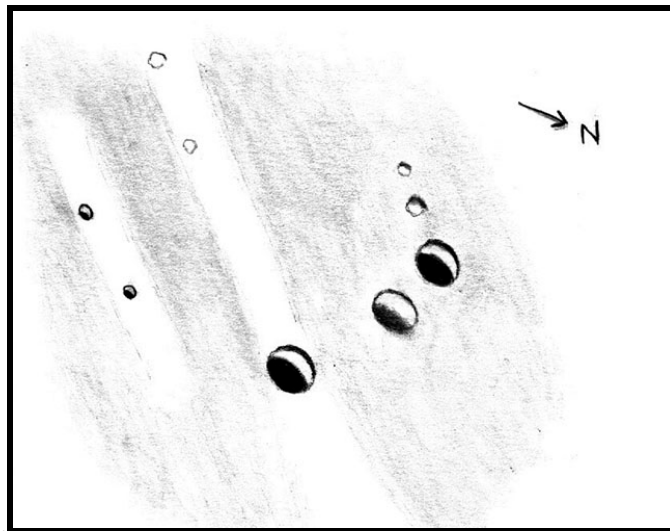




A PUBLICATION OF THE LUNAR SECTION OF THE A.L.P.O.
EDITED BY: Wayne Bailey wayne.bailey@alpo-astronomy.org
17 Autumn Lane, Sewell, NJ 08080
RECENT BACK ISSUES: http://moon.scopesandscapes.com/tlo_back.html

FEATURE OF THE MONTH – JUNE 2014

HARPALUS E, G, H



**Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA
February 13, 2014 03:44-04:04 UT, 15 cm refl, 170x, seeing 8/10**

I drew this area on the evening of Feb. 12/13, 2014. This little group of craters is located in Sinus Roris southwest of Harpalus itself. These three craters have similar sizes, but differ in appearance. Harpalus E is the southernmost crater of the trio, and has the brightest interior. Harpalus H at the north end also has a bright interior but not as bright as that of E. Harpalus G in the middle has a grayish appearance, and is also much shallower than the other two. Two isolated peaks are just west of Harpalus H. The Lunar Quadrant map shows one of them, and identifies it as Markov lambda. That designation may refer to the peak nearer to Harpalus H. Harpalus S is the small crater almost due south of Harpalus E, and another pit, not labeled on the LQ map, is to its southwest. A long ray takes in Harpalus E, and extends to the northeast and southwest from this crater. This ray widens northeast of Harpalus E, and contains two tiny bright dots to the southwest. Another short ray is to the south, and takes in Harpalus S and its neighbor. These two rays appear parallel to each other, but I can't tell what crater they may have come from.

ALPO ANNUAL MEETING

The ALPO annual meeting will be held in conjunction with the Astronomical League's ALCON 2014 (alcon2014.astroleague.org) July 10-12, 2014 at the San Antonio Airport Hilton (1-888-728-3031 www.sanantonioairport.hilton.com). Registration forms and accommodation information is on the website. Reservations must be made by June 14th to receive the ALCON convention rate at the Airport Hilton. Register before May 21st to receive an ALCON 2014 commemorative lapel pin.

The following information on submitting a paper is from the ALPO Journal:

ALPO 2014 Call for Papers

This year, only a selection of several ALPO papers will be presented as part of the main program; the remainder of the ALPO papers will be presented, as usual, at a separate room near the main presentation hall.

Participants are encouraged to submit research papers, presentations, and experience reports concerning various aspects of Earth-based observational astronomy. Suggested topics for papers and presentations include the following:

- New or ongoing observing programs and studies, specifically, how those programs were designed, implemented and continue to function.
- Results of personal or group studies of solar system or extra-solar system bodies.
- New or ongoing activities involving astronomical instrumentation, construction or improvement.
- Challenges faced by Earth-based observers such as changing interest levels, deteriorating observing conditions brought about by possible global warming, etc.

The preferred format is Microsoft PowerPoint, though 35mm slides are also acceptable. The final presentation should not exceed 20 minutes in length, to be followed by no more than five (5) minutes of questions from the audience. A hard-copy version of the paper should be made available for future web site publication.

Please submit by June 1, 2014, the following:

- Title of the paper being presented.
- A four- or five-sentence abstract of each paper.
- The format in which the presentation will be.
- A 100-word biography and a recent photograph of the presenter for posting on the ALCon 2013 website and inclusion in the printed program guide.

E-mail is the preferred method for contact:

ken .poshed/y@a/po-astronomyorg

If regular mail must be used, address all materials to:

ALCon 2014
c/o Ken Poshedly
1741 Bruckner Court
Snellville, Georgia 30078 USA

All fees and other details are listed in the registration form.

LUNAR CALENDAR

JUNE-JULY 2014 (UT)

June	03	04:25	Moon Apogee: 405000 km
	05	20:39	First Quarter
	08	00:44	Moon-Mars: 1.7° N
	08	22:05	Moon-Spica: 1.9° S
	09	05:36	Moon Ascending Node
	10	19:11	Moon-Saturn: 0.6° N
	13	04:11	Full Moon
	13	06:03	Moon South Dec.: 19° S
	15	03:34	Moon Perigee: 362100 km
	19	18:39	Last Quarter
	21	20:30	Moon Descending Node
	24	12:54	Moon-Venus: 1.4° N
	25	06:22	Moon-Aldebaran: 2.1° S
	26	08:34	Moon North Dec.: 19° N
	27	08:08	New Moon
	30	19:09	Moon Apogee: 405900 km
July	05	11:59	First Quarter
	06	01:21	Moon-Mars: 0.2° S
	06	06:32	Moon-Spica: 2.2° S
	06	09:50	Moon Ascending Node
	08	02:48	Moon-Saturn: 0.4° N
	10	17:29	Moon South Dec.: 19° S
	12	11:25	Full Moon
	13	08:27	Moon Perigee: 358300 km
	18	21:21	Moon Descending Node
	19	02:08	Last Quarter
	22	11:56	Moon-Aldebaran: 2° S
	23	15:36	Moon North Dec.: 18.9° N
	24	18:16	Moon-Venus: 4.9° N
	26	22:42	New Moon
	28	03:27	Moon Apogee: 406600 km

