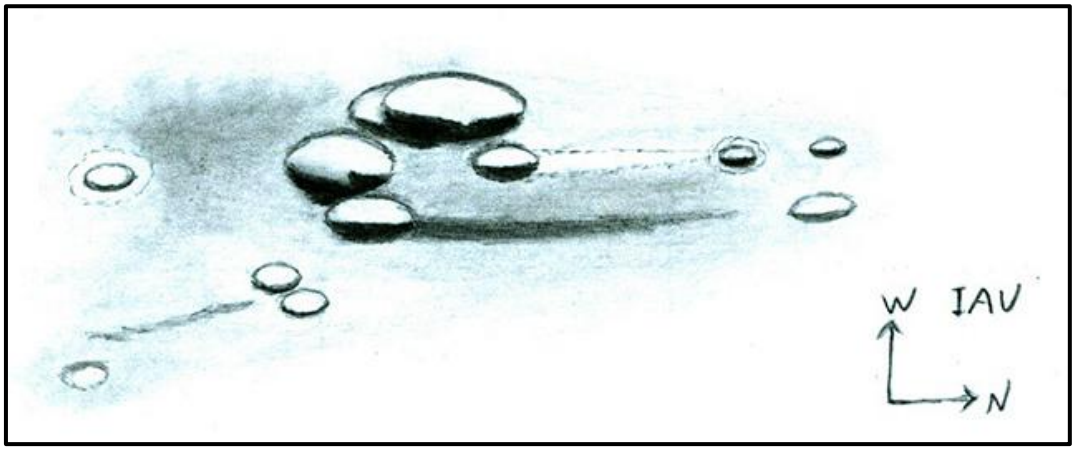
ASSOCIATION OF LUNAR & PLANETARY OBSERVERS
ALPO
Founded in 1947

THE LUNAR OBSERVER

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 – OCTOBER 2015

WARGENTIN B, D, E, F



Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA
July 30, 2015 04:49-05:17 UT, 15 cm refl, 170x, seeing 7/10

I sketched these craters and vicinity on the night of July 29/30, 2015 after the moon hid rho and 45 Sgr. This area is south- west of Wargentin itself. Wargentin B is the largest crater in this sketch. Its interior shadow was wider at the southern end. This may have resulted from a bulge in its rim there. A partial ring extends southward from Wargentin B, and may be the remnant of a previous crater that was largely obliterated. This old ring merges with the bulge in the south end of Wargentin B. The moderate-sized crater just northeast of B is Wargentin E, and Wargentin F is the crater abutting the old ring south of B. Wargentin F showed irregular interior shadowing, including a sharp point, probably from a peak on its rim. Wargentin D is just east of F, and exterior shadow from D may be merging with interior shadow in F. The interior shadows of Wargentin D and E appeared more symmetric than those in B and F. Two shallow saucers are southeast of Wargentin D, and another one is south of Wargentin F. The southern saucer has a modest halo. A short wrinkle extends southward from the saucers near Wargentin D, ending near a bright patch. This patch appeared to have slight shadowing on its west side, indicating an elevation. Two small, crisp craters well to the north are probably Inghirami T and S, according to the Lunar Quadrant map. Inghirami T has a halo. Inghirami N would be the larger, shallower crater near Inghirami S. A dark, nearly straight strip of shadow extends north- ward from Wargentin D toward Inghirami N, and a bright streak is between Wargentin E and Inghirami T. This could be some sort of valley with the bright streak being a slope catching more direct sunlight. This 'valley' looked slightly darker than most of the surrounding area. Another dusky area is southwest of Wargentin B and F.

LUNAR CALENDAR

OCTOBER-NOVEMBER 2015 (UT)

2015		UT	
Sep	05	05:09	Moon-Aldebaran: 0.6° S
	05	09:54	Last Quarter
	06	17:06	Moon North Dec.: 18.2° N
	10	05:53	Moon-Venus: 2.9° S
	13	06:41	New Moon
	13	06:55	Partial Solar Eclipse
	14	04:38	Moon Ascending Node
	14	11:28	Moon Apogee: 406500 km
	19	02:54	Moon-Saturn: 3.1° S
	21	08:59	First Quarter
	21	12:02	Moon South Dec.: 18.1° S
	27	21:04	Moon Descending Node
	28	01:46	Moon Perigee: 356900 km
	28	02:48	Total Lunar Eclipse
	28	02:50	Full Moon
Oct	02	12:51	Moon-Aldebaran: 0.5° S
	03	23:55	Moon North Dec.: 18.1° N
	04	21:06	Last Quarter
	08	20:32	Moon-Venus: 0.8° N
	09	16:51	Moon-Mars: 3.8° N
	09	23:30	Moon-Jupiter: 3° N
	11	10:54	Moon Ascending Node
	11	13:17	Moon Apogee: 406400 km
	13	00:06	New Moon
	16	13:20	Moon-Saturn: 3.2° S
	18	18:31	Moon South Dec.: 18.2° S
	20	20:31	First Quarter
	25	07:36	Moon Descending Node
	26	12:59	Moon Perigee: 358500 km
	27	12:05	Full Moon
	29	22:45	Moon-Aldebaran: 0.6° S
	31	09:02	Moon North Dec.: 18.2° N

