

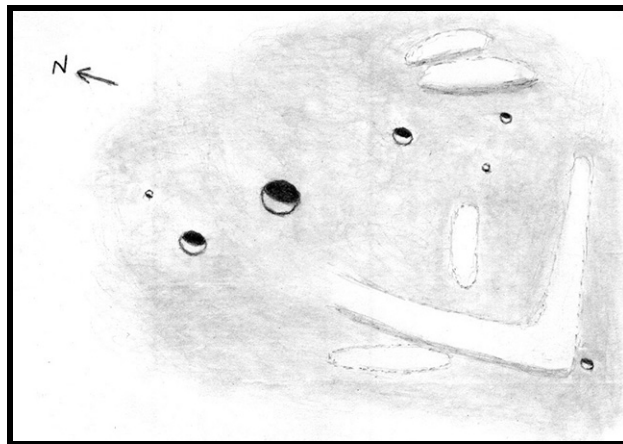


A PUBLICATION OF THE LUNAR SECTION OF THE A.L.P.O.
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RECENT BACK ISSUES: http://moon.scopesandscapes.com/tlo_back.html

FEATURE OF THE MONTH – JUNE 2013

SINAS



Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA
February 17, 2013 02:32-02:58 UT, 15 cm refl, 170x, seeing 8-9/10

I drew this crater and surrounding area on the evening of Feb. 16/17, 2013 while watching the moon hide four stars. This area is in central Mare Tranquillitatis. Sinas is the largest crater on this sketch. It is a fairly modest, simple crater, crisply outlined, as are the other craters shown. Sinas E is northwest of Sinas, and the tiny peak Sinas beta is northeast of E. Sinas A is southeast of Sinas, and Sinas K is the small pit farther away on the same line as Sinas, plus E and A. The small peak Sinas alpha is west of K and south of A. Two large low mounds or swellings are east of Sinas K, and southeast of A. They appeared as vague grayish strips with sunward sides slightly brighter than the surrounding maria. A relatively bright, chevron-shaped area begins as a blunt point south of Sinas K, then goes west until making a sharp turn to the north near the crater Maskelyne N. From there, it heads toward Sinas E, but peters out before reaching it. There seems to be weak shadowing on its west side as though it has very slight relief. A bright shadowless patch is between the chevron and Sinas alpha, and a similar bright strip angles off the chevron's west side. Neither of these two bright areas showed noticeable shadowing. This area overall appears very smooth with no large peaks, and no narrow wrinkles.

LUNAR CALENDAR

JUNE-JULY 2013 (UT)

June 03	04:00	Moon 3.8 Degrees NNW of Uranus
June 07	14:00	Moon 1.8 Degrees SSE of Mars
June 08	15:58	New Moon (Start of Lunation 1119)
June 09	07:00	Moon 3.2 Degrees SSW of Jupiter
June 09	21:41	Moon at Apogee (406,486 km – 252,579 miles)
June 10	09:00	Moon 5.3 Degrees S of Venus
June 10	21:00	Moon 5.8 Degrees S of Mercury
June 16	17:24	First Quarter
June 19	17:00	Moon 3.6 Degrees S of Saturn
June 23	11:11	Moon at Perigee (356,989 km – 221,823 miles)
June 23	11:33	Full Moon
June 24	00:00	Moon 0.96 Degrees NNW of Pluto
June 27	19:00	Moon 5.6 Degrees N of Neptune
June 30	04:54	Last Quarter
June 30	13:00	Moon 3.5 Degrees NNW of Uranus
July 06	12:00	Moon 3.7 Degrees S of Mars
July 07	00:37	Moon at Apogee (406,491 km – 252,582 miles)
July 07	02:00	Moon 3.6 Degrees SSW of Jupiter
July 08	07:15	New Moon (Start of Lunation 1120)
July 08	12:00	Moon 0.14 Degrees NW of Mercury
July 10	19:00	Moon 6.7 Degrees SSW of Venus
July 16	03:19	First Quarter
July 16	24:00	Moon 3.2 Degrees SSW of Saturn
July 20	03:12	Extreme South Declination
July 21	09:00	Moon 1.2 Degrees NW of Pluto
July 21	20:28	Moon at Perigee (358,401 km – 222,700 miles)
July 22	18:15	Full Moon
July 25	02:00	Moon 5.4 Degrees NNW of Neptune
July 27	22:00	Moon 3.3 Degrees N of Uranus
July 29	17:44	Last Quarter

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

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

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

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

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

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

In addition to information specifically related to the observing program being addressed, the following data should be included (**Bold items are required**):