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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.alpo-astronomy.org>. 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:

Name and location of observer

Name of feature

Date and time (UT) of observation

Size and type of telescope used

Magnification (for sketches)

Filter (if used)

Medium employed (for photos and electronic images)

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

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

Transparency: 1 to 6

Full resolution images are preferred-it is not necessary to compress, or reduce the size of images. *Additional commentary accompanying images is always welcome.* **Items in bold are required. Submissions lacking this basic information will be discarded.**

Digitally submitted images should be sent to both

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

and Jerry Hubbell – jerry.hubbell@alpo-astronomy.org

CALL FOR OBSERVATIONS:

FOCUS ON: Banded Craters

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 **July 2014** edition will be **Banded Craters**. Lists and finding charts of banded craters can be downloaded from: <http://moon.scopesandscapes.com/alpo-bcp.htm>.

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 (both):

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

Jerry Hubbell – jerry.hubbell@alpo-astronomy.org

Deadline for inclusion in the Banded Craters article is June 20, 2014

FUTURE FOCUS ON ARTICLES:

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

<u>Subject</u>	<u>TLO Issue</u>	<u>Deadline</u>
Altai Scarp (Rupes Altai)	September 2014	August 20, 2014
Ghost Craters	November 2014	October 20, 2014

LUNAR TOPOGRAPHICAL STUDIES

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

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

Assistant Coordinator – Jerry Hubbell – jerry.hubbell@alpo-astronomy.org

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

OBSERVATIONS RECEIVED

JAY ALBERT – LAKE WORTH, FLORIDA, USA. Digital image of Endymion-Posidonius.

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND. Digital images of 12 day Moon, Aristarchus(2), Copernicus, Eastern Terminator, Langrenus, Mare Crisium, Mare Humorum Petavius, Plato & Schiller-Zucchius Basin.

ED CRANDALL – LEWISVILLE, NORTH CAROLINA, USA. Digital images of Clavius-Maginus, Deslandres & Maginus.

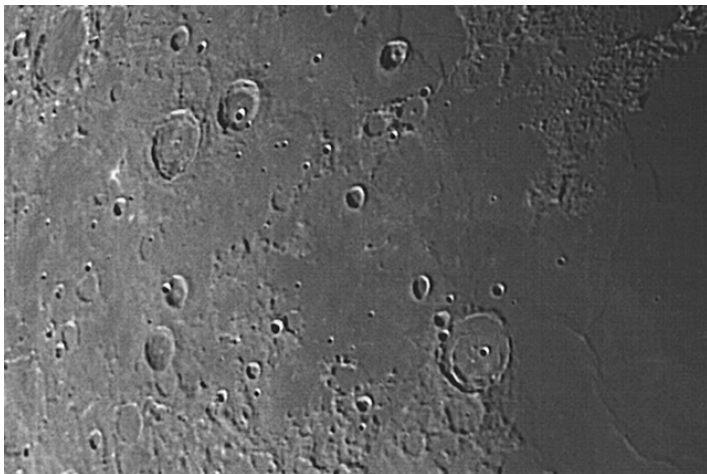
HOWARD ESKILDSEN - OCALA, FLORIDA, USA. Digital images of Daniell-Endymion & Psidonius.

RICHARD HILL – TUCSON, ARIZONA, USA. Digital images of Alphonsus, Alpine Valley-Cassini, Aristoteles-Archimedes, Copernicus-Eratosthenes, Goldschmidt, Hainzel, Hippalus Rimae, Mare Vaporum & Montes Apenninus.

PAOLO LAZZAROTTI – MASSA, ITALY. Digital image of Plato-Montes Teneriffe.

ROBERT REEVES-SAN ANTONIO, TEXAS, USA. Digital image of Letronne-Gassendi.

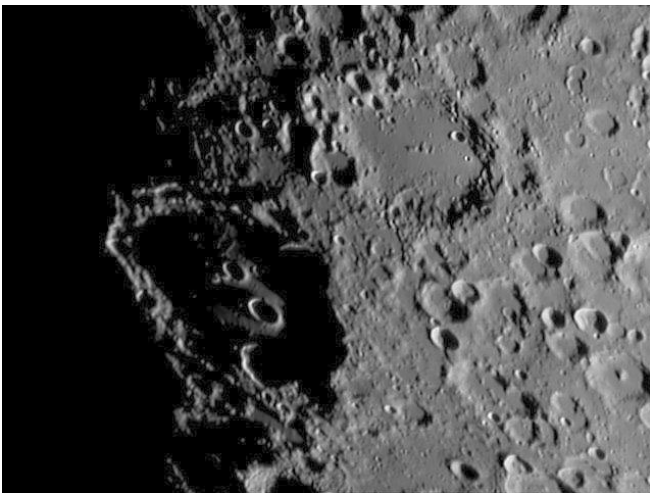
RECENT TOPOGRAPHICAL OBSERVATIONS



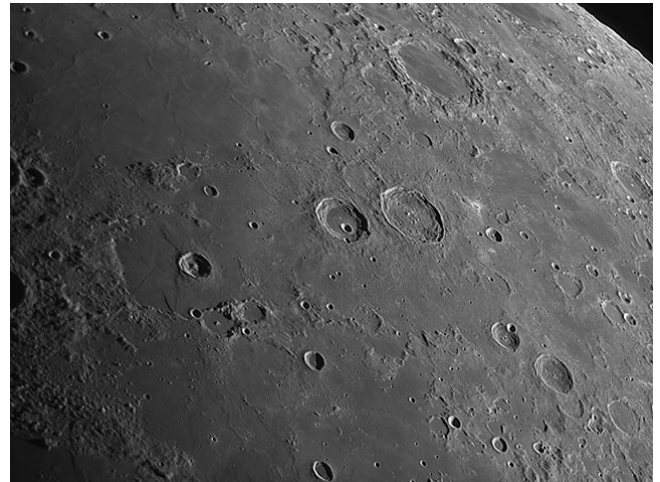
ENDYMION-POSIDONIUS - Jay Albert-Lake Worth, Florida USA. May 6, 2013 02:53 UT. Seeing 4-5/10 Transparency 2/6. C-11, NextImage 5.