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 Journal of the Association of Lunar and Planetary Observers-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: 0 to 10 (0-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: Deslandres

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 **November 2015** edition will be the crater **Deslandres** and surroundings**.** Observations at all phases and of all kinds (electronic or film based images, drawings, etc.) are welcomed and invited. Keep in mind that observations do not have to be recent ones, so search your files and/or add 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 Deslandres article is October 20, 2015

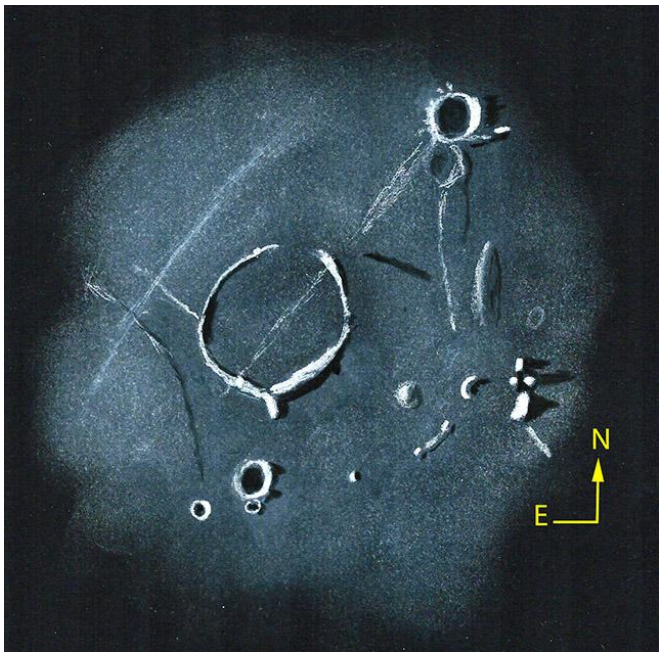
FUTURE FOCUS ON ARTICLES:

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

Subject	TLO Issue	Deadline
Mare Nubium	January 2016	December 20, 2015

Kies, Kies π and König

David Teske



I made this sketch on the early evening of 22 September 2015 (23 September 2015 UT) using a 60 mm f/16.7 fl 1000 mm Moon Raker refractor telescope. An 8 mm Baader Planetarium Hyperion eyepiece was used with a magnification of 125. The telescope was mounted on a Losmandy GM8 mount. The observation was made between 0022 and 0117 UT. Seeing was 8/10 under mostly clear skies. The moon was waxing gibbous phase. Medium was white and black pastel on black cardstock. The observation was made by David Teske in Starkville, Mississippi.

Kies is the flooded crater, 44 km in diameter, at the center of this drawing. Its walls are low, particularly to its north where the wall is over-washed by Mare Nubium lavas. On the northeastern wall lies a tiny crater, as there is on the southeastern wall. The southwestern wall is the most robust and highest as based on its shadows. On the western wall, there is a small gap, 5 km wide. South of Kies is crater A (23 km), E south of that (6 km), and B (9 km) to the east of E. These three craters appear young, and all are in shadow. West of the "handle" of Kies is the dome Kies π, 11 km in diameter. Its eastern side is lit up well. South of π were two small mounds that were connected by a small ridge. West of π is a crescent shaped hill (crater wall?) West of this was a series of four hills with shadows. Northwest of π was a mound as based on a lit eastern wall and a plateau structure. North of π is a depression as noted by the shadow. To the northwest of Kies is the 23 km diameter crater König. This crater looks fresh, and is mostly in shadow. South of König is a ridge that points rather towards Kies π. Immediately south of König this ridge resembles a ghost crater. West of König is a distinct ridge.

Two rays from Tycho cut through this region from the southeast. One goes through Kies to König. Another is to the east of Kies. A ridge from Kies eastern wall points northeast, cutting across a ray from Tycho. South of this is a depression that extends all the way down to Kies B. The area between this line and the ridge to the northeast of Kies seems lower and a bit darker than the

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 images of Aristoteles-Eudoxas & Purbach-Straight Wall.

ALBERTO ANUNZIATO-ORO VERDE, ARGENTINA. Digital images of Deslandres & Plato. Drawing of Theophilus.

JUAN MANUEL BIAGI -ORO VERDE, ARGENTINA. Digital images of Copernicus & Alphonsus.

FRANCISCO ALSINACARDINALI-ORO VERDE, ARGENTINA. Digital images of Deslandres, Aristarchus & Tycho.

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND. Digital images of 12 & 13 day moon, Aristarchus(2), Bailly, Bullialdus, Caranus-Eddington, Copernicus-Kepler, Cruger-Billy, Eddington, Hevelius, Marius Hills, Mons Rumker, Moretus, Plato, Schickard-Wargentin, Schiller-Zuchius Basin, Sirsalis Rille, southwest Limb, Tycho, Wargentin, & western Moon.