Name and location of observer

Name of feature

Date and time (UT) of observation

Size and type of telescope used

Magnification (for sketches)

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

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

Transparency: 1 to 6

Medium employed (for photos and electronic images)

CALL FOR OBSERVATIONS:

FOCUS ON: Domes

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 2013** edition will be **Domes**. Current catalogs of lunar domes can be found at: <http://digilander.libero.it/qlrgroup/kapralcatalog.pdf> and <http://digilander.libero.it/qlrgroup/consolidatedlunardomecatalogue.htm>. Domes will only be 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 some of these objects to your observing list and send your favorites to:

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

Deadline for inclusion in the Domes article is June 20, 2013

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>
Mons Rumker	September, 2013	August 20, 2013

ALCon 2013 In Atlanta

This year, the annual ALPO meeting will again be held in conjunction with the Astronomical League's ALCon, Wednesday July 24, 2013 through Saturday July 27, 2013 at Fernbank Science Center, near Atlanta, GA. Detailed information can be found in the JALPO vol. 55, #2, Spring 2013, which is freely available at <http://www.alpo-astronomy.org/djalpo/55-2/JALPO55-2 - FREE with ALCon 2013 Registration.pdf> or on the Astronomical League's website <http://alcon2013.astroleague.org/>.

A discounted room rate is available at the Emory Conference Center Hotel.

This year, all technical papers will be mainstreamed and presented at one location. Previously, the ALPO technical papers were presented separately from the others. Papers will be presented on Wednesday, July 24, and Thursday, July 25. If you would like to present a paper please submit by June 15, 2013, 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.poshedly@alpo-astronomy.org. If regular mail must be used, address all materials to:

ALCon 2013
c/o Ken Poshedly
1741 Bruckner Court
Snellville, Georgia 30078 USA

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.

Three side-trips are also available: Deerlick Astronomy Village; Agnes Scott College Bradley Observatory for the Star BBQ; and the Atlanta Astronomy Club's Walter F. Barber Observatory. In addition to these attractions, vendors will be available to discuss their exhibits, wares and services. The ALPO board meeting, which is open to all members, will be held Friday morning.

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 2, 4, 5, 6 & 10 day Moon, Altai Scarp, Atlas, Mare Crisium, Petavius & Theophilus.

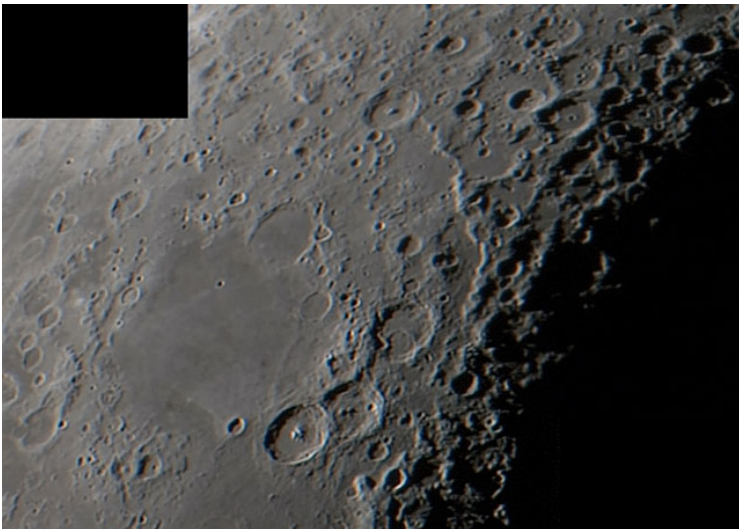
HOWARD ESKILDSEN - OCALA, FLORIDA, USA. Digital images of Albategnius-Werner, Atlas(2), Clavius-Zucchius, Franklin-Lacus Bonitatis, Gutenberg-Santbech, Hommel-Schomberger, Macrobius-Mare Crisium, Messier, Moretus-Clavius, Nerch-Schomberger, Piccolomini-Janssen, Rheita-Vlacq, Santbech-Rheita E, Scoresby, Steinheil-Mutus, Tauruntius & Tycho(2).

RICHARD HILL – TUCSON, ARIZONA, USA. Digital images of Lacus Mortus, Mare Vaporum, Stofler & Torricelli..

ANDRE MUNOZ- ABERYSTWYTH, CEREDIGION, UNITED KINGDOM. Digital images of 1st Quarter Moon (2).

DAMIAN PEACH-SELSEY, WEST SUSSEX, UNITED KINGDOM. Digital images of Alphonsus, Aristoteles, Clavius, Mare Crisium, Mare Humboldtianum & Theophilus.

