THE LUNAR OBSERVER

RECENT BACK ISSUES: http://www.zone-vx.com/tlo_back.html

A PUBLICATION OF THE LUNAR SECTION OF THE A.L.P.O.
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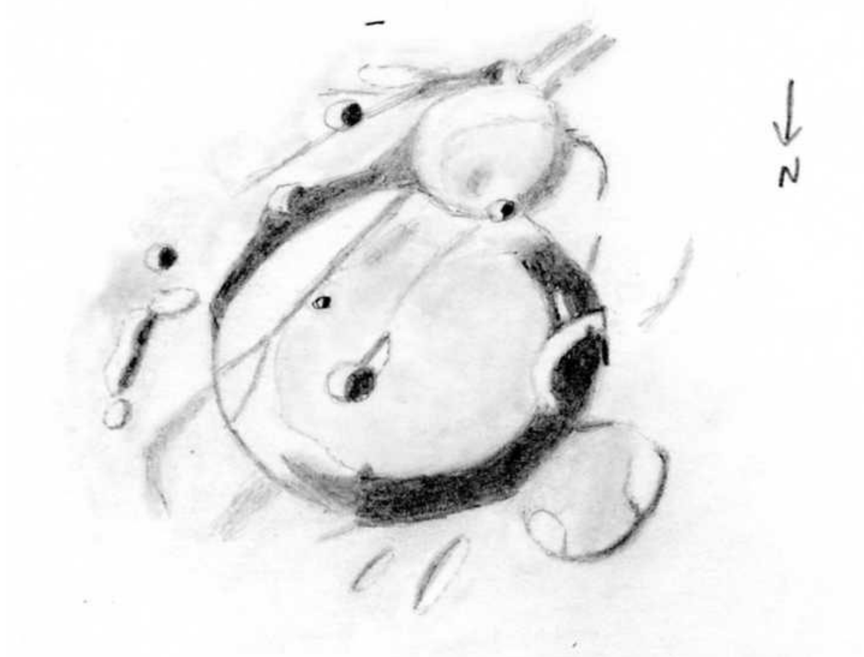
Elton Moonshine Observatory - http://www.zone-vx.com
219 Old Bedford Pike (Elton) - Windber, PA 15963

FEATURE OF THE MONTH - MARCH 2007



PITISCUS

Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA
November 9, 2006 - 10:10 to 10:25 & 10:50 to 11:26 UT
15cm Newtonian - 170x - Seeing 7/10

I sketched this crater on the morning of Nov. 9, 2006 near the occultation of 49 Aurigae. This crater is one of a group that is conspicuous near the southeast terminator shortly after full moon. The libration for it that night was favorable. Pitiscus itself has a crisp rim for a crater its size. The crater Pitiscus A is the fairly large pit north of Pitiscus' center. There is a peak on the south edge of Pitiscus A that could be a central peak of Pitiscus, but I wonder if a central peak would have survived the impact that created Pitiscus A. A smaller pit is inside the southeast rim of Pitiscus near some apparent terracing. Pitiscus E may be the partial ring within the shadow inside the west rim of Pitiscus. Outside the west rim near E is a group of at least three partial rings. The middle of this group is relatively dark, and the areas to the north and west are bright. One of these rings may be Pitiscus W, according to the LQ map. The relatively large crater Hommel H abuts the south rim of Pitiscus, and actually intrudes upon it slightly. This would indicate that Hommel H is younger than Pitiscus, but the rim of Hommel H is less crisp than that of Pitiscus. Hommel HA is the small pit at the junction of Pitiscus and Hommel H, and Hommel R is the slightly larger crater east of H. Pitiscus L is east of Pitiscus and is similar to Hommel R. There may be another crater buried within the shadows outside the southeast rim of Pitiscus. There are an assortment of hills and shadows around Pitiscus that I drew as I saw them. Some may be parts of old rings, especially one on the west rim of Hommel H.

LUNAR CALENDAR - MARCH 2007 (UT)

Mar. 02	02:00	Moon 1.0 Degrees NNE of Saturn
Mar. 03	23:17	Full Moon (Total Lunar Eclipse)
Mar. 07	03:38	Moon at Apogee (405,850 km - 252,184 miles)
Mar. 11	23:00	Moon 6.0 Degrees S of Jupiter
Mar. 12	03:35	Last Quarter
Mar. 16	02:00	Moon 1.7 Degrees SSE of Mars
Mar. 16	15:00	Moon 2.0 Degrees SSE of Neptune
Mar. 17	04:00	Moon 1.3 Degrees SSE of Mercury
Mar. 18	06:00	Moon 0.72 Degrees NW of Uranus
Mar. 19	02:43	New Moon (Start of Lunation 1042)
Mar. 19	18:40	Moon at Perigee (357,815 km - 222,366 miles)
Mar. 21	12:00	Moon 3.7 Degrees NNW of Venus
Mar. 25	18:16	First Quarter
Mar. 29	05:00	Moon 1.1 Degrees NNE of Saturn

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

In addition to information specifically related to the observing program being addressed, the following data should always be included:

Name and location of observer
Name of feature
Date and time (UT) of observation
Size and type of telescope used
Orientation of image: (North/South - East/West)
Seeing: 1 to 10 (1-Worst 10-Best)
Transparency: 1 to 6
Magnification (for sketches)
Medium employed (for photos and electronic images)

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

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

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

Our quarterly journal, **The Strolling Astronomer**, contains the results of the many observing programs which we sponsor including the drawings and images produced by individual amateurs. Several copies of recent journals can be found on-line at: **http://www.justfurfun.org/djalpo/** Look for the issues marked FREE, they are not password protected. Additional information about the A.L.P.O. can be found at our website: **http://www.lpl.arizona.edu/alpo/** 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.lpl.arizona.edu/~rhill/alpo/member.html** which now also provides links so that you can enroll and pay your membership dues online.

<u>BALMER</u>
By Nigel Longshaw

A ruinous formation situated South East of Vendelinus towards the difficult Eastern libratory region. You will not find Balmer named in the older lunar literature, the nomenclature was one of the new names proposed by Whitaker and Arthur whilst compiling the Rectified Lunar Atlas in 1963, and approved by the IAU in 1964.

Balmer forms the remains of a walled plain the original diameter of which was probably in the region of 112 km. Subsequent lava intrusion has breached the Northern wall and flooded the interior leaving very low and much degraded Eastern and Western walls. Later minor cratering and subsequent modification of the lava intrusions have left a record of minor features on the relatively smooth surface.