RECENT TOPOGRAPHICAL OBSERVATIONS

SCHILLER-ZUCCHIUS BASIN - Maurice Collins-
Palmerston North, New Zealand. May 11, 2014 06:51
UT. C-8. North down.



CLAVIUS-MAGINUS – Ed Crandall – Lewisville,
North Carolina, USA. November 12, 2013 00:55 UT.
110 mm f/6.5 APO, 3x barlow, ToUcam.



DANIELL-ENDYMION - Howard Eskildsen-Ocala,
Florida, USA. May 6, 2014 00:15 UT. Seeing 9/10,
Transparency 6/6. Mewlon 250, DMK 41AU02.AS.

Daniell lies at the bottom of the image just above the center of the caption, and the rilles, Rimae Daniell, cross sleepy Lacus Somniorum to the rubble on the lower left corner of the image. Various rilles and wrinkles crease the floor of Lacus Mortis on the left center of the image, and crater Burg pocks its interior. Near the center of the image Hercules looks more like a frightened child than a hero, with an inner crater posing as mouth agape and central peaks like two squinty eyes. Perhaps it is the trauma of the proximity of the “lake of death.”

To the right of Hercules, Atlas looks bored with its fractured and elevated floor almost expressionless. Unlike Hercules, lava never flooded its floor, though presumably magma beneath it caused its fracturing. Just above the pair of craters, the faintest remnant of Atlas E lies nearly obliterated by ejecta from the younger (or more correctly less ancient) Atlas and Hercules.

Above and to the right of the pair, the flat floor of Endymion appears crosshatched with bright rays, and dark craterlets clustered on the upper left margin while others can be spotted here and there. Were Endymion as favorably placed for viewing as Plato, perhaps telescopes and seeing would be judged by how many of the diminutive craters could be spotted. Just outside the rim to the lower left of Endymion is a concentric crater. Can you spot it?

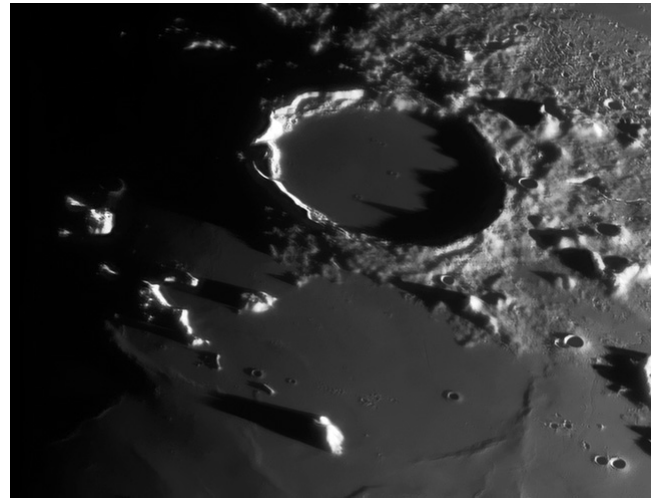
RECENT TOPOGRAPHICAL OBSERVATIONS



MONTES APENINNUS – Richard Hill – Tucson, Arizona, USA April 8, 2014 02:15 UT. Seeing 8/10. TEC 8" f/20 MAK-CASS, SKYRIS 445. 656.3 nm filter.

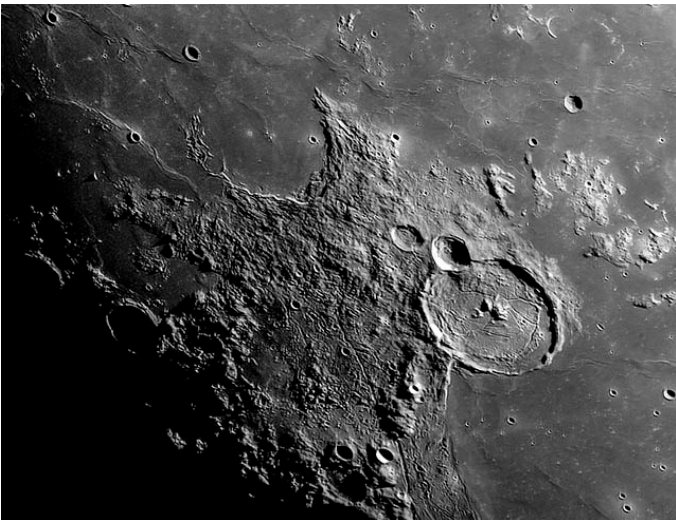
Here's a stunning sunrise on the Montes Apeninnus. When I saw this it was another of those 'gasp' moments. So many of the individual Mons are shown here. Starting in the upper right you have the recent (Copernician) crater Conan (named after Conan of Samos NOT O'Brien!) and just to the upper left of it the ramparts of Mons Bradley. Beyond the mountain you can see the wide Rima Bradley and some of the braided minor rimae with it.

Moving down the Montes you next see Mons Huygens and Mons Ampere casting long shadows that are still hiding Huxley. Last in the chain and isolated by shadow from the rest is Mons Wolff dramatically catching the first rays of lunar morning.



PLATO-MONTES TENERIFE– Paolo Lazzarotti – Maaciano (GR), Tuscany, Italy. February 11, 2011 18:18 UT. Seeing 6/10, Transparency 4/6. Gladius XLI 400mm Cassegrain, 2x barlow. Experimental Sony ICX285 camera, Baader R filter.