RECENT TOPOGRAPHICAL OBSERVATIONS

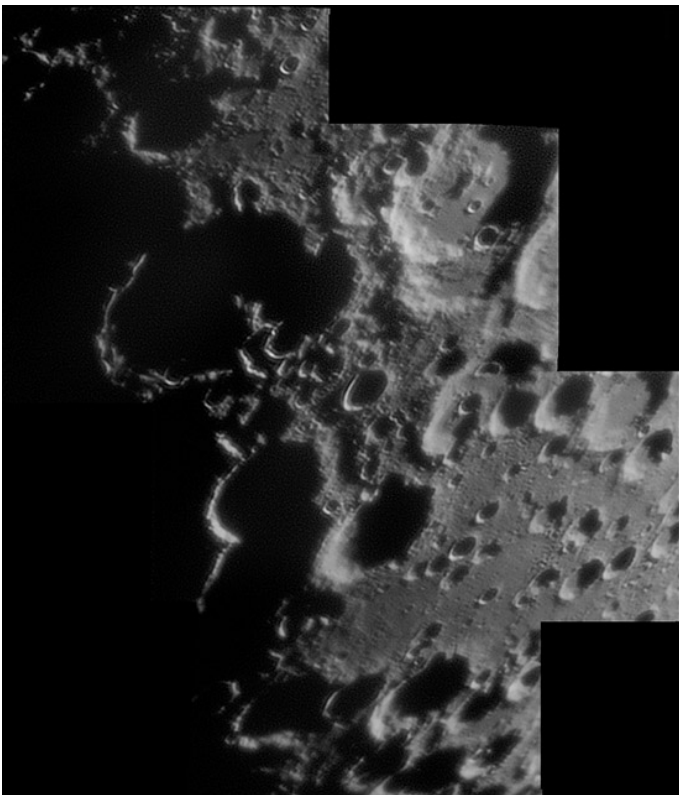


ALTAI SCARP - Maurice Collins- Palmerston North, New Zealand. May 16, 2013 08:34 UT. WO FLT-110, Refr, f/21(3x barlow), LPI. North down.

RECENT TOPOGRAPHICAL OBSERVATIONS

MARE FECUNDITATIS RIDGES - Howard Eskildsen-Ocala, Florida, USA. April 28, 2013 08:52 UT. Seeing 7/10, Transparency 45/6. 6" f/8 refractor, Explore Scientific lens, 2x barlow, DMK 41AU02.AS, IR block & V block filters.

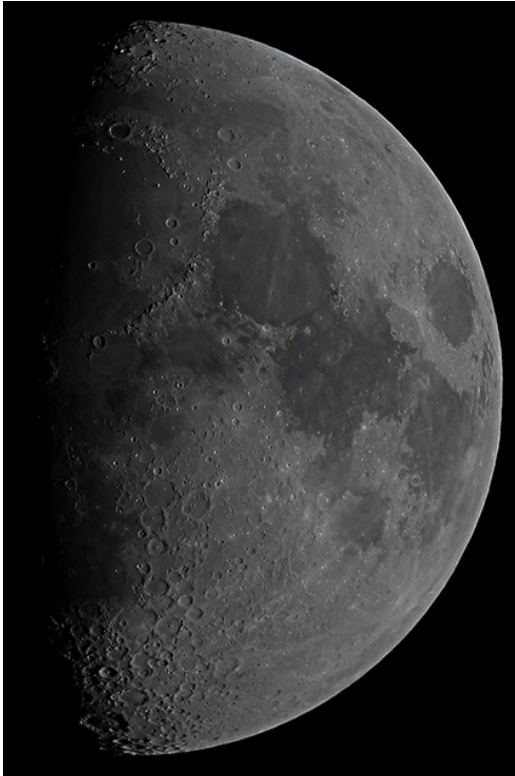
This morning the moon crossed the meridian about 4:30 AM and I was imaging through relatively steady skies. As I set up, a mess of motley clouds crossed the region but were gone for good by the time the imaging started. I have 20 images in process at this time and am quite happy with the results. This image has many delights, but I was most interested by the wrinkle ridges on the eastern (terminator) side of Mare Fecunditatis, the Sea of Fertility. These ridges are seldom seen, but in this image are nearly as glorious as the better known Serpentine Ridge in Mare Serenitatis.



STOFLE – Richard Hill – Tucson, Arizona, USA May 17, 2013 02:18 UT. Seeing 8/10. TEC 8" f/20 MAK-CASS.. DMK21AU04. Wideband 656.3 nm filter.