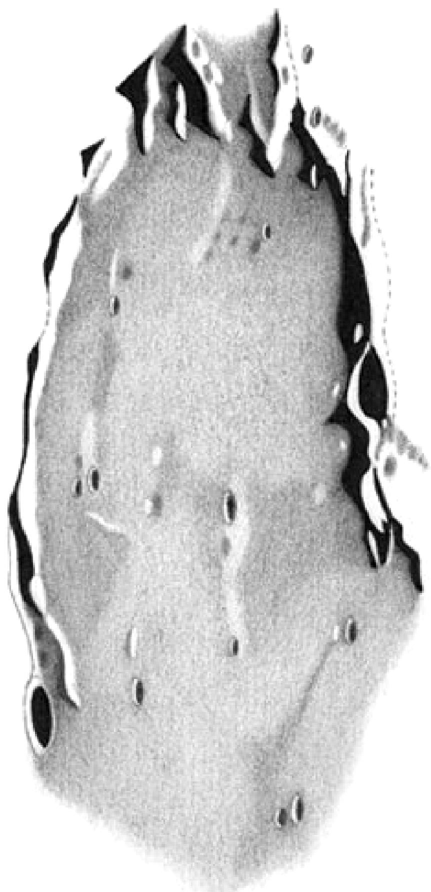
It is these minor features which have captured the attention of various selenographers in the past, and their differing depictions indicate these appear to be very difficult objects indeed. Neison shows almost nothing in this region other than a few minor ridges, which don't appear to represent the currently observed extremities of the formation. Wilkins depicts the feature much as it appears on the modern charts in terms of its position and outline, and some of the floor details he shows correspond to drawings by later observers, although there are apparent anomalies which need to be checked.

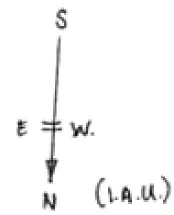
Prospective students of the region should consult the excellent series of drawings by Harold Hill which appeared in the Spring 2004 issue of "The New Moon" Vol. 13 number 3. Hill's observations depict the feature over an extended period with decreasing illumination, conditions which bring out a wealth of minor detail on the surface as the shadows lengthen. Hill used eight inch Schmidt Cassegrain and ten inch Newtonian telescopes to compile his drawings and one might assume such apertures are required to detect the finer detail.

I have had an interest in this particular feature since Harold sent me a copy of one of his drawings back in 1984, however despite repeated attempts to record the finer details using telescopes in the six to eight inch aperture range I have never been successful. The attached drawing of Balmer was made recently using a Takahashi 78 mm Apochromatic refractor and records a number of the tiny crater pits, lighter regions and darker "spots" which litter the surface of Balmer. There is certainly more detail depicted here than is shown in Rukl's Atlas (chart number 60 p.147), and compares favourably with the details depicted by Hill, yet resolution of the finer detail, in particular the tiny crater pits on the Southern floor, was not possible with such a small aperture.

The results of my latest observation suggest that perhaps in this particular instance the successful detection of the smaller features within the walls of Balmer might not be wholly dependant upon aperture alone. Seeing conditions on November 6th were by no means the best I have ever encountered, however were relatively good for my urban site, and perhaps this would suggest the successful observation of the minor features on the floor of Balmer is more dependant upon appropriate lighting and libration conditions rather than telescope aperture.

BALMER





2006 November 6th
21:40 – 22:17 (U.T.)
78 mm APO REFRACTOR x 157 + x 252
SEEING: II – III – VARIABLE

SUNS COL: 103·41° – 103·75°
" LAT: –1·22° – 0hrs 7th

EARTHS SEL LONG: 5·3°
" " LAT: –6·3°
} 0hrs 7th

An attempt to recover some of the finer details on the floor of Balmer as depicted by Harold Hill in his wonderful series of drawings which appeared in 'The New Moon' Vol. 13 N°3 Spring 2004. Seeing was initially favorable and much detail was recorded before broken cloud ruined definition after 22:00 (U.T.).

In comparison to Hill's drawings my own rendition was made using a much smaller aperture, however there are striking similarities between the drawings which might suggest the floor details, whilst fine in places, are dependant more on correct lighting and seeing than aperture alone.

There have been discrepancies in the past in the visual record of floor features of Balmer, and it would seem there might be opportunity here for the visual observer to re-visit the feature and see what they can record, irrespective of telescope aperture, in order to undertake confirmatory work. Accurate and impartial records of the surface of Balmer are of course available from Orbiter and Clementine missions, and no doubt the CCD imagers, with subsequent image processing, could record much more detail than the visual observer. However the interesting issue here is how the surface appears to the visual observer, under certain conditions the floor of Balmer appears devoid of much detail, and I have seen the feature when only the main central crater is visible. However it is apparent that at other times the surface bristles with detail and the formation takes on a somewhat different appearance. From my own experience it would appear the visual observer could make a useful contribution by recording the appearance of the interior of Balmer, irrespective of telescope aperture, and by doing so add to our knowledge of how detection of the finer detail is affected by libration and illumination conditions. Working in this way we obtain a clearer understanding of how reports from past history have suggested "changes" had taken place on the lunar surface, and how important it is to observe a feature under many different conditions until satisfactory conclusions can be drawn as to the true nature of a particular feature.