<http://www.lazzarotti-hires.com>



LETRONNE-GASSENDI-Robert Reeves-San Antonio, Texas USA. May 10, 2014 UT. C-11 Edge HD SCT, 2.5x Powermate, SKYRIS 274.

ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

MARE CRISIUM - Maurice Collins-Palmerston North, New Zealand. May 16, 2014 09:19 UT. C-8 SCT. North down.

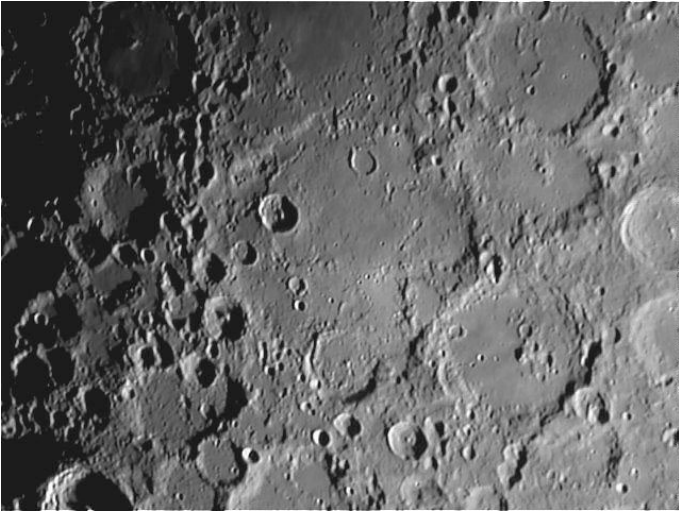


MARE HUMORUM - Maurice Collins-Palmerston North, New Zealand. May 11, 2014 06:40 UT. C-8 SCT. North down.

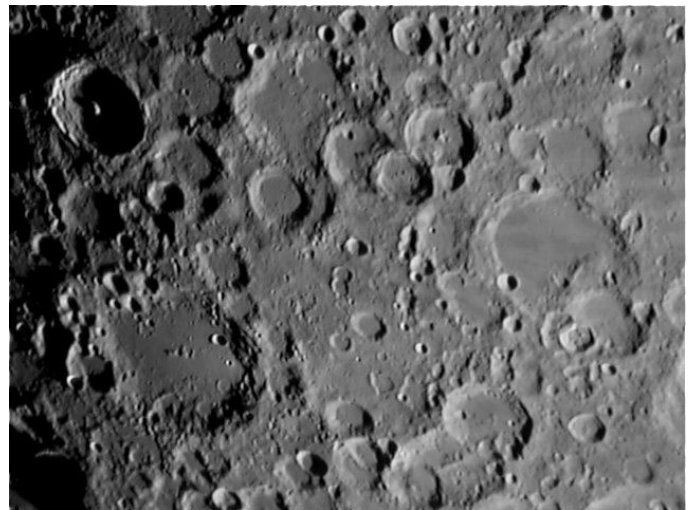
PETAVIUS - Maurice Collins-Palmerston North, New Zealand. May 16, 2014 09:22 UT. C-8 SCT. North down.



ADDITIONAL TOPOGRAPHICAL OBSERVATIONS



DESLANDRES – Ed Crandall – Lewisville, North Carolina, USA. November 12, 2013 01:04 UT. 110 mm f/6.5 APO, 3x barlow, ToUcam.



MAGINUS – Ed Crandall – Lewisville, North Carolina, USA. November 12, 2013 01:02 UT. 110 mm f/6.5 APO, 3x barlow, ToUcam.



POSIDONIUS - Howard Eskildsen-Ocala, Florida, USA. May 6, 2014 00:13 UT. Seeing 9/10, Transparency 6/6. Mewlon 250, DMK 41AU02.AS.

ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

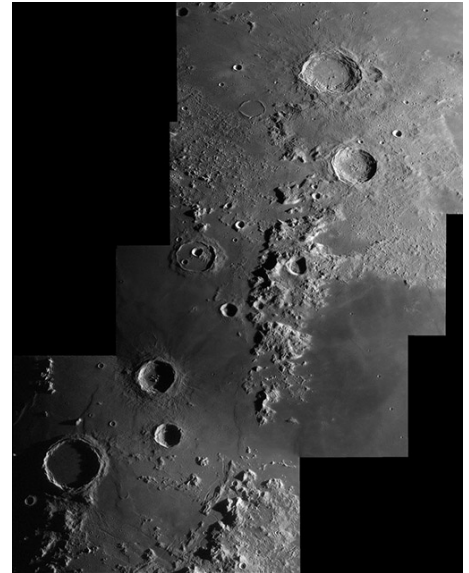
ARISTOTELES-ARCHIMEDES – Richard Hill – Tucson, Arizona, USA April 8, 2014 02:48 UT. Seeing 8/10. TEC 8" f/20 MAK-CASS, SKYRIS 445. 656.3 nm filter.

The main focus of this long image are the Montes Caucasus. I like these mountains for the passes that run through them. The largest ends at Theaetetus. Another opens towards Cassini C (and further on Cassini itself), created when the previously existing mountain range was flooded with mare lavas. Look at the archipelago (keeping the oceanic allusion) at the southern end of these mountains.

But there's more! On the north end is the impressive crater pair Aristoteles with it's spectacular ejecta blanket and Eudoxus just below it. On the south end the is the trio of craters Archimedes, Aristillus and Autolycus. Take a good look at the shadows on the floor of Archimedes. In the middle is Cassini with it's ejecta mostly covered by mare material except for very close in to the crater walls.