I had a good night this week and using my trusty old Goodwin Barlow I got the attached image. What is shown is sunrise on the large crater Stofler and its smaller neighbor Faraday. Below Licetus is also still in shadow with only the far wall illuminated and below that the unusual feature Heraclitus. Notice Stofler L on the north wall of the larger crater and the angular walls of Kaiser further north. The southern wall of Maurolycus is nicely seen here. Is it slumping or the remnants of another older crater?

RECENT TOPOGRAPHICAL OBSERVATIONS



1st QUARTER MOON- Andre Munoz, Aberystwyth, Ceredigion, UK. April 19, 2013 20:50 UT. 8" reflector, Canon 60D, no filters.

CLAVIUS SUNRISE-Damian Peach – Selsey, West Sussex, United Kingdom. April 19, 2012. Seeing good.



ADDITIONAL TOPOGRAPHICAL OBSERVATIONS



PETAVIUS - Maurice Collins-Palmerston North, New Zealand. May 14, 2013 05:55 UT. ETX-90 SCT, 2x barlow.



FRANKLIN-LACUS BONITATIS- Howard Eskildsen-Ocala, Florida, USA. April 28, 2013 08:45 UT. Seeing 7/10, Transparency 4/6. 6" f/8 refractor, Explore Scientific lens, 2x barlow, DMK 41AU02.AS, IR block & V block filters.



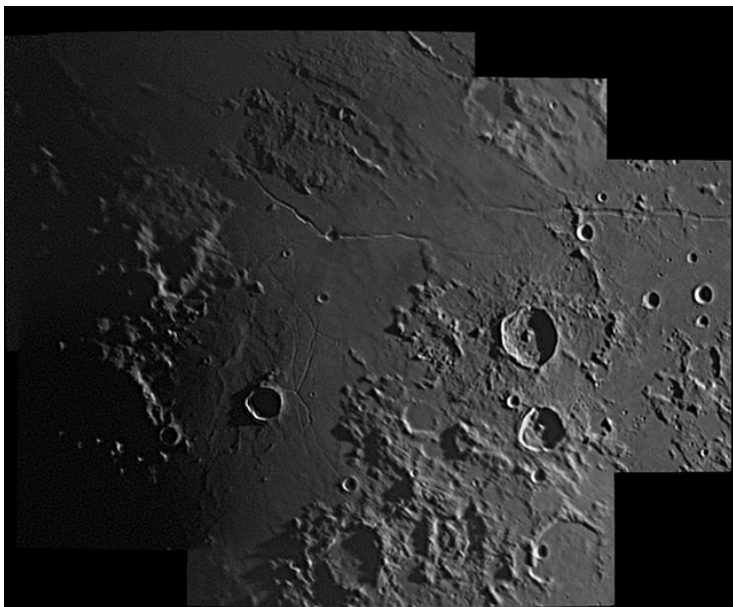
ATLAS- Howard Eskildsen-Ocala, Florida, USA. April 28, 2013 08:44 UT. Seeing 7/10, Transparency 4/6. 6" f/8 refractor, Explore Scientific lens, 2x barlow, DMK 41AU02.AS, IR block & V block filters.

ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

MARE CRISIUM-MACROBIUS- Howard Eskildsen-Ocala, Florida, USA. April 28, 2013 08:48 UT. Seeing 7/10, Transparency 4/6. 6" f/8 refractor, Explore Scientific lens, 2x barlow, DMK 41AU02.AS, IR block & V block filters.

Notice the insert on the upper right of the image; a portion of western Mare Crisium and its rim. It is easy to imagine the form of an eagle banking towards the center of the image with its right wing forming the western rim of crater Yerkes and the left wing partly hidden behind craterlet Yerkes E. The Apollo 11 astronauts passed over Crisium on their approach to landing on that unforgettable mission.