FOCUS ON: Sinus Iridum

William M. Dembowski, FRAS
Coordinator, Lunar Topographical Studies

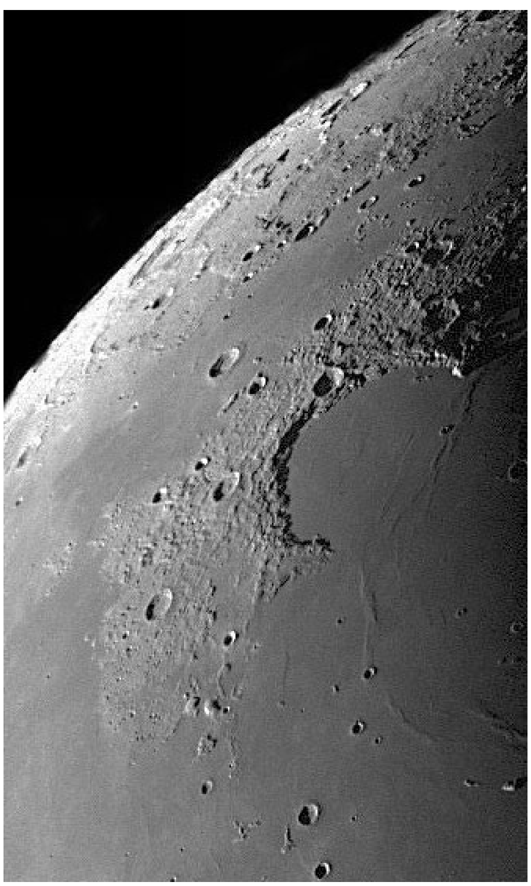


FIGURE 1

Digital image by Ed Crandall
Winston-Salem, North Carolina, USA

September 20, 2003 - 10:20 UT
254mm f/7 Newtonian Reflector
SLX HX 516 Camera

Sinus Iridum (often incorrectly referred to as Sinus Iridium) is a large (260 km) semi-circular feature on the northwest border of Mare Imbrium. Originally misclassified as a bay (Bay of Rainbows) it is actually the remnants of a crater that was formed after the Imbrium impact but before the mare flooding.

The walls of the crater were considered to be a mountain range and thus named the Jura Mountains. They reach a height of 6,100 meters near their center and gradually diminish in elevation toward each end. The termination points of the Juras are Promontorium Heraclides to the west, and Promonontorium Laplace to the east. The only sizeable crater in the Jura Mountains (although there are several) that lies close enough to Sinus Iridum to be considered part of this study is Bianchini (38 km). Bianchini is an interesting, though frequently overlooked crater, with a nice central complex and an 8 km crater on its southern wall.

The floor of Sinus Iridum lies about 600 meters below the level of Mare Imbrium and is peppered with small and relatively fresh craters. The largest of these craters is Laplace A (9 km) near the southeastern border of Iridum and Imbrium … Heraclides E (7 km) in the Sinus southwest … and Bianchini G (4 km) just south of its namesake crater. There is also a small cluster of isolated peaks northwest of Promontorium Laplace, the tallest of which measure 550 and 410 meters. (Figure 2)

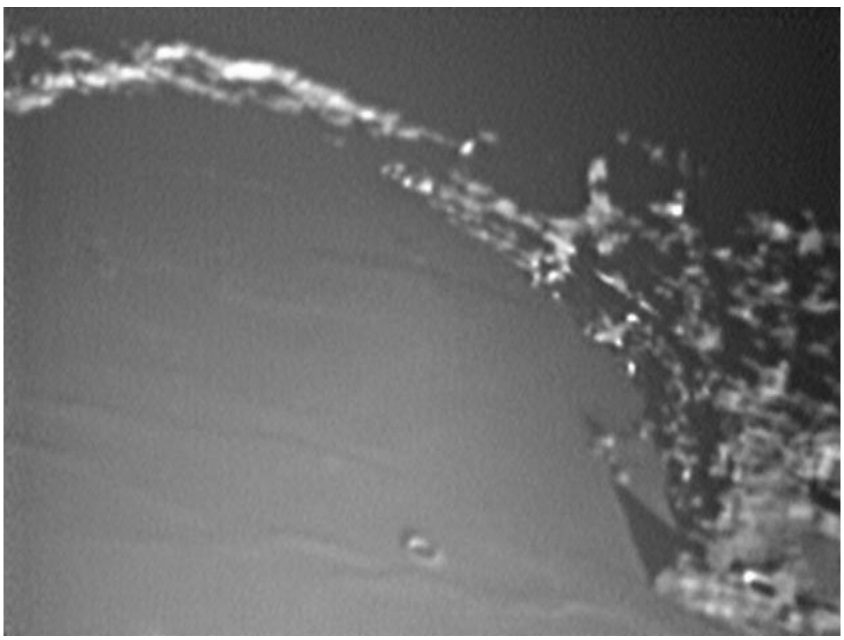


FIGURE 2
Digital image by Guido Santacana - San Juan, Puerto Rico
January 29, 2007 - 02:08 UT - Seeing: 6/10
Orion 150mm Maksutov - 2x Barlow - Logitech QuickCam Pro 4000

Easily the most noticeable features on the floor of Sinus Iridum are the wrinkle ridges. Some appear to be concentric to Iridum itself while others seem to be related to Mare Imbrium. They are most prevalent where the two systems overlap. When seen in the proper lighting, it is easy to understand why they had originally been interpreted as waves heading for the shores of the Bay of Rainbows, even though it should have been quite apparent that they never moved. (Figure 3)