Lastly, at the very bottom of this image can be seen Rima Hadley, the site of the Apollo 15 base where the lander, Falcon, touched down. Most of the rima is in shadow but you can see the area where the base was. No, you can't see the base! I have an 8" 'scope, not the LRO. But all kidding aside, you can go to:

http://www.nasa.gov/mission_pages/LRO/multimedia/lroimages/apollosites.html#U3W1jqJZpdg where the lunar bases were imaged by LRO



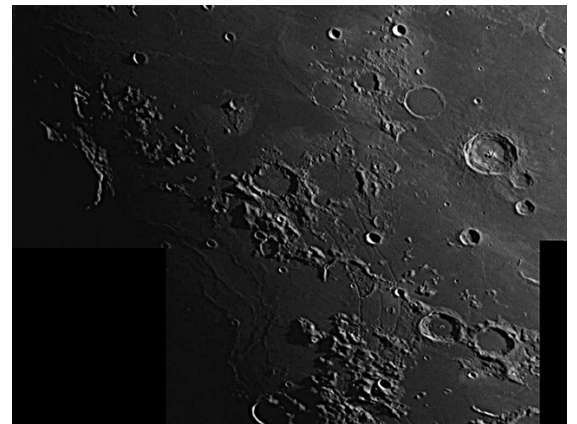
COPERNICUS-ERATOSTHENES – Richard Hill – Tucson, Arizona, USA April 9, 2014 02:44 UT. Seeing 8/10. TEC 8" f/20 MAK-CASS, SKYRIS 445. 656.3 nm filter.

It was a very dramatic sunrise that caught my attention. I really enjoy when this happens around Copernicus because of all the domes that are visible around Gambart and in Mare Insularum. The beautiful terraces in Eratosthenes are well shown as well as the "ghost" crater Stadius. As a kid in the early 1960s I always thought the secondary craters between Copernicus and Eratosthenes were difficult to see, but with modern high speed cameras and good optics they pop out in even a small telescope.

HIPPALUS RIMAE – Richard Hill – Tucson, Arizona, USA May 10, 2014 02:14 UT. Seeing 8/10. TEC 8" f/20 MAK-CASS, SKYRIS 445. 656.3 nm filter.

I like the 3 Rimae Hippalus, concentric to Mare Humorom. In this image they are just coming to the morning light. On the right edge we see the first light on Gassendi and on the left we see Bullialdus and it's three attendants Bullialdus A, B and Konig. Notice the small rima running between Konig and Konig A. It is not named on any atlas or software I can find.

Just above the Rimae Hippalus is the crater Agatharchides and to the right of that Agatharchides P with Rima Agatharchides clearly seen crossing it's floor from north to south.



LUNAR TRANSIENT PHENOMENA

Coordinator – Dr. Anthony Cook – atc@aber.ac.uk

Assistant Coordinator – David O. Darling - DOD121252@aol.com

LTP NEWSLETTER – JUNE 2014

Dr. Anthony Cook - Coordinator

Observations for May were received directly, or indirectly (forwarded onto me), from the following observers: Jay Albert (Lake Worth, FL, USA - ALPO) observed: Alphonsus, Kies, Lambert γ , the lunar eclipse, Pytheas, Sasserides, and Tycho. Federico Cardona (Germany - SPA) imaged several parts of the Moon. Maurice Collins (New Zealand) imaged the lunar eclipse, Mare Nectaris, Posidonius, and took several images of the whole Moon. Tony Cook (Newtown, UK – ALPO/BAA) imaged several parts of the Moon with a color webcam. Marie Cook (Mundesley, UK - BAA) observed Agrippa, Kepler, and Römer. Rik Hill (Tucson, AZ – ALPO) imaged Copernicus, Mare Vaporum, Montes Apenninus, and several other features. Kevin Kilburn (Manchester, UK – BAA) imaged Einstein. Franco Taccogna (Italy - UAI) imaged Agrippa, Aristarchus, Eratosthenes, Moretus, Picard, Proclus, Theophilus, and Toricelli.

News: Nigel Longshaw has been in contact with me over last month's analysis of the repeat illumination attempt of the shadowed floor of Plato. In his experience Nigel comments that the shadows on the floor of Plato move rapidly at early sunrise (or late sunset), and as you can see from his sketch in Fig 1, in over 36 minutes there is a significant change in appearance – this is perfectly normal. Whilst studying Nigel's routine report, another observation came to light, namely an image from Brendan Shaw taken some 21 minutes prior to Nigel's first sketch. At the beginning of the observation in Fig 1 you can see the 'streak' normally seen at very early sunrise, was more of a "fan" shaped area of illumination, Nigel considers that it could be described even as 'triangular'. He then goes onto say that "Given that there appears to be a darkening towards the western floor, as normal, then with a smaller instrument in less than ideal conditions, the appearance could be that of a detached 'luminous triangle'". Indeed M. de Winkel Spiessen, was using a 3.3" refractor at x180, when he observed.

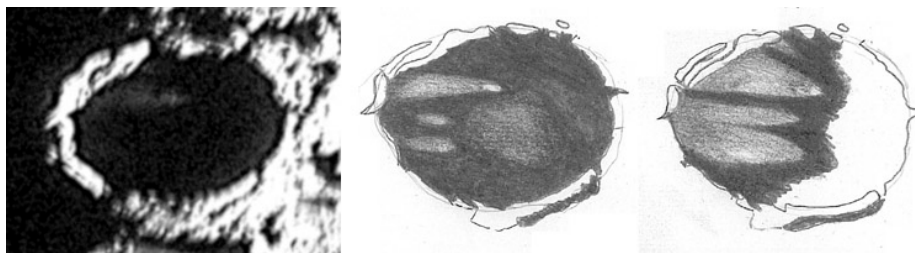


Figure 1. Plato on 2013 Feb 18, approx 20-15 minutes apart. The sketches were made with a 4" refractor at x106 and x160 with seeing II-III. North is towards the top. **(Left)** at 18:54UT as imaged by Brendan Shaw. **(Centre)** at 19:15UT, sketch by Nigel Longshaw. **(Right)** at 19:30UT, sketch by Nigel Longshaw.