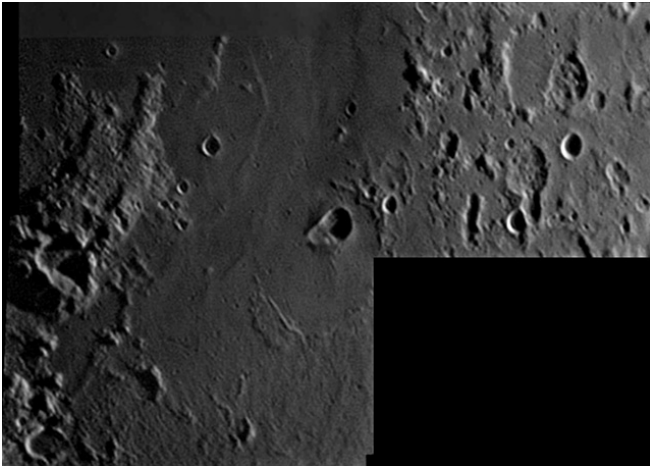
Yet just above the "Eagle" a breach in the wall in Mare Crisium marks the spot of a forgettable imaginary bridge that led to the ruination of reputations of those who overzealously pursued extraordinary and unfounded claims of the bridge's existence. For me, the juxtaposition of the "Eagle" and the "Bridge Too Far" serves as a reminder of what great minds can accomplish, yet how easily even the best minds can be led astray when observational data are selected to conform to preconception, rather seeking conclusions that fit the observational data.



MARE VAPORUM – Richard Hill – Tucson, Arizona, USA April 18, 2013 01:50 UT. Seeing 8/10. TEC 8" f/20 MAK-CASS.. DMK21AU04. Wideband 656.3 nm filter

I love the Mare Vaporum region of the moon. The various faults of different origins are so interesting to see together. There is much else to see in this tortured area as well, from Boscovich with its rimae at the top to Rhaeticus at the bottom.

ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

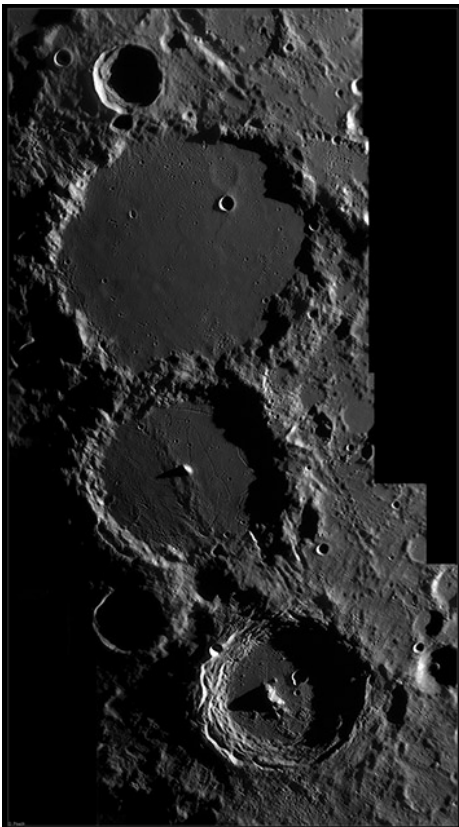


TORRICELLI- Richard Hill – Tucson, Arizona, USA
May 16, 2013 02:19 UT. Seeing 7/10. TEC 8" f/20
MAK-CASS, 2x barlow (f/40). DMK21AU04.
Wideband 656.3 nm filter

Here we have another old friend. Torricelli has been a favorite of mine for decades since first observing it with my old 2.4" refractor in the early 1960s. After Triesnecker it may be the most imaged feature I've done on the Moon. It is well shown here along with the rest of Sinus Asperitatis. This is a region of irregular craters from Hypatia on the left edge to Isidorus B in the right half of the image. I would call your attention to Censorinus C just above Isidorus B. Look at the floor of this crater! On LROC Quick Map it appears to be filled with ejecta from one of the local impacts (Theophilus?) It is a very complex structure. The finest craters identified in this image were about 1.5 km across.



MARE HUMBOLDTIANUM –Damian Peach –Selsey,
West Sussex, United Kingdom. April 17, 2012.



PTOLEMAEUS-ARZACHEL SUNRISE –Damian Peach –Selsey,
West Sussex, United Kingdom. April 18, 2012.

A very low sun view of this famous trio under good conditions. Interesting how bumpy the floor of Ptolemaeus appears - something not seen under typical lighting. Also lots of texture across the floor of Arzachel with a huge shadow cast from the central peak.