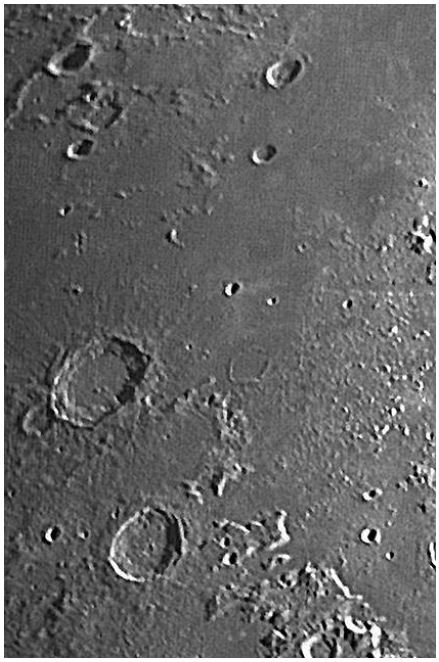
ROBERT HAYS - WORTH, ILLINOIS, USA. Drawings of Pico E, β, & Wargentin B, D, E, F.

RICHARD HILL – TUCSON, ARIZONA, USA. Digital images of Arzachel-Orontus, Deslandres & Theophilus.

ORLANDO BENITEZ SANCHEZ-CANARY ISLANDS, SPAIN. Digital images of Aldebarna & Moon (4), Alphonsus, Aristillus, Copernicus, Mons Piton (2), Mons Spitzbergen, Plato (2), Pytheas & Valles Alpes.

DAVID TESKE-STARKVILLE, MISSISSIPPI, USA. Drawing of Kies.

RECENT TOPOGRAPHICAL OBSERVATIONS



ARISTOTELES-EUDOXUS - Jay Albert, Lake Worth, Florida USA. September 3, 2015 06:19 UT. Hazy, humid, Transparency 2/6. Nexstar 11GPS, NextImage 5.

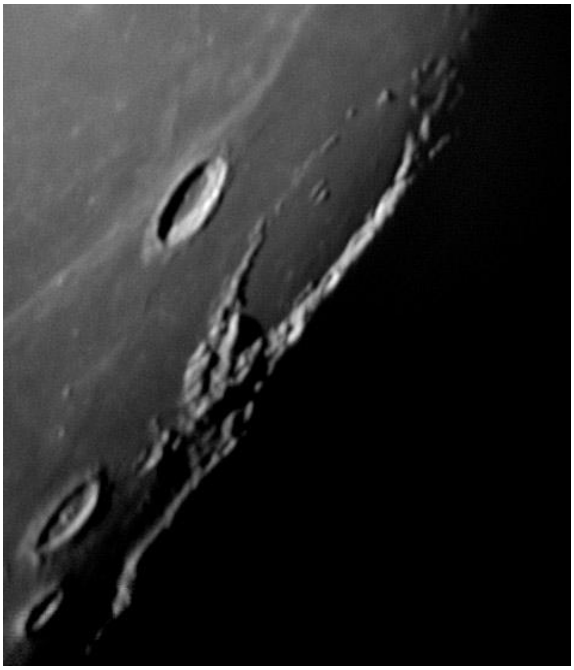
PLATO- Alberto Anunziato-Oro Verde, Argentina. September 6, 2015 07:30 UT. LX200 2500mm SCT, Phillips SPC900NC

The image shows the crater Plato. The deep, flat and dark floor of this giant crater did not allow us to observe the five small craters wich are one of the challenges of the lunar observers. The high walls of this true "walled plain" show signs of landslides. In the western wall (to the right in the photo), there is a block of 50 square kilometers that has broken off and slipped into the background. Plato is famous for the shadows cast by its high walls. In the picture we see shadows moving forwards the terminator on the walls of the western flank, which are glowing reflecting sunlight. The shadow cast by the highest peak in the western wall (2000 meters) can be seen clearly. The shadows inside Plato are very changeable, so each observation of them captures a unique moment: "The appearance and orientation of the shadows within Plato are never the same from one lunation to the next because of the effects of libration and the change in the direction of illumination by the Sun that it causes" ("The moon and how to observe it", Peter Grego, Springer, 2005). At the bottom we see the Mare Frigoris, the most prominent craters are Plato A and Fontenelle. On the south side, in the Mare Imbrium, the illuminated points are the highest peaks of the Montes Teneriffe. In the upper left corner of the image, southwest, the illuminated slopes of Mons Pico shines like a triangle of light. In the shade, the bright spots are the closers peaks of the Monte Alpes..

ALPHONSUS- Juan Manuel Biagi-Oro Verde, Argentina. September 6, 2015 07:36 UT. LX200 2500mm SCT, Phillips SPC900NC

TYCHO- Francisco Alsina Cardinali-Oro Verde, Argentina. September 6, 2015 07:43 UT. LX200 2500mm SCT, Phillips SPC900NC

CRUGER-BILLY - Maurice Collins, Palmerston North, New Zealand. August 28, 2015 08:36 UT. FLT-110, f/21.



EDDINGTON- Maurice Collins, Palmerston North, New Zealand. August 28, 2015 08:42 UT. FLT-110, f/21.

SIRSALIS RILLE - Maurice Collins, Palmerston North, New Zealand. August 28, 2015 08:37 UT. FLT-110, f/21.

.