Nigel then goes onto say that in "W.R.Birt's report to the committee of the BAAS (British Association for the Advancement of Science) in 1871 he recounts Gledhill's observations of sunrise over Plato on 1870 January 10 in some detail. After the main outlines of Plato appear from the shadows Gledhill writes, '... the first streak of light fell upon the floor. Within it and near its western extremity was seen [crater] number 3 as two elevated objects,' this is probably reflects the appearance detected by me visually on 2014 -3 -9 and imaged by Brenden Shaw. After 12 minutes Gledhill writes, 'The streak widens'. Further 'It now assumed a fan shape'. 'The streak is now much wider' wrote Gledhill after a further 10 minutes observing".

So Nigel concludes that "the hypothesis regarding a transitory effect between the lighter region recorded by S.A.Jones and a more defined 'triangular' or 'fan' shaped area of illuminated floor is the most

plausible explanation for what de Speissens recorded. The sequential drawings of Plato which appeared in the BAA Journal 1986, 96(3) (By Marshall and Mobberley) might give further explanation of Jones observation, but interestingly he (Jones) shows one light oval where others seem to indicate two under very similar colongitude values. There are also the drawings of Fauth and Schroeter in the 2007 October (No 8) edition of Selenology Today, the former of which gives a good indication of what Speissens might have reported". Indeed readers are recommend to read through that edition of Selenology Today (http://www.lunar-captures.com/Selenology_Today/selenologytoday8.pdf) for the article by Lena, Phillips, Teresa Bregante and Salimbeni, to see how some, but not all, of the LTP reported in Plato can be explained away by shadows.

A footnote to this year's European Geophysical Congress, via a colleague of mine who attended, concerning NASA's LADEE mission (I do not know if this was from lectures or conversations at the posters). The very early preliminary findings were that no evidence was found for optical scattering of dust particles at the altitudes that the Apollo 17 astronauts observed from orbit before sunrise – though there was very obvious evidence for dust plumes from impacts at densities which would not scatter light. However there maybe (again this is preliminary) evidence for dust particles levitating 1-2 metres above the surface (presumably electrostatically), and also a rumor that when flying very low to the surface, some significant bursts of Argon were detected, though due to the sampling techniques used, they did not have the ability to locate where from exactly. We just have to wait for upto a year now for the scientists involved to do careful analysis and publish the official results. This will help us formulate LTP analysis and observing plans in future.

LTP Reports: April has been an exceedingly quiet month with no LTP reported.

Routine Reports: Here is a selection of reports received for April that can help to re-assess some past LTP observations. If you are a regular reader of this newsletter you will see that some LTP we can disprove, others we can lower the weights of, several we have little original evidence to be able to make a decision, and a very few become interesting when repeat illumination (and libration) observations prove that they cannot reproduce what was seen by the original observers. This month I would like especially to thank Franco Taccogna (UAI) for sending observations in of so many lunar features, in the form of image sequences. As space is limited I can publish only one of these, but as you can see his Picard observation has proven very useful in eliminating a LTP from our database.



Figure 2. Posidonius as imaged by Maurice Collins (ALPO), on 2014 Apr 05 UT 07:03 with north towards the top. Image has been sharpened and color saturation increased to 50%

Posidonius: On 2014 Apr 05 UT07:03 Maurice Collins (ALPO) imaged this crater under repeat illumination conditions to within +/-1° to the report described below.

Posidonius 1821 Apr 07 UT 18:00? Observed by Gruithuisen (Munich, Germany) "Small bright crater in it was shadowless. Schroter also saw it shadowless several X" NASA catalog weight=4 (good). NASA catalog ID #87. ALPO/BAA weight=3.

Maurice's image in Fig 2 (slightly outside the usual $\pm 0.5^\circ$ repeat illumination window) shows a central crater, but it clearly has a shadow inside it, which is at odds with what was seen in 1821. I am tempted to raise the weight to a 4 as it is alleged that both Gruithuisen and Schroter saw the effect, however it is not clear from the NASA catalog that it was seen simultaneously, furthermore the "18:00 UT" back in 1821 is an estimation (this is often the case with some of these older observations). Therefore it is prudent to leave this at a weight of 3.

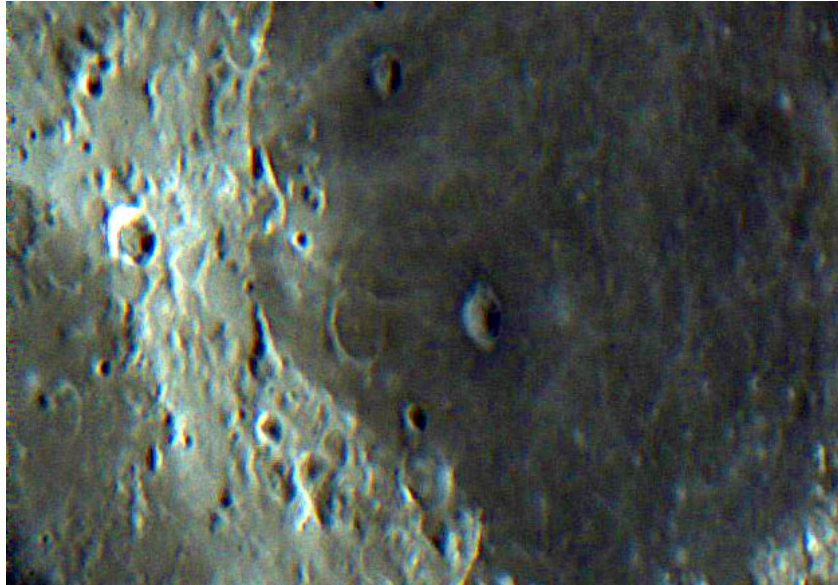


Figure 3. An image by UAI observer Franco Taccogna taken on 2014 Apr 06 UT 19:17. The image has been contrast stretched and had its color saturation increased to 60%. Image orientated with north towards the top. Picard crater is 23 km in diameter and located just to the right of the centre. It is surrounded by a dark purple halo of ejecta material.