LUNAR TRANSIENT PHENOMENA

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

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

LTP NEWSLETTER – JUNE 2013

Dr. Anthony Cook - Coordinator

Despite the terrible weather conditions for studying the Moon, observations for April were received from the following observers: Jay Albert (Lake Worth, FL, USA - ALPO) observed: Abulfeda, Cassini, Censorinus, Langrenus, Mare Crisium, Proclus, and Torricelli. Raffaello Braga (Italy) observed the south pole area. Maurice Collins (New Zealand - RASNZ) observed: Aristarchus, Mare Crisium, Pythagoras, Schiller, Tycho, and obtained whole disk images of the Moon. Marie Cook (Mundesley, UK) observed Hercules, McClure, Mons Piton, Plato, Proclus, and Promontorium Laplace. Collin Henshaw (Saudi Arabia) imaged the partial lunar eclipse. Rik Hill (Tucson, AZ, USA) imaged: Cassini, Cleomedes, Hipparchus, Lacus Mortis, Langrenus, Mare Crisium, Mare Vaporum, Petavius, Werner, and several other features. Andre Munoz (Aberystwyth University, UK) imaged the whole lunar disk. Michal Pyka (Poland) imaged several features. Robert Reeves (San Antonio, TX, USA) imaged: the Hortensius domes and Copernicus area. Brendan Shaw (UK) imaged: Alphonsus, Maginus, Mons Piton, and Proclus. Paul Zeller (Indianapolis, IN, USA) observed: Aristarchus. I have also received some additional observations from UAI members Claudio Vantaggiato and Franco Taccogna for February 2013.

News: Firstly I would like to correct a typo that occurred in the last newsletter, the observation by “Martin Pyka”, should have read “Michal Pyka”, and he is based in Katowice, Poland.

Books: Now that we are heading into northern Summer and the nights are getting shorter, I thought it might be an idea to mention some books that cover LTP observing techniques, in case anybody is interested.

- [The Hatfield Lunar Atlas – A Digitally Remastered Edition](#) is primarily an update of the previous versions of the atlas, with digitally augmented (sharper and less grainy) versions of Commander Hatfield’s photographic plates. It has 4 chapters and 3 appendices, detailing: (1) the digital augmentation process used, (2) lunar observing techniques for the beginner, and advanced amateur, (3) the maps and plates, and (4) simulations of sunrise and sunset over 16 selected lunar features. LTP get only a brief mention (< 2 pages) in the second chapter, mostly pointing out the problems with current theories, and classifying the types of LTP that observers have seen in the past. More importantly though it provides a flow chart style check list of what to do in the unlikely event that someone actually thinks that they are seeing a LTP on the Moon.
- [Observing the Moon: The Modern Astronomer’s Guide](#), by Gerald North is nearly 400 pages long, with 9 chapters covering most aspects of lunar observing that you can think about. This is well suited to both the beginner and the advanced amateur and has a vast number of illustrative figures. The final chapter is devoted to LTP observing, and details some of the authors personal experiences in hunting for LTP e.g. spectroscopy from the former Royal Greenwich Observatory at Herstmonceux, UK – a fascinating read.
- [Lunar Meteoroids Impacts and How to Observe them](#), by Brian Cudnik, is a paperback written by one of the first people to observe confirmed impact flashes on the Moon. It has 12 chapters and 8 appendices and will give you a good comprehensive guide on how to go about searching for impact flashes on the Moon’s night side. It deals with not just the techniques involved, but also the history of attempts by amateurs led by Walter Haas, to try to observe meteorite impacts on the Moon several decades ago. Meteor showers and crater geology are also described in comprehensive detail.
- [The Moon and How to Observe It](#), by Peter Grego, has nine chapters and nearly 300 pages. Chapter nine has a few pages on the subject of LTP. Again, like Gerald North’s book, this is well suited for both the beginner and the advanced amateur and has a good number of illustrative figures.

LTP Reports: Two LTP reports were received in April. The first came via the UAI concerning something imaged on the eastern limb of the Moon by Renato Cittadino (Olgiate Comasco, Italy). If anybody was imaging the Moon on 2013 Apr 25 UT 19:35, please let me know and I will pass the details onto the UAI.

Aristarchus - April 22, 2013 1:43 UT

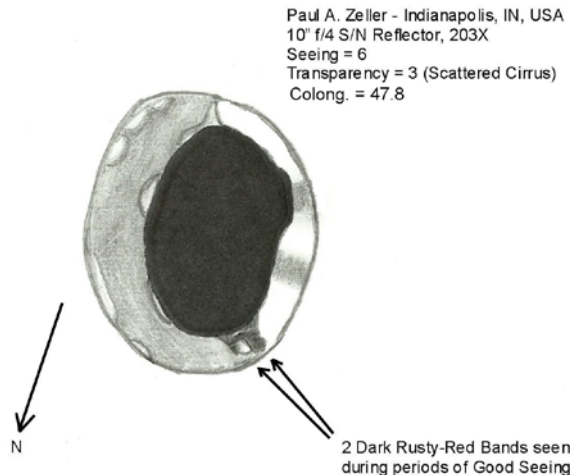


Figure 1. A sketch of Aristarchus made on 2013 Apr 23 by Paul Zeller with the location of two colored bands indicated by a pair of arrows. The North direction is arrowed.