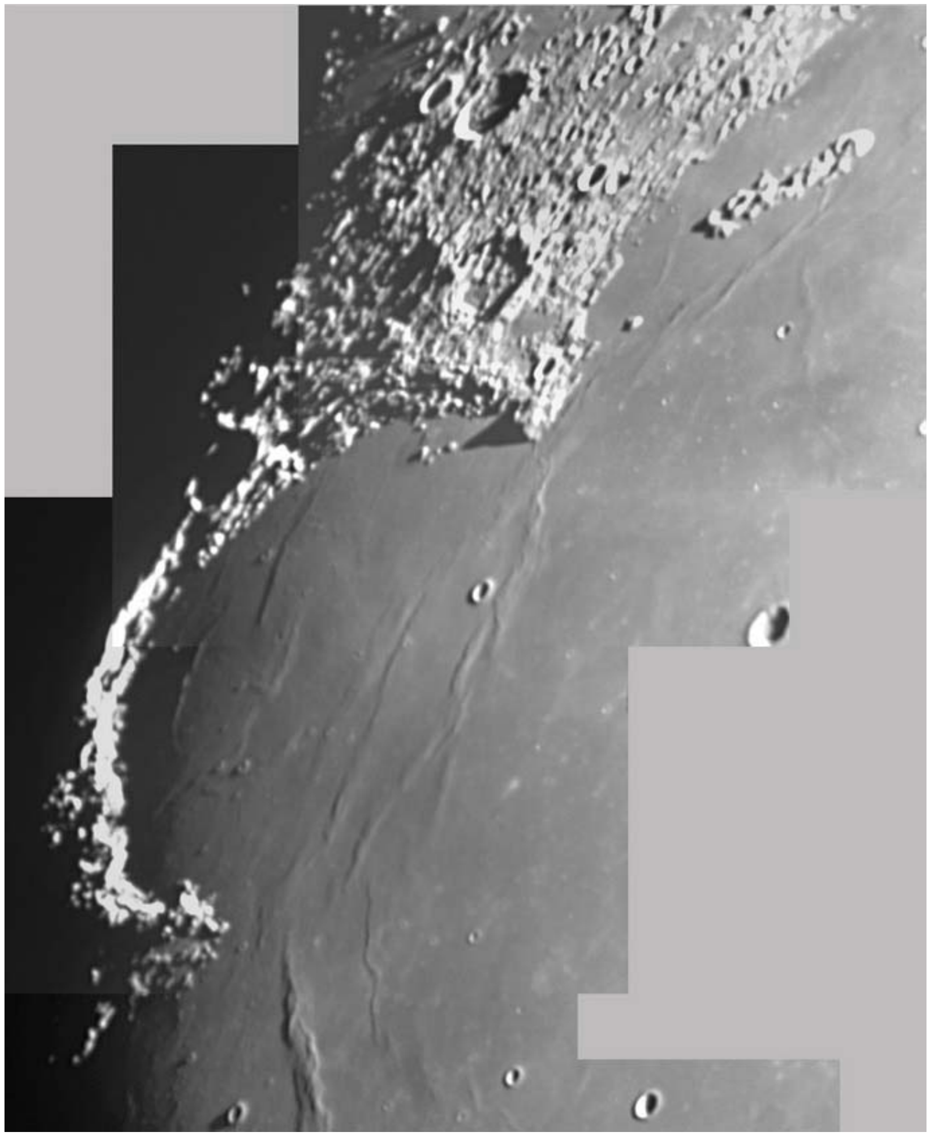


FIGURE 3

Cropped from digital mosaic by K.C. Pau - Hong Kong, China
December 30, 2006 - 13:26-37 UT - Colongitude: 36
Seeing: 4-5/10 - Trans: 6/10
250mm f/6 Newtonian - 20mm EP - Philips Toucam Pro

HIGH-SUN OBSERVING:

As with all lunar features, lighting has a great influence over the appearance of Sinus Iridum. Although most of the details mentioned herein are best seen when Iridum is near the terminator, be sure to also observe this area under a high sun. Differences in local albedo can provide interesting views that are not possible at lower sun angles. (Figures 4 & 5)

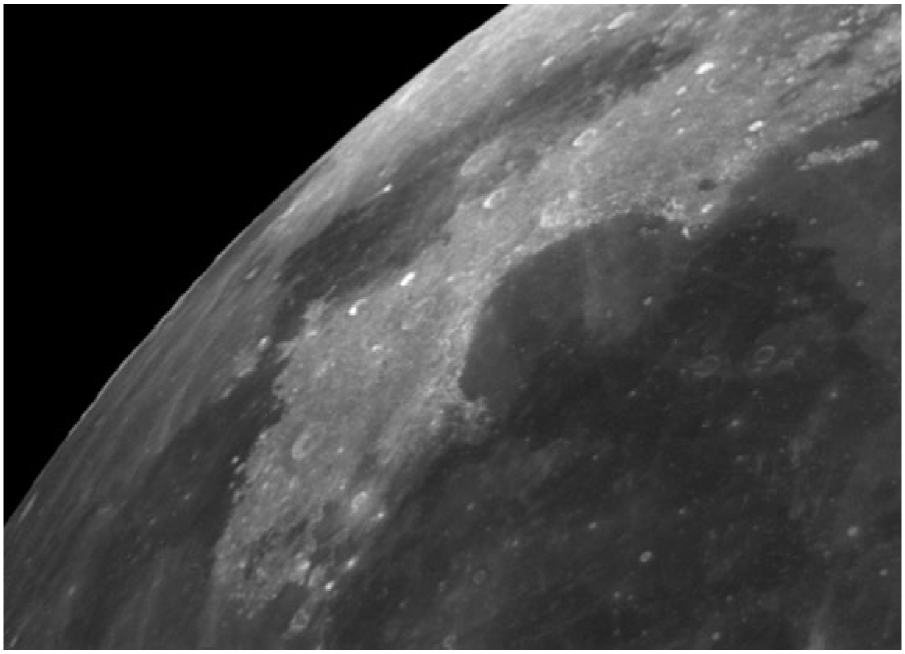


FIGURE 4
Digital image by Wayne Bailey Sewell, New Jersey, USA
January 4, 2007 - 05:10 UT
Solar Colong: 80.5 - Lat: -1.4 - Seeing: 4/10 - Trans: 4/6
Celestron C-11 f/10 SCT - Schuler IR72 filter - Lumenera Skynyx 2-1M

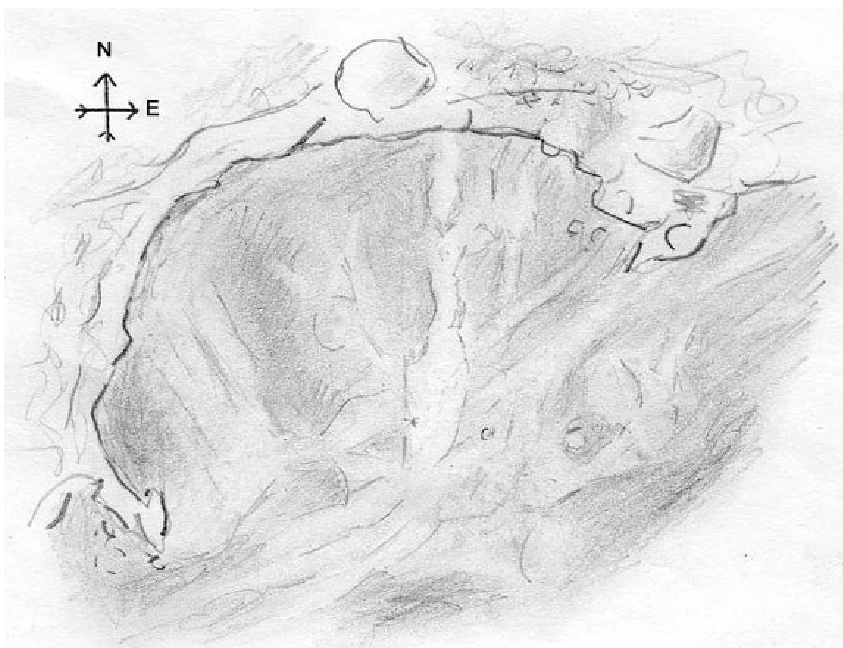


FIGURE 5
Drawing by Robert Wlodarczyk - Czestochowa, Poland
February 1, 2007 - 22:00 UT - Seeing: 6/10 - Trans: 5/6
18cm Newtonian Reflector - 96x & 144x

