera looking through his C8, just a few minutes earlier. These imaging sessions coincided with similar illumination of two LTP associated with Plato from Russian Astronomer Markov (the latter one being just outside the +/- 0.5° similarity threshold):

On 1916 Sep 05 at UT 19:30 Markov (Russia) observed in Plato light on shadow of the bands at the bottom of the crater. The Cameron 1978 catalog ID=364 and weight=3. The ALPO/BAA weight=2.

Plato 1925 Jun 20 UT 20:00? Observed by Markov (Russia) "Light bands in bottom seen in shadow & did not seem to be elevations. These have been seen 5X from 1913-1922." NASA catalog weight=3. NASA catalog ID #391. ALPO/BAA weight=2.

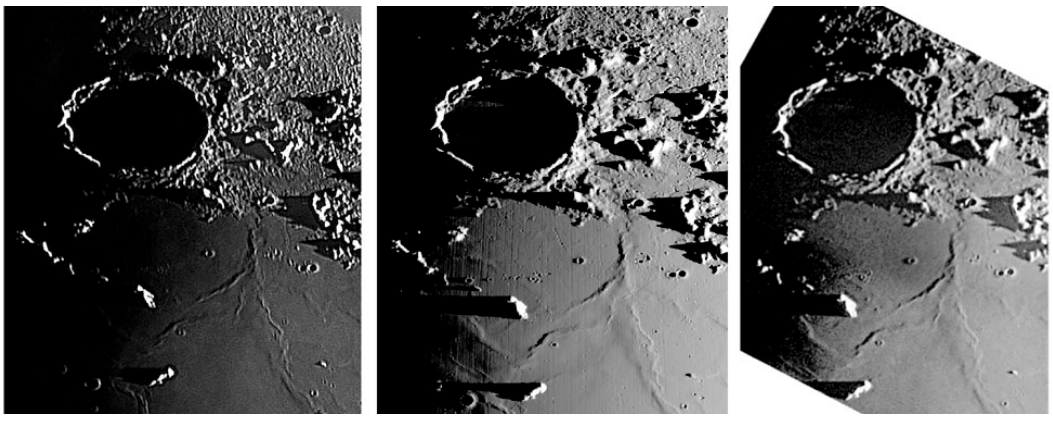


Figure 5. *The Plato area on 2013 Jun 17 with north towards the top. (Left) sub-section of Robert Reeves whole Moon mosaic, taken a few min before 02:32 UT. (Center) ALVIS simulation of Plato for 02:32. (Right) sub-section of Rik Hill's Montes Alpes image mosaic taken around 02:32UT.*

As a comparison with both Rik's and Robert's respective images, I produced an ALVIS simulation (N.B. LTVT can perform a similar role) view of the Plato area (Figure 5 center), set at 02:32UT. In the

ALVIS simulation, we see one needle-like shaft of sunlight starting to break through onto the floor of Plato over in the west. This is just visible in Rik's image, though the exposure was probably not optimized to detect detail in shadow well. Robert's image, taken a few minutes earlier (precise time not available), must have been just before the sunlight broke through. These shadow break effects, and later shadow spires, can probably explain both Russian LTP accounts. I am therefore lowering their weights to 1, though will not take them down to 0, just in case some important details from the original descriptions of the LTPs have been lost in translation in the Cameron LTP catalog.

Aristarchus: On 2013 Jun 19 UT 22:00 Pawel Kaldonek (Poland) used their Nokia N95 mobile phone camera, placed behind the eyepiece, to take an image of the Moon under similar illumination and libration (to within +/- 1°) to Patrick Moore's LTP from 1984 Jan 14 which was as follows:

> *On 1984 Jan 14 at UT 20:00 P. Moore (Selsey, UK) observed that Aristarchus was brighter than it normally is at sunrise. No quantitative measurements were made though. The Cameron 2006 catalog ID=238 and weight=3. The ALPO/BAA weight=1.*

Pawel's image shows Aristarchus as dull, but this is because the solar altitude at the centre of Aristarchus was -1.1°, where as in Moore's observation it was -0.4°. This might not sound like much, but at sunrise it can make all the difference. So I am guessing that the "brighter than normal" seen by Moore is just a sunward facing slope effect, and if Pawel had imaged about 90 minutes later, he too may have seen this effect too!

Aristarchus: On 2013 Jun 20 UT 23:00-23:03 Charles Galdies (203mm SCT, seeing IV, transparency good) imaged Aristarchus under similar illumination conditions to what the crater would have looked like when British astronomer Peter Foley, and others, reported the following LTP in 1984 Jan 15:

> *Foley (Kent, UK) saw the west wall dull and strongly colored. Moore (Sussex, UK) saw the wall as normal. However Cameron points out that Foley (Kent, UK) is a lot more Blue/UV sensitive than Moore. Moseley (Covington, UK) at 22:10 UT noticed a brightening on the East wall and at 01:10-01:25 UT suspected that the interior had a weak yellow-green cast to it. Cook (Frimley, UK) states that orange color was within the interior crater, but green beyond the east rim at the 9 O'clock and the south east corner to floor blue/mauve beyond the northern rim NW/WSW. Foley states that orange and blue/mauve might be spurious color, but green one cannot get this way. Cameron suggests chromatic aberrations as a possibility but thinks that the observers concerned were experienced enough to recognize this if it were the cause. Cameron 2006 catalog extension ID=239 and weight=0. Moore used a 15?" reflector and Foley used a 12" reflector. Moseley experienced II seeing and good transparency. Cook had III seeing and also good transparency. The ALPO/BAA weight=1.*