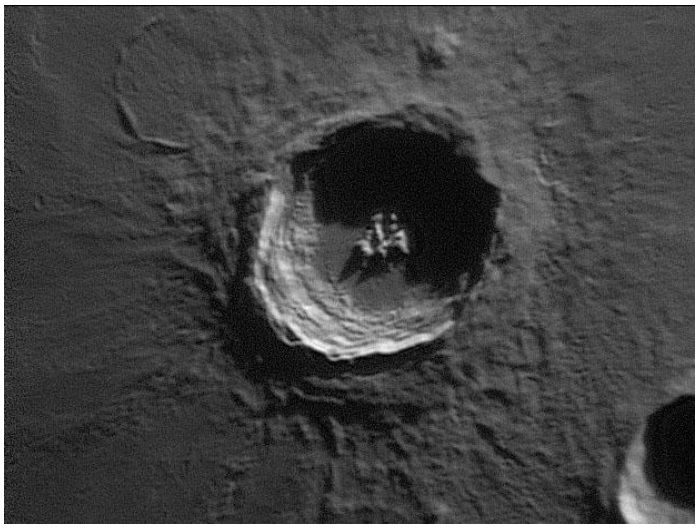
WARGENTIN - Maurice Collins, Palmerston North, New Zealand. August 27, 2015 08:20 UT. FLT-110, f/21.

THEOPHILUS – Richard Hill – Tucson, Arizona, USA July 26, 2015 02:52 UT. Seeing 9/10. TEC 8" f/20 Mak-Cass, SKYRIS 445M, 656.3 nm filter.

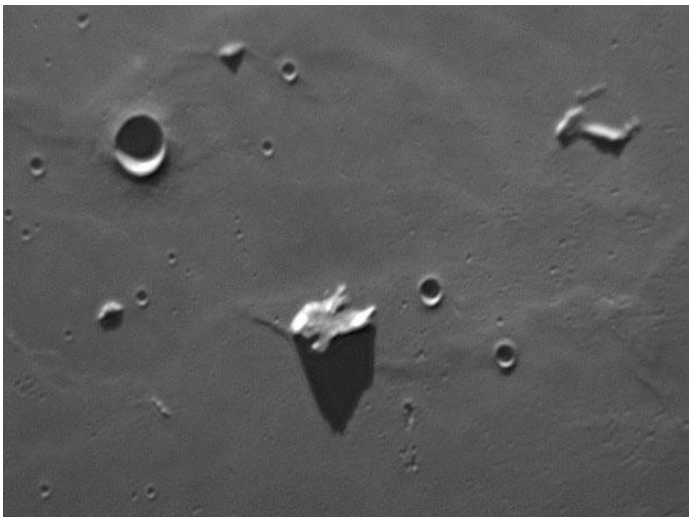
The colongitude was about 29deg. and I had a great night going so I swung over to the Theophilus region ("the-awfulest"....he-he) to again try my hand at high sun imaging. It's not as simple as it might seem as it's really easy to fry the highlights with normal terminator-type settings. This time it turned out pretty nice.

First we see the grand 104km diameter Theophilus just left (west) of center. The mountains in the center of this crater always remind me of a pingo, but clearly that kind of formation would not be possible on the moon. Below Theophilus is Cyrillus just slightly smaller than Theophilus and about a billion years older. On the floor of Cyrillus is the 17km Cyrillus A. Note the ray system coming from this crater, crossing the floor of Cyrillus. Due south of Cyrillus is the faintly seen Catharina another 104km crater and immediately to it's right (east) is the "U" shaped Beaumont. Over 4 billion years old this old flooded crater lies on the west edge of Mare Nectaris. Keep going east across the mare and you see the little 12km Rosse on the right edge of this image.

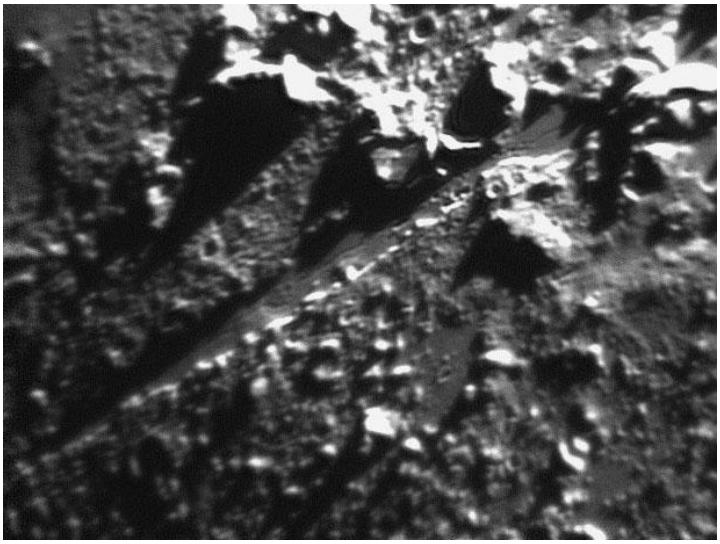
Going back to Theophilus we notice a rather strange crater just about in the middle of this image. That is the 29km Madler. I'm never quite sure if that apron around it is physically associated with the crater or not and what possibly could have formed such an asymmetric feature. This crater is on the dividing line between Mare Nectaris to the south and Sinus Asperitatus. Going further to the right we can see the 43km crater Isidorus and adjacent to it to the right is the 51km crater, Capella. In this Sinus on the top of this image is the pear-shaped crater Torricelli. I've enjoyed this crater and studied it at many colongitudes, for years.