DOUBLE-DIGIT OBSERVING:

Those utilizing low-powers, less than 100x, will find this to be one of the most rewarding sights on the Moon. In their classic 1837 work, Der Mond, Beer and Madler described Sinus Iridum as "perhaps the most magnificent of all lunar landscapes."; and others have compared the appearance of sunrise on Sinus Iridum to that of a jewel encrusted sword. So, before zooming in to observe the smaller details described above, be sure to enjoy a wider view of this beautiful feature. (Figures 6 & 7)

FIGURE 6
Digital image by Maurice Collins
Palmerston North, New Zealand
December 30, 2006 - 09:46 UT
Meade ETX-90 3.5" Mak-Cass
Oregon Camera

FIGURE 7
Digital image by Michael Boschat
Halifax, Nova Scotia, Canada
February 11, 2007 - 08:28 UT
Seeing: 5-6/10 - Trans: 4
Runibar 10cm f/10 Maksutov @ 40x
Centrios 3.0 MP DSC-3020 Digital, Afocal
3 best images stacked

REFERENCES:

Cherrington, Ernest - "Exploring the Moon Through Binoculars and Small Telescopes" - Dover (1984)
Kitt, Michael T. - "The Moon: An Observing Guide For Backyard Telescopes" - Kalmbach (1991)
North, Gerald - "Observing the Moon: The Modern Astronomer's Guide" - Cambridge Press (2000)
Rukl, Antonin - "Atlas of the Moon" - Paul Hamlyn Publishing (1990)
Wilkins, H.P. & Moore, Patrick - "The Moon" - MacMillan Press (1951)

CALL FOR OBSERVATIONS - *FOCUS ON:* PLATO

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 May 2007 edition will be the crater **Plato**. Observations 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 fascinating crater to your observing list and send your favorites to one of the addresses shown in the banner on Page One.

Deadline for inclusion in the Plato article is April 20, 2007

PLATO & Lunar Transient Phenomena

WILLIAM DEMBOWSKI - LTSS COORDINATOR:
The crater Plato is not only an interesting feature from a topographical standpoint, it is also one of the sites more frequently mentioned in reports of Lunar Transient Phenomena (LTP). As you observe Plato in response to the Focus On call for observations, we ask that you be aware of its importance in the study of LTP's. Dr. Anthony Cook has compiled a schedule of dates and times for the observing of various features for the purpose of verifying, or disqualifying, earlier reports of LTP's. A complete listing for the current month can always be found at: http://www.cs.nott.ac.uk/~acc/Lunar/ltp.htm

In a cooperative effort between the Lunar Topographical Studies Section and the Lunar Transient Phenomena Section, each *Focus On* target will also become the *LTP* target for the same period. To that end, Dr. Cook has provided a schedule for Plato, for the months of March and April, with the following commentary:

DR. ANTHONY COOK - LTP COORDINATOR:
The following are a set of dates and UT times under which you will have the chance to observe Plato under identical illumination (to within +/-0.5 deg conditions to what they appeared as during past LTP (Lunar Transient Phenomena) events. The objective of observing such features at these dates and times is to gain a detailed set of observations of the "normal" appearance of these features from which we may judge critically past LTP reports. This will help greatly to eliminate many of these LTPs from the 1978 NASA catalog for which simple tricks of lighting were to blame. It will then allow us to identify a core set of reliable observations whose origin may be due to transient, natural surface processes on the Moon.

FOR OBSERVATIONS TO BE SUBMITTED TO THE LTP PROGRAM:
Please ensure that the Moon is at least 20 degrees above the horizon at your site and that the Sun is below the horizon. Any observations that you send in where the Moon was below the altitude, or the Sun was above the horizon will be ignored hence forth – this is being done to ensure high quality observations.

Date	UT	Phase	Feature & Original Observation
2007-Mar-01	00:15-14:32	91%	Plato_Pratt 1873-Nov-01
2007-Mar-01	14:39-14:56	94%	Plato_Fauth 1906-Mar-07
2007-Mar-03	03:24-04:18	99%	Plato_Schroter 1788-Dec-11
2007-Mar-03	06:10-08:08	99%	Plato_Jean 1968-Oct-05
2007-Mar-06	02:58-04:07	95%	Plato_Gruithuisen 1824-Dec-08
2007-Mar-06	19:43-21:40	92%	Plato_Haas 1938-May-17
2007-Mar-12	13:50-17:58	45%	Plato_Hodge 1904-Oct-03
2007-Mar-26	20:59-22:48	62%	Plato_Markov 1918-May-18
2007-Mar-27	02:55-04:22	64%	Plato_Valderama 1886-Sep-06
2007-Mar-27	03:18-05:53	64%	Plato_Jones 1972-Jun-19
2007-Mar-27	05:44-07:40	65%	Plato_Elger 1887-Feb-01
2007-Mar-27	05:47-07:39	65%	Plato_Markov 1916-Jul-08
2007-Mar-28	02:43-04:32	73%	Plato_Goddard 1932-Apr-15
2007-Mar-28	07:31-09:04	75%	Plato_Bartlett 1964-Nov-14
2007-Mar-28	10:40-11:33	76%	Plato_Robinson 1966-Jun-27
2007-Mar-28	18:23-20:09	80%	Plato_Barker 1937-Dec-12
2007-Mar-29	01:42-03:51	81%	Plato_Farrant 1968-May-07
2007-Mar-30	00:14-01:14	88%	Plato_Pratt 1872-Jul-16
2007-Mar-30	11:29-14:09	91%	Plato_North 1992-May-13
2007-Apr-01	16:27-17:45	99%	Plato_Schroter 1788-Dec-11
2007-Apr-01	21:25-00:24	99%	Plato_Whippey 1969-Aug-26
2007-Apr-03	02:10-03:34	99%	Plato_Mount 1944-Sep-03
2007-Apr-03	07:04-07:26	99%	Plato_Barker 1938-Jan-17
2007-Apr-03	08:54-10:45	99%	Plato_Chernov 1921-Nov-15
2007-Apr-04	06:09-10:05	97%	Plato_Gledhill 1869-Aug-24
2007-Apr-04	12:32-14:38	96%	Plato_Hibbard 1965-Oct-12
2007-Apr-06	07:55-10:20	88%	Plato_Gray 1877-Jul-29
2007-Apr-06	17:43-19:13	85%	Plato_Markov 1915-Apr-03
2007-Apr-06	18:32-20:00	85%	Plato_Lihou 1886-Oct-16
2007-Apr-11	02:40-07:02	43%	Plato_Hodge 1904-Oct-03
2007-Apr-21	01:12-02:40	17%	Plato_Sellvanov 1919-Mar-05
2007-Apr-25	10:07-10:39	61%	Plato_Markov 1918-May-18
2007-Apr-25	14:29-18:24	65%	Plato_Williams 1882-Mar-27
2007-Apr-25	16:11-17:58	65%	Plato_Jones 1972-Jun-19
2007-Apr-25	16:50-21:47	66%	Plato_Brenner 1895-May-02
2007-Apr-25	17:20-18:56	65%	Plato_de_Speissens 1887-Nov-23
2007-Apr-26	03:33-05:27	68%	Plato_Moore 1952-Apr-03
2007-Apr-26	04:48-06:57	69%	Plato_Cross 1970-Apr-15
2007-Apr-26	09:32-11:26	70%	Plato_Cragg 1952-Apr-04
2007-Apr-26	15:48-16:22	73%	Plato_Goddard 1932-Apr-15
2007-Apr-26	20:03-21:27	75%	Plato_Bartlett 1964-Nov-14
2007-Apr-26	20:55-23:08	75%	Plato_region_da_Silva 1970-Apr-15
2007-Apr-26	22:32-00:36	76%	Plato_Robinson 1966-Jun-27
2007-Apr-27	07:30-11:08	79%	Plato_Robinson 1974-Mar-03
2007-Apr-27	17:08-19:32	82%	Plato_Farrant 1969-May-26
2007-Apr-28	12:15-14:01	87%	Plato_Pratt 1872-Jul-16
2007-Apr-28	13:52-16:09	88%	Plato_Moseley 1966-Sep-25
2007-Apr-28	23:48-02:36	90%	Plato_North 1992-May-13