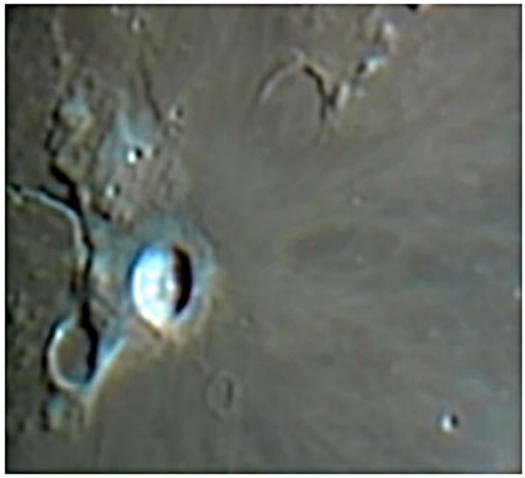


Figure 6. *Aristarchus image by Charles Galdis with north towards the top. Image has been high pass filtered with a patch radius of 1.9 pixels, followed by a color saturation enhancement of 60%.*

Charles comments: *"Part of the visible floor of Aristarchus has a pale blue tint. However, most conspicuous blue color is found on the western part of the inner wall. This blue coloration also extends on the outside of Aristarchus, specifically in the Southwestern direction towards Herodotus, northwest in the region between Vallis Schroter and Aristarchus. An evident hint of blue color is also visible in the neighborhood of Vaisala crater to the North northwest."*The image agrees with Foley's comments that it was strongly colored, though it certainly does not look dull! I have checked for spectral dispersion in the image, and cannot find much evidence for this on crater edges by flipping between red and blue channels. No orange can be seen inside the crater, as was noted back in 1984, nor green beyond the east wall, though there is a tiny amount of blue here, that one might consider to be turquoise. Charles has provided an image, albeit not under the best seeing conditions, but which raises a few more questions than answers. Clearly some new higher resolution color images would help to resolve the repeatability issue over which colors are real at this stage in the illumination. I will tentatively raise the ALPO/BAA from a 1 to a 2 to encourage some additional observing.

Plato: on 2013 Jun 22 UT02:02=02:25 Jay Albert observed this crater under similar illumination conditions to two past LTP reports:

Plato 1981 Jun 15 UTC 21:30 Observed by Amery (Reading, England, 25cm reflector, seeing Antoniadi IV-V) At the 4 O'clock position on the North West corner?, there was a dark smudge which reached from the floor across and over the wall and onto the terrain outside the crater. Foley, alerted by Amery, saw a dark patch in the crater's north west corner, again lying across the rim. 2006 Cameron catalog extension ID=148 and weight=4. Foley used a 12" reflector and seeing was III-V. ALPO/BAA weight=3.

Plato 1874 Jan 01 UT 20:00? Observed by Pratt (England?) "Unusual appearance" NASA catalog weight=1. NASA catalog ID #183. ALPO/BAA weight=1.

Jay comments that in the case of the 1984 LTP, Plato's floor was uniformly darker (with some slight differences in intensity) than Mare Imbrium and Mare Frigoris. He saw five craterlets and sometimes suspected a sixth at 311x. He did not see any dark smudge at the NW wall that matched the description in the LTP. However he did see a smudge slightly darker than the average of Plato's floor on the NW edge at the foot of the long, narrow landslip north of the prominent, almost triangular shaped landslip on the W wall. This dark smudge, however, did not go across the floor or over the crater wall onto the adjacent area outside the crater. There was another dark, roughly circular smudge outside the NW wall, but it was not connected to the interior smudge opposite it on the other side of the NW wall. In view of this I am tempted to put the ALPO/BAA weight up from 3 to a 4 for a LTP confirmed by two or more observers. That smudge should simply not have been as was described back in 1984. Concerning the 1874 LTP, Jay notes that there was nothing unusual in appearance in the crater. However as the 1984 report is somewhat vague as to what was unusual, it shall remain at a weight of 1.

Suggested Features to observe in August: For repeat illumination (and a few repeat libration) 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: +44 798 505 5681 and I will alert other observers. Twitter LTP alerts can be accessed on http://twitter.com/lunarnaut.

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KEY TO IMAGES IN THIS ISSUE

1. **Alphonsus**
2. **Alpine Valley**
3. **Archytas**
4. **Barrow**
5. **Catena Davy**
6. **Deslandres**
7. **Egede**
8. **Gambart**
9. **Godin**
10. **Montes Apennines**

FOCUS ON targets

X = Mons Rumker (September)
Y = Schickard-Wargentin (November)
Z = Aristarchus (January)