ARISTILLUS - Orlando Benitez Sanchez-Gran Canaria, Spain. September 5, 2015 06:27 UT. Seeing 9/10, Transparency 6/10, Colongitude 170.8°. 11" SCT, f/20, DMK21AU04.AS, no filter.



MONS PITON - Orlando Benitez Sanchez-Gran Canaria, Spain. September 5, 2015 06:07 UT. Seeing 9/10, Transparency 6/10, Colongitude 170.6°. 11" SCT, f/20, DMK21AU04.AS, no filter.



VALLES ALPES - Orlando Benitez Sanchez-Gran Canaria, Spain. September 5, 2015 06:17 UT. Seeing 9/10, Transparency 6/10, Colongitude 170.7°. 11" SCT, f/20, DMK21AU04.AS, no filter.

LUNAR GEOLOGICAL CHANGE DETECTION PROGRAM

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

Observations/Studies for August were received from: Jay Albert (Lake Worth, FL, USA - ALPO) observed: Agrippa, Copernicus, and Plato. Kevin Berwick (Ireland - ALPO) observed Aristarchus. Alberto Anunziato , Francisco Alsina Cardinali, and Camilo Satler (Argentina –AEA) imaged Plato. Marc Charon (Reading Astronomical Society, UK) imaged several features. I (Whilst on vacation near Sergiyev Posad, Russia - BAA) imaged several features. Marie Cook (Mundesley, UK) observed Aristarchus. Maurice Collins (New Zealand – ALPO) imaged Aristarchus, Bullialdus, Copernicus, Cruger, Eddington, Hevelius, Mare Crisium, Mare Humorum, Marius, Mons Rumker, Moretus, Schickard, Schiller, Sinus Iridum, Tycho, Wargentin, and imaged the whole Moon. Franco Tacogna (Italy, UAI) imaged Aristarchus, Mare Crisium, and Plato. Aldo Tonon (Italy, UAI) imaged Kepler and Plato. Derrick Ward (Swindon, UK – BAA) Imaged Aristarchus, Marius, and Plato.

News: Due to my very heavy lecturing workload, for this semester, this article is a stripped down version of what I would normally produce, so unfortunately I do not have time to do the analysis. However I will present examples of observations received, and summarized transcripts of what repeat illumination LTP they coincide with. I'll leave it up to the reader to decide what to make of the repeat illumination observations. This format may possibly continue for the next three months, until I get some spare time on my hands again. I have added REF Nos, nay do the analysis on these early next year – so you can refer back to the original observations in this and the next two newsletters.

LTP Reports: No LTP reports were received for August. However Jay Albert took an interesting image of Fracastorius on 2015 Sep 3 showing alight patch on the shadow filled floor. Both he and I are fairly certain this is terrain emerging from the shadow as the Sun rises (See Fig 1). Darryl Davis (ALPO) has emailed to say that on 2015 Sep25, he saw a very black rectangular feature along the western side of Herschel and slightly to the north. The effect was first noticed at 03:28-03:32 and it was checked again at 03:37-03:40. The length was ~4x the width and it was roughly 80-100 km long by 15-20km wide. Again he, and I, think this was probably a shadow topography effect and not a LTP. I will add both of these to the Lunar Schedule web site, as although not a LTP, they are worth observing again.

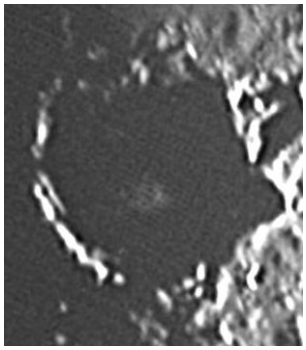


Figure 1. *Fracastorius Crater, as imaged by Jay Albert on 2015 Sep 03 UT 06:29.*

Routine Reports: Below is a selection of reports received for August that can help us to re-assess unusual past lunar observations. We have a number of new members contributing. On another point, observations sent in, are

eventually handed onto the Lunar Section. The last routine (+LTP) observational data dump to the BAA amounted to over 100GB of observational reports (30 thousand observations, of which approximately 3000 were LTP), scanned in, or received, dating back to a naked eye report from 557AD. Note that this does not mean that 1 in 10 times you observe you will see a LTP, just that these are the routine observations we have in the database so far, and there could easily be between 10 and 100x, or more observational reports out there which have not been included in the database yet. If you think you have unpublished observations that you would like to have recorded for posterity, please email me and I will set you up an account where you can upload these into the database.