LUNAR CHALLENGE: Earliest "X" on the Moon

"X" on the Moon
Digital image by Dana Thompson - Hebron, Ohio, USA
January 25, 2007 - 23:50 UT - Colongitude: 357.6
Orion 180mm Mak-Cass - Fuji S5000 Digital Camera, Afocal, Single Exposure

Dana Thompson has developed more than a passing interest in the fleeting feature known as the "X on the Moon" which is caused by the chance illumination of the mutual ground between the craters Purbach, la Caille, and Blanchinus. Occuring at or near First Quarter, when the Selenographic Colongitude is between approximately 356 and 359, the "X" has fascinated Dana since his first sighting at the age of 15.

Having gathered much information, and many personal images of the feature, Dana's primary interest now is searching for the earliest possible sighting of the feature (either intentional or accidental). In the "Times Atlas of the Moon" (1969 - page xxiv) is a photograph of the First Quarter Moon taken by the Lick Observatory which clearly shows the "X". The observatory has confirmed that the image was taken on May 6, 1938 and is the earliest such image that Dana has been able to locate.

If any reader can produce a confirmed image of the "X" which predates the Lick photograph, Dana and TLO would greatly appreciate the information.

Dana Thompson
Hebron, Ohio, USA
email: dthomp29@columbus.rr.com

LUNAR TOPOGRAPHICAL STUDIES

Coordinator - William M. Dembowski, FRAS
dembowski@zone-vx.com

OBSERVATIONS RECEIVED

WAYNE BAILEY - SEWELL, NEW JERSEY, USA
Digital images of Dionysius & Silberschlag, Alphonsus, Aristillus, Atlas & Burg, Menelaus & Silberschlag & Dionysius, Aristarchus & Brayley & Bessarion, Copernicus & Pytheas, Aristillus & Theaetetus, Sinus Iridum

STEVE BOINT - SIOUX FALLS, SOUTH DAKOTA, USA
Digital images of South & Herschel, Meton

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND
Numerous written observations from January 11, 2007 to February 16, 2007
Digital images of Clavius & environs, Tycho & Deslandres, Southwest Quadrant of Moon, Schiller-Zucchius basin, Mare Humorum & Gassendi, Sinus Iridum (LTVT enhanced)

ED CRANDALL - WINSTON-SALEM, NORTH CAROLINA, USA
Digital images of Deslandres, Sinus Iridum, Meton

HOWARD ESKILDSEN - OCALA, FLORIDA, USA
Digital images of Hyginus & Triesnecker, Hesiodus light cone (2), Vallis Alpes, Licetus & Cuvier, Lilius, Montes Caucasus, Montes Apenninus, Nonius & Aliacensis, Parry & Guericke, Ptolemaeus & Hipparchus, Stofler & Faraday, Purbach & Aliacensis, Aristillus (2)

ROBERT H. HAYS, JR. - WORTH, ILLINOIS, USA
Drawings of Bettinus, Fontenelle
Timings of 65 stars occulted by the Moon

RIK HILL - TUCSON, ARIZONA, USA
Digital images of Ptolemaeus to Birt & Rupes Recta, Hadley Rille, Cassini to Valis Alpes, Triesnecker to Rima Hyginus

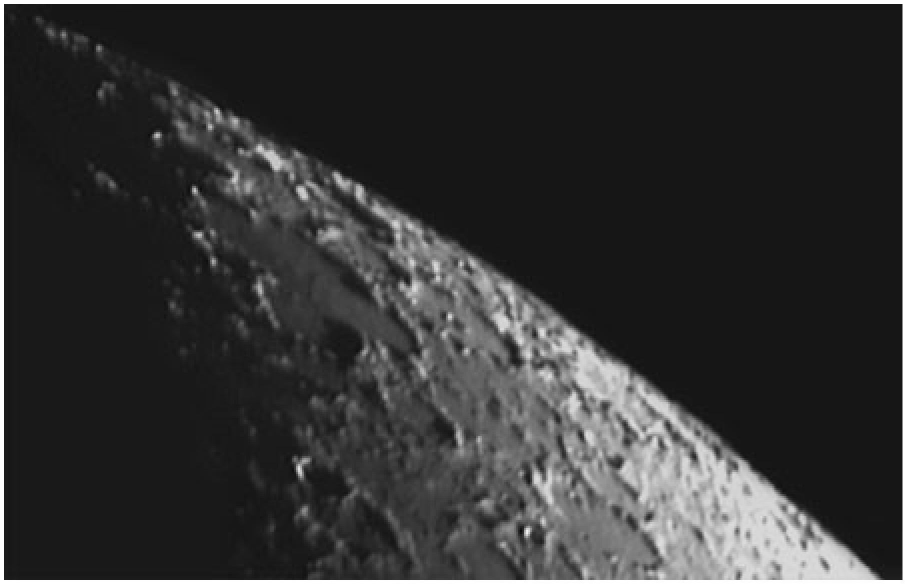
PAULO LAZZAROTTI - MASSA, ITALY
Digital images of Gassendi & Letronne, Tycho, Sinus Medii, Sinus Aestuum, Anaxagoras & Epigenes