East of Picard: On 2014 Apr 06 UT 18:45-19:41 Franco Taccogna (UAI) imaged the region around Picard crater under repeat illumination conditions to within $\pm 0.5^\circ$ to the report described below:

Near Picard 1878 Mar 10 UT 19:20 - Noble (England?, seeing=fair) observed a badly defined white patch east of Picard. Cameron 1978 catalog ID=201 and weight=3. ALPO/BAA weight=2.

Franco took several images in a sequence before and during the expected repeat illumination conditions. They all show a similar appearance which did not change much. Just to the east of Picard (See Fig 3 above) i.e. to the right in the image, you can indeed see something that looks like a badly defined white patch. All it seems to be is the ejecta material from the 3km diameter Curtis crater. Curtis is not really visible in the image, but the diffuse ejecta blanket is spread over perhaps 10km across. This is clearly what was seen in 1878, so we can safely remove this LTP from the database by giving it a weight of 0!

Lambert γ : On 2014 Apr 10 UT 22:21 Jay Albert (ALPO) observed this mountain under repeat illumination conditions to within $\pm 0.5^\circ$ to the report described below.

2008 Aug 11 UT S. Khachatryan (127mm f/12 GoTo scope, x62-x154, seeing: best and transparency=6) observed that an unofficially named mountain (Lambert Gamma or Mons Undest), near Lambert, had a "very strong glow", especially the part that was facing the line of the terminator and this was brighter than the side facing away. No other object nearby was casting as much light, even Mons La Hire. The effect was seen for 40 minutes and the glow was present throughout. The ALPO/BAA weight=2.

Jay comments that: “Lambert Gamma/Mons Undest are not listed or shown in Rukl, but a small, very bright mountain was seen E of Lambert. This unlabeled mountain is shown on Rukl chart 20 near Dorsa Stille and was as bright as Mons LaHire, though much smaller. Contrary to the LTP description, the mountain’s sunlit (E) side was much brighter than the shadow side facing the terminator to the W (hardly a surprise!)”. The original 2008 visual report puts the mountain as brighter than Mons Lahire, but Jay says that it was equal in brightness to Lahire, but smaller. There seems to be some ambiguity over which side of the mountain was brightest – the report from 2008 does not seem right unless something very unusual was going on? It is of course possible that there has been some mis-identification of the mountain in question and unfortunately I do not have a sketch in the archives. The difference in brightness between 2008 and 2014 could be due to minor differences in colongitude at the sub-0.5° level. I am therefore tempted to reduce the weight of this LTP from a 2 to a 1.

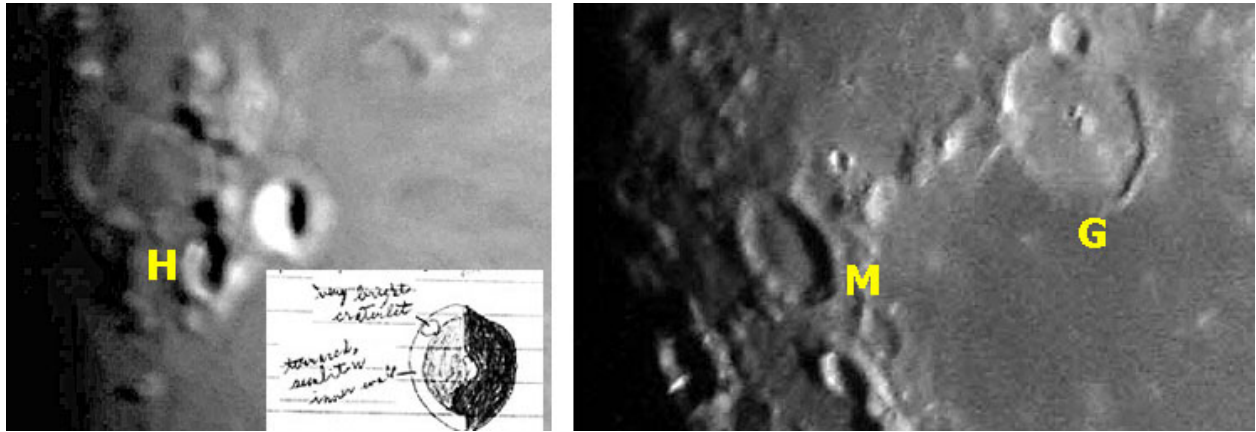


Figure 4. The following are subsets of an image by Federico Cardona (SPA observer) taken on 2014 Apr 11 UT 22:21 with north towards the top. The original image was sharpened and contrast enhanced. **(Left)** Herodotus crater as labeled by an “H” with an inset sketch from the Walter Haas sketch of Herodotus from 2003 May 13. **(Right)** Mersenius and Gassendi craters, labeled accordingly with an “M” and a “G”.

Herodotus, Gassendi, and Mersenius: On 2014 Apr 11 UT 22:21 Federico Cardona imaged the Moon under repeat illumination conditions to within +/-0.5° for no less than three past LTP reports. This is not a bad effort for this SPA observer, a relative newcomer to the LTP programme. The description for these past LTPs are given below:

Herodotus 2003 May 13 at UT06:40-07:26 W. Haas (Las Cruces, NM, USA, 12.5" reflector, x321 and x202, S=2, T=3.5) suspected (06:40-06:55UT) that he saw an oval bright feature (intensity 5.5) near the centre of the floor of Herodotus crater indenting into the shadow - however the seeing was none too good, so it is more of a suspicion than a definite sighting. At 07:14-07:26UT he re-examined the region (x202 and x321, S=1-2 and T=3.5) and had better glimpses that conformed his initial suspicions of there being an oval indentation bright spot (now intensity 6) into the shadow in the centre of the floor. Of course Herodotus does not have a central peak! There was also a very bright spot on the NW> sunlit rim of Herodotus crater. The ALPO/BAA weight=2.