The second LTP report comes from a repeat illumination observation by Paul Zeller made on 2013 Apr 22 UT 01:39-02:37. Paul was using a 10" f/4 reflector at x200 magnification (seeing 6, transparency 3 with some scattered cirrus clouds). In his visual observation he saw two closely spaced NW wall dark bands, and these appeared to have a rusty-red hue. Continued watching revealed no change in color. Images were taken, but unfortunately the image resolution and signal to noise ratio were insufficient to depict these bands well enough to see any color. The repeat illumination event was for Bartlett's 1959 Mar 24 LTP in Aristarchus where blueness had been seen inside the crater. It is rather ironic that although Paul captured some blueness in his images, the only color he saw visually was the redness of two of the bands.

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

Proclus: On 2013 Apr 16 UT 19:00-19:15 Marie Cook observed this crater under similar illumination conditions, and using the same telescope, to a LTP that she was attributed to have seen in the same crater back in 1990 Mar 03. She observed this time that no long plume of light was seen in the crater, and the central feature was clearly seen with the Sun's brightest point on the N-NW rim. The shadow was about 1/3rd filled and on the eastern side of the crater.

Proclus 1990 Mar 03 UT 00:12-00:13 Observed by Marie Cook (Frimley, UK, 3.5" Questar telescope) observed a "long plume of light" the brightness was the same as the wall region. It went from the southern rim about half of the way across to the centre in the "northerly". The plume feature was not seen at higher magnifications. Change in brightness also noted. The Cameron 2006 catalog ID=394 and the weight=1. The ALPO/BAA weight=1.

A further communication from Marie though has pointed out that the entry above from the most recent Cameron LTP catalog was in error and should have read 1990-3-9 (not 1990-3-3). It was 5 days after first

quarter, not 2 days before first quarter. I have now corrected the entry in the LTP database and hopefully this should appear corrected in later predictions.

Abulfeda: On 2013 Apr 18 UT 01:00-01:20 Jay Albert observed this crater at a similar illumination to a 1985 LTP observation – see below. Jay reported that he clearly and immediately saw the “bright spot among shadow on East Wall.” It was bright, obvious and very slightly elongated in a direction parallel to the E wall. It looked like the top of an elevated ridge along the E wall. This was also verified in a Brendan Shaw image from 2006 Feb 06. Therefore the ALPO/BAA weight will be changed from a 1 to a 0, effectively taking it off the LTP database.

Abulfeda 1985 May 26 UT 21:36 Observed by Foley (Kent, England) "Bright spot among shadow on East Wall" BAA Lunar Section Report. ALPO/BAA weight=1.

Proclus: On 2013 Apr 18 UT 20:58-21:00 Brendan Shaw captured an RGB color image of Proclus in Figure 2. This matched similar illumination conditions to a Peter Madej LTP report from 1984 Jul 06

Proclus 1984 Jul 06 UT 20:29-20:43 light green spot observed by Madej (England) in the central region. No color seen elsewhere. At 20:10 Foley (Kent, UK, 12" reflector) had seen a small extending of darkening in the south east floor (not present 2 hours before) and a lot of fine detail - though everything was normal again by 22:50UT. At 22:15 Amery (Reading, UK) found a large dark spot on the south east floor. Other observers: J and A.cook (Frimley, England) could not confirm but their seeing was IV and transparency was poor" Mobberley found no color and also no detail on the floor. BAA Lunar Section Report. Cameron 2006 catalog ID=248 and weight=3. ALPO/BAA weight=2.



Figure 2. Color image of Proclus, by Brendan Shaw, taken on 2013 Apr 18, with north towards the top. The image has been sharpened in blue to bring it upto similar sharpness to the red and green channels, combined color has been normalized, and then undergone 50% color saturation to enhance any colors present.

Clearly as Brendan’s image shows no green spot at the centre, this emphasizes the unusual nature of the Peter Madej observation. There is certainly dark shading on the south east, and plenty of detail, so these attributes, seen by Amery and Foley are perfectly normal, though it is difficult to ascertain what the “a small extending of darkening in the south east floor (not present 2 hours before)” was all about? The latter might have been seeing related perhaps – likewise the Mobberley description of lack of detail on the floor, but unfortunately at the time of writing I do not have these observations to hand in digital form on my laptop for scrutiny. However the issue of the light green spot, seen by Madej remains, and I am therefore increasing the weight of this LTP from a 2 to a 3 as the Moon was at a reasonable (for the UK) altitude of 26° at the start of the observing session, and one would expect red or blue if the effect was due to spectral dispersion in the optics or our atmosphere.