NIGEL LONGSHAW - CHADDERTON, LANCASHIRE, ENGLAND
Drawing of Vendelinus

GUIDO SANTACANA - SAN JUAN, PUERTO RICO
Digital images of Eratosthenes, Sinus Iridum

ROBERT WLODARCZYK - CZESTOCHOWA, POLAND
Drawing of Sinus Iridum

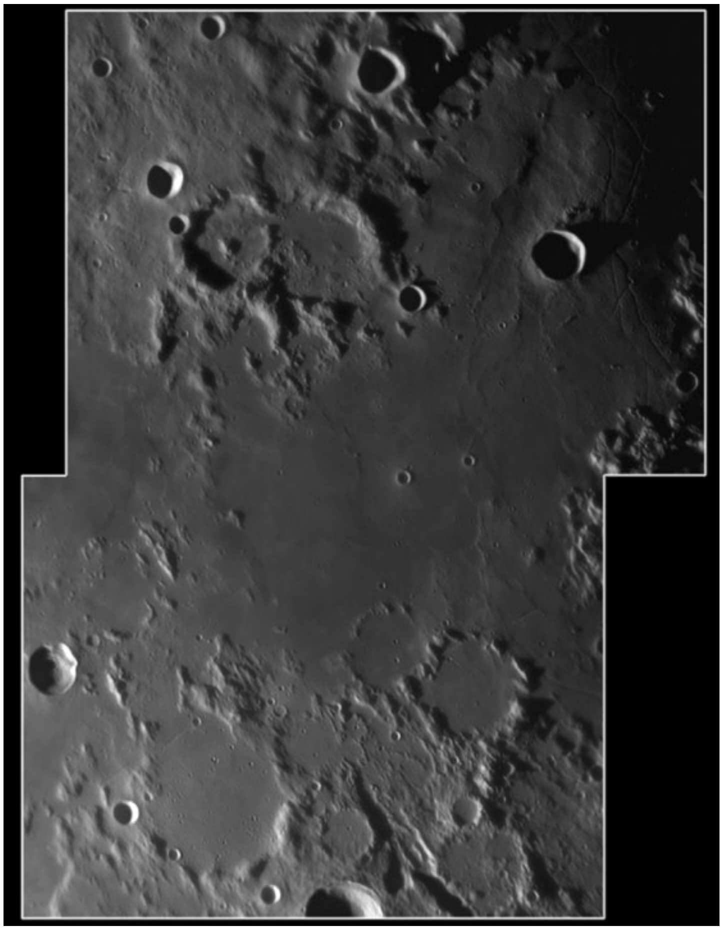
RECENT TOPOGRAPHICAL OBSERVATIONS



METON
Digital image by Steve Boint - Sioux Falls, South Dakota, USA
July 2, 2006 - 01:40 UT
10 inch f/4.5 Newtonian Reflector - 2x Barlow - Stack of 150

STOFLER & FARADAY
Digital image by Howard Eskildsen - Ocala, Florida, USA
December 28, 2006 - 01:21 UT - Seeing: 8/10 - Trans: 6/6
Meade 6 inch f/8 Refractor - 5x Barlow - IR Block filter - NexImage

RECENT TOPOGRAPHICAL OBSERVATIONS



SINUS MEDII
Digital image by Paulo Lazarrotti
Massa, Italy

December 12, 2006 06:06-06:10 UT
Seeing: 5/10 - Trans: 3/5

Lumenera Infinity 2-1M camera and
Gladius CF-315 Lazzarotti Opt. scope

Edmund Optics R filter
0.12 arcsec/pixel image scale
52/2000 frames, 50 msec. exposure

HADLEY RILLE REGION

Digital image by Rik Hill
Tucson, Arizona, USA

January 27, 2007 - 03:02 UT
Seeing: 8/10

Celestron 14 at prime focus
ToUCam ProII - IR filter
Processed with Registax 4,
GIMP and iMerge.

BANDED CRATERS PROGRAM

Coordinator - Willliam M. Dembowski, FRAS

Banded Craters Program Website: http://www.zone-vx.com/alpo-bcp.html

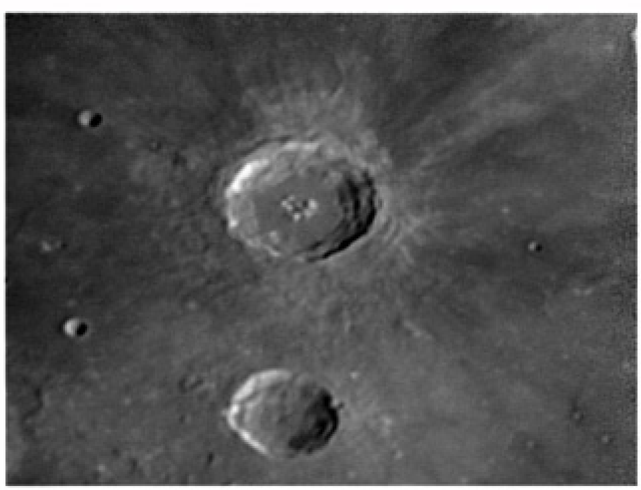
NOTE FROM PROGRAM COORDINATOR:
In earlier notices about the Banded Crater Program (BCP) it was emphasized that observations should be submitted on the forms provided on the BCP Website. In view of changes in technology, this restriction is less practical than in the days of "snail-mail" submissions. The purpose of observing forms is to prompt the observer to furnish required data in a specific sequence to allow for efficient compilation and retrieval. Therefore, any observer-generated form which fulfills these requirements will be acceptable.

Below is an acceptable BCP observing form designed and submitted via email by Howard Eskildsen.