Gassendi 1973 Jun 12 UT20:50-21:15 observed by Baumeister (48.83N, 9.25E, 240mm reflector, T=2, S=3) "Bright point at the NNE slope of the central peak" - Hilbrecht and Kuveler, Earth, Moon & Planets, 30 (1984), p53-61. ALPO/BAA weight=1.

On 1825 Jan 01 UT17:00? an unknown Russian observer noticed a cloud in Mersenius. ALPO/BAA weight=1.

The section of Federico’s image covering Herodotus (See Fig 4 (left)) is not especially sharp, but one can just about make out part of the indentation of the shadow as shown in the sketch by Walter Haas. Unfortunately the resolution of the image prevents us crucially from deciding whether there is an oval white area present near the centre of this crater. The Gassendi image does show rather obviously that the central peak is more than one peak, something that should have been obvious to the observer concerned. The northern most peak has a sunlit slope, but it is not apparent whether this is what Baumeister was referring to? Finally

Federico's image of Mersenius shows no evidence of a cloud. In all cases I am keeping the ALPO/BAA weights at 1, the latter one because the original time of the event was uncertain anyway.

Kepler: On 2014 Apr 14/15 UT22:50-23:30 Marie Cook (BAA) observed this crater under the same illumination conditions to Argentiere's report described in the Cameron catalog entry below:

Kepler 1956 Nov 17/18 UT 23:30-00:30 Observed by Argentiere et al.(France?) "Crater was extra-ordinarily bright". NASA catalog weight=3, NASA catalog ID #658. ALPO/BAA weight=2.

Marie recorded the crater as: "a normal albedo". This prompted me to do some further reading about Argentiere and what was going on in the sky around that date. It seems that there was total lunar eclipse visible in North and South America on 1956 Nov 18 with mid eclipse at 06:48UT and first umbral contact not due to start until around 04:00UT. Also I suspect that Argentiere was none other than of Romulo Argentiere of Itatiba City, Brazil, (Thanks to Alexandre Amorim of REA for this information) and perhaps not of France after all. So I do not know if the times given in the NASA catalog are wrong, or whether this was pre-eclipse, or what. I will leave the ALPO/BAA weight at 2 for now.

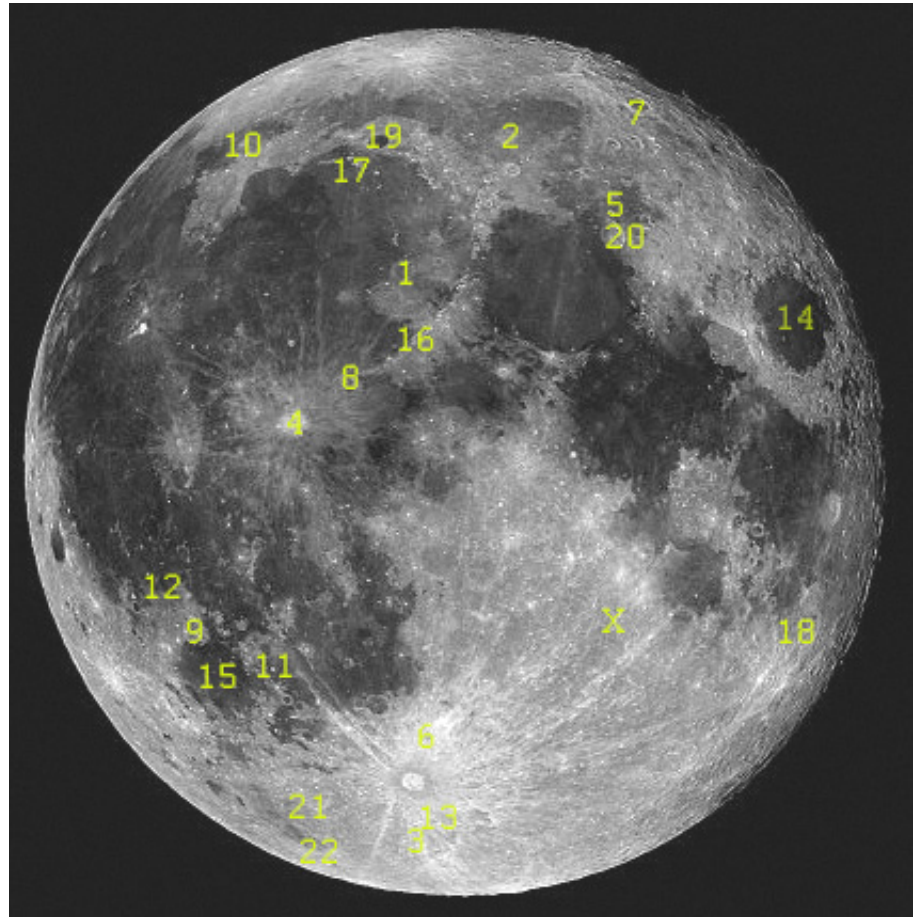
Suggested Features to observe in June: For repeat illumination (and a few repeat libration) LTP predictions for the coming month, these can be found on the following web site: <http://users.aber.ac.uk/atc/tlp/tlp.htm>. By re-observing and submitting your observations, we will get a clear understanding 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, advice on tests to carry out can be found on: <http://users.aber.ac.uk/atc/alpo/ltp.htm> . If you are still convinced it is a LTP then please give me a call on my cell phone: +44 798 505 5681 and I will alert other observers. Twitter LTP alerts can also be accessed on <http://twitter.com/lunarnaut>.

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KEY TO IMAGES IN THIS ISSUE

1. Archimedes
2. Aristoteles
3. Clavius
4. Copernicus
5. Daniell
6. Deslandres
7. Endymion
8. Eratosthenes
9. Gassendi
10. Harpalus
11. Hippalus
12. Letronne
13. Maginus
14. Mare Crisium
15. Mare Humorum
16. Montes Apeninnus
17. Montes Tenerife
18. Petavius
19. Plato
20. Posidonius
21. Schiller
22. Zucchius



FOCUS ON targets

Banded Craters (July)

X = Altai Scarp (September)

Ghost Craters (November)