Gassendi: On 2013 Apr 21 UT 21:24 Michal Pyka imaged the Gassendi region under similar illumination conditions to a 1976 Apr 10 LTP. Although not showing the image here, due to resolution issues, I have checked the SW wall area, and cannot see any color here in Michal's image. However because of the small telescope used in 1976, this LTP will remain at an ALPO/BAA weight of 1.

On 1976 Apr 10 at 21:15-21:49UT S.Spencer (60mm refractor x60, seeing quite good) noticed a faint red glow at the south west wall of Gassendi covering a span of about 35 deg arc. The observer had some doubts about this because they were using a small telescope, but thought that they ought to report it, just in case. A BAA Lunar Section report. ALPO/BAA weight=1.

Sirsalis: On 2013 Apr 23 UT 11:20 Maurice Collins imaged a large area of the Moon which included this crater (See Figure 3), This was at a very similar illumination to a famous Italian LTP seen back in 1999 that had been recorded in digital images:

Sirsalis 1999 Jan 30 UT 01:00-01:20 Observed by Giuseppe Sorrentino (Italy) described as: "A temporary change in appearance to sunlit floor of crater" for further references including images please see:

http://web.tiscali.it/loa_gs/sospetto%20tlp%20su%20sirsalis.htm. ALPO/BAA weight=1.

Back in 1999 the Moon's altitude was a healthy 44° to 41° above the horizon, so the LTP cannot be blamed upon turbulence near the horizon. However from the frames that I have seen on the above web site, the distortions to the crater do resemble some form of seeing turbulence or motion blur. However please be the judge of this yourself by comparing Maurice's image in Figure 1, with the ones from 1999 in the web above link. I am not proposing to change the ALPO/BAA weight, although if our friends in the Italian UAI or GLR groups have some additional comments, then I would like to hear these.

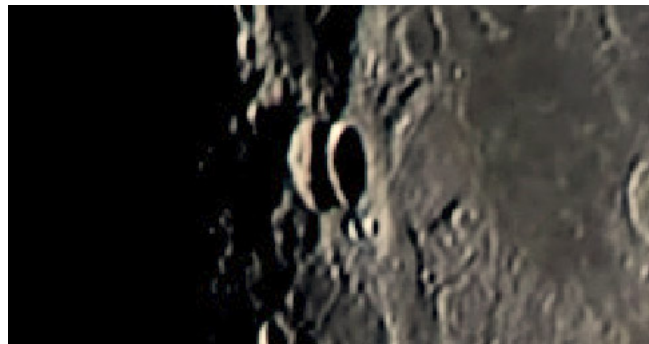


Figure 3. *Sirsalis and Sirsalis A at the centre of the image with north towards the top. Images by Maurice Collins on differences of the appearance of the central peak,*

Lunar Eclipse: On 2013 Apr 25 UT Collin Henshaw was able to capture images of the Moon, during the partial lunar eclipse, whilst the UK, and possibly other parts of the world, were under thick cloud cover. Although the umbral part of the eclipse covered only 1% of the lunar disk, the edge of the umbra is never well defined, and so by subtracting images, just a few minutes part (see Figure 4), it is possible to show what larger extent of the surface was affected. We have used image subtraction before to study lunar eclipse shadows, but instead of subtracting adjacent images in time, it is best to subtract Full Moon images prior to the eclipse from the actual eclipse images. If this is done correctly, involving precise alignment and normalisation to compensate for variations in atmospheric transparency, then this should lead to a more reliable method of estimating the darkness of any eclipse. Unfortunately it is never as easy as this because of effects such as libration, and the lunar photometric function near Full Moon, being at its sharpest gradient.



Figure 4. Partial Lunar Eclipse from 2013 Apr 25 with north towards the top left. Left image taken at 21:21UT. Centre image taken at 21:27UT. Right image represents a difference image between the previous two images, highlighting the umbral area.

Suggested Features to observe in June: 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. 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. Altai Scarp
2. Arzachel
3. Atlas
4. Clavius
5. Franklin
6. Lacus Bonitatis
7. Macrobius
8. Mare Crisium
9. Mare Fecunditatis
10. Mare Humboldtianum
11. Mare Vaporum
12. Petavius
13. Ptolemaeus
14. Sinas
15. Stofler
16. Torricelli

FOCUS ON targets

Domes (July)

X = Mons Rumker (September)