A.L.P.O. Lunar Section: Selected Areas Program Banded Craters Observing Form

Crater Observed: Artistillus
Observer: Howard Eskildsen   Observing Station: Ocala, Florida
Mailing Address: P.O. Box 830415, Ocala, Florida, 34483
Telescope: Meade Refractor   15.2 cm   f/8
Imaging: NexImage, 5X TeleXtender Filters: IR Block Filter
Seeing: 8/10   Transparency: 5/6
Date (UT): 2007/01/29   Time (UT): 01:57
Colongitude: 35.2
Position of crater: Selen. Long.   Selen. Lat.
    1.2° East   33.9° North
Lunar Atlas Used as Reference: Virtual Moon Atlas Expert Version 2.1 2004-11-07

Image (north up):   Comments:



RECENT BANDED CRATER OBSERVATIONS

Digital images of Pytheas, Lambert, & Euler - Wayne Bailey - Sewell, New Jersey
Celestron C-11 f/10 SCT - Lumenera Skynyx 2-1M - Schuler IR72 filter

October 10, 2006 - 01:59 UT
Colongitude: 126.5 - Latitude: -0.6
Seeing: 5/10 - Trans: 2/6

November 2, 2006 - 02:06 UT
Colongitude: 44.9 - Latitude: -1.1
Seeing: 3/10 - Trans: 2/6

OBSERVING NOTES:
Pytheas has one feature that caught my eye. The dark band on the inner NW wall seems to continue outside as a short bright band. It appears to be aligned with the longest "ray" also, but ends very abruptly only a short distance from the crater rim. It also appears clearly in my image from Oct. 10th, so it's probably well known. In this image it appears to be the same brightness inside and outside the rim, only contrasting to the bright inner wall and the dimmer outer wall. But in the Oct 10th image it is distinctly brighter outside the rim. So it's not just an illusion due to different backgrounds, but it could be a small bright spot on the outer wall that's blurred in this image. A quick check of several Apollo and Lunar Orbiter images didn't show anything, but they were all taken at lower sun angles. In particular, I didn't see any small crater in the bright area.

LUNAR TRANSIENT PHENOMENA

Coordinator – Dr. Anthony Cook – acc@cs.nott.ac.uk
Assistant Coordinator – David O. Darling - DOD121252@aol.com

LTP NEWSLETTER - MARCH 2007

Dr. Anthony Cook - Coordinator

Observations were received from the following observers for January: Jay Albert (FL, USA), Clive Brook (Plymouth, UK), Marie Cook (Mundesley, UK), myself (University of Nottingham, UK), Maurice Collins (New Zealand), Robin Gray (NV, USA), Brendan Shaw (UK), and Dana Thompson, (OH, USA). No LTP were reported for January.

Last month I mentioned that on 2006 Dec 02, 2006 during a 03:30-5:30UT observing session, Robin Gray noticed that at 03:57UT part of the interior of Bullialdus had turned a deep yellow color; namely the southeast and east central part of the crater floor were yellow as well as a circular feature on the SW crater floor. The rest of the crater floor and inner walls of Bullialdus remained shades of gray. Comparison with other craters in the area failed to show similar a similar color and the Moon was at a high altitude above the horizon of 57-64 degrees. The yellow color came and went two further times, although less prominent on each occasion. Maurice Collins in New Zealand obtained some images some four and a half hours later, but these showed no color, so presumably by that time the effect was over?

I received a very interesting image from Zac Pujic, Brisbane, Australia, that may offer a partial explanation of the Bullialdus event as can be seen in Fig 1 below:

Fig 1 – Zac Pujic's color LRGB composite image of Bullialdus. It is composed of a saturated color image from 2005 Jun 22 and a monochrome image from 10 Jul 2005, taken with a Phillips ToUcam Pro web camera on a 31cm f/20 telescope.

Although this is a color composite image obtained from two separate images, on different dates, the color component has come from a near Full Moon image with effectively no shadow and has been overlaid across a monochrome image. This process should not affect the position of the color. Also if one checks out the available Clementine UVVIS color composite image mosaic, a similar yellow effect on the floor, although the wavebands used on Clementine are different to Zac's image composite.

So was Robin's original report just detecting natural lunar color? It is tempting to say this, but the distribution of color was more localized and not as large as in Zac's image. Furthermore, according to Robin, the color he saw was also more intense than in the above image and varied in strength over time. Is it possible that lunar phase effects could enhance color at some ranges of colongitudes and not at others? Well it is certainly possible if the distribution of colored material lies on specific sides of undulating topography - see the Dec 2005 LTP article to see how this might happen. However looking at Fig 1 I see no indications of preferred direction. Furthermore, Zac says that he has found that in general, lunar features show less color as features get closer to the terminator, and stronger colors towards Full Moon. Robin's observation was no where near Full Moon.

Anyway I would like to encourage observers, especially those with high resolution color imaging capability to check out Bullialdus, not just at the predicted times that I gave last month, but also at other lunar phases. You can consider it a challenge, to prove that your equipment is capable of detecting natural surface color other than from obvious colored features such as Aristarchus, It would also be a good test to check that your measurements are repeatable and perhaps also to see if the strength of the color varies with phase. We may possibly find out too whether atmospheric conditions, in particular scattering and absorption, can have any effect the strength of the color and if this offers any scope in explaining the transient nature of Robin's observations.

LTP predictions, including the more numerous illumination only events can be found on the following web site: http://www.lpl.arizona.edu/~rhill/alpo/lunarstuff/ltp.html 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 (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!

Dr Anthony Cook, School of Computer Science & IT, Nottingham University, Jubilee Campus, Wollaton Road, Nottingham, NG6 1BB, UNITED KINGDOM. Email: acc@cs.nott.ac.uk

THE MOON IN THE NEWS

Electrical charges on lunar surface (could have LTP implications):
http://www.nature.com/news/2007/070129/full/070129-16.html
http://www.theregister.co.uk/2007/02/05/static_moon/
http://news.sawf.org/Health/33050.aspx

NASA sites concerning amateur searches for metoritic impacts on the Moon:
Overview of NASA's program:
http://www.nasa.gov/centers/marshall/news/lunar/program_overview.html#link6
FAQ:
http://www.nasa.gov/centers/marshall/pdf/166651main_Frequently_Asked_Questions_about_Lunar_Meteoroid_Impact_Monitoring.pdf
Minimum equipment requirements:
http://www.nasa.gov/centers/marshall/pdf/166643main_MinimumSystemRequirements.pdf