Copernicus 2015 Aug 25 UT 01:18-01:25 Jay Albert observed Copernicus under the same illumination, and topocentric libration (to within ±1˚), to a LTP from 1954:

> *1954 Nov 5 G.H. Johnstone of Albuquerque, NM, USA UT 20:00 (according to Cameron, but 02:00-04:00 according to the original observation) and at colongitudes 34.7 to 35.7 deg. 4" reflector, x150 used. The observer reported that the western part (about 1/3rd of the interior) was pitch black with shadow. However there was a zone about as wide, or perhaps only a fourth of the total width that was distinctly a lighter bluish shade, almost like twilight. The shadows of the peaks on the western edge of the rim were clearly seen crossing this bluish shadowed area. Then this area ended sharply, and the far side was bathed in light from the rising sun. The shadows of the peak were sharply defined across the twilight zone, and the edge of the pitch black shadow was easily defined but not as sharp as the darker shadows crossing the blue twilight zone. The observer checked other craters but did not see this condition in any of them - they all had the abrupt division between black and white that we would normally expect to see. Cameron 1978 catalog ID=579 and weight=2. Reference 1962 edition of ALPO's Journal: The Strolling Astronomer. ALPO/BAA weight=3.-**[REF 01]***
>
> *Jay reports: "Contrary to the LTP description, there was black shadow only at the bottom of the E wall. Finely detailed terracing was seen on the E wall with shadow outlining edges of the terraces. The central peaks were bright and the largest peak cast a short black shadow to its W. The W wall was very bright and the floor was almost entirely lit with detail evident (note: the terminator was well W of Copernicus). No blue or other color was seen anywhere in or around the crater. I used 232x from 01:18 to 01:35UT".*

Plato 2015 Aug 23 UT 02:35-03:21 Alberto Anunziato , Francisco Alsina Cardinali, and Camilo Satler (Oro Verde Observatory of the Asociación Entrerriana de Astronomía) videoed this crater under a selenographic colongitude range which should permit the visibility of a floor craterlet rim emerging from shadow, along one of the gaps between show spires. As was mentioned in the Dec 2014 newsletter, the rim of this little craterlet brightens up considerably. Fig 2 shows a frame from the AEA group's video. I have not had time to run it through Registax yet, but suspect it might just be possible, with sufficient frames (to improve signal to noise and sharpening), to detect this floor craterlet brightening. We welcome observations from this new observers in Latin America. – [REF02]

Plato 2015 Aug 25 UT 19:49, 19:51, and 21:05UT Tonon (UAI) imaged Plato under the same illumination conditions to the following LTP, and you can see his monochrome image in Fig 3:

> *1982 Jun 02 Mobberley could not see the central craterlet on the floor of Plato tonight. Foley notes that he could only just see the central craterlet on nights of 2-5th Jun and it was of reduced in brightness from normal. North reported that the floor seemed nearly black, but brighter in a green filter (x144 magnification used). All three observers compared the Plato area to other areas for reference. Cameron 2006 extension catalog ID 170 and weight=5. BAA/ALPO weight=3.* **– [REF 03]**

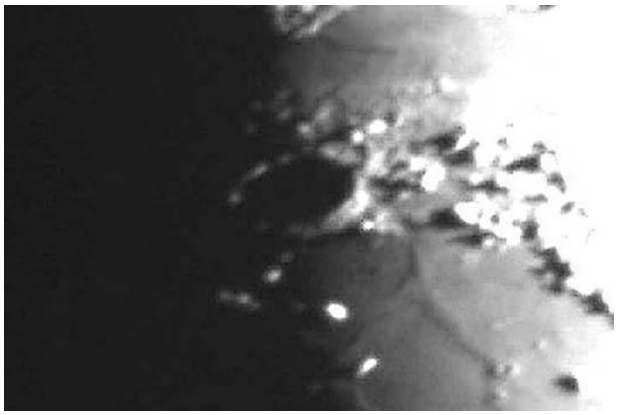


Figure 2. *Plato 2015 Aug 23 – a single frame from a video (02:35-03:21UT) by Alberto Anunziato , Francisco Alsina Cardinali, and Camilo Satler (AEA).*

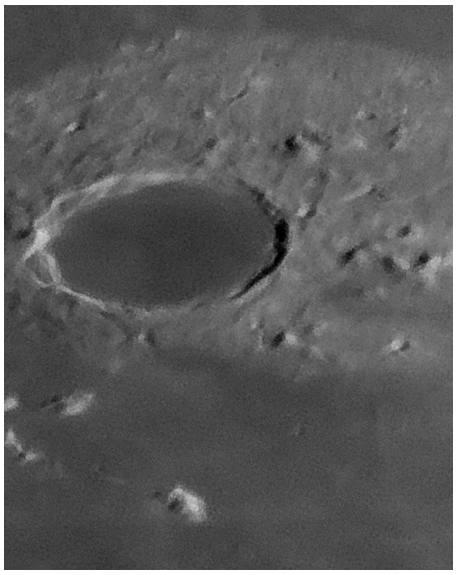


Figure 3. *Image of Plato by Aldo Tonon (UAI) from 2015 Aug 25 UT 19:49.*

Gassendi 2015 Aug 26 UT07:34 Maurice Collins (ALPO) imaged (Fig 4) the Mare Humorum area, including Gassendi under the same illumination and Topocentric libration conditions (to within ±1˚) to a LTP seen by Terrance Mosely back in 1967:

> *Gassendi 1967 Mar 22 UTC 19:39-19:43 Observed by Mosely (Armagh, N. Ireland, 10" refractor, x360) "Red color & blink strongly suspected in small area centred on junction of 3 clefts 1/2 way from c.p. & ESE wall. Well-defined & did not note change during obs. period. Clouds terminated obs. till 2120 when it was not seen." NASA catalog weight=3. NASA catalog ID #1018. ALPO/BAA weight=3.* **– [REF 04]**

Figure 4. *Gassendi by Maurice Collins (ALPO) taken on 2015 Aug 26 UT07:34. Note this image has had its color saturation increased by 70%. Note it has not atmospheric spectral dispersion effects removed.*

Aristarchus 2015 Aug 26 UT 19:58 Marc Charron (Reading Astronomical Society), whilst imaging the Moon with a Celestron 8 telescope, amongst many other features captured, recorded Aristarchus at the same illumination and topocentric libration angle(to within ±1˚) to an image captured my Simon Kidd in 2009. Note that Simon thinks the original effect (Fig 5 (left)) was a Registax artefact because he could not find it on any of the original selected frames from 2009, but it is worth checking up on again – just in case (See Fig 5 Right for Marc Charron's image). Note we have not received any other images from that repeat illumination night – so we are lucky to have Marc's observation.

On 2009 Dec 28 at UT17:35 S. Kidd imaged a spot on the inner W rim of Aristarchus. However he thinks that it is an artefact of the software that he used to extract a sharp image out of the acquired video AVI file. The ALPO/BAA weight=1 until we have fully evaluated the situation. **– [REF 05]**

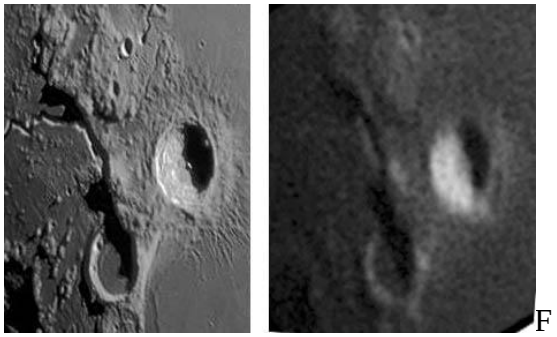
 F

Figure 5. (Left) Simon Kidd's Registax processed image from 2009 Dec 28 – note the light spot just inside the WNW rim of Aristarchus – probably a Registax artefact. (Right) Image by Marc Charon (Reading Astronomical Society) from 2015 Aug 26 UT 19:58.

Aristarchus 2015 Aug 27 on this night, no less than four observers contributed observations for two past LTP: 1967 Nov 15 (repeat illumination only from UT 18:31-20:27 on Aug 27) and 1979 Aug 6 (repeat illumination and repeat topocentric libration from 19:07-23:02 on Aug 27):

> *Aristarchus-Cobra Head, 1967 Nov 15 UT 05:40-06:00 Observed by Cross, Tombaugh (Las Cruces, NM, 12" reflector x800) and Harris (Tucson, AZ), and Dunlap (Organ Pass, NM, 24" reflector with Moon blink). "Obs. reddish color N. & E. of Aris. & more intense color nr. E.(IAU?) rim of Cobra Head. Red color nr.C.H. confirmed by Tombaugh. Obtained 10 photos between 0543-0549h in 3 spectral bands (blue, yellow, red, & integ. light). No change dur. obs. per. but spot got smaller at moments of good seeing. Isodensitometry of photos. At Corralitos 0152-0155 on 24- in image intensifier & filter sys. photoos at 0320-0330h. Harris at Tucson got spectra. Neither of latter 2 show anything unusual. Its edges were nebulous even at best seeing. Size @ that of Cobra's Head." NASA catalog weight=5. NASA catalog ID #1053. ALPO/BAA weight=4.*- **[REF 06]**
>
> 1979 Aug 06 *UT06:40-08:38 Aristarchus normal in red and blue filters however the Cobra Head part of Schroter's Valley was brighter in blue. Indeed it was very dull in red - Louderback says that this was not surprising as the whole areas around Aristarchus is brighter in blue. Louderback is an experienced observer of the Aristarchus area of more than 10 years. Cameron 2006 extended catalog ID=63 and weight=1. ALPO/BAA weight=1.* **– [REF 07]**

Marie Cook (BAA) observed from 19:50-20:05 UT using a 90mm Questar, and commented that Aristarchus, Vallis \Schroteri, and the surrounding area were all brighter in the blue filter than in the red. The appearance was normal and no dull red area was seen.

Franco Taccogna (UAI) took images at 19:57 (Fig 6a), 20:02 (Fig 6b), 20:59 (Fig 6c), and 21:21 (Fig 6d), and although not in color, these do show very clearly what the normal appearance of Aristarchus should have been like during the above LTPs.

Derrick Ward (BAA) observed 21:00-21:30 UT and took a color image (See Fig 6e at 21:30) this does not reveal any of the color anomalies seen in 1967 and 1979.

Kevin Berwick (ALPO) observed between 21:25-22:10 UT and commented: *"A balmy evening in Dublin with excellent seeing (for this part of the world). Some isolated cloud though c.95% clear. Started late and ended a little early due to cloud/mist. No strangeness to the Cobra Head area although, because of the seeing, it was particularly well defined this evening. I didn't use filters. Radial streaks were nicely shown in Aristarchus and the white patch at the centre was also apparent. Didn't get observations throughout the window of opportunity…hopefully this partial observation will be of some use. "*

Suggested Features to observe in October: For repeat illumination (and a few repeat libration) observations for the coming month - these can be found on the following web site: http://users.aber.ac.uk/atc/lunar_schedule.htm . By re-observing and submitting your observations, only this way can we fully resolve past observational puzzles. To keep yourself busy on cloudy nights, why not try "Spot the Difference" between spacecraft imagery taken on different dates? This can be found on: http://users.aber.ac.uk/atc/tlp/spot_the_difference.htm . If in the unlikely event you do ever see a LTP, firstly read the LTP checklist on http://users.aber.ac.uk/atc/alpo/ltp.htm , and if this does not explain what you are seeing, please give me a call on my cell phone: +44 (0)798 505 5681 and I will alert other observers. Note when telephoning from outside the UK you must not use the (0). When phoning from within the UK please do not use the +44! Twitter LTP alerts can be accessed on https://twitter.com/lunarnaut .

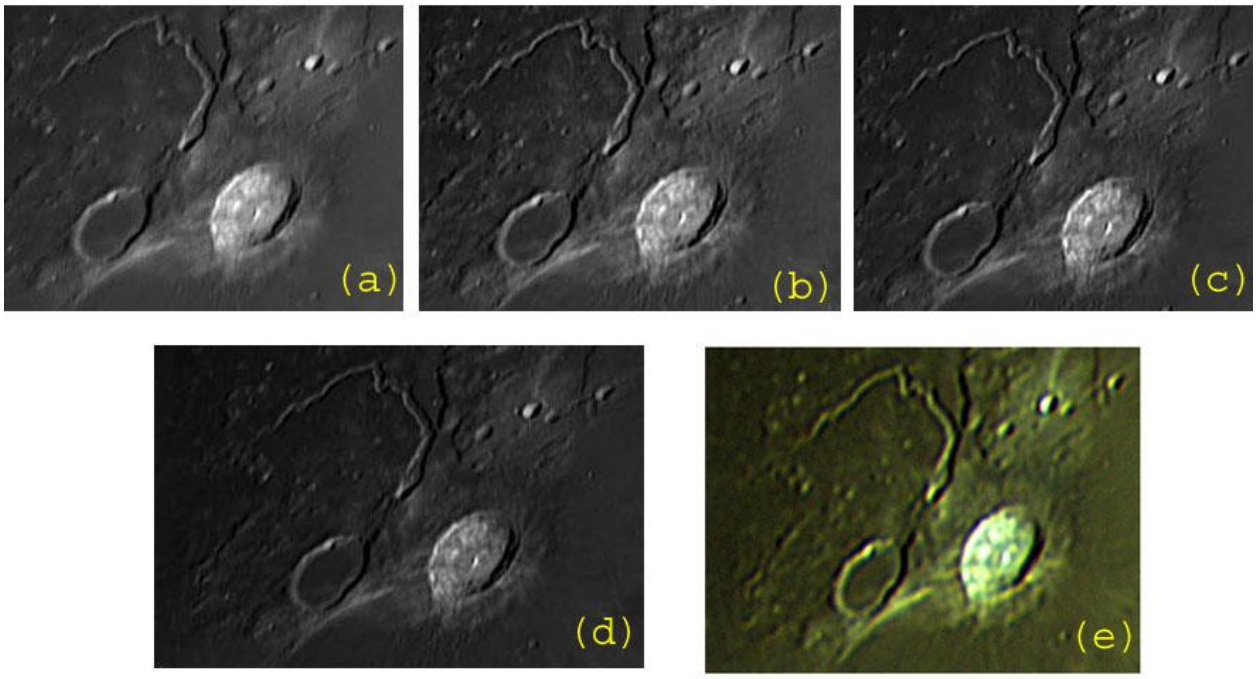


Figure 6. *Images from 2015 Aug 27* ***(a)*** *Monochrome image by Franco Taccogna (UAI) taken at 19:57UT,* ***(b)*** *Monochrome image by Franco Taccogna (UAI) taken at 20:02UT,* ***(c)*** *Monochrome image by Franco Taccogna (UAI) taken at 20:59UT,* ***(d)*** *Monochrome image by Franco Taccogna (UAI) taken at 21:21UT,* ***(e)*** *Color image by Derrick Ward (BAA) taken at 21:30 UT.*

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

KEY TO IMAGES IN THIS ISSUE

1. **Alphonsus**
2. **Aristillu**
3. **Aristarchus**
4. **Aristoteles**
5. **Cruger**
6. **Eddington**
7. **Gassendi**
8. **Kies**
9. **Lambert**
10. **Mons Piton**
11. **Plato**
12. **Sirsalis**
13. **Theophilus**
14. **Tycho**
15. **Valles Alpes**
16. **Wargentin**

FOCUS ON targets

X = Deslandres
Y = Mare Nubium